

Air Quality and Dust Monitoring Monthly Report – **November** 2020

Three Rivers District Council



Department for Transport

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Monthly Summary

- 1.1.1 This Summary Report is published in fulfilment of commitments detailed in the High Speed Rail (London-West Midlands) Environmental Minimum Requirements, Annex 1: Code of Construction Practice, for the nominated undertaker to present the results of dust monitoring undertaken in the Three Rivers District Council (TRDC) area during November 2020.
- 1.1.2 Figure 1 in Appendix A indicates the current worksite together with the dust monitoring locations for November 2020.
- 1.1.3 This summary should be read in conjunction with the overview monitoring report available from www.gov.uk/government/collections/monitoring-the-environmental-effects-of-hs2, which highlights: the applicable standards and guidance, as well as the air quality and dust monitoring methodologies to be implemented by nominated undertakers throughout construction.
- 1.1.4 The current phase of works at the South Portal site commenced within TRDC in July 2017 and is currently ongoing. The South Portal worksite as presented in Appendix A, Figure 1 includes the following ongoing works:
- General Plant: wheel washers, generators and site wide support plant;
 - Earthworks and Drainage: soil strip, excavate, filling, subgrade and ground stabilisation;
 - Road and Hardstanding: surfacing, grading and excavation;
 - Civils: platforms, accommodation and slabs, and removal of materials stored in SP10 (car park extension);
 - Superstructure;
 - I&M Installation: Tilehouse Lane cutting and Chalfont Lane;
 - Stockpiling: INNS stockpile management and storage of excavated materials from CSP in SP10;
 - Chalfont Lane Establishment - Phase D & F Fencing and STP acid storage fencing;
 - Batching Plant 1, 2 and 3: Installation of batching plant units and collection of concrete for D-wall activity at vent shaft sites;
 - Site Installation: slurry treatment plant, TBM parts delivery, TMB and factory fit-outs, tunnel boring machine; and
 - Pynesfield Ground Stabilisation: earthworks and band drains.
- 1.1.5 Three (3) dust monitors are installed around the worksite, where earthworks, construction and trackout activities are underway. This site returned a medium dust risk rating (for works currently active on site).
- 1.1.6 Dust monitoring locations and results are presented in Appendix B, Table 1, together with a line chart of monthly data from each dust monitor presented in Figures 2, 3 and 4. All continuous dust monitoring is undertaken using indicative monitors. Despite being Environment Agency (MCERTS) certified, indicative monitors carry a higher level of uncertainty

than reference monitors, and therefore cannot be strictly compared with Air Quality Standards for human health and the environment. The purpose of the monitoring undertaken is to ensure the effectiveness of the on-site mitigations.

- 1.1.7 The trigger level for PM₁₀ concentrations of 190 µg/m³, over a 1-hour period, in accordance with the updated guidance document '*Guidance on Monitoring in the Vicinity of Demolition and Construction Sites – (October 2018)*' has been applied.
- 1.1.8 There were multiple dust trigger alerts recorded during this monitoring period (November 2020). However, following investigations it was noted that these exceedances were not related to HS2 site activities, but rather the prevailing weather conditions (heavy fog experienced). Details on exceedances, trigger alert investigations and remediations are presented in Appendix B, Table 2. All other results were in line with expected ranges.
- 1.1.9 Data capture was below 90% for both SP-AQMP2-TRDC and SP-AQMP3 during the month of November 2020, due to the loss of solar and battery power caused by a lack of sunlight. An alternative power source is being explored to resolve the intermittent solar power issue.
- 1.1.10 There were no (0) complaints received, relating to air quality or dust, during this reporting period (November 2020).

Appendix A – Monitoring Locations

Figure 1: Worksites and Monitoring locations during November 2020



Appendix B – Dust Monitoring Results

Table 1: Dust monitoring locations and November 2020 Results

Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM ₁₀ concentration (µg/m ³)	Minimum 1-hour PM ₁₀ concentration (µg/m ³)	Maximum 1-hour PM ₁₀ concentration (µg/m ³)	Number of 1-hour periods exceeding trigger level of 190 µg/m ³	Data capture (%)
SP-AQMP1-TRDC	502885, 191488	On the northern boundary of the site at Chalfont Lane	M	Yes	Yes	12.4	0.9	146.9	0	100
SP-AQMP2-TRDC	503209, 190991	On the eastern boundary of the site at Denham Way	M	Yes	Yes	36.3	1.8	5479.6	7	85
SP-AQMP3-TRDC	503154, 190062	On the southern boundary of the site at Tilehouse Lane	M	Yes	Yes	146.2	1.7	6527.9	21	63

Table 2: Summary of exceedances during period (November 2020) overleaf

Monitoring Site ID	Period of trigger alert & Concentration recorded	Investigation	Outcomes / Resolution / Remedial measures implemented
SP-AQMP3_TRDC	<u>05/11/2020</u> 03:01 - 04:00: 443.7 µg/m ³ 04:01 - 05:00: 536.9 µg/m ³ 05:01 - 06:00: 2936.9 µg/m ³ 06:01 - 07:00: 433.5 µg/m ³ 07:01 - 08:00: 910.0 µg/m ³ 08:01 - 09:00: 2608.2 µg/m ³ 09:01 - 10:00: 1253.4 µg/m ³	Exceedances are likely due to the heavy fog over Greater London, with moisture appearing to infiltrate the monitors air inlet, leading to false PM ₁₀ concentrations. The majority of the alerts were also triggered outside of core working hours.	The functionality of the heated inlet will be monitored closely and manually inspected during the next site visit.
	<u>06/11/2020</u> 04:01 - 05:00: 862.9 µg/m ³ 05:01 - 06:00: 833.6 µg/m ³ 06:01 - 07:00: 738.3 µg/m ³ 07:01 - 08:00: 456.6 µg/m ³		
	<u>09/11/2020</u> 01:01 - 02:00: 1738.9 µg/m ³ 02:01 - 03:00: 1051.4 µg/m ³ 03:01 - 04:00: 6527.9 µg/m ³ 04:01 - 05:00: 6527.9 µg/m ³ 05:01 - 06:00: 6527.9 µg/m ³ 06:01 - 07:00: 6496.8 µg/m ³ 07:01 - 08:00: 6521.7 µg/m ³		
SP-AQMP2_TRDC	<u>09/11/2020</u> 00:01 - 01:00: 312.5 µg/m ³		

SP-AQMP2_TRDC	<u>10/11/2020</u> 03:01 - 04:00: 242.9 µg/m ³	Exceedance alert triggered outside of core working hours.	
	<u>23/11/2020</u> 07:01 - 08:00: 356.8 µg/m ³ 08:01 - 09:00: 1237.2 µg/m ³	The unit went offline briefly this morning at around 06:00 hrs, likely due to a lack of power from solar/wind causing the inlet to lose heat. In addition, there was lots of fog/mist this morning and the temperature was between -1 and +1/2 degrees. No works were taking place in that area of site at this time.	Not due to site works. Heated inlet functionality continuing to be monitored.
	<u>26/11/2020</u> 22:01 - 23:00: 1756.7 µg/m ³ <u>27/11/2020</u> 23:01 - 00:00: 5479.6 µg/m ³ 00:01 - 01:00: 856.1 µg/m ³	The exceedances were likely due to the heavy fog in the area, with moisture appearing to infiltrate the monitors air inlet, leading to false PM ₁₀ concentrations. Both units went offline early this morning, likely due to a lack of power from solar/wind causing the inlet to lose heat.	Not due to site works. Heated inlet functionality continuing to be monitored.
SP-AQMP3_TRDC	<u>26/11/2020</u> _22:01 - 23:00: 2952.6 µg/m ³ <u>27/11/2020</u> 23:01 - 00:00: 6527.9 µg/m ³	The alerts were triggered outside of core working hours and there were no works taking place in the area.	
	<u>27/11/2020</u> 20:01 - 21:00: 310.3 µg/m ³	The alert was triggered outside of core working hours and there were no works in the area.	Not due to site works. Heated inlet functionality continuing to be monitored.

Figure 2: Continuous dust 1-hour mean indicative PM₁₀ concentration for SP-AQMP1-TRDC for November 2020

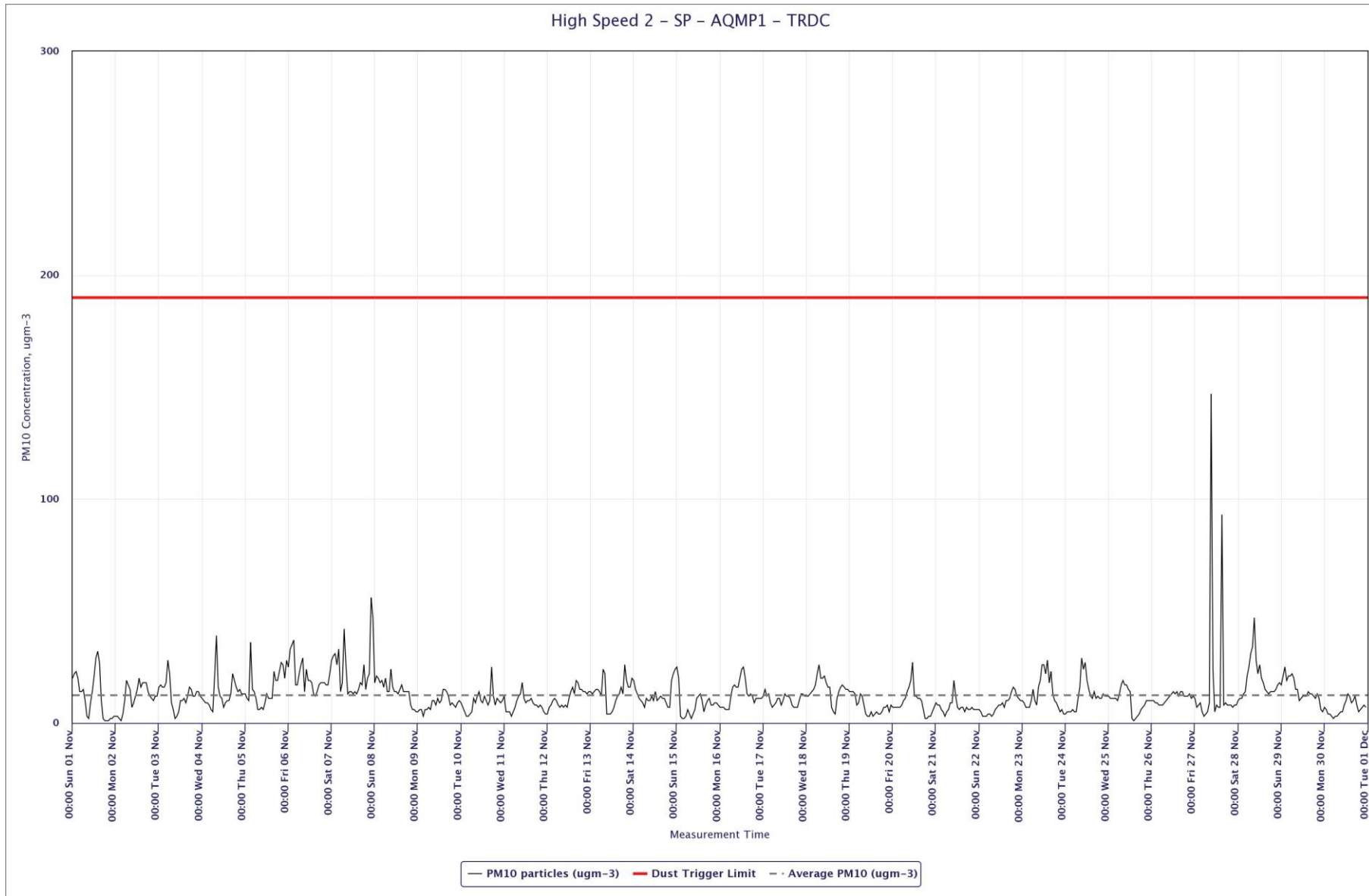


Figure 3: Continuous dust 1-hour mean indicative PM₁₀ concentration for SP-AQMP2-TRDC for November 2020

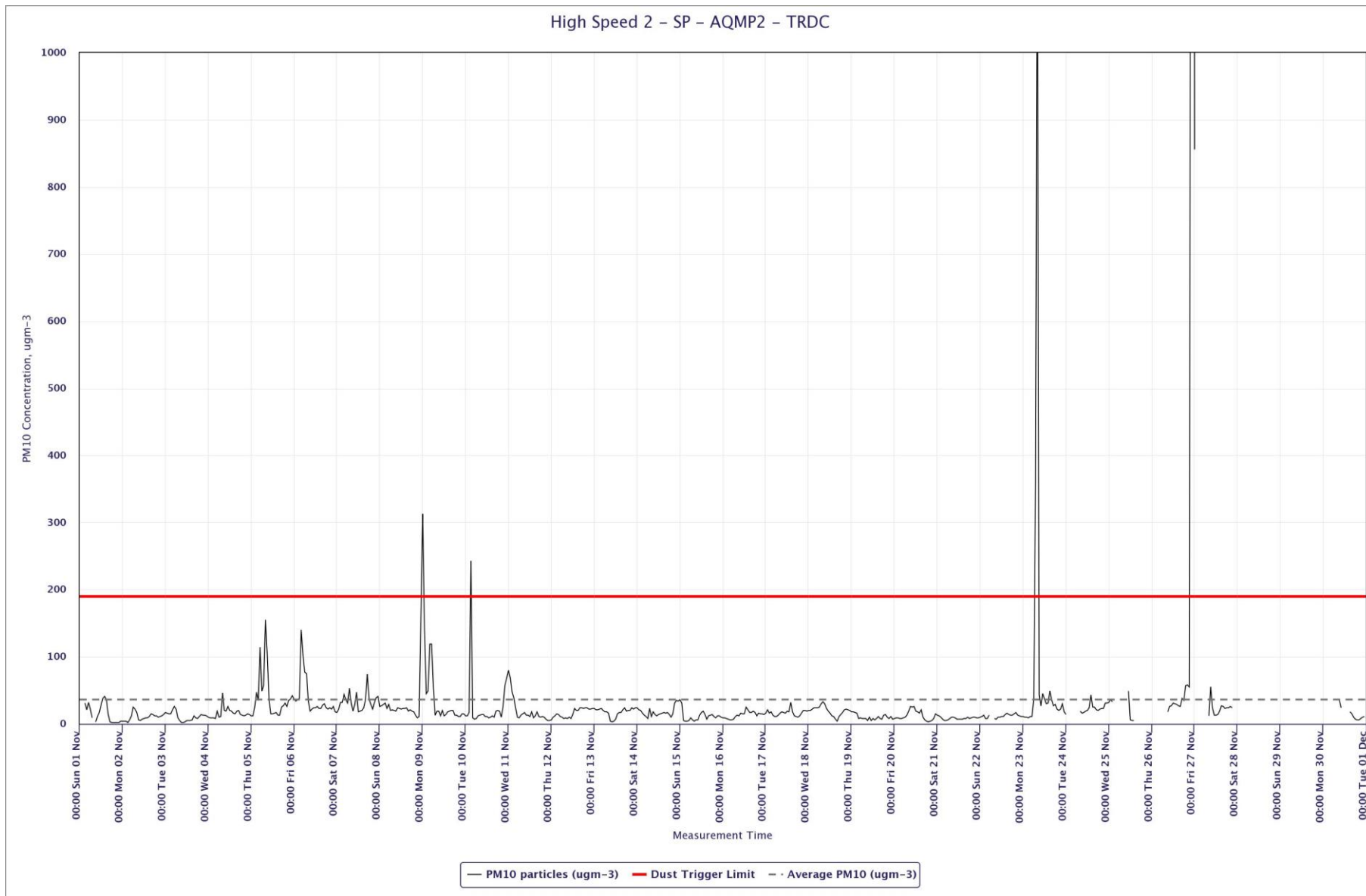


Figure 4: Continuous dust 1-hour mean indicative PM₁₀ concentration for SP-AQMP3-TRDC for November 2020

