

Air Quality and Dust Monitoring Monthly Report – September 2021

Stratford-on-Avon 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 Stratford-On-Avon District Council (SoADC) area during September 2021.

1.1.2 Figure 1 to Figure 3 in Appendix A indicate the current worksites together with dust monitoring locations.

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 construction works commenced in July 2021 and is expected to be completed by 2025. The current worksites, as presented in Appendix A, Figure 1 to Figure 3, include:

Southam worksite

- Further establishment of the temporary and main site compound;
- Installation of drainage and culverts;
- Topsoil stripping and material movement;
- Demolition works (Greenleaf Nursery) and associated crushing works;
- De-vegetation works; and
- Establishment of the site access road.

Long Itchington Wood North Portal worksite

- Construction of the portal slab;
- Assembly of the Tunnel Boring Machine; and
- Assembly of the Ainscough Crane.

Fosse Way Compound worksite

- Topsoil stripping;
- Haul Roads construction; and
- Earthworks cutting.

1.1.5 Four (4) dust monitors are installed around worksites, where works are underway. These sites returned a low to medium dust risk rating.

- 1.1.6 Dust monitoring locations and results are presented in Appendix B, Table 1, together with line charts of monthly data from the dust monitors in Figure 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 mitigation.
- 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 dust trigger alerts recorded during the monitoring period (September 2021). Triggers are presented in Appendix B, Table 3. All other results were in line with expected ranges.
- 1.1.9 Data capture for monitors FOS001, Harp Farm-AQMP1 and AQMP2 was below 90% for the month of September 2021. FOS001 was installed on 24/09/2021. Demolition works required Harp Farm-AQMP1 to be stationed by the nearest receptor coming to a halt until a later date. Harp Farm-AQMP2 had a loss of signal on the monitor.
- 1.1.10 There were no (0) complaints received during this reporting period.

Appendix A – Monitoring Locations

Figure 1: Worksite and monitoring locations during September 2021 – Harp Farm



Figure 2: Worksites and monitoring locations during September 2021 - Long Itchington North Portal

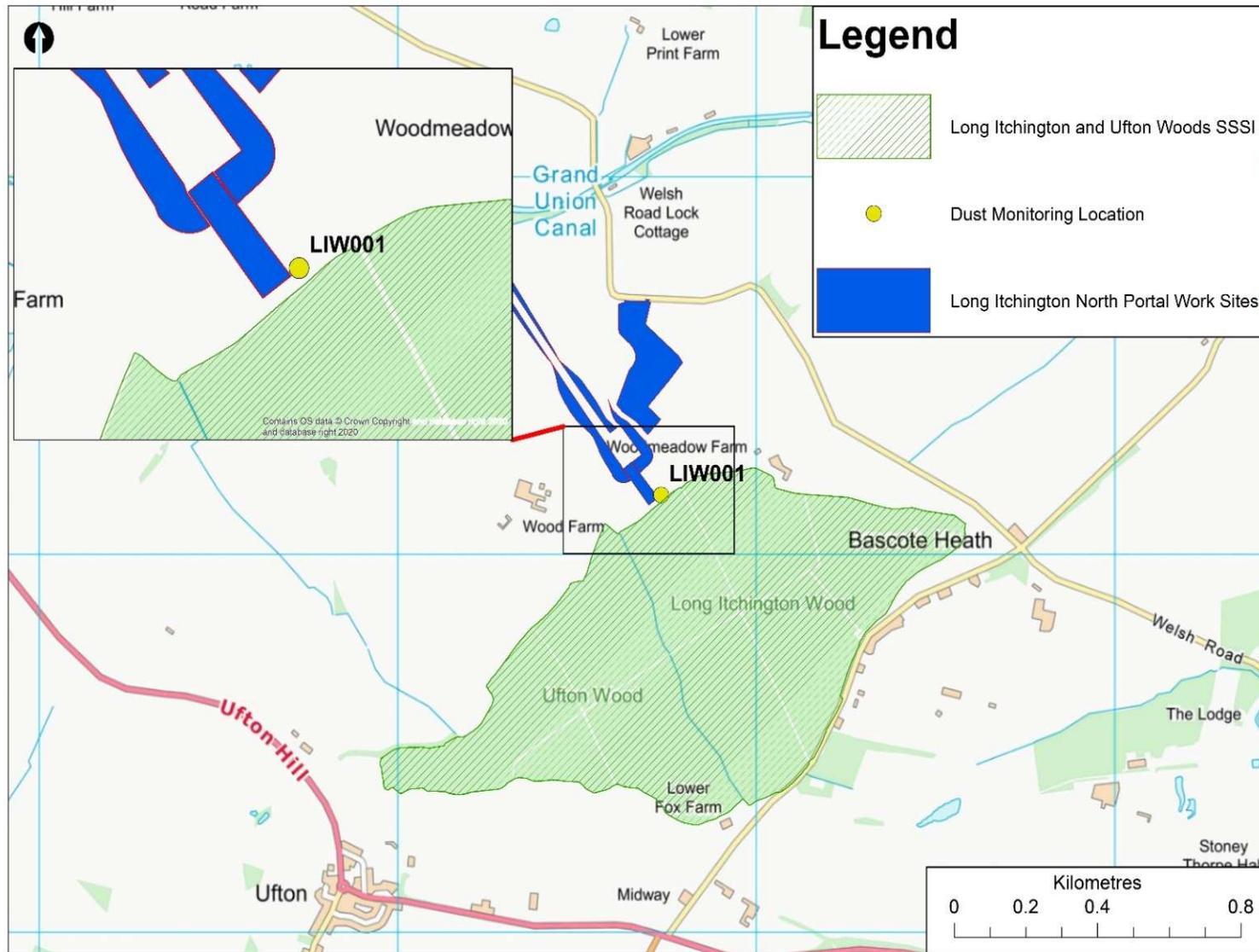
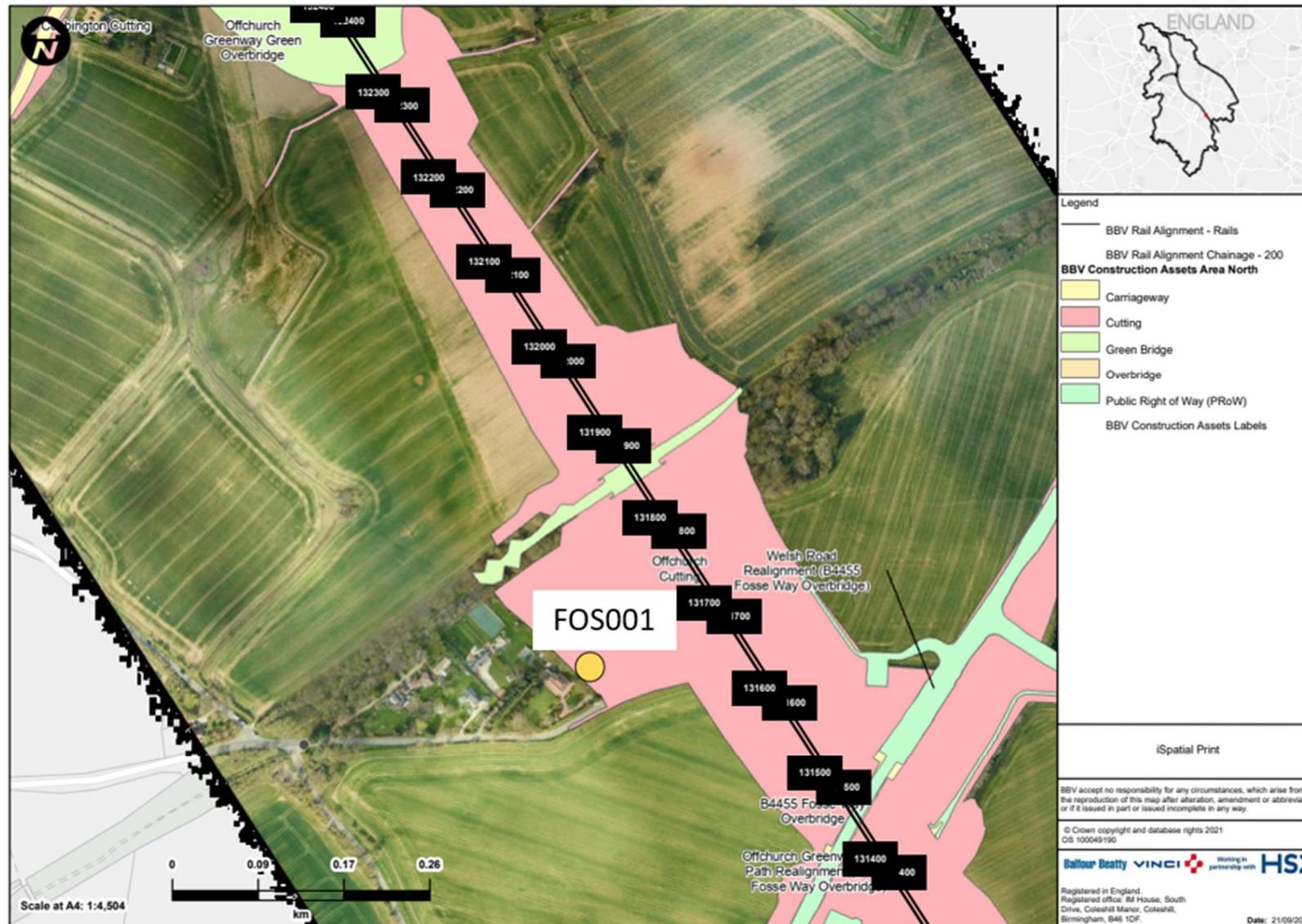


Figure 3: Worksites and monitoring locations during September 2021 - Fosse Way Compound



Appendix B – Dust Monitoring Results

Table 2: Dust monitoring locations and September 2021 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	1-hour data capture (%)
Harp Farm-AQMP1	441738, 260075	Site boundary adjacent property on Harp Farm	M	Yes	No	50.9	4.8	2621.2	7	30.8
Harp Farm-AQMP2	441793, 259973	Site boundary south of adjacent properties	M	Yes	Yes	0	0	0	0	0.0
LIW001	438656, 263180	Long Itchington Wood North Portal, at boundary with Long Itchington and Ufton Woods SSSI.	M	Yes	No	6.0	0.0	42.8	0	98.5
FOS001	436914, 265643	Fosse Way Compound, on Long Itchington Road	M	Yes	No	4.6	0.5	23.6	0	21.1

Table 3: Summary of exceedances during period (September 2021)

Monitoring Site ID	Period of trigger alert & Concentration recorded	Investigation	Outcomes / Resolution / Remedial measures implemented
Harp Farm AQMP1	01/09/2021 11:01 – 12:00 - 299.7 µg/m ³ 14:01 -15:00 – 941.3 µg/m ³ 15:01 – 16:00 – 528.9 µg/m ³	<p>Upon receipt of the first alert, an immediate investigation was conducted by the Environmental Advisor and the site supervisor. It was noted that the demolition (concrete crushing) and trial holes activities were being carried out 11am -12pm, and while dust suppression was in place for the demolition works, the trial hole activities created dust by tipping material from height.</p> <p>Upon receipt of the second alert it was noted that both the demolition works and trial holes activities were taking place. However is it unlikely that the trial holes caused this exceedance as they were not tipping any material. Demolition works were stopped at approx..15:30 until further notice.</p> <p>Third alert – Suspected cause from the 30 minute period that the demolition works continued during investigation where images were taken, and then instructed to stop.</p>	<p>First alert: The trial holes works manager was informed of this event and that further caution was needed during the next trial hole and to lower the height from which the material was being tipped from the vac-ex. The demolition works site team at the time were not working but were advised to ensure they have their suppression methods in place as agreed, no further alerts were received until 3pm.</p> <p>Second alert: Both activities were taking place at this time (demolition and trial holes). The demolition works supervisor was instructed to stop works until further dust suppression measures could be implemented. Demolition works were stopped at approx..15:30 until further notice.</p>
Harp Farm AQMP1	06/09/2021 08:01 – 09:00 - 413 µg/m ³	<p>Upon receipt of the first alert, an immediate investigation was conducted by the Environmental Advisor and the site supervisor. It was noted that the demolition (concrete crushing) were not being undertaken at the time and no other significant site activities were taking place.</p> <p>On further investigation it was found that the resident of the neighbouring property next to the monitor was doing some yard work and driving a tractor close to the monitor at the time of the alert.</p>	<p>The neighbouring property was contacted and asked to move away from the monitor if possible, no further alerts were received.</p>
Harp Farm AQMP1	07/09/2021 09:01 – 11:00 – 2627.2 µg/m ³ 10:01 – 11:00 – 192.8 µg/m ³ 11:01 – 12:00 – 296.4 µg/m ³	<p>Upon receipt of the first alert, an immediate investigation was conducted by the Environmental Advisor and the site supervisor. It was noted that the demolition (concrete crushing) was not being undertaken at the time and no other significant site activities were taking place. On further investigation it was found that the resident of the neighbouring property next to the monitor was doing some yard work and driving a tractor close to the monitor at the time of the alert.</p>	<p>The site supervisor was instructed to slow down the speed of the crushing and continue use of dust suppression and use as much as possible to saturate the crushing material.</p> <p>On receipt of the 3rd alert, the site supervisor has been instructed to stop works and only conduct any small material moving activities required to leave the site in a safe way as slow and cautiously as possible – with continued use of dust suppression as much as possible.</p>

Monitoring Site ID	Period of trigger alert & Concentration recorded	Investigation	Outcomes / Resolution / Remedial measures implemented
		<p>Second alert: The site supervisor was contacted and was noted that only the crushing works were taking place during this time with dust suppression in place. However, the weather conditions at the time (dry and hot sunshine, approx. 25C.) meant that the dust suppression was drying up very fast.</p> <p>Third alert: Over the next hour weather conditions have worsened, and temperatures increased. Crushing activities were ongoing and dust suppression while being applied, was drying up very fast</p>	<p>Note that no complaints were received from residents in the area.</p>

Figure 4: Construction dust 1-hour mean indicative PM₁₀ concentration for dust monitors

