

Noise Contour Plans

Subject:	PINS - request for Noise Contour plans – covering note
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From:	Thames Tideway Tunnels
To:	Planning Inspectorate
Copy:	

We write further to the request for the above made at Annex E 8.1.4 (N) in the PINS Rule 6 letter dated 25 July 2013 and the TTT response at section 8.2 of our letter dated 28 August 2013 in which we undertook to supply a sample set of plans for discussion. We are pleased to enclose herewith the following information:

Noise contour plans

- Figure 1 Typical daytime construction noise
- Figure 2 Typical evening construction noise
- Figure 3 Typical night time construction noise

Plans showing summary of significant effects plans

- Figure 1. Construction phase noise – summary of significant effects (day)
- Figure 2. Construction phase noise – summary of significant effects (evening)
- Figure 3. Construction phase noise – summary of significant effects (night)

Information relating to these draft plans is set out below.

1.1 Noise contour plans

Our letter of 28 August 2013 highlighted some of the difficulties associated with the preparation and interpretation of such plans. One of the difficulties is that separate plans would be required to show noise levels for different construction activities at each receptor location (including different construction ‘events’ and at different levels within buildings) during different construction phases through the working day, giving rise to the preparation of multiple plans. We have sought to overcome this problem by producing a contour plan which uses a ‘snapshot’ of the construction noise profile at a worksite at a given height across the whole worksite for one period in a ‘typical’ construction year. Separate plans have been produced for the day, evening and night time periods.

The plans show the receptor locations assessed in the Environmental Statement and coloured contours illustrating the ‘typical month’ construction noise levels at 1st floor level during the day time, evening and night time periods. This represents a month during the period of the most frequently occurring noise level taken to represent all receptors. The contour plans reflect mitigation measures embedded in the Code of Construction Practice and complement the summary of significant effects. Note that the draft plans do not show existing ambient noise levels.

This is a sample set of plans for discussion. Once you are happy with the content, we can discuss preparation of similar plans for other worksites.

1.2 Plans showing summary of significant effects

The second set of sample plans shows the noise assessment findings for each receptor during the construction phase, based on the information presented in the TTT ES. The assessment has considered construction noise at unscreened receptors (buildings/properties) at a distance of up to

approximately 300m from the site boundary. However, in built up areas it is considered likely that effects would be limited to a smaller radius due to the screening effects of intervening buildings. The assessment therefore focussed on the closest receptors to the site or those up to 300m from the site which are not substantially screened. In some cases, additional receptors have been included (identified as secondary receptors) to provide an assessment for sensitive properties at more distant locations in the locality.

Separate plans have been produced for the 'day', 'evening' and 'night-time' periods, as defined in BS 5228. For a residential receptor, effects have been assessed and are reported for each of these periods. For non-residential receptors the effects are reported for the period in which it is generally in use (day time).

Information relating to the noise level and duration for typical monthly construction noise and worst case predicted noise levels is presented for each receptor for the façade and floor level that is likely to be affected most significantly. The significance criteria threshold for residential receptors is determined using existing ambient noise levels. It is therefore not necessary to show the ambient noise level on the plans. For non-residential receptors the potential significance criteria threshold level is not applicable and as such it is the existing ambient noise level that is presented.

The data presented on the plan are explained below.

On-site construction noise (information described in table shown on plan)

1. Assessment floor

The predicted noise levels are presented at the location considered to be the worst affected floor. At some locations this is higher than others owing to:

- the distance of the receptor from any screening measures (site hoarding)
- local variations in screening height as specified in the CoCP

2. Potential significance criteria

- The values in this column are the criteria against which the predicted construction noise levels are compared to in order to assess whether or not the effects at a referenced receptor can be considered potentially significant. The values are based on the existing ambient noise level. The method for determining the value is set out in the TTT ES Vol 2 (Environmental assessment methodology), Section 9, paras 9.5.19 to 9.5.24. As described in Vol 2 para 9.5.25, the methodology for non-residential receptors differs and the effect is determined by comparing the predicted construction noise level to the existing ambient noise level.

3. Range of construction noise levels

The lowest and highest predicted average monthly noise level from construction activities at the referenced receptor.

4. Typical monthly construction noise levels

The most frequently occurring (mode) noise level from construction activities at the referenced receptor.

5. Total duration above criteria

The number of months for which the noise from construction activities is predicted to be above the relevant potential significance criterion value.

6. Duration of worst case

The number of months for which the highest predicted noise level as indicated in the range column (point 3) is predicted to last.

Key

7. Assessment period

The table in the key indicates the time period for the assessment presented on the plan. Only activities and plant which will be operating during the period have been assessed during the stated period. Further information on the activities which each assessment has been based on is available in section 9.2 of each site volume in the ES and in the CoCP part B for each worksite.

8. Potential noise insulation eligibility

Where noise levels exceed the eligibility criteria outlined in the TTT noise insulation and temporary re-housing policy (schedule 2 in the Statement of Reasons), properties are considered potentially eligible for noise insulation or temporary re-housing. This is indicated in the key where significance and eligibility are represented by a particular colour. The properties are considered to be only potentially eligible at this stage, as the assessment indicates that noise levels are predicted to exceed the criteria for at least one month. However, the appointed contractor would be required to reassess predicted noise levels based on their final construction design as part of their COPA 1974 'Section 61' consent applications to the local authority. The contractor may be able to take advantage of different construction techniques which reduce the noise level or duration such that the noise levels are reduced below the potential significance criteria.

9. Significance due to noise from traffic

River traffic

The table presents significant effects due to site-based construction noise only. Significant effects have been identified at some properties arising from noise from river-based construction traffic. Properties which are predicted to be subject to significant effects from river-based construction traffic are indicated with an asterisk in the table. The significance criteria for construction traffic are different to general construction activities and the methodology for assessing effects from river-based construction traffic is explained further in ES Vol 2 (Environmental assessment methodology) Section 9.5.

Road traffic

The assessments also considered the effects on local receptors of noise from construction traffic accessing and egressing the sites. Significant effects were not identified for any receptors along the proposed traffic route to the Strategic Road Network.

1.3 Operational noise

The PINS letter of 25 July 2013 includes a request for a contour plan to show the maximum noise levels during a storm event once the project is operational.

As described in the TTT Environmental Statement, the noise generated by, for example, tunnel filling events, at the surface would be approximately 46dB_LA_{eq}. The noise from this source drops to below 30dB_LA_{eq} at a distance of 6m from the ventilation duct louvre. The assessment predicts that this noise level is highly likely to be below the existing ambient noise level and therefore not significant. BS4142 refers to this level of noise as 'very low' and this noise level would meet the BS 8233 'Good' standard for bedrooms. If it is helpful, we can produce contour plans for the operational case although these are likely to be below existing ambient noise levels.