Annex 8 Transport Statement & Construction Traffic Management Plan

Pell Frischmann

Mey BESS

Transport Statement & Construction Traffic Management Plan

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1 Introduction

Pell Frischmann has been instructed by ITPEnergised on behalf of Simec Atlantis Energy (the Applicant) to produce a combined Transport Statement and Construction Traffic Management Plan (CTMP) to support a planning application for the creation of a Battery Energy Storage System development (BESS) at a site west of Gills Bay, Caithness.

The planning application is for a proposed BESS (the Proposed Development) which includes associated access infrastructure, electrical grid connections and soft and hard landscaping features.

This report provides an overview of the Proposed Development in relation to construction traffic and sets out the proposed mitigation measures for use at the site.

2 Development Description

2.1 Development Location and Layout

The Proposed Development comprises of a BESS, featuring the following facilities:

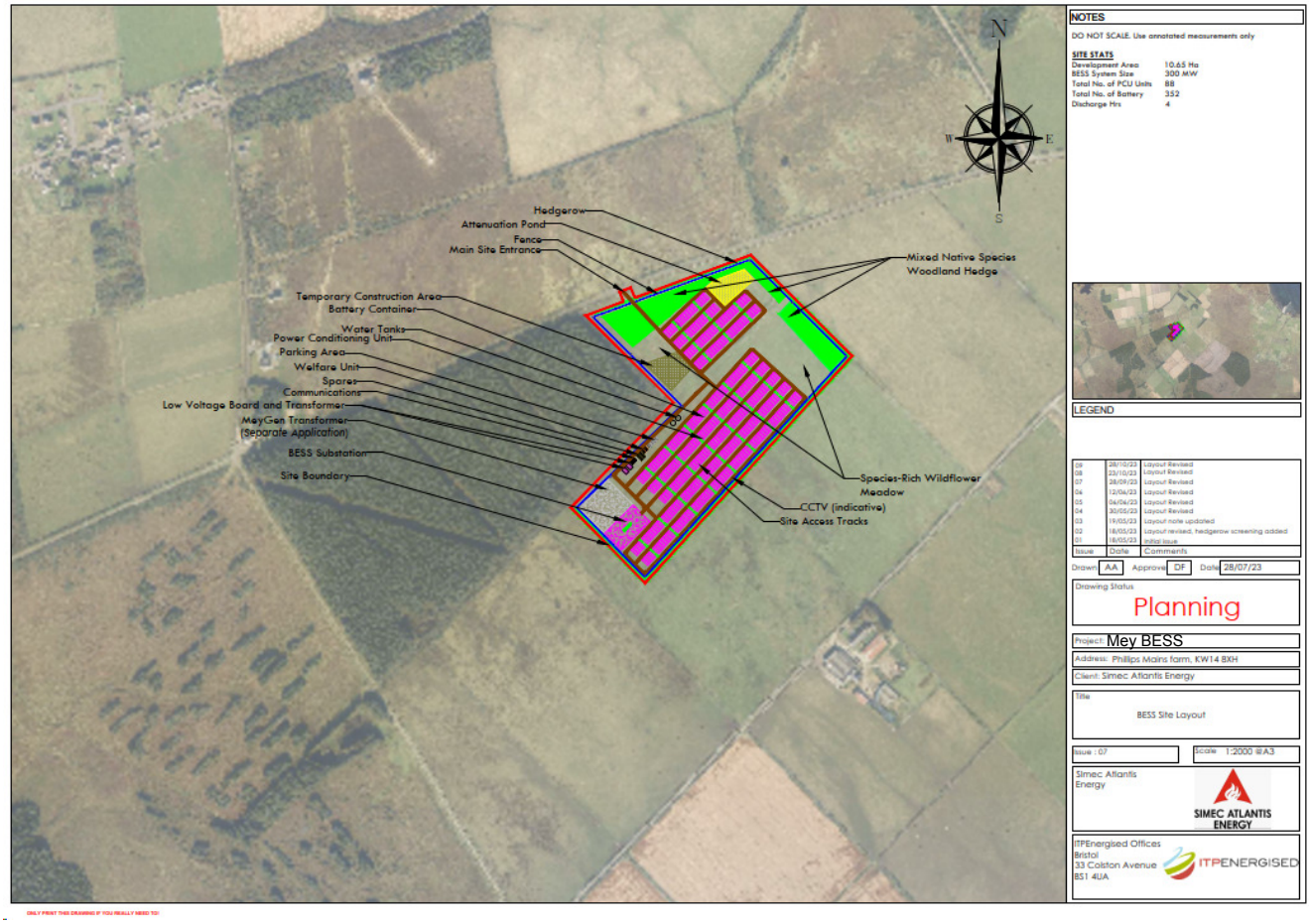
- Battery storage and their electrical connections;
- Access track and secure compound;
- Grid connection infrastructure and control facilities; and
- Security fencing, landscaping and other soft features.

The Proposed Development location is illustrated in Figure 1.

Figure 1 Proposed Development Location

Access to the Proposed Development is to be made via a new site access junction on the C1033. The layout of the Proposed Development is illustrated in Figure 2. The junction has been designed to accommodate the proposed construction traffic deliveries and would provide construction and operational access.

Figure 2 Proposed Development Layout

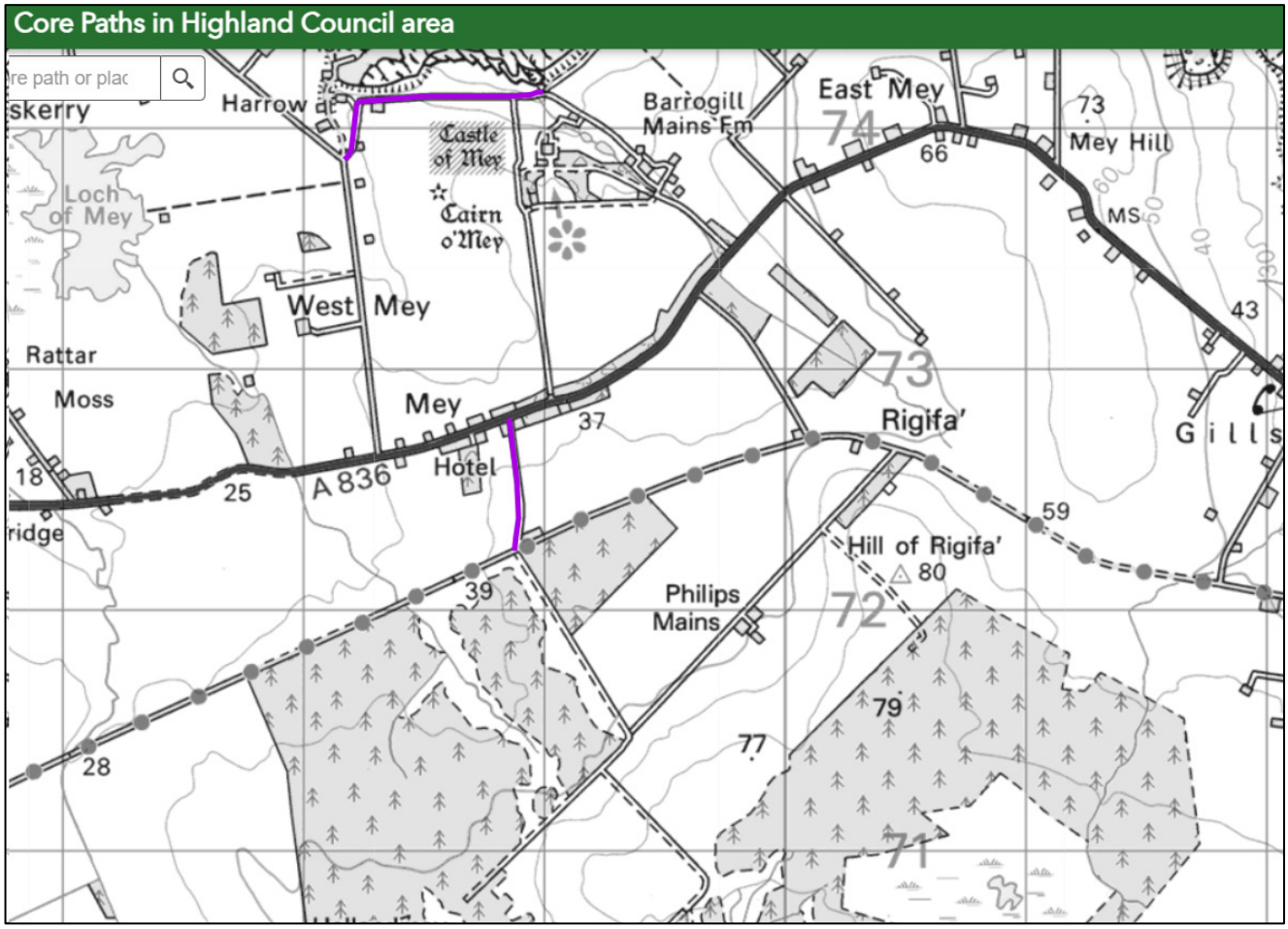


3 Existing Network

3.1 Active Travel Network

A review of The Highland Council Core Path maps[1] indicates that there is one Core Path located in close proximity to the Proposed Development site, namely Core Path CA05.16, which is located approximately 620 metres (m) to the west. Its alignment and location is illustrated in Figure 3 (in purple).

Figure 3 Core Path Alignment



The Proposed Development area does not intrude on the Core Path alignment. To ensure that construction traffic does not affect users of the Core Path, the construction routing would not use the public road to the northwest of the Proposed Development site to access the A836.

The National Cycle Routes (NCR) map[2] of the United Kingdom indicates that the C1033 forms part of the Sustrans Inverness to John O' Groats Cycle Route. The route is a suggested traffic route and uses the existing road with no segregation within the proximity of the site.

3.2 Existing Road Links

The nearest trunk road to the site is the A9, linking Stirling to Thurso. The A9 is operated by Transport Scotland on behalf of Scottish Ministers and is subject to a 60 miles per hour (mph) speed limit along the majority of its length. The A9 is located to the west of the site.

[1] https://www.arcgis.com/apps/webappviewer/index.html?id=2fd3fc9c72d545f7bcf1b43bf5c8445f

[2] https://explore.osmaps.com/?lat=51.641136&lon=-2.923634&zoom=8.4445&style=Standard&type=2d&overlays=os-ncn-layer

Access to the Proposed Development from the A9 would be achievable via the A836. The A836 provides connections across the north coast is part of the tourist NCR500 route. The A836 between Thurso and Gills Bay is of local distributor road standard.

The U1633 East lodge Road is an unclassified road that connects the A836 and the C1033. The road is a single carriageway with passing places and is approximately 750m in length. The road is maintained by The Highland Council.

The C1033 is a C class road maintained by The Highland Council. The road is noted as a Consultation Route in the Timber Traffic Forum[3]. The Consultation Route status denotes that the road is *"recognised as key to timber extraction but which are not up to Agreed Route standard. Consultation with Local Authority is required and it may be necessary to agree limits of timing, allowable tonnage etc. before the route can be used. B-roads and minor roads are classified as Consultation Routes by default unless covered by one of the other Timber Traffic Group classifications".*

The C1033 is a single carriageway with passing places. The distance between its junction with the U1633 and the location of the proposed site access junction is approximately 625m in length.

With the exception of the U1633, all of the roads within the study area are either currently used by Heavy Goods Vehicles (HGV) or are on a recognised export route for HGV traffic. The A836 is considered suitable for construction traffic access.

The U1633 and C1033 are noted to have a number of road edge defects. These would need to be addressed prior to construction works commencing and improved passing places on both roads would be required prior to works commencing. Further details of suggested physical mitigation measures are detailed in later sections of this report.

3.3 Road Safety Review

A review of the online accident database, CrashMap[4] indicates that there have been four accidents on the A836 between Castletown and Gills within the last five years. One accident involving a motorcycle resulted in a fatality in June 2022. Of the remaining accidents, two were noted as being "serious" (i.e. an incident resulting in an injury) and one as a "slight" accident (i.e. one involving damage only).

No accidents were noted on the U1633 or C1033 or at the A836 junction with the U1633.

Goods vehicles were only involved in one accident, located near East Mey. A young driver was involved in a "serious" accident between Corsback and Whitebridge. The other "serious" accident occurred in December 2021 to the east of Castletown in a sharp bend and involved one vehicle only, suggesting a loss of control in adverse conditions.

Of the four accidents, there are no common themes or reason to consider that construction traffic would exacerbate an existing accident issue.

3.4 Existing Traffic Flows

A review of traffic data in the study area identified two sources for existing traffic count data. The Department for Transport[5] (DfT) has undertaken a manual traffic survey on the A836 to the west of Castleton in 2022. This data has been obtained and factored to a baseline for the year 2024 using National Road Traffic Forecasts (NRTF) low growth assumptions.

[3] https://timbertf.maps.arcgis.com/apps/webappviewer/index.html?id=4a23d4910e604b71872956441113c83c
[4] https://www.crashmap.co.uk/Search
[5] https://roadtraffic.dft.gov.uk/#6/55.250/-1.000/basemap-regions-countpoints

Traffic surveys on the C1033 and U1633 were undertaken by ScottishPower Renewables in 2021 as part of their Hollandmey Wind Farm application. This data was obtained from the Transport & Access Chapter of the wind farm Environmental Impact Assessment for their baseline year, 2024.

The results of the traffic survey data review are summarised in Table 1 for 2024 baseline conditions.

Table 1: 2024 Traffic Flows

Description	Cars & LGV	HGV	Total Traffic
A836	3,771	70	3,841
U1633	52	32	84
C1033	73	1	74

The construction period is expected to commence in 2025. To develop baseline traffic flows, National Road Traffic Forecast Low Growth factors have been used to estimate traffic flows for 2025. These revised baseline flows are provided in Table 2.

Table 2: 2025 Traffic Flows

Description	Cars & LGV	HGV	Total Traffic
A836	3,790	70	3,860
U1633	52	32	84
C1033	73	1	74

3.5 Committed Developments

A review of The Highland Council planning portal[6] has been undertaken and indicates that there is one planning application within close proximity to the Proposed Development that can be considered as a committed development scheme. This is Scottish Hydro Electric Transmission's Gills Bay switching station proposal (Planning Reference 21/05536/FUL).

The switching station application replaces a separate application for a larger substation development that was submitted in 2015. This larger application noted that at its peak of construction that 140 car / LGV and 20 HGV movements were predicted.

The switching station development is approved and there is a potential that construction traffic for this development may also occur on the study area roads concurrently with that associated with the Proposed Development. This peak committed development traffic has therefore been included in the future baseline traffic flows and is shown in Table 3.

Table 3: 2025 Traffic Flows (Base + Committed Development)

Description	Cars & LGV	HGV	Total Traffic
A836	3,930	90	4,020
U1633	192	52	244
C1033	213	21	234

[6] https://wam.highland.gov.uk/wam/

4 Construction Traffic

4.1 Trip Generation

The proposed construction works are estimated to take up to nine months.

The programme has been divided into its component sections and estimates of the likely traffic generation have been made from the material quantities, staff requirements and component deliveries required. The main areas of construction traffic can be subdivided as follows:

- Import of Plant and Machinery;
- Site Establishment Clearance Loads;
- Import of Bulk Materials;
- Import of Ready-Mix Concrete;
- Import of General Building Supplies;
- Delivery of HV Electrical Components;
- Delivery of batteries;
- Delivery of general site materials and supplies;
- Grid and electrical connection works; and
- Arrival and departure of construction and commissioning staff at the site.

The traffic generation during the construction phase has used first principles to establish the volume and tonnage of construction materials. This has then been converted to two-way vehicle movements to create the construction programme illustrated in Appendix A.

The peak of construction activity occurs in Month three of the construction programme.

4.2 Distribution of Construction Trips

Exact material suppliers will be determined through the Balance of Plant (BoP) contract. The supplies anticipated for use in this study however are based upon the following:

- Aggregate and stone: Likely to be supplied from quarries located to the west of the development site and accessed from the A836;
- Ready-mix Concrete: Likely to be supplied from suppliers located to the south of the site and accessed via the A836;
- HV electrical equipment and batteries: Likely to be supplied from the south via the A9 and A836, but to be confirmed upon confirmation of HV supplier;
- General construction and site supplies: Supplied from Thurso and Wick via the A836; and
- Construction Staff: Accessing the site from the local area, potentially base din Wick and Thurso and accessing the site via the A836.

These general distributions have been applied to the peak of construction activities to estimate the likely peak traffic associated with construction activities. The peak construction traffic flows are summarised in Table 4.

Table 4: Peak Construction Traffic Flows

Description	Cars & LGV	HGV	Total Traffic
A836	26	118	144
U1633	26	118	144
C1033	26	118	144

A review of the traffic impact of the construction traffic on the road network has been undertaken and is illustrated in Table 5.

Table 5: 2025 Base + Com Dev + Construction Traffic Flows / Traffic Impact

Description	Cars & LGV	HGV	Total Traffic	Cars & LGV % Impact	HGV % Impact	Total Traffic % Impact
A836	3,956	208	4,164	0.7%	131.0%	3.6%
U1633	218	170	388	13.5%	226.2%	58.9%
C1033	239	139	378	12.2%	561.8%	61.4%

The daily flows are not significant in traffic terms for the A836. The traffic increase on the U1633 and C1033 are significant and a high percentage increase is predicted, however this is due to the low levels of existing traffic on these roads. Furthermore, this should be considered in the context that the impact review has been undertaken for the peak of construction traffic movements and would result in an additional 144 vehicle movements (72 inbound and 72 outbound per day). This represents on average 7 additional vehicle movements in and out per hour during the peak month.

The impact of this number of HGV movements on the study area road network can be managed by a CTMP to ensure that any disruption and disturbance can be kept to a minimum.

4.3 Operational Traffic

Traffic associated with the operational phase will be minor in nature and restricted to occasional visit for maintenance, servicing and security reviews. It is anticipated that traffic flows associated with this phase of the development will be restricted to up to ten vehicle movements (five inbound and five outbound) per month.

This level of traffic is not considered to be significant and as such, no further assessment is proposed.

5 Construction Traffic Management Proposals

The traffic management proposals in this report will be provided to the Principal Contractor and they will be required to abide by these regulations as part of their commercial contracts with the Applicant. Failure to follow the traffic management measures proposed would be a contractual matter and could result in contractors being dismissed from the site.

Pages with information about the construction of the 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 in 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(s). Access routes identified will be clearly defined in all sub-contracts and signposted.

The site access junction will be kept clear at all times during construction and will be monitored by on-site staff to ensure vehicles do not attempt to use the area for parking.

Use of a visible vehicle identification system for HGV deliveries 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.

The following measures would be provided to assist in managing traffic across the study area road network.

5.1 General Measures

Wherever reasonably possible, local suppliers such as quarries and concrete works are proposed to help minimise traffic levels of the network.

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

- Contractual requirement in the BoP contract that contractors will only use the agreed access routes;
- Direction signage signposting traffic on the agreed access routes;
- 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 routes 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 entrance. A road sweeper would also be provided at site to ensure that the C1033 is kept clean at the site access junction during the development platform works; 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 on the A836 such as at Castletown); and
  - Identification of the required access routes and access junction operation and the controls to ensure no departure from these routes.

5.2 Wear & Tear Agreement

An agreement is suggested to cover the cost of any abnormal wear and tear on the U1366 and C1033. This would be agreed with the Council subject to the granting of planning approval.

The wear & tear agreement 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 agreed area covered by the condition survey 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 measures 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 with the Council prior to construction works commencing.

Any immediate necessary repairs would be coordinated with the Council. 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.

During construction activities, a general road wear and tear review would be undertaken with the Council every three months during construction. Interim reviews will be undertaken by the principal contractor on a regular basis and the progress 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.

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, the principal contactor will ensure that they maintain a stockpile of road repair material on site to undertake repair works quickly and efficiently, when authorised by the Council to undertake interventions.

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

There are cases where defects will need to be undertaken quickly and the contractor will have arrangements in place to respond to serious and significant defects within agreed hours.

5.3 Turning Facilities & Banksmen

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

A banksman will be provided at the site access 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 at its junction into the proposed Development. The gate will be set back from the public road to ensure that any future HGV vehicles can stop at the gate without blocking back onto the track.

5.4 Road Improvements

The U1633 and C1033 will require modification to accommodate the proposed traffic volumes during the construction phase. The suggested works relate to enhanced passing bay provision on both roads.

In previous projects, The Highland Council has noted that their preference is that passing places ideally should have 15m tapers at either end and should be capable of accommodating a 15m long parallel section. The minimum width would be at least 6m to allow two HGV to pass in safety.

Each improved or new layby area would need to have a metalled road surface in the interests of road safety and continuity of the existing infrastructure.

The detailed design of the passing places would be undertaken through a Road Opening Permit. The final design features would be agreed subject to the granting of planning approval and prior to the start of construction activities to ensure that the proposals are appropriate and do not conflict with other road enhancements that the Council may have under consideration or that may be associated with other developments in the surrounding area.

Currently the U1633 has three passing places. It is proposed that these existing facilities are enhanced to the standard noted above (subject to all works being contained within the limits of road adoption) and that one new layby is provided to the south of the road. In addition, it is proposed that the junction throat with the A836 is widened to allow HGV traffic to pass on the U1633 and to prevent traffic from backing back onto the A836.

The C1033 has two formal and one informal passing places between the site access junction and the U1633 junction. It is proposed that these are enhanced to the suggested Council standard (subject to all works being contained within the limits of road adoption) and that the site access junction is widened to allow east – west C1033 traffic being able to pass each other at the bellmouth.

In addition, it is suggested that an additional passing place is potentially located in the southern verge to the west of the U1633 junction to allow traffic to pass in safety at the junction.

Both the C1033 and U1633 have sections where the road edge is damaged. It is proposed that these areas are repaired prior to works commencing to ensure the safety of all road users.

To confirm the layby works it is suggested that a site visit with the local road manager is undertaken to confirm the location and nature of the proposed works.

6 Summary

This combined Transport Statement & Construction Traffic Management Plan has considered the likely impact of traffic generated by the proposed development on the local road network.

A review of the type and volume of vehicles associated with the construction programme has been provided and the peak of construction activities identified. This peak in traffic has been used to review the likely impact that construction activities would have.

Construction of the proposed Development will generate approximately 144 movements vehicle movements per day at the peak of construction. It is expected that during the peak month of construction (Month three), 118 two-way HGV movements per day will occur per day. A further 26 car / LGV trips would be created by construction staff travelling to and from the site.

Traffic management procedures have been proposed within this report which would ensure the safe operation of the approach route to the site during construction. Determination of the final details of these traffic management measures will occur once the contractor has been appointed.

A series of road enhancement works are proposed on the C1033 and U1633 to improve access and safety for all road users.

As the Proposed Development will not be manned, operational traffic is expected to be minimal and would be conducted by smaller vehicles. The impact of this on the wider road network will be negligible.

Appendix A Construction Programme and Delivery Profile

Construction Programme

Element	Vehicle									
Month		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Site Establishment / Reinstatement	HGV	100								100
General Deliveries	HGV	88	88	88	88	88	88	88	88	88
Site Clearance & Preparation	HGV	1308	1308	1308						
Access Tracks	HGV		125	125						
Geotextile	HGV	8	8	8	8					
Development Platform	HGV		1047	1047	1047	1047				
Foundation Steel	HGV				3					
Foundation Concrete	HGV					146	146			
Cabling	HGV					7				
Cable Sand	HGV					127				
EV Gear & Switchgear	HGV							14		
Cranes	HGV					4			4	
Buildings	HGV							60		
Fencing, Landscaping & Security	HGV								68	
Battery & Inverter Delivery	HGV							387		
Commissioning	LGV								88	88
Staff	LGV	308	572	572	572	572	572	572	572	308
Total		1812	3149	3149	1718	1990	806	1121	820	584
Total HGV		1504	2577	2577	1146	1418	234	549	160	188
Total LGV		308	572	572	572	572	572	572	660	396
Total HGV / Day		***68***	***117***	***118***	***52***	***64***	***11***	***25***	***7***	***9***
Total LGV / Day		***14***	***26***	***26***	***26***	***26***	***26***	***26***	***30***	***18***
Total per Day		***82***	***143***	***144***	***78***	***90***	***37***	***51***	***37***	***27***

Please note that rounding errors may occur