

Pell Frischmann

Berwick Bank Offshore Wind Farm Onshore Transmission Works

Appendix 12.1 Transport Assessment

February 2023

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1 Introduction

1.1 Purpose of the Report

Pell Frischmann (PF) has been commissioned by ITP Energised (on behalf of SSE Renewables) to undertake a Transport Assessment (TA) for the Onshore Transmission Works (OnTW) (the Proposed Development) associated with the proposed Berwick Bank Wind Farm which is to be located 33.5km offshore of the East Lothian and the Scottish Borders coastline.

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The report identifies the key transport and access issues associated with the Proposed Development, including the route for abnormal loads associated with the OnTW. The TA identifies where the Proposed Development may require mitigation works to accommodate the predicted traffic; however, the detailed design of these remedial works is beyond the agreed scope of this report.

1.2 Report Structure

Following this introduction, the TA report is structured as follows:

- Chapter Two describes the Proposed Development;
- Chapter Three reviews the relevant transport and planning policies;
- Chapter Four sets out the methodology used within this assessment;
- Chapter Five describes the baseline transport conditions;
- Chapter Six describes the trip generation and distribution of traffic in the study area;
- Chapter Seven summarises the traffic impact assessment;
- Chapter Eight considers mitigation proposals for development related traffic within the study network; and
- Chapter Nine summarises the findings of the TA and outlines the key conclusions.

2 Site Background

2.1 Site Location

The Proposed Development site is shown in Figure 1. The site is located to the east of Dunbar and Innerwick in East Lothian.

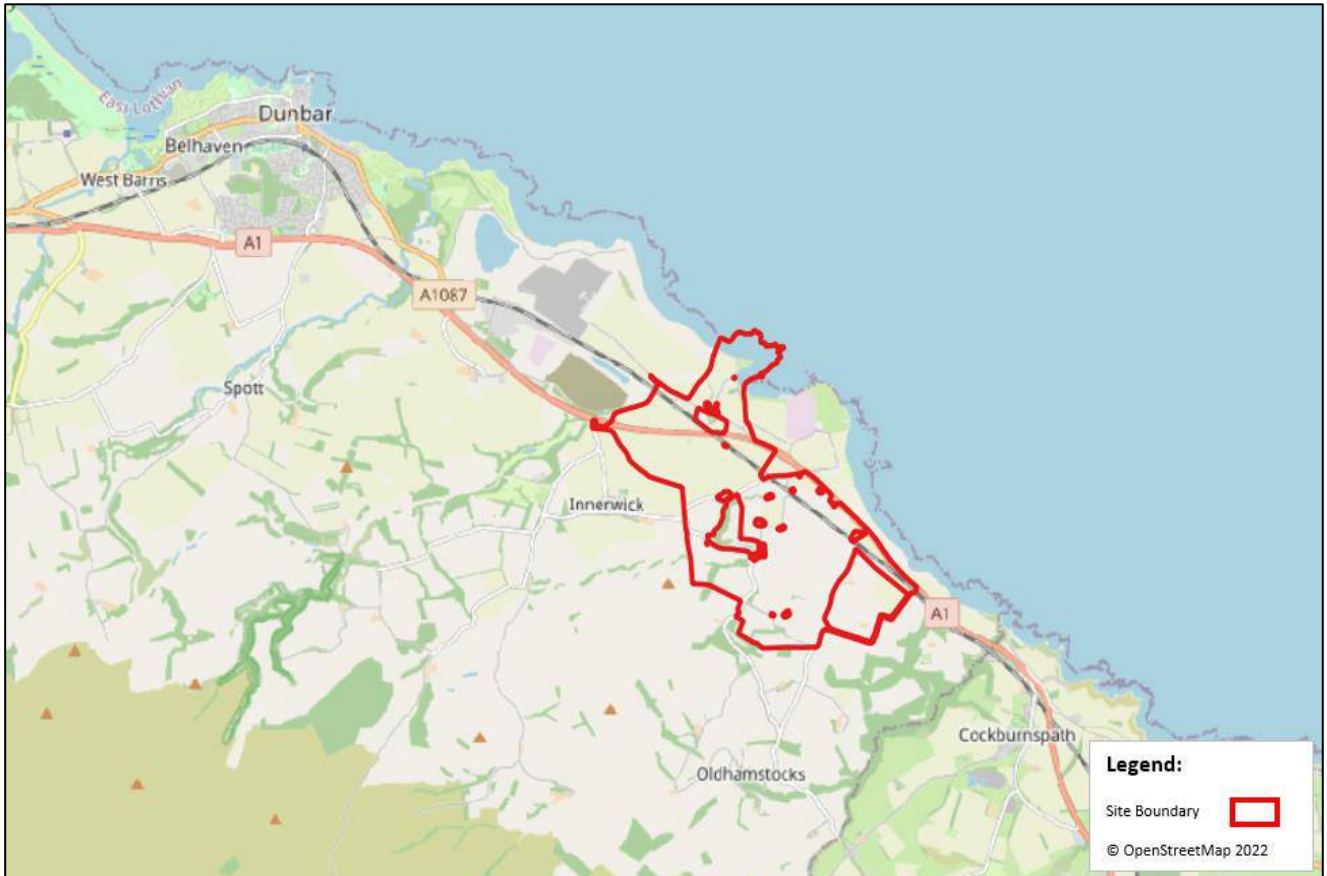


Figure 1 Site Location

2.2 Proposed Development

The layout of the Proposed Development is presented in Figure 2.

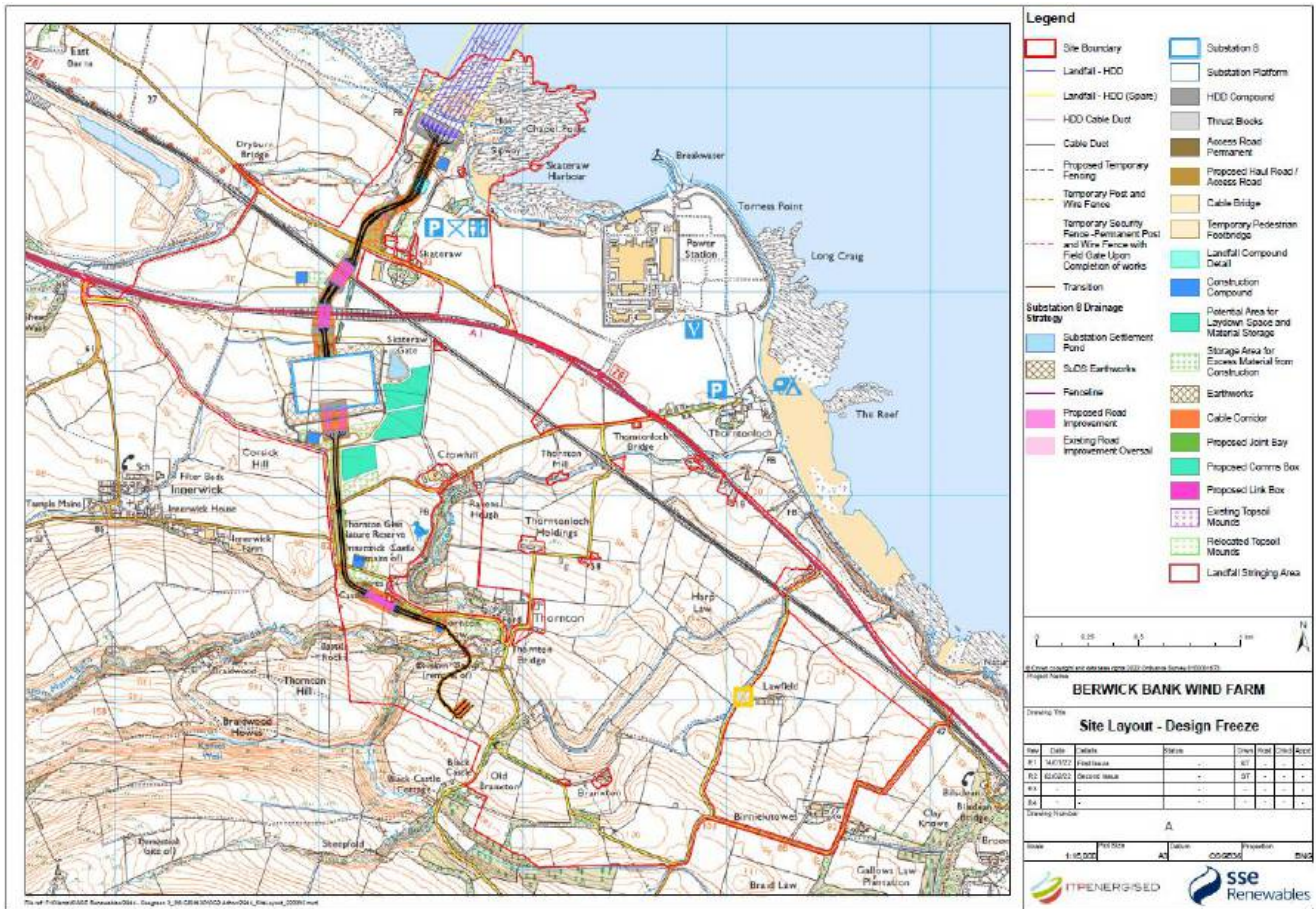


Figure 2 Substation Locations and Landfall Locations (courtesy of ITPowered and SSE Renewables)

In summary, the Proposed Development (the OnTW) will comprise the following:

- A new onshore substation;
- Cable landfall;
- Underground cable route connections between the landfall and the onshore substation, and between the onshore substation and the grid connection substation; and
- Associated ancillary infrastructure.

The onshore substation is located on an agricultural field, approximately 350 m south of Skateraw, and 380 m north-west of Crowhill. Its location is shown in Figure 2 by a blue rectangle. The location of the cable landfall at Skateraw is also presented in Figure 2.

The Proposed Development will be designed to have an operational life of 35 years.

A complete description of the Proposed Development for the purposes of the EIA regulations is presented in Volume 1; Chapter 5.

3 Policy Context

3.1 Introduction

An overview of relevant transport planning policies has been undertaken and is summarised below for national and local government policies.

3.2 National Policy

3.2.1 National Planning Framework 4 (2023)

The Revised Draft National Planning Framework 4 was laid in Parliament on 08 November 2022. The Revised Draft National Planning Framework 4 was approved by Scottish Parliament on 11 January 2023 and was then passed to Scottish Ministers who adopted the National Planning Framework 4 (NPF4) on 13 February 2023.

With regards to traffic and transport and the Proposed Development, Policy 11: Energy within the NPF4 notes that:

“Development proposals for all forms of renewable, low-carbon and zero emissions technologies will be supported. These include:

- *Wind farms including repowering, extending, expanding and extending the life of existing wind farms; and*
- *Enabling works, such as grid transmission and distribution infrastructure.*

In addition, project design and mitigation will demonstrate how the following impacts are addressed:

- *Impacts on communities and individual dwellings, including, residential amenity, visual impact, noise and shadow flicker;*
- *Public access, including impact on long distance walking and cycling routes and scenic routes;*
- *Impacts on road traffic and on adjacent trunk roads, including during construction; and*
- *Cumulative impacts.”*

3.2.2 Transport Assessment Guidance (2012)

Transport Scotland’s (TS) Transport Assessment Guidance was published in 2012. It aims to assist in the preparation of TA for development proposals in Scotland such that the likely transport impacts can be identified and dealt with as early as possible in the planning process. The document sets out requirements according to the scale of development being proposed.

The document notes that a TA will be required where a development is likely to have significant transport impacts but that the specific scope and contents of a TA will vary for developments, depending on location, scale, and type of development.

3.2.3 Planning Advice Note (PAN) 75

Planning Advice Note (PAN) 75: Planning for Transport provides advice on the requirements for TA. The document notes that:

“... transport assessment to be produced for significant travel generating developments. Transport Assessment is a tool that enables delivery of policy aiming to integrate transport and land use planning.”

“All planning applications that involve the generation of person trips should provide information which covers the transport implications of the development. The level of detail will be proportionate to the complexity and scale of the impact of the proposal...For smaller developments the information on transport implications will enable local authorities to monitor potential cumulative impact and for larger developments it will form part of a

scoping exercise for a full transport assessment. Development applications will therefore be assessed by relevant parties at levels of detail corresponding to their potential impact.”

3.3 Local Policy

3.3.1 East Lothian Local Development Plan (2018)

The East Lothian Local Development Plan (LDP) was adopted by East Lothian Council (ELC) in September 2018 and is established planning policy for ELC area. It sets out a planning strategy and policies to guide the future development. The following policies are relevant to the Proposed Development:

Policy T1: Development Location and Accessibility

“New developments shall be located on sites that are capable of being conveniently and safely accessed on foot and by cycle, by public transport as well as by private vehicle, including adequate car parking provision in accordance with the Council’s standards. The submission of Travel Plans may also be required in support of certain proposals.”

Policy T2: General Transport Impact

New development must have no significant adverse impact on:

- Road safety;
- The convenience, safety and attractiveness of walking and cycling in the surrounding area;
- Public transport operations in the surrounding area, both existing and planned, including convenience of access to these and their travel times;
- The capacity of the surrounding road network to deal with traffic unrelated to the proposed development; and
- Residential amenity as a consequence of an increase in motorised traffic. Where the impact of development on the transport network requires mitigation, this will be provided by the developer and secured by the Council by planning condition and / or legal agreement where appropriate.

Policy T4: Active Travel Routes and Core Paths as part of the Green Network Strategy

“The Council will protect its existing core path and active travel networks and ensure that new development does not undermine them, including the convenience, safety and enjoyment of their use.”

3.3.2 East Lothian Local Transport Strategy (2018 – 2024)

The East Lothian Local Transport Strategy (LTS) was prepared by ELC and details the transport strategy for the period between 2018 and 2024. It is noted that the main aim of the LTS is to provide a mechanism for clean, green and safe travel patterns across the County and beyond.

In relation to Strategic Road Network, the LTS notes that:

“The A1 road is a major transport artery through the country but is now approaching capacity in some places. In particular, it is single carriageway south of Dunbar causing congestion and unreliable journey times.”

3.4 Policy Summary

The Proposed Development can align with the stated policy objectives and the design of the site and proposed mitigation measures will ensure compliance with national and local objectives.

4 Study Methodology

4.1 Introduction

There are three phases of the life of the Proposed Development. All three phases have been considered in this assessment and are as follows:

- The Construction Phase;
- The Operational and Maintenance Phase; and
- The Decommissioning Phase.

4.2 Project Phases – Transport Overview

Of all of the three phases, the construction phase is considered to have the greatest impact in terms of transport. Construction plant and bulk materials will be transported to site, potentially have a significant increase in traffic on the study network.

The decommissioning phase involves fewer trips on the network than the construction phase, as minor elements of infrastructure are likely to be left in place, adding to local infrastructure that can potentially be used for further agricultural or leisure uses in the future.

The operational and maintenance phase is restricted to occasional maintenance operations which generate significantly lower volumes of traffic that are not considered to be in excess of daily traffic variation levels on the road network.

It should be noted however the construction effects are short lived and transitory in nature.

4.3 Scoping Discussions

The Applicant submitted a request in August 2020 for Scoping Opinion to ELC in respect of the Environmental Impact Assessment which included a section considering traffic and transport.

A full review of that Scoping Opinion is provided in the Traffic and Transport Chapter of the Onshore EIA (Volume 1: Chapter 12).

5 Baseline Conditions

5.1 Access Arrangements

It is proposed that all construction related vehicles will use the A1 trunk road (T) to access the site from the surrounding areas. The various elements of the Proposed Development are subsequently accessed via the local road network where upgraded access junctions will be provided. Indicative drawings of the access junctions are provided in Appendix A.

The Abnormal Load Route Assessment Report¹ was prepared by Sweco and shows the assessment of delivery routes for abnormal transformer loads. This is presented in EIA Volume 4, Appendix 12.2.

5.2 Study Area Determination

Scoping was undertaken with ELC and Transport Scotland in order to agree the scope of the TA and develop a transport study area. The traffic and transport study area includes local roads that are likely to experience increased traffic flows from the Proposed Development.

The traffic and transport study area was determined through a review of Ordnance Survey (OS) plans and an assessment of the likely points of origin for construction materials and construction staff.

Strategic access to the site is available from the A1 (T) network which is operated by Bear Scotland on behalf of Transport Scotland. Access to the different elements of the Proposed Development will be via the local road network.

The study area for this assessment is as follows:

- The A1 (T) between Easter Pinkerton and Bilsdean;
- The local road network in Skateraw; and
- The local road network around Innerwick and Thorntonloch, including the U209, the C121, the C122 and the C124.

The study area network is illustrated by the purple line in Figure 3.

¹ The Abnormal Route Load Assessment Report details the various options associated with the Proposed Development. Please note that the option being taken forward is Substation 8. Please note that the swept path analysis results for this option are presented in the sections referring to Substation Location 8 within The Abnormal Route Load Assessment Report.



Figure 3 Study Area

5.3 Pedestrian and Cyclist Networks

A review of ELC's Core Path Plans on East Lothian Council's Map K² Innerwick and Surrounding Area indicates core paths which are located within the site.

Core Paths 309 connects to Core Path 310 and comprises a tarred path which runs along the boundary of the A1 (T), within the eastern section of the site.

Core Path 196 connects to Core Path 197 and forms part of John Muir Way. Core Path 187 also forms part of John Muir Way. The Walks around Dunbar paths leaflet notes that:

"The John Muir Way is being developed by East Lothian Council to provide a continuous path between Edinburgh and the Scottish Borders. The route is still being developed and much of what currently exists follows the coast line. It is planned for the route to link into East Linton, North Berwick and Gullane."

The Core Path network in the vicinity of the Site are presented in Figure 4.

² Map K Innerwick and Surrounding Area
https://www.eastlothian.gov.uk/info/210569/countryside_and_wildlife/12044/core_paths/2

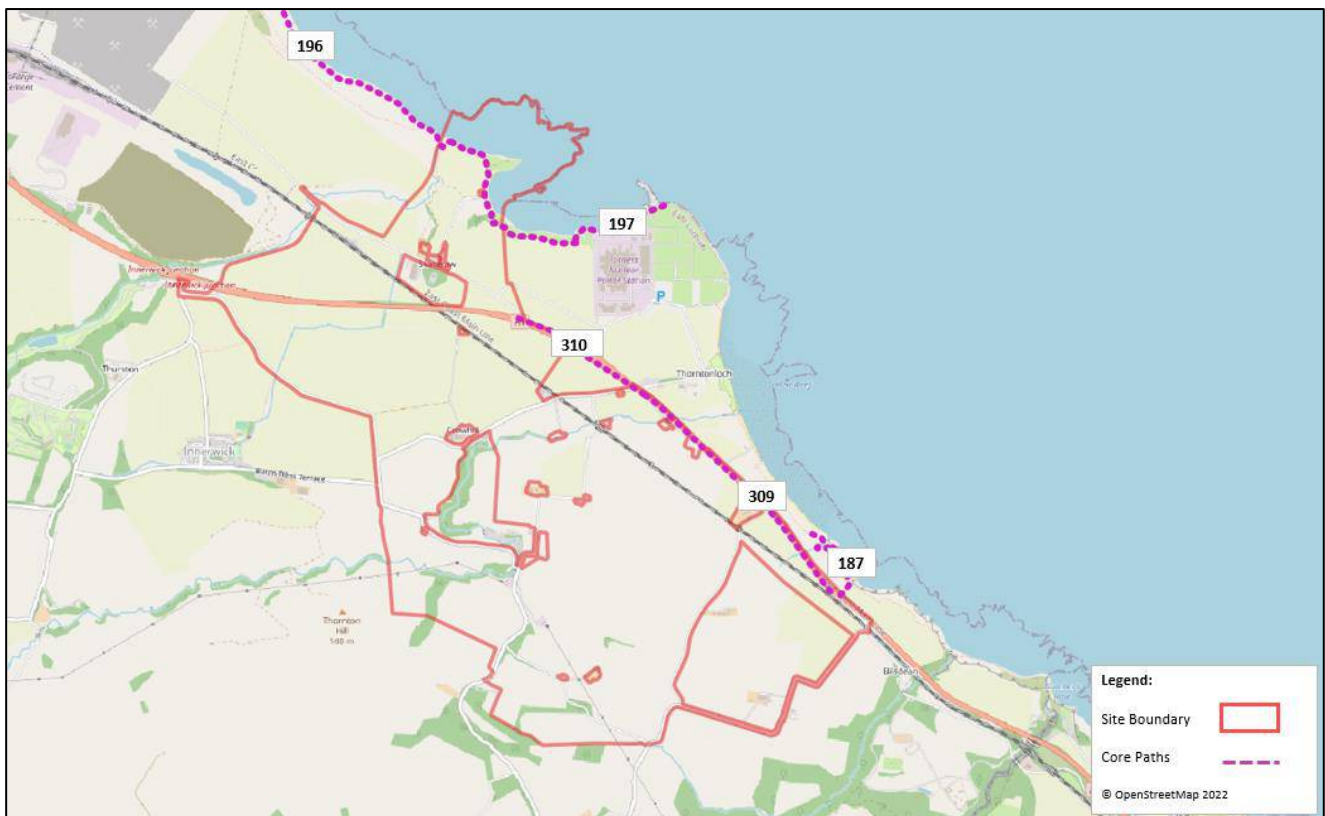


Figure 4 Core Path Network

A review of Sustran's National Cycle Network online mapping resource (The National Cycle Network - Sustrans.org.uk) shows that National Cycle Route (NCR) 76 is located within the site and comprises both on-road and off-road cycle route. NCR 76 connects the site to Edinburgh, Musselburgh, Haddington and Skateraw to the west. To the east of the site, the cycle route comprises an on-road route, which is not on the National Cycle Network, and connects to Eyemouth, Scotland and Berwick-upon-Tweed, England.

5.4 Road Access

Access to the different elements of the Proposed Development will be as follows:

- In order to access the onshore substation, construction vehicles will leave the A1 (T) at Innerwick junction and will continue towards the onshore substation site access via the U209 (north of Barnes Ness Terrace) .
- To access the cable landfall, construction vehicles will leave the A1 (T) at the A1 (T) / Skateraw priority junction and will continue towards the landfall site via the unclassified road to Skateraw.
- In relation to the cable route, there are several site access / egress locations which are as follows:
 - Cable (1 – 3) Sites – Construction vehicles will leave the A1 (T) at the A1 (T) / Skateraw priority junction and will continue towards the site access via the unclassified road to Skateraw;
 - Cable (4) Site – Construction vehicles will leave the A1 and access the Site via a newly formed left-in access junction from the A1. Vehicles exiting the site will egress via Skateraw and through the A1 (T) / Skateraw priority junction;
 - Cable (5) Sites – Construction vehicles will leave the A1 (T) at Innerwick junction and join the local road network. Approximately 70m after the Innerwick junction, vehicles will turn left towards Crowhill / Oldhamstocks. Approximately 180m along this road, vehicles will access the Cable (5) site via a newly upgraded access junction. Vehicles will access / egress the site at this location;
 - Cable (6 – 8) Sites – Construction vehicles will leave the A1 (T) at Innerwick junction and join the local road network. Approximately 70m after the Innerwick junction, vehicles will turn left towards Crowhill / Oldhamstocks and will continue along this road until they reach their respective accesses; and

- Cable (9) Site – Construction vehicles will leave the A1 (T) at Innerwick junction and join the local road network. Approximately 70m after the Innerwick junction, vehicles will turn left towards Crowhill / Oldhamstocks and will continue along this road and across Thornton Bridge towards the site access.

The location of the proposed access and egress locations are shown in Figure 5.

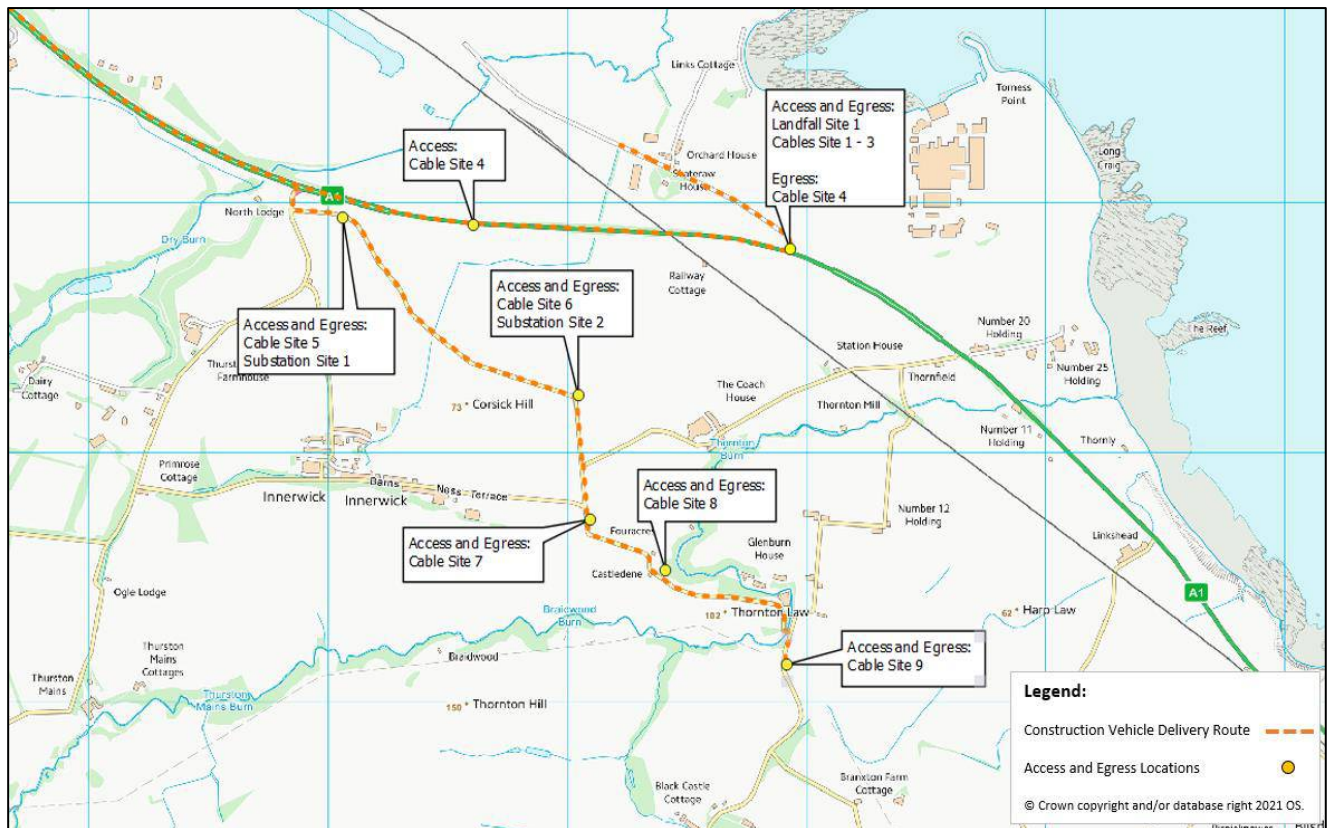


Figure 5 Access / Egress Locations for the various elements of the Proposed Development

The East Coast Main Line railway runs through the study area. Bridges are located along the C124 (near Blackberry Farm Paddocks) and the A1 (T), to the south of Skateraw to enable the railway to run underneath the roads.

It is proposed that permanent, surfaced single carriageway roads will be constructed to connect the onshore substation to the public highway which will include the provision of passing places.

Some sections of the public roads will require works such as permanent widening, resurfacing or passing places to enable access to the Proposed Development site. Such works will be agreed with ELC and TS.

The unnamed road at Skateraw is a two-way single carriageway which is subject to the national speed limit and bounded by mainly agricultural land.

The C122 leading from the A1 (T) to Innerwick and Crowhill (near Thurston Doggy Daycare) is a two-way single carriageway which is subject to the national speed limit.

The U209 (north of Barnes Ness Terrace) which forms a priority junction with the above road and is signed as Crowhill and Oldhamstocks appears to be a narrow two-way single carriageway road which is bound by agricultural land.

The C121, to the north of Border Belles garden centre, is a narrow two-way single carriageway which is bound by mainly hedgerows, trees and agricultural land.

The C124, near Blackberry Farm Paddocks, is a two-way single carriageway which is bound by mainly agricultural land. The road is deemed unsuitable for HGVs and a narrow bridge is located along the road to cross the East Coast Main Line.

C121 Barns Ness Terrace is a two-way single carriageway. The western section of C121 Barns Ness Terrace runs along the south of Innerwick village and is subject to a speed limit of 30mph. The eastern section of C121 Barns Ness Terrace is bound mainly by agricultural land and is subject to the national speed limit.

The A1 (T) provides strategic access to the Proposed Development and provides a connection between Edinburgh and London. In the vicinity of the study area, the A1 (T) is a two-way single carriageway which is subject to the national speed limit, which is enforced by the presence of speed cameras.

5.5 Existing Traffic Conditions

In order to assess the impact of the Proposed Development traffic on the study area Automatic Count (ATC) sites were established in November and December 2021 at the following locations:

1. Skateraw;
2. C122 (near Thurston Doggy Daycare);
3. U209 (north of Barns Ness Terrace);
4. C121 (north of Border Belles);
5. C124 (near Blackberry Farm Paddocks); and
6. C121 (Barns Ness Terrace).

Additional traffic data was obtained from existing traffic sources from the TS database. The TS database contains live traffic information. Available traffic data for 2019 was extracted as this traffic information would not be affected by Covid-19 traffic restrictions.

National Road Traffic Forecasts (NRTF) low growth factors were applied to the 2019 data to estimate 2021 flows (2019/2021 = 1.016).

The location for the TS traffic survey site which is closest to the site is as follows:

7. TS Count Number JTC00418 – A1 Thorntonloch.

The locations of the count sites are illustrated in Figure 6.



Figure 6 ATC Traffic Count Locations

Although the traffic count site along the A1 (T) (counter 7 in Figure 6) is to the east of the A1 (T) / Skateraw junction, it is assumed that the traffic volume at this location equates to traffic to the west of the Innerwick junction (counter 8 in Figure 6).

These sites were identified as being areas where sensitive receptors on the access route would be located. A full receptor sensitivity and effect review is prepared in the Traffic and Transport Chapter of the EIA Report (Volume 1: Chapter 12).

The traffic counters allowed the traffic flows to be split into vehicle classes and the data have been summarised into cars/ light goods vehicles (LGVs) and heavy goods vehicles (HGVs) (all goods vehicles >3.5 tonnes gross maximum weight).

Table 1 summarises the 24-hour average daily traffic data collected at the count sites.

Table 1 24-hour Average Traffic Data (2021)

No.	Survey Location	Source	Cars & LGVs	HGV	Total
1	Skateraw	ATC	125	49	174
2	C122 (near Thurston Doggy Daycare) ³	ATC	1419	424	1843
3	U209 (north of Barns Ness Terrace)	ATC	110	26	137
4	C121 (north of Border Belles)	ATC	94	34	128
5	C124 (near Blackberry Farm Paddocks)	ATC	98	44	143
6	C121 (Barns Ness Terrace)	ATC	93	45	137
7	A1 (T) Thorntonloch	TS	10,134	1,627	11,760
8	A1 (T) west of Innerwick Junction	TS	10,134	1,627	11,760

³ Please note construction activities were ongoing at the Neart na Gaoithe, and were recorded at this location. Construction activities have therefore been included in the baseline flows.

The ATC sites used to provide traffic volume data were also used to collect speed statistics. The two-way five-day average and 85th percentile speeds observed at the count locations are summarised in Table 2.

Table 2 Speed Summary MPH

No.	Survey Location	Source	Mean Speed	85 th ile Speed	Speed Limit
1	Skateraw	ATC	28.9	38.6	60.0
2	C122 (near Thurston Doggy Daycare)	ATC	26.2	30.4	60.0
3	U209 (north of Barns Ness Terrace)	ATC	37.0	45.0	60.0
4	C121 (north of Border Belles	ATC	29.6	37.1	60.0
5	C124 (near Blackberry Farm Paddocks)	ATC	35.0	44.6	60.0
6	C121 (Barns Ness Terrace)	ATC	35.7	45.9	60.0
7	A1 (T) Thorntonloch*	TS	48.5	57.0	60.0
8	A1 (T) west of Innerwick Junction**	TS	-	-	-

* 2021 two-way seven-day average and 85th percentile speeds

**There is no speed data available at count location no. 8, as this is an estimated count location based on traffic flows sourced from count location 7

The speed survey data indicates that there is compliance with the current speed limits within the study area.

5.6 Accident Review

Road traffic accident data for the five-year period commencing 01 January 2016 through to the 31 December 2020 was obtained from the online resource crashmap.co.uk which uses data collected by the police about road traffic crashes occurring on British roads.

The statistics are categorised into three categories, namely “Slight” for damage only incidents, “Serious” for injury accidents and “Fatal” for accidents that result in a death.

A summary analysis of the incidents indicates that:

- A total of 14 accidents were recorded within the study area roads within the five year period;
- Of those, 10 were classified as slight, four as serious and none were recorded as a fatality;
- A total of 13 accidents were recorded along the A1 (T), while one accident was recorded along an unnamed road approximately 300m north west of Bilsdean;
- A total of three of the recorded accidents involved HGVs. Two incidents were recorded as slight and occurred at A1 (T) / Torness Power Station junction and the other occurred along the A1 (T), to the north of the Pet Crematorium. One incident involving HGVs was recorded as serious and occurred at the A1 (T) / C124(near Blackberry Farm Paddocks) priority junction;
- Four accidents were recorded along the A1 (T) in the vicinity of the Torness Power Station, which were all classified as slight;
- A total of two accidents along the A1 (T) resulted in child casualties; and
- It should be noted that two of the recorded accidents along the A1 (T) did not include vehicle type information.

5.7 Baseline Traffic Conditions

Construction of the Proposed Development could commence during 2025 if consent is granted and is anticipated to take up to 40 months depending on weather conditions and ecological considerations. For the purpose of the TA, it is proposed that future year which is assessed as the future year baseline will be 2026, as it is anticipated that the peak construction period is anticipated to occur in this year.

To assess the likely effects during the construction and typical operational phase, base year traffic flows were determined by applying a NRTF low growth factor to the surveyed traffic flows.

The NRTF low growth factor for 2021 to 2026 is 1.027. These factors were applied to the 2021 survey data to estimate the 2026 Base traffic flows shown in Table 3. This will be used in the Construction Peak Traffic Impact Assessment.

Table 3 Baseline 2026 24-hour Average Traffic Data

Survey Location	Cars & LGVs	HGV	Total
Skateraw	128	50	179
C122 (near Thurston Doggy Daycare)	1457	435	1893
U209 (north of Barns Ness Terrace)	113	27	141
C121 (north of Border Belles	97	35	131
C124 (near Blackberry Farm Paddocks)	101	45	147
C121 (Barns Ness Terrace)	96	46	141
A1 (T) Thorntonloch	10407	1671	12078
A1 (T) west of Innerwick Junction	10407	1671	12078

6 Trip Generation and Distribution

6.1 Construction Phase

6.1.1 Trip Derivation

Average monthly traffic flow data was used to establish the construction trips associated with the Proposed Development. These trip estimates were provided by SSE Renewables and are based upon their experience from similar projects.

Trip generation estimates associated with each element of the Proposed Development is provided in Appendix B of this TA.

6.1.2 Distribution of Construction Trips

The trip estimates have been based upon first principle estimates of traffic movements to and from the site, having established the likely volumes of construction materials, resources and components.

It is proposed that material associated with the construction phase of the Proposed Development will be sourced from the Central Belt and will be delivered to the site via the A1 (T).

All staff are expected to arrive to the site from the north, along the A1 (T).

The Port of Entry (PoE) for any abnormal loads will be the Port of Dundee. Abnormal load deliveries will subsequently travel to the site via East Dock Street, Kingsway East, A90, M90, A720 and the A1 (T) towards the site.

The trip estimates have been assigned to the proposed construction programme to allow the identification of the peak of construction traffic to be established. The construction programme is provided in Appendix C.

The peak of construction traffic activity was identified as being Month 14 of the programme. The traffic associated with this month was then assigned to the study area network using the distribution of traffic described above.

The peak traffic flows associated with the Proposed Development's construction phase results in an average of 669 movements per day (335 trips in and 335 trips out), of which 522 would be made by light vehicles (261 inbound and 261 outbound) and 147 by HGV (74 inbound and 74 outbound).

The construction traffic was compared against the future baseline traffic to estimate the increase in traffic associated with this phase of the Proposed Development. Table 4 illustrates the potential traffic impact at the peak of construction activity.

Table 4 Peak Construction Traffic

Survey Location	Cars & LGVs	HGV	Total
Skateraw	262	59	321
C122 (near Thurston Doggy Daycare)	230	85	315
U209 (north of Barns Ness Terrace)	170	52	222
C121 (north of Border Belles	0	0	0
C124 (near Blackberry Farm Paddocks)	0	0	0
C121 (Barns Ness Terrace)	0	0	0
A1 (T) Thorntonloch	0	0	0
A1 (T) west of Innerwick Junction	522	147	669

Based on an assumption of 22 working days per month.

6.2 Committed Developments

During the Scoping Opinion stage ELC's response regarding Roads and Transport noted that there are no other developments or infrastructure schemes to be taken into account when considering potential cumulative traffic and transport impacts other than Neart na Gaoithe construction activities.

A review of the Neart na Gaoithe development's website indicates that it is anticipated that full commissioning of Neart na Gaoithe is expected to be completed in 2023. Meanwhile it is anticipated that construction of the Proposed Development will commence in 2025, should planning be granted in 2022. It can be reasonable concluded that Neart na Gaoithe will be fully commissioned prior to construction activities commencing at the Proposed Development. While the transport impacts associated with Neart na Gaoithe will not be assessed as part of the cumulative assessment, the traffic activities associated with Neart na Gaoithe are captured in the baseline traffic flows as noted in Table 1.

Crystal Rig IV Wind Farm was granted planning permission for up to 11 wind turbines, with a maximum tip height of up to 200m since the Scoping Opinion was issued (October 2020). Traffic flows associated with the consented Crystal Rig IV Wind Farm have not been included in the 2026 Baseline Flows as the inclusion of further traffic flows in the baseline will dilute the potential impact that the Berwick Bank OnTW proposals will have. This approach is considered to be an overly robust assessment.

In order to inform the planning authorities of possible issues if Crystal Rig IV Wind Farm was to be constructed concurrently with the Proposed Development, a combined sensitivity review will be undertaken as part of the cumulative assessment in Volume 1 Chapter 12.

The Eastern Link Project proposals (Northern Point of Connection Converter Station and Cables and Northern Point of Connection Substation) and Branxton Grid Substation developments are to comprise a new substation, overhead line, converter station, underground cables and marine cables near Torness, East Lothian. The planning submission for the Branxton Grid Substation is withdrawn, however it is expected to be resubmitted in the future, while a planning submission for the Eastern Link Project's proposals are in the planning system. While these planning applications have not been consented and are not considered committed developments, they are examined within the sensitivity review in Volume 1: Chapter 12 at the request of the Applicant in order to inform the planning authorities of possible issues if the Eastern Link Project is constructed simultaneously with the Proposed Development.

It should be noted that any crossover of traffic with the Proposed Development's flows would be addressed via an overarching traffic management plan.

The use of NRTF growth factors for background traffic is considered robust for addressing smaller, non-significant traffic generation caused by smaller developments within the study area.

6.3 Decommissioning Phase

Prior to decommissioning of the site, a traffic assessment will be undertaken and appropriate traffic management procedures followed.

The decommissioning phase would result in fewer trips on the road network than the construction or operational phases as it is likely that elements of infrastructure such as access tracks would be left in place and structures may be broken up onsite to allow a reduced number of HGVs.

7 Traffic Impact Assessment

7.1 Construction Impact

The peak month traffic data was combined with the future year (2026) traffic data to allow a comparison between the baseline results to be made. The increase in traffic volumes is illustrated in percentage increases for each class of vehicle. This is illustrated in Table 5.

Table 5 2026 Peak Month Daily Traffic Data

Survey Location	Cars & LGVs	HGV	Total	Cars & LGV s % Increase	HGV % Increase	Total Traffic % Increase
Skateraw	390	109	500	204.1%	117.2%	179.6%
C122 (near Thurston Doggy Daycare)	1687	520	2208	15.8%	19.5%	16.6%
U209 (north of Barns Ness Terrace)	283	79	363	150.5%	194.0%	157.6%
C121 (north of Border Belles)	97	35	131	0.0%	0.0%	0.0%
C124 (near Blackberry Farm Paddocks)	101	45	147	0.0%	0.0%	0.0%
C121 (Barns Ness Terrace)	96	46	141	0.0%	0.0%	0.0%
A1 (T) Thorntonloch	10407	1671	12078	0.0%	0.0%	0.0%
A1 (T) west of Innerwick Junction	10929	1818	12747	5.0%	8.8%	5.5%

Please note minor variances may occur due to rounding.

The total traffic movements are predicted to increase by more than 30% along Skateraw and U209 (north of Barns Ness Terrace).

The table shows that traffic movements will increase by a total of 179.6% and the HGV movements are predicted to increase by 117.2% along the road leading to Skateraw. Whilst these increases are statistically significant, they are generally caused by relatively low total and HGV flows on this road which will see an additional 262 Cars & LGV and 59 HGV daily journeys during the peak. This represents a total of approximately 13 inbound trips every hour which is not considered overly significant in terms of overall traffic flows.

Along the U209 (north of Barns Ness Terrace) it is anticipated that traffic movements will increase by a total of 157.6% and the HGV movements will increase by 194.0%. Although these increases are statistically significant, they are caused by relatively low total and HGV flows on this road which will see an additional 170 Cars & Lights and 52 HGV daily journeys during the peak. This represents a total of approximately seven inbound Car & LGV trips and approximately two HGV trips every hour which is not considered significant in terms of overall traffic flow terms.

It should also be noted the construction phase is transitory in nature and the peak of construction activities is short-lived.

A review of existing road capacity has been undertaken using the Design Manual for Roads and Bridges, Volume 15, Part 5 "The NESAs Manual". The theoretical road capacity has been estimated for each of the road links for a 12-hour period that makes up the study area. The results are summarised in Table 6.

Table 6 2026 Daily Traffic Data

Survey Location	2026 Baseline Flow	2026 Base + Development Flows	Theoretical Road Capacity (12hr)	Spare Road Capacity %
Skateraw	179	500	21600	98%
C122 (near Thurston Doggy Daycare)	1893	2208	21600	90%
U209 (north of Barns Ness Terrace)	141	363	3360	89%

Survey Location	2026 Baseline Flow	2026 Base + Development Flows	Theoretical Road Capacity (12hr)	Spare Road Capacity %
C121 (north of Border Belles)	131	131	3360	96%
C124 (near Blackberry Farm Paddocks)	147	147	19200	99%
C121 (Barns Ness Terrace)	141	141	3360	96%
A1 (T) Thorntonloch	12078	12078	28800	58%
A1 (T) west of Innerwick Junction	12078	12747	28800	56%

The results indicate there are no road capacity issues with the proposed development and ample spare capacity exists within the trunk and local road network to accommodate construction phase traffic.

8 Proposed Traffic Mitigation Measures

8.1 Construction Phase

The following measures are to be implemented through a Construction Traffic Management and Routeing Plan (CTMRP) during the construction phase of the Proposed Development:

- Proposed Works – including identified road improvements and bridge improvements;
- Route Assessment – including proposed site access, route condition survey, routeing management and details of vehicles accessing the site;
- Abnormal Load Assessment – including details on the abnormal loads to be delivered to the site, abnormal load delivery vehicles, vehicle routeing, escort strategy and contingency plan; and
- Traffic Impact Mitigation Measures – including measures for abnormal loads, such as advanced warning signage and providing information to the general public, measures for all traffic such as site induction briefings and each HGV delivery vehicle being individually marked.

A CTMRP is presented in Appendix D and contains full details of the proposed measures to be implemented during the construction phase of the Proposed Development. The measures outlined in the CTMRP will be agreed with ELC and TS prior to construction works commencing.

8.2 Abnormal Load Management Plan

There are a number of traffic management measures that could help reduce the effect of abnormal load deliveries.

All abnormal load deliveries would be undertaken at appropriate times (to be discussed and agreed with the relevant roads authorities and police) with the aim to minimise the effect on the local road network. It is likely that the abnormal load convoys would travel in the early morning periods, before peak times while general construction traffic would generally avoid the morning and evening peak periods.

The majority of potential conflicts between construction traffic and other road users will occur with abnormal load traffic. General construction traffic is not likely to come into conflict with other road users as the vehicles are smaller and road users are generally more accustomed to them.

Advance warning signs would be installed on the approaches to the affected road network. Information signage could be installed to help assist drivers and an example is illustrated in Figure 7. Flip up panels (shown in grey) would be used to mask over days where convoys would not be operating. When no convoys are moving, the sign would be bagged over by the Traffic Management contractor.

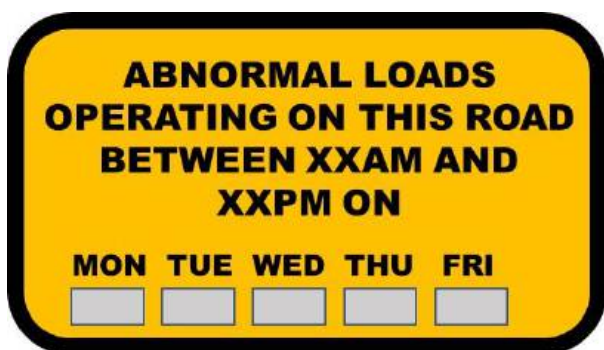


Figure 7 Example Information Sign

This signage will assist in helping improve driver information and allow other road users to consider alternative routes or times for their journey (where such options exist).

The location and numbers of signs would be agreed post consent and would form part of the wider Traffic Management Proposal for the Proposed Development.

The Abnormal Load Transport Management Plan would also include:

- Procedures for liaising with the emergency services to ensure that police, fire and ambulance vehicles are not impeded by the loads. This is normally undertaken by informing the emergency services of delivery times and dates and agreeing communication protocols and lay over areas to allow overtaking;
- A diary of proposed delivery movements to liaise with the communities to avoid key dates such as local events;
- A protocol for working with local businesses to ensure the construction traffic does not interfere with deliveries or normal business traffic; and
- Proposals to establish a construction liaison committee to ensure the smooth management of the project / public interface with the Applicant, the construction contractors, the local community, and if appropriate, the police forming the committee. This committee would form a means of communicating and updating on forthcoming activities and dealing with any potential issues arising.

8.3 Core Path Management Plan

Consideration will be given to pedestrians and cyclists alike due to potential interactions between construction traffic and users of the core path. These measures will be formulated into a Core Path Management Plan.

The principal contractor will ensure that speed limits are always adhered to by their drivers and associated subcontractors. This is particularly important within close proximity to the core path and at crossing points. Advisory speed limit signage will also be installed on approaches to areas where core path users may interact with construction traffic.

Signage will be installed on the site exit that makes drivers aware of local speed limits and reminding drivers of the potential presence of pedestrians and cyclists in the area. This will also be emphasised in weekly toolbox talks.

The British Horse Society has made recommendations on the interactions between HGV traffic and horses. Horses are normally nervous of large vehicles, particularly when they do not often meet them. Horses are flighty animals and will run away in panic if really frightened. Riders will do all they can to prevent this but, should it happen, it could cause a serious accident for other road users, as well as for the horse and rider.

The main factors causing fear in horses in this situation are:

- Something approaching them, which is unfamiliar and intimidating;
- A large moving object, especially if it is noisy;
- Lack of space between the horse and the vehicle;
- The sound of air brakes; and
- Anxiety on the part of the rider.

The British Horse Society recommends the following actions that will be included in the site training for all HGV staff:

- On seeing riders approaching, drivers must slow down and stop, minimising the sound of air brakes, if possible;
- If the horse still shows signs of nervousness while approaching the vehicle, the engine should be shut down (if it is safe to do so);
- The vehicle should not move off until the riders are well clear of the back of the HGV;
- If drivers are wishing to overtake riders, please approach slowly or even stop in order to give riders time to find a gateway or lay by where they can take refuge and create sufficient space between the

horse and the vehicle. Because of the position of their eyes, horses are very aware of things coming up behind them; and

- All drivers delivering to the site must be patient. Riders will be doing their best to reassure their horses while often feeling a high degree of anxiety themselves.

8.4 Public Information

Information on abnormal load deliveries would be provided to local media outlets such as local papers and local radio to help assist the public.

Information would relate to expected vehicle movements from the port of entry through to the site access junction. This will assist residents becoming aware of the movements and may help reduce any potential conflicts.

The Applicant would also ensure information was distributed through its communication team via the Project website, local newsletters and social media.

8.5 Operational Phase Mitigation

Site entrance roads will be well maintained and monitored during the operational life of the development. Regular maintenance will be undertaken to keep the site access track drainage systems fully operation and to ensure there are no run-off issues onto the public road network.

9 Summary & Conclusions

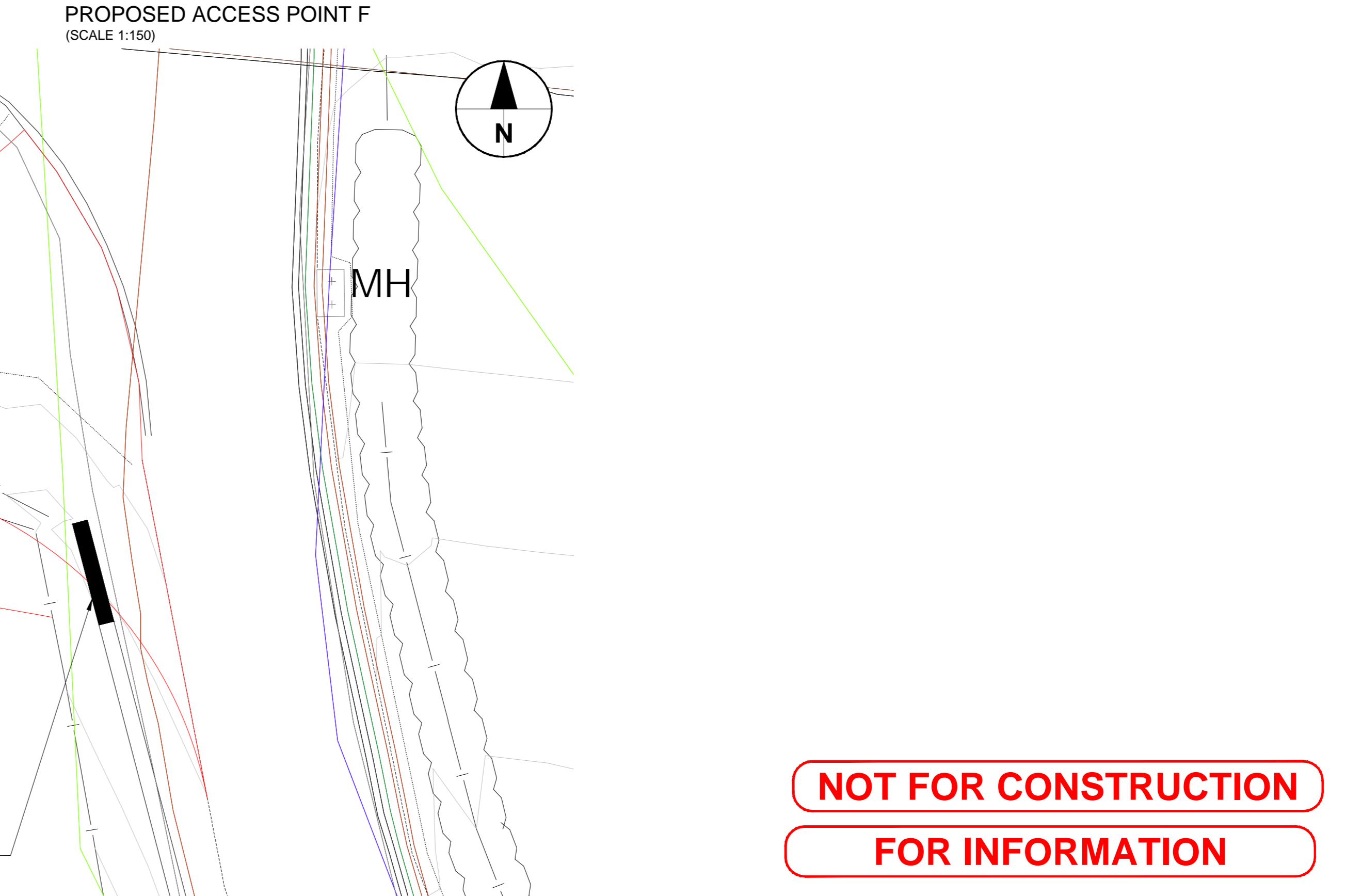
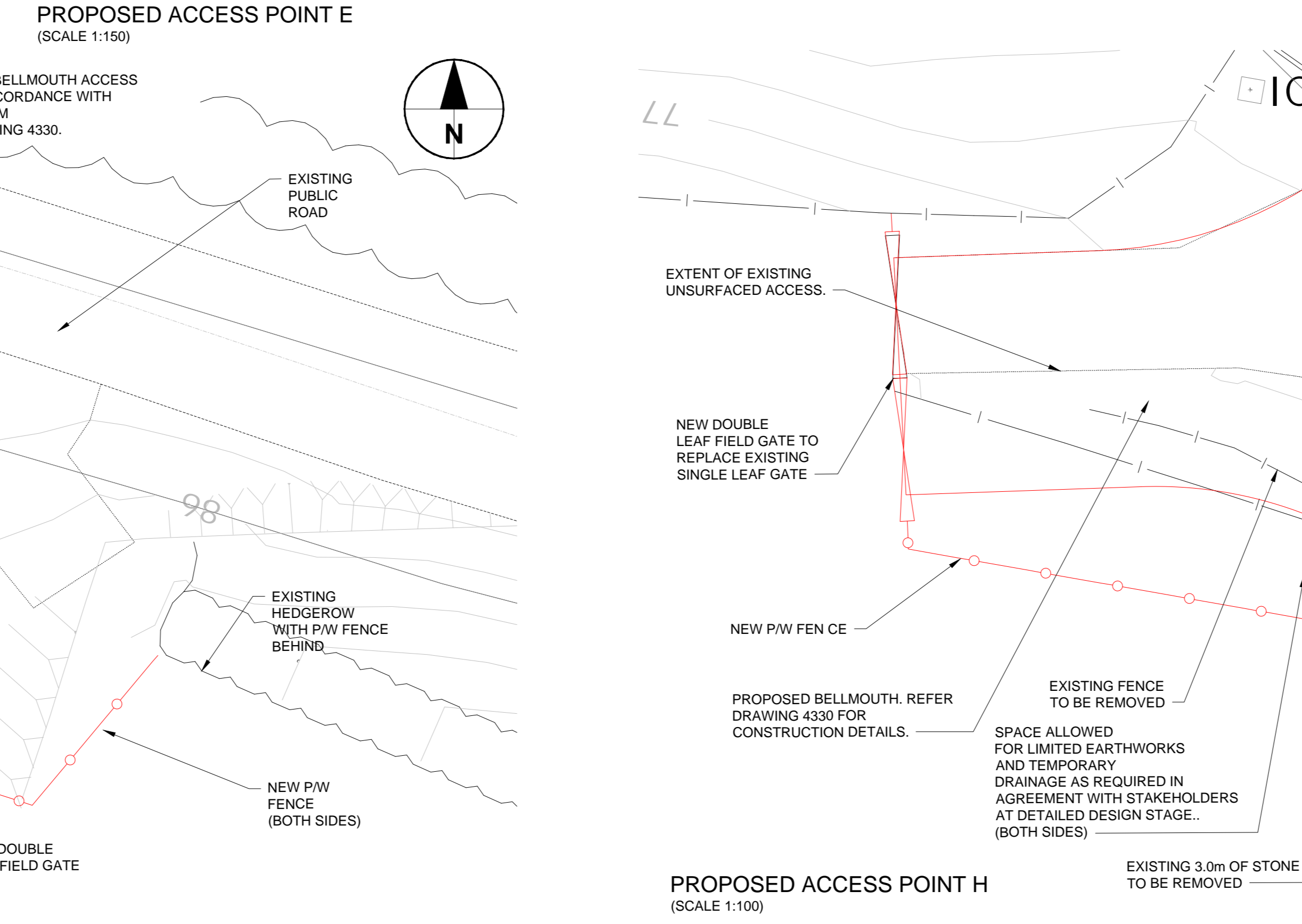
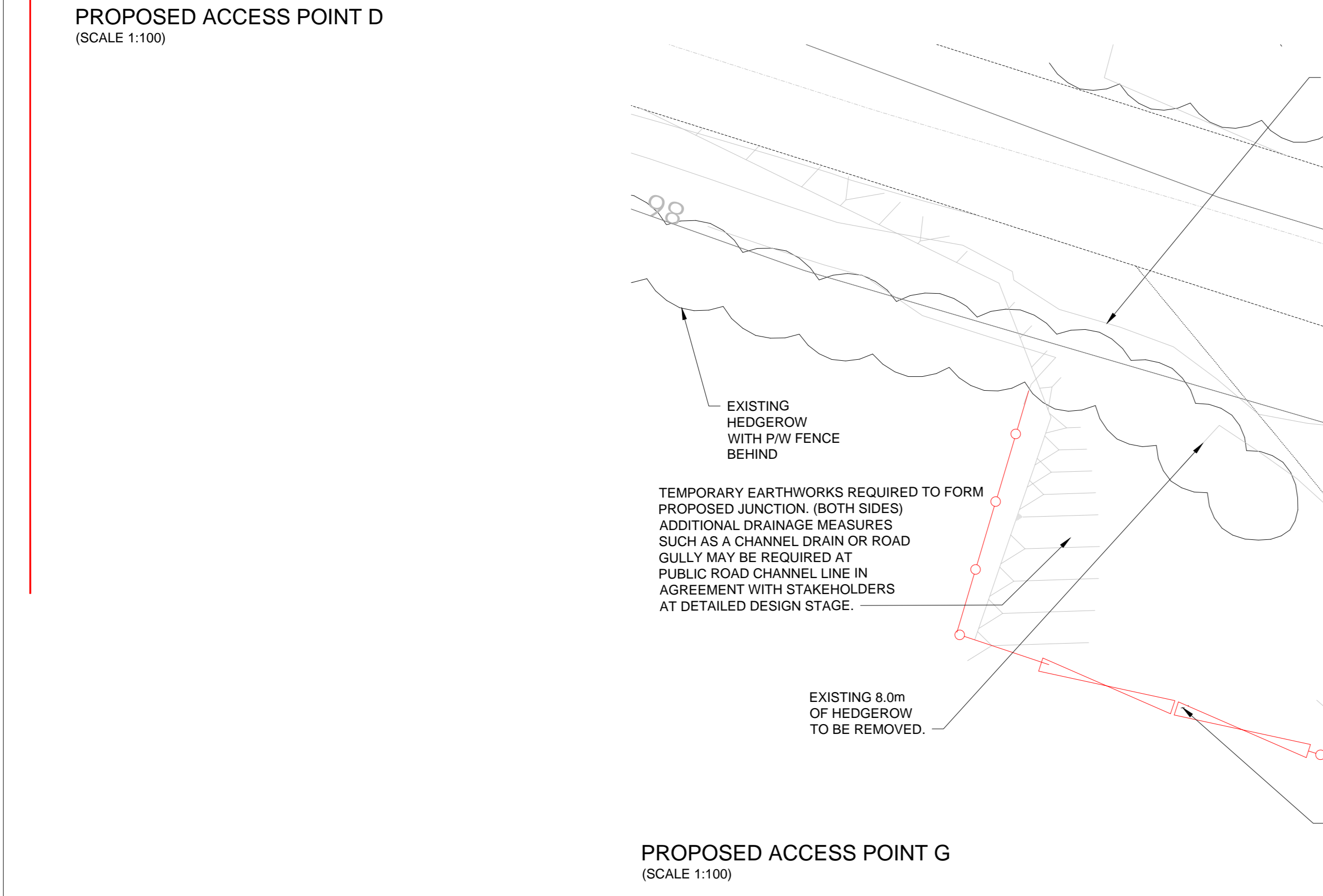
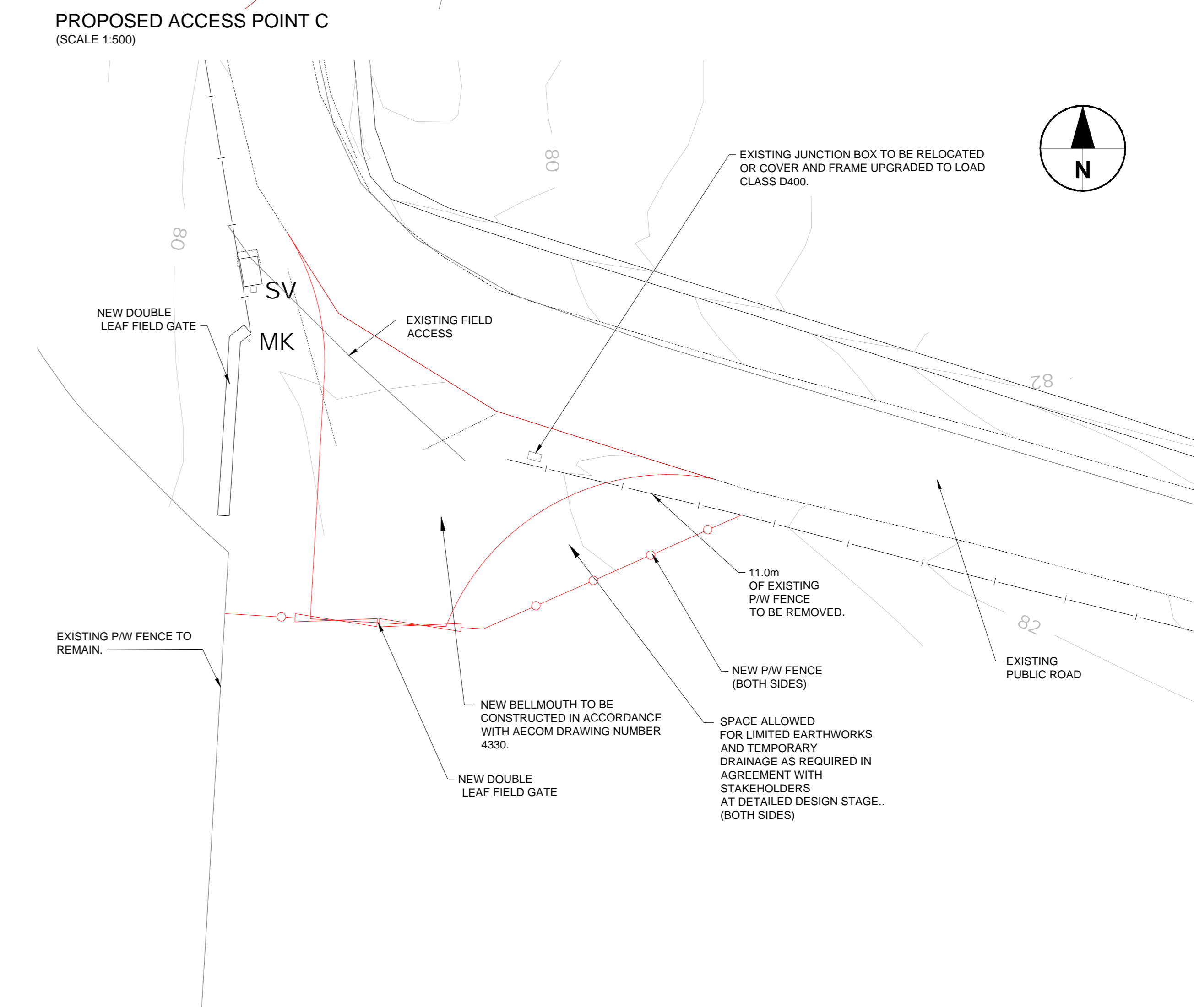
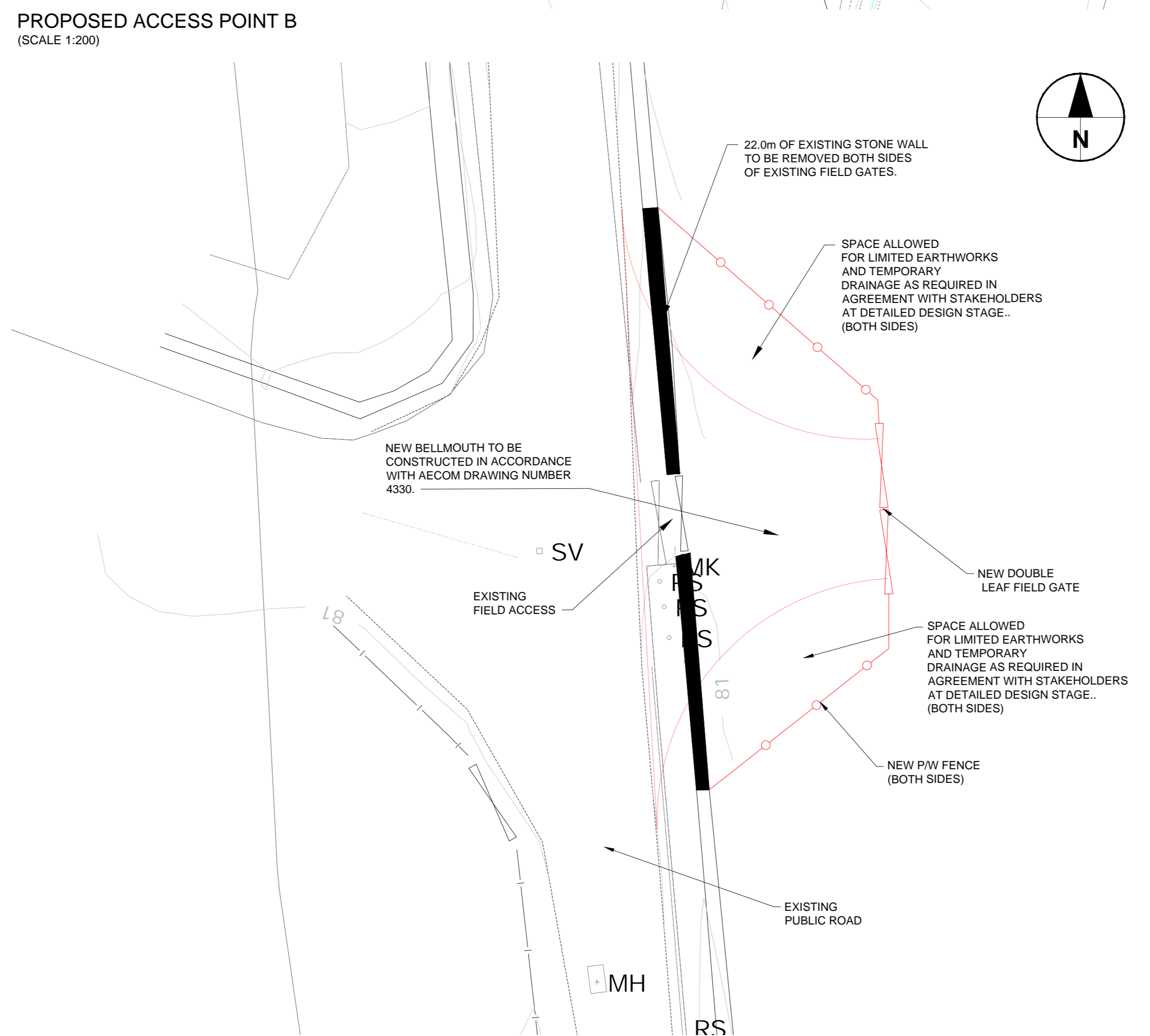
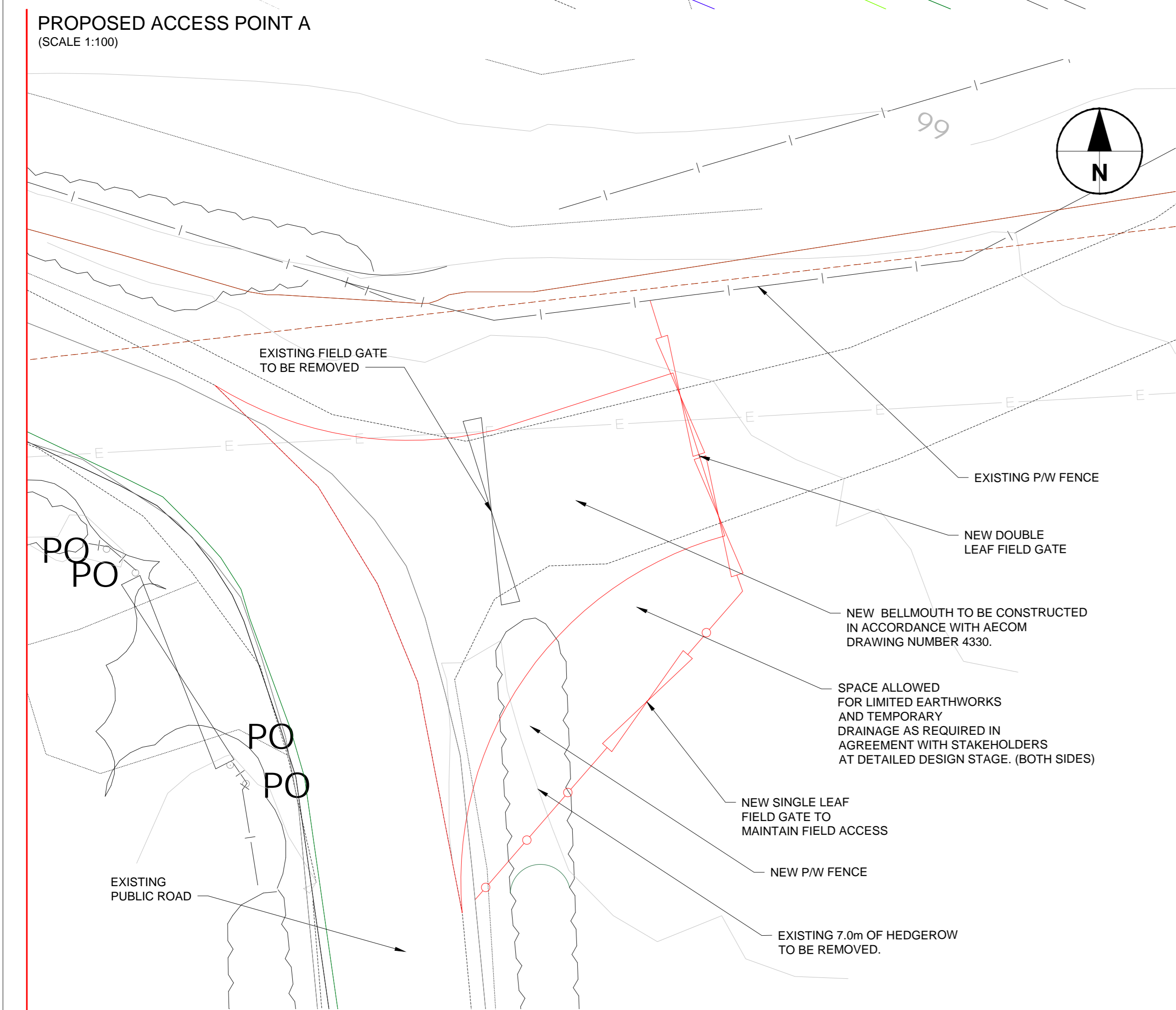
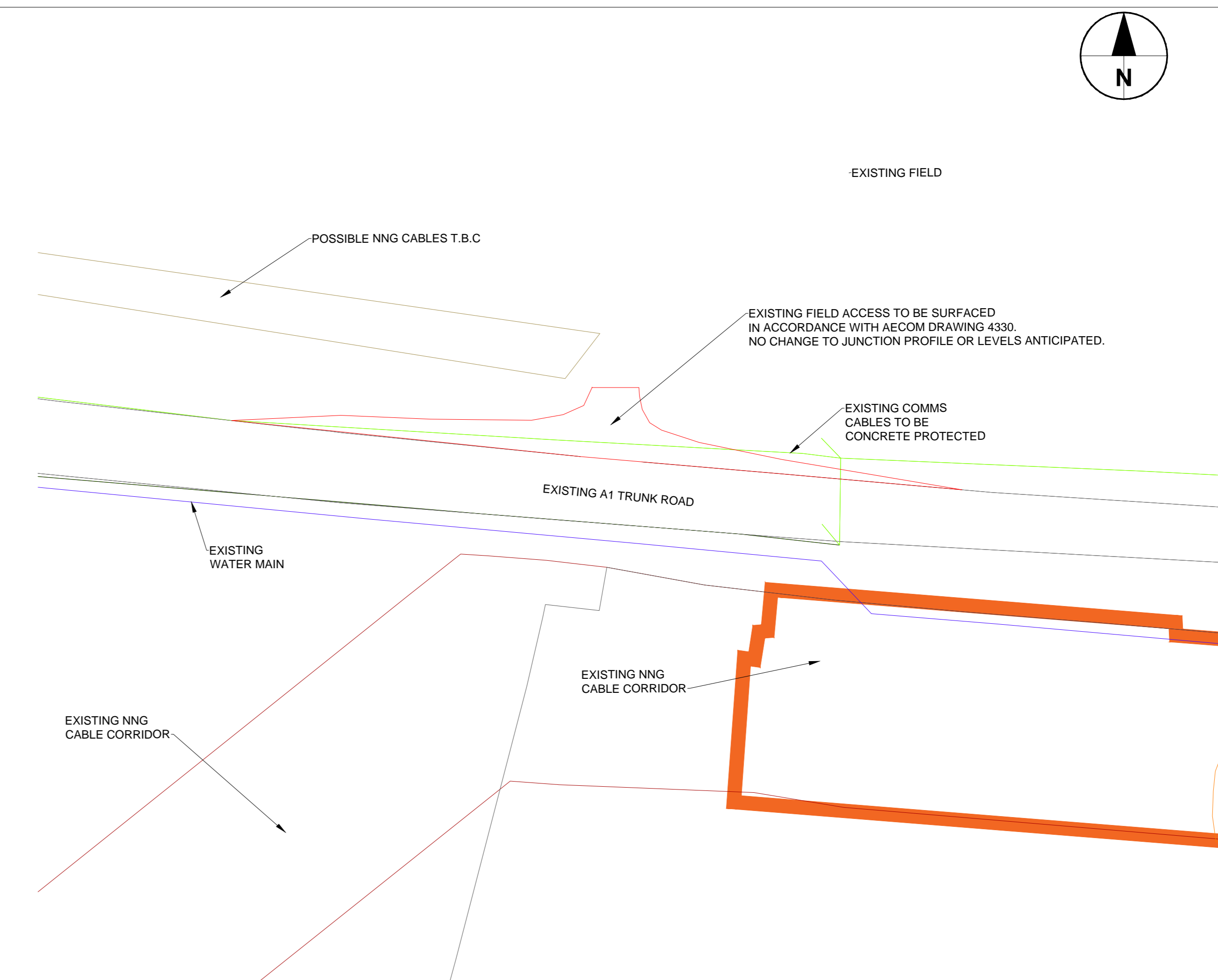
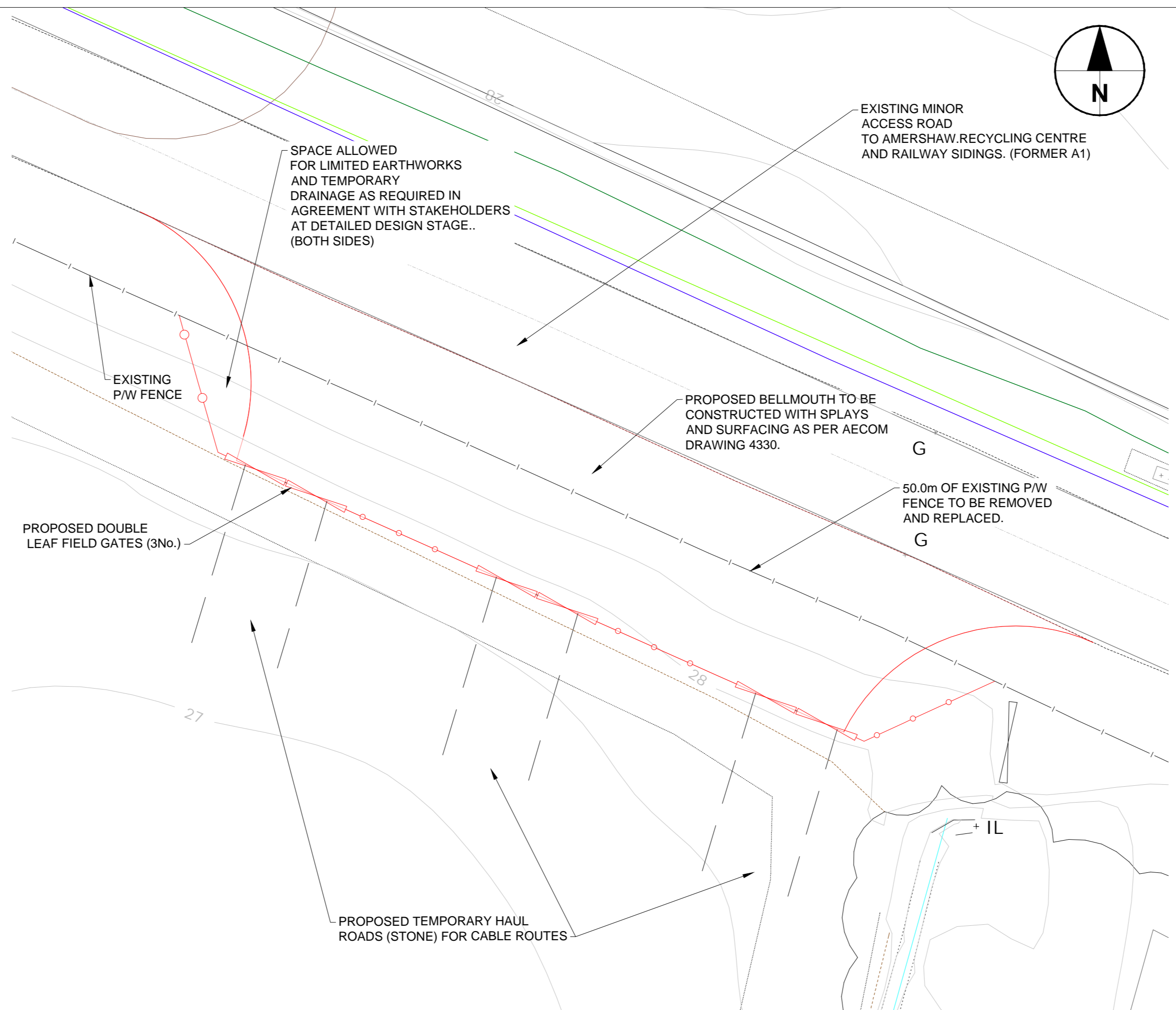
Pell Frischmann has been commissioned by ITP Energised (on behalf of SSE Renewables) to undertake a Transport Assessment for the OnTW associated with the proposed Berwick Bank Wind Farm which is to be located 33.5km offshore off the East Lothian and the Scottish Borders coastline.

The construction traffic would result in a temporary increase in traffic flows on the road network surrounding the Proposed Development. The maximum traffic effect associated with construction of the Proposed Development is predicted to occur in Month 14 of the programme. During this month, an average of 147 HGV movements is predicted per day and it is estimated that there would be a further 522 car and light van movements per day to transport construction workers to and from the Site.

A series of mitigation measures and management plans have been proposed to help mitigate and offset the impacts of both the construction and operational phase traffic flows.

No link capacity issues are expected on any of the roads assessed due to the additional movements associated with the Proposed Development. The effects of construction traffic are temporary in nature and are transitory.

Appendix A Access Junctions Indicative Layouts



NOT FOR CONSTRUCTION
FOR INFORMATION

AECOM

PROJECT
BERWICK BANK OFFSHORE WINDFARM ONSHORE CABLE ROUTE 1A

CLIENT
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 Aecom
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 Edinburgh
 EH3 5DA
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 Tel +44 (0)131 301 8600
 www.aecom.com

- Notes
- DRAWING TO BE READ IN CONJUNCTION WITH AECOM DRAWING NUMBERS 60646019-XX-00-DR-CE-4302-4309.
 - FOR BELLMOUTH CONSTRUCTION DETAILS REFER TO AECOM DRAWING NUMBER 60646019-XX-00-DR-CE-4330.
 - BELLMOUTH DESIGNS SUITABLE FOR PLANNING CONSENT PURPOSES ONLY. DETAILED JUNCTION DESIGN REVIEWS WILL BE REQUIRED WITH ALL STAKEHOLDERS AT DETAILED DESIGN STAGE.
 - LIMITED EARTHWORKS ARE ANTICIPATED AT ALL PROPOSED BELLMOUTH ARRANGEMENTS WITH THE EXCEPTION OF PROPOSED ACCESS POINT G AS INDICATED ON LAYOUT.

ISSUE/REVISION	DATE	DESCRIPTION	BY	CHKD

Key Plan

Purpose of Issue

FOR INFORMATION

Project Number
 60646019

Sheet Title
 ROUTE 1A PROPOSED ACCESS POINT BELLMOUTH ARRANGEMENTS

Sheet Number
 60646019-ACM-XX-00-DR-CE-4332

Scale: As shown @A0 Rev: 0

Appendix B Trip Generation

Cable Trip Information

Access C1	Category							Total	Note	Access Duration	Weekly Distribution																			
	Vehicle Type	Cable Route	Compound	Drums	HDD	Cable Joint Bay	Cars/LV				Substation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
HGV	948	146	15	0	8	0	-	1117	Total	20 weeks	Equal Distribution																			
Cars/LV	-	-	-	-	-	30	-	30	per day to Compound 1		Equal Distribution																			
Excavator/Crane	6	-	-	-	-	-	-	6	Total		3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3		
Dozer	2	-	-	-	-	-	-	2	Total		1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1		
Water Bouser	2	-	-	-	-	-	-	2	Total		1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1		
Dumper	4	-	-	-	-	-	-	4	Total		2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2		

Access C2	Category							Total	Note	Access Duration	Weekly Distribution (Not Including HDD Traffic)																Weekly Distribution (HDD Traffic)															
	Vehicle Type	Cable Route	Compound	Drums	HDD	Cable Joint Bay	Cars/LV				Substation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
HGV	381	0	10	734	8	0	-	1133	Total	16 weeks	Equal Distribution																60 61 61 61 30 30 31 31 31 31 31 31 61 61 61 61															
Cars/LV	-	-	-	-	-	50	-	50	per day to HDD Compounds 2a North and South		Equal Distribution																9															
Excavator/Crane	12	-	-	18	-	-	-	30	Total		6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9		
Dozer	2	-	-	-	-	-	-	2	Total		1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Water Bouser	2	-	-	-	-	-	-	2	Total		1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Dumper	4	-	-	-	-	-	-	4	Total		2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				

Access C3	Category							Total	Note	Access Duration	Weekly Distribution (Not Including HDD Traffic)																										
	Vehicle Type	Cable Route	Compound	Drums	HDD	Cable Joint Bay	Cars/LV				Substation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16										
HGV	0	0	0	0	0	0	-	0	Total	16 weeks (Cars/Vans/LVs only due to bridge restrictions)	-																										
Cars/LV	0	0	0	0	0	30	-	30	per day		Equal Distribution																										
Excavator/Crane	0	0	0	0	0	0	-	0	Total		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dozer	0	0	0	0	0	0	-	0	Total		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Water Bouser	0	0	0	0	0	0	-	0	Total		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dumper	0	0	0	0	0	0	-	0	Total		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Access C4	Category							Total	Note	Access Duration	Weekly Distribution (Not Including HDD Traffic)																									
	Vehicle Type	Cable Route	Compound	Drums	HDD	Cable Joint Bay	Cars/LV				Substation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
HGV	238	146	14	0	0	0	-	397	Total	20 weeks	Equal Distribution																									
Cars/LV	-	-	-	-	-	30	-	30	per day to Cable Compound 2		Equal Distribution																									
Excavator/Crane	24	-	-	0	-	-	-	24	Total		12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
Dozer	2	-	-	-	-	-	-	2	Total		1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Water Bouser	2	-	-	-	-	-	-	2	Total		1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dumper	4	-	-	-	-	-	-	4	Total		3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2

NOTES:

- The duration of access to the cable route at each location is for the installation of ducting and joint bays.
- The contractor may close up the main earworks in the route and leave cable joint bays exposed for installation and jointing
- Access for the cable landing and off shore HDD's are not allowed in the above
- All access excludes substation works

Access C8	Category							Total	Note	
Vehicle Type	Cable Route	Compound	Drums	HDD	Cable Joint Bay	Cars/LV	Substation			
HGV	220	102	0	200	8	0	-	529	Total	
Cars/LV							55	-	55	per day to compounds 6 and 7 and HDD 5 East Compound
Excavator/Crane	6	-	-	6	6	-	-	18	Total	
Dozer	2	2	-	-	-	-	-	4	Total	
Water Bouser	2	-	-	-	-	-	-	2	Total	
Dumper	4	3	-	-	-	-	-	7	Total	

Access Duration -	Weekly Distribution (Not Including HDD Traffic)																								Weekly Distribution (HDD Traffic)																									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
24 weeks (Including Braidwood Burn Burn to Branxton)	Equal Distribution																								11 11 11 11 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 11 11 11 11																									
	Equal Distribution																								3 - 3																									
	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6																								
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1																								
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1																								
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2																									

Access C9	Category							Total	Note	Access Duration -	Weekly Distribution												
Vehicle Type	Cable Route	Compound	Drums	HDD	Cable Joint Bay	Cars/LV	Substation				1	2	3	4	5	6	7	8	9	10	11	12	
HGV	0	0	0	0	0	0	-	0	Total	12 weeks	Equal Distribution												
Cars/LV							30	-	30		per day to compounds 7	Equal Distribution											
Excavator	4	2	-	-	0	-	-	6	Total		1	1	1	-	-	-	-	-	-	1	1	1	
Dozer	2	2	-	-	-	-	-	4	Total		2	-	-	-	-	-	-	-	-	-	-	2	
Water Bouser	2	2	-	-	-	-	-	4	Total		1	-	-	-	-	-	-	-	-	-	-	1	
Dumper*	0	70	-	-	-	-	-	70	For stone required to form new access tracks and 30 x 20m compound, maximum load assumed 16te.		6	6	6	6	6	6	6	6	6	6	5	5	

NOTE 130 loads of CBS required for the installation of the proposed cable circuits.
AECOM have assumed that this will be transported to site via the Scottish Power Branxton Substation common access route.

Note: Assumed 20 Car / LGV one-way trips per day for electrical installation phase.

Substation Trips

Access C5 & C6																	
<u>Substation</u>	<u>Category</u>															<u>Total</u>	<u>Note</u>
<u>Vehicle Type</u>	<u>General</u>	<u>Capping Layer</u>	<u>Platform Make Up</u>	<u>Finishes</u>	<u>Fences / Gates</u>	<u>Drainage</u>	<u>Interceptor / Tanks</u>	<u>Foul Drainage</u>	<u>Utility Services</u>	<u>M&E</u>	<u>Electrical Equipment</u>	<u>Foundations</u>	<u>Floor / Slabs</u>	<u>Buildings</u>	<u>Construction Compound</u>		
HGV		3,042	5,066	940	80	359	10	24	40	60	45	385	670	488	500	11,709	Total
Cars/LV	60															60	per day
Abnormal Loads	8															8	Total
																-	
																-	
																-	

Programme (490 days- 98 weeks)								
Average HGV vehicles within programme periods allowing for overlap of activities.								
Activity	Start	Duration (weeks)	Vehicles / Wk			Vehicles / Day		
			Total Movements	C5 Access (50:50 Split)	C6 Access (50:50 Split)	Total Movements	C5 Access (50:50 Split)	C6 Access (50:50 Split)
Site Setup	wk 1	8	32	16	16	6	3	3
Bulk Capping	wk4	12	254	127	127	51	26	26
Construction	wk20	24	182	91	91	37	19	19
Fit Out	wk44	24	175	88	88	35	18	18
Demob	wk 96	2	125	63	63	25	13	13

Increase of 10% to allow for external surface/foul water drainage

NOTES:

- Traffic numbers are one way trip only
- Traffic is assumed to be to one entrance/exit
- Personnel cars /vans daily average in addition to HGV
- The numbers relate to the HVAC and HVDC substation (does not account for ongoing changes for the OFTO split)

Landfall Trips

Phase	Duration	Vehicle Type	No of 2 way movements per day
Site Establishment	15 days	HGV Tippers, stone supply	12
		Excavator	1
		Road Roller	2
		Cars	4
Mobilisation	10 days	HGV Flat Bed	3
		HGV Articulated	2
		Transit Type Van	6
		Cars	4
HDD Pre-Construction	16 days	HGV Articulated	2
		Transit Type Van	8
		Cars	4
HDD Phase	24 months	HGV Articulated	2
		Transit Type Van	8
		Tractor/Tanker, water supply	as Required
		Cars	4
HDD De-mobilisation	20 days	HGV Flat Bed	3
		HGV Articulated	2
		Transit Type Van	8
		Cars	4
Site Reinstatement	20 days	HGV Tipper, stone removal	12
		Excavator	1
		Cars	4

Note: Assumed 10 Car / LGV one-way trips per day for offshore cable pull-in.

Construction Traffic Profile

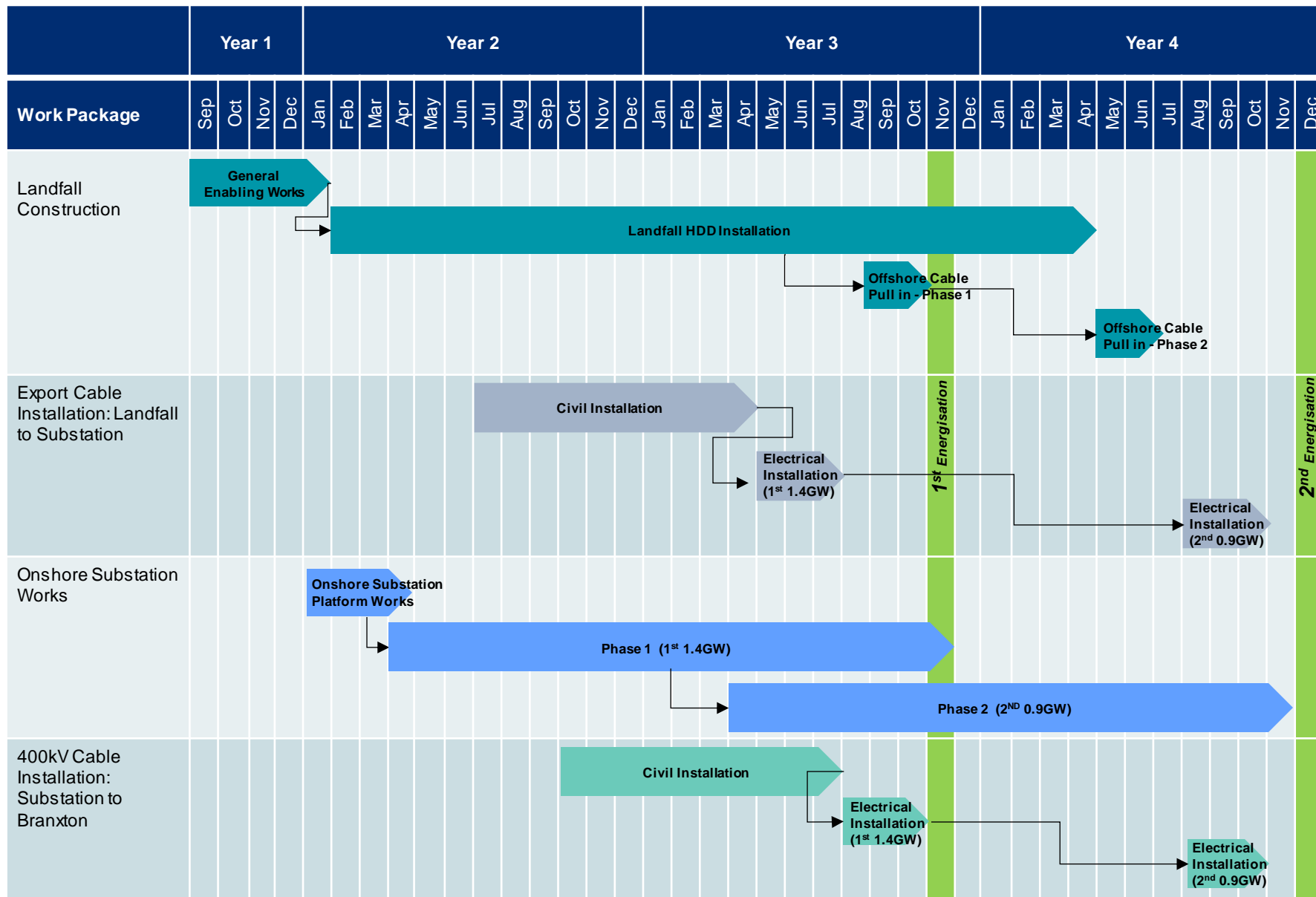
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
		Year 1								Year 2											
		Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Landfall Construction	HGV Car/LGV			330	110	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
Export Cable Installation: Landfall to Substation Cables 1 - 6	HGV Car/LGV			88	220	264	264	264	264	264	264	264	264	264	264	264	264	264	264	264	264
Onshore Substation Works	HGV Car/LGV					256	2288	2032	2032		1452	1452	1452	1452	1452	1452	1400	1400	1400	1400	1416
400kV Cable Installation: Substation to Branxton Cables 7 - 3	HGV Car/LGV					2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640
															414	357	415	223	166	166	166
															2420	2420	2420	2420	2420	2420	2420

		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
		Year 3								Year 4											
		May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Landfall Construction	HGV Car/LGV	44	44	44	44	44	44		44	44	44	110	286	0	0	0					
Export Cable Installation: Landfall to Substation Cables 1 - 6	HGV Car/LGV	264	264	264	704	704	704		264	264	264	264	88	440	440	440					
Onshore Substation Works	HGV Car/LGV	0	0	0													0	0	0		
400kV Cable Installation: Substation to Branxton Cables 7 - 3	HGV Car/LGV	880	880	880													880	880	880		
		1400								500											
		2640								2640											
		227	277	57	0	0	0										0	0	0		
		3740	3740	1320	880	880	880										880	880	880		

Please note: The Indicative Construction Traffic Profile comprises Cable trips, Substation Trips and Landfall Trips which were allocated to the Onshore Construction Outline Programme (Appendix C) in order to calculate a robust peak month. While some months show that there are no traffic movements, it is anticipated that there will be construction trips in these months which is similar to or less than the preceding or following months' trips. This is because total construction trips were compressed to calculate a robust peak month.

Appendix C Construction Programme

BERWICK BANK: ONSHORE CONSTRUCTION OUTLINE PROGRAMME



Appendix D Construction Traffic Management and Routeing Plan

Pell Frischmann

Berwick Bank Offshore Wind Farm Onshore Transmission Works

Construction Traffic Management & Routing Plan

November 2022

105045

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Appendices

Appendix A Transformer Vehicle & Swept Path Assessment

1 Introduction

1.1 Purpose of the Report

Pell Frischmann (PF) has been commissioned by ITP Energised (on behalf of SSE Renewables) to undertake a Construction Traffic Management & Routing Plan (CTMRP) for the Onshore Transmission Works (OnTW) (the Proposed Development) associated with the proposed Berwick Bank Wind Farm which is to be located 33.5km offshore of the East Lothian and the Scottish Borders coastline.

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The report identifies the key transport management and routing associated with the Proposed Development, including the route for abnormal loads associated with the OnTW.

As noted in the application documents, the following measures are to be considered in the framework CTMRP:

- Proposed Works – including identified road improvements and structure improvements (where required);
- Route Assessment – including proposed site access, route condition survey, routeing management and details of vehicles accessing the site;
- Abnormal Load Assessment – including details on the abnormal loads to be delivered to the site, abnormal load delivery vehicles, vehicle routeing, escort strategy and contingency plan; and
- Traffic Impact Mitigation Measures – including measures for abnormal loads, such as advanced warning signage and providing information to the general public, measures for all traffic such as site induction briefings and each HGV delivery vehicle being individually marked.

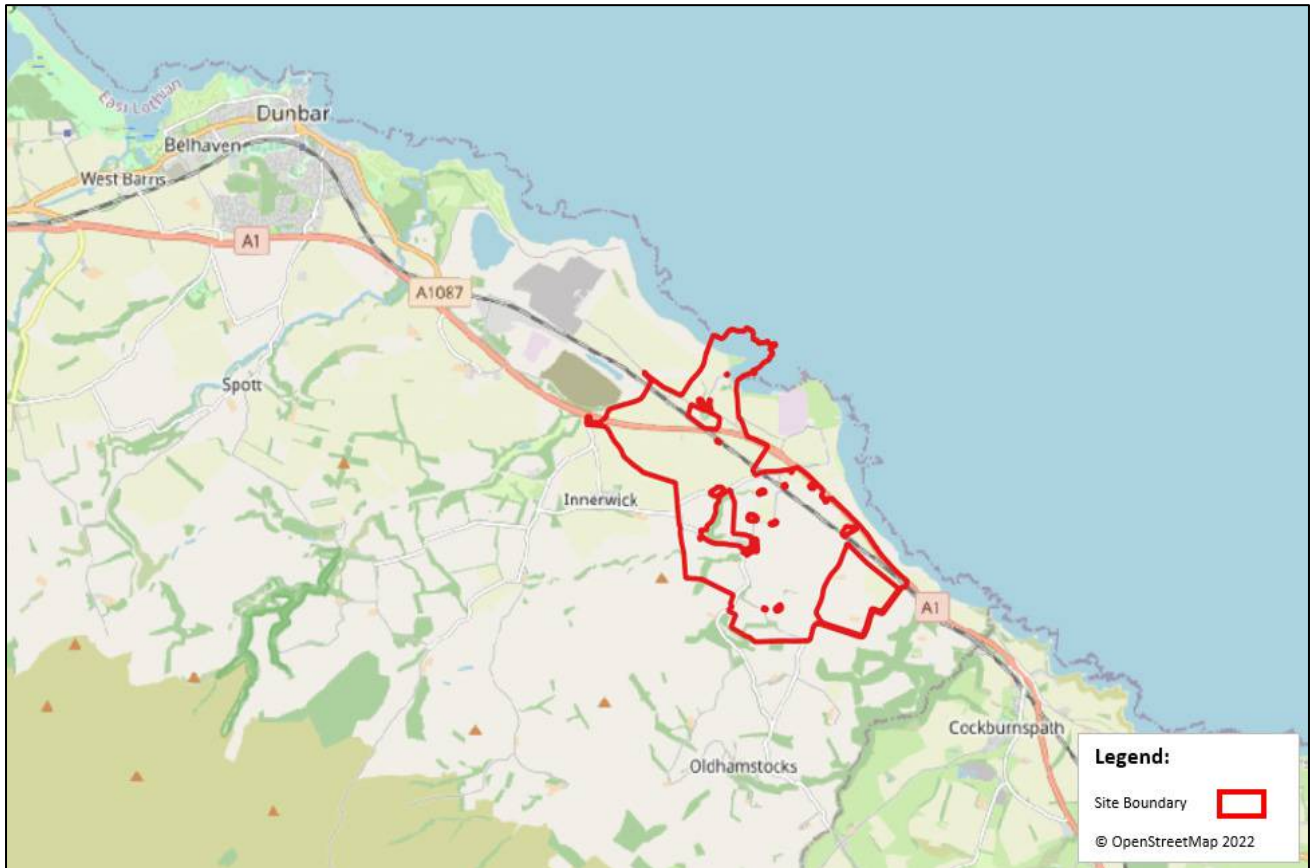
The measures outlined in this framework document will be agreed with East Lothian Council (ELC) and Transport Scotland (TS) prior to construction works commencing. A finalised CTMRP can then be secured by planning condition.

2 Proposed Development Description

2.1 Site Location

The Proposed Development site is shown in Figure 1. The site is located to the east of Dunbar and Innerwick in East Lothian.

Figure 1 Site Location



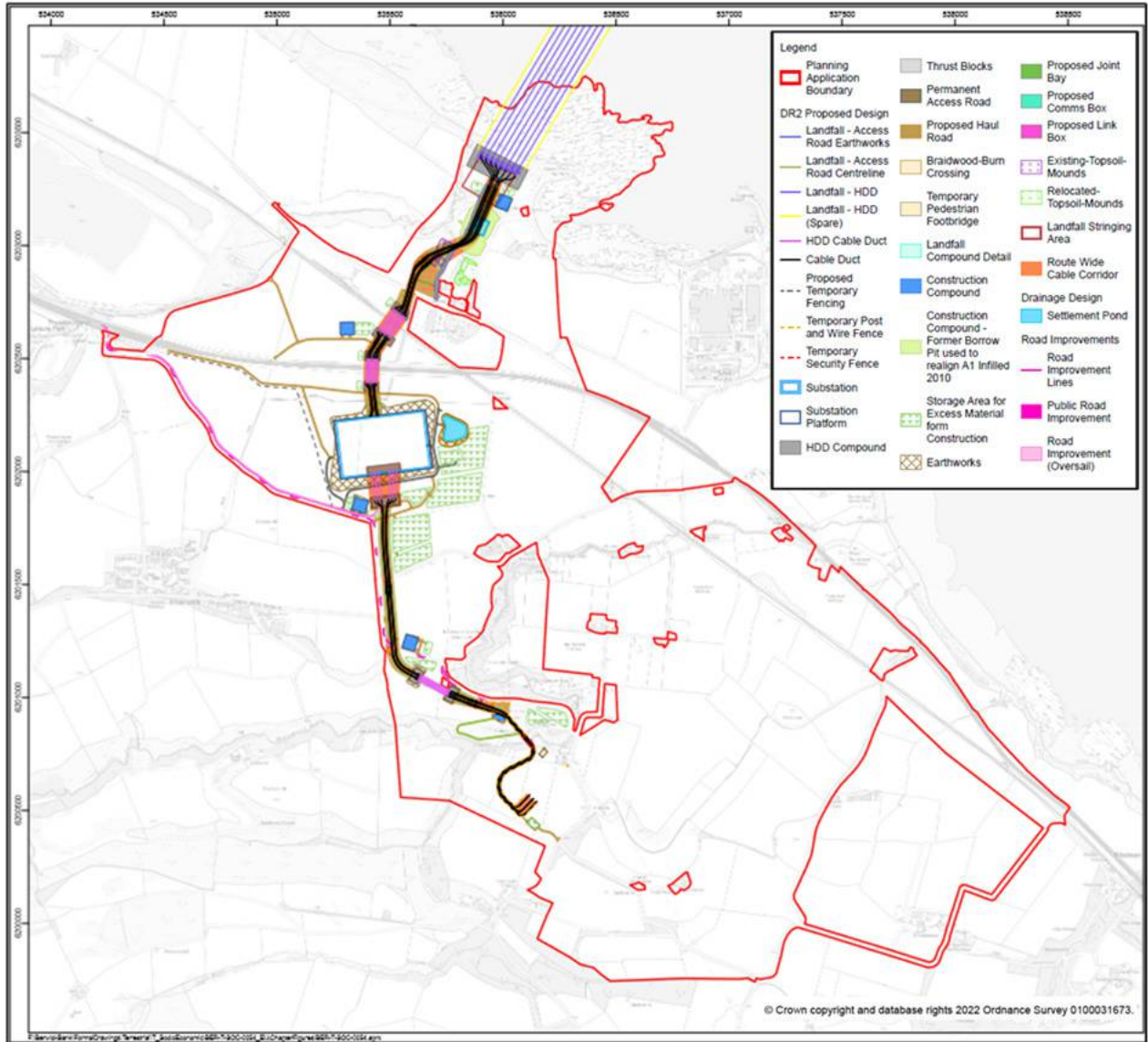
The Proposed Development (the OnTW) will comprise the following:

- A new wind farm onshore substation;
- Cable landfall;
- Underground cable route connections between the landfall and the onshore substation, and between the onshore substation and the grid connection substation; and
- Associated ancillary infrastructure.

The onshore substation is located on an agricultural field, approximately 350 m south of Skateraw, and 380 m north-west of Crowhill. Its location is shown in Figure 2 by a blue rectangle. The location of the cable landfall at Skateraw is also presented in Figure 2.

The Proposed Development will be designed to have an operational life of 35 years.

Figure 2 Substation Locations and Landfall Locations (courtesy of ITP Energised and SSE Renewables)



3 Access Strategy

3.1 Access to Site

Access to the different elements of the Proposed Development will be as follows:

- In order to access the onshore substation, construction vehicles will leave the A1 (T) at Innerwick junction and will continue towards the onshore substation site access via the U209 (north of Barnes Ness Terrace).
- To access the cable landfall, construction vehicles will leave the A1 (T) at the A1 (T) / Skateraw priority junction and will continue towards the landfall site via the unclassified road to Skateraw.
- In relation to the cable route, there are several site access / egress locations which are as follows:
 - Cable (1 – 3) Sites – Construction vehicles will leave the A1 (T) at the A1 (T) / Skateraw priority junction and will continue towards the site access via the unclassified road to Skateraw;
 - Cable (4) Site – Construction vehicles will leave the A1 and access the Site via a newly formed left-in access junction from the A1. Vehicles exiting the site will egress via Skateraw and through the A1 (T) / Skateraw priority junction. Larger vehicles will exit via the newly formed left-in / left-out junction due to the height constraints of the ECML bridge;
 - Cable (5) Sites – Construction vehicles will leave the A1 (T) at Innerwick junction and join the local road network. Approximately 70m after the Innerwick junction, vehicles will turn left towards Crowhill / Oldhamstocks. Approximately 180m along this road, vehicles will access the Cable (5) site via a newly upgraded access junction. Vehicles will access / egress the site at this location;
 - Cable (6 – 8) Sites – Construction vehicles will leave the A1 (T) at Innerwick junction and join the local road network. Approximately 70m after the Innerwick junction, vehicles will turn left towards Crowhill / Oldhamstocks and will continue along this road until they reach their respective accesses; and
 - Cable (9) Site – Construction vehicles will leave the A1 (T) at Innerwick junction and join the local road network. Approximately 70m after the Innerwick junction, vehicles will turn left towards Crowhill / Oldhamstocks and will continue along this road and across Thornton Bridge towards the site access. Should access for larger vehicles over the Thornton Bridge not be feasible, they are anticipated to access this area of the site via C8 and over the proposed cable bridge crossing.

The proposed access and egress locations are shown in Figure 3.

The East Coast Main Line railway runs through the study area. Bridges are located along the C124 (near Blackberry Farm Paddocks) and the A1 (T), to the south of Skateraw to enable the railway to run underneath the roads.

It is proposed that permanent, surfaced single carriageway roads will be constructed to connect the onshore substation to the public highway which will include the provision of passing places. Public road improvements, which will include provision of passing places, will be formed to accommodate the construction of the substation. These shall be reinstated to their original condition on completion, subject to the agreement of East Lothian Council.

Some sections of the public roads will require works such as widening, resurfacing or passing places to enable access to the Proposed Development site. Such works will be agreed with ELC and TS.

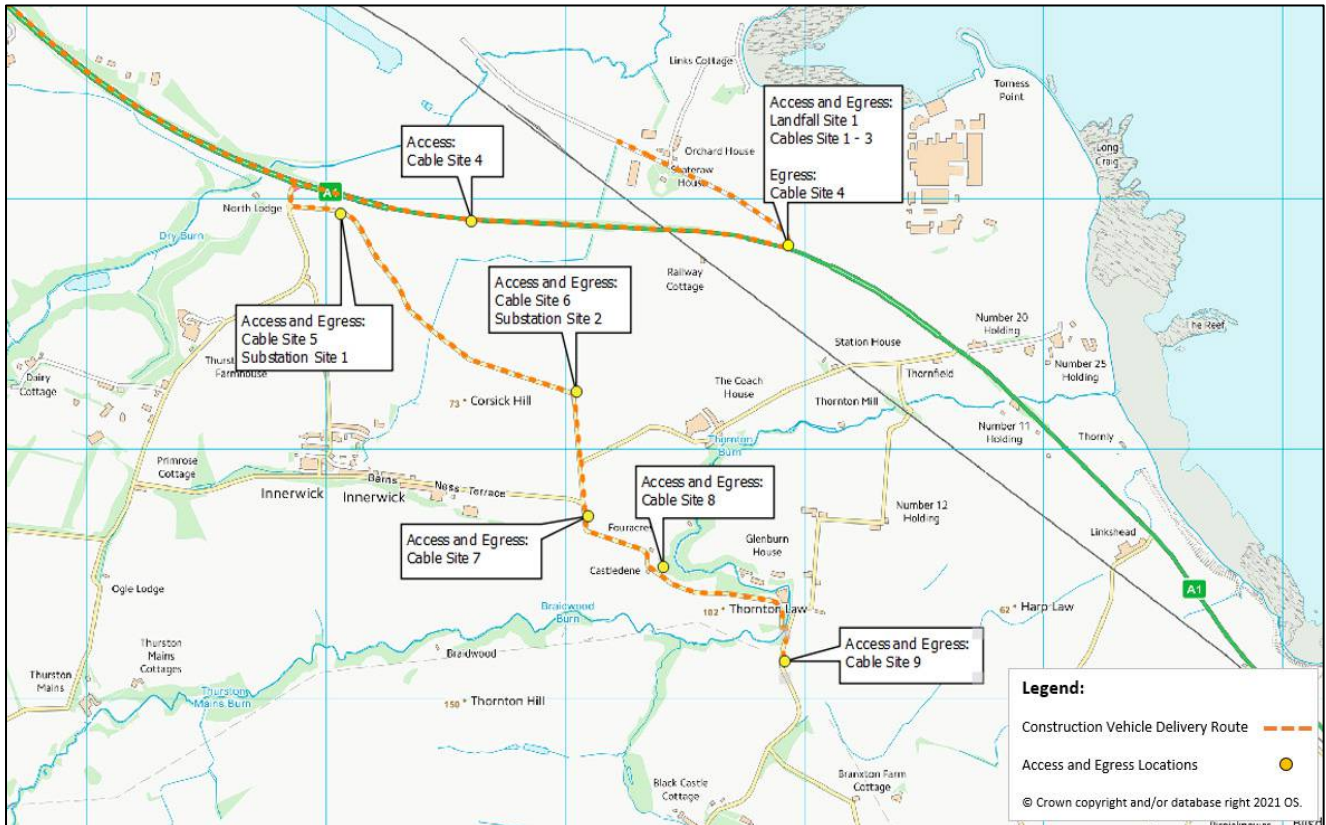
The unnamed road at Skateraw is a two-way single carriageway which is subject to the national speed limit and bounded by mainly agricultural land.

The C122 leading from the A1 (T) to Innerwick and Crowhill (near Thurston Doggy Daycare) is a two-way single carriageway which is subject to the national speed limit.

The U209 (north of Barnes Ness Terrace) which forms a priority junction with the above road and is signed as Crowhill and Oldhamstocks appears to be a narrow two-way single carriageway road which is bound by agricultural land.

The C121, to the north of Border Belles garden centre, is a narrow two-way single carriageway which is bound by mainly hedgerows, trees and agricultural land.

Figure 3 Access / Egress Locations for the various elements of the Proposed Development



3.2 Route Management

The Principal Contractor shall ensure that all regular delivery contractors are provided with a copy of the agreed CTMRP. Drivers will be required to attend a site induction briefing at which details of the site, and on-site and off-site driving rules will be communicated. The utilisation of the agreed routes and the wider principles set out within the CTMRP will be a requirement of any contractual agreement between SSE and the Principal Contractor responsible for construction activities.

Emphasis will also be placed on courteous driving outside the site on public roads. Both SSE and their appointed Principal Contractor will require regular delivery contractors to display unique identification on their vehicles so that any potential complaints from the site or public can be investigated.

All deliveries will enter and exit the sites via the identified access routes. A banksman will assist in directing drivers to the delivery point within each site. Delivery drivers who have not previously been inducted will be given a visitor briefing at that point.

The relevant contractor will be required to implement induction procedures and regular updates for all drivers to establish and promote an overall culture of safety and awareness of other road users.

3.3 Condition Reviews

A Section 96 Agreement (or similar) is suggested to cover the cost of abnormal wear and tear on the study area roads. Two agreements will be required: one with Transport Scotland and one with East Lothian Council. These would be agreed with the road authorities subject to the granting of planning approval.

The wear & tear agreements will address concerns about possible damage to the public road, verges and structures. It will be based upon condition surveys of the road to ensure that the condition of the road does not deteriorate as a result of the construction works.

Video footage of the pre-construction phase condition of the study roads would be recorded to provide a baseline of the state of the road prior to any construction work commencing. This High Definition (HD) baseline review would inform any change in the road condition during the construction stage of the Proposed Development as it notes the existing condition of the road surface and features and details current condition.

The condition survey would feature still images for the survey and would measure specific defects to monitor their progression. Locations of points would be accurately logged using a GPS tracker.

To agree the current state of the road, the report would be agreed prior to construction works commencing.

Any immediate or necessary repairs would be coordinated with the road authorities. Any damage caused by traffic associated with the Proposed Development, during the construction period, that would be hazardous to public traffic, would be repaired immediately, in agreement with the authorities.

During construction activities, a general road wear and tear review would be undertaken with the road authorities every four months during construction. Interim reviews will be undertaken by the Principal Contractor on a weekly basis and the condition reports issued to the Applicant.

Any damage to road infrastructure caused directly by construction traffic would be made good, and street furniture that is removed on a temporary basis would be fully reinstated following construction.

There would be a regular road edge review and any debris and mud would be removed from the public carriageway to keep the road clean and safe during the initial months of construction activity, until the construction junction and immediate access track works are complete.

Where defects occur on the East Lothian Council road network, the Principal Contractor will ensure that they maintain a stockpile of road repair material on site to undertake repair works quickly and efficiently, when authorised by the road authorities to undertake interventions.

Upon completion of construction activities, a follow on condition review will be undertaken and a defects list prepared. Works required to reinstate the road back to its original condition would be undertaken at the Applicant's expense.

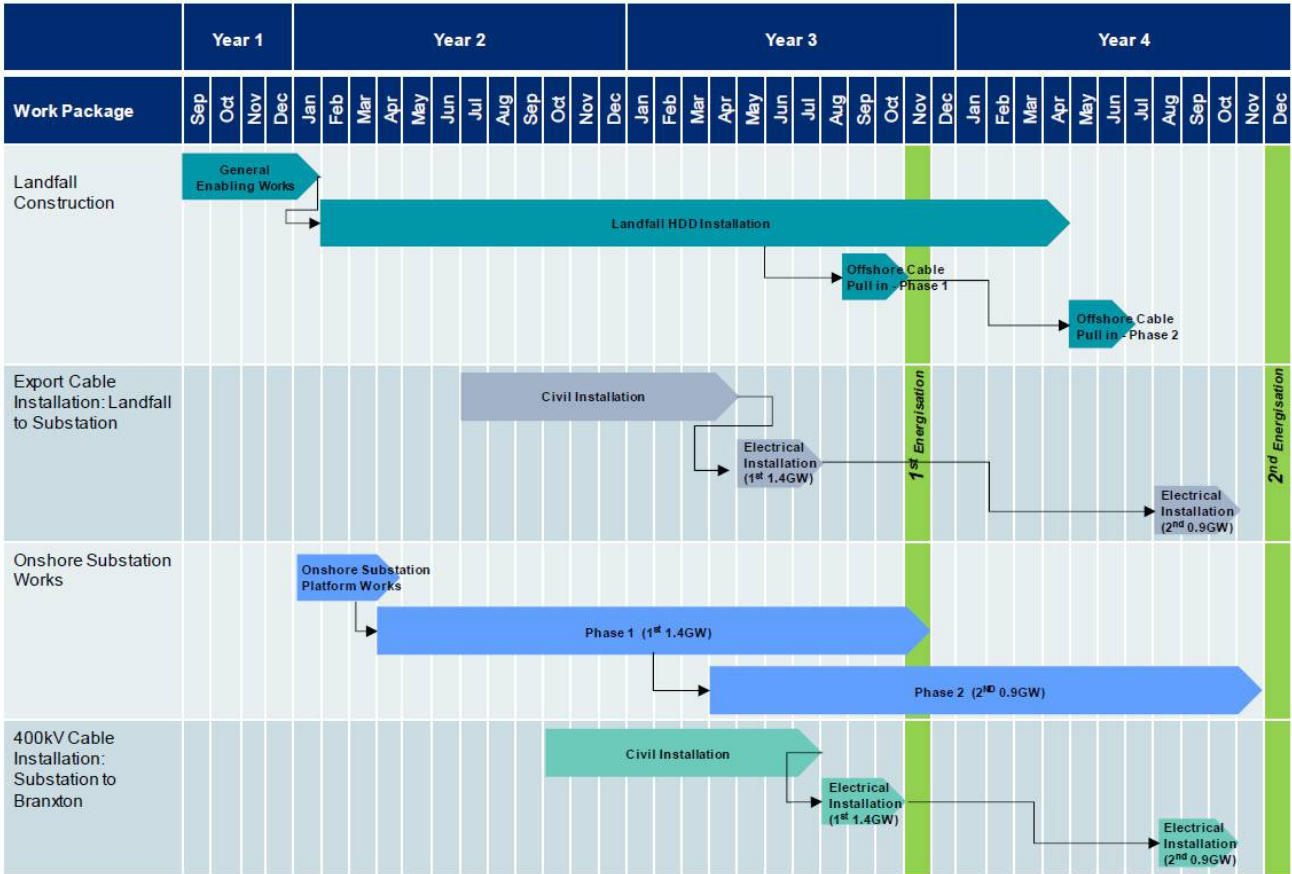
There are cases where defects will need to be undertaken quickly and the Principal Contractor will have arrangements in place to respond to serious and significant defects within two hours during normal working hours and within four hours outside normal working hours.

4 Construction Programme

The construction works are expected to last for a 40 month period, with works commencing in 2024. The indicative construction activity programme is provided in Figure 4.

Figure 4 Indicative Construction Programme

BERWICK BANK: ONSHORE CONSTRUCTION OUTLINE PROGRAMME



A review of construction activities has been undertaken by SSE and the traffic movements associated with each activity has been estimated. The construction programme and associated traffic movements over the 40 month construction period are illustrated in the Transport Assessment.

5 Abnormal Load Movements

5.1 Abnormal Indivisible Loads (AIL)

The UK Government describes an Abnormal Indivisible Load (AIL) as “any load that cannot be broken down into smaller loads without undue expense or risk of damage”. AIL movements remain a reserved matter for the UK parliament.

There are four main pieces of legislation that cover AIL movements as defined by the Government .

- The Road Vehicles (Construction & Use) Regulation 1986;
This covers all aspects of the vehicles setup from the weights and dimensions through to the braking system and environmental standards.
- The Road Vehicles (Authorised Weight) Regulations 1998;
This regulation sets the limited maximum weight of the vehicle and axle loading of different vehicle categories.
- The Road Vehicles (Authorisation of Special Types) (General) Order 2003;
The STGO is for vehicles not covered by either of the above Regulations and covers wind turbine component delivery vehicles which are categorised as N3 for the tractor units and O4 for the specifically designed trailers. It states that the Police, the relevant highway and bridge authorities or the Secretary of State may need to be notified of vehicle movement, dependent on the size of the load. Notifications can be made online through the ‘Highway Agency’s Electronic Service Delivery for Abnormal Loads (ESDAL) System’ or in paper form using the BE16 form for Special Orders.
- The Road Vehicles Lighting Regulation 1989 (Authorisation of Special Types) (General) Order 2003;
This regulation defines whether front, side and rear lamps and reflectors are mandatory and which ones are permitted and which are not permitted.

Applications for a ‘Vehicle Special Order’ (VSO) should be made to the Vehicle Certification Agency (VCA) and it is recommended that applications are applied for at least 8 weeks prior to planned vehicle movements.

5.2 Proposed Loads

AIL loads for the proposed development will be as follows:

- Eight electrical transformers (single phase or three phase units);
- Eight substation reactors;
- Substation heavy lift cranes; and
- 56 Cable drum transporters.

The worst case loads are the transformers. These will be transported to a suitable Port of Entry (POE), and transported to the substation site via the A1. The exact configuration of the transformers has yet to be determined, however the general layout is illustrated in Appendix A along with the results of swept path assessment work undertaken for the route from the A1 to the site.

The swept path assessments are modelling a worst case assessment load, based upon the current electrical design for the substation.

Upon completion of the tendering process, the exact transformer details will be confirmed and a detailed Route Survey Report will be provided to both Transport Scotland and East Lothian Council. A detailed weight review will be prepared by the haulier and issued to the road authorities in the BE16 AIL permitting process.

The cable drums have been assessed as AIL traffic by Aecom, although at 2.81m in width do not quite meet the AIL criteria. This approach however will allow some flexibility in assessment once the final selection of

cable drum has been agreed. As with the transformer loads, a detailed Route Survey Report would be prepared for the cable drum loads should these meet the criteria for AIL traffic.

5.3 Route Surveys

Indicative route surveys have been undertaken to date. Detailed surveys will be undertaken to identify all mitigation works from the selected Port of Entry (POE) to the construction sites.

The transformer route will be from the A1 to the substation site only. This route will also be used by the main construction cranes which will also be considered as AIL due to their likely width (3m) and axle loads (12tonnes demobilised).

The route for the worst case transformer loads note the need for temporary street furniture modifications, load bearing corner widening and the creation of oversail areas, primarily on the East Lothian Council road network leading from the A1 to the site. These works are illustrated in Appendix A.

The cable drums would be transported to the landfall, cable works and substation site compounds. As these will likely be transported on three or four axle step frame trailers the kinematic envelope of the loaded vehicles is similar in scale to standard construction traffic.

The access routes to the site will be specified in the Principal Contractor agreements. The transformer, reactor and crane elements will be under police escort due to their size and weight. Cable transports are likely to be self escorted by civilian contractors. The access routes noted in this CTMRP will be adhered to and enforced via the use of GPS trackers to ensure compliance with the approved routes.

5.4 Management Measures

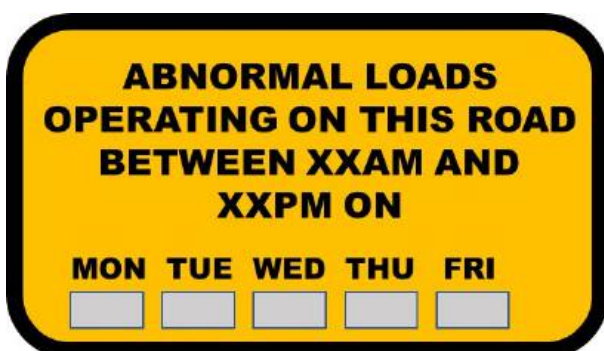
There are a number of traffic management measures that could help reduce the effect of abnormal load deliveries.

All abnormal load deliveries would be undertaken at appropriate times (to be discussed and agreed with the relevant roads authorities and police) with the aim to minimise the effect on the local road network. It is likely that the abnormal load convoys would travel in the early morning periods, before peak times while general construction traffic would generally avoid the morning and evening peak periods.

The majority of potential conflicts between construction traffic and other road users will occur with abnormal load traffic. General construction traffic is not likely to come into conflict with other road users as the vehicles are smaller and road users are generally more accustomed to them.

Advance warning signs would be installed on the A1 and East Lothian Council road network. Information signage could be installed to help assist drivers and an example is illustrated in Figure 5. Flip up panels (shown in grey) would be used to mask over days where convoys would not be operating. When no convoys are moving, the sign would be bagged over by the Traffic Management contractor.

Figure 5 Example Information Sign



This signage will assist in helping improve driver information and allow other road users to consider alternative routes or times for their journey (where such options exist).

The location and numbers of signs would be agreed post consent and would form part of the wider Traffic Management Proposal for the Proposed Development.

The Abnormal Load Transport Management Plan would also include:

- A diary of proposed delivery movements to liaise with the communities to avoid key dates such as local events;
- A protocol for working with local businesses to ensure the construction traffic does not interfere with deliveries or normal business traffic; and
- Proposals to establish a construction liaison committee to ensure the smooth management of the project / public interface with the Applicant, the construction contractors, the local community, and if appropriate, the police forming the committee. This committee would form a means of communicating and updating on forthcoming activities and dealing with any potential issues arising.

5.5 AIL Traffic Management Measures

AIL movements must be escorted by the Police. Given the size of the proposed loads, it is expected that at least three private escorts and a minimum of two police escort vehicles are likely to be required (exact requirement will be confirmed with the police). The likely deployment of escorts will be as follows:

- The first police escort vehicle will be the advance escort and will be located sufficiently ahead of the convoy, to advise the convoy in good time of traffic stoppages, constraints and oncoming hazards;
- The second police escort and first civilian escort will provide support to the first escort at junction closures and would be located at the front of the lead vehicle; and
- The second civilian escort will be located behind the last vehicle to protect the rear of the convoy and ensure that following vehicles do not attempt dangerous overtaking manoeuvres. A third escort will be located at this location to provide support at the rear if the convoy and to prevent dangerous overtaking.

Before the convoys depart the POE, the Lead Driver should check weather and traffic conditions and ensure this information is included within the daily toolbox talks.

There will be locations where general traffic flows will need to be stopped to allow the safe manoeuvre of the loads. In these circumstances the advance escorts will ensure that the traffic is stopped before the convoys enters the affected section. The advance escorts will confirm through radio contact that the area is clear and safe for transit. Should general traffic fail to observe the request to stop, the advance escort will advise the convoy to immediately halt and will then proceed to remove the rogue traffic. The convoy must not start without approval from the advance escort.

In areas where the load is likely to, or is close to straddling the centre line, the advance escort should be positioned to give advance warning to the convoy such that evasive action can be taken. In constrained areas and other locations where verges are potentially soft the drivers must exercise care to ensure the trailer wheels do not leave the road surface as this may result in adverse load stability conditions.

Urban areas along the route pose different challenges for the abnormal loads. Whilst the vehicle speeds will be less than those in the rural sections of the route, there are more potential conflicts with other road users to be aware of. These include:

- Pedestrians and cyclists;
- Local vehicular traffic;
- Parked vehicles;
- Side junctions; and

- Street furniture.

Within urban areas, the convoy escorts will need to be aware of all road and footway users at turn sections within the route. At these locations there is potential for load over-sail and reference to the swept path assessment drawings is considered essential to identify these areas. It is important to note that only the Police have the power to request that vehicles and pedestrians move.

Within urban areas there is a higher chance of parked vehicles along the route and a possibility that parked cars will restrict available road width. Whilst these areas will not impede the loads they do create a further zone where the load drivers and escorts will need to take care of conflicts that include restricted road widths, car doors opening and pedestrians crossing the road between parked vehicles.

Information relating to AIL movements will be provided directly to residents living in the immediate vicinity of the access route. Information on the movement of the abnormal load convoys would also be provided to local media outlets by the Principal Contractor (or their appointed AIL delivery contractors) to help assist the public. Information would be provided to local newspapers and radio stations.

The Developer/ Principal Contractor will commit to ensuring that reasonable notice is given to local residents and communities regarding any potential disruption

The project website will also be used to help advise of movements. Information would relate to expected vehicle movements on the route. It is hoped that this level of information will make residents aware of convoy movements and help reduce any conflicts.

5.6 AIL Convoy Health & Safety Measures

All staff working on the project will be inducted before entering the site. This will be undertaken prior to the commencement of AIL movements.

A daily Tool Box Talk for all convoy staff to be held at the start of each working day and carried out by the appointed Transport Co-ordinator or Appointed Lead Driver. A detailed record of the talk should be kept and filed once the convoy has arrived at the site.

The Tool Box Talks will cover a minimum of the following matters:

- The current version of the CTMRP to be carried by all convoy vehicles;
- Identification of any updates since the previous version of the CTMRP;
- Requirement to have a CB radio (fixed or portable), with fully charged batteries;
- Anticipated transport restrictions in each section of the route;
- Driver instructions on incident reporting;
- Driver instructions on trailer steering methodology, and availability of assistance;
- Instructions on areas requiring traffic stoppage, and methodology for convoy passing through these areas;
- The welfare arrangements for drivers;
- A summary of the predicted weather, traffic and road conditions; and
- Any questions on the contingency plans.

Each of the convoy vehicles must be suitably equipped with hazard warning devices to warn all other road users. All the tractor, trailer and escort vehicles operating on the project must have the following:

- Tractor units to have beacon bars on the roof and 3M reflective markings on both sides;
- All vehicle warning signage to be in English;
- Trailer units to have amber beacons on the rear with 3M reflective markings on both sides;
- All escort vehicles will have beacon bars on the roof, with 360 degree motion for all round visibility, and 3M reflective markings;

- Fire extinguisher and first aid kit; and
- Certified cargo lashing straps are to be used at all times. Certification must be carried and made available for inspection, kept within the cab.

All hazard warning equipment must be checked and cleaned at the start of each day. Additional cleaning of the warning equipment may be required throughout the day and must be undertaken when required.

All relevant personnel must have the appropriate Personal Protective Equipment (PPE). All PPE clothing must be 'CE' marked to show it meets current standards and should be appropriate for use in trunk road situations (i.e. must be full coats with reflective bands on the arms).

5.7 Emergency & Contingency Plan

To ensure access for emergency service vehicles, a coordination protocol will be established with the blue light emergency services. As the AIL convoys are escorted by the Police, the Police will be aware of potential access issues for ambulances and fire service vehicles and can take appropriate action on the route to pull to the side of the road or mount a verge to allow emergency vehicles past.

The civilian escort vehicles carry equipment to make running repairs to vehicles in the unlikely event of a breakdown. Further spares and equipment can also be based at the site for faster responses in case of mechanical issues.

The haulier will establish contracts with local suppliers to attend to any punctures and tyre issues, to minimise any stoppage time on the route.

6 Construction Traffic Management Plan

6.1 Core Path Management Plan

Consideration will be given to pedestrians and cyclists alike due to potential interactions between construction traffic and users of the core path. These measures will be formulated into a Core Path Management Plan.

The Principal Contractor will ensure that speed limits are always adhered to by their drivers and associated subcontractors. This is particularly important within close proximity to the core path and at crossing points. Advisory speed limit signage will also be installed on approaches to areas where core path users may interact with construction traffic.

Signage will be installed on the site exit that makes drivers aware of local speed limits and reminding drivers of the potential presence of pedestrians and cyclists in the area. This will also be emphasised in weekly toolbox talks.

The British Horse Society has made recommendations on the interactions between HGV traffic and horses. Horses are normally nervous of large vehicles, particularly when they do not often meet them. Horses are flighty animals and will run away in panic if really frightened. Riders will do all they can to prevent this but, should it happen, it could cause a serious accident for other road users, as well as for the horse and rider.

The main factors causing fear in horses in this situation are:

- Something approaching them, which is unfamiliar and intimidating;
- A large moving object, especially if it is noisy;
- Lack of space between the horse and the vehicle;
- The sound of air brakes; and
- Anxiety on the part of the rider.

The British Horse Society recommends the following actions that will be included in the site training for all HGV staff:

- On seeing riders approaching, drivers must slow down and stop, minimising the sound of air brakes, if possible;
- If the horse still shows signs of nervousness while approaching the vehicle, the engine should be shut down (if it is safe to do so);
- The vehicle should not move off until the riders are well clear of the back of the HGV;
- If drivers are wishing to overtake riders, please approach slowly or even stop in order to give riders time to find a gateway or lay by where they can take refuge and create sufficient space between the horse and the vehicle. Because of the position of their eyes, horses are very aware of things coming up behind them; and
- All drivers delivering to the site must be patient. Riders will be doing their best to reassure their horses while often feeling a high degree of anxiety themselves.

6.2 Travel Plan

In order to reduce traffic impacts from construction personnel, all staff will be encouraged to utilise car-sharing and the use of crew buses wherever possible. A Staff Travel Plan will be provided and motorcycle and cycle parking facilities will be provided at the site compounds.

6.3 Temporary A1 Junction

The temporary A1 access junction for the cable works area to the north of the A1 will be operated as a Left In / Left Out junction.

The design and signage of the junction is such that no traffic will be able to turn right, to and from the A1(T), in order to minimise the risk of accidents. All construction traffic exiting the site will be required to turn left onto the A1(T), with southbound approach vehicles utilising the Cockburnspath roundabout before heading north back to the Innerwick.

6.4 Traffic Management Measures

Wherever reasonably possible, local suppliers such as quarries and concrete works are proposed to help minimise traffic levels of the network. Upon selection of the Principal Contractor, wider area routing information (routes to join the A1) will be made available and final numbers of traffic movements confirmed.

The following measures would be implemented through this CTMRP during the construction phase:

- Contractual requirement in the Balance of Plant contract that contractors will only use the agreed access route. Failure to follow the traffic management measures proposed would be a contractual matter and could result in contractors being dismissed from the site;
- Direction signage signposting traffic on the agreed access route;
- Identification numbers of HGV and vans to allow easy recognition;
- Providing the public with details of how to report use of unapproved routes or driving issues of concern;
- Using GPS trackers to allow the monitoring of bulk delivery vehicle movements;
- Setting out site staff disciplinary measures for those who ignore the agreed access route and enforcing these throughout the construction period
- All site vehicles will feature “white noise” reversing warning devices to reduce noise disruption when on site;
- All materials delivery lorries (dry materials) will be sheeted to reduce dust and stop spillage on public roads;
- Specific training and disciplinary measures will be established to ensure the highest standards are maintained to prevent construction vehicles from carrying mud and debris onto the carriageway;
- Wheel cleaning facilities will be established at the site entrances. A road sweeper would also be provided at site to ensure that the road network is kept clean;
- Within all East Lothian Council roads leading from the A1, a limit of 15mph is proposed; and
- Site induction for all staff instructing them on what route to site they can use to enter and exit the site and obtaining their acknowledgement that there is only one approved access route. The induction would include:
 - A tool box talk safety briefing;
 - The need for appropriate care and speed control;
 - A briefing on driver speed reduction agreements (to slow site traffic at sensitive locations through towns and villages on the route); and
 - Identification of the required access routes and access junction operation and the controls to ensure no departure from these routes.

A junction signage strategy will be prepared and agreed with East Lothian Council and Transport Scotland prior to works commencing. The strategy will include the following:

- Direction signage to ensure vehicles keep to the approved construction traffic routes;
- Site access signage to advise other road users of increased movements at the junctions; and
- Chapter 8 (Traffic Signs Manual) “Slow Down” signage near the access junctions.

Regular maintenance will be undertaken at the sign locations to keep the plates clean and to ensure that verge vegetation does not obscure them.

6.5 Liaison Group

To assist with general traffic management proposals and measures during the construction period, it is proposed that a Traffic Management Group be formed to help advise of progress, issues and to feedback

public comments. The suggested structure of this group would include, but would not be limited to the following:

- Local Road Manager from East Lothian Council;
- Network Manager from Transport Scotland;
- Local ward elected members;
- A representative from East Lammermuir Community Council;
- A representative from the Principal Contractor; and
- A senior member from the SSE's development team.

This group would help co-ordinate works and provide a robust conduit for information and issues that may arise. It is suggested that it would meet every two months during the construction period, although specific construction activities may warrant changes in frequency over that time.

Pages with information about the construction of the Proposed Development will be available on the project website. These will be updated throughout the construction period. If visitors to the site are unable to find the answer to their question on the webpages, an email address will be provided on the project website to contact the Applicant. In addition, details will also be circulated via a newsletter advising about ongoing activities. A telephone number for the Principal Contractor would be published during operational hours to resolve any traffic management problems that occur and these calls would be logged and reported to the Applicant on a weekly basis to monitor the situation.

All contractors will be monitored through regular spot-checks to ensure they follow the approved access route. Access Routes identified will be clearly defined in all sub-contracts and signposted.

Use of a visible vehicle identification system should be employed to ensure compliance with the agreed route and driver behaviour standards. This will allow the public to identify any rogue vehicles to the site office for easy recognition and review.

The Applicant will also create a protocol for working with local businesses to ensure the construction traffic does not interfere with deliveries or normal business traffic wherever possible.

6.6 Public Information

Information on abnormal load deliveries would be provided to local media outlets such as local papers and local radio to help assist the public.

Information would relate to expected vehicle movements from the port of entry through to the site access junction. This will assist residents becoming aware of the movements and may help reduce any potential conflicts.

The Applicant would also ensure information was distributed through its communication team via the Project website, local newsletters and social media.

6.7 Turning Facilities & Banksman

For safety reasons both onsite and for other road users, the site accesses have been designed so all vehicles can enter and exit the site in a forward gear. No vehicle shall reverse onto public roads and shall enter / exit the site using forward gear only.

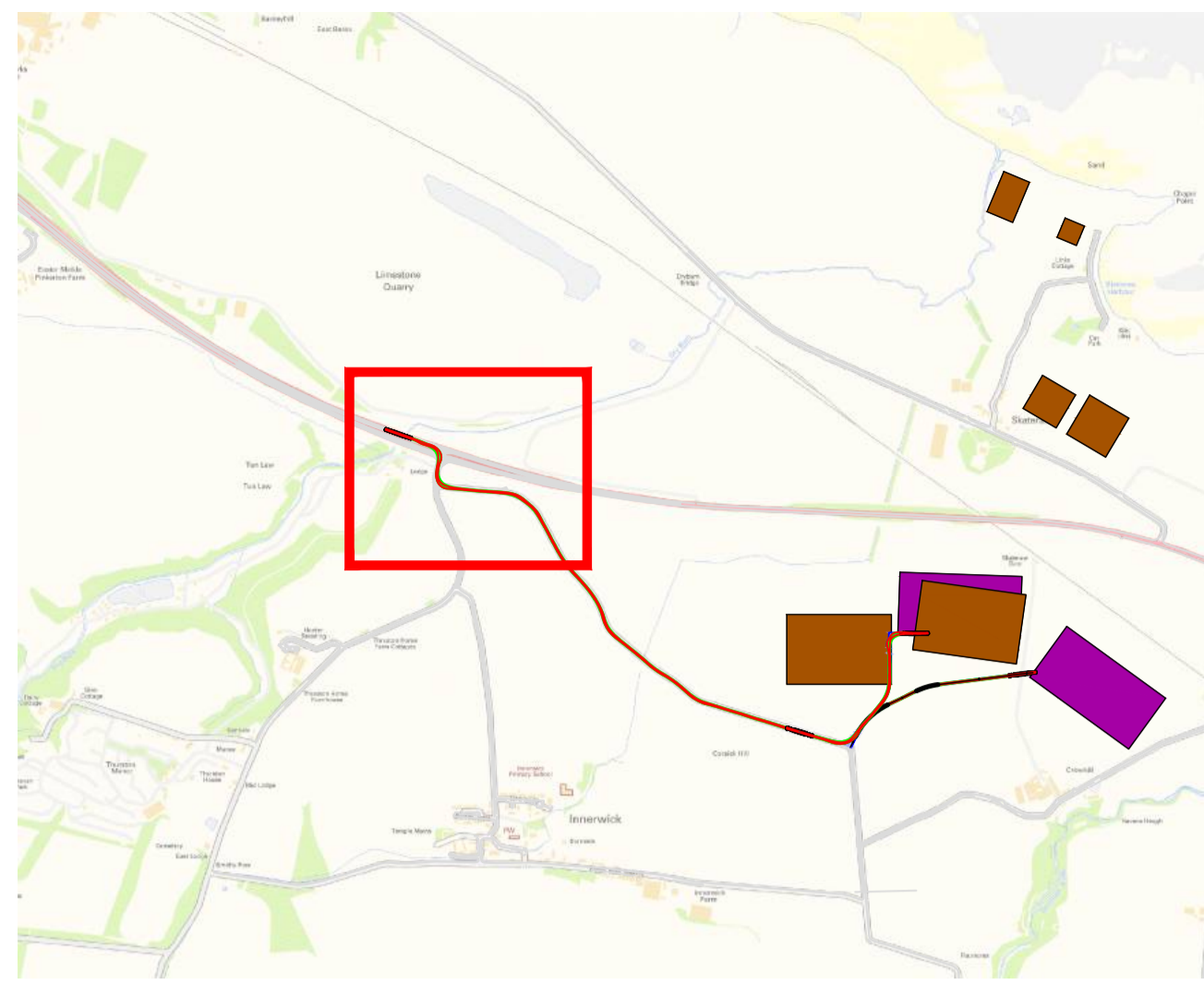
A banksman will be provided at the site accesses to help guide traffic within the site and to ensure health and safety access for the site. The banksman will be in radio contact with the wider site compound to advise of movements to and from the site.

Upon completion of construction works, a gate will be provided on the access track leading to the substation. The gate will be set back from the public road to ensure that vehicles can stop at the gate without blocking back onto the public road.

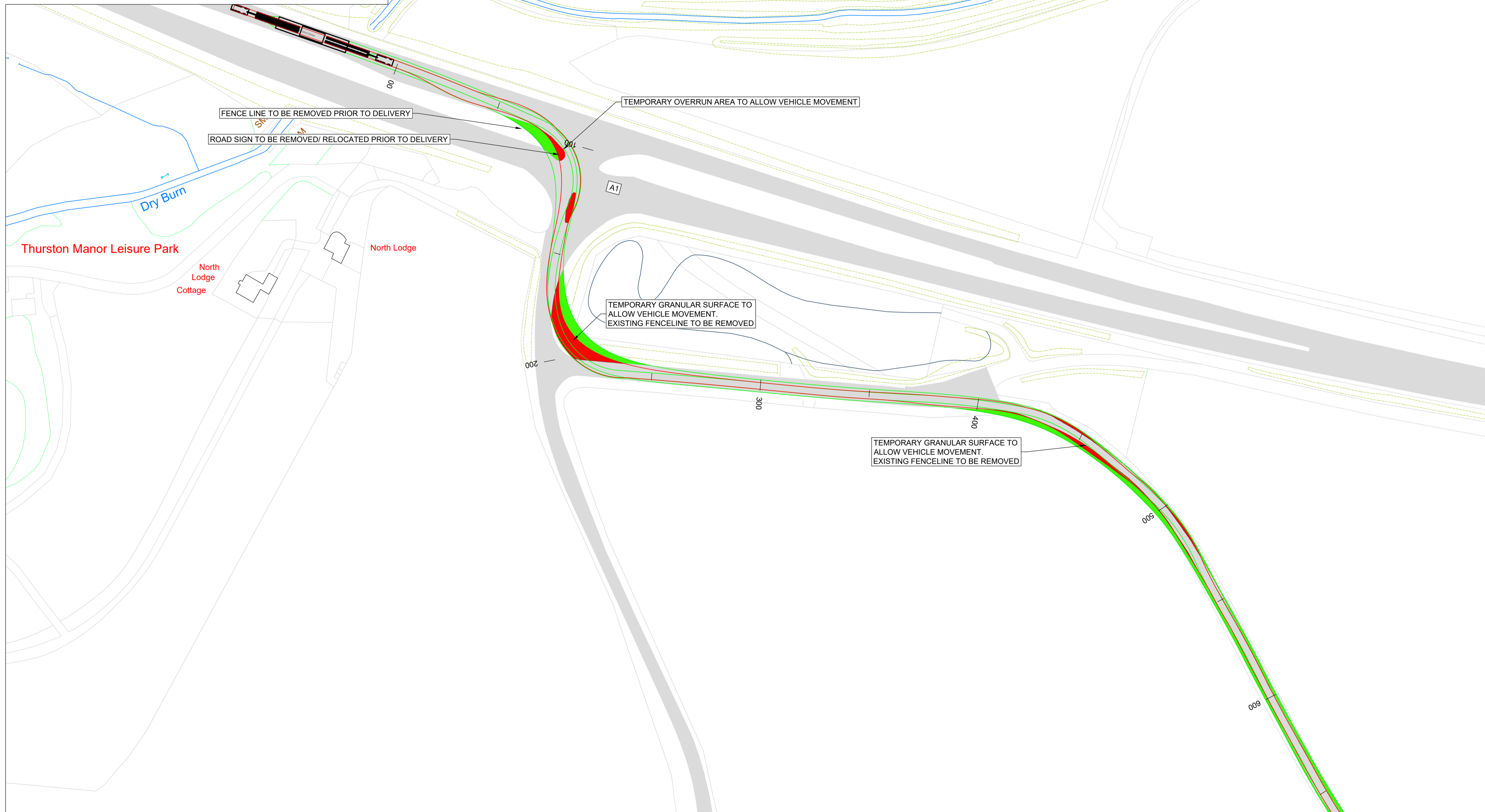
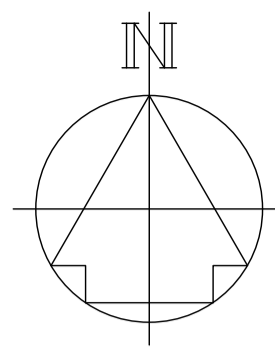
6.8 Operational Phase Mitigation

Site entrance roads will be well maintained and monitored during the operational life of the development. Regular maintenance will be undertaken to keep the site access track drainage systems fully operation and to ensure there are no run-off issues onto the public road network.

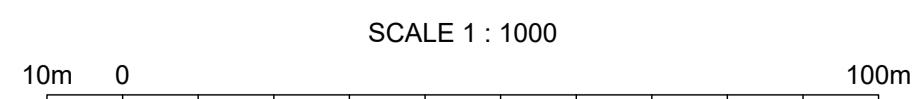
Appendix A Transformer Vehicle & Swept Path Assessment



KEY PLAN
SCALE 1:20,000



IMPROVEMENT PLAN
SCALE 1:10,000



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7. EXISTING UTILITIES IN THE AREA TO BE DEFINED.
8. REFER TO DRAWING 65201721-DRG-101 FOR LOCATION PLAN.

LEGEND

- EXISTING ROAD
- EX TENTS OF VEHICLE WHEEL OVER RUN
- EXTENTS OF VEHICLE CHASSIS OVERSAIL
- AREA OF VEHICLE OVER RUN
- AREA OF VEHICLE OVERSAIL

Rev.	Date	Amendment Details	Drawn	Chk'd	App'd

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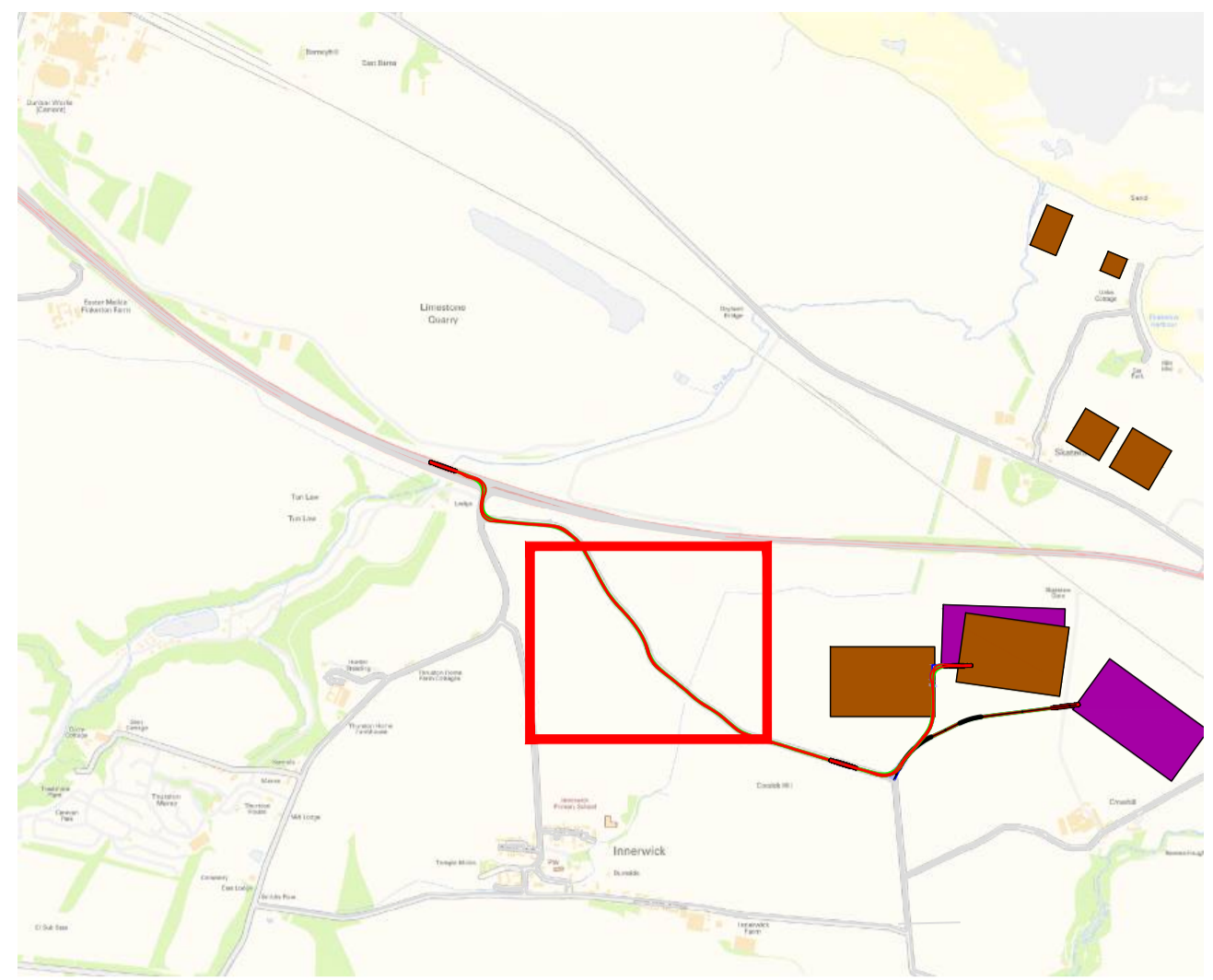
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SUBSTATION ACCESS**

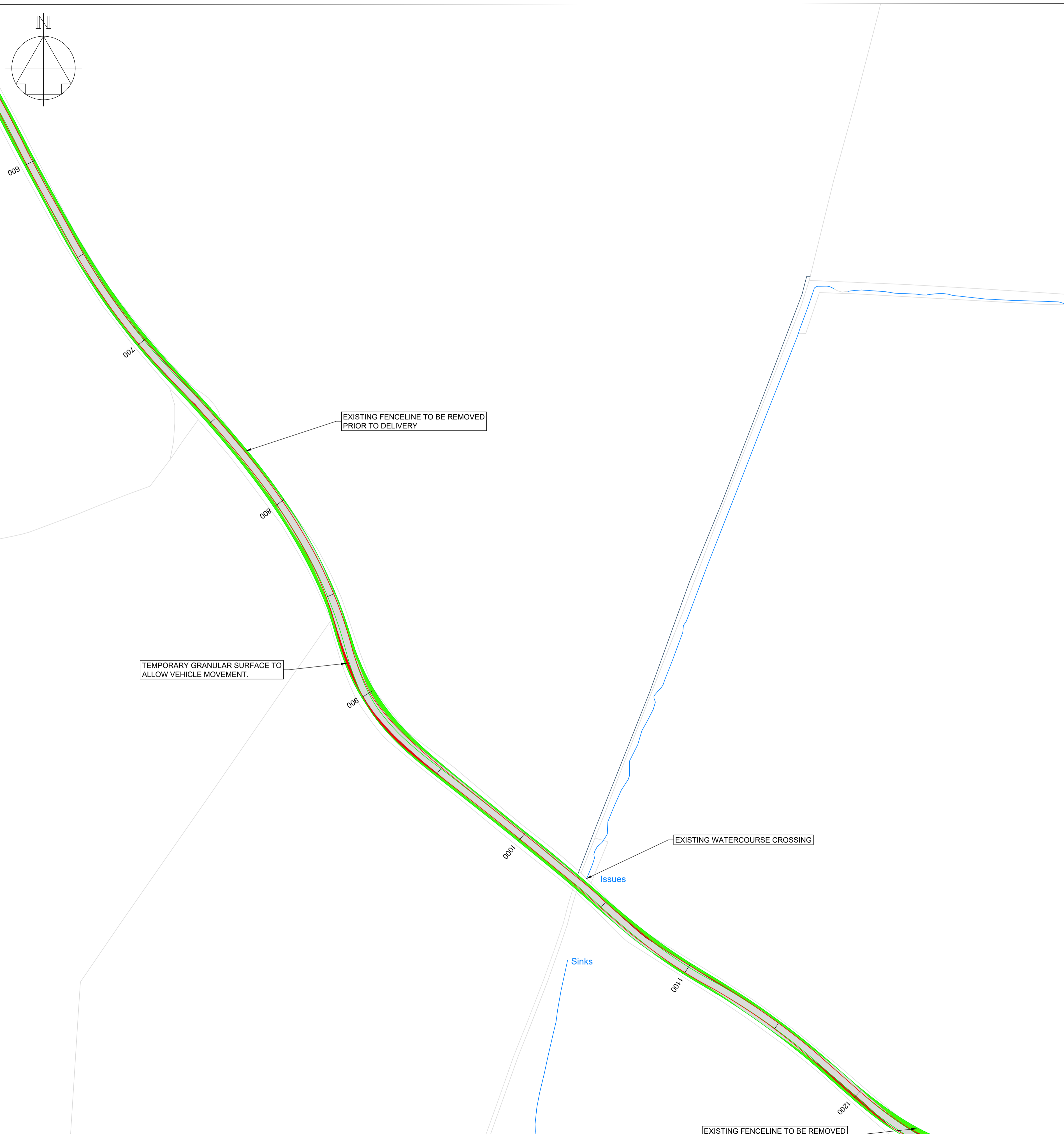
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**SUBSTATION 8 & 9
EXISTING ROAD
IMPROVEMENT PLAN
SHEET 1**

Scale	Designed	Drawn	Checked	Approved
1:1,000	CK	CK	DS	APP_BY
Original Size	Date	Date	Date	Date
A1	22.05.20	22.05.20	26.05.20	APP_DT
Drawing Number	Revision			
62501721-DRG-102	0			



KEY PLAN
SCALE 1:20,000



IMPROVEMENT PLAN
SCALE 1:10,000

1m

100
90
80
70
60
50
40
30
20
10
0

10m 0 100m

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7. EXISTING UTILITIES IN THE AREA TO BE DEFINED.
8. REFER TO DRAWING 65201721-DRG-101 FOR LOCATION PLAN.

LEGEND

- EXISTING ROAD
- EX TENTES OF VEHICLE WHEEL OVER RUN
- EXTENTS OF VEHICLE CHASSIS OVERSAIL
- AREA OF VEHICLE OVER RUN
- AREA OF VEHICLE OVERSAIL

Rev.	Date	Amendment Details	Drawn	Chk'd	App'd

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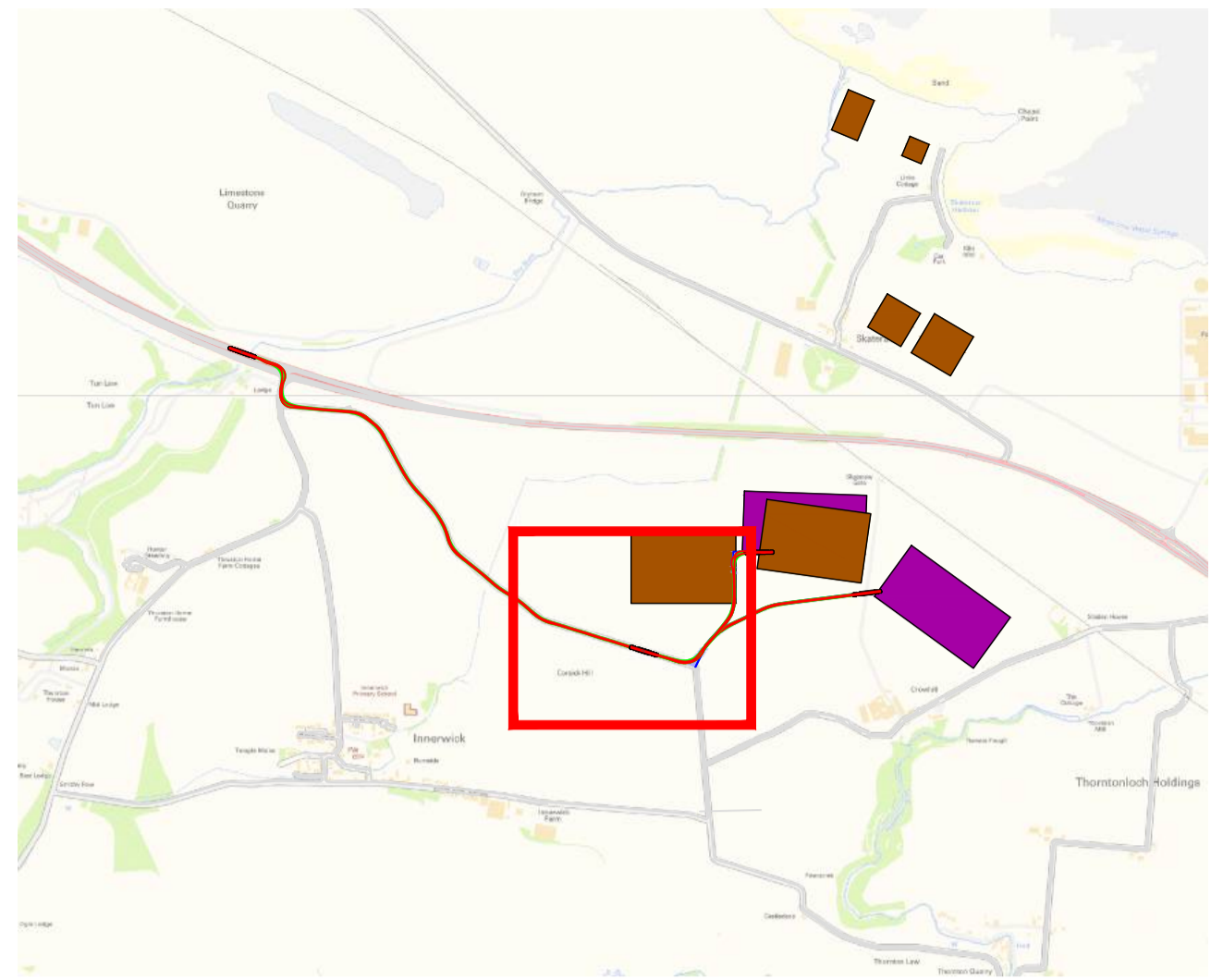
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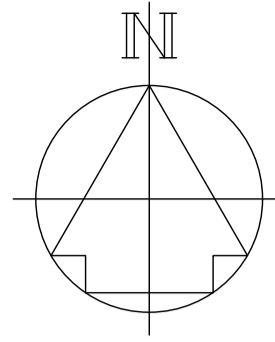
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**SUBSTATION 8 & 9
EXISTING ROAD
IMPROVEMENT PLAN
SHEET 2**

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1:1,000	CK	CK	DS	APP_BY
Original Size	Date	Date	Date	Date
A1	22.05.20	22.05.20	26.05.20	APP_DT
Drawing Number	Revision			
62501721-DRG-103	0			



KEY PLAN
SCALE 1:20,000



SCALE 1 : 1000



IMPROVEMENT PLAN
SCALE 1:10,000

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7. EXISTING UTILITIES IN THE AREA TO BE DEFINED.
8. REFER TO DRAWING 65201721-DRG-101 FOR LOCATION PLAN.

LEGEND

- EXISTING ROAD
- EX TENTS OF VEHICLE WHEEL OVER RUN
- EXTENTS OF VEHICLE CHASSIS OVERSAIL
- AREA OF VEHICLE OVER RUN
- AREA OF VEHICLE OVERSAIL
- PROPOSED ACCESS TRACK
- PROPOSED CONSTRUCTION COMPOUND
- PROPOSED SUBSTATION

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**SUBSTATION 8 & 9
EXISTING ROAD
IMPROVEMENT PLAN
SHEET 3**

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