

MEMO

TO	James Neave	FROM	Jo North/Lisa Watt/Sam Noble
DATE	01 March 2022	CONFIDENTIALITY	Public
SUBJECT	WSSC/052/20 A29 Phase 1 Realignment – Planning Condition 11		

Dear James,

This memo summarises the information provided to support the discharge of Planning Condition 11 – Noise.

Condition 11

'Prior to the installation of the acoustic barrier as detailed in the approved plans (Proposed Elevations Acoustic Barrier Sheets 1 and 2 - A29-CAP-HPN-00-DR-C-0183 and 0184 Rev P06) final details of its materials, finish and specifications shall be submitted to and approved in writing by the County Planning Authority. Any submitted specifications shall ensure a barrier of no less than modelled noise attenuation properties. The approved acoustic barrier shall be implemented in full, in advance of the first public use of the road, and thereafter maintained in perpetuity.'

The following attachments have been included with this memo to provide further details on the following:

- Location and profile of the acoustic barrier (1 and 2)
- Physical properties of the acoustic barrier (3)

Attachment	Name	Reference	Details
1	Proposed Elevations Acoustic Barrier Sheet 1 of 2	A29-CAP-HPN-00-DR-C-0183 S0-P06	Noise barrier location and profile from approximately ch 765 000 to ch 970 000
2	Proposed Elevations Acoustic Barrier Sheet 2 of 2	A29-CAP-HPN-00-DR-C-0184 S0-P06	Noise barrier location and profile from approximately ch 970 000 to ch 1200 000
3	Acoustic barrier properties	METASoundBlok-CORTEN datasheet	Provides details of the expected performance and design life of the acoustic barrier.

Design of the noise barrier

Noise modelling was undertaken to assist with the design of a suitable noise mitigation feature to protect noise sensitive receptors to the east of the Scheme along Murrell Gardens and Chantry Mead.

A noise model was prepared using CadnaA based on the following information:

- Scheme design drawings including vertical and horizontal alignment information

- Traffic data supplied by WSP Transport Team for the opening year (2023) and future year (2038) in the Do-minimum (without Scheme) and Do-something (with Scheme) scenarios for Phase 2. Traffic data for Phase 1 and Phase 2 (full A29 realignment scheme) was also provided for the future year
- Speed limit of 30mph
- Addressbase Premium dataset to identify noise sensitive receptors within the study area.

The noise modelling identified that the noise mitigation feature should be designed with the following parameters:

- Located between chainages no 765 to 1200 comprising an overall length of approximately 265m
- Top of the feature at a height of 3m
- Top of feature located 3m from the carriageway edge between chainages no 890-1200
- Between chainages no.765-890 the top of the feature located between 3m and 5m from carriageway edge
- Feature to be absorptive between chainages 765-1040
- The airborne sound insulation performance of the noise mitigation feature is required to meet the specifications set out in BS EN 1793-2 (1998)ⁱ for a class B3 barrier (DLR>24dB).
- The absorptive section of the noise mitigation feature is required to meet the requirements set out in BS EN 1793-1ⁱⁱ and have a minimum performance of class A3 (DL α 8 to 11dB)

The noise mitigation feature incorporated into the approved design is shown in A29-CAP-HPN-00-DR-C-0183 S0-P06 and A29-CAP-HPN-00-DR-C-0184 S0-P06. These plans show the elevation of the feature which is 3m in height (from top of carriageway) along its length. The feature extends from ch. 765 to 1200 and will be absorptive along its entire length.

Performance specification of the proposed Noise Barrier

The acoustic properties of the proposed barrier are noted in the METASoundBlok document which confirms:

- Barrier rating: A5, B3
- Absorption: 20D1a
- Reflection: 27dB
- Design life up to 60 years.

The noise modelling minimum specification identified the minimum requirement for an absorptive acoustic feature from the area north of the Halo site to protect future properties within the proposed housing development. The proposed METASoundBlok noise barrier will provide absorptive properties along the entire length which will exceed the minimum performance specifications detailed in the May 2020 Technical Note. In addition, the sound absorption performance class is A5 which exceeds the minimum specification of Class A3.

Timing of installation

The aim would be to install the permanent acoustic barrier as early in the construction period as possible. The earliest point at which this can occur will be 6-7 months from the work commencing. Following construction commencement, works will move northwards from Barnham Road. Construction of the embankment will need to be carried out before the barrier can be installed. The barrier will be fully installed prior to the opening of the road to traffic.

ⁱ BS EN 1793-2:1998 Road traffic noise reducing devices – Test method for determining the acoustic performance. Part 2: Intrinsic characteristics of airborne sound insulation.

ⁱⁱ BS EN 1793-1: 1998 Road traffic noise reducing devices – Test method for determining the acoustic performance. Part 1: Intrinsic characteristics of sound absorption.