

# **Dogger Bank C/Sofia Onshore Works Application**

## **Appendix 7 – Annex B**

### **Transport Assessment**

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# 1 Introduction

## 1.1 Purpose of the Report

This Transport Assessment (TA) accompanies the Environmental Appraisal which is submitted to support the planning application made by Doggerbank Offshore Wind Farm Project 3 Projco Limited (the Projco) and Sofia Offshore Wind Farm Limited (SOWFL) (the Applicants), for consent pursuant to Section 62 of the Town and Country Planning Act 1990 as amended<sup>1</sup> (the Application).

A Development Consent Order (2015 DCO) was granted for Dogger Bank Wind Farm C (previously known as Dogger Bank Teesside A Offshore Wind Farm) and Sofia Offshore Wind Farm (previously known as Dogger Bank Teesside B Offshore Wind Farm) (the Applicants' Projects), including the onshore transmission works required to export electricity to the grid in August 2015.

The Application includes five areas of alternative and additional infrastructure to the consented 9 kilometres (km) underground onshore grid connection, spanning from the landfall for Dogger Bank Wind Farm C (DB-C) and Sofia Offshore Wind Farm (Sofia) to the National Grid at Lackenby Substation (the Works). Figures 1.1 (a – c) of the Environmental Appraisal show the location of the Works and the consented 2015 DCO.

This TA determines the potential impacts of the Works in comparison to the potential impacts of those consented under the 2015 DCO with respect to transport. Where the potential for impacts are identified, mitigation measures and residual impacts are presented (only where additional to the Order Limits).

This TA provides a summary of the 2014 ES and 2020 baseline environment and subsequently assesses the potential effects of the Works (Section 6) taking into account the necessary assessment criteria and concludes that the proposed changes have no additional effect on significance.

The information presented in this TA demonstrates that the net transport-related impacts of this Application relative to that already approved through the consented scheme are neutral. It can be concluded with a very high degree of confidence that there will be no increase in effects on relevant receptors from those identified within the 2014 ES and subsequently consented in the 2015 DCO

## 1.2 Development Context

For the ease of reference, the Works, as shown in Figure 1.2 (a – c) of the Environmental Appraisal, are split into areas as below:

- Area 1 – A174 Crossing;
- Area 2 – South of Kirkleatham Memorial Park;
- Area 3 - Wilton East;
- Area 4 - Main Welfare Hub south of Wilton; and
- Area 5 - HVAC Cable Corridor.

Section 4 of this TA describes the Works in more detail.

<sup>1</sup> UK Government (1990) Town and Country Planning Act 1990 [Online] Available at: <http://www.legislation.gov.uk/ukpga/1990/8/contents> (Accessed on 11/05/2020)

This TA supports a new planning application to enable minor changes to approved alignment of onshore cabling, two changes to the construction site access points onto public highways, three accesses within the Wilton Complex and off the public highway connecting the Works to the Haul Road (no 10J (2), (3) and (4)) and alterations to compound size and location. Specifically, the Works include:

- An alternative cable route alignment to that consented under the 2015 DCO;
- Repositioned construction access point 10 C(A) onto the A174 and construction compound changes CC B and CC C;
- New construction access 10E (2), opposite that already consented, onto Grewgrass Lane at a location of an existing field access;
- Minor construction compound enlargement to the east of Fishponds Road (B1269) CC D (2) and (3);
- Altered/new construction compounds within the Wilton Complex Centre (Wilton International) including CC E and F to the east of the site and CC G, H and I centred around the central access road; and
- Minor widening of a short section of the AC cable corridor immediately to the west of the OCS to accommodate a retaining wall to support the existing bund.

This TA has consideration of the Works in relation to the 2015 DCO and where net impacts arise, then consider how these might impact on the public highway. This TA will be concerned with the potential changes to the traffic and access aspects of the onshore works associated with the Applicants' Projects only, examining the construction and operation phases of the Works and considering these against that already consented 2015 DCO.

The 2014 ES was supported by a TA which was an appendix (Appendix A to Chapter 28 of the 2014 ES) which looks at Traffic and Access, primarily focusing on the transport impact of the construction phase of the Applicants' Projects. The document references are:

- 2014 ES – Chapter 28 F-ONL-CH-028\_Issue 4.1; and
- Transport Assessment - 9W7904.20/R00001/303838/PBor.

During the operational phase of the Applicants' Projects, the only vehicle movements generated will typically be daily operational and occasional maintenance visits to the OCS. In the 2014 ES it was anticipated that each OCS will be staffed 24 hours a day by a two full time personnel on shifts, generating a worst case traffic impact of eight daily car movements per OCS, i.e. the two arriving personnel will overlap with the two departing personnel from the day/night shift. This assumption has been maintained.

As operational vehicle movements are so low, and in line with the previously agreed 2014 ES, this TA focuses solely on the construction and demobilisation phases of the Applicants' Projects, the former being the most material.

### 1.3 Document Structure

This Assessment will follow the following structure:

- Section 2 includes an appraisal of national and local policy;
- Section 3 describes the existing context of the site;
- Section 4 describes the Works for which planning approval is sought;
- Section 5 provides an overview of the accessibility of the Works which are the subject of this Application;
- Section 6 provides the future baseline conditions and provides an estimate the multi-modal trip generation and attraction for the proposed new and altered accesses and compounds; and
- Section 7 provides a summary and conclusions.

This TA is accompanied by the following figures and annexes:

- Annex A – Figures;
  - Figure 3.1 - Local and wider highway network plan;
  - Figure 4.1 - Access and Compound Locations;
  - Figure 5.1 - 2 km Pedestrian Accessibility;
  - Figure 5.2 - 5 km Cyclist Accessibility;
  - Figure 5.3 - 60-minute Public Transport Accessibility;
- Annex B - Consultation Responses;
- Annex C - Personal Injury Collision Reports;
- Annex D – Proposed Development
- Annex E - Traffic Flow Diagrams;
- Annex F - Construction Traffic Calculations and Distribution; and
- Annex G - Site Access Drawings and Swept Path Analysis.

### 1.4 Document Scope

The scope of this TA is based on that agreed with the local highway authority Redcar and Cleveland Borough Council (RCBC) and Highways England (HE). HE are responsible for the Strategic Road Network (SRN) and adopts the parameters set out within the TA of the 2014 ES to reflect the position of the Works for which planning consent is required.

A scoping document was sent to both RCBC and HE on 9<sup>th</sup> April 2020 and responses were received from various staff members in the following weeks. The scoping document was designed to develop the principles agreed as part of the 2014 ES and adopt these wherever practically possible for the Works for consistency. A summary of consultation responses and the scoping document is included at Annex B.

## 2 Policy and Guidance

### 2.1 General

This section provides a summary of relevant national and local transport policies and provides a brief analysis of how the Works which are subject of this Application contribute towards the aims and objectives of these policies. Since the 2015 DCO was consented policy has evolved.

The principle of the Applicants' Projects has already been established and considered acceptable. Therefore, the policy related to providing Offshore Wind Farms which sat behind the 2014 ES is not repeated within this TA as it is not applicable to the detail of this Application.

### 2.2 National Policy – National Planning Policy Framework (NPPF)

NPPF<sup>2</sup> is published by the Ministry for Communities and Local Government, along with thematic Planning Practice Guidance (PPG) to set the framework under which local transport, parking and accessibility plans and policies are set. The NPPF was revised in July 2018, with a further minor revision in February 2019.

Paragraph 108 of the NPPF states that when promoting developments

*“it should be ensured that:*

- *appropriate opportunities to promote sustainable transport modes are taken up, given the type of development and its location;*
- *safe and suitable access to the site can be achieved for all users; and*
- *any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree”.*

Paragraph 109 goes on to state that *“development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.”*

In reference to supporting documentation with planning applications, paragraph 111 of the NPPF states that *“all developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed”.* The trigger levels for the above are set locally but must be in line with the above.

<sup>2</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/810197/NPPF\\_Feb\\_2019\\_revised.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf)



## 2.3 Local Policy – Redcar and Cleveland, Local Transport Plan, 2011 – 2021, March 2011

The Redcar and Cleveland third Local Transport Plan<sup>3</sup> (LTP3) was adopted by RCBC in March 2011 and builds upon the Core Strategy and the Local Economic Partnership (LEP) Statement of Ambition by setting five main goals for city and regional networks, namely:

- Reduce Carbon Emissions;
- Support Economic Growth;
- Promote Quality or Opportunity;
- Contribute to better Safety, security and Health; and
- Improve Quality of Life and Healthy Natural Environment.

Whilst the LTP3 is unchanged since the 2014 ES, and the 2014 TA identified the following five policies as being critical in achieving the goals of the LTP3 and these continue to be of particular relevance to this Application:

- PEG2 - Manage the demand for travel, in particular during peak periods. The package of measures will include car parking restraint and enforcement; providing informed travel choices; considerate land use planning;
- PEG3 - Make best use of the existing highway network, using the powers of the Traffic Management Act, under the control of the Traffic Manager;
- PEG4 - Address localised congestion issues, in particular through the development of Workplace Travel Plans and through localised traffic management schemes;
- PEG5 - Manage freight transport in the borough to provide reliability of journey times and minimise adverse environmental impacts; and
- SSH1 – Improve Road Safety in the borough through a combination of education, encouragement, engineering and enforcement initiatives.

The 2014 ES acknowledged these five key policies through the development of a construction Traffic and Access Strategy that contains embedded traffic management measures to mitigate the traffic impact associated with the Applicants' Projects. This was also reflected in 2015 DCO Requirements that require discharge, it is anticipated that this Application will similarly mirror the consent granted.

The original approval and TA identified and considered the wider traffic issues specific to the Tees Valley area, through this the wider impact of the Applicants' Projects have been considered. However the changes proposed through this Application are the localised issues raised by the Works (in particular, access changes and construction compounds).

Most material is the traffic congestion impact on the private car for commuting, of which there is a greater reliance in the Tees Valley area than in other parts of the North East and the UK. The local characteristics in employee's demographic and mode choice have informed the distribution of traffic and development of transport solutions contained within this TA.

<sup>3</sup> <https://www.redcar-cleveland.gov.uk/resident/roads-and-travel/Pages/Local-Transport-Plan.aspx>



## 2.4 Redcar and Cleveland Local Plan, May 2018

The Redcar & Cleveland Local Plan<sup>4</sup> (the Local Plan) sets out the vision and overall development strategy for the RCBC's area and how it will be achieved for the period until 2032.

The Local Plan provides the policy framework to meet these challenges and to deliver sustainable development across the borough.

The Local Plan has been prepared and is focused on the delivery of three key outcomes:

- Grow our economy and create more jobs;
- Develop great places to live; and
- Improve quality of life.

With regards to 'Transport and Accessibility' the Local Plan sets out the following key objectives:

- Improve access to markets and contribute to the competitiveness of businesses within the borough where these would relieve traffic congestion and promote improved public transport services;
- Support the development of a dynamic labour market for businesses within the borough;
- Improve access to employment, learning, health facilities and services for all sections of society;
- Improve sustainable access to Redcar and Cleveland for inbound tourism;
- Improve access and connectivity to and from Teesport and the surrounding South Tees area;
- Minimise the impact of the movement of people and goods on the environment and climate change;
- Promote and increase the proportion of journeys made by public transport, cycling and walking including through demand management measures within both rural and urban areas, and between urban areas and the countryside and coast;
- Locate new development in accessible locations to help reduce the need to travel and to ensure new development can be served, or is capable of being served by public transport;
- Ensure safe transport networks and infrastructure is provided through making best use of resources to improve public transport facilities within the borough, particularly within East Cleveland; and
- Ensure the design of and improvements to streetscapes add to the quality of life and the environment.

Relevant policies with regards to the Works are listed below:

- Policy TA 1 – Transport and New Development: 'The Council and its partners will ensure that the transport requirements of new development, commensurate to the scale and type of development, are taken into account and seek to promote sustainable travel to minimise environmental impacts and support residents' health and wellbeing.

## 2.5 Summary

In general, the national, regional and local policies set out above promote common aims in respect of reducing car trips and encouraging travel by sustainable modes such as public transport, walking and cycling.

The following sections demonstrate that the Works promoted through this Application continues to show that the Applicants' Projects are well located and are therefore considered to be in line with the national, regional and local policy aims.

<sup>4</sup> <https://www.redcar-cleveland.gov.uk/resident/planning-and-building/strategic%20planning/Pages/local-plan.aspx>



## 3 Existing Highway Network

### 3.1 Introduction

The Works are located in Teesside and incorporate the towns Middlesbrough, Stockton-On-Tees, Thornaby, Billingham, Cleveland, Redcar and other smaller settlements near the River Tees.

Teesside is located on the east coast of the UK. Access to the wider SRN is predominantly via the A66 and A19 dual carriageways, which link to the A1(M). The A1(M) provides access to the key north / south corridor passing close to Newcastle upon Tyne and Leeds. The A1(M) also provides access to the M62 east-west strategic transport corridor.

Traffic from the development travel on national and local roads, these are respectively managed by two highway authorities, HE and RCBC. HE is an executive agency of the Department for Transport (DfT) and are responsible for managing the SRN on behalf of the Secretary of State for transport. RCBC are the Local Highway Authority (LHA) and are responsible for managing the local highway network within the Borough.

Figure 3.1, Annex A, depicts the local and wider highway network and provides a graphical reference for this TA. The 2014 ES considered the impact of the Applicants' Projects of the main link roads illustrated. This TA focuses on the localised changes on the following roads on the local highway network.

### 3.2 Local Highway Network

#### 3.2.1 A174

From the A1053 heading east, the A174 is a highway under the jurisdiction of the RCBC and bounds Redcar to the south continuing toward the junction (roundabout) with the B1269 (Redcar Lane). Upon leaving the A1053 it is a dual carriageway, but heading east the A174 becomes a single carriageway after its roundabout junction with Grewgrass Lane/Redcar Lane.

Travelling west, at its junction with the A1053, the A174 becomes part of the SRN, and is managed by HE. The A174 from its junction with the A1053 heading west continues as a dual carriageway and connects to the A19 and thence the wider (national) highway network.

#### 3.2.2 Grewgrass Lane

From its junction with the A174 roundabout, Grewgrass Lane routes to the south into the village of New Marske. The road is a rural single carriageway subject to a 7.5t lorry weight restriction and a 40-mph speed limit. Access to New Marske is achieved via the crossroads with Longbeck Lane.

In the vicinity of the proposed new access (access 10E (2)), Grewgrass Lane has no footways or street lighting, in character with its rural nature.

#### 3.2.3 B1269 – Fishponds Road

Fishponds Road originates from its roundabout junction with the A174 and routes south to the hamlet of Yearby. The road is a single carriageway road subject to a 40-mph speed limit from the A174 roundabout until

it reaches the outskirts of Yearby where it changes to a 30-mph speed limit. It then continues south to Dunsdale and ultimately Guisborough.

Fishponds Road, in the vicinity of the Works, has a footway on the east side of the carriageway and no street lighting.

#### 3.2.4 *Wilton complex access points*

As well as the access points onto the public highway, there are three additional access points proposed with the Wilton International complex providing connections between the Haul Road and the cable route. These access points are referenced as No 10J (2), (3) and (4). These access points do not directly connect to the public highway and do not materially alter vehicle movements to/from Wilton International's site. As a consequence, these access points are not considered further within this Section.

### 3.3 Traffic Flow Data

To assess the impact of the construction access and compound changes, this TA has adopted the approach used in the 2014 ES, and described in detail in the 2014 ES. This has been updated for the Works which are the subject of the Application. As agreed through the Scoping consultation, existing traffic flow data for all the key roads within the study area used in the 2014 ES approval has been captured from a number of sources, namely:

- Traffic count data from the DfT for classified Annual Average Daily flows; and
- Commissioned Automatic Traffic Counts undertaken between the 31 January 2013 and 06 February 2013.

Data from the Automatic Traffic Counts has been assessed to identify the network peak hours as 08:00 – 09:00 and 16:00 – 17:00.

It would have been preferable to have undertaken new traffic counts however, due to Covid-19 and the national lockdown, this is not possible to inform the Application. Therefore, following consultation with the two Highway Authorities, this TA uses the available historic counts as the best data available, these are adjusted for known changes in traffic data.

### 3.4 Traffic Collision Data Review

#### 3.4.1 *2014 Transport Assessment*

The 2014 Transport Assessment (2014 TA) considered whether the Applicants' Projects would have an adverse impact on road safety by establishing a road safety baseline and then considered whether there are any inherent road safety issues within the study area used in the 2014 ES approval. This looked at the Personal Injury Collision (PIC) records previously obtained from RCBC for the period to December 2007 to December 2012.

Collision clusters sites were highlighted and then reviewed. Clusters are considered to be sensitive to significant changes in traffic flows and could therefore potentially be impacted by the construction traffic generated.

The 2014 ES concluded that there were no existing safety problems associated with the road network in the immediate vicinity of the Works.

Whilst it is not anticipated that the traffic associated with this Application would result in any significant safety implications on the adjacent highway network, this assumes that the base conditions on the highway have not worsened and increased the risk of accidents.

### 3.4.2 Updated Personal Injury Collision Summary

The 2014 TA assessed 12 accident cluster sites, highlighting five for more detailed assessment and discounting the others as having no greater risk than typically found at junctions of the type being considered. These shortlisted five cluster sites have been reviewed as part of this TA to understand whether the collision pattern has materially and adversely changed.

Table 3.1 below, compares the last five years accident data (to December 2019) to that considered in the 2014 TA. This shows that at all cluster sites, there had been a material reduction in accident numbers, suggesting that the risk to road users has reduced rather than increased.

#### 3.4.2.1 A174 relocated access point (Area 1)

There has been a single incident in 2017 in the vicinity of the access point consented close to the proposed east site relocated access (No 10C(2)). This involved two cars and a medium goods vehicle, and resulted in serious injury to one of the car drivers. The collision took place on a Sunday and appears to have been a shunt or overtaking incident. Details are included in Annex C.

#### 3.4.2.2 Grewgrass Lane new access (Area 2)

There has been one slight injury collision close to the proposed additional access (access 10E (2)) from Grewgrass Lane. It took place on a Sunday in 2019 and involved a single car away from a junction. There were no other vehicles involved or reported highway defects or weather factors recorded. Details are included in Annex C.

**Table 3.1: Review of Accident Clusters**

Location	2014 ES Assessment	Five year to Dec 2019	Change
Cluster 2: A174, A1085 and Marske Road	The junction has experienced 10 collisions within five years. One resulted in serious and nine slight injuries.	Six accidents at or approaching the roundabout four serious, two slight.	No change.
Cluster 4: A174, B1269 and Grewgrass Lane roundabout	The junction has experienced 12 collisions within five years all of which resulted in slight injury. Five of the collisions are clustered at the Redcar Lane arm of the roundabout, three on the A174 east, two on Grewgrass Lane and two on the A174 west.	Eight slight injury accidents. None on Grewgrass Lane. Six on Redcar Lane arm.	No change - Reduced risk.



Cluster 5: B1269, Redcar Road and Plantation Road roundabout The junction has experienced	The junction has experienced eight collisions within five years all of which resulted in slight injury.	One slight accident.	No longer considered a cluster site (below 4 accidents at a roundabout).
Cluster 7: A1053, A174 and the B1380 roundabout	The junction has experienced 22 collisions in five years of which one resulted in a fatal injury and the remaining 21 resulted in slight injury. Of the 22 collisions, 20 of the collisions can be grouped into three types, namely: 11 involved a rear end shunt type collision between two vehicles, five involved the loss of control of a vehicle and four involved the collision between two vehicles on the roundabout.	This junction has seen accidents reduce to 10 in five years. Nine slight injury incidents and one serious.	Reduce to High risk.
Cluster 10: A1085, West Coatham Lane, Wilton Complex and the TATA steel works roundabout	The junction has experienced nine collisions within five years of which two resulted in serious injury and the remaining seven resulting in slight injury.	The accidents have reduced to five in five years, three slight and two serious.	No change.

Source: SCP analysis of collision data from Crashmap

### 3.5 Site Access Summary

It is evident from an examination of the PIC data in the locality of the Works, there are no existing inherent road safety issues that could be materially exacerbated by the proposed site access points.

It has also been shown that the local highway network has seen a reduction in accidents since the 2014 ES was considered. Therefore, there are no emerging road safety issues which now need to be considered.

In summary, it is not expected that the traffic associated with the Works would have any material or adverse impact on the safe operation of the local highway network.

Notwithstanding, it is recognised that the intensification of slow turning vehicles coupled with high vehicle speeds and flows on some links could create a risk to construction employees and the travelling public.

Therefore, as previously agreed a package of suitable mitigation measures is proposed. This is discussed in Section 6 of this TA.





## 4 The Proposed Development

### 4.1 The approved scheme and a description of the proposed changes

This Application seeks approval for the following, these works are described in greater detail in the Environmental Appraisal:

- Area 1
  - Cable realignment Work No. 6A (2) and Work No. 6B (2).
  - New and the enlargement temporary Construction Compounds (CC B; CC C)
  - Two approved temporary construction access points on the A174 (10C(A)), north of the A174 roundabout with Gurney Street, the relocated access is on the east side of the A174. A new temporary construction access from Grewgrass Lane (10E (2)), opposite the approved access and in the location of a field access.
- Area 2 – South of Kirkleatham Memorial Park;
  - Enlargement of temporary Construction Compounds (CC D (2) and (3))
- Area 3 - Wilton East;
  - Cable realignment Work No. 6A (2) and Work No. 6B (2)
  - New and the enlargement temporary Construction Compounds (CC E; CC F)
- Area 4 - Main Welfare Hub south of Wilton
  - Cable realignment Work No. 6A (2) and Work No. 6B (2) and Work No. 8S (2)
  - New and the enlargement temporary Construction Compounds (CC G; CC H; CC I)
- Area 5 - HVAC Cable Corridor.
  - New access points Work No. 10J (2), Work No. 10J (3) and Work No. 10J (4)
  - Cable realignment Work No. 8A (2) and Work No. 8B (2)

Annex D illustrates the consented 2015 DCO and the Works subject to the Application. This illustrates that the changes are minor in nature in the context of the approval granted.

In terms of highway impact, the Works are considered to have no direct physical impact on the highway, because the cable will be laid Horizontal Directional Drilling (HDD) under the roads.

There are two scenarios being considered for the transporting of cable to the site, one involves longer lengths with less joints and less deliveries, but necessitating using transport to site using Abnormal Indivisible Loads. The second option of using shorter cable lengths will generate slightly more vehicle movements both delivering cables and associated with cable jointing etc.

The traffic flows used in this TA are based on the worst-case traffic generation option.

### 4.2 Access Details

The details and current status of the access arrangements are summarised in Table 4.1 with the accesses which are the subject of this application shown in bold. Figure 4.1, Annex A, shows the access locations in relation to the Applicants' Projects and the wider highway network.

Access points 10C (2), 10E (2) (in bold below) constitute part of the Works and will have a direct impact on the highway. As such, these are considered further in Sections 5 and 6 of this TA.

**Table 4.1: Access Details**

Points of Access	Type of Access (those in bold are the subject of this application)	Status
A1085 Coast Road	A new temporary priority junction.	Approved.
Green Lane/Redcar Road	A temporary access from Green Lane.	Approved.
A174 north of Gurney Street roundabout	<b>The relocation of one of the two approved temporary left in/left out priority junctions. The relocated access is on the east side of the A174 and is reference 10C (2).</b>  Access 10D is already consented by 2015 DCO.	<b>Proposed. Area 1.</b>  Approved.
Grewgrass Lane	A temporary access from Grewgrass Lane (east side).  <b>A proposed temporary access from Grewgrass Lane (west side) 10E (2).</b>	Approved.  <b>Proposed. Area 2.</b>
B1269	Two temporary accesses from Fishponds Road.	Approved.
Wilton Complex	Existing grade separated junction from A174 and existing A174/A1042/Wilton Complex roundabout. These accesses will be used for operational access to the converter stations sites.  <b>Within this site three new access points are proposed (10J (2), (3) and (4))</b> these connect the Haul Road to the cable route, but as they do not directly or indirectly impact on the public highway, they are not considered any further in this TA.	Approved.  <b>Proposed. Area 5</b>
B1380 High Street	Existing highway access from B1380 High Street to the Lackenby substation for construction traffic. This access will also be used for operational access to the substation.	Approved.

### 4.3 Compound Details

Changes are proposed to enlarge and provide additional temporary construction compounds above those consented by the 2015 DCO. These changes are summarised in Table 4.2. CC C and CC H are the larger compounds and will include the welfare and office facilities.

The proposed new compounds included within the Works will have a direct impact on the highway, largely associated with the volume of material required to form the compounds and their subsequent removal. This is taken into account in the traffic generation calculations and considered further in Sections 5 and 6.

**Table 4.2: Changes to Approved Compounds**

Compound Name	Area (m <sup>2</sup> )	Description and Activity	Indicative Start Date	Expected Duration (Months)
<b>Area 1</b> CC B A174 north side	4,367	Construction Compound to facilitate Civil & cable installation works <b>NOTE this is a relocation of an approved compound (10,000 m<sup>2</sup>)</b>	Mar-22	32
<b>Area 1</b> CC C A174 south side	17,782	Construction Compound to facilitate Civil & cable installation works and commissioning works <b>NOTE this is a relocation of an approved compound (10,000 m<sup>2</sup>)</b>	Jan-22	43
<b>Area 2</b> CC D (2) and (3) Fishponds Road	370 and 601 extra	Proposed minor enlargement of approved compounds. Construction Compound to facilitate civil & cable installation works	Mar-22	32
<b>Compounds Within or Accessed from Wilton International</b>				
<b>Area 3</b> CC E Wilton east access	8,658	<b>New</b> Construction Compound to facilitate civil & cable installation works	Feb-22	12
<b>Area 3</b> CC F Wilton east access	1,342	<b>New</b> Construction Compound to facilitate civil & cable installation works	Mar-22	24
<b>Area 4</b> CC H Wilton central	33,406	<b>Enlarged</b> Welfare Area for OCS / HVAC Corridor	Mar-21	48
<b>Area 4</b> CC G and I Wilton central	9,861	<b>New</b> Material Storage	Mar-21	48

## 5 Accessibility Study

### 5.1 Introduction

This section presents a review of the accessibility of the Works by walking, cycling and public transport modes. This accessibility section focuses on the two primary site compounds one in Wilton International (CC H) and the other off the A174 south-side access (CC C).

In Section 2 of this TA, the policy documents all seek to promote travel by sustainable modes. This section of the TA considers the sustainable transport options and the destinations that are accessible by such modes. This focuses on construction workers, rather than operation employees, for the reasons outlined above (i.e. operational workers will be minimal).

Covid-19 is currently having a major impact on travel patterns. Given construction is scheduled to commence in Q1 2021, it is assumed that many of the temporary measures put in place for Covid-19 will be lifted, such as “social distancing” and advice not to use public transport.

As post-Covid-19 policy has yet to evolve, this section is focused on promoting the prevailing policy, consequently in discharging the requirement for a Construction Travel Plan consideration will need to be given to emerging policy, once the “new normal” is known. This may influence use of public transport, car/van sharing and park and ride (example).

For construction employees wishing to access the Works by non-car modes (walking, cycling, bus and rail), it is necessary to consider the location within the Works that employees will start and finish their day.

Employees will sign in and out at one of the primary compounds at the start and end of the day before walking or being driven (in a works vehicle) to the appropriate work front. The primary site compounds will be located one within Wilton International at CC H and the other off the A174 between Redcar and Marske-by-the-Sea CC C. Therefore, these form the destinations for the Accessibility Study.

The primary site compounds are remote from residential areas and close to main ‘A’ roads, to reduce noise and light pollution to residents and utilise the most appropriate roads for construction traffic, this however represents potential compromises for sustainable travel.

### 5.2 Pedestrians

Walking is recognised as the most important mode of travel at a local level and it offers the greatest potential to replace short car trips, particularly under 2 km. As such, consideration has been given to the existing pedestrian facilities in the vicinity of the Works.

The pedestrian accessibility of each primary compound has been modelled using Geographical Information System (GIS) software to produce isochrones mapping. The purpose of the isochrones is to demonstrate the areas within an acceptable walking distance of 2 km of the Works. The pedestrian accessibility of the site is shown in Figure 5.1, Annex A.

Whilst pedestrian access to the Wilton International is good, with a comprehensive footway network to most walkable communities.

The primary compound located off the A174 does not benefit from footways, this compound is accessible by the Public Right of Way footpaths. It is fair to say that this site is not an attractive location to walk to and would

require suitable footwear; staff are likely to be in footwear appropriate for site working, so this is an option. It is not considered proportionate to fund the construction of a footway simply to provide access to a temporary construction site and the previous approvals for this access and compound did not require any such provision.

## 5.3 Cyclists

National and Local Transport Policy (See Section 2) identifies that cycling represents a realistic and healthy option to use as opposed to the private car for making journeys up to 5 km as a whole journey or as part of a longer journey by public transport.

GIS software has been used to model cycle isochrones up to 5 km from each area of the Works and is shown in Figure 5.2, Annex A.

Cycle access to the Wilton Industrial is good, there is a shared off-road cycle route along Kirkleatham Lane, this then continues north as an on-road dedicated cycle lane linking the Works to Redcar, and east via Kirkleatham to south Redcar. To the west a shared off-road cycle route connects to the Wilton access road adjacent to its grade separated junction with the A174, before continuing to Lazenby and beyond. There is also a dedicated route south via Wilton International to Guisborough.

The primary compound located off the A174 (CC C) does not benefit from off or on road cycle facilities, however the road is of reasonable width and access using the carriageway is practicable and based on road safety data, appears safe.

## 5.4 Public Transport

### 5.4.1 Bus

Figure 5.1, Annex A, shows the location of the bus stop in relation to the two primary site compounds (CC C and CC H). The nearest bus stops to the A174 compound (CC C) are located on Gurney Street, an approximate 775 m walk to the south east of the Works. The nearest bus stops to Wilton International are located on the A174, an approximate 775 m walk to the south east of CC H.

Tables 5.1 and 5.2 show the details of the bus services that can be accessed from CC C and CC H respectively (as at 1 March 2020).

**Table 5.1: Bus Services No. 62/62A Redcar Road and Gurney Street**

Service	Operator	Route	Peak Frequency		
			Mon - Fri	Sat	Sun
62/62A	Arriva	Middlesbrough – Dormanstown – Redcar – New Marske	60 mins	60 mins	60 mins

**Table 5.2: Bus Services No. 63 A174**

Service	Operator	Route	Peak Frequency		
			Mon - Fri	Sat	Sun
63	Arriva	Middlesbrough – Eston – Wilton - Redcar	30 mins	30 mins	30 mins

#### 5.4.2 Rail

There are a number of stations within or close to the Works. In order for employees to travel between the railway stations and the Works, employees would need to make a linked trip most likely via a bus. Both Redcar Central and Middlesbrough stations can be accessed by bus services 62/62A and 63 as set out in Tables 5.1 and 5.2, therefore the services from both of these stations have been assessed.

Redcar Central Rail station is located within Redcar and is managed by Northern Railways. Both Northern Railways and TransPennine Express operate at this station. Northern offer half-hourly services (Mondays to Saturdays) and hourly services (Sunday) between Saltburn and Middlesbrough/Darlington. TransPennine Express offer hourly services to Manchester.

Middlesbrough Station is located close to the town centre and is managed by TransPennine Express. Middlesbrough station offers at least hourly services to the major cities within commuting distance such as, Huddersfield, Darlington, Sunderland, Newcastle, Leeds, York, Manchester, etc.

Longbeck Train Station is located 1 km from the primary compound CC C located off the A174. This station is served by Northern Railways and offers an hourly service in each direction calling at stations between Bishop Auckland and Saltburn. The limitations of the lack of footway allowing walking to this station are covered above.

Figure 5.3, Annex A illustrates the distance that can be travelled within 60 minutes by public transport to and from each CC C and CC H. The time includes walk distances to the bus stops and demonstrates that the key areas of Stockton, Middlesbrough, Redcar, and Saltburn-by-the-sea are within an acceptable 60-minute public transport commute.

### 5.5 Car Share

There is an internet link on the RCBC website linking to [www.liftshare.com](http://www.liftshare.com) which holds details of car drivers willing to share car journeys throughout the UK. There are no details of specific car share promotions within Teesside.

### 5.6 Intermodal Freight

Teesport is a deep-water port located approximately 1.5 km from the mouth of the River Tees. The main access to the port is achieved via Tees Dock road off the A66 / A1053 roundabout. Other accesses to the port and further upstream maritime facilities are achieved off the A66 and the B1513 Dockside Road.

Teesport covers an area of 588 acres south of the river and has direct access to the A66 Trans-Pennine East and West routes and A19/A1/M1 national motorway links north and south.

There are opportunities to source bulk materials and specialist materials via the port which can minimise impact on the wider highway network.

### 5.7 Accessibility Summary

This Section demonstrates that the two Primary Compounds, where works typically start and finish their working day, are both accessible by sustainable transport modes.



## 6 Transport Impact of Construction

### 6.1 Introduction

This TA considers the transport impact of the construction phase of the Works. The proposed route for the cable corridor does not in itself bring any material highway impact. The principles of the development (including accesses) have already been agreed in the 2014 ES.

There are no changes planned to the operational phase of the Applicants' Projects, with the only vehicle movements generated being maintenance visits, and the minimal staff presence at the OCS located in Wilton International.

Maintenance will typically generate one vehicle on an approximate weekly basis. These visits are likely to be made by light vehicles only and would use the existing road network and the accesses constructed as part of the Works and/or those consented by the 2015 DCO. The OCS will generate eight vehicle movements a day from the limited staff presence and associated shift patterns. These very low traffic volumes resulted in the operational traffic impact being scoped out of the 2014 TA. As this Application excludes the OCS, it has no impact on these trips and therefore, the 2014 ES is still sound.

Similarly, the vehicle movements generated during the decommissioning phase will be lower than those during the construction phase since the removal of materials does not need to be delicately transported and can be bulk loaded whilst some infrastructure will be retained in-situ. This results in a lesser transport requirement and in fewer vehicle movements in comparison to the construction phase.

All mitigation measures that are identified for the construction phase will also be adopted during the decommissioning phase. To ensure worst case scenario is assessed, it can be determined that the identification of impacts resulting from traffic generated during the construction phase, would also apply to the decommissioning phase. This approach was also agreed at the 2015 DCO consent stage, and this Application does not change this conclusion.

### 6.2 Trip Generation and Assignment – Construction

This Section of the TA revisits the trips to be generated by the Applicants' Projects in order to establish a basis for assessing the transport impacts. This is revisited as the Works will directly influence the total volume of traffic generated and where on the network the traffic will occur.

For the above reasons, detailed assessments of vehicle generation have only been carried out for the construction phase of Works. The methodology outlined below follows that used in the 2014 ES TA which supported the 2015 DCO consent. This TA will compare the proposed development to that already consented.

The realistic overall worst-case traffic demand scenario has been developed by examining:

- The likely (realistic) minimum construction programme;
- The most realistic construction commencement date;
- Likely shift patterns;
- The distribution of traffic;
- A single shared use Haul Road;
- Number, location and size of compounds; and
- Demand for materials and personnel.

The assumptions that underpin the realistic worst-case scenario are summarised below, it follows that previously used and agreed for the 2014 ES. It is worth noting that this was originally developed with the input from a specialist construction consultant augmented with experience gained on the first stage of the Dogger Bank Development, similar advice has been provided to inform this submission.

The case described below looks at the overall worst case for traffic on the network. There will be slightly different localised worst cases at each access as work progresses along the cable corridor.

### 6.3 Construction Programme and Background Traffic Growth

The construction programme provided in within the Environmental Appraisal represents a realistic minimum duration for each construction activity and therefore the worst case in terms of traffic intensity. Any further lengthening of construction duration would reduce the intensity of daily traffic and the associated impacts and therefore, the adopted programme represents the realistic worst-case scenario.

Based on the known programme, Year 2 is considered a realistic worse case for the assessment of environmental impacts as background traffic is predicted to increase over subsequent years which would increase the baseline traffic flows and in turn would reduce the magnitude of impact being assessed. The future traffic flows are compared to the 2020 baseline flows and the quantum and percentage increases previously consented by the 2015 DCO.

In consultation with the two Highway Authorities (RCBC and HE), it has been accepted that testing the network in the future (typically + five years from planning application or for strategic roads + ten years) is not necessary as the peak period of traffic generation is during construction, rather than the operational phase.

To derive the future year baseline traffic demand, it would normally be planned to undertake up-to-date traffic surveys. In the current the Covid-19 National Emergency, this is not practical as traffic flows are no longer representative due to the Lockdown. Therefore, after consulting the two Highway Authorities the approach being adopted is:

- Utilising more recent counts where available, these being taken from the Department for Transport Road Traffic Statistics (2018)<sup>5</sup>;
- Where this is not an option, we have used the previous counts undertaken for the 2014 ES, these were undertaken in 2013. These counts have been adjusted to represent 2018 traffic flows by use of the Department for Transport Trip End Model Presentation Programme (TEMPro) Version 7.2, for the Redcar and Cleveland dataset; and
- All traffic counts are then updated to 2020 (Base Traffic Flows) by the use TEMPro.

The detailed application of the build-up of traffic count data is set out below and the Base Traffic Flows and Assessment traffic flows are illustrated in Annex E.

Whilst base traffic counts could be growthed to Year 2, again using TEMPro, this would result in an increase of 2020 base traffic flows by 1.58%. However, TEMPro did not predict Covid-19 and the recession impacts arising, which in turn will impact on traffic flows. Furthermore, comparing the construction generated traffic to 2020 will result in a proportionately higher percentage impact, than would be the case when using growthed factors.

RCBC have also been consulted on Committed Developments to take into account. It has been confirmed that there are no Committed Developments. In any case, the use of TEMPro makes some allowance for the growth of traffic on the local network.

<sup>5</sup> Department for Transport. (2018). Road Traffic Statistics [Online] Available at: <https://roadtraffic.dft.gov.uk/> (Accessed: 14/05/20)

The nature of construction works typically requires that employees work longer hours in the summer and shorter hours in the winter to take advantage of the available day light. Therefore, whilst employees will arrive prior to the am network peak hour (08:00 – 09:00), there is the possibility that there will be an overlap between construction employees departing and the network pm peak hour (16:30 – 17:30 observed from traffic counts). Therefore, as a worst case it will be assumed that employee trips will overlap with the pm network peak hour.

## 6.4 Distribution

At the time of this Application, the supply chain for materials and the workforce is not procured. This is unchanged from the 2014 ES. Therefore, the approach to traffic distribution follows that previously used in the 2014 ES. In summary this was:

- Bulk materials such as aggregate will make up the majority of the total Heavy Goods Vehicle (HGV) movements for the Works. The economics of transporting large quantities of bulk materials from outside of the Teesside area are likely to be prohibitive and as such it is envisaged that these materials will be sourced locally to the area and link to the works via one of the major A-roads within the study area namely the A66 or A174;
- Teesport and sites close to the A1(M) corridor would be the most likely origin of bulk materials, HGV traffic has therefore been distributed either to the north-west (56%) or south-west (44%) in the same proportions as background HGV traffic flows; and
- Employees are likely to be based locally. It is therefore assumed that employees will distribute on to the main 'A' roads within the study area (namely, the A174, A66, A1042 and A1085) in the same proportions as background traffic flows.

## 6.5 Construction Vehicle Trip Movements

TAs are typically informed by the derivation of trip rates (i.e. to assist with quantifying the development's predicted traffic attraction) from interrogation of established trip rate databases such as TRICS. However, there is no such data in the existing trip rate databases that could confidently quantify the trip attraction associated with the construction of the Works.

Therefore, the traffic generation used in the 2014 TA and this TA is derived by way of a 'first principles' approach. The 'first principles' approach generates traffic volumes from an understanding of material quantities and personnel numbers. This TA has updated the material quantities to reflect known changes, most material of which is the that of shorter cable length drums and the new compounds.

Annex F details the expected quantity of materials, plant movements and HGV type that could be expected for each of the construction activities, and for each construction scenario and how the movements will be distributed on the network. An average car share ratio of 2.5 employees per vehicle has been assumed. This was validated against other major construction projects (e.g. Heathrow Terminal 5).

## 6.6 Impact Assessment – Construction

The 2014 ES concluded that quantum of traffic associated with the construction of the Applicants' Projects concurrently would not result in a severe impact and junction modelling was not deemed necessary. Therefore, no further analysis of network operation was undertaken. This Application follows the same approach and there is no reason to vary from the precedent previously set.

The Works differ from that previously consented 2015 DCO in the following ways:

- The increased number and size of compounds will generate more traffic at the site set up and removal stages. These extra works will be offset during the works by reducing the need for plant and transport material to be moved on the public highway;
- The construction programme no longer assumes a worst case of both the Applicants' Projects carrying out the construction with the maximum overlap and shortest duration. Instead a more realistic programme is used, albeit this continues to maintain the worst-case approach where details are not yet finalised and includes for a realistic degree of overlap in activities;
- The effect of a longer programme means that the average daily traffic volume is less as the HGV movements are spread out over a longer period;
- This traffic data includes the proposed works at the Lackenby Sub- Station, as the combined effect of all works should be evaluated.

Table 6.1 below, provides a summary of the impacts of the Works. It also compares the predicted traffic to the 2020 baseline traffic flows of the Applicants' Projects, and also compares the flows with that of the 2014 ES.

**Table 6.1: Combined Project Traffic Compared to Background Traffic**

Link	Link Description	Traffic projections – this application				Approved scheme**	
		Construct-ion flows	Base Flow 2020 (AADT*)	Base 2020 + project flows	% increase (2020)	Construct-ion flows	% increase (2015)
CC	A1053 (Greyston Road)	273	13,967	14,240	2.0%	415	2.6%
DD	B1380 (High Street)	123	9,209	9,332	1.3%	129	1.4%
EE	A174	254	31,052	31,306	0.8%	372	1.4%
FF	A174 (south of Wilton)	482	43,340	43,822	1.1%	739	1.8%
GG	A1042 (Kirkleatham Ln)	71	15,106	15,177	0.5%	81	0.5%
HH	A174 (south of Redcar)	181	30,257	30,438	0.6%	253	0.9%
II	B1269 (Fishponds Rd)	35	6,773	6,808	0.5%	64	1.1%
JJ	Grewgrass Lane	13	4,290	4,303	0.3%	14	0.3%
KK	Redcar Road	13	8,762	8,775	0.1%	11	0.1%
LL	A1085 (Coast Road)	64	9,178	9,242	0.7%	82	0.7%
MM	A174 (south of Marske)	58	14,497	14,555	0.4%	67	0.6%
NN	A174 (south of Redcar)	130	30,257	30,387	0.4%	173	0.6%
Notes		*AADT – Annual Average Daily Traffic flow; ** see Table 6.2 from 2014 ES TA					

Whilst it is recognised that percentage impacts are not always a suitable measure of network performance, it is considered that the peak increases in background traffic flows of up to 2.0% shown in Table 6.1 will be indiscernible within daily and seasonal fluctuations in traffic, this is lower than the 2.6% previously accepted in the 2014 ES. Therefore, the Works are unlikely to result in an adverse impact upon network operation.

Table 6.1 demonstrates that the Works, when compared the 2014 ES, will have a less significant impact on the development over on any given day. This is true in terms of comparing construction traffic volumes and also percentage increase against baseline traffic.

The overall volume of traffic predicted to be generated by the movement of plant and material associated with the Works has increased by 7% from that previously approved by the 2015 DCO. Overall, 12,067 vehicle trips are now predicted, this compares to 11,275 vehicle trips in the 2014 ES. These trips are then spread over a broadly three-year programme, conversely the 2014 ES programme was estimated at 18 months. In addition, the on-site staff presence will increase in overall terms, due to the prolongation of the programme.

## 6.7 Access Strategy Impacts and Proposed Mitigation

This section looks at the Works associated with this Application and proposes a package of mitigation measures to reduce the risk to the general public and construction employees as a result in the temporary increase in turning manoeuvres and slow-moving vehicles.

**Table 6.2: Access Detail and Mitigation Strategy**

Point of Access	Type of Access & Location of Access	Mitigation Measures
<b>Area 1</b>  Access 10C (2) A174 north of Gurney Street roundabout	<p>The relocation of the north side (approved ref 10 C) temporary left in/left out priority junction to a position approximately 240 m to the south-east.</p> <p>Access will be taken directly from the A174 to the north. This will create a greater stagger to the south-side access and junction bell mouth.</p> <p>Upon completion of the construction works the access will be removed.</p> <p>Annex G, drawing numbers "SCP/190608/SK002" and "SCP/190608/ATR01".</p>	<p>The geometry of the bell mouth is unchanged from that previously consented. It is designed to prevent vehicles from right turning in and out of the construction access and from crossing from one access to the other. Instead vehicles will use adjacent roundabouts on the A174 to complete U-turning manoeuvres.</p> <p>The access geometry will reduce the risk of rear end shunts and collisions between turning vehicles.</p> <p>The current speed limit is 60 mph and it is proposed to provide an advisory 30 mph speed limit in the vicinity of the access throughout the duration of construction. The speed limit signing will reduce the speed of vehicles past the access and therefore reduce the risk and potential severity of any collisions.</p> <p>Temporary direction and warnings signs to advise of turning vehicles will be provided in accordance with Chapter 8 of the Traffic Signs Manual<sup>6</sup>. This signage will highlight the proposed accesses to drivers to avoid late breaking manoeuvres and highlight to the travelling public the potential for turning vehicles.</p>
<b>Area 2</b>  Access 10E (2) Grewgrass Lane	<p>A proposed temporary access taken directly from Grewgrass Lane to the west via a new bell mouth.</p> <p>The layout aligns with that approved on the opposite side of the road consented in the 2015 DCO.</p> <p>Upon completion of the construction works the access will be removed.</p>	<p>The current speed limit is 40 mph and it is proposed to provide an advisory 30 mph speed limit in the vicinity of the access throughout the duration of construction. The speed limit signing will reduce the speed of vehicles past the access and therefore reduce the risk and potential severity of any collisions.</p> <p>The temporary speed limit will allow for the provision of a reduced visibility splay recognising the temporary nature of the works and the environmental impact of removing large sections of mature hedge.</p> <p>Temporary direction and warnings signs to advise of turning vehicles will be provided in accordance with Chapter 8 of the</p>

<sup>6</sup> Traffic Signs Manual, Chapter 8, Traffic Safety Measures and Signs for Road Works and Temporary Situations. Parts 1 and 2



	Annex G, drawing numbers "SCP/190608/SK003" and "SCP/190608/ATR02".	Traffic Signs Manual. This signage will highlight the proposed access to drivers to avoid late breaking manoeuvres and highlight to the travelling public the potential for turning vehicles.
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In line with the 2014 ES, the traffic demand for the Applicants' Projects contains 'embedded mitigation' measures to minimise vehicle trips generated and to minimise the adverse impact of HGV movements. It is an obligation that a Construction Routing and Traffic Management Plan and Construction Travel Plan are developed in cooperation with the appointed contactor(s) and agreed with the Local Planning Authority, in discharge of DCO Requirement 32 in particular.

## 7 Summary and Statement of Change/No Change

The purpose of this TA is to identify the net transport-related impacts of the Application to the consented 2015 DCO. The transport impact of the construction of the Works is expected to be related to the movement of materials, equipment and staff.

To inform the TA, a pre-application consultation process has been undertaken with the local highway authority RCBC and the Highways England (HE) who are responsible for the SRN.

Onshore work is planned to commence in Year 1, with the more significant works in terms of vehicle movements, taking place in Year 2 with some initial preparatory work undertaken in Year 1. However, 2020 has been used as the Assessment Year, as this will show the worst-case picture in terms of relative increases in traffic.

In line with the conclusions of 2014 ES, it is still estimated that over the whole construction period, the cable works will generate around 34,830 construction worker vehicle movements (cars/light vans) on top of which will be worker vehicle movements associated with the OCS and connecting into National Grid. This equates to around 200 light vehicle movements per day (400 two-way movements) spread over the various work sites for the duration of the construction programme.

Section 6 of this TA identifies a maximum increase of 2.0% in construction works compared to 2020 base traffic flows on the roads immediately affected by the works. Whilst it is recognised that percentage impact is not always a suitable measure of network performance, the increase outlined in Table 6.1 of this TA will be indiscernible within the context of daily and seasonal fluctuations in traffic and therefore, unlikely to result in an adverse impact upon network operation.

Furthermore, the daily traffic volume for the Works is marginally lower than the 2014 ES, however the impact is now anticipated to take place over a longer construction period.

The above shows that the overall traffic flows from construction works will be higher than that approved due to the increase areas of compounds, but these are spread over a longer timescale. The nett effect is that at the peak the impact of the Works will have a lower daily impact and the highway safety risks have also reduced, therefore the changes from the conclusions of the 2014 ES is minimal.

In accordance with NPPF, it has been demonstrated that the changes to the construction traffic impact compared to the 2014 ES does not represent a 'severe' impact in terms of traffic and access.

The conclusion of this TA is that the net transport-related impacts of this Application relative to the 2014 ES are neutral (i.e. no change). For this reason, the mitigation proposed as part of the 2014 ES are considered still appropriate.

**Table 7.1: Summary of Impact Change at Access Point Changes**

Receptor	2014 ES Effect Significance	Additional Effect Significance	Change/No Change at Construction Stage
<b>Area 1</b> Access 10C (2) A174 north of Gurney Street roundabout	0.9% increase in traffic flows (253 HGV's)	Potential for impact reduced to 0.6% (181 HGV's)	No Change - Reduced impact
<b>Area 2</b> Access 10E (2) Grewgrass Lane	0.3% increase in traffic flows (14 HGV's)	Impact reduced to 0.3% (13 HGV's)	No change



## **Transport Assessment – Annex A – Figures**







- Planning Application Boundary
- DCO Limits

0 1 km @ A3



**SCP**

Produced By: LC	Ref: 190608-ES-4.1
Checked By: DY	Date 26/06/2020

### Local and Wider Highway Network Figure 3.1

**Dogger Bank C / Sofia Onshore Works  
Application**





- X Approved Access
- X Proposed Access
- CC C
- CC H
- Planning Application Boundary
- DCO Limits

0 1 km @ A3

**SCP**

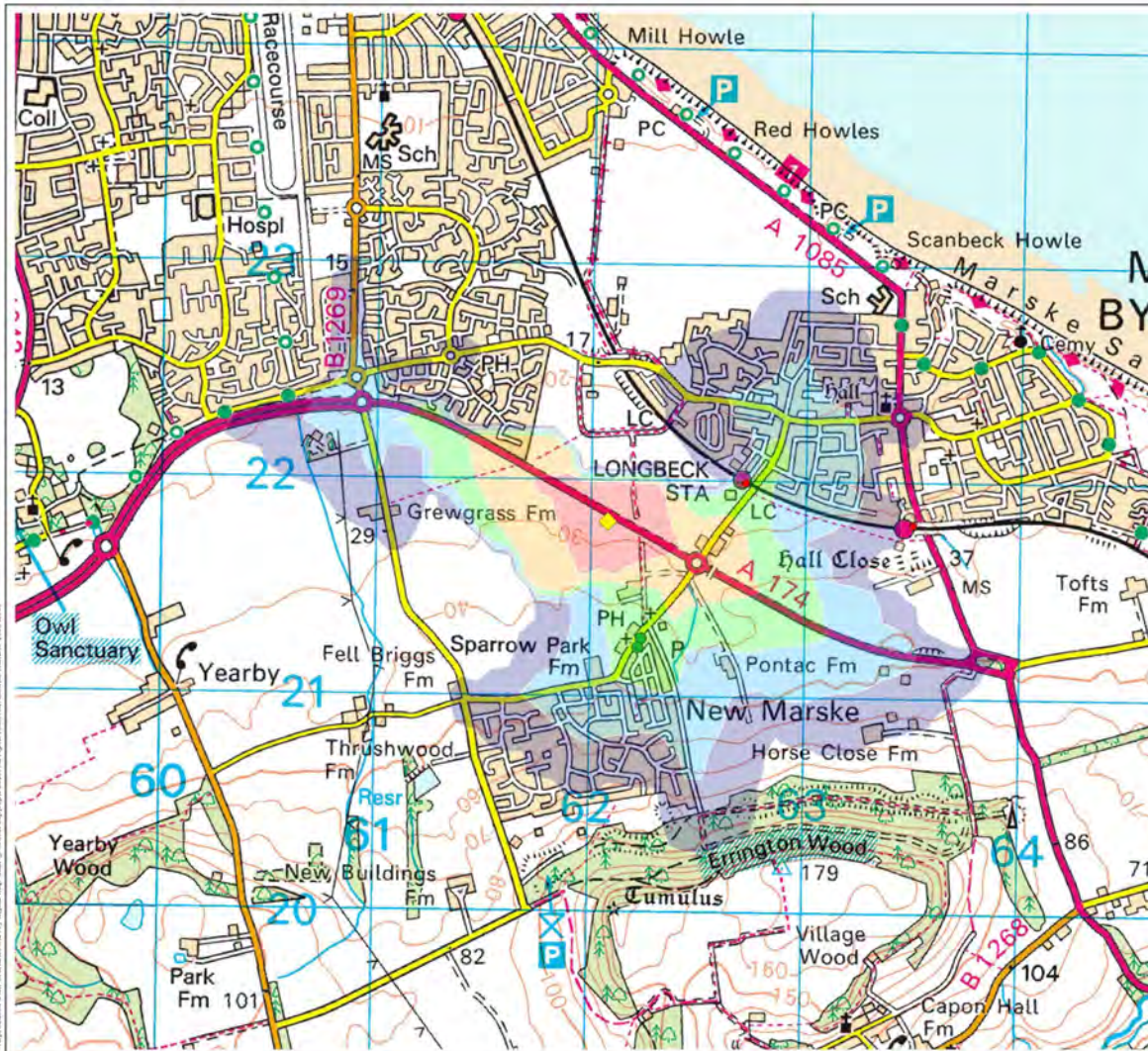
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Checked By: DY Date 26/06/2020

### Access and Compound Locations Figure 4.1

**Dogger Bank C / Sofia Onshore Works  
Application**





- CC C
  - Bus Stop
- Metres
- 400
  - 800
  - 1200
  - 1600
  - 2000

1 km @ A3

SCP

Produced By: LC Ref: 190600-TA-5.1  
Checked By: DY Date: 26/06/2020

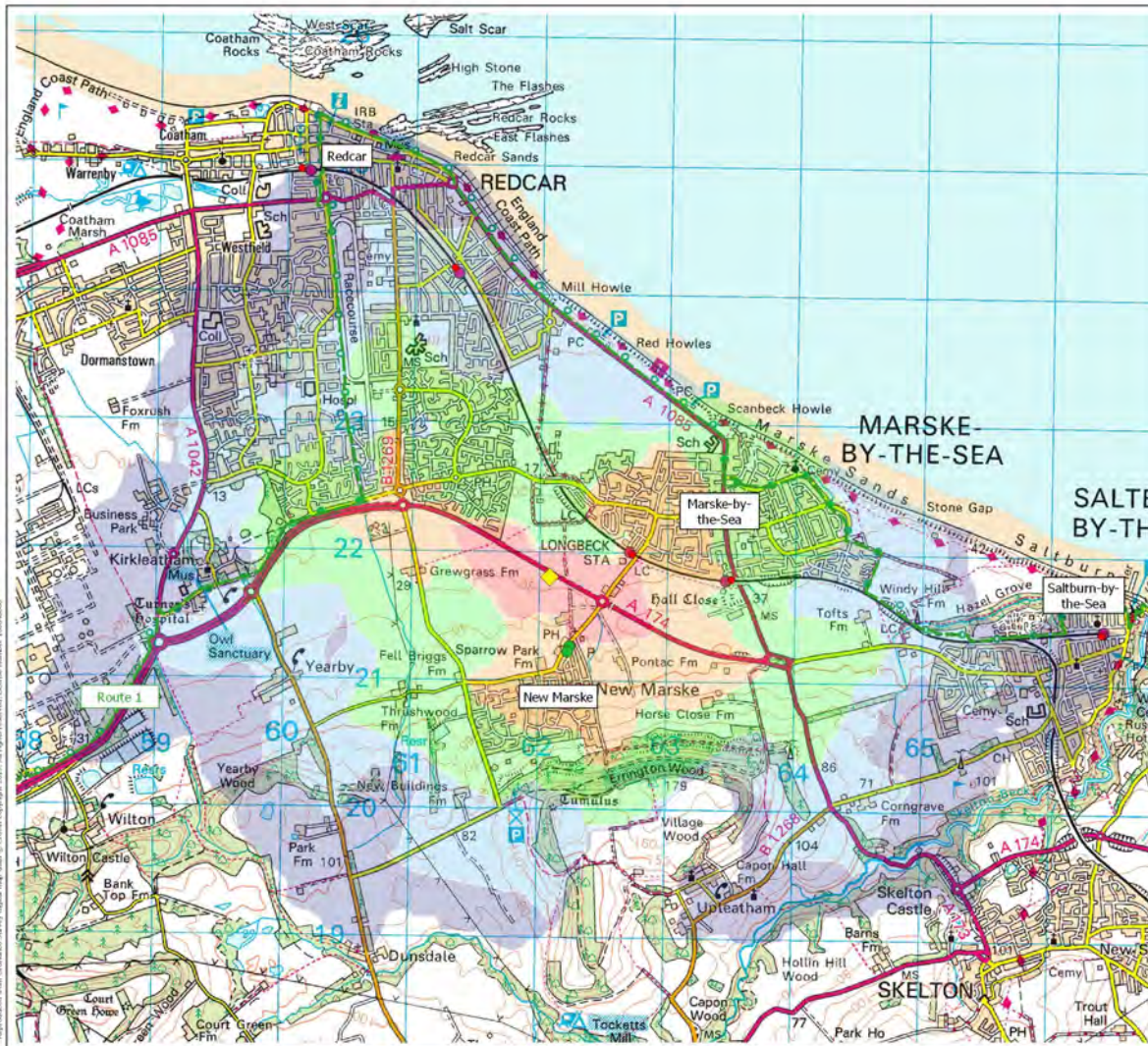
Pedestrian Accessibility  
Figure 5.1 Sheet 1 of 2

Dogger Bank C / Sofia Onshore  
Works Application









- CC C
  - Rail Station
  - Bus Stop
  - National Cycle Route
- Kilometres
- 1
  - 2
  - 3
  - 4
  - 5

1 km @ A3

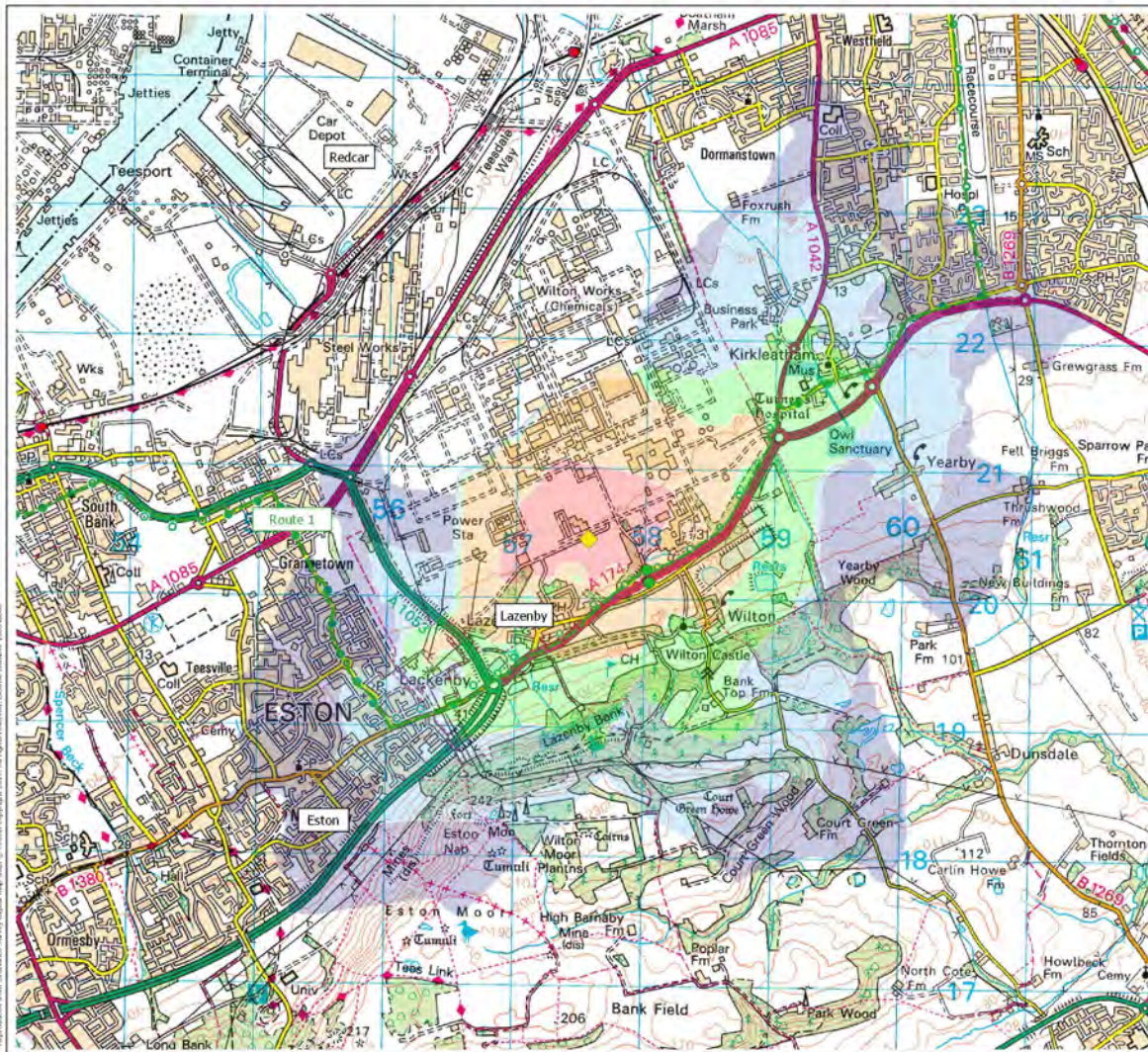
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Checked By: DY Date: 26/06/2020

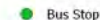
**Cyclist Accessibility**  
**Figure 5.2 Sheet 1 of 2**

**Dogger Bank C / Sofia Onshore Works Application**





DOGGER BANK  
WIND FARMS



Kilometres

1

2

3

4

5

1 km @ A3

SCP

Produced By: LC

Ref: 190608-TA-5.2

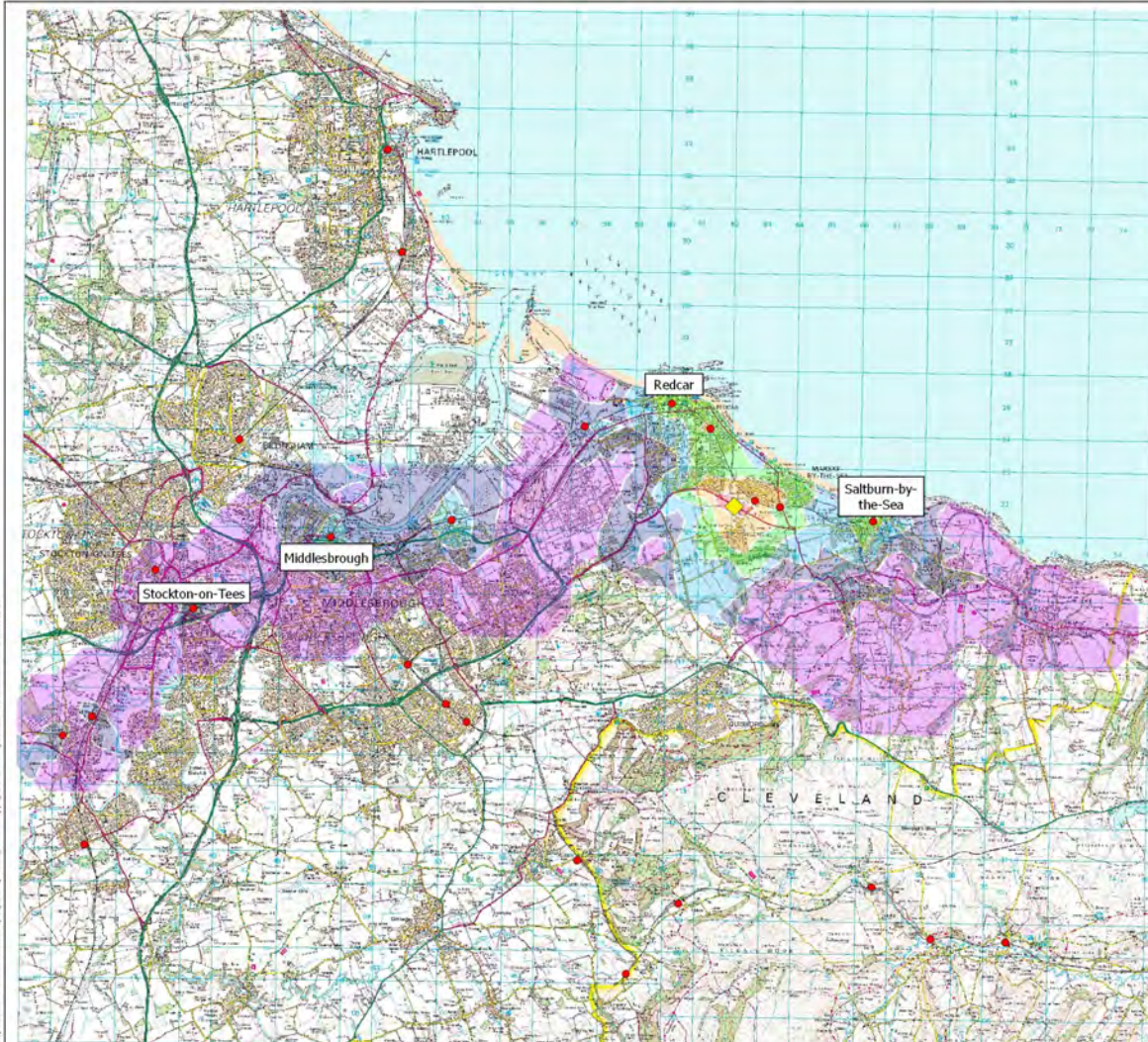
Checked By: DY

Date: 26/06/2020

Cyclist Accessibility  
Figure 5.2 Sheet 2 of 2

Dogger Bank C / Sofia Onshore  
Works Application





- ◆ CC C
- Rail Station
- Minutes
- 10
  - 20
  - 30
  - 40
  - 50

10 km @ A3

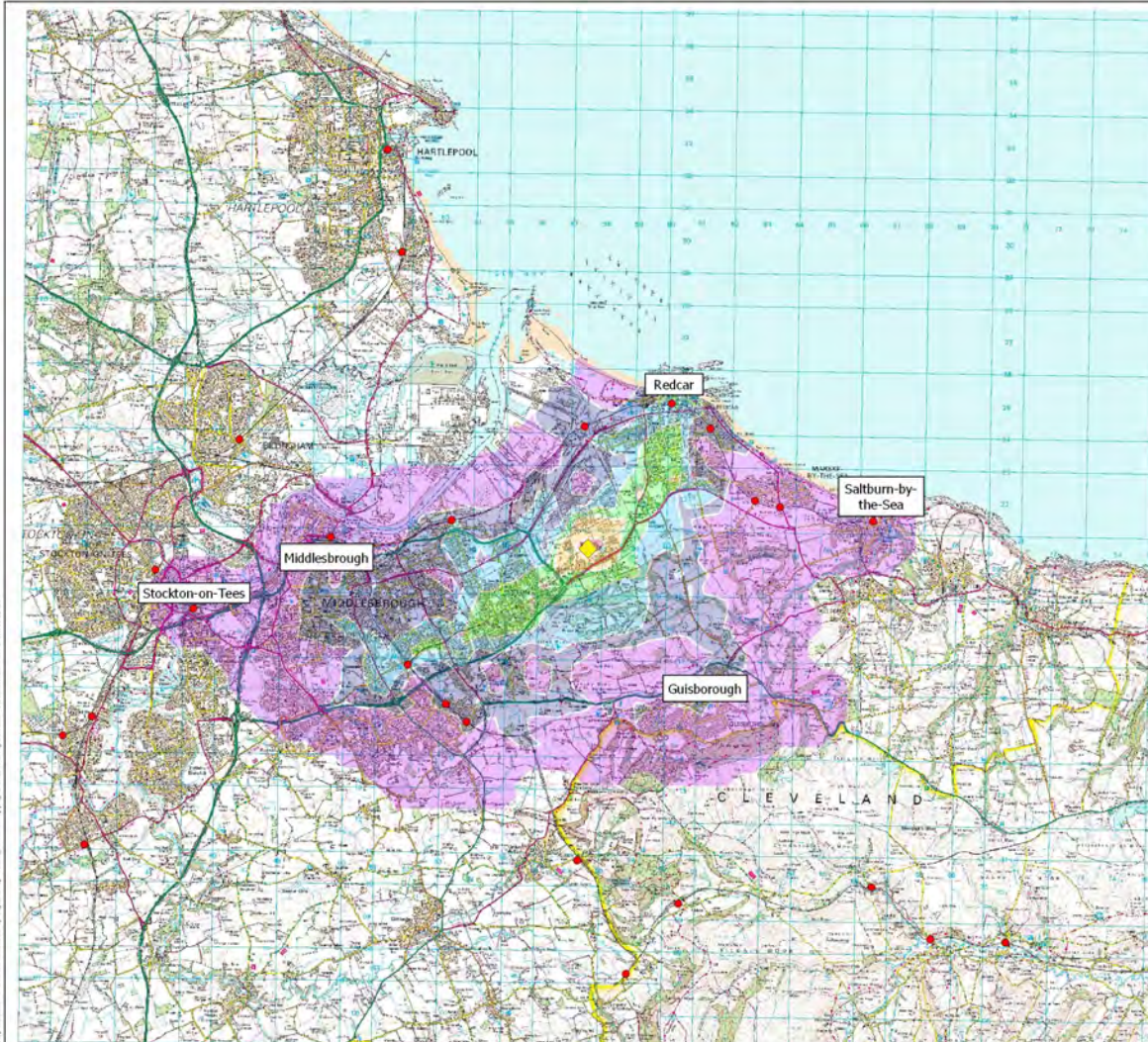
SCP

Produced By: LC	Ref: 190608-TA-5.3
Checked By: DY	Date 26/06/2020

Public Transport Accessibility  
Figure 5.3 Sheet 1 of 2

Dogger Bank C / Sofia Onshore  
Works Application





- ◆ CC H
- Rail Station
- Minutes
- 10
  - 20
  - 30
  - 40
  - 50

10 km @ A3

SCP

Produced By: LC Ref: 190608-TA-5.3

Checked By: DY Date: 26/06/2020

Public Transport Accessibility  
Figure 5.3 Sheet 2 of 2

Dogger Bank C / Sofia Onshore  
Works Application

# **Transport Assessment – Annex B – Consultation Responses**



## R&CBC:

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DY/190608  
08 April 2020

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Dear Sirs,

## Teesside A and Sofia- Offshore Windfarms

### Forthcoming Town and Country Planning Application and discharge of existing Development Consent Order (DCO) requirements

As you may recall Teesside A and Teesside B (known as Teesside A and Sofia) Wind Farms were granted development consent by the Planning Inspectorate in 2015, subject to the discharge of Requirements set out in a Development Consent Order (DCO). The DCO referred to throughout is Statutory Instrument 2015 No. 1592, Infrastructure Planning, The Dogger Bank Teesside A&B Offshore Wind Farm Order 2015 (as amended).

It should be noted that planning consent was granted for a cable alignment variation, this was approved by Redcar & Cleveland Borough Council (ref 1 R/2915/0678/OOM). Whilst this approval is itself unlikely to be taken up, being replaced by the proposed forthcoming application, it does set a helpful precedent. In any case it is anticipated that planning conditions will align with the DCO and this earlier approval.

The above were supported by a wide range of technical documents including a Transport Assessment. It is proposed to submit a planning application, to obtain permission that reflects the more detailed design of the onshore works that is now available. It covers cable route realignment and additional to temporary construction compounds including associated new access points. These variations require planning permission for which an application is to be submitted in May of this year.

In summary the proposed variations include:

1. Cable route alignment, temporary compound relocation and repositioned access points 10 C&D at A174 crossing
2. New access, opposite that already consented, onto Grewgrass Lane, utilising an existing field access.
3. New temporary compound near B1269 access (access 10G)
4. Cable route alignment changes at A174 dual carriageway approaching Wilton Centre, with a new associated temporary compound
5. Minor widening of a short section of the AC cable corridor immediately to the west of the Onshore Converter Stations (OCS's) to accommodate a retaining wall to support the existing bund,
6. New temporary compound located between the OCS's and the Lazenby Bund.
7. New temporary compound in the agricultural field north of the AC corridor.

These changes are identified on the plan submitted with this letter.

It is planned to update the Transport Assessment work to reflect the position of the new/altered access points including where new temporary compounds are located, for which consent is required.

The purpose of this correspondence is to confirm the approach taken for the supporting documentation which is considered to follow past precedent. On that basis, please find attached a document which sets out the intended approach to be taken.

This covers:

1. The areas normally included in a Transport Assessment
2. The original approach taken by Forewind for Traffic and Transport Assessment for the consented cable route
3. The changes being proposed with the intended approach
4. A further column is included for any additional comments, you might wish to make.

In addition to the forthcoming planning application, it is worth bearing in mind the requirements for DCO discharge. The 2015 DCO requirements relevant to highways and the onshore cable works includes the requirement to agree the following,

- Requirement 24 – Highway Access – this needs to set out the temporary and permanent access arrangements, associated works and vehicle routes for both construction and operational vehicles for both Sofia and Teesside A.
- Requirement 27 – An Outline Code of Construction Practice (CoCP) has already been approved. However prior to onshore works commencing a detailed CoCP is required for each Stage of the works. These stages relate to specific construction activities with works undertaken by either project independently or jointly, depending on the stage. This will build on the approved CoCP and include traffic management impact and mitigation.
- Requirement 28 – Construction and Environment Management Plan (CEMP) will be prepared for each stage of the works, this is in effect a summary of the above with the detail provided focusing on each stage of the works being undertaken.
- Requirement 32 – Construction traffic routing and management plans – this comprises two parts:
  1. Firstly a Construction Travel Plan which seeks to minimise travel by individual vehicles and promote, influence and establish travel to site patterns which minimise the impact on the local highway network.
  2. The second aspect of the Construction Traffic Management Plan covers routing to/from site and in particular the timing and routing of abnormal loads.Delivery of Requirement 32 is likely to be combined with Requirement 28.
- Requirement 34 – Port access and Transport Plan – This will describe how land-based plant such Transformers will be safely transported from port to site. Mindful of abnormal vehicle routing limitations (size and weight).

It is intended to share a programme identifying dates for submission of the above requirements with yourselves by the end of April.

It would be helpful if you could comment on the proposed changes requiring planning permission. It is our intention that these Requirements are replicated in a future planning permission therefore the approach outlined is based on this level of post determination input.

Many thanks for your time and input.

Yours faithfully,



David Young  
Director  
On behalf of SCP  
[david.young@scptransport.co.uk](mailto:david.young@scptransport.co.uk)





North Sea

### Key

- Approved Access (Replaced by new application)
- Approved Access
- Proposed New Access Points
- Proposed Compound Area



Ref	Item	Parameters and approved base assumptions	Proposed changes/approach	Comments from Highway Authority
1	Development base documents and plans	<p>Environmental Statement - Chapter 28</p> <ul style="list-style-type: none"> <li>Traffic and Access - Application (Document) Reference: 6.28</li> <li>Appendix A, Transport Assessment - Application (Document) Reference: 6.28.1</li> </ul> <p>Development context: The approved ES and TA looked at Teesside A&amp;B on-shore works only but adopted a “Rochdale Envelope” sensitivity test approach, this included the options of SOFIA and Dogger Bank C laying cable at the same time and separately at separate times and a degree of shared working.</p>	<p>The approach to be adopted is to utilise these approved documents, and update where this is needed, as highlighted in the table below. In all other aspects it is assumed that the scope and methodology will remain in line with the approved documents, unless otherwise agreed through this scoping exercise.</p> <p>However before doing so we have to consider changes to the development itself and the requirement for a new planning application to seek approval for these variations.</p> <p>In summary the proposed variations include:</p> <ul style="list-style-type: none"> <li>Cable route alignment, compound relocation and repositioned access points 10 C&amp;D at A174 crossing;</li> <li>New access, opposite that already consented, onto Grewgrass Lane at a location of an existing field access;</li> <li>New and altered construction compounds and material storage (CC's), all of which will be temporary in nature. For example CC relocation to align with the cable route and access changes, or to reduce vehicle movement onto/across public highway.</li> <li>Cable route alignment changes at A174 dual carriageway approaching Wilton Centre;</li> <li>Minor widening of a short section of the AC cable corridor immediately to the west of the Onshore Converter Stations (OCS's) to accommodate a retaining wall to support the existing bund; and,</li> </ul> <p>It is proposed that the TA will consider the above scenario, rather than the previously considered “Rochdale Envelope” option (namely both construction teams being on site at the same time and acting independently). Where there may be overlap of construction teams during cable pull operations it will be within the Rochdale Envelope</p>	
2	Level of planning approval sought? e.g. outline, full	<p><b>Forthcoming application:</b></p> <p>Full Planning Application for minor variations to approved alignment of on-shore cabling, highway access points and construction compounds.</p> <p><b>Existing consent:</b></p> <p>Dogger Bank Teesside A&amp;B Offshore Wind Farm Order 2015 granted planning consent. This included the following requirements:</p> <p>Requirement 24 – Highway Access detail</p> <p>Requirement 27 – Detailed “Code of Construction Practice”</p> <p>Requirement 28 and 32 – combined CEMP and Construction Traffic Management Plans, inc CTAMP and Construction Travel Plan</p> <p>Requirement 34 – port access and Transport Plan (abnormal vehicle movements)</p> <p>No impact for the TA itself. It is expected that any Planning Conditions will mirror the above.</p>	<p>The DCO requirements need to be discharged, but are for a later stage of this work.</p> <p>The cable route will have to facilitate a HGV cable trailer at circa 20m length. The axial loads will be at the permitted to comply with the HE requirement at 44T, with the mounted drum load at circa 27T per delivery. The access areas for the cable route shall have to cater for HGV movement for delivery of equipment, materials and light vehicles. The access to the head land for the landfall Horizontal Directional Drill (HDD) will cater for a AIL load to a GVW of 90T for the rig.</p> <p>Access to the Converter Station will be a STGO via a low loader. The loading is to be confirmed for the transformers including the number of movement to address both sites (Dogger Bank C and Sofia). However, the weight of the units would be circa 450T, this is to be confirmed. A detailed study is to be completed.</p> <p>All temporary works shall require intensive delivery of aggregate from offsite such as Type 3/6C materials. A substantial amount shall be required to be removed from site at a later date.</p> <p>Onsite arising material will be managed to be kept on site.</p>	
3	Policy review	<p>Policies used for TA, the following documents (in particular) are out of date.</p> <ul style="list-style-type: none"> <li>NPPF and national energy policy were used, dating from 2012.</li> <li>Redcar &amp; Cleveland, Local Development Framework</li> </ul>	<p>Policy update required, to make sure no material changes (unlikely)</p> <ul style="list-style-type: none"> <li>NPPF 2019 policy updates to be used.</li> <li>Redcar &amp; Cleveland, Local Plan 2018</li> </ul>	

Ref	Item	Parameters and approved base assumptions	Proposed changes/approach	Comments from Highway Authority
4	Size and description of development proposals	2 Off shore wind farms 1.2GW each	Sofia has secured increase in capacity to 1.4GW and Teesside A has a live application to remove the capacity cap of the Wind Farm – via non-material change to the DCO. DBC has a live DCO non material change application to remove the capacity cap of the Wind Farm.  This does not necessitate any change to the TA for the planning application or discharge of DCO requirements.	
5	Description of existing land uses, existing trip distribution	Farm land and industrial estate TA para 2.4.1 sets out the strategy to be adopted.  The Strategy proposed: <ul style="list-style-type: none"> <li>to provide access primarily from A or B roads;</li> <li>Access routes located close to the main A and B roads to reduce the impact upon local communities;</li> <li>The use of a remote haul route to reduce trips using the highway network;</li> <li>The use of a haul route from the Wilton Complex under the A1053 (via an existing underpass) to the existing NGET substation at Lackenby substation;</li> <li>Primary compounds and the converter stations site are located away from sensitive receptors and local communities;</li> <li>The use of trenchless methods such as HDD for all (public highway) road and rail crossings as agreed with asset owners to reduce the disruption to traffic from more conventional cut and cover techniques;</li> <li>The linear nature of the project shall allow for the even distribution of activities and associated daily HGV demand; and</li> <li>The implementation of car-sharing amongst construction staff to reduce light commercial vehicle (LCV) traffic, to be formalised by a Construction Travel Plan once principal contractors are appointed</li> </ul>	No change required  <b>The focus of the TA will be the three new and relocated access points and the new and relocated construction compounds.</b>	
6	Are traffic surveys of the existing conditions available or required?	Traffic data on the approved application are based on automatic traffic counts from 2013. As junction capacity counts were not undertaken, it is not planned to update these, even though over 5 years old.	The traffic counts are beyond the normal 5 year window of acceptability. SCP will proceed to replace the 2013 counts with more recent counts as available from DfT Count Points, where more up to date counts are not available the 2013 counts will be adjusted by a growth factor derived from looking at other counts in the vicinity.  <b>Q does the Council have access to counts on:</b> <ul style="list-style-type: none"> <li><b>Gregrass Lane and</b></li> <li><b>A174 (NW of Longbeck Road)</b></li> </ul> New counts are not appropriate in the current Coronavirus conditions due to the very material impact on trip making. Any new counts undertaken at present would not provide reliable data  This is the case for the TA but will be reviewed if time permits for the discharge of requirements.	
7	Details of any committed developments to be taken into account.	See Table 7.1 of original TA	SCP are currently unable to undertake a review of committed developments in the area due to the RCBC website outage.  <b>Can RCBC confirm if there any new developments which need to be considered and if so provide details.</b>	
8	Details of any adjacent highway improvement proposals by others		Review the above planning consents/applications for material changes (if any)  Site inspected and since the DCO consent a new Pelican crossing has been installed on Redcar Road and 40mph speed limit introduced on B1269.	
9	When are the critical periods for assessments?	No change		

Ref	Item	Parameters and approved base assumptions	Proposed changes/approach	Comments from Highway Authority
10	What are the assessment years?	Year of opening 2015/22 were considered.	2019 / 2020 data to be used. Future year assessment not applicable as no capacity calculations undertaken due to temporary nature of the traffic growth. Growing base traffic will <u>reduce</u> the percentage impact of construction traffic.	
11	Traffic growth factors?	Not applicable as no capacity calculations undertaken for the same reasons as above.		
12	What will be the trip generation for the proposals?		Revise in the light of the above - see Row 1 For the TA this will only focus on the new and relocated accesses and new/relocated construction compounds, where these require planning consent	
14	What is the assumed trip distribution?	No change assumed		
15	Capacity tests required? Junctions to be assessed? for the proposed and existing junctions	The original TA did not undertake and junction modelling, this was agreed with HE and RCBC The TA assessed base flows against construction traffic flows from Teesside A/Sofia and considered the materiality of vehicle flow increase due to construction works.	Construction traffic will only be assessed against base data and traffic flows from the known construction approach outlined above (row 1) as traffic is temporary in nature. For the TA this will only focus on the new/relocated accesses and construction compounds	
16	Abnormal load routings	The converter station routing is described No changes proposed at this time		
17	Is a new or modified highway access likely?	10 access points were proposed.  The access Strategy was set out.	The following three access points to be revised in location/number: <ul style="list-style-type: none"> <li>• Accesses 3&amp;4 – A174 – junctions moving locations to the south</li> <li>• Access 5 - Grewgrass Lane – New second access planned in the location of a field access</li> </ul>	
18	What are the visibility requirements? Are those requirements met?	Visibility splays will be provided in line with Manual for Streets/DMRB	Review of access standards proposed for the above four access points to make sure they align with current standards, DMRB has been updated in a number of areas since 2015.	
19	What level of car parking is required?	Not applicable		
20	Are special provisions required for cyclists, pedestrians, and public transport?	Base these on the original study	Update bus and train information For the TA this will only focus on the three new/relocated accesses and new/enlarged compound locations only	
21	Construction Travel Plan	A CTP is proposed		
22	Will a review of Road Traffic Accidents (RTA's) be undertaken?	5 year collision data assessed	Review 5 year accident data, against latest 5 years (from Crashmap) to determine if any material change in patterns from the original report. If any change then these will be looked at locally.  A particular focus will need to be paid to the three new/altered access points and at construction compounds where increased traffic is anticipated	
23	Other			

**Lucy Crann**

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**Subject:** FW: Teesside A and Sofia Wind Farms

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**From:** Bell, Christopher (NO, North East) [<mailto:chris.bell2@highwaysengland.co.uk>]  
**Sent:** 20 April 2020 15:47  
**To:** David Young <[david.young@scptransport.co.uk](mailto:david.young@scptransport.co.uk)>  
**Cc:** [maureen.wilson@redcar-cleveland.gov.uk](mailto:maureen.wilson@redcar-cleveland.gov.uk); [tony.gordon@redcar-cleveland.gov.uk](mailto:tony.gordon@redcar-cleveland.gov.uk);  
[dave\\_slater@redcar\\_cleveland.gov.uk](mailto:dave_slater@redcar_cleveland.gov.uk); David Young <[david.young@scptransport.co.uk](mailto:david.young@scptransport.co.uk)>  
**Subject:** RE: Teesside A and Sofia Wind Farms

Please amend previous email accordingly...

David,  
Just to confirm we do not object to the proposal as presented to us. The works appear to be on a part of the A174 that is operated by Redcar rather than the section that Highways England manage. It is at reasonable distance and unlikely to cause any operational issues at to either the A174(T) or the A1053(T) Greystones Road. Should changes to the proposal occur such that this situation changes I trust you will alert us to these

I hope this satisfies you regarding this matter but please just phone or email me if I can assist with anything else.

Regards

**Christopher Bell, Asset Manager**  
Highways England | Lateral | 8 City Walk | Leeds | LS11 9AT  
**Tel:** +44 (0) 300 4702339 | **Mobile:** + 44 (0) 7850 906 701  
**Web:** <http://www.highways.gov.uk>  
**GTN:** 0300 470 2339

---

**From:** David Young [<mailto:david.young@scptransport.co.uk>]  
**Sent:** 20 April 2020 14:25  
**To:** Bell, Christopher (NO, North East) <[chris.bell2@highwaysengland.co.uk](mailto:chris.bell2@highwaysengland.co.uk)>; Ali, Sunny <[Sunny.Ali@highwaysengland.co.uk](mailto:Sunny.Ali@highwaysengland.co.uk)>  
**Subject:** RE: Teesside A and Sofia Wind Farms

Thanks Gents,

Could I just double check, when you say "we are relatively satisfied with our initial response", is this the no objections to the original planning consent (DCO)? Or do you mean another response?

I do see the proposed planned application, to vary details on the approved cable route, access points and compounds, as being a Local Highway Authority issue, but I don't want to presume that you have no/low interest when this is not what you actually mean. I don't want to interpret your reply overly optimistically. Hence the clarification requested.

Kind regards

Dave

David Young - Director  
IEng FIHE PGCert

On behalf of



Transportation Planning : Infrastructure Design



10 South Parade • Leeds • LS1 5QS  
Tel: 0113 8873323  
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Web: [www.scpttransport.co.uk](http://www.scpttransport.co.uk)

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**From:** Bell, Christopher (NO, North East) [<mailto:chris.bell2@highwaysengland.co.uk>]  
**Sent:** 20 April 2020 14:13  
**To:** Ali, Sunny <[Sunny.Ali@highwaysengland.co.uk](mailto:Sunny.Ali@highwaysengland.co.uk)>; David Young <[david.young@scpttransport.co.uk](mailto:david.young@scpttransport.co.uk)>  
**Subject:** RE: Teesside A and Sofia Wind Farms

I'm Good with it Sunny  
Regards

**Christopher Bell, Asset Manager**

Highways England | Lateral | 8 City Walk | Leeds | LS11 9AT

**Tel:** +44 (0) 300 4702339 | **Mobile:** + 44 (0) 7850 906 701

**Web:** <http://www.highways.gov.uk>

**GTN:** 0300 470 2339

---

**From:** Ali, Sunny  
**Sent:** 20 April 2020 14:12  
**To:** David Young <[david.young@scpttransport.co.uk](mailto:david.young@scpttransport.co.uk)>; Bell, Christopher (NO, North East) <[chris.bell2@highwaysengland.co.uk](mailto:chris.bell2@highwaysengland.co.uk)>  
**Subject:** RE: Teesside A and Sofia Wind Farms

Hi David,

Myself and Chris have had a brief discussion on this last week. Unfortunately I have not been as close to the detail and have been looking at our initial response. My feeling is that we are relatively satisfied with our initial response, unless Chris wants to add anything further.

Chris can you please review and respond back to David.

Regards

**Sunny Ali, Spatial Planning Manager (Durham & TeesValley)**

Highways England | Great North House | 20 Allington Way | Darlington | DL1 4QB

**Mobile:** + 44 (0) 7701 294215

**Web:** <http://www.highways.gov.uk>

---

**From:** David Young

**Sent:** 08 April 2020 15:21

**To:** [maureen.wilson@redcar-cleveland.gov.uk](mailto:maureen.wilson@redcar-cleveland.gov.uk); [tony.gordon@redcar-cleveland.gov.uk](mailto:tony.gordon@redcar-cleveland.gov.uk);  
[dave\\_slater@redcar\\_cleveland.gov.uk](mailto:dave_slater@redcar_cleveland.gov.uk); [Sunny.Ali@highwaysengland.co.uk](mailto:Sunny.Ali@highwaysengland.co.uk); [chris.bell2@highwaysengland.co.uk](mailto:chris.bell2@highwaysengland.co.uk)

**Cc:** 'Dave Young ([david.young@scptransport.co.uk](mailto:david.young@scptransport.co.uk))' <[david.young@scptransport.co.uk](mailto:david.young@scptransport.co.uk)>

**Subject:** Teesside A and Sofia Wind Farms

Dear all,

SCP is providing highway and transport support on the above approved offshore wind farms. The delivery of the wind farms is moving to the next stage and includes:

- Seeking approval to make (what I hope are) minor variations to the approvals already granted; and
- Discharging pre-commencement Requirements (conditions)

To this end, please find attached a briefing letter, illustrative plan pictorially illustrating the changes as the affect the public highway, and a document outlining the approach to be taken in formalising these changes. The latter document is in word format to allow you to accept/reject/comment on the approach outlined. Your early feedback would be much appreciated, and I will be in touch to arrange a video or teleconference to go through your questions and thoughts.

Kind regards

Dave

David Young - Director  
IEng FIHE PGCert

On behalf of



10 South Parade • Leeds • LS1 5QS

Tel: 0113 8873323

Mob: 07767 384595

Email: [david.young@scptransport.co.uk](mailto:david.young@scptransport.co.uk)

Web: [www.scptransport.co.uk](http://www.scptransport.co.uk)

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## Lucy Crann

---

**Subject:** FW: Teesside A and Sofia Wind Farms

---

**From:** Tony Gordon [<mailto:tony.gordon@redcar-cleveland.gov.uk>]

**Sent:** 21 April 2020 10:36

**To:** David Young <[david.young@scptransport.co.uk](mailto:david.young@scptransport.co.uk)>

**Subject:** RE: Teesside A and Sofia Wind Farms

Dave,

I'm happy with the approach. The Highways DC side will be between myself and Helen Oakes and then Dave Slater will be involved in streetworks licensing during implementation.

Tony Gordon  
BSc CEng MICE  
Senior Strategic Transport Officer

---

**From:** David Young <[david.young@scptransport.co.uk](mailto:david.young@scptransport.co.uk)>

**Sent:** 21 April 2020 10:30

**To:** Tony Gordon <[tony.gordon@redcar-cleveland.gov.uk](mailto:tony.gordon@redcar-cleveland.gov.uk)>

**Subject:** RE: Teesside A and Sofia Wind Farms

Hi Tony,

Maureen has been in touch and says you are leading the Highways DC side of the wind farm planning application? Do you agree? If so are you happy with the approach to the TA as set out in my scoping note?

Many thanks and stay safe

Dave

David Young - Director  
IEng FIHE PGCert

On behalf of



10 South Parade • Leeds • LS1 5QS  
Tel: 0113 8873323  
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Email: [david.young@scptransport.co.uk](mailto:david.young@scptransport.co.uk)  
Web: [www.scptransport.co.uk](http://www.scptransport.co.uk)

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**From:** Tony Gordon [<mailto:tony.gordon@redcar-cleveland.gov.uk>]

**Sent:** 09 April 2020 09:27

**To:** David Young <[david.young@scptransport.co.uk](mailto:david.young@scptransport.co.uk)>

**Cc:** Maureen Wilson <[Maureen.Wilson@redcar-cleveland.gov.uk](mailto:Maureen.Wilson@redcar-cleveland.gov.uk)>; [dave\\_slater@redcar\\_cleveland.gov.uk](mailto:dave_slater@redcar_cleveland.gov.uk);  
[Sunny.Ali@highwaysengland.co.uk](mailto:Sunny.Ali@highwaysengland.co.uk); [chris.bell2@highwaysengland.co.uk](mailto:chris.bell2@highwaysengland.co.uk); Sam Chapman

<[sam.chapman@scptransport.co.uk](mailto:sam.chapman@scptransport.co.uk)>; Helen Oakes <[Helen.Oakes@redcar-cleveland.gov.uk](mailto:Helen.Oakes@redcar-cleveland.gov.uk)>

**Subject:** RE: Teesside A and Sofia Wind Farms

David,

The proposed approved measures will be satisfactory.

Tony Gordon

---

**From:** David Young <[david.young@scptransport.co.uk](mailto:david.young@scptransport.co.uk)>

**Sent:** 09 April 2020 08:49

**To:** Tony Gordon <[tony.gordon@redcar-cleveland.gov.uk](mailto:tony.gordon@redcar-cleveland.gov.uk)>

**Cc:** Maureen Wilson <[Maureen.Wilson@redcar-cleveland.gov.uk](mailto:Maureen.Wilson@redcar-cleveland.gov.uk)>; [dave\\_slater@redcar\\_cleveland.gov.uk](mailto:dave_slater@redcar_cleveland.gov.uk); [Sunny.Ali@highwaysengland.co.uk](mailto:Sunny.Ali@highwaysengland.co.uk); [chris.bell2@highwaysengland.co.uk](mailto:chris.bell2@highwaysengland.co.uk); Sam Chapman <[sam.chapman@scptransport.co.uk](mailto:sam.chapman@scptransport.co.uk)>

**Subject:** RE: Teesside A and Sofia Wind Farms

Thanks Tony,

Firstly thanks for the very prompt reply.

Do you have anything in mind beyond that approved for the original accesses? For the relocated A174 accesses this is summarised in the following table, taken from the approved TA:

Point of access	Type of access & location of access	Mitigation Measures
A174 south of Redcar	<p>directly from the A174 to the north and south via a two new bell mouths.</p> <p>Upon completion of the construction works the accesses will be removed.</p> <p><b>Appendix I, drawing numbers 9W7902.SK003 – SK004 and 9W7902.20.TR004 – TR005 refer.</b></p>	<p>to prevent vehicles from right turning in and out of the construction access and from crossing from one access to the other. Instead vehicles will use adjacent roundabouts on the A174 to complete U-turning manoeuvres.</p> <p>The access geometry will reduce the risk of rear end shunts and collisions between turning vehicles.</p> <p>The current speed limit is 60mph and it is proposed to provide an advisory 30mph speed limit in the vicinity of the access throughout the duration of the works.</p> <p>The speed limit signing will reduce the speed of vehicles past the access and therefore reduce the risk and potential severity of any collisions.</p> <p>Temporary direction and warnings signs to advise of turning vehicles will be provided in accordance with Chapter 8 of the Traffic Signs Manual.</p> <p>This signage will highlight the proposed accesses to drivers to avoid late breaking manoeuvres and highlight to the travelling public the potential for turning vehicles.</p>

With regard to Grewgrass Lane, since the original TA, the speed limit has been reduced from derestricted to 40mph. The original plan for the single access was:

<b>Accesses 5</b> Grewgrass Lane	<p>It is proposed that access will be taken directly from Grewgrass Lane to the east via a new bell mouth.</p> <p>Upon completion of the construction works the access will be removed.</p> <p><b>Appendix I</b>, drawing numbers <b>9W7902.SK005</b> and <b>9W7902.20.TR006</b> refer.</p>	<p>The current speed limit is 60mph and it is proposed to provide an advisory 30mph speed limit in the vicinity of the access throughout the duration of the works.</p> <p>The speed limit signing will reduce the speed of vehicles past the access and therefore reduce the risk and potential severity of any collisions.</p> <p>The temporary speed limit will allow for the provision of a reduced visibility splay recognising the temporary nature of the works and the environmental impact of removing large sections of mature hedge.</p> <p>Temporary direction and warnings signs to advise of turning vehicles will be provided in accordance with Chapter 8 of the Traffic Signs Manual.</p> <p>This signage will highlight the proposed access to drivers to avoid late breaking manoeuvres and highlight to the travelling public the potential for turning vehicles.</p>
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However the proposed plan introduces a second access (cross roads) the Chapter 8 signs still apply and I would retain the temporary introduction of a 30mph speed limit. Traffic speeds in a small sample survey are around the 40mph mark (dry weather) in both directions.

Do you have any further thoughts I should have regards to?

Kind regards

Dave

David Young - Director  
IEng FIHE PGCert

On behalf of



10 South Parade • Leeds • LS1 5QS

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**From:** Tony Gordon [<mailto:tony.gordon@redcar-cleveland.gov.uk>]

**Sent:** 08 April 2020 16:07

**To:** David Young <[david.young@scptransport.co.uk](mailto:david.young@scptransport.co.uk)>; Maureen Wilson <[Maureen.Wilson@redcar-cleveland.gov.uk](mailto:Maureen.Wilson@redcar-cleveland.gov.uk)>; [dave\\_slater@redcar\\_cleveland.gov.uk](mailto:dave_slater@redcar_cleveland.gov.uk); [Sunny.Ali@highwaysengland.co.uk](mailto:Sunny.Ali@highwaysengland.co.uk); [chris.bell2@highwaysengland.co.uk](mailto:chris.bell2@highwaysengland.co.uk)

**Subject:** RE: Teesside A and Sofia Wind Farms

Dave,

No issues from me subject to adequate safety measures for the temporary access points on the A174.

Tony Gordon  
Senior Strategic Transport Officer  
01287 612545

---

**From:** David Young <[david.young@scptransport.co.uk](mailto:david.young@scptransport.co.uk)>

**Sent:** 08 April 2020 15:21

**To:** Maureen Wilson <[Maureen.Wilson@redcar-cleveland.gov.uk](mailto:Maureen.Wilson@redcar-cleveland.gov.uk)>; Tony Gordon <[tony.gordon@redcar-cleveland.gov.uk](mailto:tony.gordon@redcar-cleveland.gov.uk)>; [dave\\_slater@redcar\\_cleveland.gov.uk](mailto:dave_slater@redcar_cleveland.gov.uk); [Sunny.Ali@highwaysengland.co.uk](mailto:Sunny.Ali@highwaysengland.co.uk); [chris.bell2@highwaysengland.co.uk](mailto:chris.bell2@highwaysengland.co.uk)

**Cc:** David Young <[david.young@scptransport.co.uk](mailto:david.young@scptransport.co.uk)>

**Subject:** Teesside A and Sofia Wind Farms

Dear all,

SCP is providing highway and transport support on the above approved offshore wind farms. The delivery of the wind farms is moving to the next stage and includes:

- Seeking approval to make (what I hope are) minor variations to the approvals already granted; and
- Discharging pre-commencement Requirements (conditions)

To this end, please find attached a briefing letter, illustrative plan pictorially illustrating the changes as they affect the public highway, and a document outlining the approach to be taken in formalising these changes. The latter document is in word format to allow you to accept/reject/comment on the approach outlined. Your early feedback would be much appreciated, and I will be in touch to arrange a video or teleconference to go through your questions and thoughts.

Kind regards

Dave

David Young - Director  
IEng FIHE PGCert

On behalf of



10 South Parade • Leeds • LS1 5QS

Tel: 0113 8873323

Mob: 07767 384595

Email: [david.young@scptransport.co.uk](mailto:david.young@scptransport.co.uk)

Web: [www.scptransport.co.uk](http://www.scptransport.co.uk)

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**Lucy Crann**

---

**Subject:** FW: Teesside Windfarms A&B

---

**From:** Helen Oakes [<mailto:Helen.Oakes@redcar-cleveland.gov.uk>]

**Sent:** 12 May 2020 17:20

**To:** David Young <[david.young@scptransport.co.uk](mailto:david.young@scptransport.co.uk)>

**Subject:** RE: Teesside Windfarms A&B

I'm not aware of any committed developments that will affect the application.

Subject to the required visibility splays on Grewgrass and at Yearby, I wouldn't have any concerns, however the A174 being a 60mph road will need looking at carefully.

Regards Helen

---

**From:** David Young [<mailto:david.young@scptransport.co.uk>]

**Sent:** 12 May 2020 14:40

**To:** Helen Oakes <[Helen.Oakes@redcar-cleveland.gov.uk](mailto:Helen.Oakes@redcar-cleveland.gov.uk)>

**Subject:** RE: Teesside Windfarms A&B

Hi Helen,

I am in the process of comparing the proposed application for the wind farm(s) changes in route, compounds and accesses to the original TA, in doing so this will focus on the traffic impact of the changes and compare the changes to that approved.

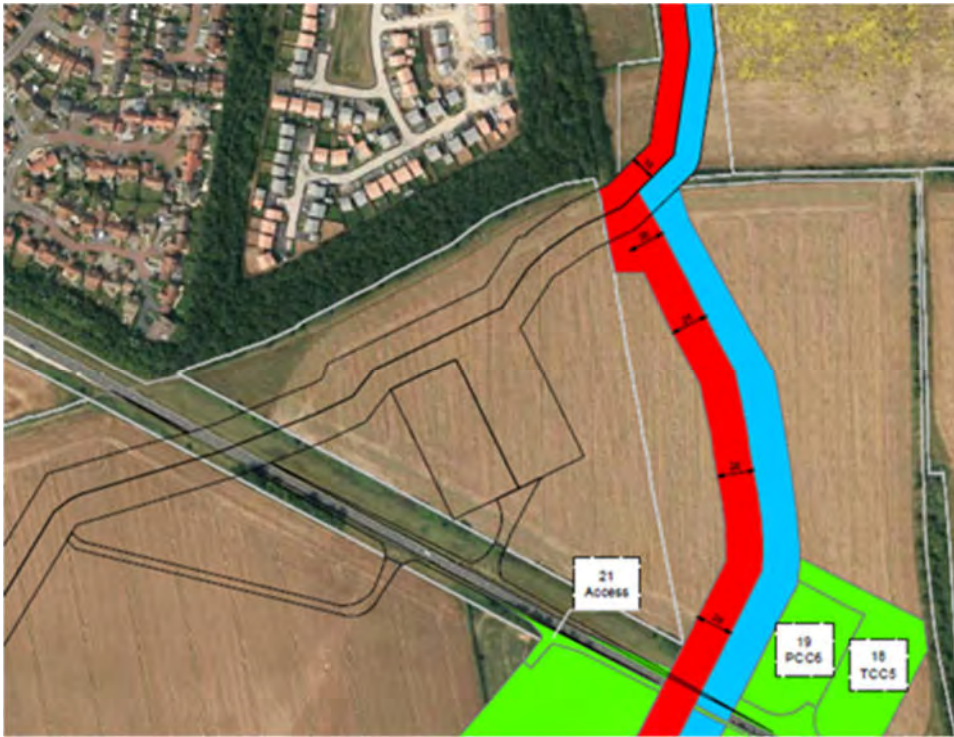
Cable alignment change has no material impact on traffic, but the new access points and compounds will need assessing.

In summary the changes are:

**A174, north west of Gurney St roundabout.**

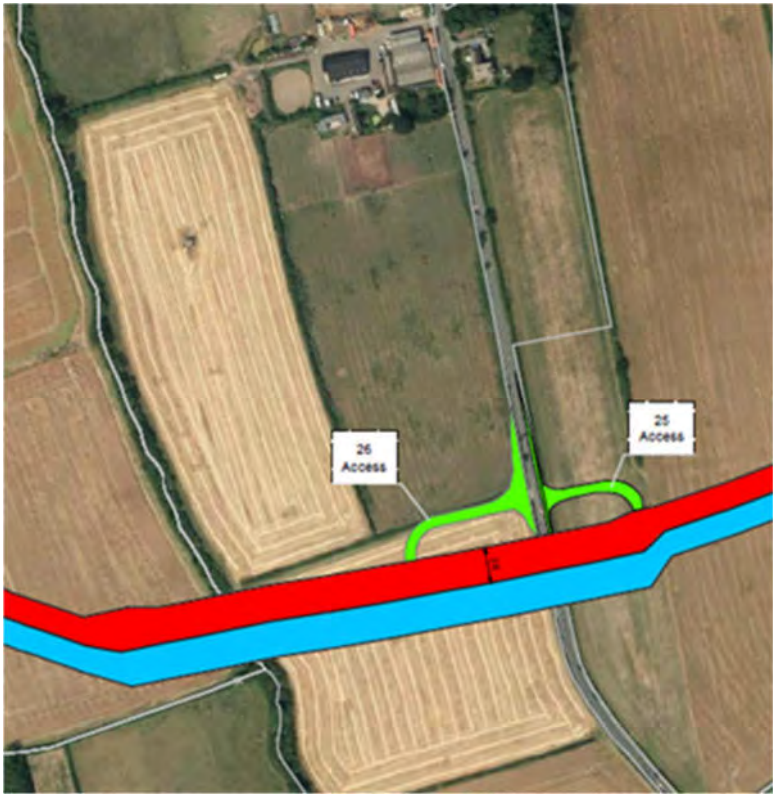
The approved wind farm cables, accesses and compounds are shown in black, the new route, accesses and compounds in red/blue and green.





**Grewgrass Lane**

New access proposed on the west side of the road, north of New Marske



**B1269 (just south of the Crem and A174 roundabout)**

Minor compound expansion (areas PCC9a and 10a). The other compounds are approved or in the case TCC11 not expected to happen.



The remainder of the changes are compounds within Simcorp/Wiltons site.

If you could confirm the committed developments that might affect the traffic flows past these points I would be very grateful.

Thanks

Dave

David Young - Director  
IEng FIHE PGCert

On behalf of



10 South Parade • Leeds • LS1 5QS

Tel: 0113 8873323

Mob: 07767 384595

Email: [david.young@scptransport.co.uk](mailto:david.young@scptransport.co.uk)

Web: [www.scptransport.co.uk](http://www.scptransport.co.uk)

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**From:** David Young  
**Sent:** 07 May 2020 11:19  
**To:** Helen Oakes <[Helen.Oakes@redcar-cleveland.gov.uk](mailto:Helen.Oakes@redcar-cleveland.gov.uk)>  
**Cc:** Sam Chapman <[sam.chapman@scptransport.co.uk](mailto:sam.chapman@scptransport.co.uk)>  
**Subject:** RE: Teesside Windfarms A&B  
**Importance:** High

Hi Helen



Please can you advise on Committed Developments, this is needed urgently for me to meet client timescales. Do give me a call if this is easier or you have uncertainties over the affected area.

Kind regards

Dave.

David Young - Director  
IEng FIHE PGCert

On behalf of



10 South Parade • Leeds • LS1 5QS  
Tel: 0113 8873323  
Mob: 07767 384595  
Email: [david.young@scptransport.co.uk](mailto:david.young@scptransport.co.uk)  
Web: [www.scptransport.co.uk](http://www.scptransport.co.uk)

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**From:** Tony Gordon [<mailto:tony.gordon@redcar-cleveland.gov.uk>]  
**Sent:** 21 April 2020 12:19  
**To:** David Young <[david.young@scptransport.co.uk](mailto:david.young@scptransport.co.uk)>; Helen Oakes <[Helen.Oakes@redcar-cleveland.gov.uk](mailto:Helen.Oakes@redcar-cleveland.gov.uk)>  
**Cc:** Sam Chapman <[sam.chapman@scptransport.co.uk](mailto:sam.chapman@scptransport.co.uk)>  
**Subject:** RE: Teesside Windfarms A&B

David,

I can confirm that we have no updated traffic counts. Helen will be able to advise on any recent committed developments.

Tony

---

**From:** David Young <[david.young@scptransport.co.uk](mailto:david.young@scptransport.co.uk)>  
**Sent:** 21 April 2020 12:17  
**To:** Tony Gordon <[tony.gordon@redcar-cleveland.gov.uk](mailto:tony.gordon@redcar-cleveland.gov.uk)>; Helen Oakes <[Helen.Oakes@redcar-cleveland.gov.uk](mailto:Helen.Oakes@redcar-cleveland.gov.uk)>  
**Cc:** Sam Chapman <[sam.chapman@scptransport.co.uk](mailto:sam.chapman@scptransport.co.uk)>  
**Subject:** Teesside Windfarms A&B

Tony/Helen,

Thanks to both of you for agreeing the TA scoping document.

Within the Scoping document were two detailed questions:

1. Does the Council have access to counts on:
  - Grewgrass Lane and
  - A174 (NW of Longbeck Road)
2. Can you confirm if there any new developments which need to be considered and if so provide details.

Are you able to help me with these? If there are no counts then I will use local data to update the original TA counts.

Kind regards

Dave

David Young - Director  
IEng FIHE PGCert

On behalf of



10 South Parade • Leeds • LS1 5QS

Tel: 0113 8873323

Mob: 07767 384595

Email: [david.young@scptransport.co.uk](mailto:david.young@scptransport.co.uk)

Web: [www.scptransport.co.uk](http://www.scptransport.co.uk)

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# **Transport Assessment – Annex C – Personal Injury Collision Reports**







crashmap.co.uk

**2019 data is provisional and is subject to change**

**Crash Date:** Sunday, March 17, 2019

**Time of Crash:** 1:08:00 PM

**Crash Reference:** 2019170L40239

**Highest Injury Severity:** Slight

**Road Number:** U0

**Number of Casualties:** 2

**Highway Authority:** Redcar and Cleveland

**Number of Vehicles:** 1

**Local Authority:** Redcar & Cleveland Borough

**OS Grid Reference:** 461079 521745

**Weather Description:** Fine without high winds

**Road Surface Description:** Dry

**Speed Limit:** 40

**Light Conditions:** Daylight: regardless of presence of streetlights

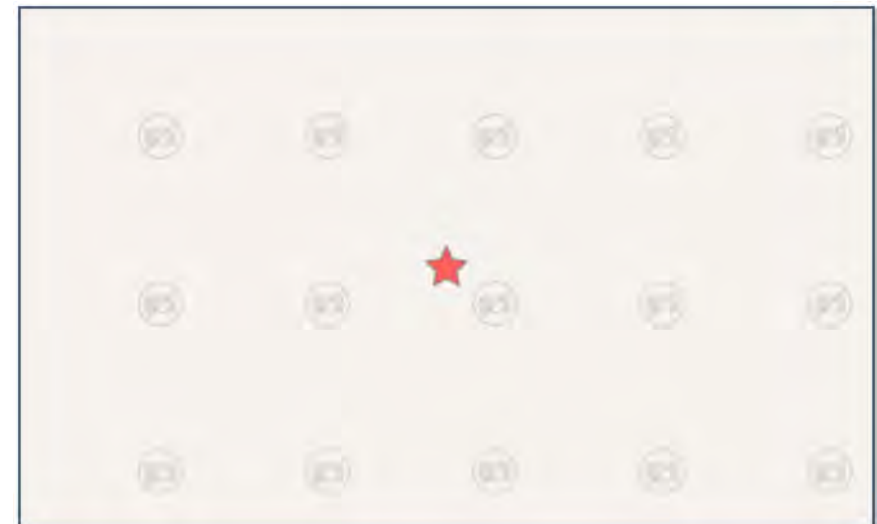
**Carriageway Hazards:** None

**Junction Detail:** Not at or within 20 metres of junction

**Junction Pedestrian Crossing:** No physical crossing facility within 50 metres

**Road Type:** Single carriageway

**Junction Control:** Unknown



For more information about the data please visit: [www.crashmap.co.uk/home/Faq](http://www.crashmap.co.uk/home/Faq)

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2019 data is provisional and is subject to change

## Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Manoeuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	-1	Female	25-34	Vehicle proceeding normally along the carriageway, not on a bend	Unknown	Other	None	Tree

## Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Driver or rider	Female	25-34	Unknown or other	Unknown or other
1	2	Slight	Vehicle or pillion passenger	Female	45-54	Unknown or other	Unknown or other

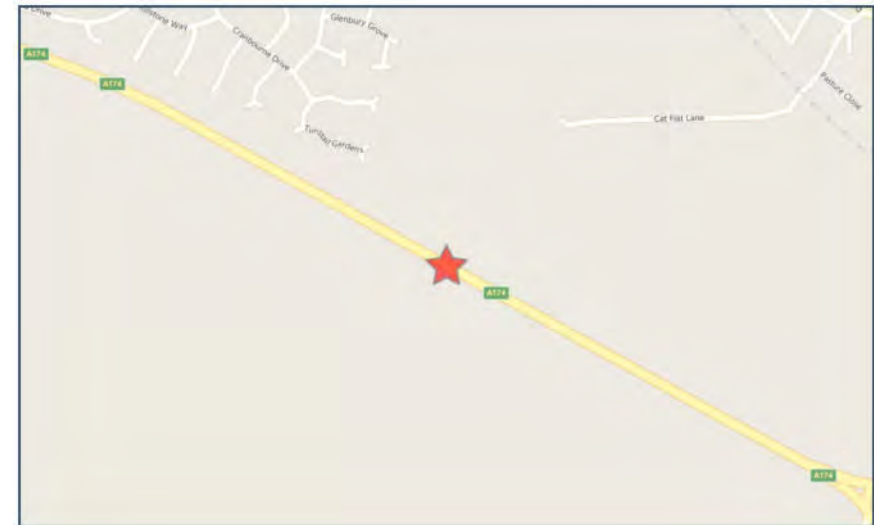
For more information about the data please visit: [www.crashmap.co.uk/home/Faq](http://www.crashmap.co.uk/home/Faq)

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crashmap.co.uk

<b>Crash Date:</b>	Sunday, June 04, 2017	<b>Time of Crash:</b>	11:30:00 AM	<b>Crash Reference:</b>	2017170L30717
<b>Highest Injury Severity:</b>	Serious	<b>Road Number:</b>	A174	<b>Number of Casualties:</b>	1
<b>Highway Authority:</b>	Redcar and Cleveland			<b>Number of Vehicles:</b>	3
<b>Local Authority:</b>	Redcar & Cleveland Borough			<b>OS Grid Reference:</b>	461808 521985
<b>Weather Description:</b>	Fine without high winds				
<b>Road Surface Description:</b>	Dry				
<b>Speed Limit:</b>	60				
<b>Light Conditions:</b>	Daylight: regardless of presence of streetlights				
<b>Carriageway Hazards:</b>	None				
<b>Junction Detail:</b>	Not at or within 20 metres of junction				
<b>Junction Pedestrian Crossing:</b>	No physical crossing facility within 50 metres				
<b>Road Type:</b>	Single carriageway				
<b>Junction Control:</b>	Not Applicable				



For more information about the data please visit: [www.crashmap.co.uk/home/Faq](http://www.crashmap.co.uk/home/Faq)  
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## Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
3	Car (excluding private hire)	10	Male	36 - 45	Vehicle proceeding normally along the carriageway, not on a bend	Front	Other	None	None
1	Goods vehicle 7.5 tonnes mgw and over	22	Male	26 - 35	Vehicle proceeding normally along the carriageway, not on a bend	Nearside	Journey as part of work	None	None
2	Car (excluding private hire)	12	Male	46 - 55	Vehicle proceeding normally along the carriageway, not on a bend	Offside	Other	None	None

## Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
3	1	Serious	Driver or rider	Male	36 - 45	Unknown or other	Unknown or other

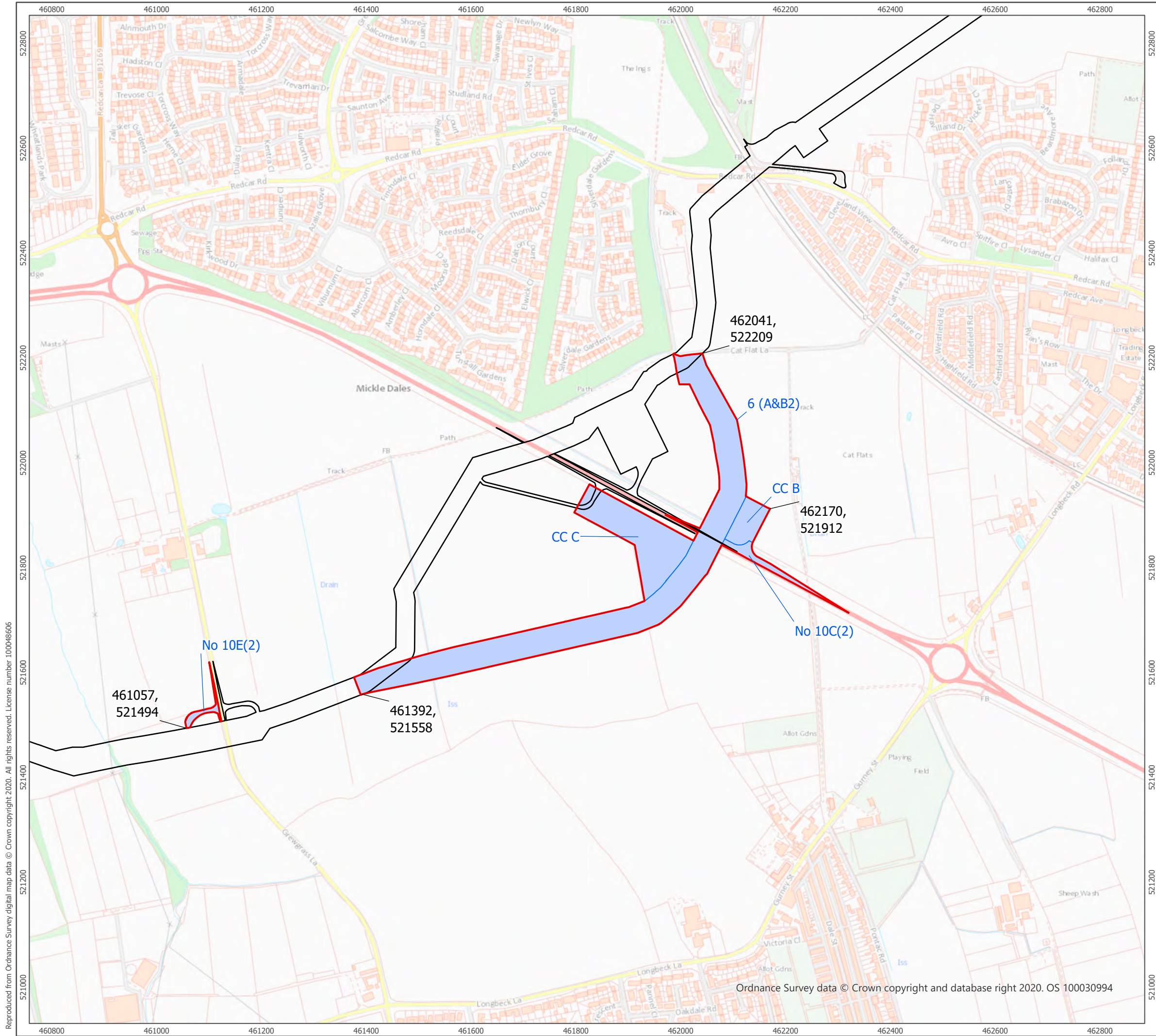
For more information about the data please visit: [www.crashmap.co.uk/home/Faq](http://www.crashmap.co.uk/home/Faq)

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# **Transport Assessment – Annex D – Proposed Corridor Amendments**





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- Planning Application Boundary
- DCO Limits
- Infrastructure & Ancillary Works

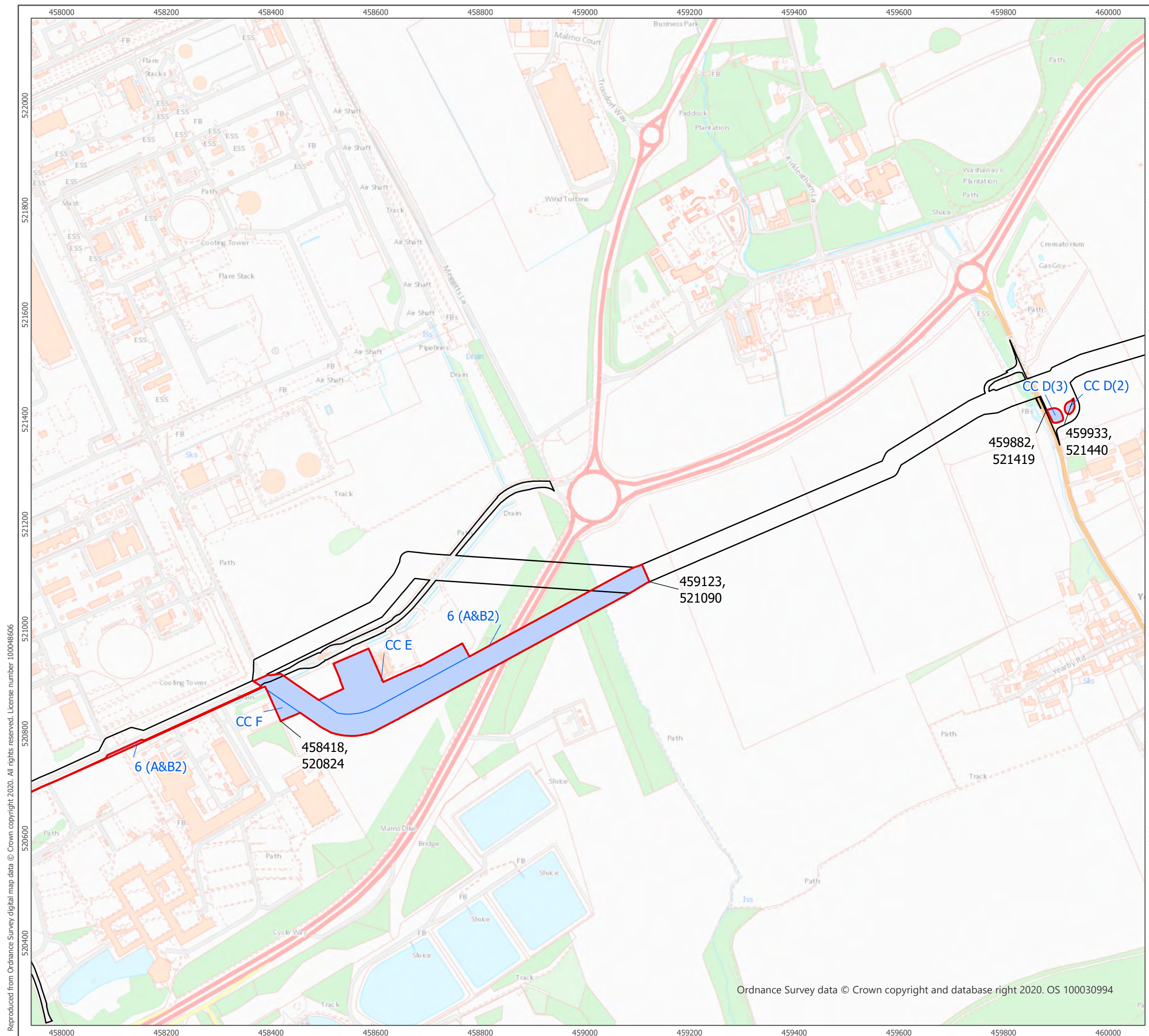


Produced By: FC	Ref: 3802-REP-024
Checked By: SC	Date: 01/07/2020

**Site Layout**  
Figure 1.2a

**Dogger Bank C and Sofia Onshore Works Application Environmental Appraisal**





**Site Layout**  
Figure 1.2b

---

**Dogger Bank C and Sofia  
Onshore Works Application  
Environmental Appraisal**







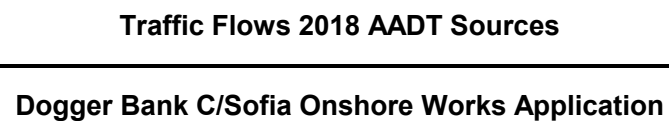
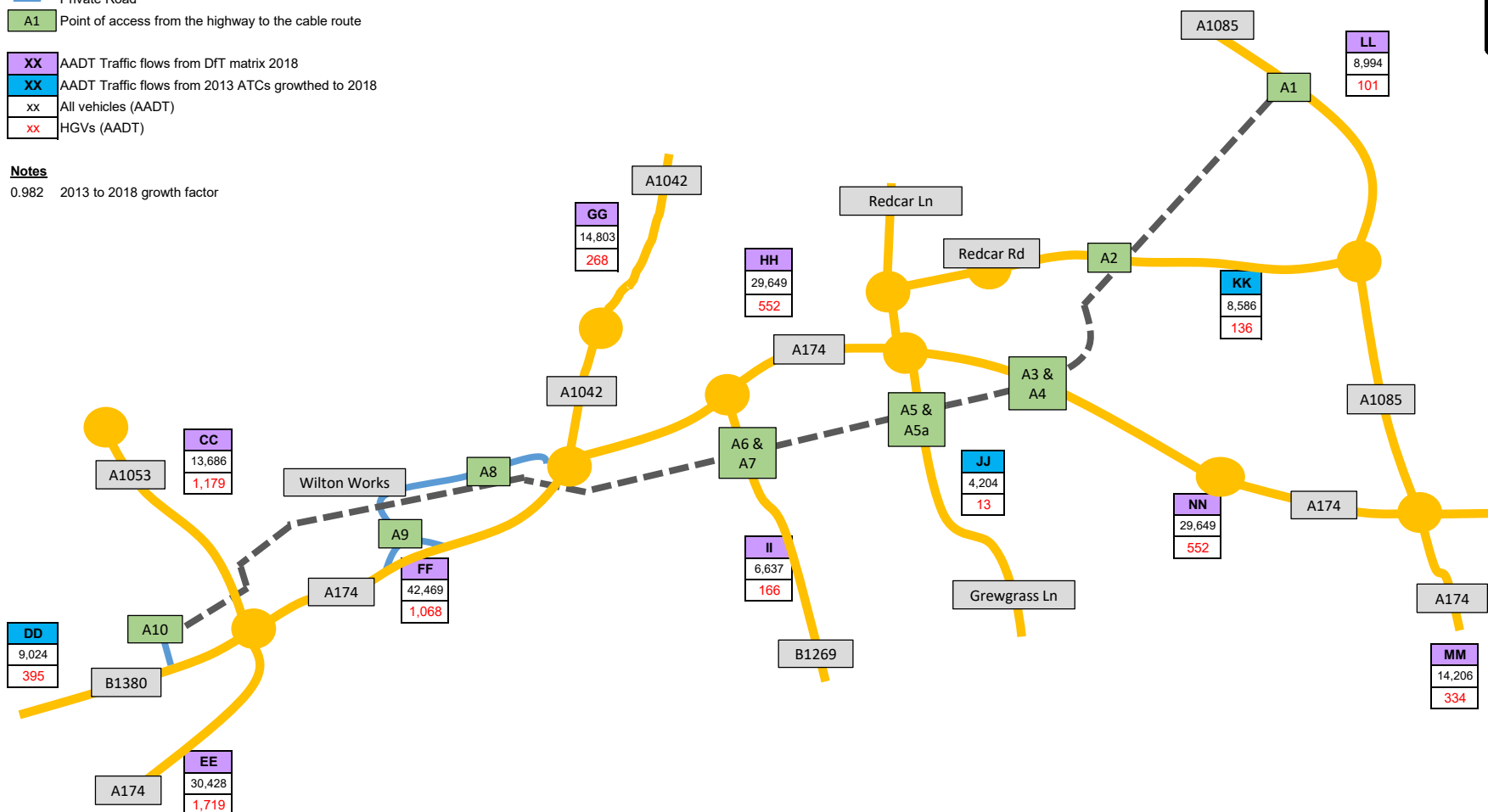
## **Transport Assessment – Annex E – Traffic Flow Diagrams**





**Notes**




0.982 2013 to 2018 growth factor



Annex E Sheet 1 of 5



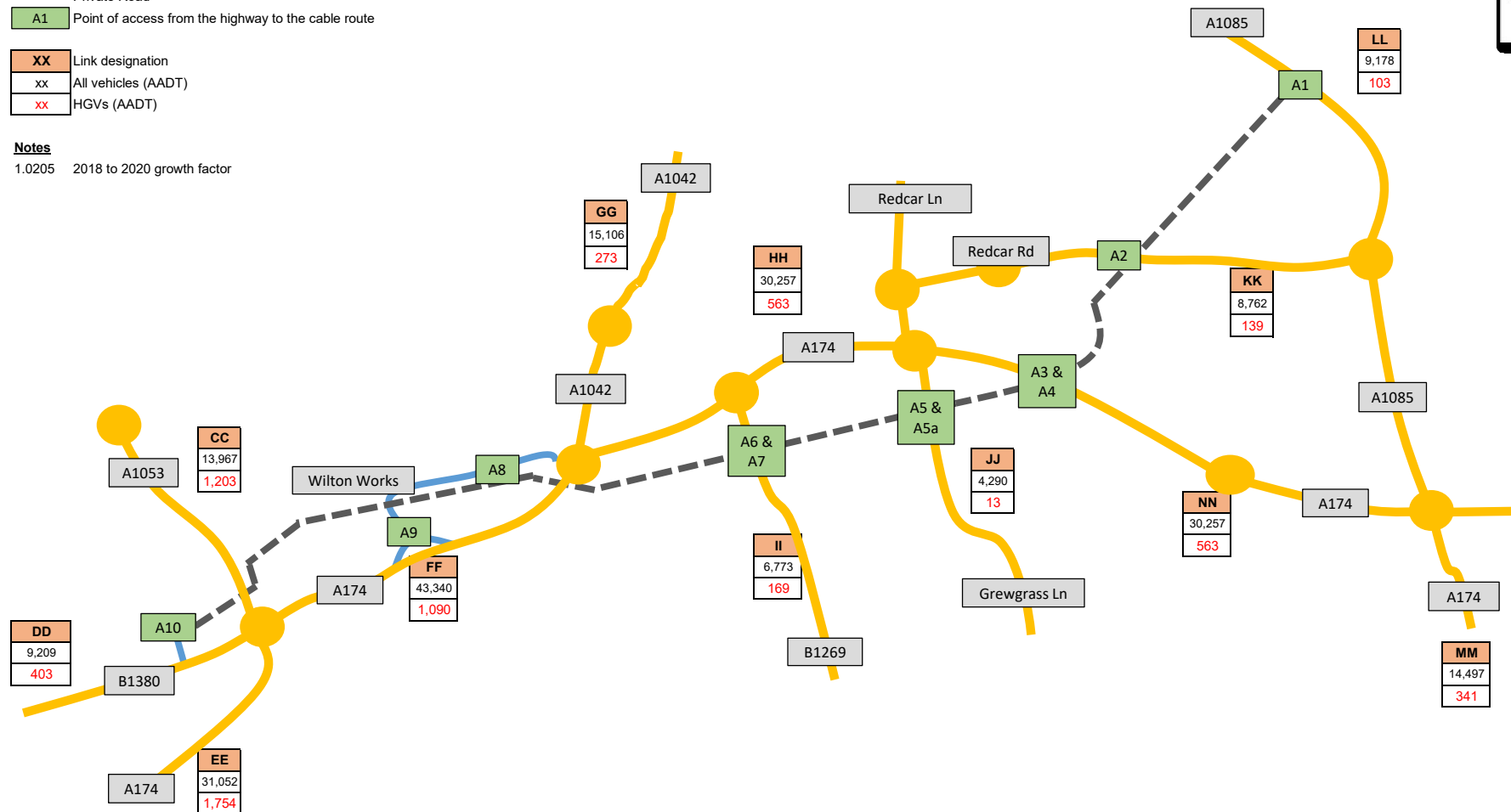
**Key:**

-  Highway Network
-  Private Road
-  Point of access from the highway to the cable route

XX	Link designation
xx	All vehicles (AADT)
xx	HGVs (AADT)

**Notes**

1.0205    2018 to 2020 growth factor



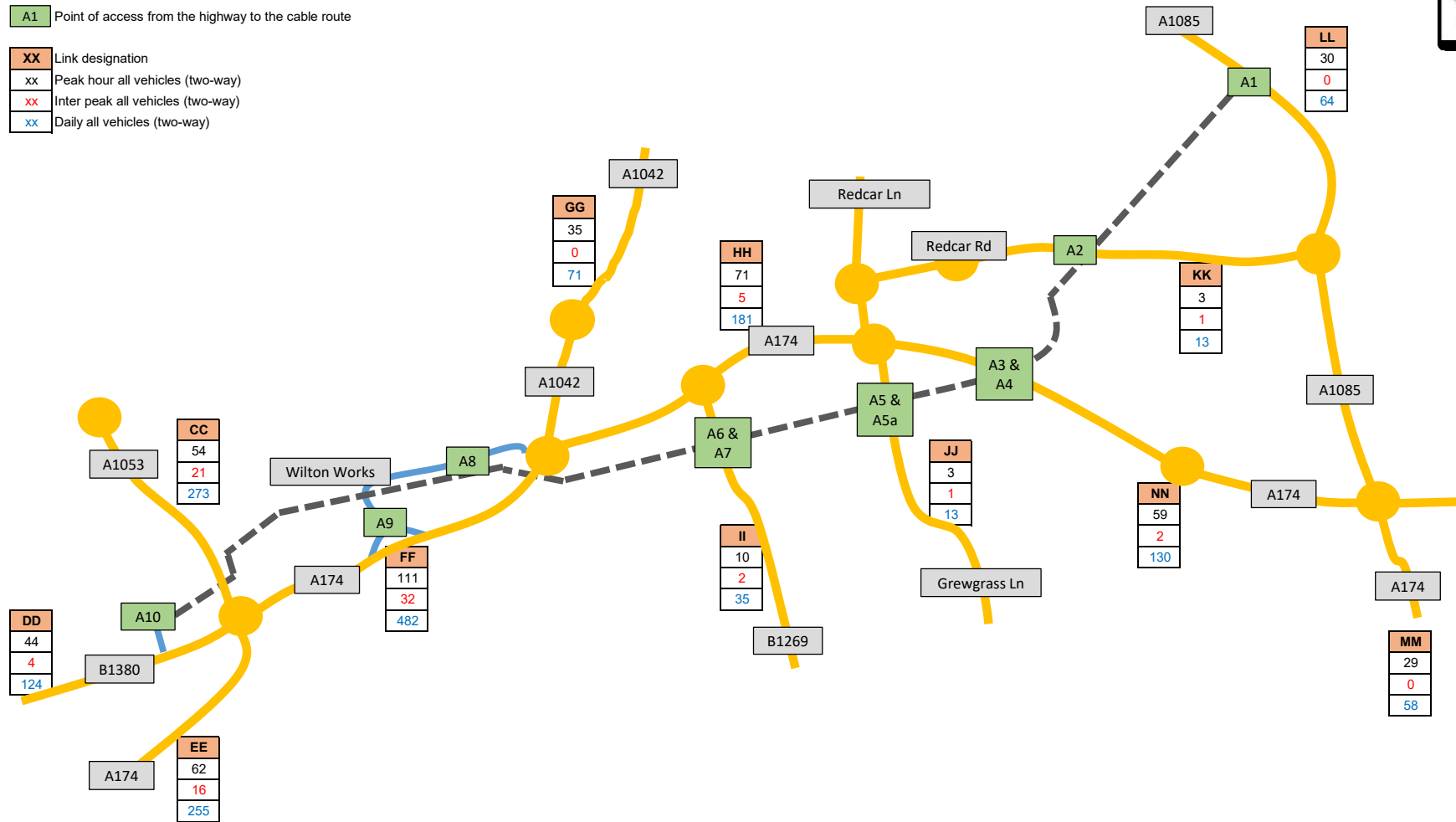


**Key:**

- Highway Network
- Private Road
- A1 Point of access from the highway to the cable route

**XX** Link designation

- xx Peak hour all vehicles (two-way)
- xx Inter peak all vehicles (two-way)
- xx Daily all vehicles (two-way)







## **Transport Assessment – Annex F – Construction Traffic Calculations and Distribution**



### Cable Parameters HVDC

Cable route length	Single Project	Both Projects combined
HVDC cable route length [km]	6.9	6.9
Indicative HVDC Open trench length (km)	6	6
Number of HVDC circuits	1	2
Total length of HVDC Cuicuits (km)	6.9	13.8
Number of cables per circuit	2	2
Total length of power cables (1 x 1 GW DC, 2 cables) km	13.8	27.6
Number of HVDC trenches	1	2
Number of duct sets (3 sets per trench)	3	6
Number of HVDC haul roads	1	1
Total trenchless length [km] (HDD)	1.4	1.4

### Cable Parameters HVAC

Cable route length	Single Project	Both Projects combined
HVAC cable route length [km]	1.85	3.7
HVAC HDD trenchless length	0.175	0.35
Number of HVAC circuits	2	2
Number of HVAC trenches	1	2
Number of HVAC cables per circuit	3	3
Number of duct sets (2 sets of 3)	2	4
Number of HVAC haul roads	1	1

Cable route length	Single Project	Both Projects combined
Dumper truck capacity [t]	20	20
Cement truck capacity [m3]	8	8
HVDC Cable drum vehicle capacity	1	1
HVAC Cable drum vehicle capacity	1	1

### Total Vehicles

### Cables HVDC and HVAC summary

Parameter	Single Project	Both Projects combined
HVDC Total Vehicles (HGV & LGV)	4398	5069
HVAC Total Vehicles (HGV & LGV)	1281	1351

**Primary Compound Movement Summary**

CC's C and H

Parameter	Set up	Removal	Day-to-day traffic
Total LGV primary compound movements (project)	132	102	40
Total HGV primary compound movements (project)	2134	2134	30

**Intermediate Compound Movement Summary**

CC's B, D (2) and (3), E, F, G, H and I

Parameter	Set up	Removal	Day-to-day traffic
Total LGV intermediate compound movements (project)	122	86	20
Total HGV intermediate compound movements (project)	468	468	24

**Onshore HVDC Cable Route Transportation Summary****Contingencies**

Parameter	Single Project	Both Projects combined build
Haul Road construction & removal HGV allowance	5%	5%
Cable installation HGV allowance	15%	15%
Cable joints HGV allowance	100%	100%
Tiles HGV allowance	5%	5%
Ducts HGV allowance	15%	15%
Fibre optic duct HGV allowance	100%	100%
Trench excavation allowance	5%	5%

**HVDC Vehicle Movements Summary**

Parameter	Single Project	Both Projects combined build
Total haul Road construction HGV allowance	1864	1864
Total haul Road removal HGV allowance	1864	1864
Total cable installation HGV allowance	9	19
Total cable joints HGV allowance	2	3
Total tiles HGV allowance	4	8
Total ducts HGV allowance	15	29
Total fibre optic duct HGV allowance	2	4
Total trench excavation allowance	639	1278
Grand total HVDC deliveries	4398	5069
Grand total HVDC two way movements	8796	10139



## Onshore HVDC Cable Route Transportation Calculations

### Haul Road Construction and Removal Vehicle Movements

Parameter	Single Project	Both Projects combined build
Haul road length (km)	7.35	7.35
Haul road width (m)	6	6
Haul road depth (mm)	350	350
Volume stone (m3)	15435	15435
Stone density (t/m3)	2.3	2.3
Mass of Stone (t)	35500.5	35500.5
Number of HGV movements	1775	1775

### Onshore Transportation - Cables

Parameter	Single Project	Both Projects combined build
Cable length per drum (m)	1700	3400
Total number of drums delivered	8	16
Indicative cable linear weight (kg/m)	46	46
Indicative drum weight (t)	5	5
Indicative cable weight (t)	45	45
Indicative delivery weight	50	50
Number of deliveries	8	16

### Onshore Transportation - HVDC Cable joint kits

Parameter	Single Project	Both Projects combined build
Number of joint bays	8	16
Total number of kits required	16	32
Number of kits per delivery	20	20
Number of deliveries	1	2

### Onshore Transportation - HVDC Tiles

Parameter	Single Project	Both Projects combined build
Total tiling length (km)	11	22
Tiling length per delivery (km)	3	3
Number of deliveries	4	8

### Onshore Transportation - HVDC Ducts

Parameter	Single Project	Both Projects combined build
Total ducted length (km)	15.2	30.4
Duct section unit length (m)	6	6
Number of ducts per delivery	200	200
Number of deliveries	13	25

### Onshore Transportation - HVDC Fibre-optic cable duct

Parameter	Single Project	Both Projects combined build
Total duct length (km)	6.5	13
Duct length per delivery (km)	9.6	9.6
Number of deliveries	1	2

### Onshore Transportation - HVDC Trench

Parameter	Single Project	Both Projects combined build
Total trench depth (mm)	1300	1300
Trench width (mm)	1000	1000
CBS layer depth (mm)	600	600
Native solid backfill depth	700	700
Top soil (mm)	300	300
Total length required (km)	5.65	11.3
Total CBS volume (m3)	3390	6780
Portion of native soil being exported	0.33	0.33
Total exported native soil volume (m3)	2424	4848
<b>CBS</b>		
CBS density (t/m3)	2.4	2.4
CBS amount of delivery, 20t truck (m3)	8.33	8.33
CBS number of deliveries	407	814
<b>Soil</b>		
Native soil density (t/m3)	1.8	1.8
Native soil amount of delivery, 20t truck (m3)	12.00	12.00
Native soil number of deliveries	202	404
Total number of deliveries (trenching)	609	1218

## **Onshore Compound Transportation Calculations**

### **Onshore transportation - Compounds general data**

Compound Type	Surface (m2)	Number of compounds for the project	Volume of rock required (t)
Primary compound (PPC8 & PCC15)	51,188	2	37,086
Intermediate compound	36,142	8	4,520

### **Onshore transportation - Primary compounds**

Compound Type	Type of vehicle	Vehicle size	Number of movements
Delivery/removal of fencing material	Low loader with HIAB	HGV	31
Delivery/removal of fencing plant	Low loader	HGV	20
Fencing installation	Personnel vehicle (van)	LGV	102
Delivery/removal of hardcore for compound base	8 wheeled tipper wagon	HGV	1854
Delivery of plant for forming hardcore base	Low loader	HGV	20
Forming hardcore base	Personnel vehicle (van)	LGV	30
Delivery/removal of site cabins	HGV low loader	HGV	60
Delivery removal of skips	Skip lorry	HGV	30
Delivery/removal containers	Low loader	HGV	18
Road cleaning during compound set up/removal	Road sweeper	HGV	100

### **Onshore transportation - Intermediate compounds**

Compound Type	Type of vehicle	Vehicle size	Number of movements
Delivery/removal of fencing material	Low loader with HIAB	HGV	29
Delivery/removal of fencing plant	Low loader	HGV	29
Fencing installation	Personnel vehicle (van)	LGV	86
Delivery/removal of hardcore for compound base	8 wheeled tipper wagon	HGV	226
Delivery of plant for forming hardcore base	Low loader	HGV	29
Forming hardcore base	Personnel vehicle (van)	LGV	36
Delivery/removal of site cabins	HGV low loader	HGV	16
Delivery removal of skips	Skip lorry	HGV	24
Delivery/removal containers	Low loader	HGV	16
Road cleaning during compound set up/removal	Road sweeper	HGV	100

## Onshore HVAC Cable Route Transportation Summary

### Contingencies

Parameter	Single Project	Both Projects combined build
Haul Road construction & removal HGV allowance	5%	5%
Cable installation HGV allowance	15%	15%
Cable joints HGV allowance	100%	100%
Tiles HGV allowance	5%	5%
Ducts HGV allowance	15%	15%
Fibre optic duct HGV allowance	100%	100%
Trench excavation allowance	5%	5%

### HVAC Vehicle Movements Summary

Parameter	Single Project	Both Projects combined build
Total haul Road construction HGV allowance	469	469
Total haul Road removal HGV allowance	469	469
Total cable installation HGV allowance	12	23
Total cable joints HGV allowance	2	4
Total tiles HGV allowance	2	3
Total ducts HGV allowance	4	7
Total fibre optic duct HGV allowance	2	2
Total trench excavation allowance	321	373
Grand total HVAC deliveries	1281	1351
Grand total HVAC two way movements	2561	2701

## Onshore HVAC Transportation Calculations

### Haul Road Construction and Removal Vehicle Movements

Parameter	Single Project	Both Projects combined build
Haul road length (km)	1.85	1.85
Haul road width (m)	6	6
Haul road depth (mm)	350	350
Volume stone (m3)	3885	3885
Stone density (t/m3)	2.3	2.3
Mass of Stone (t)	8935.5	8935.5
Number of HGV movements	447	447



#### Onshore transportation - HVAC Cables

Compound Type	Single Project	Both Projects combined build
Cable length per drum	1100	1100
Number of drums required	10	20
Number of deliveries	10	20

#### Onshore transportation - HVAC Cable joint kits

Compound Type	Single Project	Both Projects combined build
Number of joint bays	3	6
Total number of kits required	6	12
Number of kits per delivery	20	20
Number of deliveries	1	2

#### Onshore transportation - HVAC Tiles

Compound Type	Single Project	Both Projects combined build
Quantity per delivery	3000	3000
Approx. total length required (xkm) length	4	7
Number of deliveries	2	3

#### Onshore transportation - HVAC Ducts

Compound Type	Single Project	Both Projects combined build
Quantity per delivery	200	200
Duct section unit length (m)	6	6
Maximum length required (Km)	4	7
Number of deliveries	3	6

#### Onshore Transportation - HVAC Communications Cable Duct

Parameter	Single Project	Both Projects combined build
Length per delivery (km)	9.6	9.6
Length (km)	3.7	7.4
Number of deliveries	1	1

**Cable Miscellaneous e.g. Link boxes, joint bay materials, movements from marshalling to cable route etc.**

Parameter	Single Project	Both Projects combined build
Percentage for cable miscellaneous	5%	5%
Number of additional vehicles	1	3

**Construction Miscellaneous e.g.road wetting, plant movements, HDD movements, marshalling of route**

Parameter	Single Project	Both Projects combined build
Allow % to total for all construction deliveries above	20%	20%
Number of additional vehicles	154	167

**Onshore Transportation - HVAC Trench**

Parameter	Single Project	Both Projects combined build
Total trench depth (mm)	1500	1500
Trench width (mm)	825	825
CBS cross Sectional Area (mm <sup>2</sup> )	550	550
Native solid backfill depth	700	700
Top soil (mm)	300	300
Total length required (km)	1.68	3.35
Total CBS volume (m <sup>3</sup> )	2073	2010
Portion of native soil being exported	0.33	0.33
Total exported native soil volume (m <sup>3</sup> )	684	1368
<b>CBS</b>		
CBS density (t/m <sup>3</sup> )	2.4	2.4
CBS amount of delivery, 20t truck (m <sup>3</sup> )	8.33	8.33
CBS number of deliveries	249	241
<b>Soil</b>		
Native soil density (t/m <sup>3</sup> )	1.8	1.8
Native soil amount of delivery, 20t truck (m <sup>3</sup> )	12.00	12.00
Native soil number of deliveries	57	114
Total number of deliveries (trenching)	306	355

Personnel travelling to/from work (all categories)

HVDC Cable

Parameter	Single Project	Both Projects combined build
Number of light vehicles (per day)	15	30

HVAC Cable

Parameter	Single Project	Both Projects combined build
Number of light vehicles (per day)	12	24

HDDs

Parameter	Single Project	Both Projects combined build
Number of light vehicles (per day)	3	6

### Construction Traffic Schedule

[illegible]



# HGV and LCV Movements per access

	DC Cable Route	AC Cable route	HDD sites	Site Compounds	Converter Stations	Misc	Nat Grid
1. Coast Road	10.8%	0.0%	12.5%	0.0%	0.0%	14.3%	0
2 Redcar Road	10.8%	0.0%	12.5%	1.8%	0.0%	14.3%	0
3. A174	10.8%	0.0%	12.5%	25.0%	0.0%	14.3%	0
4 Gregrass Lane	10.8%	0.0%	18.8%	0.0%	0.0%	14.3%	0
5. B1269	32.3%	0.0%	25.0%	3.0%	0.0%	14.3%	0
6 Wilton works	24.6%	80.0%	12.5%	68.6%	100.0%	14.3%	0
7. B1380 Lackenby	0.0%	20.0%	6.3%	1.7%	0.0%	14.3%	100%
	100%	100%	100%	100%	100%	100%	100%

Access HGV	DC Cable Route	AC Cable route	HDD sites	Site Compounds	Converter Stations	Misc	Nat Grid	Total
1. Coast Road	5	0	0	0	0	2	0	6
2. Redcar Road	5	0	0	0	0	2	0	6
3. A174	5	0	0	0	0	2	0	6
4. Gregrass Lane	5	0	0	0	0	2	0	6
5. B1269	14	0	0	0	0	2	0	15
6. Wilton works	10	8	0	0	200	2	0	220
7. B1380 Lackenby	0	2	0	0	0	2	32	36
Total daily 2-way HGV movements	43	10	0	0	200	11	32	295

Access LCV	DC Cable Route	AC Cable route	HDD sites	Site Compounds	Converter Stations	Misc	Nat Grid	Total
1. Coast Road	6	0	0	0	0	0	0	6
2. Redcar Road	6	0	0	0	0	0	0	6
3. A174	6	0	0	0	0	0	0	6
4. Gregrass Lane	6	0	0	0	0	0	0	6
5. B1269	19	0	0	0	0	0	0	19
6. Wilton works	15	0	0	0	268	0	0	283
7. B1380 Lackenby	0	0	0	0	0	0	88	88
Total daily 2-way LCV movements	60	0	0	0	268	0	88	416

Contraction Traffic Distribution

Access HGVs (Destination)	Trip Origin	Trip Origin (% distribution)	No. of two-way movements	Link designation											
				CC	DD	EE	FF	GG	HH	II	JJ	KK	LL	MM	NN
1. Coast Road	via A66	56%	6	3			3		3				3		3
	via A174	44%				3	3		3						3
2. Redcar Road	via A66	56%	6	3			3		3			3			
	via A174	44%				3	3		3			3			
3. A174	via A66	56%	6	3			3		3						3
	via A174	44%				3	3		3						3
4. Gregrass Lane	via A66	56%	6	3			3		3		3				
	via A174	44%				3	3		3		3				
5. B1269	via A66	56%	15	9			9		9	9					
	via A174	44%				7	7		7	7					
6. Wilton works	via A66	56%	220	123			123								
	via A174	44%				97	97								
7. B1380 Lackenby	via A66	56%	36	20	20										
	via A174	44%			16	16									

Access LCVs (Destination)	Trip Origin	Trip Origin (% distribution)	No. of two-way movements	Link designation											
				CC	DD	EE	FF	GG	HH	II	JJ	KK	LL	MM	NN
1. Coast Road	via A66	26%	6	2			2		2				2		2
	via A174 west	30%				2	2		2				2		2
	via A1042	17%						1	1				1		1
	via 1085	13%											1		
	via A174 east	14%											1	1	
2. Redcar Road	via A66	26%	6	2			2		2			2			
	via A174 west	30%				2	2		2			2			
	via A1042	17%						1	1			1			
	via 1085	13%										1	1		
	via A174 east	14%										1	1	1	
3. A174	via A66	26%	6	2			2		2						2
	via A174 west	30%				2	2		2						2
	via A1042	17%						1	1						1
	via 1085	13%							1				1		1
	via A174 east	14%							1					1	1
4. Gregrass Lane	via A66	26%	6	2			2		2		2				
	via A174 west	30%				2	2		2		2				
	via A1042	17%						1	1		1				
	via 1085	13%							1		1		1		1
	via A174 east	14%							1		1			1	1
5. B1269	via A66	26%	19	5			5		5	5					
	via A174 west	30%				6	6		6	6					
	via A1042	17%						3	3	3					
	via 1085	13%							3	3			3		3
	via A174 east	14%							3	3				3	3
6. Wilton works	via A66	26%	283	74			74								
	via A174 west	30%				85	85								
	via A1042	17%						48							
	via 1085	13%							37				37		37
	via A174 east	14%							40					40	40
7. B1380 Lackenby	via A66	26%	88	23	23										
	via A174 west	30%			26	26									
	via A1042	17%			15		15	15							
	via 1085	13%			11		11		11				11		11
	via A174 east	14%			12		12		12					12	12

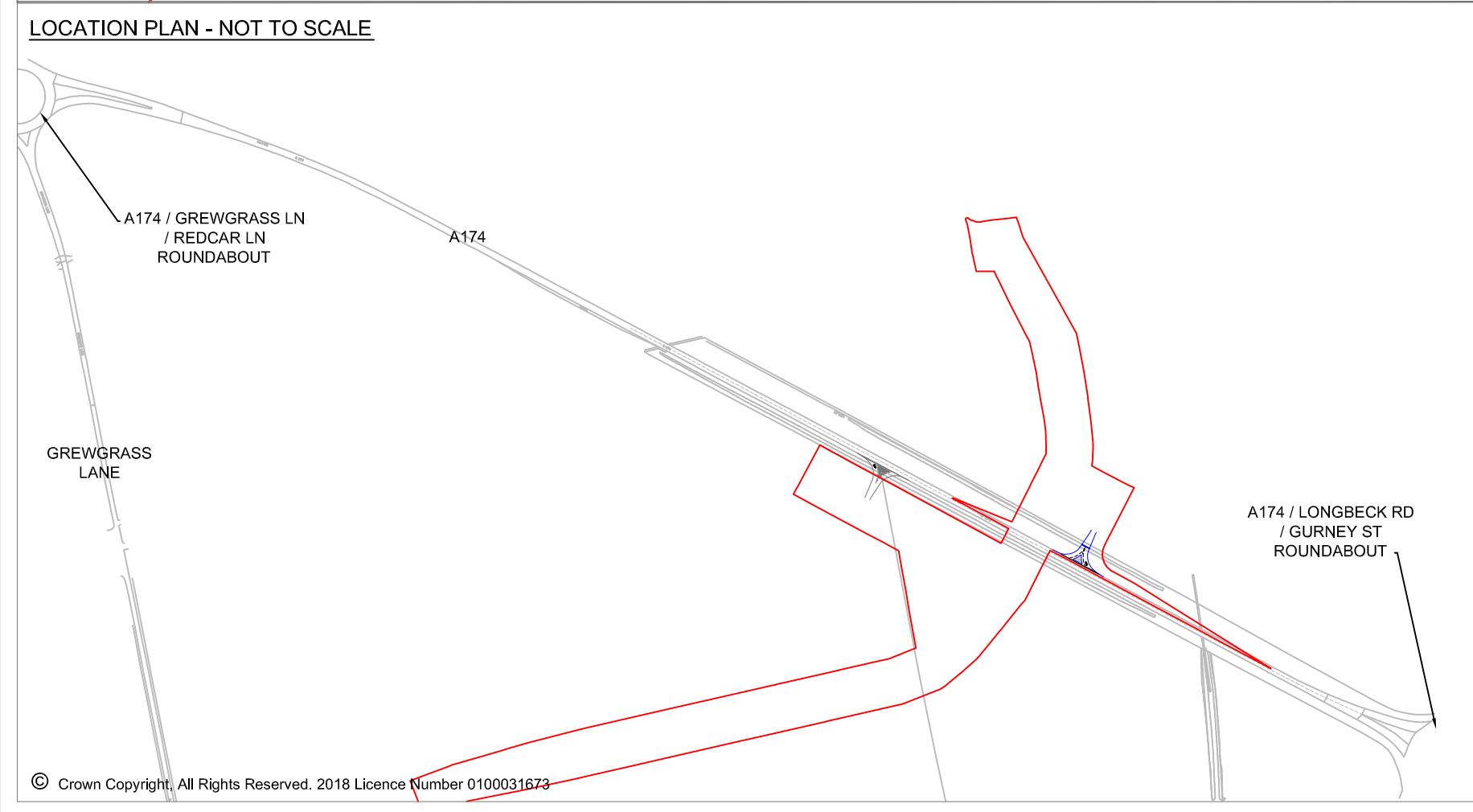
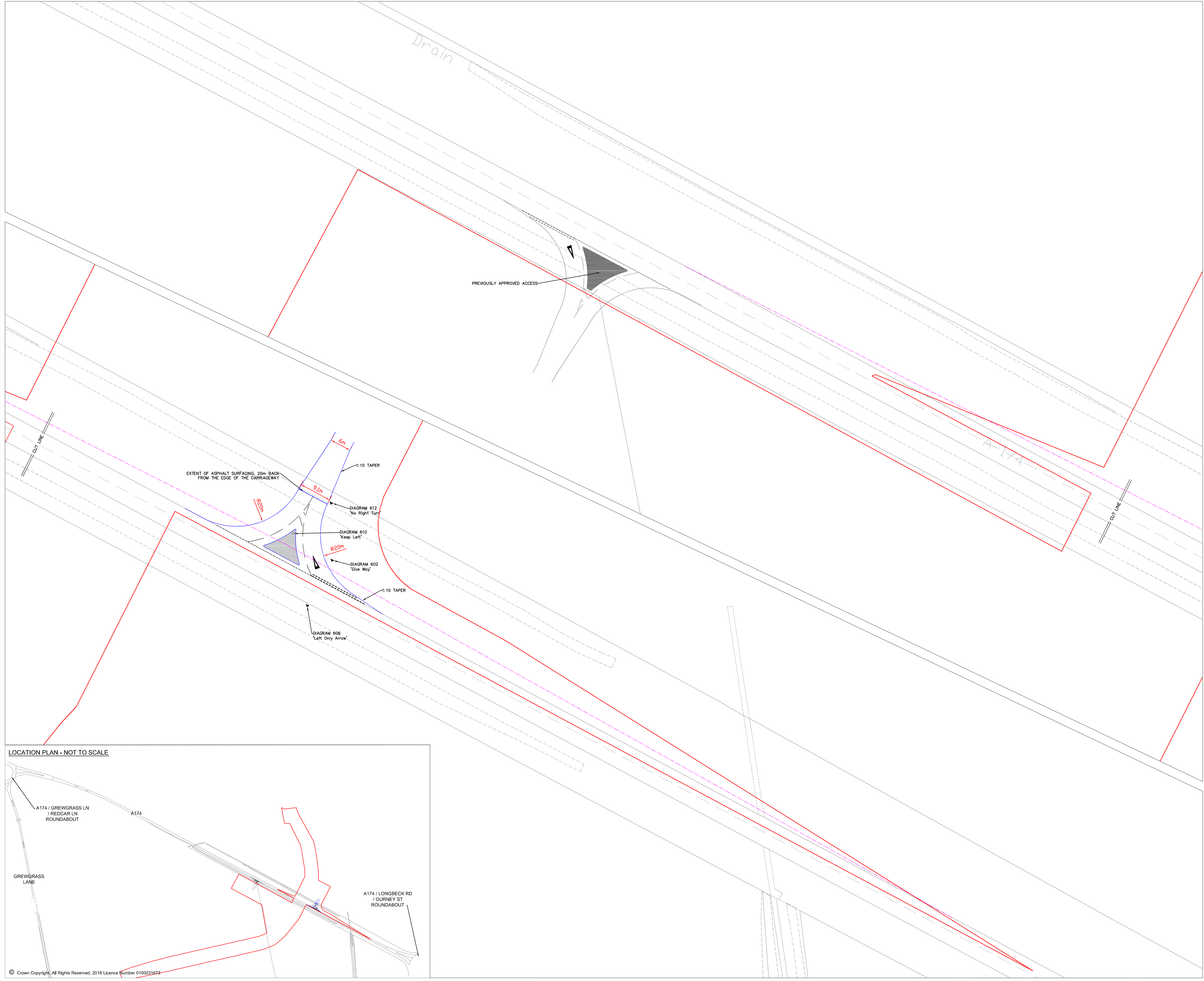
Summary

	Link designation											
	CC	DD	EE	FF	GG	HH	II	JJ	KK	LL	MM	NN
Daily total HGVs (two-way)	165	36	130	260	0	40	15	6	6	3	0	12
Daily total LCVs (two-way)	108	88	125	222	71	142	19	6	6	61	58	118
Daily total All vehicles (two-way)	273	124	255	482	71	181	35	13	13	64	58	130
Peak Hour All vehicles (two-way)	54	44	62	111	35	71	10	3	3	30	29	59
Inter peak All vehicles (two-way)	21	4	16	32	0	5	2	1	1	0	0	2

# **Transport Assessment – Annex G – Site Access Drawings and Swept Path Analysis**







- Notes:
- THIS DRAWING IS BASED UPON ORDNANCE SURVEY MAPPING.
  - ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
  - DESIGN IS IN ACCORDANCE WITH DMRB CD 109 & CD 123.
  - THE GRADIENT ON THE MINOR ARM APPROACHES IS NOT TO EXCEED 2% OVER THE FIRST 15m.

- Key:
- VISIBILITY SPLAY, 4.5m x 215m, BASED UPON A DESIGN SPEED OF 100kph IN ACCORDANCE WITH DMRB CD109 & CD123
  - PLANNING APPLICATION BOUNDARY

Scale: 1:500 @ A1

REVISIONS			
REV	DESCRIPTION	DATE	BY
-	FIRST ISSUE	16.04.20	LC
A	PLANNING APPLICATION BOUNDARY	03.06.20	LC

S|C|P

Transportation Planning : Infrastructure Design

Ground Floor,10 South Parade, Leeds, LS1 5QS, Tel 0113 887 3323  
www.scptransport.co.uk; Email info@scptransport.co.uk

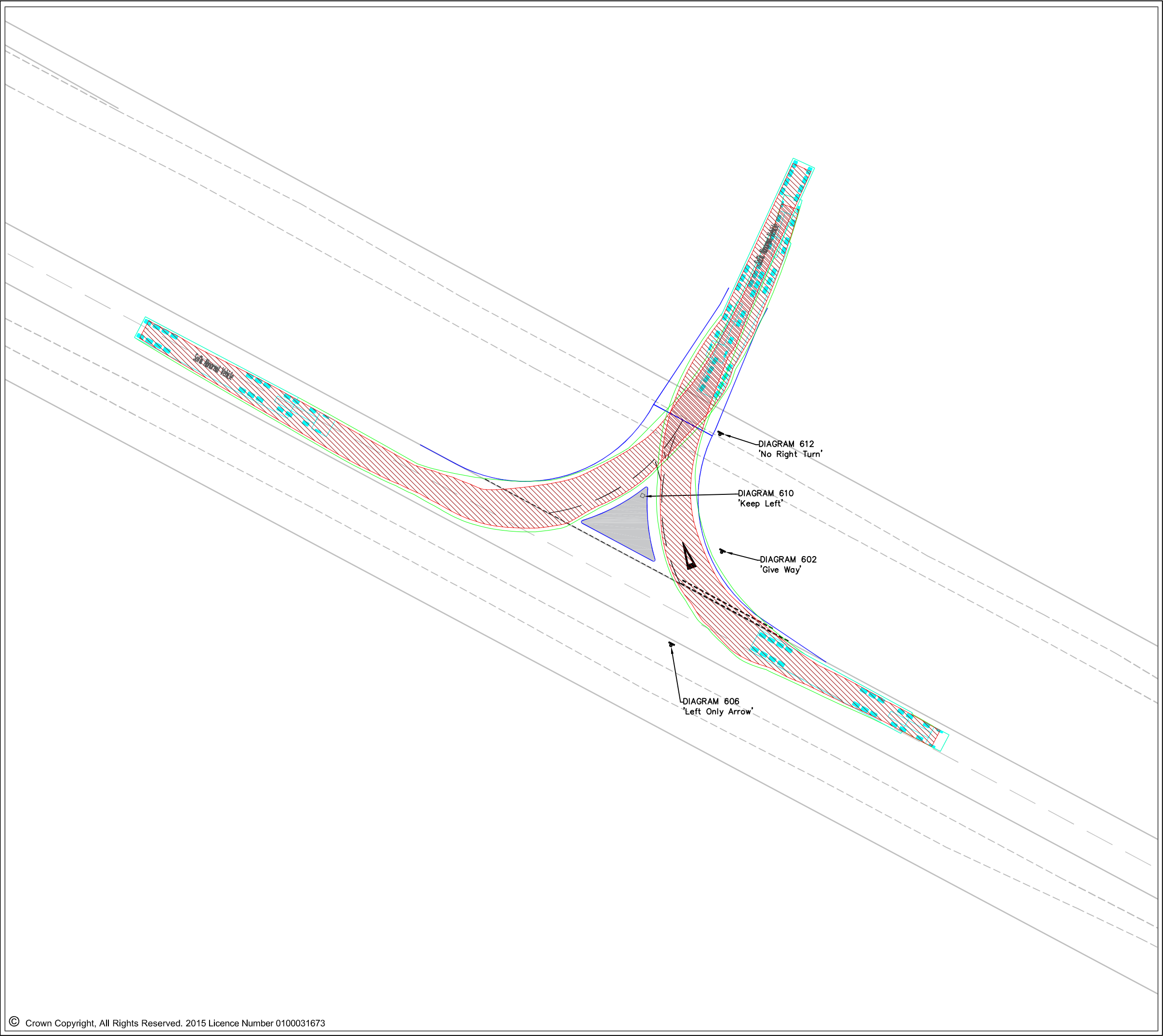
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Checked By: DY	Date: 16/04/2020

Drawing Title:

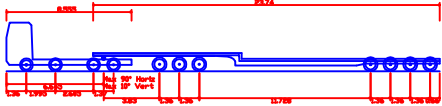
A174  
GENERAL ARRANGEMENT

Project Title:

DOGGER BANK C / SOFIA  
ONSHORE WORKS APPLICATION



Vehicle Specification



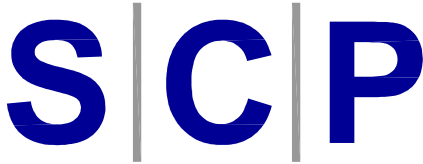
Sofia Abnormal Vehicle	
Overall Length	29.664m
Overall Width	3.240m
Overall Body Height	2.338m
Max. Body Ground Clearance	0.721m
Max. Track Width	2.740m
Lock to Lock Time	5.00s
Wall to Wall Turning Radius	9.800m

Scale: 1:500 @ A3



REVISIONS

REV	DESCRIPTION	DATE	BY
-	FIRST ISSUE	03.06.20	LC



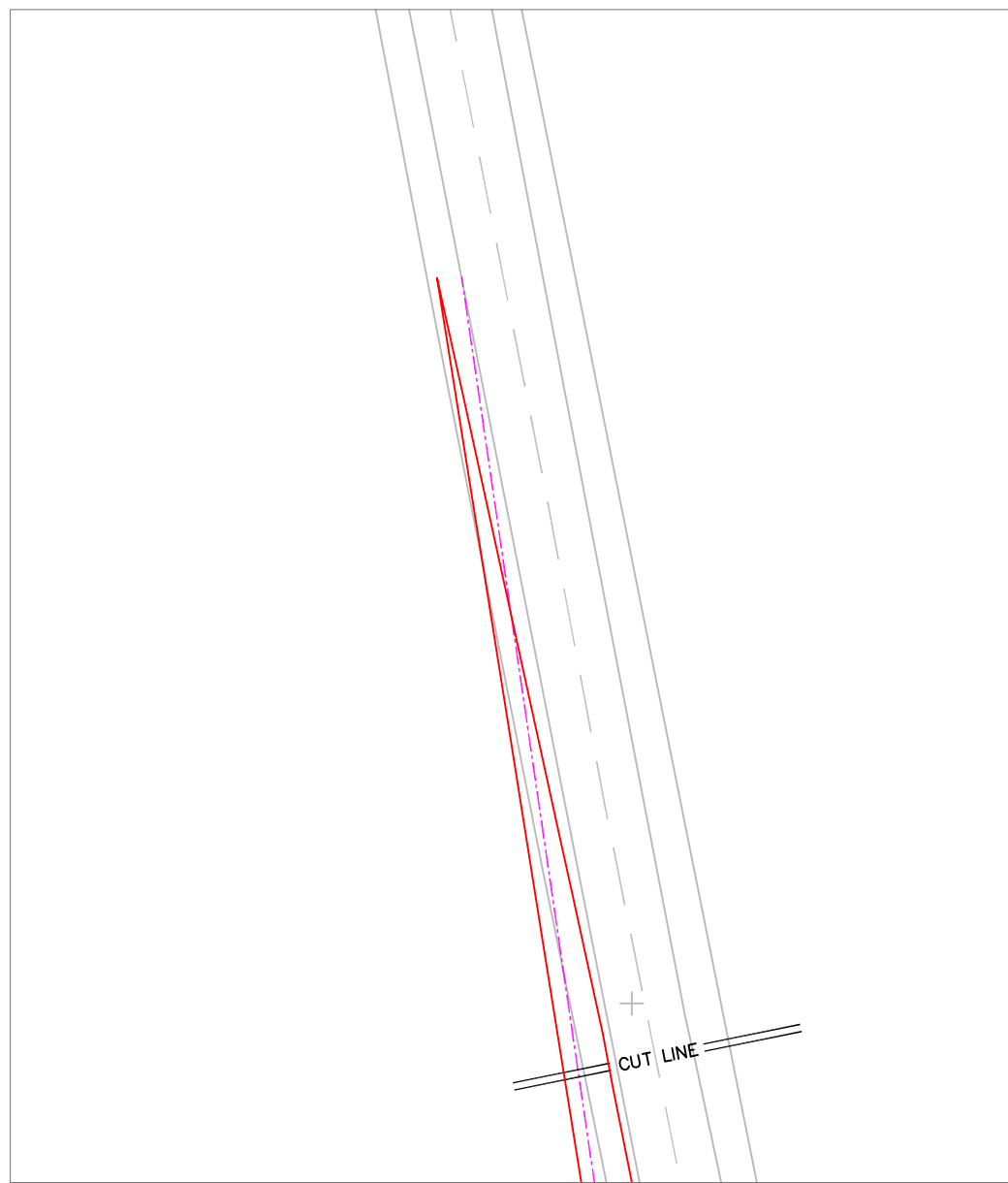
Transportation Planning : Infrastructure Design

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Produced By: LC	Ref: SCP/190608/ATR01
Checked By: DY	Date: 03/06/2020

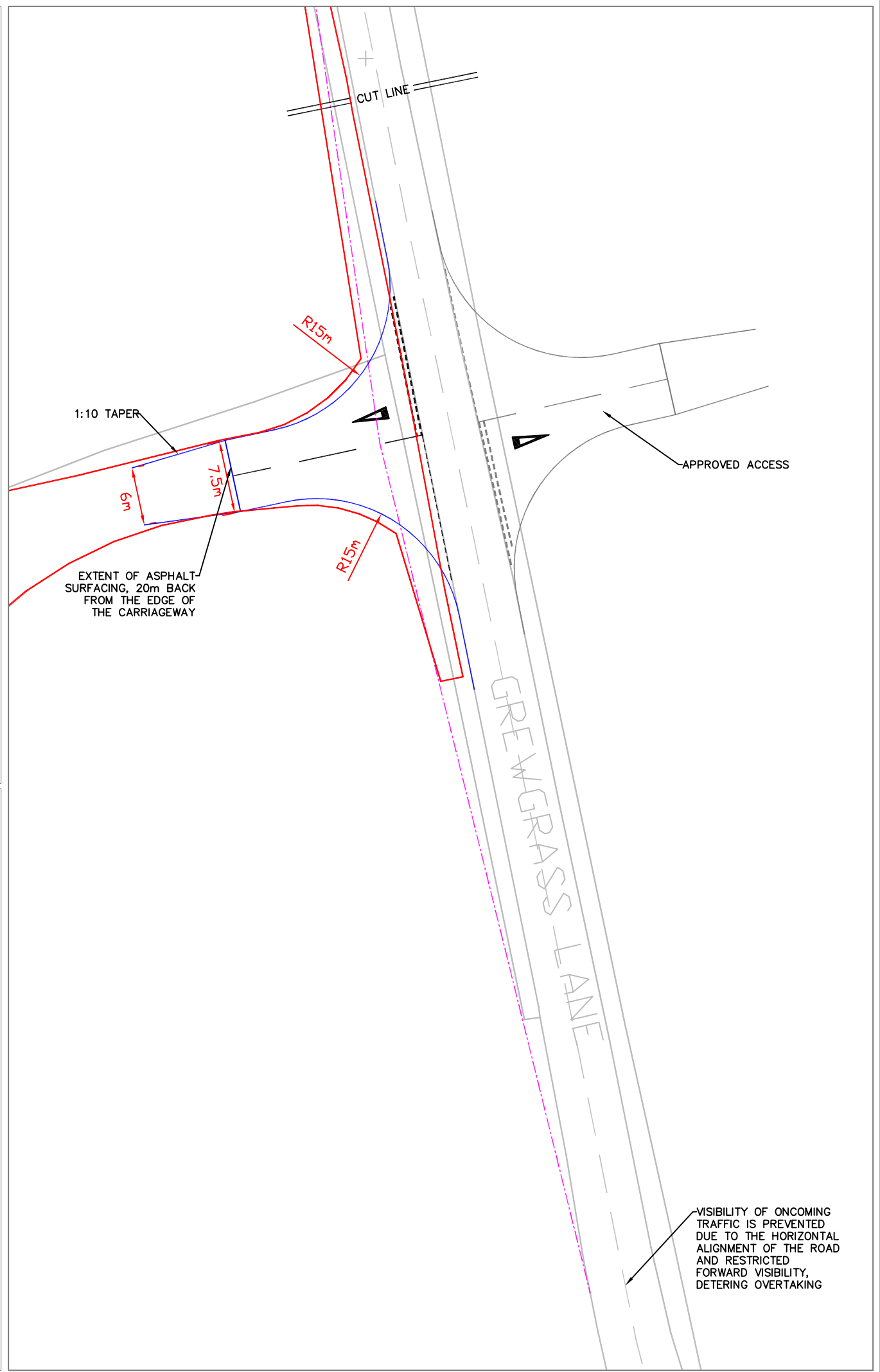
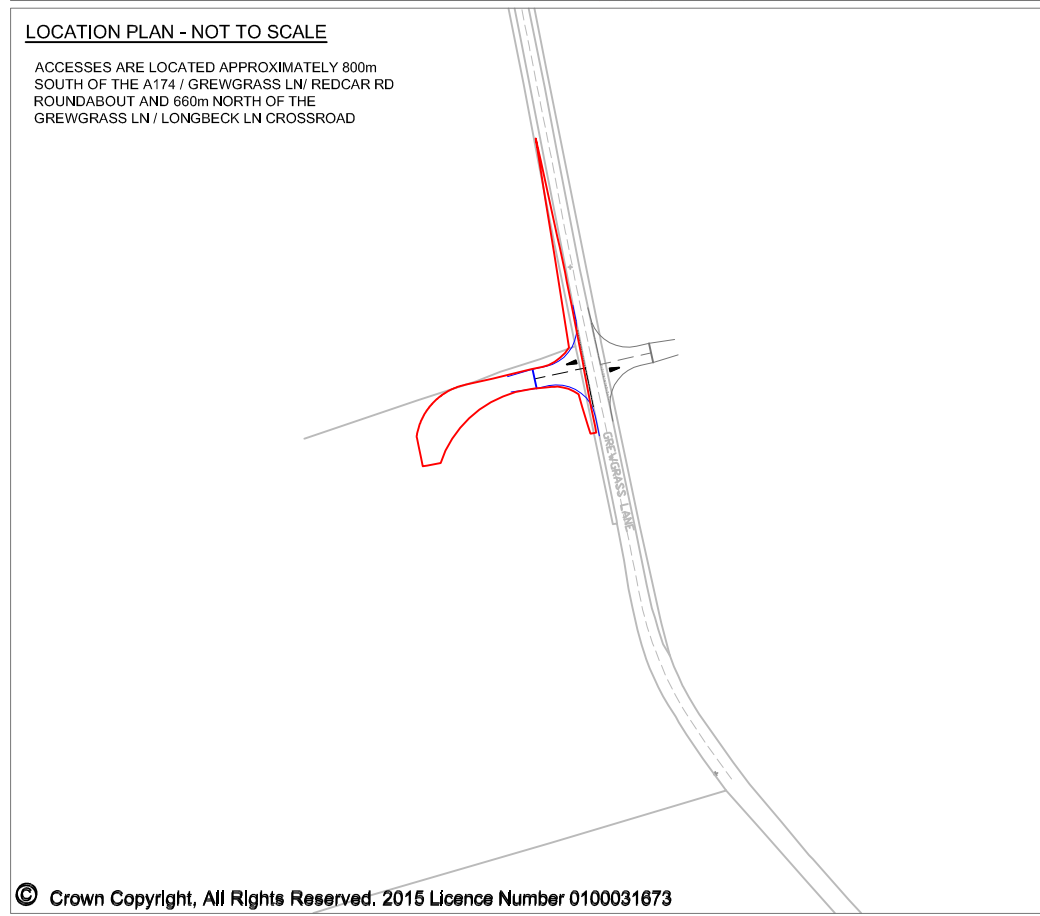
Drawing Title:
SWEPT PATH ASSESSMENT ABNORMAL VEHICLE
Project Title:
DOGGER BANK C / SOFIA ONSHORE WORKS APPLICATION





LOCATION PLAN - NOT TO SCALE

ACCESSES ARE LOCATED APPROXIMATELY 800m SOUTH OF THE A174 / GREWGRASS LN/ REDCAR RD ROUNDABOUT AND 660m NORTH OF THE GREWGRASS LN / LONGBECK LN CROSSROAD



VISIBILITY OF ONCOMING TRAFFIC IS PREVENTED DUE TO THE HORIZONTAL ALIGNMENT OF THE ROAD AND RESTRICTED FORWARD VISIBILITY, DETERING OVERTAKING

- Notes:
- THIS DRAWING IS BASED UPON ORDNANCE SURVEY MAPPING.
  - ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
  - DESIGN IS IN ACCORDANCE WITH DMRB CD 109 & CD 123.
  - A DESIGN SPEED OF 60kph WILL BE ENFORCED THROUGH THE PROVISION OF A TEMPORARY 30mph SPEED LIMIT.
  - THE GRADIENT ON THE MINOR ARM APPROACHES IS NOT TO EXCEED 2% OVER THE FIRST 15m.
  - VISIBILITY SPLAYS TO BE PROVIDED AND MAINTAINED FREE OF ALL OBSTRUCTIONS OVER 1.0M IN HEIGHT MEASURED ABOVE ADJACENT ROAD CHANNEL LEVELS.

Key:

VISIBILITY SPLAY, 4.5m x 90m, BASED UPON A DESIGN SPEED OF 60kph IN ACCORDANCE WITH DMRB CD 109 & CD 123

PLANNING APPLICATION BOUNDARY

Scale: 1:500 @ A3

NORTH

REVISIONS			
REV	DESCRIPTION	DATE	BY
-	FIRST ISSUE	16.04.20	LC
A	NOTE 6 - VISIBILITY	24.04.20	SC
B	PLANNING APPLICATION BOUNDARY	03.06.20	LC

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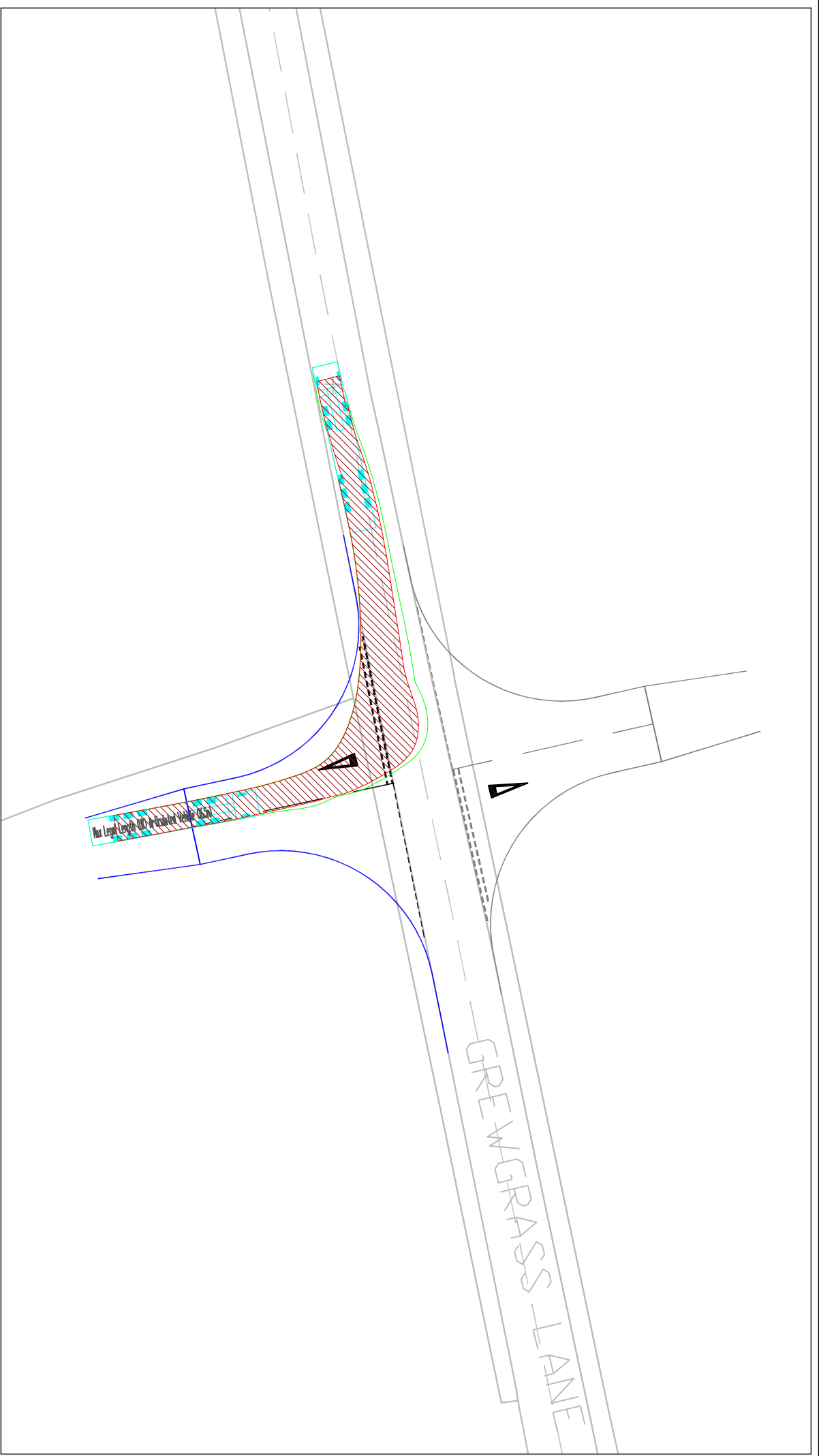
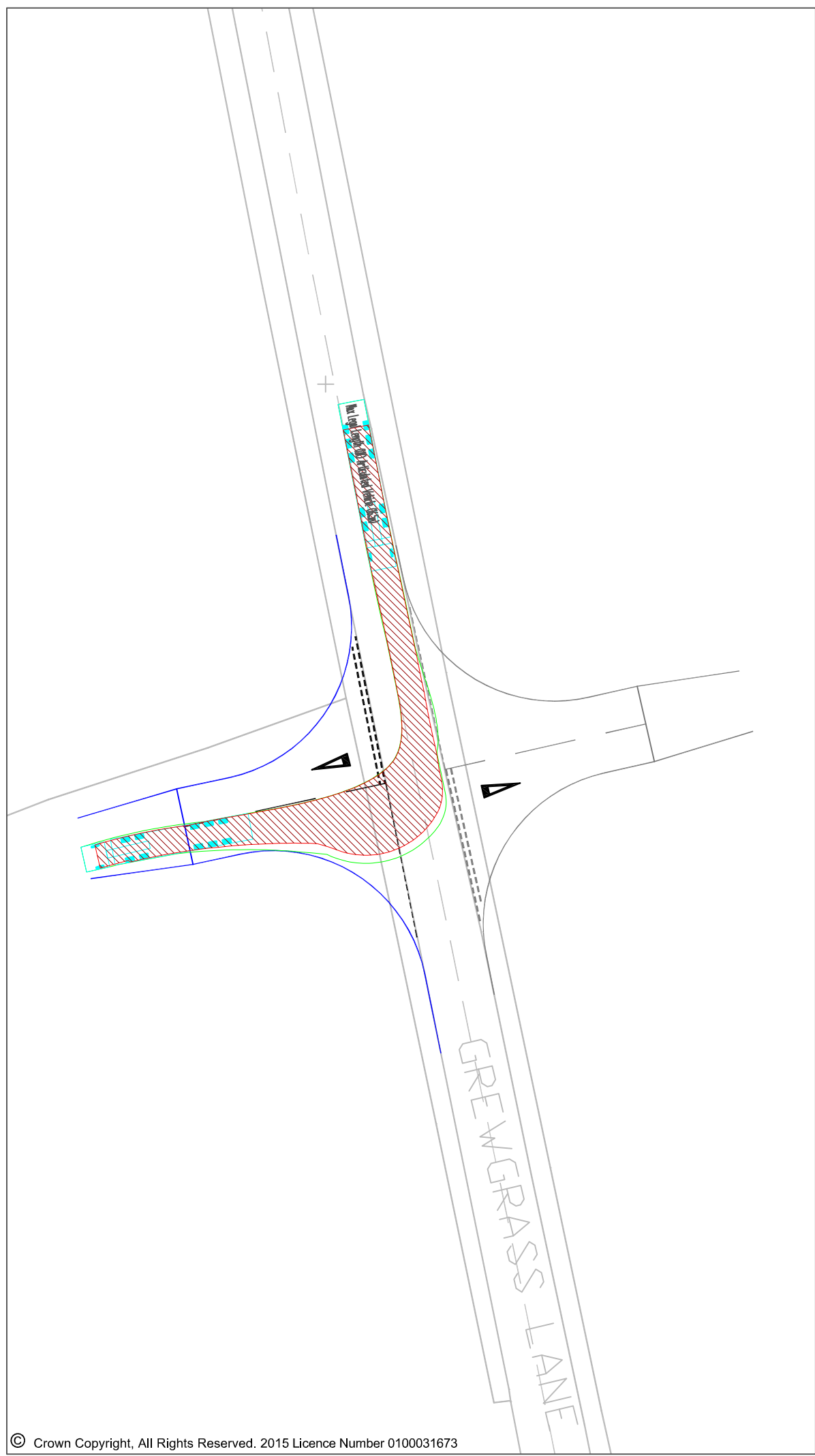
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Checked By: DY	Date: 16/04/2020

Drawing Title:

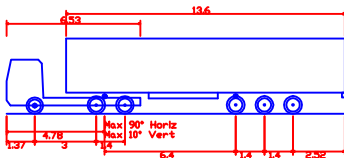
GREWGRASS LANE  
GENERAL ARRANGEMENT

Project Title:

DOGGER BANK C / SOFIA  
ONSHORE WORKS APPLICATION



Vehicle Specification:



Max Legal Length (UK) Articulated Vehicle (16.5m)  
Overall Length 16.500m  
Overall Width 2.550m  
Overall Body Height 3.681m  
Min Body Ground Clearance 0.411m  
Max Track Width 2.500m  
Lock to lock time 6.00s  
Kerb to Kerb Turning Radius 6.530m

Scale: 1:500 @ A3



REVISIONS

REV	DESCRIPTION	DATE	BY
-	FIRST ISSUE	03.06.20	LC

SCP

Transportation Planning : Infrastructure Design

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Produced By: LC	Ref: SCP/190608/ATR02
Checked By: DY	Date: 03/06/2020

Drawing Title:
SWEPT PATH ASSESSMENT MAX LEGAL HGV
Project Title:
DOGGER BANK C / SOFIA ONSHORE WORKS APPLICATION