

## 7 TRAFFIC AND TRANSPORT

### 7.1 INTRODUCTION

7.1.1 This chapter of the ES assesses the likely significant traffic and transport effects associated with the construction phase of the proposed development.

7.1.2 The Scoping Direction (**Appendix 2.1**) requires traffic and transport (construction only) to be scoped into the ES.

### 7.2 ASSESSMENT APPROACH

7.2.1 This chapter is supported by a Construction Traffic Management Plan (CTMP) (**Appendix 7.1**) which sets out the detailed approach, methodology and relevant policies.

### 7.3 ASSESSMENT OF SIGNIFICANCE

7.3.1 The significance of the effects of the proposals will be considered in respect of the following factors.

7.3.2 The overall significance of the effects is defined as follows:

- Neutral No noticeable effect on the locality
- Minor Perception of worsening conditions e.g. increase in delay
- Moderate Increased perception of worsening conditions, may require temporary change to off-site infrastructure
- Major Change requiring permanent modifications to off-site infrastructure

7.3.3 The predicted effects are identified as beneficial or adverse, and as temporary or permanent.

### 7.4 BASELINE CONDITIONS

7.4.1 The development site is located to the west of the A525, which routes north to south along the eastern boundary of the site where it abuts the carriageway in places.

7.4.2 The main area of the development site is bound by open land to the north and west, A525 to the east and the A55 North Wales Expressway to the south. There are three Denbighshire County Council (DCC) Public Rights of Way (PRoW) which route across the site (PRoW 208 20, PRoW 201 8 and PRoW 208 18). Access to the site is currently provided from one existing access point, served from the A525.

7.4.3 The local highway network in the vicinity of the site, generally serves local residential, commercial and agricultural land uses, it is not subject to any weight restrictions.

7.4.4 Personal Injury Accident (PIA) data has been obtained from [www.crashmap.co.uk](http://www.crashmap.co.uk) to assess the local highway safety over the previous three-year period within the vicinity of the proposed site accesses. The data confirms

that there has been a total of ten incidents within the study area, including nine slight and one serious PIAs within the study area over this time period. Nine of the ten accidents occurred at the roundabout junctions at the northern and southern end of the A525. No incidents occurred within the vicinity of the proposed northern or southern site access points, with only one slight accident occurring on the A525, approximately 1.5km north of the North Eastern Access junction.

## **7.5 ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS**

7.5.1 The construction access will be provided via two separate access junctions served by the A525 on the south-eastern and eastern site boundary. The south eastern site access is an existing priority T-junction serving Gwernigrn Farmhouse, accessed directly from the A525 which operates as a left in and left out only junction due to the central verge of the A525 restricting right turn in and right turn out movements. The A525 is subject to a 40mph speed limit in the vicinity of the existing access. The eastern site access is an existing gated field access which serves open land. (set back approximately 11 metres from the junction), located approximately 450m to the north of the proposed South Eastern Access on the A525. In the vicinity of the existing access, the A525 is subject to the national speed limit. Both accesses are shown to be safe with suitable visibility available for construction traffic, with associated improvements.

7.5.2 Additional traffic on the local highway network generated during the construction phase is expected to reach an average of 13 deliveries per day (26 two-way movements). The route to and from the site is a dual carriageway A road frequented by HGVs and is considered appropriate.

7.5.3 The proposed accesses to the site are served directly off the A525 which is classed as a major road and it is not subject to any weight restrictions and suitable to accommodate all types of vehicles including maximum articulated delivery vehicles. All construction vehicles will access the site via the A525. A central verge divides the carriageways of the A525, restricting right turn in and right turn out movements of construction vehicles exiting the site.

7.5.4 Vehicles accessing the site will access from the A525 northbound carriageway, accessible from the A525/A55 North Wales Expressway roundabout.

7.5.5 Construction vehicles approaching from the north will route to the A525/A547 Ffordd Abergele/ Station Road roundabout (north of the site) before routing along the southbound carriageway of the A525. The northbound carriageway of the A525 can then be accessed via the A525/A55 North Wales Expressway roundabout.

7.5.6 Vehicles approaching from the south, east and west will route from the A525/A55 North Wales Expressway roundabout.

7.5.7 Vehicles exiting the site will route northbound along the A525 where they will access the A525/ A547 Ffordd Abergele/ Station Road roundabout.

7.5.8 Vehicles routing north will continue along the A525.

7.5.9 Vehicles routing east and south can route around the A525/ A547 Ffordd Abergele/ Station Road roundabout and access the A525/A55 North Wales Expressway roundabout. From here southbound vehicles can continue on the A525 and eastbound vehicles can access Junction 27 of the A55 North Wales Expressway.

7.5.10 Vehicles routing west can route along the A547 Ffordd Abergele (accessed from the A525/ A547 Ffordd Abergele/ Station Road roundabout) which routes to Junction 24 of the A55 North Wales Expressway. Alternatively, vehicles routing west could also use the route described in point ii above, whereby they can use Junction 27 of the A55 North Wales Expressway to route west.

7.5.11 Both access junctions will be modified to be suitable for HGVs which will enter and exit the site in a forward gear as there will be appropriate space within the site compound for vehicles to manoeuvre, the proposed access arrangements are detailed within Figure 3 and 4 of the CTMP (Appendix 7.1).

7.5.12 The Swept Path Analysis confirms that a 16.5m large articulated lorry will be able to access and egress the proposed mitigated site access safely and conveniently. Access will be left in and left out only due to the central verge of the A525 restricting right turn in and right turn out movements.

7.5.13 A mobile crane may be used during the construction of the site. The Swept Path Analysis demonstrates that the Mobile Crane will require routing over both lanes of the A525 northbound carriageway when accessing and exiting the site, mitigation measures such as banksmen will be implemented to ensure safe access and egress.

7.5.14 Appropriate streetworks in the form of coning off the nearside carriageway, in line with Traffic Signs Manual Chapter 8, are proposed to provide safe and suitable access for vehicles accessing and egressing from both of the proposed accesses. It is anticipated that the operational speed of this lane will be determined through liaison with DCC or via a suitably worded planning condition.

7.5.15 The streetworks would block access to the Plas Coch Independent Hospital, which is served by an access with an approximate 55 metre separation distance to the north of the South-Eastern Access. Additionally, existing users of the South Eastern Access lane would be blocked. Therefore, suitable signage (in line with Traffic Signs Regulations and General Directions (TSRGD) guidance will be put in place, providing access into the streetworks area for Plas Coch Independent Hospital and South-Eastern Access lane users.

7.5.16 Once operational, the south-eastern access will be retained for operational requirements and the eastern access will revert to its current arrangement.

7.5.17 It is not anticipated that the trips generated by the development proposals will have a significant impact on the local and strategic road networks. It is considered that the level of traffic during the construction phase will not have a significant impact on the safety or operation of the local highway network.

7.5.18 There will be a minor adverse effect on users of the PRoW which pass through the site these will be temporary in nature and limited to the construction phase.

7.5.19 During the installation of the underground grid connection cables there may be minor disturbance to the users of the public highway as there will be minimal vehicles associated with this element of the works and appropriate signage and traffic controls will be provided as necessary.

7.5.20 It is not anticipated that the development proposals will have a significant impact on the A55 with regards to vehicles exiting the highway (due to incident) given the proximity of the proposed development along the southern boundary, the level of existing vegetation and the levels differences/existing barrier restraints on sections of the A55 that fronts the southern boundary of the site.

7.5.21 The developer will be responsible for a review of privately owned highway boundary features and/or new development works near to the trunk road and the risks this may have on trunk road users, identify all existing local hazards and highway features and to assess matters such as relative level differences and proximity of the site to the A55.

7.5.22 It is considered that the provision of these details can be addressed by an appropriately worded planning condition. A DMRB CD 377 compliant Risk Assessment would be undertaken as described under DMRB CD 377, Chapter 2. General requirements: Risk assessment and hazard mitigation as modified for Wales by CD 377 WNAA, W/2 General requirements: Risk assessment and hazard mitigation (CD 377, 2.2). The assessment would cover the full length of the southern boundary of the site where it interfaces with the A55.

## **7.6 MITIGATION AND ENHANCEMENT**

7.6.1 Mitigation measures will be agreed between the appointed contractor and Denbighshire County Council as the Local Highway Authority. It is envisaged that the mitigation measures will be secured via a suitably worded planning condition requiring compliance with the CTMP. Mitigation measures set out within the CTMP include:

- i. Signs to direct construction vehicles associated with the development will be installed along the routes to the site.
- ii. Due to the nature of the site, there is sufficient space to allow the construction compound to remain in place throughout the entire construction phase. The internal site compound will be located on the existing farm yard to the south of the Gwernigrion Farm;
- iii. Swept path analysis indicates that areas beyond that which are currently tarmacked are required for construction phase, these areas will be re-surfaced (detail type of surface) in a bound material to allow the swept path of construction vehicles. It is proposed that Hot Rolled Asphalt (HRA) surfacing and splayed kerbing blocks are used, built to British Standard.

- iv. A compound area for contractors will be set up on-site including appropriate parking spaces. Contractors and visitors will be advised that parking facilities will be provided on-site in advance of visiting the site and that they should not park on-street or the access tracks;
- v. A wheel wash will be provided as necessary at both entrances, which hoses down vehicles so that no construction vehicles exiting the site compound will take mud or debris on to the local highway network;
- vi. The site will be secured at all times;
- vii. A requirement for engines to be switched off when not in use;
- viii. Spraying of areas with water supplied as and when conditions dictate to prevent dust;
- ix. Vehicles carrying waste material off-site to be sheeted;
- x. Banksmen to guide construction and delivery vehicles safely into and out of the site; and
- xi. Signs for "Works Access Ahead" and others as required will be employed to warn drivers of construction activity in and out of the site.

7.6.2 Suggested wording for a condition is as follows:

*"Notwithstanding the submitted details the development hereby permitted shall not be implemented until a Construction Traffic Management Plan has been submitted to and approved in writing by the Local Planning Authority. The development hereby permitted shall not be implemented until a Construction Traffic Management Plan has been submitted to and approved in writing by the Local Planning Authority".*

7.6.3 The proposed development includes proposals to allow the diversion of PRow: 208/20 and 201/8. Footpath 201/8 currently enters the application site along its northern boundary and travels south east to the exit the application site's eastern boundary. There is no obvious onward route for pedestrians at this point as the path exits the field onto the site of the dual carriageway with no allocated path along the roadside. The proposed diversion will connect the footpaths 201/8 and 208/20 and allow an unobstructed route from the sealed pavement along The Roe north to Pengwern and beyond to the coast.

7.6.4 A temporary construction phase diversion of PRow 208/20 will be required near to the south eastern entrance as shown in **Figure 4.1**. The proposed Temporary Construction Phase Diversion will comprise an unimproved route. The Temporary Construction Phase Diversion will cross the site access track and this crossing will be suitability managed with signage or other measures deemed necessary in the final CTMP to ensure the PRow is unobstructed during the construction phase and further ensure the safety of pedestrians using the PRow.

**7.7 CUMULATIVE AND IN-COMBINATION EFFECTS**

7.7.1 The greatest transport and access effects of the Proposed Development will occur during the construction period. The construction will take place over a relatively short period of time (approximately seven months) and it is therefore not anticipated that trips generated by the development proposals will have a significant impact on the local and strategic road networks in combination with other developments in the area.

7.7.2 Once operational, solar farms have negligible traffic movements, as any traffic and transport effects are limited to the construction phase and will be managed appropriately it is considered unlikely that there will be any significant cumulative effects in relation to the other major developments within the planning system.

**7.8 SUMMARY**

7.8.1 It is not anticipated that the trips generated by the construction of the development proposals will have a significant impact on the local and strategic road networks.

7.8.2 It is concluded that through compliance with a CTMP there are unlikely to be any significant transport effects associated with the construction phase of the proposed development.

**Table 7.1: Summary of Effects, Mitigation and Residual Effects.**

Receptor / Receiving Environment	Description of Effect	Nature of Effect *	Sensitivity Value **	Magnitude of Effect **	Geographical Importance ***	Significance of Effects ****	Mitigation Enhancement Measures	Residual Effects ****
<b>Construction</b>								
A525	Severance - HGV deliveries	Temporary	Low	Low	Local	Minor Adverse	-	Negligible
A525	Driver delay - HGV deliveries	Temporary	Low	Low	Local	Minor Adverse	Construction Traffic Management Plan.	Negligible
PRoW 201 8 PRoW 201 20	Pedestrian Delay & Amenity - Construction Vehicle Movements	Temporary	Medium	Low	Local	Minor Adverse	Construction Traffic Management Plan and Permanent diversion of PRoW as well as temporary construction phase diversions	Minor Adverse
Users of public highway	Installation of underground grid connection cables	Temporary	Low	Low	Local	Minor	Appropriate signage and traffic controls	Negligible
<b>Operation</b>								
Public Rights of Way	Pedestrian Delay & Amenity - Pleasantness of walk	Permanent	Low	Minor	Local	Minor Beneficial	Improved connectivity of PRoW	Minor Beneficial
Users of the A55	Severity of incident involving vehicle leaving the A55 increasing due to proximity of hazardous infrastructure	Permanent	Low	Low	Local	Minor Adverse	DMRB CD 377 compliant Risk Assessment	Negligible to Minor Beneficial (depending on findings of RA)
<b>Cumulative and In-combination</b>								
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable