Burnside to Greens 400kV Connection

Environmental Appraisal Appendix G: Traffic and Transport

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Document History

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01	24/11/2025	Final	Conor O'Hara	Surabhi Verma	Jessica Antas	

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1 Introduction

1.1 Purpose

RPS TetraTech (RPSTT) has been commissioned by **Caledonia Offshore Wind Farm Limited** (the client) to prepare a Transport Assessment (TA) in support of a planning permission in principle (PPP) application for the construction and operation of up to four 400 kilovolt (kV) underground cable circuits, connecting Caledonia Offshore Wind Farm Burnside Onshore Substations to the Scottish and Southern Energy Networks Transmission (SSEN-T) Greens Substation, together with associated works ('the Proposed Development').

The Proposed Development is located in Aberdeenshire and lies between Burnside Substation and Greens Substation. The subject site is approximately 6km southeast of Turriff and approximately 4km southwest of New Deer. Reference to the site throughout this TA refers to the Red Line Boundary (RLB) illustrated in Figure 1-1.

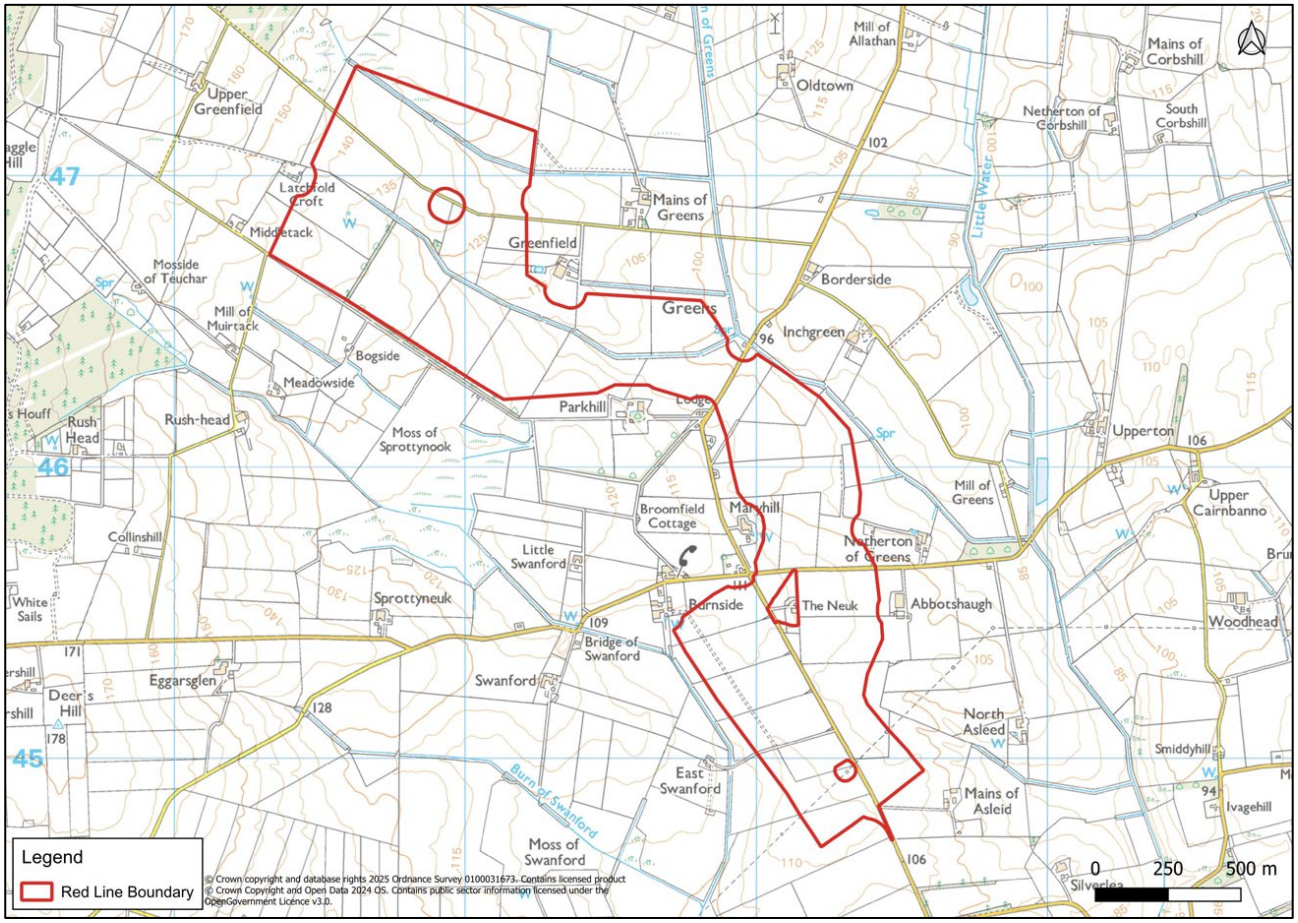

Figure 1-1 Proposed Development's Red Line Boundary (RLB)

The key parameters in the context of the current assessment are presented below.

Elements of the Proposed Development are:

- A working cable corridor up to 100 metres wide, accommodating all temporary works areas required for installation;

- Up to four 400 kV cable circuits installed in trenches;
- Up to two temporary haul roads;
- Haul road access points;
- Up to 4 Joint bays for each cable circuit;
- Up to two Satellite construction compounds; and
- Temporary crossing infrastructure for haul road(s), road, watercourse and utilities100 m working cable corridor.

The purpose of this TA is to quantify the demand for travel associated with the Proposed Development and establish whether the local road network can accommodate this increased demand during the construction phase. It should be noted that the traffic generation associated with the operational phase will be negligible and once the cable has been laid, the land will be reinstated to its pre-construction condition. Measures to minimise or mitigate the impact of vehicle movements, if necessary, are outlined in this report and further, within the Outline Traffic Construction Management Plan. Further detail will be provided at Matters Specified by Condition (MSC) stage once the final route is determined as part of the detail design.

This TA will be undertaken in accordance with the National Planning Framework 4 (NPF4) (Scottish Government 2023), Guidelines for the Environmental Assessment of Road Traffic (IEMA 1993) (the IEMA Guidelines), Transport Assessment Guidance (Transport Scotland 2021) and Design Manual for Roads & Bridges (DMRB).

1.2 Site Context

The Proposed Development is situated in a landscape that is predominantly agricultural land used for pasture and arable farming, lending the area a rural character. To the northwest lies a patch of commercial forestry, while scattered farmsteads and isolated dwellings are dispersed throughout the vicinity.

The transport environment around the site is rural in nature, characterised by 'B' and unclassified roads, likely to be lightly trafficked. New Deer Substation has been recently constructed and is operational and therefore a traffic haul route has already been established for this location. The location of the Proposed Development in relation to the Burnside and Greens Substations is illustrated in Figure 1-2.

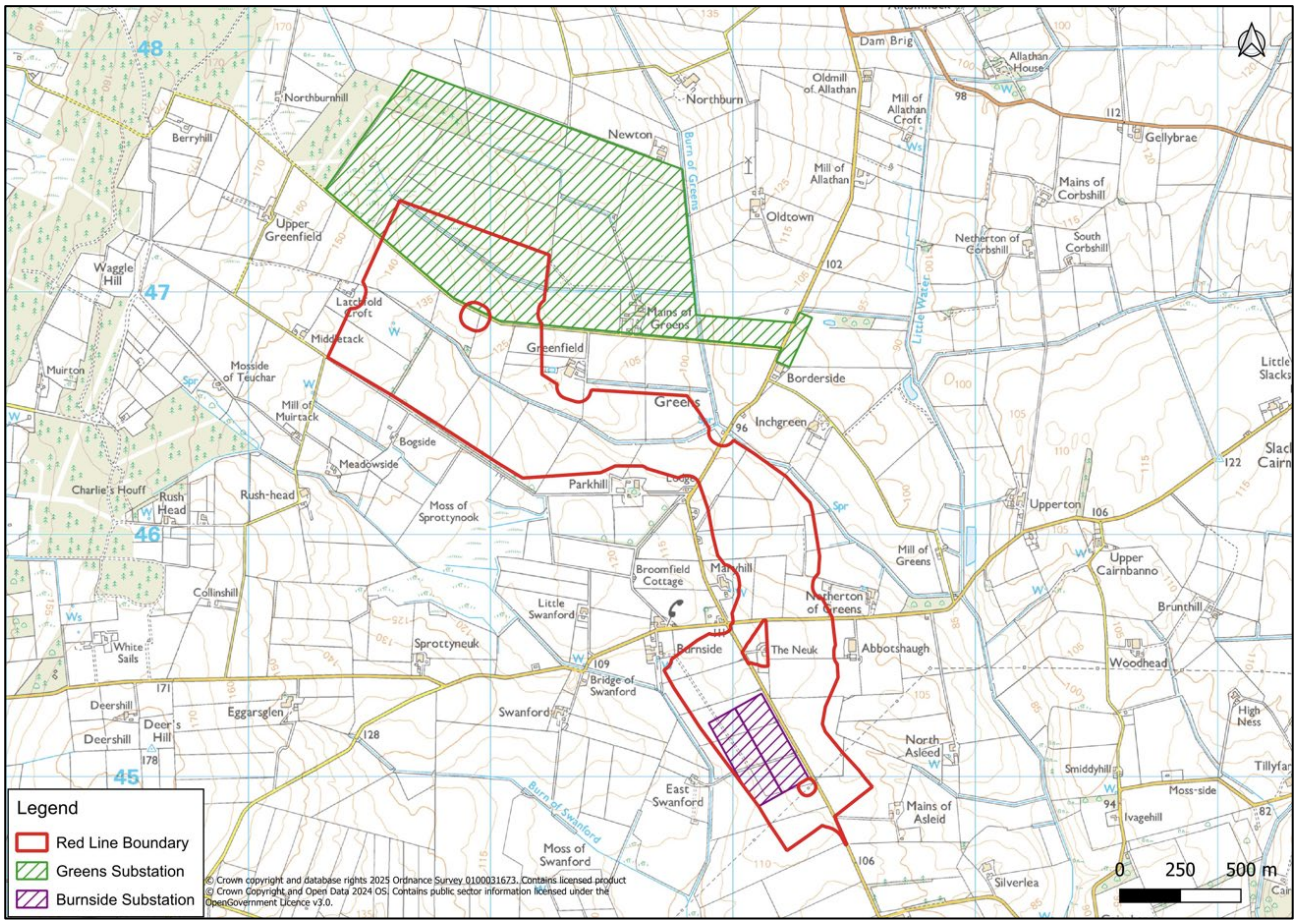

Figure 1-2 Site location

2 Policy & Guidelines

2.1 National Policy & Guidance

2.1.1 National Policy

Scotland's NPF4 was adopted by the Scottish Government on 13th February 2023 and sets out a new plan for Scotland to 2045. It acknowledges that Scotland must embrace and deliver radical change to tackle and adapt to climate change, restore biodiversity loss, improve health and wellbeing, build a wellbeing economy and create great places.

- Part 1 is a National Spatial Strategy which reaffirms the Scottish Government's energy targets, stating;
    - *"we have set a target of net zero emissions by 2045, and must make significant progress towards this by 2030. This will require new development and infrastructure across Scotland."*
    - *"to significantly reduce greenhouse gas emissions more renewable energy generation will be needed, bringing unprecedented opportunities to strengthen local economies, build community wealth and secure long-term sustainability."*

NPF4 sets out that planning supports business and employment, including sustainable economic growth. National Planning Policies are contained within Part 2.

The upgrading of the national transmission network (which includes this application) is highlighted as being of national importance through classification as a National Development in NPF4. Policy 11 outlines support for such works subject to a number of criterion, which include the addressing of potential impacts upon road traffic during construction, as well as wider public access considerations.

2.1.2 Guidance

Planning Advice Note (PAN) 75 – Planning for Transport (17th August 2025) provides a framework for how linkages between planning and transport can be managed. It provides good practice guidance which planning authorities, developers and others should follow in their assessment of policy, assessment of proposals and project delivery.

The Transport Assessment Guidance (July 2012), published by Transport Scotland, provides information relevant to the preparation of TAs and Transport Statements (TS') for developments in Scotland. The guidance ensures that mechanisms are in place to specify, assess, revise, implement, monitor and review the impacts that developments will have on the wider transport system.

2.1.3 Institute of Environmental Management and Assessment (IEMA) – 'Environmental Assessment of Traffic and Movement' (IEMA 2023)

This document provides systematic guidance for the assessment of traffic and movement impacts for a wide range of developments.

2.1.4 Transport Assessment Guidance

The Transport Assessment Guidance, published by Transport Scotland, establishes thresholds when a Transport Assessment (TA) or Transport Statement (TS) is required. The guidance states the following:

- A Transport Assessment (TA) is required for most large development where there is a potential for a major traffic impact on the surrounding transport network. These developments include the following:
    - Food / Non-Food retail with Gross Floor Area (GFA) over 1,000m^2;
    - Hotels with more than 50no. beds;
    - Residential Development with 100no. dwellings or more.
- Transport Statements tend to be a slimmed down version of a full TA when the traffic impacts are not considered to be significant on the surrounding highway network, but still needs to be considered.

Although it is recognised that the Proposed Development does not fit within the above TA thresholds, a TA has been chosen to appropriately assess the significance of traffic impact on the surrounding transport network.

2.2 Local Policy and Guidelines

2.2.1 Aberdeenshire Local Development Plan 2023

The Local Development Plan 2023 was formally adopted on 13th January 2023 and sets out the land use plan for the area, outlining the vision for its future development. It guides decisions on issues like housing, commercial and industrial areas and protecting the environment.

ALDP Policy RD1.8 requires new accesses and proposals to demonstrate that the development (and any proposed mitigation measures) will not have significant transport impacts on existing transport infrastructure and services. This is set within the context of broader support for development aimed at tackling climate change (including upgrading of the transmission network) within.

Policy C2 Renewable Energy of the ALDP indicates support for renewable energy which are in appropriate sites and of the appropriate design. Assessment of the acceptability of such developments must take account of any effects on a number of factors including socio-economic aspects, renewable energy targets, greenhouse gas emissions, communities, landscape and visual aspects, natural heritage, carbon rich soils, the historic environment, tourism and recreation, aviation, defence, telecommunications and broadcasting interests, road traffic, hydrology, and opportunities for energy storage.

Policy RD1.8 indicates that any new access onto a public road must be designed to the satisfaction of Aberdeenshire Council's Road and Transportation Service, and in the case of a trunk road, Transport Scotland. Developers should be aware of the Aberdeenshire Standards for Road Construction Consent and Adoption, and the need for Roads Construction Consent in most instances. A Transport Assessment (Transport Statement) may be asked for, to demonstrate that the development (and any associated mitigation measures) will not have significant impacts on existing transport infrastructure and services.

2.2.2 Aberdeenshire Council 'Standards for Road Construction Consent and Adoption' (Aberdeenshire Council 2015)

This guidance establishes standards for transportation, covering design and construction of new roads linked to development proposals in the Aberdeenshire region. It outlines inspection procedures and management of construction traffic, including the handling of abnormal loads.

2.2.3 Aberdeenshire Council Abnormal Load Guidance 'Traffic Management – Abnormal Loads' (Aberdeenshire Council 2015)

This document provides general guidance on the transport of large or heavy loads that cannot be divided in either size or weight for the purposes of transport.

3 Baseline Conditions

3.1 Site Location & Access

The site location in the context of the local road network and existing infrastructure (New Deer Substation) is shown in Figure 3-1.

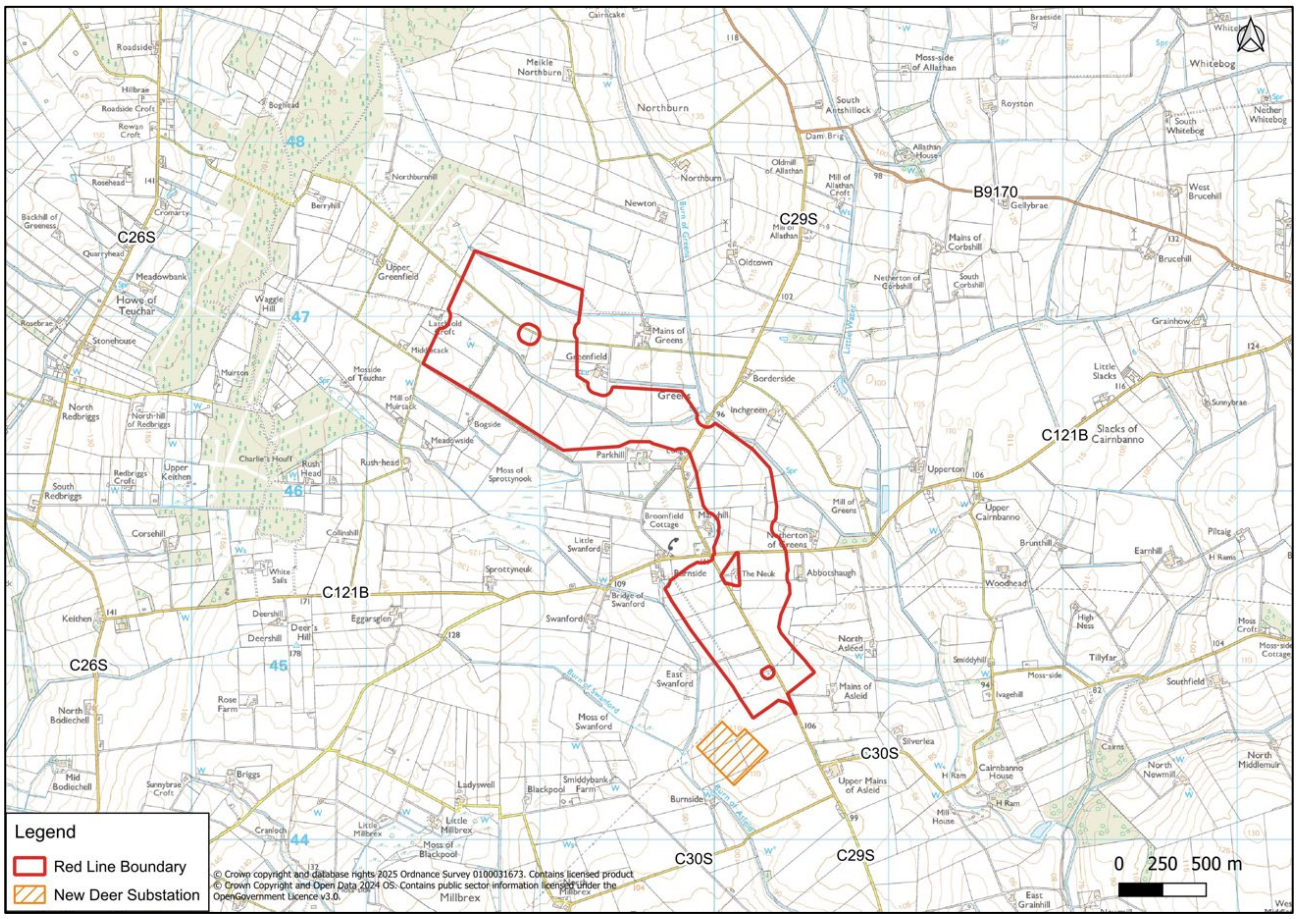

Figure 3-1 Site Location

This application seeks permission for the principle of a cable route within the site, details of which will be confirmed at Matters Specified in Conditions (MSC) stage and therefore the access locations have not yet been determined for the Site. However, all accesses will be designed in accordance with current standards and sized appropriately to accommodate construction vehicles.

3.2 Wider Road Network

The surrounding road network is characterised by 'B' roads and a network of unclassified roads, however it is noted that the road which accesses the New Deer Substation (C30S) has a number of passing bays located along its length, this assists with two-way traffic progression on these rural roads.

A wider road network includes a number of 'A' roads. The A947 is located to the west of the site (approx. 8km (5miles)) running through Turriff and the A90 (approx. 29km (18miles)) is located to the east linking Peterhead to Aberdeen. The A950 travels east to west from Peterhead to the north of the site (approx. 10km (6miles)).

It is likely that these 'A' class roads will accommodate the construction traffic from the main points of origin to the Site, but that the more rural, unclassified roads will carry the construction traffic in the immediate vicinity to / from it.

3.3 Traffic Surveys

The Department for Transport (DfT) has extensive historical traffic data for Aberdeenshire, however there are no traffic counter locations within the immediate vicinity of the Site. The nearest DfT Counter points are located on the wider road network, as indicated in Figure 3-2.

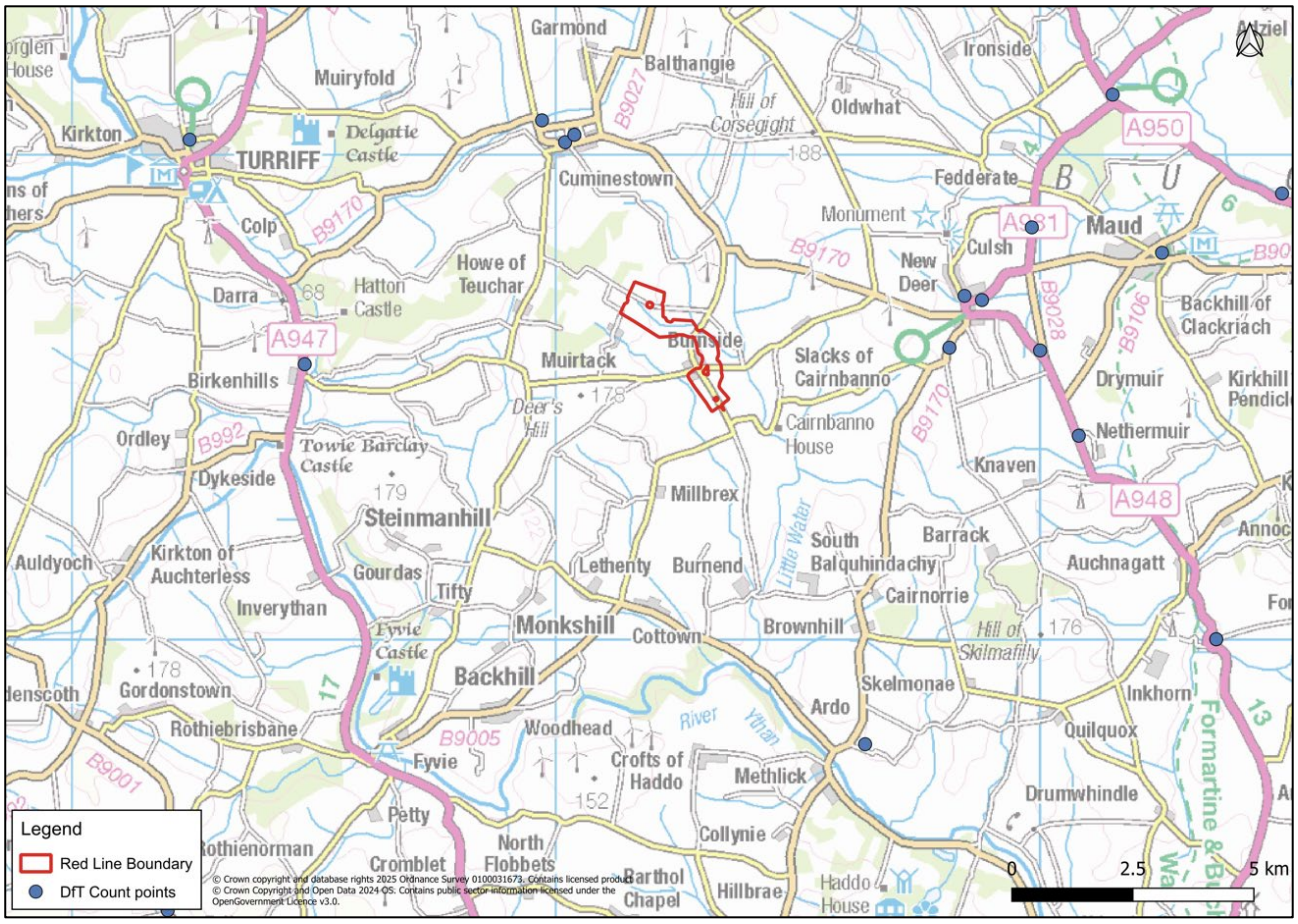

Figure 3-2 Department for Transport (DfR) – Traffic Data Locations

As part of this TA, a series of Automatic Traffic Counter (ATC) surveys have been undertaken at six sites in October 2025 as indicated in Figure 3-3. These locations were selected to ensure that the main approach routes, which have potential to carry the main volume of traffic, were assessed due to their level of importance in the assessment process.

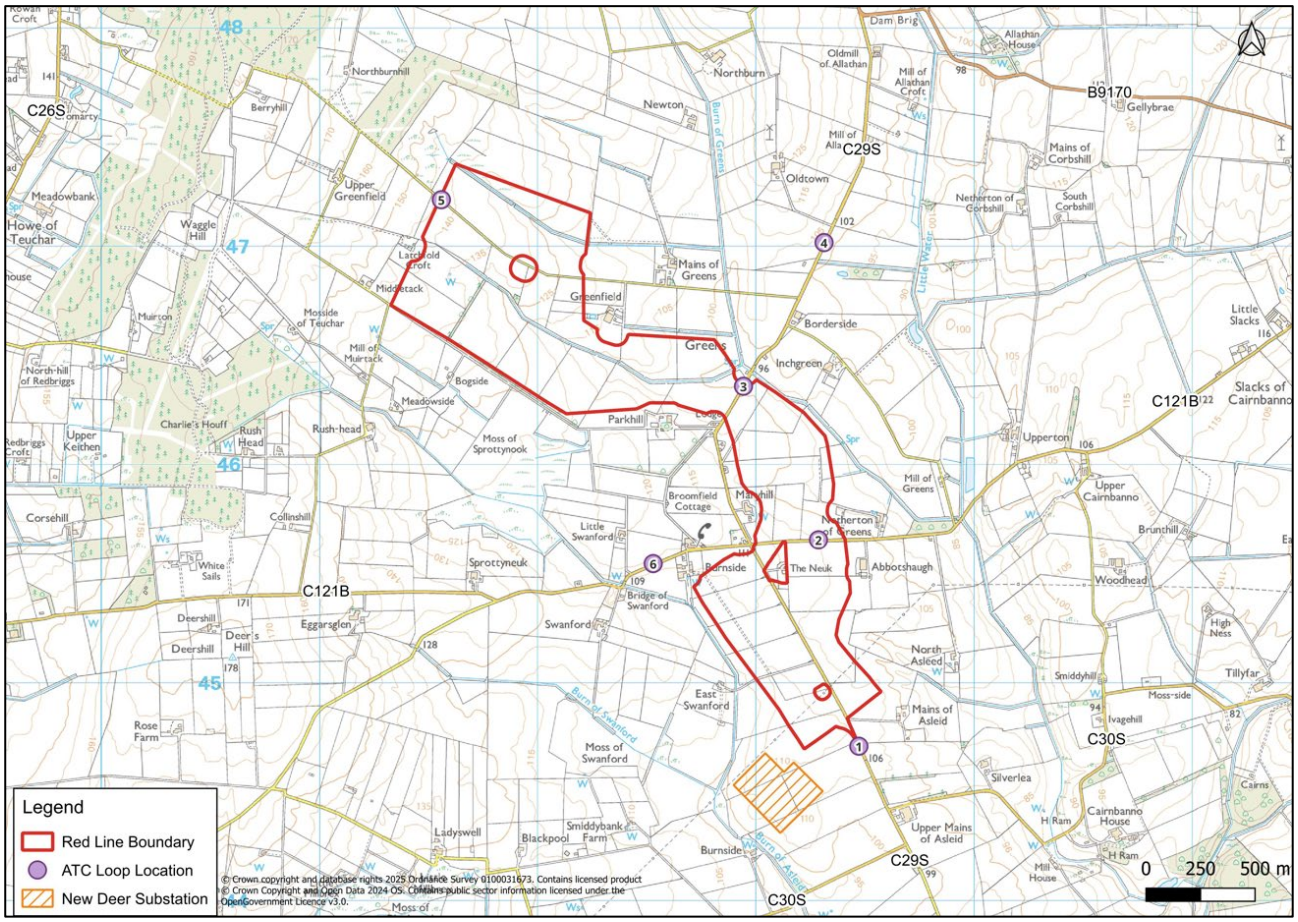

Figure 3-3 Automatic Traffic Count (ATC) Surveys Locations

The traffic survey data, along with the historical data available from the DfT website, provides a comprehensive and robust dataset to assess the impact of the Proposed Development upon the surrounding road network.

3.4 Existing Traffic Volumes

ATC loops were laid at the locations indicated in Figure 3-3 between Thursday 23rd October and Wednesday 29th October 2025 and the average weekday total volume of traffic (AWDT) and total volume of HGVs has been extracted from this information. The survey findings are presented in Figure 3-4 and summarised in Table 3-1 . Additionally, data on traffic volumes for B9170 has been extracted from the Greens substation planning application (Ref APP/2024/1927).

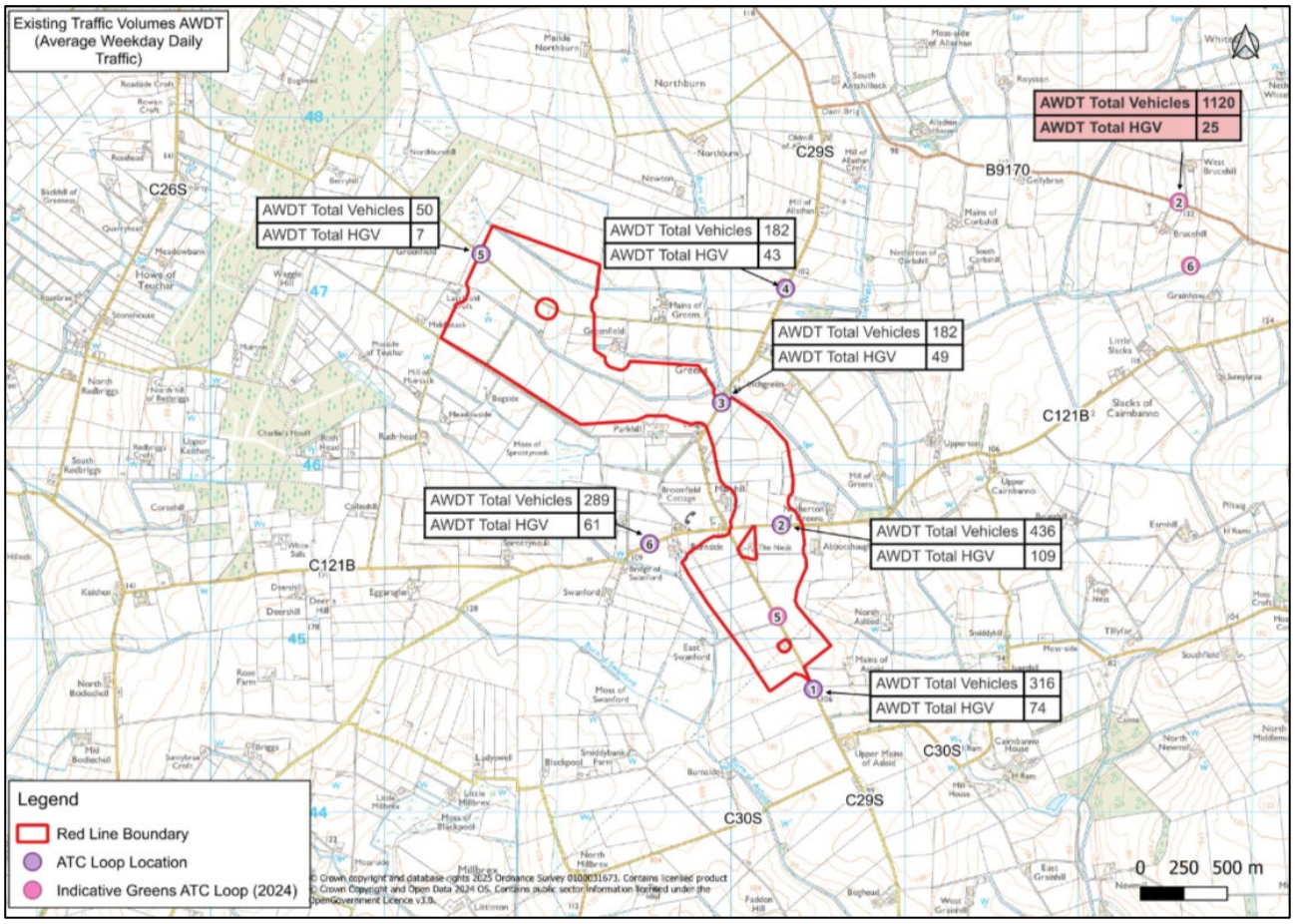

Figure 3-4 Average Weekday Traffic Volumes – ATC Survey Data

Table 3-1 Average Weekday Traffic Volumes (AWDT) – ATC Survey Data

ATC Location	AWDT Total Vehicles	AWDT Total HGV
1	316	74
2	436	109
3	182	49
4	182	43
5	50	7
6	289	61
Greens (ID 2)	1120	25

The average weekday total hourly and average weekday total traffic (AWDT) data for the six ATC loops (total volume of traffic and total HGVs) is presented in Table 3-2.

Table 3-2 Average Weekday Traffic Hourly Volumes – ATC Survey Data

Time	ATC 1		ATC 2		ATC 3		ATC 4		ATC 5		ATC 6	
	Tot Veh	Tot HGV	Tot Veh	Tot HGV	Tot Veh	Tot HGV	Tot Veh	Tot HGV	Tot Veh	Tot HGV	Tot Veh	Tot HGV
0000 - 0100	1	0	1	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	1	0	1	0	1	0	1	0	0	0	0	0
0300 - 0400	0	0	1	0	0	0	0	0	0	0	1	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	1	0	0	0	0	0	0	0	1	0
0600 - 0700	4	1	10	2	3	0	2	0	1	0	6	1
0700 - 0800	15	2	26	5	8	2	7	2	2	0	15	3
0800 - 0900	27	8	33	10	14	4	15	4	4	0	17	5
0900 - 1000	25	7	29	8	16	4	16	3	5	1	19	4
1000 - 1100	27	6	31	8	14	4	13	4	3	1	20	4
1100 - 1200	17	5	24	7	16	5	13	4	3	1	18	5
1200 - 1300	22	6	30	9	14	5	13	4	3	0	19	5
1300 - 1400	19	5	28	6	14	4	14	4	3	0	20	5
1400 - 1500	19	6	26	8	11	3	12	3	3	0	22	5
1500 - 1600	20	5	29	8	15	5	13	3	4	1	22	4

Time	ATC 1		ATC 2		ATC 3		ATC 4		ATC 5		ATC 6	
	Tot Veh	Tot HGV	Tot Veh	Tot HGV	Tot Veh	Tot HGV	Tot Veh	Tot HGV	Tot Veh	Tot HGV	Tot Veh	Tot HGV
1600 - 1700	28	8	38	12	16	4	18	4	4	1	28	6
1700 - 1800	30	7	39	11	15	3	16	3	7	0	27	5
1800 - 1900	28	4	39	6	12	3	14	2	2	1	22	3
1900 - 2000	16	3	23	4	6	2	7	2	1	0	15	2
2000 - 2100	8	1	12	1	3	0	3	0	1	0	7	1
2100 - 2200	4	0	7	1	2	1	2	0	0	0	5	0
2200 - 2300	3	0	7	2	1	0	2	0	1	0	5	0
2300 - 0000	2	0	3	0	1	0	1	0	1	0	1	0
0700 - 1900	276	69	372	98	166	46	163	40	44	6	248	56
0600 - 2200	308	74	423	107	179	49	178	42	47	7	281	60
0600 - 0000	314	74	433	109	181	49	181	42	49	7	287	61
0000 - 0000	316	74	436	109	182	49	182	43	50	7	289	61

As indicated in Table 3-2 above the traffic volumes on the roads surrounding the site are less than 40no. total vehicles in any hourly period throughout the day, representing a low volume of traffic.

3.5 Road Safety

Crash Map[1] serves as an online platform providing information on the location, date, and severity of personal injury accidents on the roads in the United Kingdom. Severity is classified as 'Slight', 'Serious' or 'Fatal', and this is based on the extent of harm to the most critically injured individual.

Crash Map data have been reviewed to determine the number of collisions, which have occurred over the most recent five years of data that is currently available (2020 – 2024). The findings relevant to the Proposed Development are presented in Figure 3-5 below.

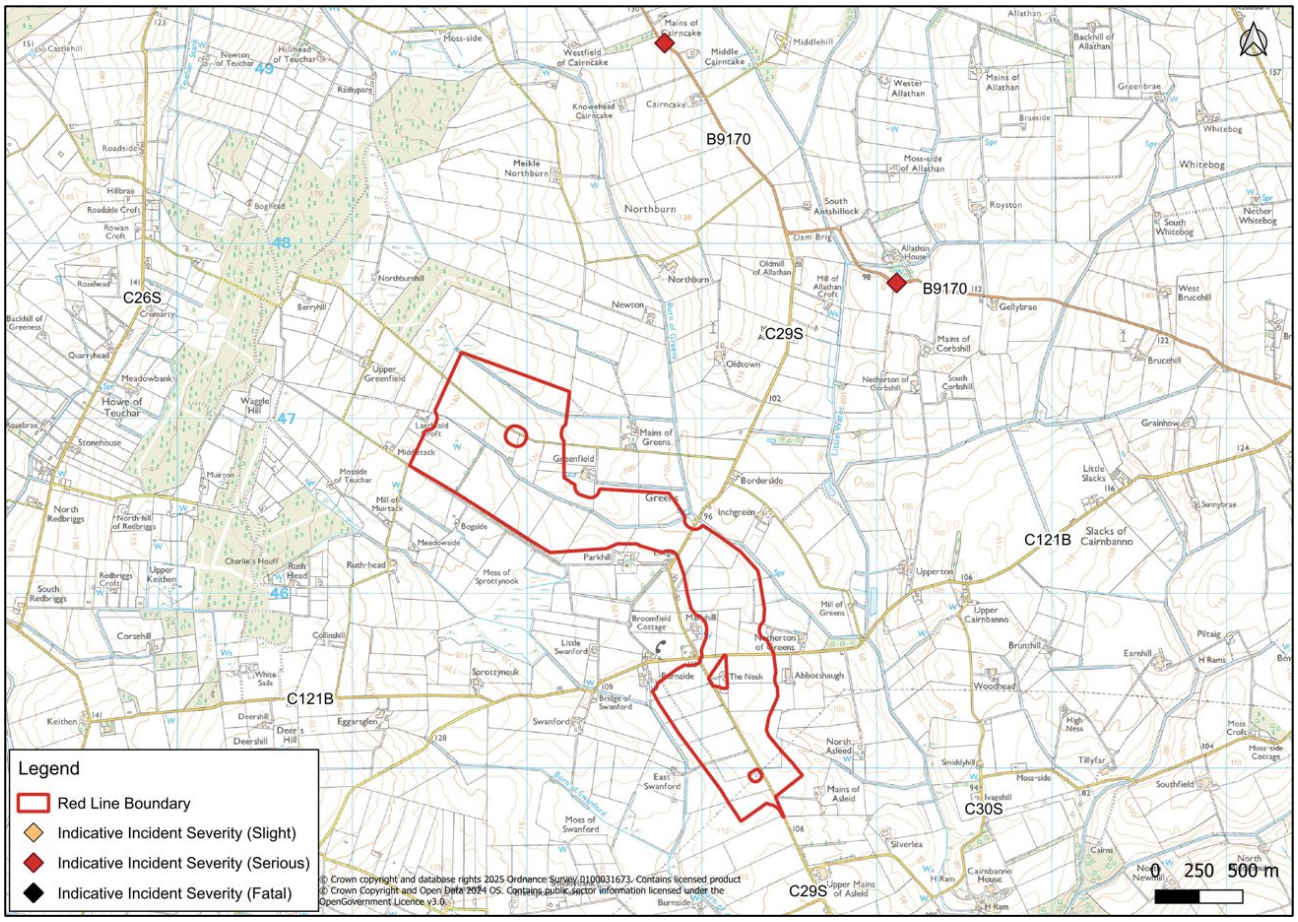

Figure 3-5 Collision Data – 2020 – 2024 (Crash Map)

As indicated in Figure 3-5 there have only been two Serious collisions (with no other type of collisions recorded in the considered period) reported in the last five years in the vicinity of the Site.

[1] (https://www.crashmap.co.uk/Search)

3.6 Pedestrian, Cycle & Public Transport Network

Given the rural location of the Proposed Development there is no existing pedestrian, cycling or public transport infrastructure in the vicinity of the Site.

The nature of the Proposed Development is such that it is unlikely to generate demand from pedestrians, cyclists, or public transport users during either of the construction or operational phases.

3.7 Future Baseline

To assess the future traffic conditions associated with the Proposed Development, a future baseline traffic scenario has been established using TEMPro Version 8 growth factors for the period 2025 to 2030.

TEMPro (Trip End Model Presentation Program) is a Department for Transport (DfT) tool that forecasts future travel demand based on a range of socio-economic and land use factors. The growth factor applied in this assessment is 1.030, meaning a 3.0% increase in traffic volumes is expected over the five-year period.

The TEMPro tool incorporates the following when calculating a traffic growth factor:

- Population forecasts.
- Employment projections.
- Housing growth.
- Car ownership trends.
- Trip rates by purpose, mode, and time of day.

The identified growth factor of 1.030 has been applied to the existing traffic flows presented in Table 3-2 to derive the future baseline flows shown in Table 3-3. This provides a projected traffic scenario for 2030.

It should be noted that this future baseline does not include traffic from other planned or proposed developments in the area. Such developments are typically considered separately through a Cumulative Impact Assessment, in line with planning guidance.

Table 3-3 Average Weekday Traffic Volumes – ATC Survey Data – Future Baseline 2030

Time	ATC 1		ATC 2		ATC 3		ATC 4		ATC 5		ATC 6	
	Tot Veh	Tot HGV	Tot Veh	Tot HGV	Tot Veh	Tot HGV	Tot Veh	Tot HGV	Tot Veh	Tot HGV	Tot Veh	Tot HGV
0000 - 0100	1	0	1	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	1	0	1	0	1	0	1	0	0	0	0	0
0300 - 0400	0	0	1	0	0	0	0	0	0	0	1	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	1	0	0	0	0	0	0	0	1	0
0600 - 0700	4	1	10	2	3	0	2	0	1	0	6	1
0700 - 0800	15	2	27	5	8	2	7	2	2	0	15	3
0800 - 0900	28	8	34	10	14	4	15	4	4	0	18	5
0900 - 1000	26	7	30	8	16	4	16	3	5	1	20	4
1000 - 1100	28	6	32	8	14	4	13	4	3	1	21	4
1100 - 1200	18	5	25	7	16	5	13	4	3	1	19	5
1200 - 1300	23	6	31	9	14	5	13	4	3	0	20	5
1300 - 1400	20	5	29	6	14	4	14	4	3	0	21	5
1400 - 1500	20	6	27	8	11	3	12	3	3	0	23	5
1500 - 1600	21	5	30	8	15	5	13	3	4	1	23	4

Time	ATC 1		ATC 2		ATC 3		ATC 4		ATC 5		ATC 6	
	Tot Veh	Tot HGV	Tot Veh	Tot HGV	Tot Veh	Tot HGV	Tot Veh	Tot HGV	Tot Veh	Tot HGV	Tot Veh	Tot HGV
1600 - 1700	29	8	39	12	16	4	19	4	4	1	29	6
1700 - 1800	31	7	40	11	15	3	16	3	7	0	28	5
1800 - 1900	29	4	40	6	12	3	14	2	2	1	23	3
1900 - 2000	16	3	24	4	6	2	7	2	1	0	15	2
2000 - 2100	8	1	12	1	3	0	3	0	1	0	7	1
2100 - 2200	4	0	7	1	2	1	2	0	0	0	5	0
2200 - 2300	3	0	7	2	1	0	2	0	1	0	5	0
2300 - 0000	2	0	3	0	1	0	1	0	1	0	1	0
0700 - 1900	284	71	383	101	171	47	168	41	45	6	255	58
0600 - 2200	317	76	436	110	184	50	183	43	48	7	289	62
0600 - 0000	323	76	446	112	186	50	186	43	50	7	296	63
0000 - 0000	325	76	449	112	187	50	187	44	52	7	298	63

The roads surrounding the Site are minor / unclassified rural roads with low volumes of traffic and therefore are unlikely to experience any significant change in traffic in line with TEMPro growth factors. However, applying the growth factor across the entire network ensures that the surrounding roads are assessed with worst-case traffic volumes.

4 Impact Assessment

As indicated above, and given the nature of the Proposed Development, the peak in vehicle movements will occur during the construction phase. Accordingly, this assessment focuses on construction traffic and associated impacts, as the operational phase is anticipated to generate very low traffic volumes and is therefore not considered significant.

4.1 Construction Phase Traffic Generation

There are likely to be a number of stages associated with the construction phase as outlined below. Please note these are indicative only and based on past experience with similar developments. The final construction stages will be confirmed at the MSC stage. Therefore the stages listed below should be considered provisional until details for the final route are brought forward:

- Stage 1 – Site Preparation & Access.
- Stage 2 – Satellite Compounds.
- Stage 3 – Cable Route (circuits, trenches & ducts).
- Stage 4 – Cable Installation (circuits, trenches & ducts).
- Stage 5 – Haul Road Decommissioning.
- Stage 6 – Testing & Commissioning.

The construction phase, at this stage, is predicted to occur over a 15-month period (a worse-case scenario for consideration of traffic and transport impacts).

The Applicant has provided a detailed breakdown of the predicted trip generation associated with the construction phase of the Proposed Development. The predicted total volume of construction trips (two-way trips) per month (then broken down into daily and hourly) are indicated in Table 4-1 and Figure 4-1 below.

Table 4-1 Monthly / Daily / Hourly Construction Traffic Volumes

Stage / Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Stage 1	2052	2040	1990	1472	1472	1472	1472								
Stage 2		442	438	418											
Stage 3				403	563	563	533	533	375						
Stage 4							1287	1555	1744	1729	1673	1677	1395		
Stage 5													423	941	741
Stage 6															108
Total Vehicles (two-way)	**2052**	**2482**	**2428**	**2293**	**2035**	**2035**	**3292**	**3560**	**2119**	**1729**	**1673**	**1677**	**1818**	**941**	**849**
Monthly Breakdown – Cars / HGVs															
Monthly Vehicles (Cars)	1200	1600	1600	1600	1200	1200	2400	2400	1200	1200	1200	1200	1600	400	300
Monthly Vehicles (HGVs)	852	882	828	693	835	835	892	1160	919	529	473	477	218	541	549
Daily Breakdown – Cars / HGVs (20no. working days)															
Daily Vehicles (Cars)	60	80	80	80	60	60	120	120	60	60	60	60	80	20	15
Daily Vehicles (HGVs)	43	44	41	35	42	42	45	58	46	26	24	24	11	27	27
Daily Breakdown – Cars / HGVs (12no. hours)															
Hourly Vehicles (Cars)	5	7	7	7	5	5	10	10	5	5	5	5	7	2	1
Hourly Vehicles (HGVs)	4	4	3	3	3	3	4	5	4	2	2	2	1	2	2

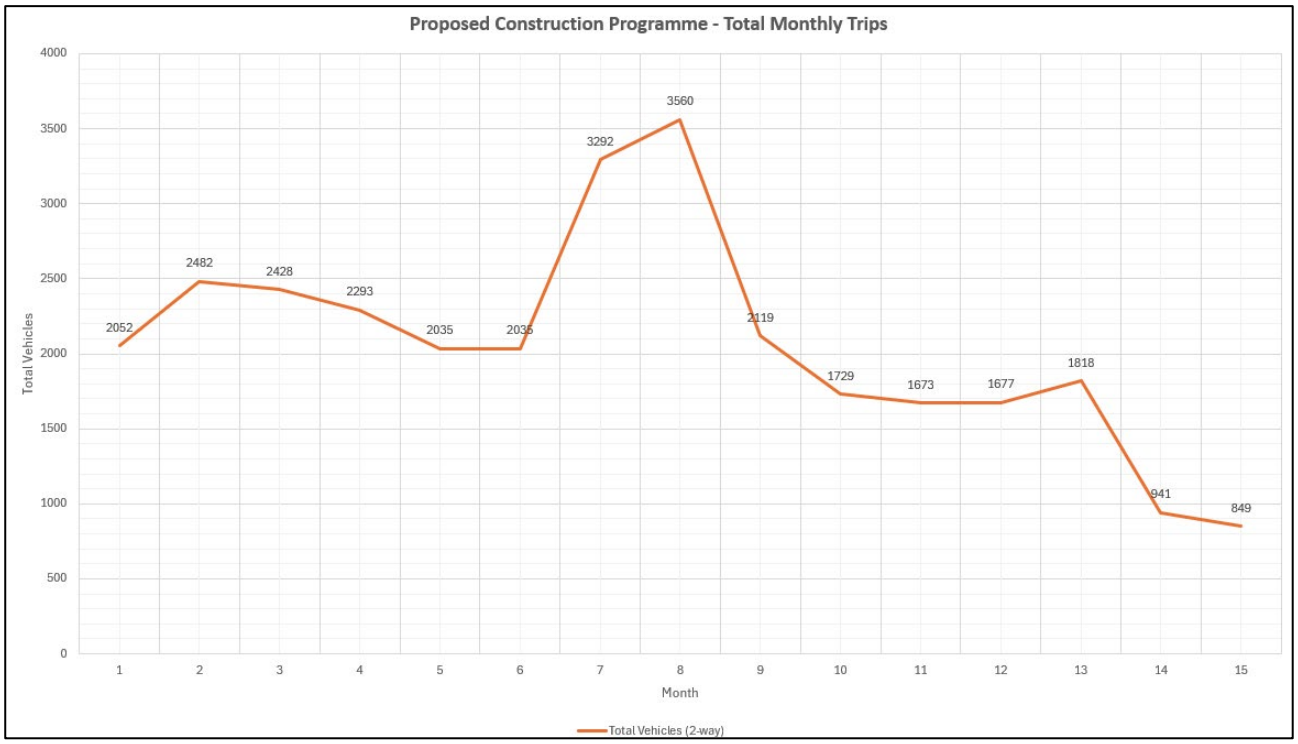

Figure 4-1 Total Volume of Construction Vehicles per Month

During the construction phase there will be both HGVs and private vehicles (staff cars) accessing the site. The monthly breakdown of HGVs and private vehicles separately is presented in Figure 4-2.

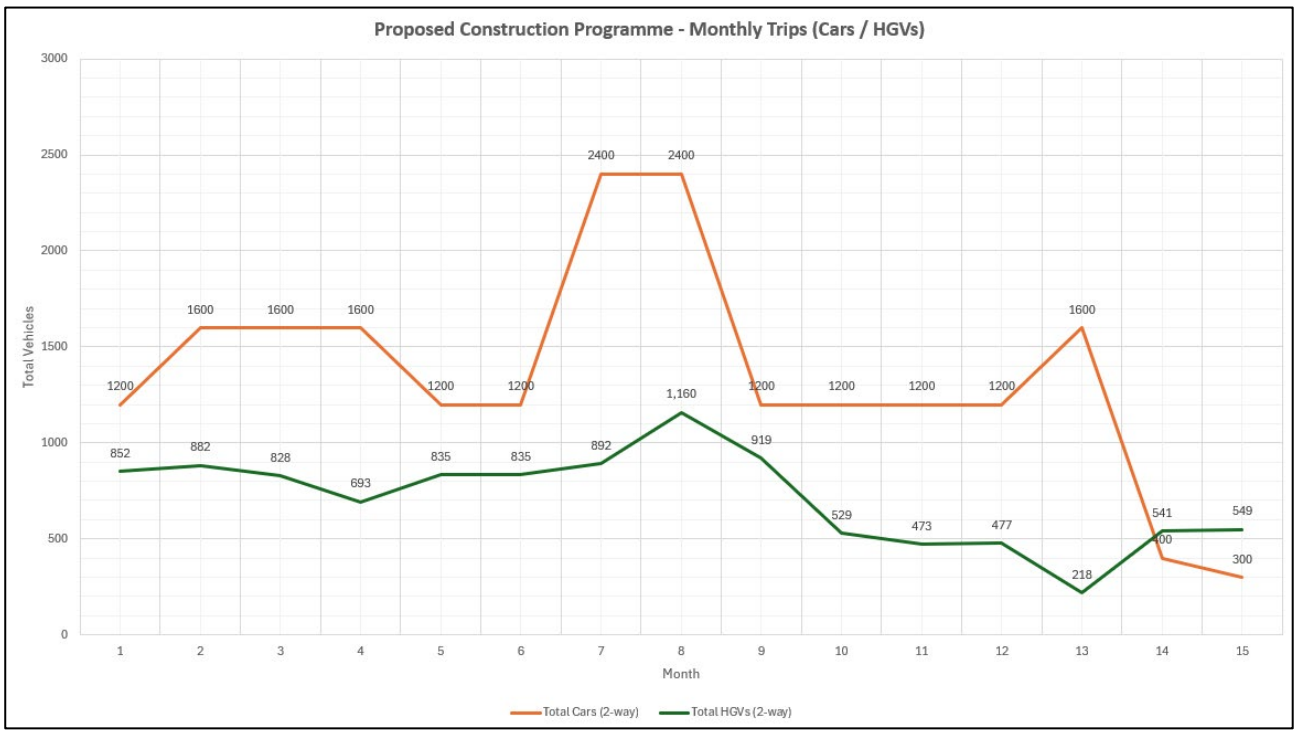

Figure 4-2 Monthly Volume of Cars and HGVs

4.1.1 Daily / Hourly Vehicle Trips

As indicated in Figure 4-1 and Figure 4-2 above, the most onerous month for construction vehicles is Month 8, when there are a total of 3,560no. total vehicles (broken down into 2,400no. private car trips and 1,160no. HGVs).

Assuming a 20no. day working month would generate on average a total (two-way trips) of 58no. HGVs and 120no. daily cars. It should be noted that the actual number of car trips is likely to be lower than reported, as the assessment assumes maximum construction activity on all assessed days. Additionally, car-sharing arrangements may further reduce individual vehicle movements.

Assuming a 12no. hour working day this would equate to an average of 10no. car trips and 5no. HGV trips per hour, 15no. total vehicle trips per hour (1no. vehicle every 4no. minutes).

However, given that staff are likely to arrive at the site in the morning and depart in the evening, the profile is more likely to be as follows (for the most onerous construction month):

- 60no. staff cars arriving at the site in the AM Peak Hour.
- 60no. staff cars departing the site in the PM Peak Hour.
- 5no. HGVs per hour (average across the working day).

Therefore, whilst the staff arrivals / departures in the peak hours are likely to have an impact upon the surrounding road network, the 5no. HGVs per hour (1no. HGV every 12no. minutes) is unlikely to have a significant impact upon the surrounding highway network given the existing low levels of traffic on the road network.

4.2 Construction Phase Impact Assessment

The future baseline traffic is outlined in Table 3-3 and the predicted traffic volumes during the most onerous month of the construction period (Month 8) are indicated in Figure 4-1 and Figure 4-2 above.

Given that the most onerous construction period is estimated to generate an average of 5no. HGV movements per hour (1no. vehicle every 12no. minutes), then this will have a non-significant impact upon the surrounding road network.

4.3 Operational Phase Impact Assessment

Once operational, the Proposed Development will be unmanned and will generate limited vehicle movements associated with the routine maintenance and inspection of the site.

The traffic movements associated with the operational phase of the development are anticipated to have a non-significant impact upon the surrounding highway network and are typically 1no. trip per annum with occasional HGV movements should heavier maintenance or repair required.

4.4 Cumulative Impact Assessment

4.4.1 Greens Substation

APP/2024/1927 - National for Erection of 400kV AC Substation and Associated Infrastructure - Land At Mains Of Greens Cuminestown Aberdeenshire AB53 5YQ

There is potential for the construction works of the Proposed Development and Greens Substation to occur at the same time and therefore the cumulative impact of the construction phases needs to be considered. The locations of the Proposed Development and the Greens Substation are shown in Figure 4-3.

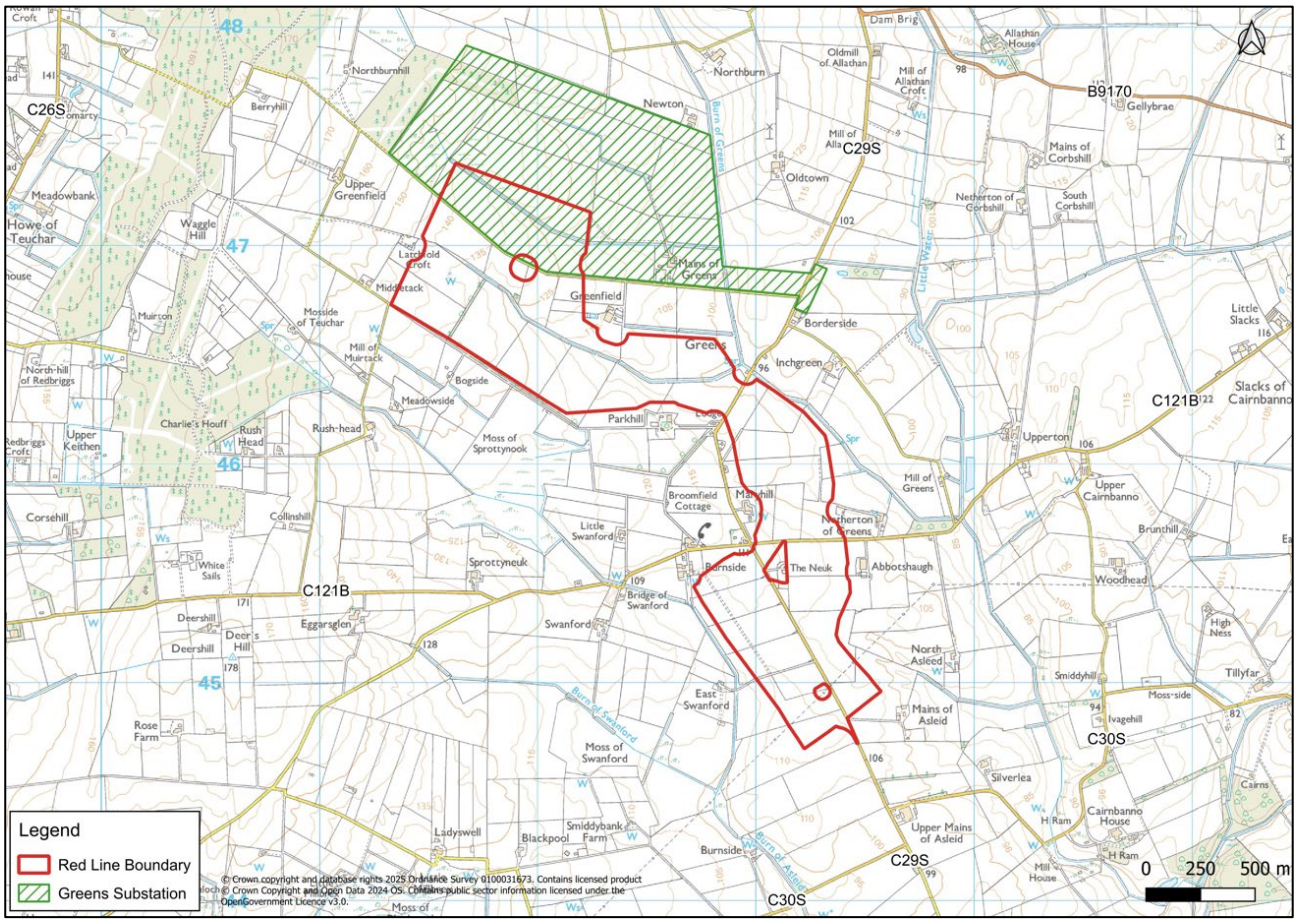

Figure 4-3 Proposed Development and Greens Substation locations

As indicated in Figure 4-3 there is an overlap between the Greens Substation and the Proposed Development site, therefore should construction of both projects occur at the same time then there could be potential for a significant cumulative impact on the surrounding road network.

The information submitted in support of the Greens Substation application identifies predicted volumes of construction traffic (HGV & Non-HGV) on the surrounding road network. These are presented in Figure 4-4 (ATC Locations from Greens Substation are also included).

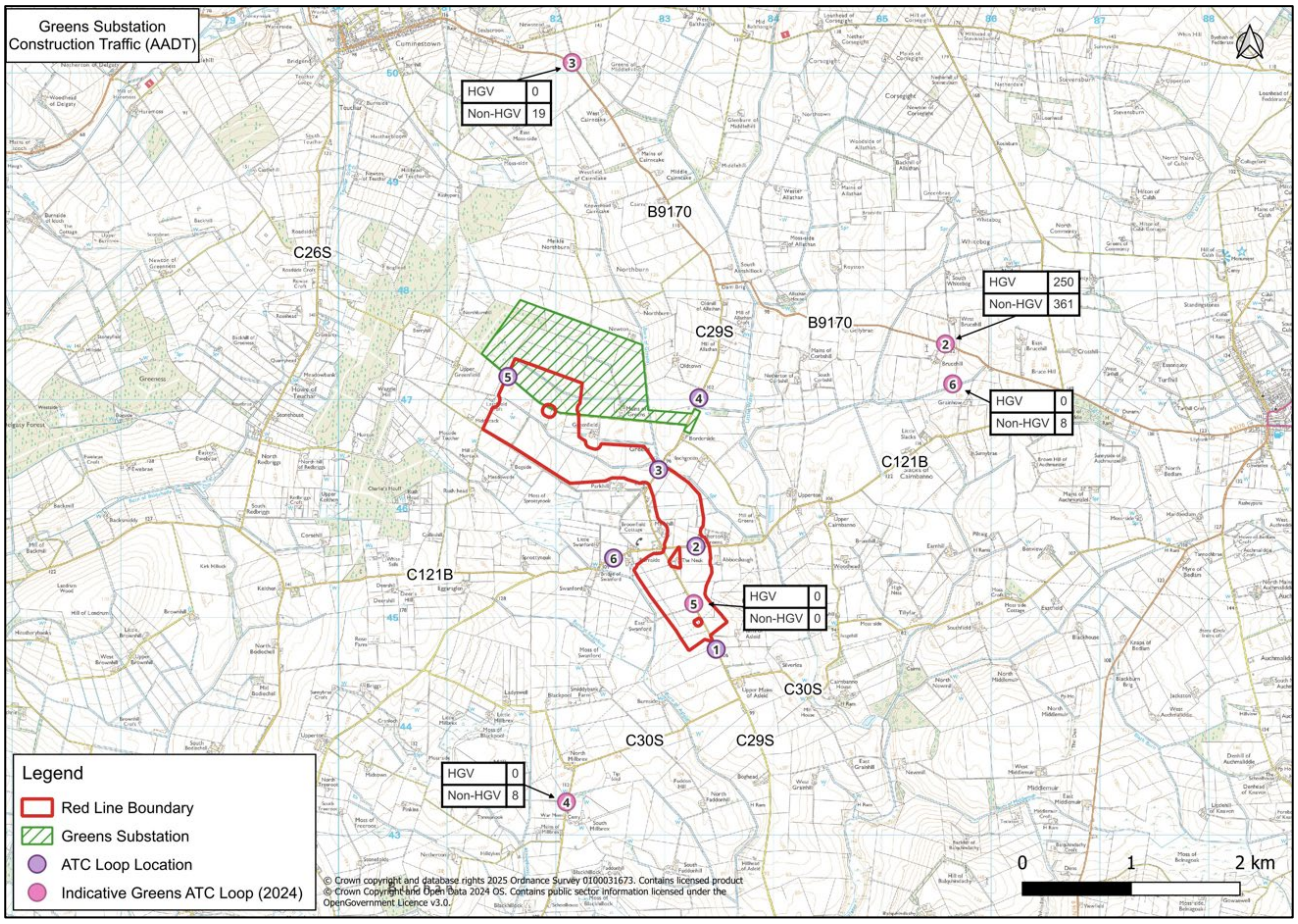

Figure 4-4 Greens Substation – Construction Traffic survey data

The predicted volumes of construction traffic indicated in Figure 4-4 are AADT volumes. Assuming a 12no. hour working day, the average hourly trips for the Greens Substation are indicated in Table 4-2 below.

Table 4-2 Greens Substation – Average Hourly Traffic Flows

ATC Location	HGV / Non HGV	Daily Construction Traffic	Average Hourly Construction Traffic (12no. hours)
2	HGV	250	20.8
	Non-HGV	361	30.1
3	HGV	0	0
	Non-HGV	19	1.6
4	HGV	0	0
	Non-HGV	8	0.67
5	HGV	0	0
	Non-HGV	0	0
6	HGV	0	0

ATC Location	HGV / Non HGV	Daily Construction Traffic	Average Hourly Construction Traffic (12no. hours)
	Non-HGV	8	0.67

Based on the information within the Greens Substation assessment (including traffic assignment and distribution profile), the HGV route for Greens construction traffic is indicated in Figure 4-5.

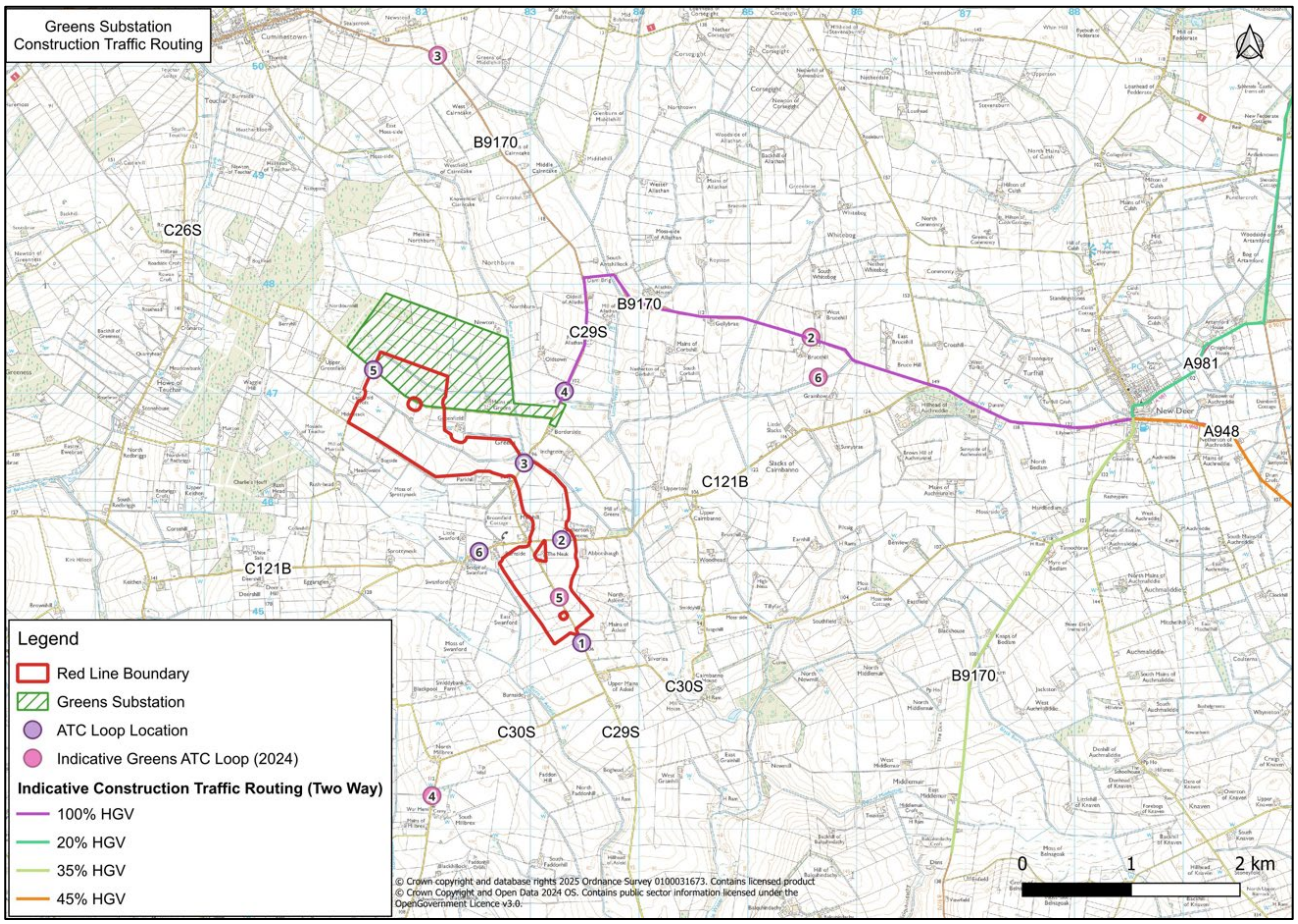

Figure 4-5 Greens Substation – Construction Traffic Route Distribution

As indicated in Figure 4-5 the construction route identified for the Greens Substation is located to the north of the Proposed Development site utilising the C29S to the junction with the B9170 (carrying 100% of HGV traffic). The HGV traffic is then predicted to split three ways between the A981 northwards, A948 eastwards and B9170 southwards.

Should construction of both the Greens substation and Proposed Development occur at the same time then there would be a greater impact upon the surrounding highway network. Based on the most onerous construction month for the Proposed Development and the data available within the supporting information for the Greens substation there would be 26no. HGVs per hour (21no. HGVs Greens + 5no. HGVs Proposed Development) during the construction period, should construction periods overlap.

Given the existing low volumes of traffic on the surrounding road network, it is predicted that whilst this number of construction traffic would represent a high percentage impact, the overall volume of traffic would remain low.

4.4.2 Onshore Transmission

APP/2024/1812 - Onshore Transmission Infrastructure for Caledonia Offshore Wind Farm including Formation of Onshore Landfall Point, Laying of Underground Cables, Erection of 2 Co-Located Substations, and Associated Works to connect to the Transmission Grid.

The Client intends to integrate the construction programme for the Proposed Development with the wider OnTI project works. While it is acknowledged that there is potential for cumulative impacts, these will be managed under a single, overarching Construction Traffic Management Plan (CTMP), and a single, overarching construction Phasing Plan which will effectively mitigate any potential significant cumulative effects. The location of the Proposed Development and the Caledonia's OnTI are indicated in Figure 4-6.

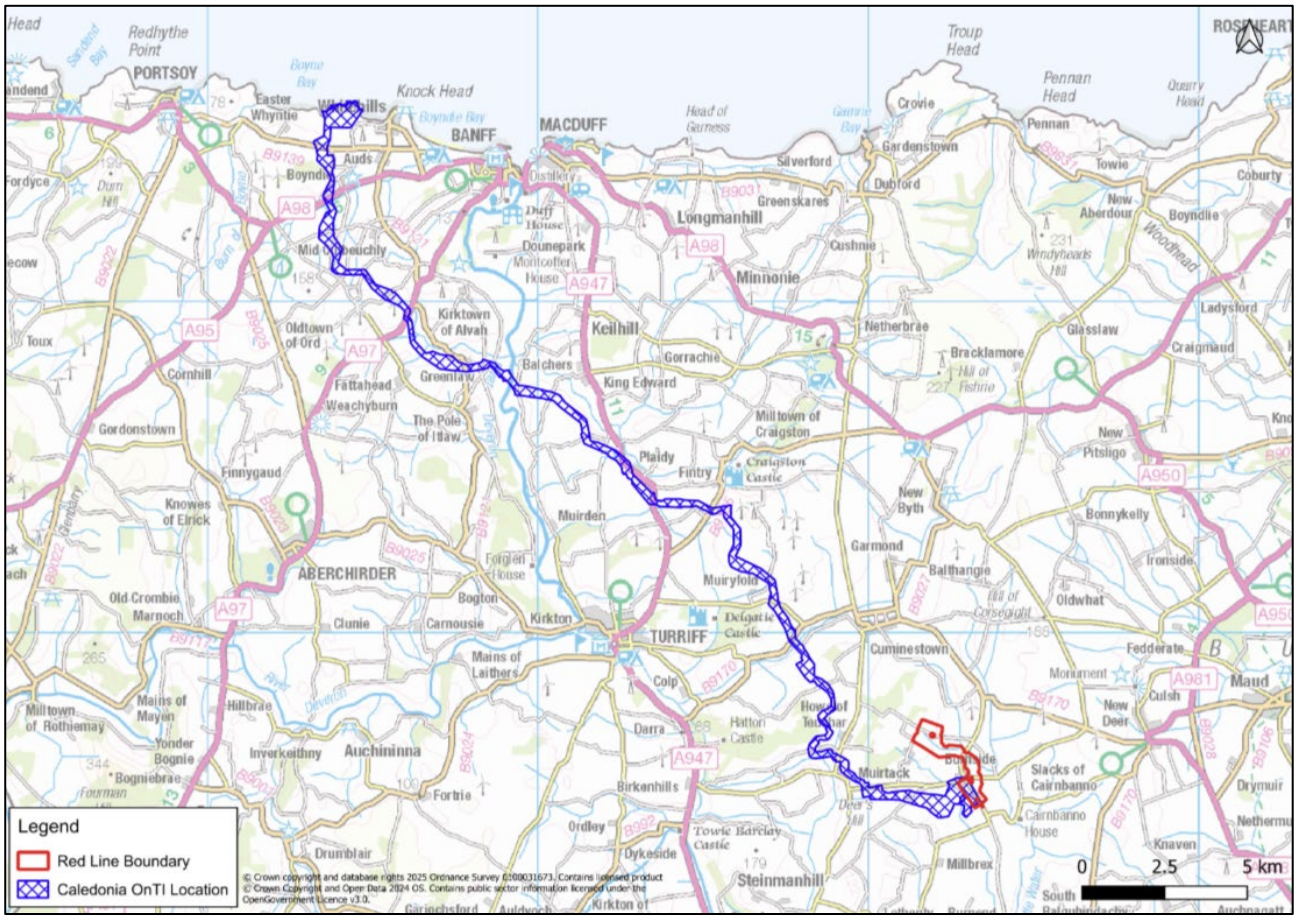

Figure 4-6 Caledonia's OnTI & Proposed Development

As indicated in Figure 4-6, the Caledonia's OnTI and the Proposed Development sites crossover for a small proportion of the overall scale of the OnTI extents. The crossover location is at the southern extents of the two projects.

The information submitted in support of the OnTI application identified predicted volumes of construction traffic (HGV & Non-HGV) on the surrounding road network and this volume of construction traffic is indicated in Figure 4-7 (ATC Locations from OnTI are also included).

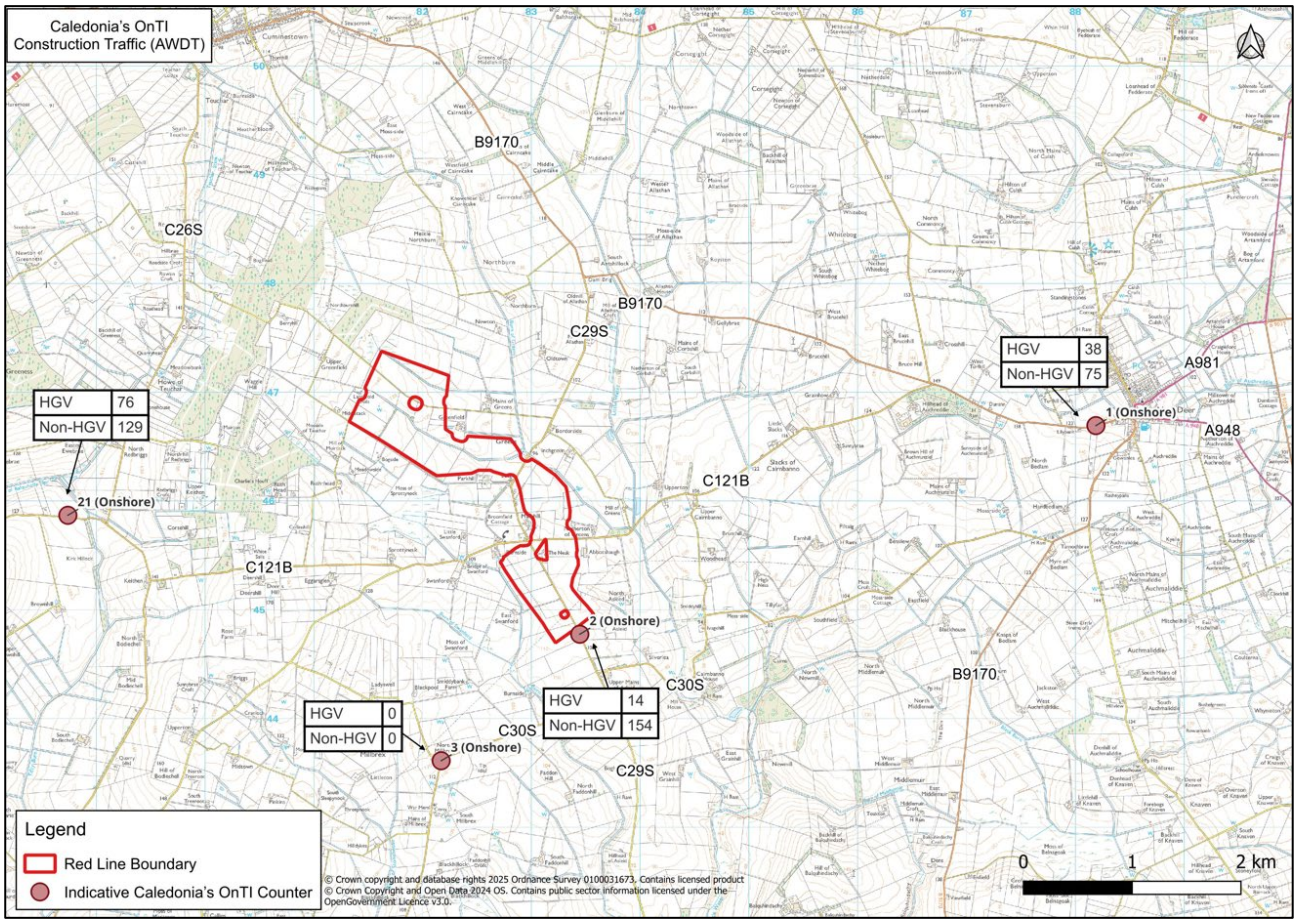

Figure 4-7 Caledonia's OnTI – Construction Traffic survey data

The predicted volumes of construction traffic indicated in Figure 4-7 are AADT volumes. Assuming a 12no. hour working day, the average hourly trips for the OnTI are indicated in Table 4-3 below.

Table 4-3 Caledonia's OnTI – Average Hourly Flows

ATC Location	HGV / Non HGV	Daily Construction Traffic	Average Hourly Construction Traffic (12no. hours)
1	HGV	38	3.17
	Non-HGV	75	6.17
2	HGV	14	1.17
	Non-HGV	154	12.83
3	HGV	0	0
	Non-HGV	0	0
21	HGV	76	6.33
	Non-HGV	129	12.42

As indicated in Table 4-3 above the predicted hourly volume of traffic associated with the OnTI in the vicinity of the Proposed Development are not significant.

The OnTI and the Proposed Development will be constructed at the same time and therefore a CTMP and Phasing Plan will be submitted to ensure any potential cumulative impact upon the surrounding highway network during the construction phase will be minimised.

Should construction of both the Onshore Transmission and Proposed Development occur at the same time then there would be a larger greater impact upon the surrounding highway network. Based on the most onerous construction month for the Proposed Development and the data available within the supporting information for the OnTI there would be a maximum of 12no. HGVs (7no. HGVs OnTI and 5no. HGVs Proposed Development) per hour during the construction period, should construction periods overlap.

Given the existing low volumes of traffic on the surrounding highway network, it is predicted that whilst this number of construction traffic would represent a high percentage impact, the overall volume of traffic would remain low.

4.4.3 Abbotshaugh Energy Storage Project

ECU00005224 - Battery Energy Storage System (Other Generating Station).

This proposal is for a Battery Energy Storage System (other generating station) is located to the west of New Deer Substation and falls within a portion of the RLB of the Proposed Development as indicated in Figure 4-8 below.

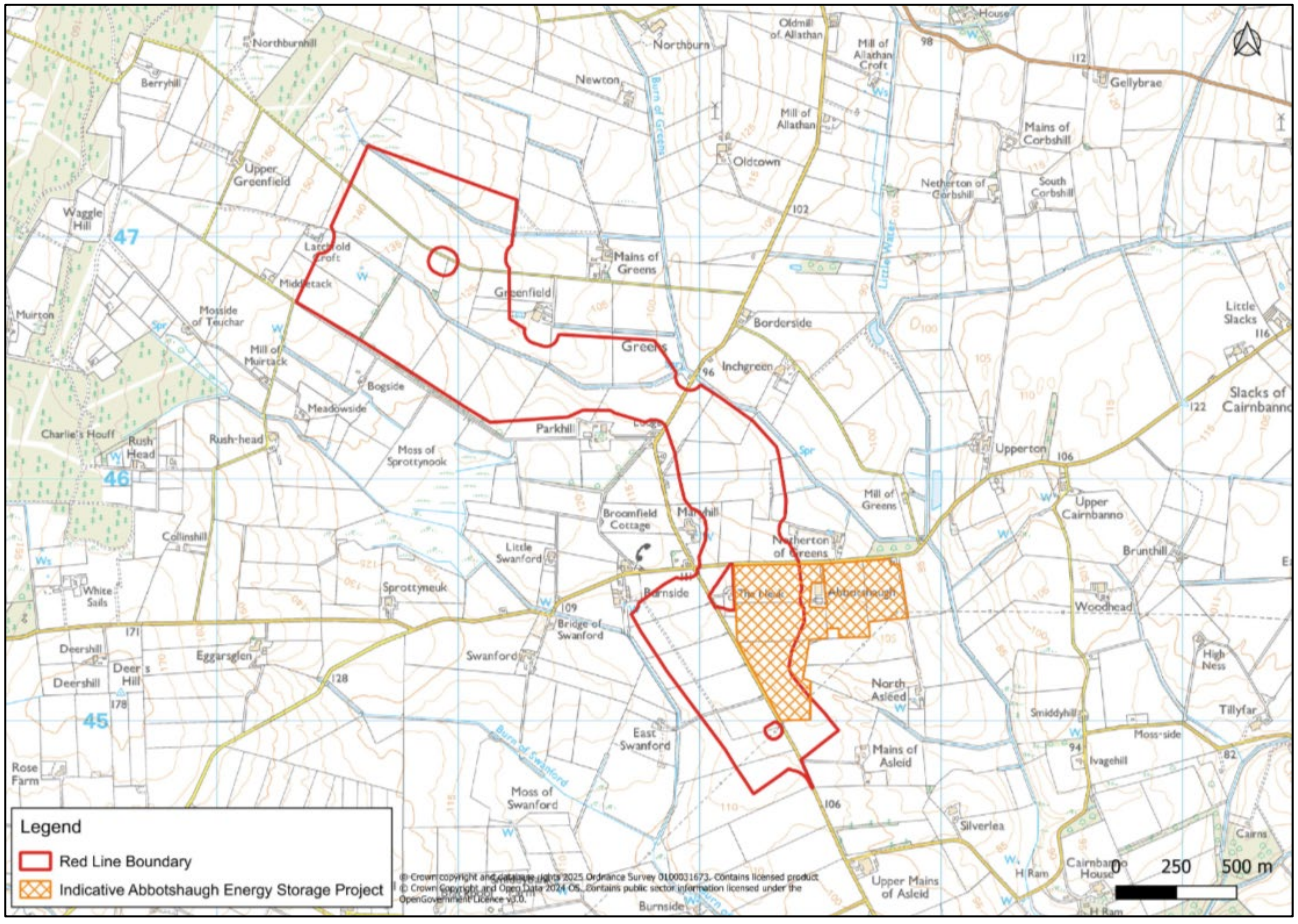

Figure 4-8 Proposed Development & Abbotshaugh Energy Storage locations

This proposal is predicted to have a construction period of 24no. months with works predicted to commence in 2030. The Transport Statement associated with this proposal indicates that during peak construction activities will result in an additional 133no. vehicle movements (66 inbound and 65 outbound) per day, with 57no. classified as HGVs and based on a 12no. hour working day would relate to an average of 4.75no. total trips per hour. The Transport Statement submitted in support of this proposal concluded that, except for the C121B (where the site access is located), all road links will experience an increase in traffic that is considered to be not significant.

Should construction of both the Abbotshaugh Energy Storage Project and Proposed Development occur at the same time then there would be a larger impact upon the surrounding highway network. Based on the most onerous construction month for the Proposed Development and the data available within the supporting information for the Energy Storage Project there would be a maximum of 10no. HGVs (5no. HGVs BESS and 5no. HGVs Proposed Development) per hour during the construction period, should construction periods overlap.

Given the existing low volumes of traffic on the surrounding highway network, it is predicted that whilst this number of construction traffic would represent a high percentage impact, the overall volume of traffic would remain low.

4.4.4 New Deer 2 BESS

ECU00006067 - Battery Energy Storage System (Other Generating Station).

This proposal is for a Battery Energy Storage System (other generating station) located on lands which overlap and are to the north of the Red Line Boundary (RLB) of the Proposed Development as indicated in Figure 4-8 below.

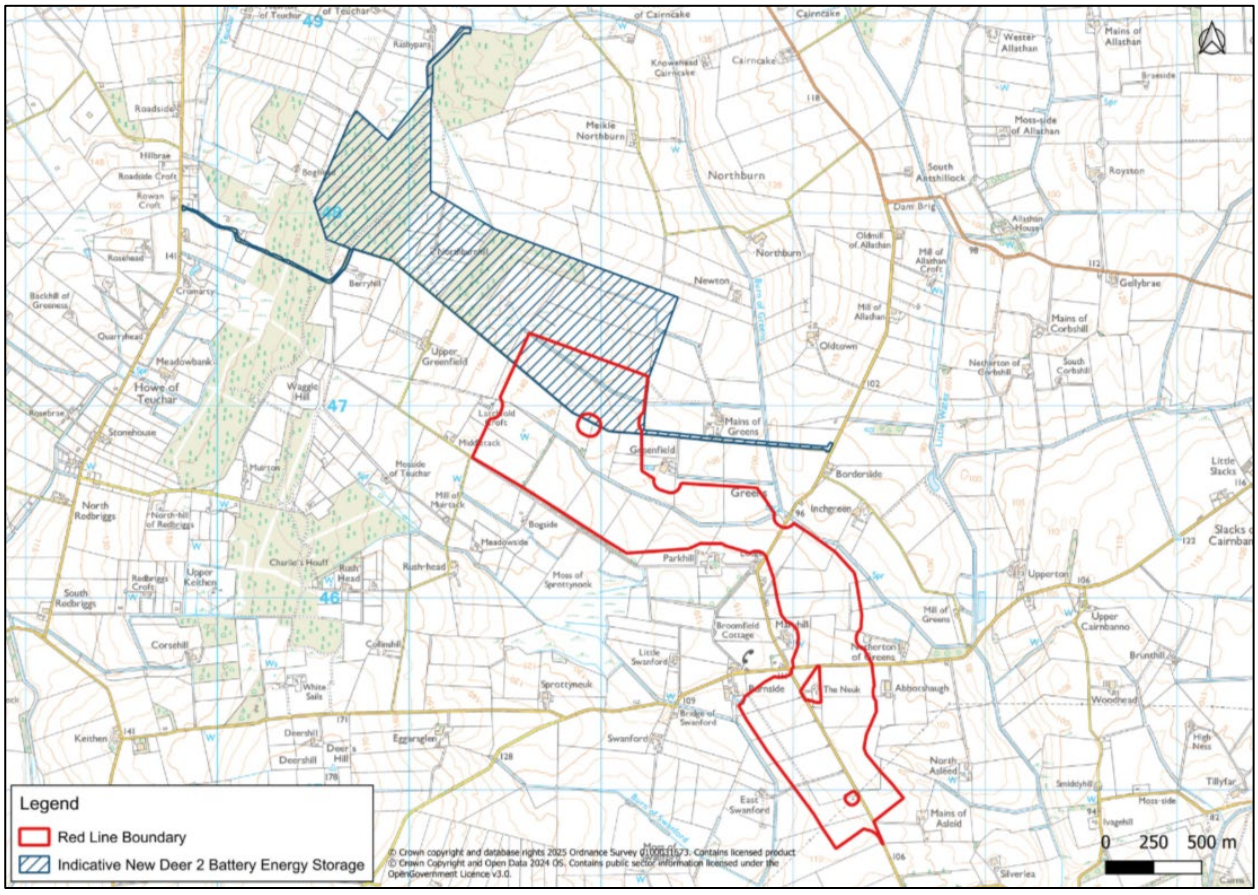

Figure 4-9 Proposed Development & New Deer 2 BESS

The Transport Statement which accompanied this application indicates that the increase in traffic associated with the peak construction activities represents an additional 118no. vehicles movements (59no. inbound and 59no. outbound) per day, of this 51no. are HGVs. This results in an average of 4no. total additional HGV movements per hour during the peak month.

The submitted Transport Statement concluded that with the exception of the main approach to the site the peak construction traffic impact level is low and therefore the daily flows are not considered significant in traffic terms for roads within the study area.

Should construction of both the New Deer 2 BESS Project and Proposed Development occur at the same time then there would be a larger impact upon the surrounding highway network. Based on the most onerous construction month for the Proposed Development and the data available within the supporting information for the Energy Storage Project there would be a maximum of 9no. HGVs (4no. HGVs BESS and 5no. HGVs Proposed Development) per hour during the construction period, should construction periods overlap.

Given the existing low volumes of traffic on the surrounding highway network, it is predicted that whilst this number of construction traffic would represent a high percentage impact, the overall volume of traffic would remain low.

4.5 Mitigation

There are a number of mitigation measures which, when implemented, will contribute to the safe and efficient operation of the construction traffic and transport. A 'considerate contractor' approach will be adopted to manage the movement of construction vehicles and address any associated negative impacts associated with the construction phase. Further example of mitigation is provided within the Outline Construction Traffic Management (OCTMP).

As part of the final Construction Traffic Management Plan for the Proposed Development, a detailed construction programme with be agreed, which, at that stage will allow for the review of potential cumulative impacts of other project in construction.

To ensure the cumulative impacts for transport are considered appropriately, the Applicant would look to participate in a forum with other developments in the locality of the Proposed Development to share detailed information on topics with potential for cumulative interest. The Applicant considers that this may be a future vehicle to share information on specific traffic matters, and allow mitigation to be developed which avoid cumulative impacts on the local traffic network. The Applicant would look to provide information to this forum, and include the resulting measures within the final CTMP, to provide the Planning Authority the security that cumulative impacts can be mitigated, monitored and enforced.

5 Conclusions

This Transport Assessment has been prepared to assess the impact of the Proposed Development upon the surrounding highway network during the construction period. The operational period of the Proposed Development will not have a significant impact upon the surrounding highway network.

Traffic surveys were carried out for a number of selected locations on the surrounding highway network to determine the baseline traffic volumes in the vicinity of the Proposed Development.

Baseline traffic flows have been factored to 2030 using TEMPro growth factors to determine the future baseline traffic flows.

The traffic generation associated with the construction phase has been assessed in detail, considering the monthly, daily and hourly traffic flows during construction. The most onerous construction month has been considered within the assessment to ensure the most robust analysis of the proposal.

The most onerous construction month (month 8) is predicted to generate an average of 5no. HGV movements per hour (assuming a 12no. hour working day). There will also be 30no. staff arriving by car to the site in the AM peak hour and 30no. staff departing by car the site in the PM peak hour.

Based on the future baseline traffic flows and the construction vehicles predicted during the most onerous construction month is unlikely to have a significant impact upon the surrounding highway network.

Other developments have also been considered within this assessment, assessing the potential for cumulative impacts arisings from the construction phases of the Proposed Development in combination with other projects for which there is a spatial, and potentially temporal overlap of construction works. The assessment concluded that although a high percentage increase in traffic is anticipated for the surrounding road network, the overall volume of traffic on the would remain low.

The Applicant would look to participate in a forum with other developments in the locality of the Proposed Development to share detailed information on topics with potential for cumulative interest.

Therefore, based on the information presented above, the Proposed Development will not have a significant impact upon the surrounding highway network during the construction phase. The proposal can therefore be considered to confirm to ALDP and NPF4 policy with regard to transport and access.