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Morlais Project

Traffic Clarification Note

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1 Introduction

Following the submission of the Environmental Statement (ES)[1] for the Morlais Project ('the Project'), it has been identified that there could be a requirement for additional export of spoil from the landfall substation. This note has therefore been prepared to consider a potential 'sensitivity test' of all excavated material being transported offsite.

Where possible excavated material would be reused at the landfall substation for various earthworks activities and therefore not be exported offsite. This assessment therefore represents a worst case scenario.

2 Revised Impact Assessment

The construction consultants for the Project have advised that for the sensitivity test, there could be a requirement for up to 13,775m^3 of spoil to be exported from the landfall substation. The volume of excavated material is assumed to be un-bulked and therefore a 40% bulking factor has been applied resulting in a worst-case scenario of up to 19,285m^3 of material for export.

An eight-wheel tipper wagon could transport 15m^3 of material, equivalent to approximately 2,571 two-way HGV vehicle movements. When spread across an assumed programme of 110 days it can be calculated that there could be up to an additional 24 two-way HGV movements per day to the landfall substation. These additional movements would be assumed to travel along the same route and links as outlined within the ES, namely:

- Link 2 - A55 North Wales Expressway;
- Link 4 - A5154 Victoria Road / Prince of Wales Road; and
- Link 5 – Walthew Avenue / New Park Road / South Stack Road.

The location of the highway links are graphically depicted within Figure 23.2[2] of the ES. For all links impacted by the sensitivity test, **Table 3-1** sets out details of the background traffic flows, the ES forecast construction traffic flows and the sensitivity test construction traffic flows.

Table 3-1 Existing Annual Average Daily Traffic Flows

Link ID	Link Description	Link Sensitivity	Background 2021 Flows		ES Forecast Construction Vehicle Movements HGVs (two-way)		Sensitivity Test Additional Vehicle Movements (two-way)		Sensitivity Test Forecast Construction Vehicle Movements (two-way)		Percentage Increase in Vehicle Movements (Sensitivity Test)	
			All vehicles	HGVs	All vehicles	HGVs	All vehicles	HGVs	All vehicles	HGVs	All vehicles	HGVs
2	A55 North Wales Expressway	Low	12,136	1,052	180	40	-	24	204	64	1.7%	6.1%
4	A5154 Victoria Road / Prince of Wales Road	High	3,396	76	108	20	-	24	132	44	3.9%	57.9%
5	Walthew Avenue / New Park Road / South Stack Road	Low - High	3,228	86	108	20	-	24	132	44	4.1%	51.2%

[1] Morlais Project Environmental Statement, July 2019

[2] Figure 23.2 - Highway Links within the Study Area

2.1 Traffic and Transport

The assessment of traffic and transport related effects are contained within Chapter 23, *Traffic and Transport* of the ES and were undertaken in accordance with the Guidelines for the Environmental Assessment of Road Traffic (GEART[3]). This guidance relates to the assessment of environmental impacts of road traffic associated with new developments.

The assessment undertaken in the ES considered the impact of construction traffic movements on the following traffic and transport effects:

- Severance;
- Pedestrian Amenity;
- Road Safety; and
- Driver Delay.

The following paragraphs summarise the potential traffic and transport impact of the sensitivity test on the effects identified within the ES as being susceptible to changes in construction traffic flows.

Severance

The ES demonstrated that the peak daily change in total traffic flows for links 2, 4 and 5 were below a 30% change in total traffic, whereby GEART suggests negative impacts may be experienced. It can be observed from **Table 3-1** that for the sensitivity test, the peak daily change in total traffic flows for links 2, 4 and 5 remain below a 30% in change in total traffic and therefore, the magnitude of effect remains negligible resulting in a maximum impact of negligible to minor adverse.

Pedestrian Amenity

The ES demonstrated that the peak daily change in total traffic flows for links 2, 4 and 5 were less than a doubling of HGVs, whereby GEART suggests negative impacts may be experienced. It can be observed from **Table 3-1** that for the sensitivity test, the peak daily change in total traffic flows for the links 2, 4 and 5 remain below this threshold and therefore the magnitude of effect remains negligible, resulting in a maximum impact of negligible to minor adverse.

Road Safety

The road safety assessments within the ES identified no collision clusters on any of the links within the traffic and transport study area and therefore concluded that from a road safety perspective, the study area is considered to be of negligible sensitivity and the addition of development traffic is likely to result in a negligible impact upon existing road safety issues.

It is considered that for the sensitivity test, an additional two to three vehicles per hour would not materially change this conclusion.

Driver Delay

The driver delay assessment within the ES outlined that the forecast increase in all vehicle movements would not be significant in the context of the existing traffic levels (a change of up to 3.3.%). Consequently, the magnitude of effect was assessed as negligible on potentially high value receptors resulting in a minor adverse impact.

It is considered that for the sensitivity test, an additional two to three vehicles per hour would not materially change this conclusion.

2.2 Air Quality

The ES also considered the wider impacts of increases in construction traffic air quality (Chapter 22, Air Quality).

[3] Institute of Environmental Assessment, 1993

The Project generated traffic flows were screened in the ES using criteria provided in Highways England and the Institute of Air Quality Management and Environmental Protection UK guidance documents to determine whether a detailed assessment of air quality impacts would be required. The most stringent of these criteria state that a detailed assessment is required if a project would generate 100 HGVs per day or more.

It can be noted from **Table 3-1** that the total HGVs for the sensitivity test remains below 100 per day on any one road link. As such, the screening criteria are not exceeded and therefore air quality impacts are considered to not be significant.

2.3 Noise and Vibration

The ES also considered the wider impacts of increases in construction traffic upon noise and vibration (Chapter 21, Noise and Vibration).

Since the submission of the ES, the guidance for assessing construction phase road traffic impacts has been revised. The ES submission presented the assessment based on Design Manual for Roads and Bridges (DMRB) Volume 11, Section 3, Chapter 3. The Design Manual for Roads and Bridges was revised in November 2019, issued as LA111 Noise and Vibration Revision 0 (formerly HD 213/11, IAN 185/15). The LA111 provides guidance on the environmental assessment of noise impacts from road schemes. The Design Manual for Roads and Bridges (DMRB) contains advice and information on transport-related noise and vibration, which has relevance regarding the construction traffic impacts affecting sensitive receptors adjacent to road networks. It also provides guideline significance criteria for assessing traffic related noise impacts.

The 2019 DMRB guidance has been compared with the assessment methodology for the road traffic noise and vibration assessment outlined in the ES. Differences to the assessment methodology are presented here.

The ES construction phase road link dBA change were assessed using the impact magnitude criteria in **Table 2-3**. The thresholds for differentiating the criteria are taken from recommendations outlined in the Design Manual for Roads and Bridges (DMRB) (Volume 11, Section 3, Chapter 3, Table 3.1) and are specific to short-term impacts (such as the construction phase traffic) and are an indication of the relative change in ambient noise as a result of the project.

Table 2-2 Significance criteria for relative change due to road traffic (short term)

Change in noise level ($L_{A10\ (18\ hour)}$ dB)	Impact magnitude
0.0	No change
0.1 – 0.9	Negligible
1.0 – 2.9	Minor
3.0 – 4.9	Moderate
5.0+	Major

For comparison, the revised 2019 DMRB guidance thresholds for differentiating the criteria specific to construction (short-term) impacts are shown in **Table 2-4**.

Table 2-3 Magnitude of effect at receptors

Magnitude of effect	Increase in BNL of closest public road for construction traffic (dB)
Major	Greater than or equal to 5.0
Moderate	Greater than or equal to 3.0 and less than 5.0

Magnitude of effect	Increase in BNL of closest public road for construction traffic (dB)
Minor	Greater than or equal to 1.0 and less than 3.0
Negligible	Less than 1.0

Key differences (other than the title of the table taken directly from LA111) are the number of categories for magnitude of impacts and a rounding of the threshold values i.e. Minor is now represented by a 1.0 to 3.0dB change in the Basic Noise Level (BNL); previously 1.0 to 2.9dB. Negligible in the 2019 guidance refers to a change in the BNL of <1.0dB. The effect of removing the No Impact category from the 2019 DMRB magnitude of impact matrix (detailed in **Table 2-3**) means that a change in LA10,18hr noise level of <1dB is categorised as Negligible.

The classification of a residential receptor sensitivity and impact significance was detailed in the ES and remains unchanged for this assessment. All road traffic link receptors were classified as medium sensitivity.

Traffic impacts were assessed for the sensitivity test construction phase year of 2021 (as per the programme details in Chapter 23, Traffic and Transport), taking base flows, annual growth and Project-generated construction traffic into consideration. The predicted L10,18hr relative change in noise level from Baseline 2021 versus Baseline 2021 'with development' (construction related traffic) is detailed in **Table 2-4**.

Table 2-4 18hr AAWT Road Traffic Flows and dBA Change Due to Construction (Short Term)

Link ID	Link Description	Predicted noise level change reported in ES (dBA)	Predicted noise level change sensitivity test (dBA)	Impact Magnitude	Impact Significance
2	A55 North Wales Expressway	0.1	0.1	Negligible	Minor
4	A5154	0.3	0.6	Negligible	Minor
5	Market Street / Thomas Street / S Stack Road	0.3	0.6	Negligible	Minor

Table 2-4 shows the predicted relative change in noise level as a result of the sensitivity test construction road traffic flows is at most a negligible adverse impact magnitude in accordance with the revised DMRB criteria. Therefore, at a medium sensitivity receptor, a minor impact significance is determined. Road traffic impacts are therefore not considered significant in terms of EIA.

3 Summary

This note presents a sensitivity test of all material excavated from the landfall substation being exported off site by road.

The note presents an assessment of the impacts of an additional 24 two-way HGV movements per day above those levels assessed within the ES upon the following traffic and transport effects:

- Severance;
- Pedestrian Amenity;
- Road Safety; and
- Driver Delay.

In addition, the note also considers the impacts of a potential increases in traffic upon noise and air quality.

The note identifies that the potential increase in construction traffic for the sensitivity test would not change the assessed outcomes presented within the ES for traffic and transport, noise and air quality.