

A1 in Northumberland: Morpeth to Ellingham

Scheme Number: TR010041

6.7 Environmental Statement – Appendix 5.2 Construction Traffic Assessment

Part A

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed
Forms and Procedure) Regulations 2009

June 2020

Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning
(Applications: Prescribed Forms and
Procedure) Regulations 2009**

**The A1 in Northumberland: Morpeth to Ellingham
Development Consent Order 20[xx]**

Environmental Statement - Appendix

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CONSTRUCTION TRAFFIC ASSESSMENT

- 5.1.1. Construction traffic movements within the Order Limits of Part A: Morpeth to Felton (Part A) are not fixed, therefore the likely vehicle movements in and out of Part A along public roads have been considered with reference to the **Construction Traffic Management Plan (Application Document Reference: TR010041/APP/7.4)**. As construction traffic management is going to be in place for more than 6 months there is potential for impacts on ambient air quality. Consequently, the Design Manual for Roads and Bridges (DMRB) HA207/07 local air quality scoping criteria have been applied to identify the ARN. This has identified that:
- a. The road alignment alters by more than 5 m along section A/B (chainage 10800 to 13700) between Phase 2 and Phase 3 (April 2022 to April 2023) of construction
 - b. A change in daily average speed of more than 10 kph - from 102 kph to 64 kph - due to traffic management measures along section A/B (chainage 10800 to 13700)
- 5.1.2. To determine if construction traffic should be scoped into the air quality assessment, a simple level assessment was undertaken to determine the potential impacts at Warreners Cottage, as the closest and likely worst affected receptor. **Table 5-1** gives the forecast daily construction traffic flows and **Table 5-2** shows the inputs to the model. Pollutant concentrations were modelled using the DMRB Modelling Spreadsheet (DMRB V6.1_ETv8). Model results were verified, applying the Group 3 verification factor, and are presented in **Table 5-3**.
- 5.1.3. **Table 5-1** shows the additional flows generated during construction – split by lights and heavy vehicles. The flows generated are estimated for Part A, with delivery routes via the A1 to the north and south. The exact source of materials would be determined by the main contractor, however it is likely that aggregates would be delivered from the north and concrete from the south, both along the A1. Total two-way flows generated by the Part A, irrespective of the destination or origin, have been added to modelled traffic flows on the A1 adjacent to the areas to ensure a conservative assessment.
- 5.1.4. **Figures 5-1** and **5-2** illustrate the changes in traffic movements as a result of the construction. The closest receptor to the works is Warreners Cottages (15.5 m), located at the southern end of Part A where the existing A1 goes from dual to single carriageway. During Phase 1 and 2 construction works would occur on the other side of the traffic flows, where construction traffic would join Part A from the south (**Chapter 2: The Scheme, Volume 1** of this ES (**Application Document Reference: TR010041/APP/6.1**)).
- 5.1.5. In Phase 3 of the works the new road would be operational and works would commence on the near carriageway.
- 5.1.6. On occasions during the construction phase of Part A it would be necessary to temporarily close the A1 and divert traffic onto alternative routes. Such closures would generally be

overnight and of limited duration of no more than a few days and DMRB HA207/07 (Ref. 5.15) scoping criteria (refer to **paragraph 5.4.2**) for further assessment would not be met. The potential local air quality impacts as a result of temporary diversions are not likely to give rise to a significant effect and no further assessment is required. Further details of temporary diversionary routes are given in the **Construction Traffic Management Plan (Application Document Reference: TR010041/APP/7.4)**.

Table 5-1 - Forecast Daily Construction Traffic Flows

	Warreners Cottage	A1 Between Part A and Part B
Construction year	2022	2022
Total HDV	96	82
Total LDV*	310	310
Annual Average Daily Construction Traffic Flow	406	392
* includes vehicle movements within the Order Limits		

Table 5-2 - Model Inputs for Construction Traffic Screen

Receptor ID	Scenario	Flows	% HDV	Speed category	Distance to Centreline (m)	Comment
R1 Warreners Cottages	Do-minimum	21,902 (base traffic)	10.4	Rural – High Speed	15.5	Before works commenced
	Phase 1 and 2 - lane shift	21,902 (base traffic)	10.4	Rural – Light Congestion	15.5	Base traffic flows on existing carriageways
		406 (construction traffic)	21.9	Rural – Light Congestion	26.3	Construction traffic on farside lane

Receptor ID	Scenario	Flows	% HDV	Speed category	Distance to Centreline (m)	Comment
	Phase 3 lane shift	21,902 (base traffic)	10.4	Rural – Light Congestion	26.3	Base traffic flows shifted to new carriageway
		406 (construction traffic)	23.6	Rural – Light Congestion	15.5	Construction traffic on nearside lanes

Table 5-3 - Model Results

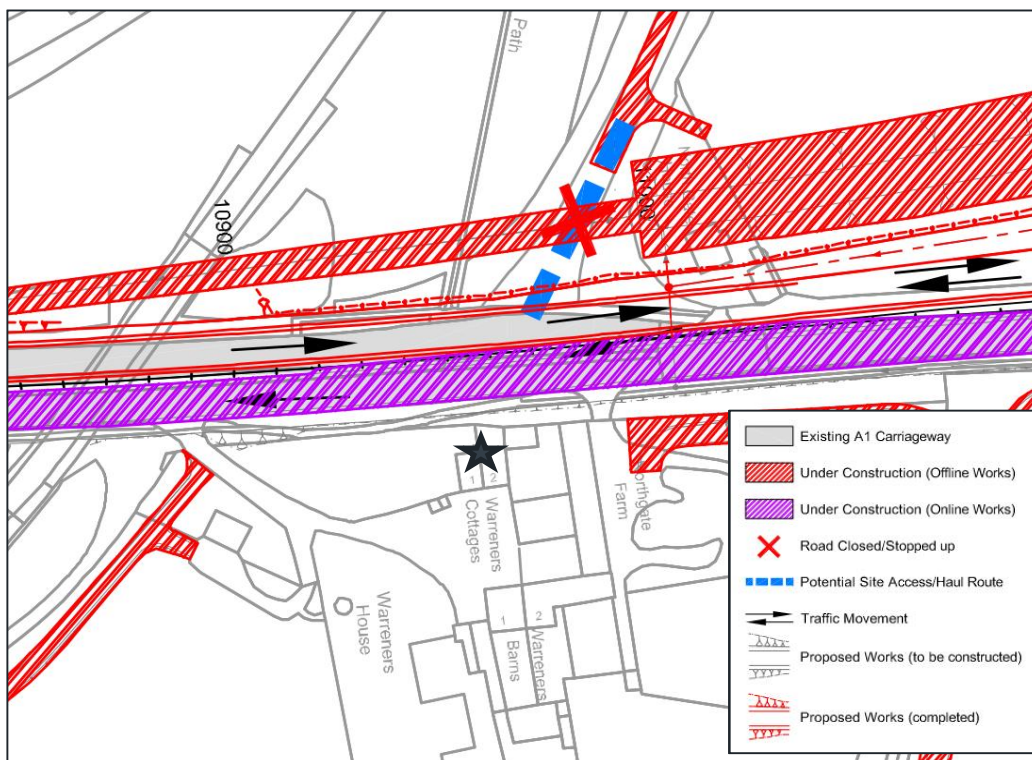
Scenario	Annual Mean NO ₂ (µg/m ³)	Annual Mean PM ₁₀ (µg/m ³)
Do-minimum	24.7	15.2
Phase 1 and 2 - lane shift	29.2	15.4
Phase 3 lane shift	18.7	12.9
Objective level (µg/m ³)	40	40

- 5.1.6. As can be seen from **Table 5-3**, whilst pollutant concentrations would change in the construction phase, the annual mean concentrations would remain well below the air quality objectives. Construction traffic emissions are therefore unlikely to result in a significant effect and therefore have been screened out of the air quality assessment.

Figure 5-1 - Phase 1 and 2 of Traffic Management Phasing Southern end (Warreners Cottages)



Figure 5-2 - Phase 3 Traffic Management Phasing Southern end (Warreners Cottages)



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