

Appendix G Construction Phase PM₁₀ Impacts

TECHNICAL MEMORANDUM

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This memo describes the results of PM₁₀ modelling of the construction phase impacts. The result show PM₁₀ impacts for construction scenarios 1 and 2 and key results are shown for receptors R1, R2 located to the south-east of the ILC and R5 which is located to the north-west.

The results show time traces of 24-hour PM₁₀ impacts including both background PM₁₀ concentrations and impact levels added to the background.

The modelling scenarios are the same as those described in the EA and assume a wind speed restriction of 5 m/s, however, the wind direction restriction of 210 – 340 degrees has not been applied to these specific results, in order to show the key wind direction and times of the year when most significant impacts are likely to occur.

The results for construction scenario 1 are shown in **Attachment A** and results for scenario 2 are shown in **Attachment B**.

With respect to both construction scenarios it can be seen that for receptors R1 and R2 located to the south-east, impacts which cause exceedance of the 50 µg/m³ criteria, generally occur between the months of May and December. This is considered to be associated with west and north-west winds which prevail during this time of the year.

Alternatively at receptor R5 located to the north-west the greatest impacts occur during the months of January to April, corresponding to the prevailing south-east winds at this time of the year.

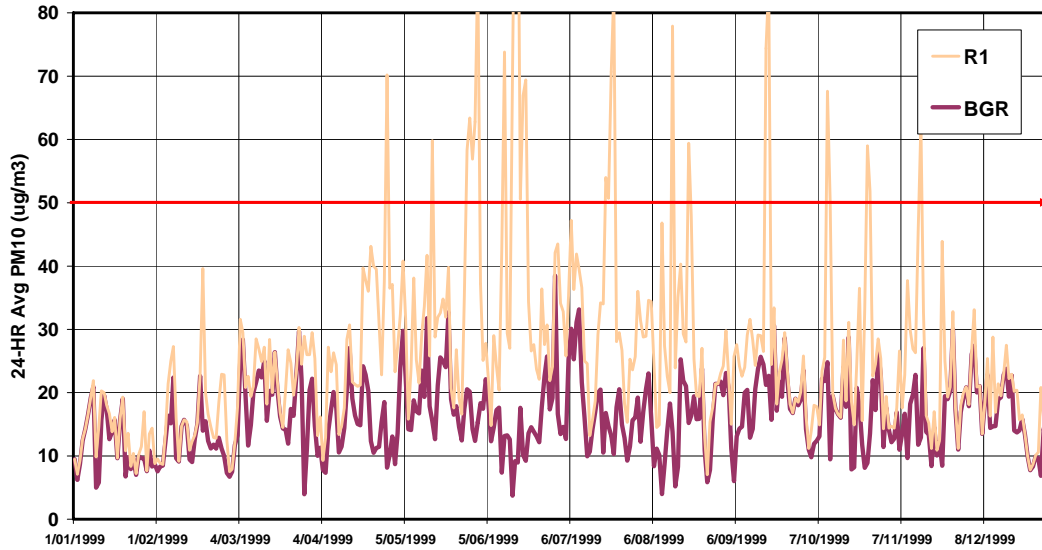
It can be observed from the data it is really only receptor R1 that sees more than a few exceedances of the relevant criteria. At receptor R2 which is only a marginal distance away from the ILC site, there are only isolated exceedances of the criteria predicted to occur.

In terms of managing dust impacts associated with construction, it is probable that the scheduling of specific works at various times of the year will assist in managing offsite impacts. Specifically avoiding bulk earthworks on the southern end of the site during the period May to December would mitigate the exceedances presented in the assessment, as would avoiding bulk earthworks at the northern end of the site during the period January to April, however, this is considered less important.

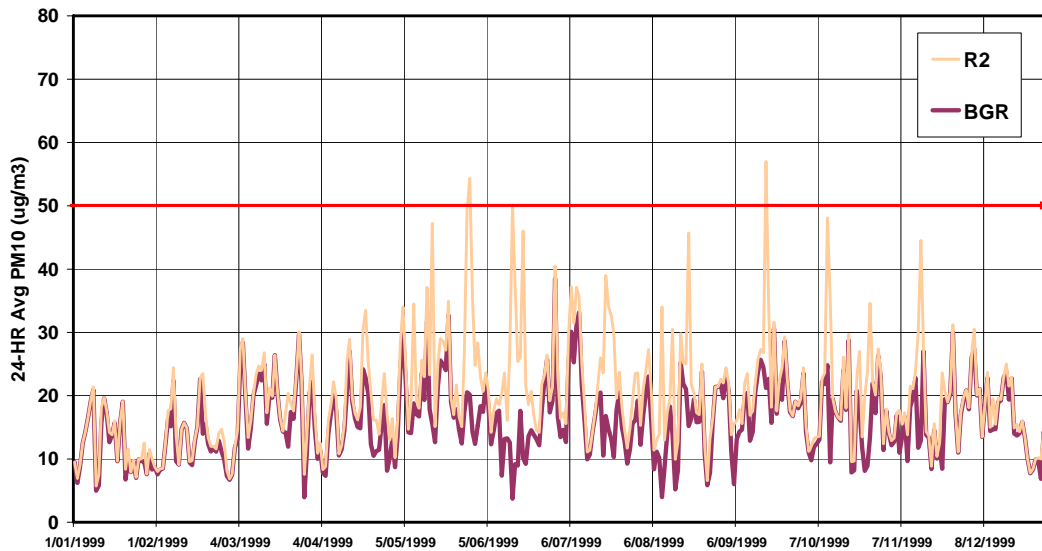
Attachment A - Construction Scenario 1

Plots show background PM₁₀ (“BGR” - brown) and background+ILC PM₁₀ (light brown).

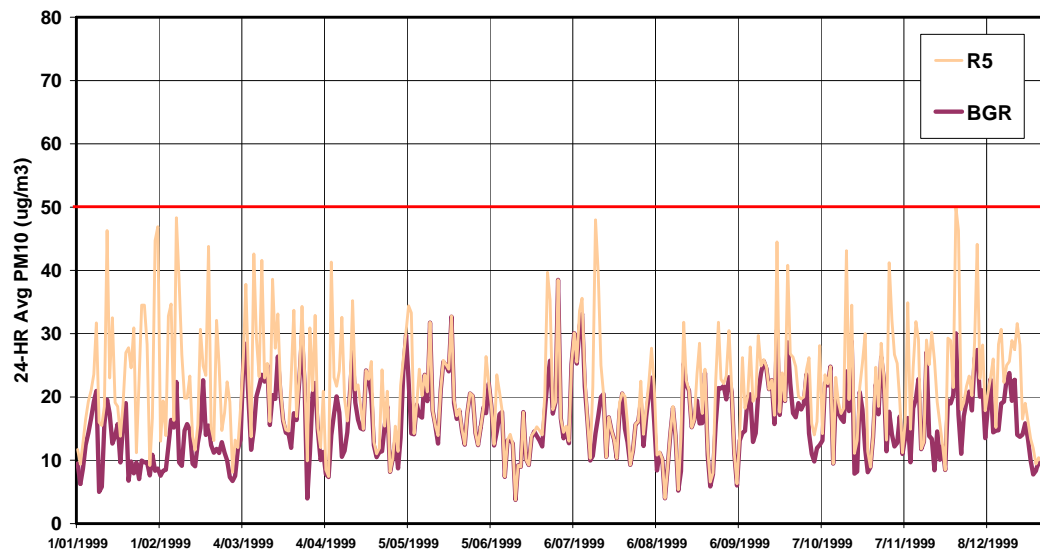
■ **Figure A-1 24-hour average PM₁₀ – Discrete Receptor R1**



■ **Figure A-2 24-hour average PM₁₀ – Discrete Receptor R2**



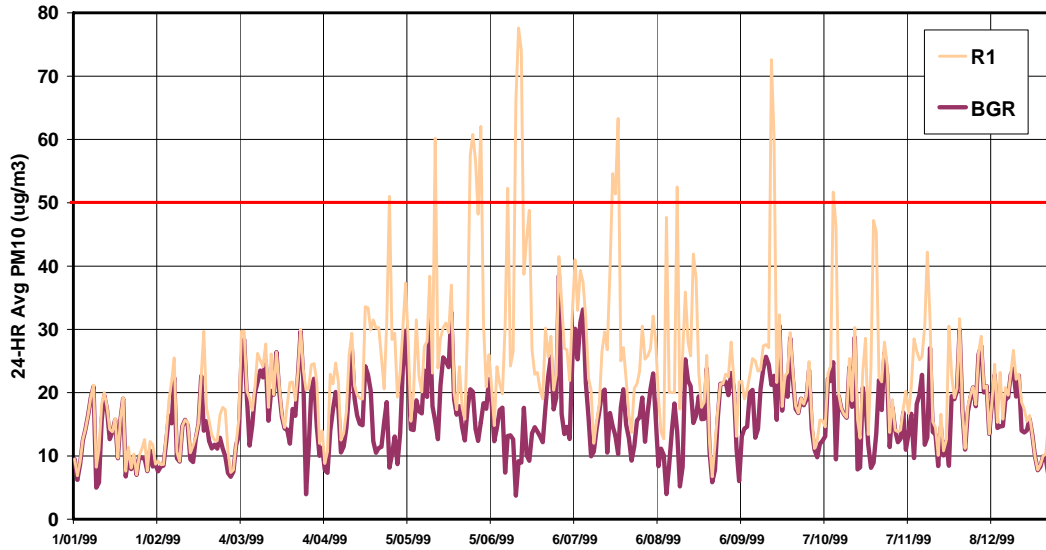
■ **Figure A-3 24-hour average PM₁₀ – Discrete Receptor R5**



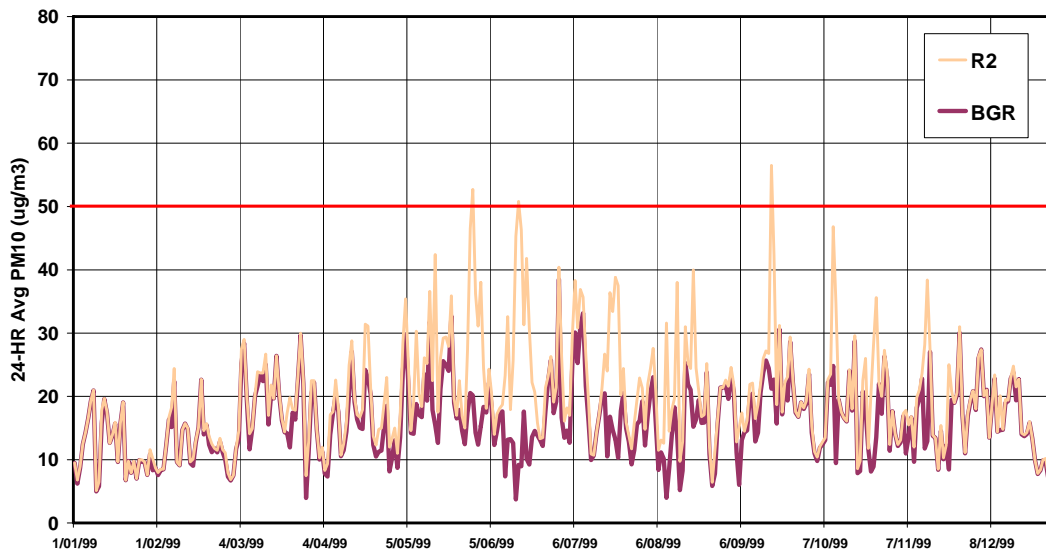
Attachment B - Construction Scenario 2

Plots show background PM₁₀ (“BGR” - brown) and background+ILC PM₁₀ (light brown).

- **Figure B-1 24-hour average PM₁₀ – Discrete Receptor R1**



- **Figure B-2 24-hour average PM₁₀ – Discrete Receptor R2**



■ **Figure B-3 24-hour average PM₁₀ – Discrete Receptor R5**

