

**Assessment of the Existing Noise Climate in the Vicinity of the
Proposed Extensions to the Wooltex Spinning Facility on
New Hey Road in Huddersfield.**

Report Prepared for:

Wooltex Spinning Company Ltd
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Huddersfield
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1.0 Summary

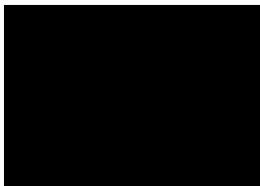
Planning permission is being sought permitting extensions to the existing Wooltex Spinning Company Ltd's facility on New Hey Road in Huddersfield. Although it is likely that the proposed extensions would house additional spinning and warehousing capacity for the existing site, the final configuration of the processes and equipment within the proposed extensions has yet to be decided.

In anticipation of the proposed extensions to the Wooltex facility on New Hey Road, assessments of the existing noise climate in the vicinity of the nearest noise sensitive locations to the proposed extensions have been undertaken. As the final configuration of the processes and equipment within the proposed extensions are yet to be finalised, the obtained data relating to the existing noise climate in the vicinity of the existing Wooltex facility will be used to establish target levels. These target levels could form the basis for further evaluations of the potential noise break-out from the activity within the proposed extensions, once the final configuration of the work flows and equipment within have been finalised.

The noise surveys to evaluate the existing noise climate in the vicinity of the proposed extensions to the existing Wooltex Spinning Company facility on New Hey Road in Huddersfield, have indicated that the existing noise climate was characteristic of a largely sub-urban environment. In all the measurement positions around the existing facility the existing noise climate was subject to contributions from: process noise from the existing Wooltex facility, road traffic noise, noise from the infant and junior school and some noise associated with the surrounding residential premises.

The results of the existing noise surveys have revealed that the noise climates in measurement positions 1 and 2 were similar to each other, with the existing noise climate in position 3 being consistently a little lower than the other two positions. The results from the noise surveys also revealed that the mean (log) and modal values for both the L_{Aeq} and L_{A90} parameters are either the same or within 1dB of each other in each of the measurement positions, supporting the qualitative impression that the existing noise climate in the vicinity of the Wooltex facility was relatively steady.

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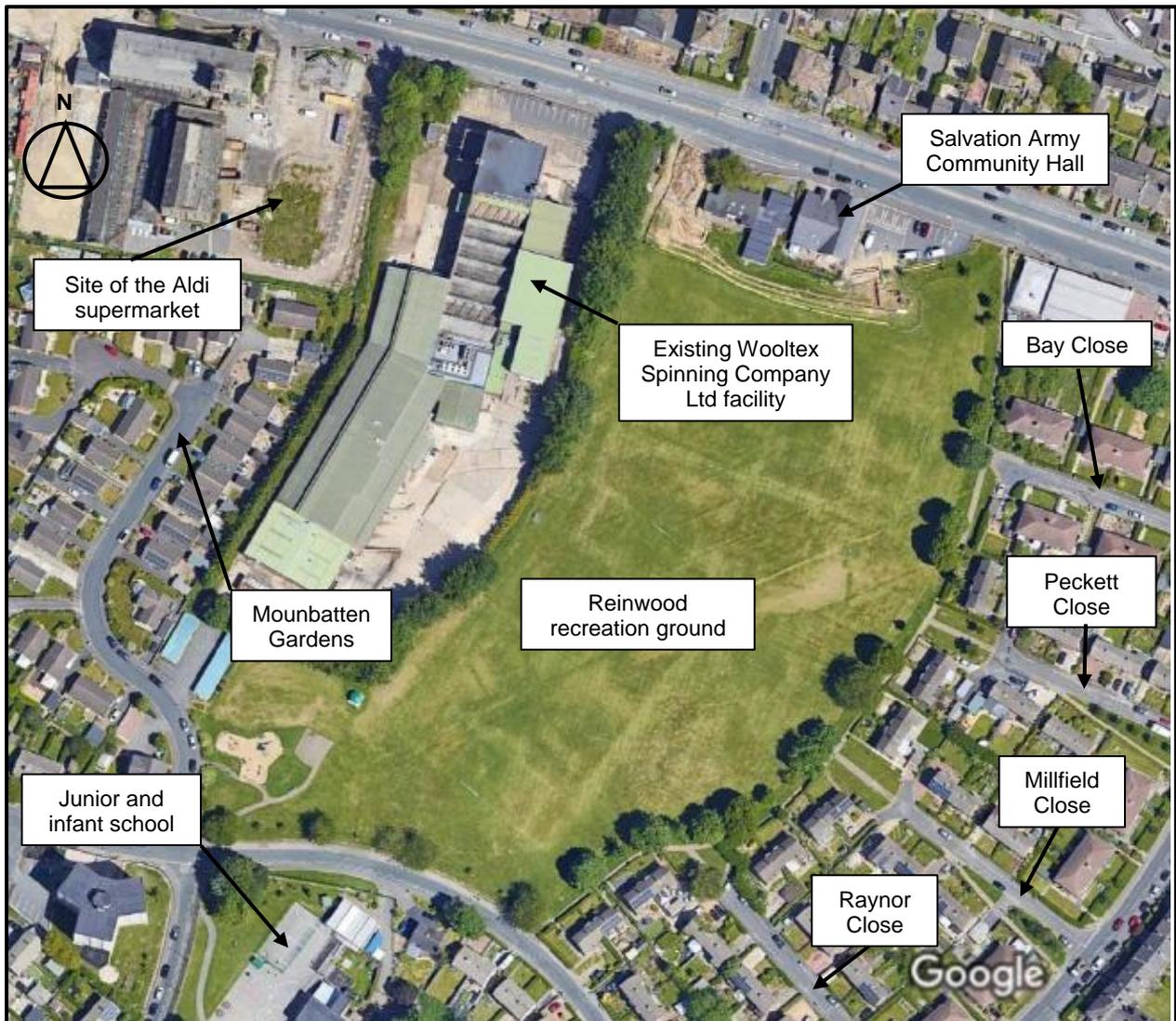
2.0 Introduction

Planning permission is being sought permitting extensions to the existing Wooltex Spinning Company Ltd's facility on New Hey Road in Huddersfield. Although it is likely that the proposed extensions would house additional spinning and warehousing capacity for the existing site, the final configuration of the processes and equipment within the proposed extensions has yet to be decided.

In anticipation of the proposed extensions to the Wooltex facility on New Hey Road, assessments of the existing noise climate in the vicinity of the nearest noise sensitive locations to the proposed extensions have been undertaken. As the final configuration of the processes and equipment within the proposed extensions are yet to be finalised, the obtained data relating to the existing noise climate in the vicinity of the existing Wooltex facility will be used to establish target levels. These target levels could form the basis for further evaluations of the potential noise break-out from the activity within the proposed extensions, once the final configuration of the work flows and equipment within have been finalised.

3.0 Site Description

The existing Wooltex Spinning Company Ltd facility is located between the Salvation Army Community Hall and the Aldi Supermarket on New Hey Road in Huddersfield (figure 1 overleaf). To the North of the Wooltex facility is the busy New Hey Road, to the South is the Southern end of the Reinwood Recreation Ground with the Reinwood Infant and Junior School and the houses on Wilwood Road beyond. To the East of the Wooltex facility is the main part of the Reinwood Recreation Ground with the residential houses on Bay Close, Pecket Close, Milfield Close and Raynor Close beyond. To the West of the Wooltex facility is the Aldi supermarket and the rear elevation of the houses on Mountbatten Gardens.

Figure 1. The existing Wooltex Spinning Company Ltd facility and the surrounding areas

Source: Google Maps 2023

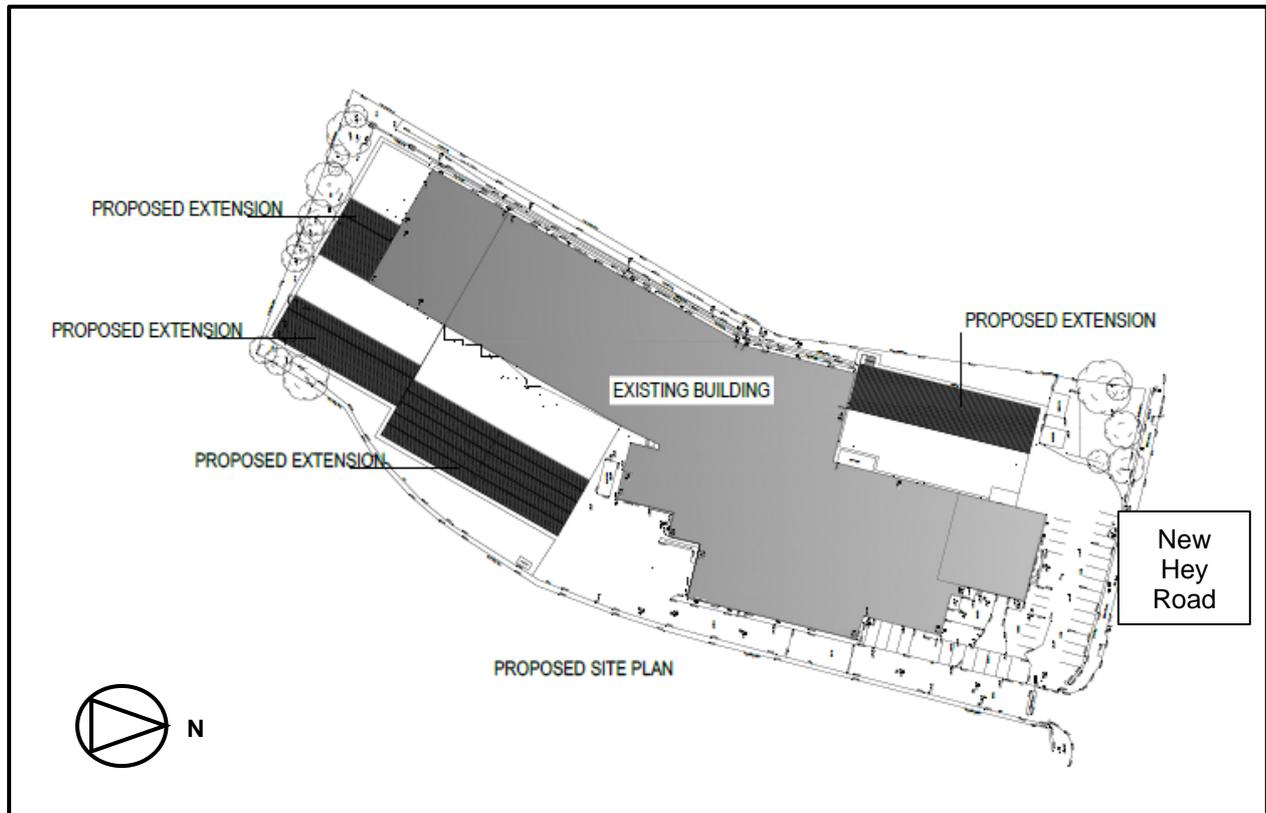
4.0 Assessment Criteria

As planning permission is currently being sought for the proposed extensions to the existing Wooltex Spinning Company facility on New Hey Road, no planning conditions currently exist. As previously stated, it is also the case that the final configurations of the process work flows and equipment within the proposed extensions have yet to be finalised. As such this report details the assessment of the existing noise climate in the vicinity of the nearest potentially noise 'sensitive' locations to the proposed extensions. The existing noise climate data will be used to provide a baseline against which an evaluation of the likely noise break-out from the proposed extensions could be undertaken, once the final configurations of the process work flows and equipment have been decided.

5.0 Assessment Details

With reference to the proposed extensions to the existing Wooltex facility on New Hey Road, the general location of the proposed extensions is as detailed on figure 2 below.

Figure 2. Approximate location of the proposed extensions



With reference to the locations of the proposed extensions, it is suggested that the residential dwellings on Mountbatten Gardens, Bay Close, Peckett Close, Millfield Close and Raynor Close to the West, East and South East of the existing facility would be regarded as representing the closest 'noise sensitive' locations to the proposed extensions. The existing noise climate in the vicinity of these nearest 'noise sensitive' locations will be assessed with particular reference to the existing background (L_{A90}) and residual (L_{Aeq}) sound levels in the vicinity of these locations.

With reference to the measurement of the existing background (L_{A90}) sound levels in a location, it is worth noting the guidance that is contained within section 8.1 of BS 4142:2014 "Methods for Rating and Assessing Industrial and Commercial Sound", as it relates to the establishment of background noise levels. The guidance states: "...the objective is not simply to ascertain a lowest measured background sound level". The Standard continues at section 8.1.4 "...there is no "single" background sound level as this is a fluctuating parameter. However, the background sound level used for the assessment should be representative of the period being assessed".

5.1 Survey Times and Personnel

The surveys to evaluate the existing noise climate in the vicinity of the noise sensitive premises to the East, South and West the existing Wooltex facility were undertaken between: 14:00 - 16:00 hours and 21:00 - 23:00 hours on the 12th October, between 10:00 - 12:00 hours on the 16th October 2023 and between 02:00 - 03:00 hours on the 17th October 2023.

Measurements of the existing noise climate were made during the normal working week in order to provide an indication of the typical noise levels that would prevail during these periods. As it is anticipated that working within the proposed extensions to the existing Wooltex facility could occur over a 24 hour period, measurements were made during the daytime, late evening and night time periods to reflect this potential working pattern.

All measurements were fully attended for the duration and the surveys were conducted by Mr. R Smith of Druk Limited.

5.2 Weather

Throughout the existing noise climate surveys the weather conditions were as follows:

Thursday 12th October 2023

All surfaces were dry, cloud cover ranged between approximately 10 - 100% throughout the period, the temperature ranged between approximately 11 - 13°C throughout the period, the wind speed ranged between approximately 1.3 and < 0.3m/s throughout the period and the barometric pressure ranged between approximately 982 - 988mb throughout the period.

Monday 16th October 2023

All surfaces were dry from the heavy dew, cloud was approximately 50% and was high and hazy, the temperature was approximately 8°C, the wind speed was less than 0.3m/s and the barometric pressure was approximately 999mb.

Tuesday 17th October 2023

All surfaces were dry, the sky was clear, the temperature was approximately 4°C, the wind speed was less than 0.3m/s and the barometric pressure was approximately 993mb.

5.3 Equipment

The existing noise climate surveys were conducted using the equipment detailed in the table 1 overleaf. The sound level meter was were field calibrated before, after and during the surveys as necessary, during which time no significant deviation in the calibrated level was observed.

Table 1. Equipment used during the existing noise climate surveys

Equipment description	Manufacturer	Model number	Serial number
Sound level meter	NTI Audio	XL2-TA	A2A-10232-E
Microphone pre-amplifier	NTI Audio	MA220	5537
Microphone	NTI Audio	M2230	8636
Acoustic calibrator	Norsonic AS	Nor 1251	31522

All the equipment used is calibrated by a UKAS accredited calibration laboratory and the calibration certificates are available on request.

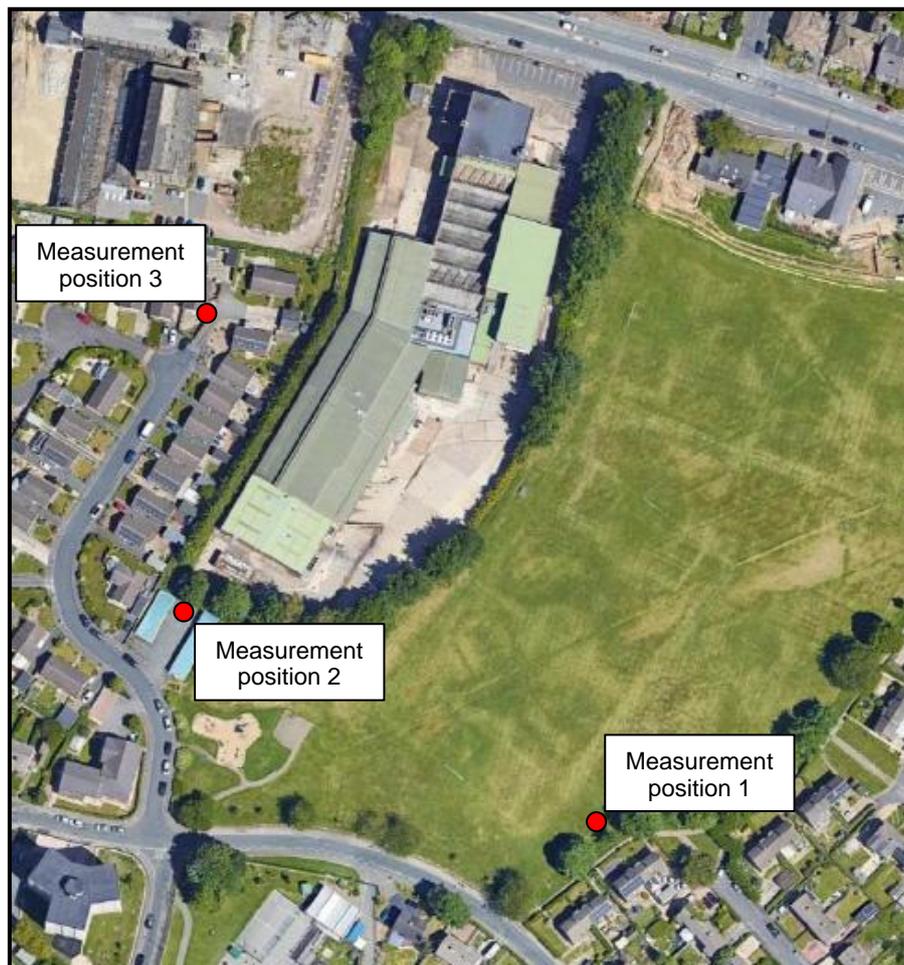
5.4 Measurement Procedure

As previously indicated the nearest noise sensitive locations to the proposed extensions to the existing Wooltex Spinning facility would be the residential dwellings on Mountbatten Gardens, Bay Close, Peckett Close, Millfield Close and Raynor Close. As a consequence three measurement positions were selected, namely: on the Reinwood recreation ground to the North of the nearest houses on Raynor Close (position 1), to the South of the existing Wooltex facility in the garage block serving the houses on Mountbatten Close (position 2) and to the West of the existing facility outside 22 and 24 Mountbatten Close (position 3). Measurements were made in these locations as they represent a compromise between securing measurements as close to the nearest 'noise sensitive' locations and remaining on public ground to which Druk Limited had access. The approximate locations of the measurement positions are detailed on figure 3 overleaf.

In all the measurement positions the sound level meter was tripod mounted such that the microphone was approximately 1.3 metres above ground level and never less than 3 metres from any large and reflecting surfaces.

During the measurements made during the daytime period the measurement time interval was 5 minutes and eight consecutive measurements were made in the three positions, resulting in 40 minutes of measurements being made in each position. During the night time period, the measurement time interval was again 5 minutes and four consecutive measurements were made in position resulting in 20 minutes of measurements being made in each position.

Figure 3. Approximate location of the measurement positions



Source: Google Maps 2023

5.5 Measurement of Existing Noise Climate

The assessment of the existing noise climate in the vicinity of the nearest noise 'sensitive' locations to the proposed extensions will be undertaken with reference to establishing, primarily, the prevailing noise climate with reference to the L_{Aeq} and L_{A90} parameters. In addition measurements of the L_{Amax} and L_{A10} parameters were also obtained.

By virtue of the existing 'steadiness' of the existing noise climate, discussed in more detail in section 6.0 below, there was nothing to suggest that the obtained levels were not representative of the prevailing noise climate in the adopted measurement positions during the assessment periods.

6.0 Noise Survey Comments and Results

The following paragraphs contain qualitative assessments of the existing noise climate in the adopted measurement positions. Overall the existing noise climate was believed to be characteristic of a largely sub-urban environment subject to noise contributions from: process noise from the existing Wooltex facility, road traffic noise, noise from the infant and junior school and some noise associated with the surrounding residential premises.

6.1 Qualitative Assessment - Position 1

The existing noise climate in this location was regarded as being relatively steady and fairly quiet. During the morning and afternoon periods the principal contributors to the existing noise climate were noise from people on the recreation ground including a number of dog walkers and occasional dog barking noise, the sound of children playing out at the Reinwood Infant and Nursery School, road traffic from both the surrounding local roads and New Hey Road, a constant broadband type noise from the direction of the existing Wooltex facility, the sound of the leaves on the trees rustling in the breeze and some noise from the surrounding houses.

During the evening period the existing noise climate was again regarded as being steady and it again comprised the sound of road traffic, both distant and on the local roads, the broadband type noise from the direction of the existing Wooltex facility and some noise from evening dog walkers on the recreation ground. The latter noise source was occasionally accompanied by bursts of dog barking.

The existing noise climate in the early hours of the morning was again very steady and at this time the two principal contributors were the broadband type sound from the direction of the Wooltex facility and the sound of road traffic, which at this time appeared to emanate mainly from the direction of New Hey Road.

6.2 Qualitative Assessment - Position 2

Overall the noise climate in measurement position 2 was very similar to that experienced in position 1 and this remained the case during the daytime and night time noise surveys. The principal difference was that in this location the contribution to the existing noise climate of the broadband type noise from the existing Wooltex facility was greater than that experienced in position one and was very similar in significance to the contribution made by road traffic on both New Hey Road and the local roads.

6.3 Qualitative Assessment - Position 3

The existing noise climate in this position was a little quieter than was the case in either position 1 or 2, however it was also quite steady throughout the measurement periods. Overall the principal contributors to the noise climate in this location comprised road traffic noise, primarily from New Hey Road and the previously mentioned broadband type noise from the existing Wooltex facility.

During the night time period, the existing noise climate in this location was regarded as being lower than was the case in the other two positions and during this period the emission of noise from the existing Wooltex facility was regarded as being the primary contributor at this time.

6.4 Basic Results

By virtue of the large amounts of data collected during the existing noise climate surveys, tables 2 - 4 below and overleaf contain summaries of the measured residual (L_{Aeq}) and background (L_{A90}) sound levels at each of the measurement positions during the daytime and night time measurement periods. Graphs 1 - 3 overleaf contain summaries of all the measured parameters. Full data are presented in tabular form in Appendix 1.

Table 2. Existing noise climate, measurement position 1, summary statistics

Measurement period	Statistical Parameter	dB L_{Aeq} ,	dB L_{A90} ,
14:00 - 14:40			
	Standard deviation	1.07	0.92
	Mean (log)	49	45
	Mode	50	45
21:00 - 21:40			
	Standard deviation	0.52	0.00
	Mean (log)	45	44
	Mode	45	44
10:00 - 10:40			
	Standard deviation	3.83	1.13
	Mean (log)	49	42
	Mode	49	41
02:00 - 02:20			
	Standard deviation	0.00	0.58
	Mean (log)	43	41
	Mode	43	40

Table 3. Existing noise climate, measurement position 2, summary statistics

Measurement period	Statistical Parameter	dB L_{Aeq}	dB L_{A90}
14:40 - 15:20			
	Standard deviation	1.85	1.07
	Mean (log)	51	45
	Mode	52	44
21:40 - 22:20			
	Standard deviation	0.89	0.00
	Mean (log)	44	42
	Mode	43	42
10:40 - 11:20			
	Standard deviation	0.71	0.52
	Mean (log)	49	44
	Mode	49	44
02:20 - 02:40			
	Standard deviation	1.50	0.00
	Mean (log)	43	41
	Mode	42	41

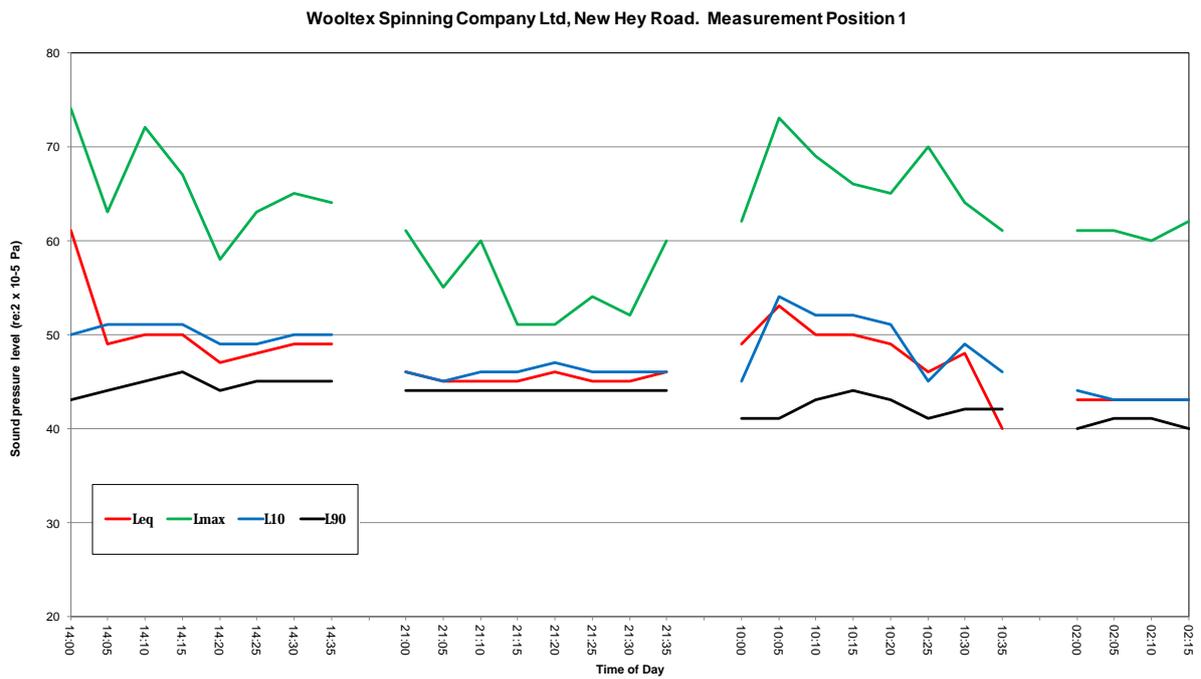
Table 4. Existing noise climate, measurement position 3, summary statistics

Measurement period	Statistical Parameter	dB L_{Aeq} ,	dB L_{A90} ,
15:20 - 16:00			
	Standard deviation	1.41	0.53
	Mean (log)	43	37
	Mode	43	37
20:20 - 23:00			
	Standard deviation	0.89	0.89
	Mean (log)	38	38
	Mode	39	39
11:20 - 12:00			
	Standard deviation	1.69	0.00
	Mean (log)	43	35
	Mode	41	35
02:40 - 03:00			
	Standard deviation	2.63	0.00
	Mean (log)	37	34
	Mode	-	34

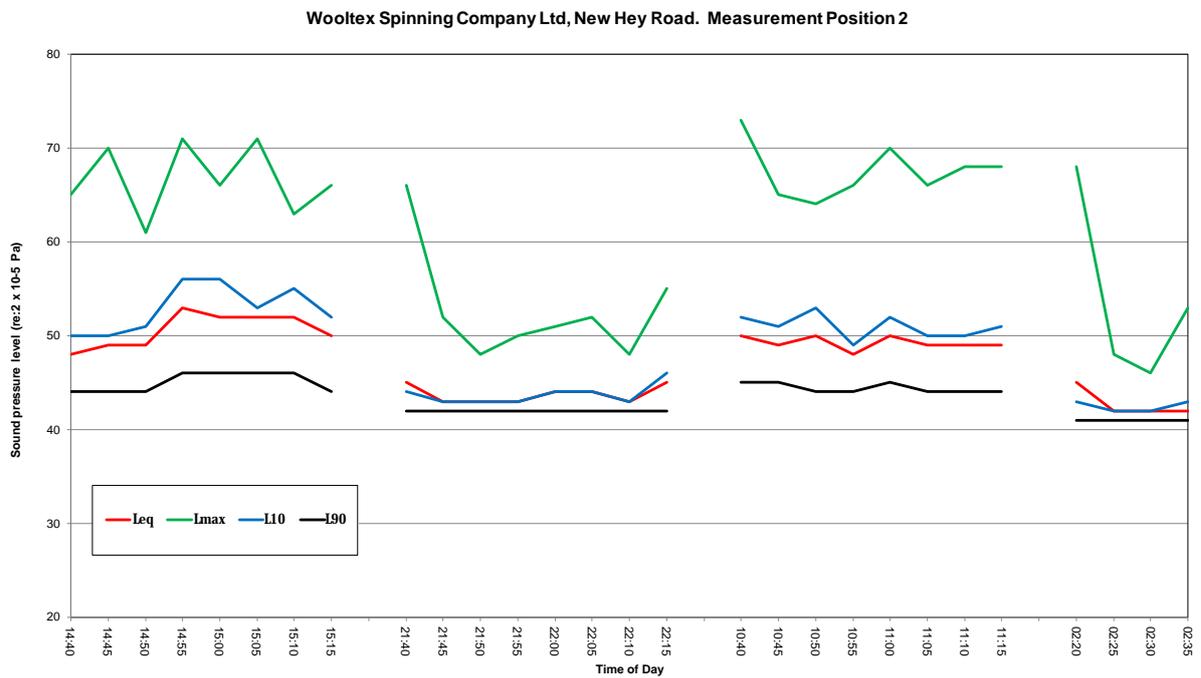
As can be seen from tables 2 - 4, the existing noise climate in measurement positions 1 and 2 were similar to each other, with the existing noise climate in position 3 being consistently a little lower than the other two positions.

Tables 2 - 4 also reveal that the mean (log) and modal values for both the L_{Aeq} and L_{A90} parameters are either the same or within 1dB of each other. Consequently and for the purposes of the further evaluation of the noise emission from the processes to be housed within the proposed extensions, once finalised, it is suggested that the adoption of either the Mean (log) or modal values for both the L_{Aeq} and L_{A90} parameters would be appropriate.

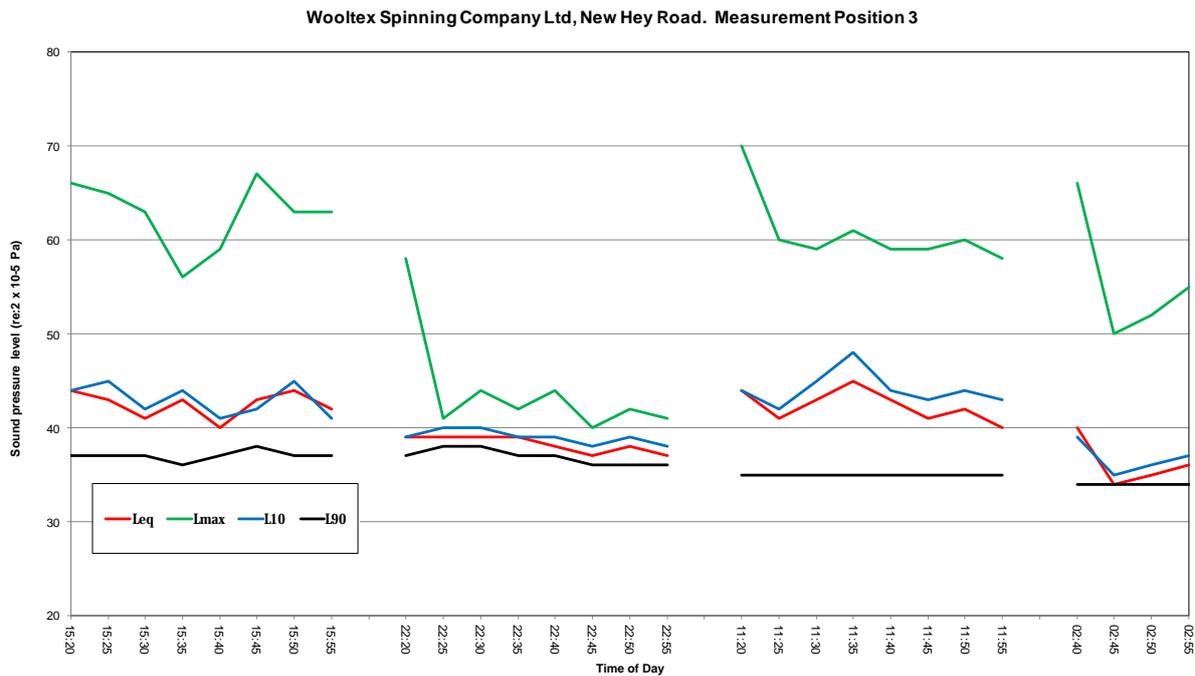
Graph 1. Summary of measured sound levels, position 1



Graph 2. Summary of measured sound levels, position 2



Graph 3. Summary of measured sound levels, position 3



7.0 Conclusion

The noise surveys to evaluate the existing noise climate in the vicinity of the proposed extensions to the existing Wooltex Spinning Company facility on New Hey Road in Huddersfield have indicated that the existing noise climate was characteristic of a largely sub-urban environment. In all the measurement positions around the existing facility the existing noise climate was subject to contributions from: process noise from the existing Wooltex facility, road traffic noise, noise from the infant and junior school and some noise associated with the surrounding residential premises.

The results of the existing noise surveys have revealed that the noise climates in measurement positions 1 and 2 were similar to each other, with the existing noise climate in position 3 being consistently a little lower than the other two positions. The results from the noise surveys also revealed that the mean (log) and modal values for both the L_{Aeq} and L_{A90} parameters are either the same or within 1dB of each other, supporting the qualitative impression that the existing noise climate in the vicinity of the proposed extensions was relatively steady.

As the final configurations of the process work flows and equipment within the proposed extensions to the Wooltex Spinning Company facility have yet to be finalised, a full assessment of the likely break-out noise levels from the processes within the new extensions was not possible. Consequently, it is suggested that the obtained existing noise climate data could be used to provide a baseline against which an evaluation of the likely noise break-out from the proposed extensions could be undertaken, once the final configurations of the process work flows and equipment have been decided.

Appendix 1. Existing Noise Climate Survey Results

Position 1

Wooltex. New Hey Road, Huddersfield											
Existing noise climate surveys, Raw data											
12 th October 2023											
Octave Band Centre Frequency, Hz.	dB(A)	31.5	63	125	250	500	1k	2k	4k	8k	16k
14:00											
<i>L_{eq}</i>	50	20	33	39	34	40	46	45	37	29	16
<i>L_{max}</i>	74	30	45	51	58	68	71	67	56	51	31
<i>L₁₀</i>	50	23	35	43	35	38	46	46	38	31	19
<i>L₉₀</i>	43	16	27	31	30	34	40	39	32	20	8
14:05											
<i>L_{eq}</i>	49	19	28	32	33	37	45	44	38	31	19
<i>L_{max}</i>	63	34	44	47	47	51	57	58	56	49	36
<i>L₁₀</i>	51	21	30	33	34	38	47	47	40	33	21
<i>L₉₀</i>	44	15	24	29	30	34	40	40	33	22	8
14:10											
<i>L_{eq}</i>	50	20	30	33	34	39	45	46	40	32	20
<i>L_{max}</i>	72	30	38	50	54	63	64	69	60	53	39
<i>L₁₀</i>	51	23	32	34	34	38	47	47	42	35	23
<i>L₉₀</i>	45	16	26	30	31	35	41	41	34	21	8
14:15											
<i>L_{eq}</i>	50	19	28	32	34	38	45	45	40	31	19
<i>L_{max}</i>	67	29	38	41	45	59	64	62	56	48	37
<i>L₁₀</i>	51	20	30	34	35	39	46	47	42	33	21
<i>L₉₀</i>	46	15	25	30	32	35	41	42	36	24	6
14:20											
<i>L_{eq}</i>	47	20	30	33	34	37	43	43	37	25	12
<i>L_{max}</i>	58	28	38	41	43	45	52	51	54	47	36
<i>L₁₀</i>	49	22	32	34	35	37	44	45	39	28	15
<i>L₉₀</i>	44	15	26	30	32	35	40	40	35	19	5
14:25											
<i>L_{eq}</i>	48	20	29	33	34	39	44	43	38	29	16
<i>L_{max}</i>	63	27	40	39	47	59	60	52	52	49	34
<i>L₁₀</i>	49	22	31	34	35	39	45	45	40	32	19
<i>L₉₀</i>	45	16	26	31	32	35	41	41	36	21	6
14:30											
<i>L_{eq}</i>	49	21	32	34	37	42	45	44	39	31	18
<i>L_{max}</i>	65	34	44	46	49	63	63	56	50	43	35
<i>L₁₀</i>	50	24	35	36	39	42	46	45	41	34	23
<i>L₉₀</i>	45	15	26	31	32	36	41	41	36	22	8
14:35											
<i>L_{eq}</i>	49	20	31	34	36	39	44	44	39	30	17
<i>L_{max}</i>	64	32	45	44	53	56	55	60	56	47	36
<i>L₁₀</i>	50	22	33	36	38	40	46	45	40	32	18
<i>L₉₀</i>	45	16	26	31	32	35	41	40	35	23	9

12 th October 2023												
Octave Band Centre Frequency, Hz.	dB(A)	31.5	63	125	250	500	1k	2k	4k	8k	16k	
21:00												
L_{eq}	46	17	26	32	31	37	42	41	37	31	21	
L_{max}	61	26	34	40	50	54	56	53	53	51	40	
L_{10}	46	19	28	33	31	38	42	41	38	33	24	
L_{90}	44	13	24	30	28	36	40	39	33	17	4	
21:05												
L_{eq}	45	17	27	32	30	36	41	40	35	24	10	
L_{max}	55	25	34	38	42	41	48	46	50	47	30	
L_{10}	45	19	29	33	31	37	42	40	35	23	11	
L_{90}	44	13	23	30	29	35	40	39	33	17	4	
21:10												
L_{eq}	45	16	35	37	35	36	41	40	35	23	9	
L_{max}	60	23	54	53	50	48	52	53	55	50	35	
L_{10}	46	18	35	35	36	37	42	41	35	19	5	
L_{90}	44	12	23	29	28	34	40	39	33	17	4	
21:15												
L_{eq}	45	17	32	32	30	36	41	40	35	20	7	
L_{max}	51	27	47	42	45	40	45	45	46	36	25	
L_{10}	46	19	37	34	31	36	42	41	35	19	4	
L_{90}	44	12	23	30	28	34	40	39	33	16	4	
21:20												
L_{eq}	46	16	28	31	32	35	42	41	35	21	7	
L_{max}	51	26	41	42	44	43	46	45	42	35	22	
L_{10}	47	18	29	32	34	36	43	43	37	22	9	
L_{90}	44	12	23	28	28	34	40	40	33	17	4	
21:25												
L_{eq}	45	17	29	32	32	36	41	40	35	22	10	
L_{max}	54	26	38	38	44	46	47	46	50	43	32	
L_{10}	46	19	31	34	34	37	42	41	35	20	6	
L_{90}	44	13	24	30	29	35	40	39	33	17	4	
21:30												
L_{eq}	45	16	29	31	30	36	41	40	34	19	7	
L_{max}	52	23	40	41	40	41	45	44	48	41	29	
L_{10}	46	18	30	32	31	37	42	41	35	18	5	
L_{90}	44	12	24	29	28	35	40	39	33	16	4	
21:35												
L_{eq}	46	16	26	32	32	36	41	41	37	28	13	
L_{max}	60	25	33	42	41	50	54	54	54	52	33	
L_{10}	46	18	28	33	33	37	42	41	37	29	16	
L_{90}	44	12	23	29	29	34	40	40	34	18	4	

16 th October 2023												
Octave Band Centre Frequency, Hz.	dB(A)	31.5	63	125	250	500	1k	2k	4k	8k	16k	
10:00												
L_{eq}	49	19	30	34	33	34	44	45	38	32	22	
L_{max}	62	32	41	44	46	51	59	54	53	51	47	
L_{10}	45	21	33	36	36	36	41	41	36	31	19	
L_{90}	41	14	26	31	29	31	37	37	31	17	4	
10:05												
L_{eq}	53	26	39	40	37	45	49	46	44	33	43	
L_{max}	73	17	29	32	32	64	72	62	52	37	18	
L_{10}	54	19	31	34	35	50	51	49	42	31	15	
L_{90}	41	13	24	30	28	30	37	37	31	16	4	
10:10												
L_{eq}	50	18	30	34	35	38	46	44	41	32	15	
L_{max}	69	28	39	43	54	61	66	55	62	56	38	
L_{10}	52	20	32	35	37	37	48	47	45	34	20	
L_{90}	43	14	25	31	29	32	39	39	33	19	5	
10:15												
L_{eq}	50	19	29	33	31	35	45	46	40	30	12	
L_{max}	66	28	38	39	39	51	59	59	61	51	33	
L_{10}	52	21	31	34	33	36	47	49	41	33	15	
L_{90}	44	15	26	31	29	32	40	40	33	17	4	
10:20												
L_{eq}	49	18	30	34	34	34	43	46	39	28	13	
L_{max}	65	30	42	56	61	52	58	61	57	57	43	
L_{10}	51	20	32	35	33	36	46	48	41	26	7	
L_{90}	43	14	25	30	28	31	39	39	32	16	4	
10:25												
L_{eq}	46	20	30	33	36	37	41	42	35	26	12	
L_{max}	70	33	40	47	64	65	64	67	56	49	39	
L_{10}	45	22	32	35	32	34	41	41	36	26	8	
L_{90}	41	14	26	31	28	30	37	37	31	15	4	
10:30												
L_{eq}	48	17	31	33	31	33	42	45	38	26	14	
L_{max}	64	32	43	55	60	50	55	60	55	57	40	
L_{10}	49	22	33	33	32	34	43	45	40	24	9	
L_{90}	42	15	24	29	27	34	37	37	32	17	7	
10:35												
L_{eq}	40	18	30	30	31	32	35	36	29	25	8	
L_{max}	61	32	40	49	58	55	54	57	51	47	33	
L_{10}	46	22	33	34	31	34	42	41	38	25	9	
L_{90}	42	14	27	29	29	31	36	38	31	16	7	

17 th October 2023												
Octave Band Centre Frequency, Hz.	dB(A)	31.5	63	125	250	500	1k	2k	4k	8k	16k	
02:00												
L_{eq}	43	14	24	30	25	32	38	38	35	27	15	
L_{max}	61	21	29	34	43	47	51	52	59	50	37	
L_{10}	44	16	25	31	25	33	39	39	35	30	17	
L_{90}	40	11	22	28	22	29	36	35	30	13	4	
02:05												
L_{eq}	43	14	24	31	27	32	39	38	33	24	10	
L_{max}	61	21	32	37	42	46	54	52	57	50	35	
L_{10}	43	16	25	33	31	33	39	39	31	18	6	
L_{90}	41	11	22	29	22	30	37	37	29	13	4	
02:10												
L_{eq}	43	15	24	31	24	31	38	39	35	25	12	
L_{max}	60	22	30	34	42	47	49	52	57	50	35	
L_{10}	43	17	26	32	25	32	39	39	33	17	5	
L_{90}	41	11	22	29	22	30	37	37	30	14	4	
02:15												
L_{eq}	43	15	25	31	25	32	38	38	35	26	13	
L_{max}	62	27	35	41	45	50	50	52	60	52	39	
L_{10}	43	17	26	32	26	35	39	38	32	23	10	
L_{90}	40	11	22	29	22	30	36	36	30	13	4	

Position 2

Wooltex. New Hey Road, Huddersfield												
Existing noise climate surveys. Raw data												
12 th October 2023												
Octave Band Centre Frequency, Hz.	dB(A)	31.5	63	125	250	500	1k	2k	4k	8k	16k	
14:40												
<i>L</i> _{eq}	48	22	30	33	36	44	43	41	38	33	20	
<i>L</i> _{max}	65	34	40	42	45	50	59	59	57	55	41	
<i>L</i> ₁₀	50	24	32	35	38	45	46	44	39	33	20	
<i>L</i> ₉₀	44	15	26	29	33	42	39	37	34	23	8	
14:45												
<i>L</i> _{eq}	49	20	33	37	39	45	44	42	40	36	21	
<i>L</i> _{max}	70	37	58	60	62	68	66	63	57	55	38	
<i>L</i> ₁₀	50	22	32	37	39	45	44	44	43	38	25	
<i>L</i> ₉₀	44	15	27	30	34	42	40	37	34	22	7	
14:50												
<i>L</i> _{eq}	49	24	31	34	37	44	43	42	41	35	23	
<i>L</i> _{max}	61	38	42	49	51	58	55	55	53	47	37	
<i>L</i> ₁₀	51	27	32	36	39	45	46	45	44	39	27	
<i>L</i> ₉₀	44	16	27	31	33	42	40	38	34	23	9	
14:55												
<i>L</i> _{eq}	53	26	35	39	43	47	48	47	43	38	29	
<i>L</i> _{max}	71	44	52	60	64	62	68	61	56	62	56	
<i>L</i> ₁₀	56	28	38	41	46	50	52	51	47	38	24	
<i>L</i> ₉₀	46	16	27	30	34	43	42	40	36	27	13	
15:00												
<i>L</i> _{eq}	52	20	42	46	46	46	48	47	42	33	22	
<i>L</i> _{max}	66	30	59	59	64	55	63	61	53	50	47	
<i>L</i> ₁₀	56	23	42	51	49	49	51	51	46	37	20	
<i>L</i> ₉₀	46	16	27	30	34	42	42	40	35	25	10	
15:05												
<i>L</i> _{eq}	52	23	35	36	41	47	48	46	41	33	21	
<i>L</i> _{max}	71	38	58	60	65	69	68	64	57	49	45	
<i>L</i> ₁₀	53	25	35	37	42	47	49	48	43	34	19	
<i>L</i> ₉₀	46	16	27	30	34	42	42	40	35	24	8	
15:10												
<i>L</i> _{eq}	52	24	31	34	40	46	47	47	40	32	17	
<i>L</i> _{max}	63	38	44	44	51	56	56	58	49	55	34	
<i>L</i> ₁₀	55	26	33	37	44	49	50	51	43	34	20	
<i>L</i> ₉₀	46	15	26	29	34	42	42	39	35	23	8	
15:15												
<i>L</i> _{eq}	50	19	28	30	35	44	45	45	40	31	18	
<i>L</i> _{max}	66	36	41	42	51	59	60	62	59	53	39	
<i>L</i> ₁₀	52	21	30	32	36	44	48	47	41	34	21	
<i>L</i> ₉₀	44	14	26	28	32	42	40	38	34	22	7	

12 th October 2023												
Octave Band Centre Frequency, Hz.	dB(A)	31.5	63	125	250	500	1k	2k	4k	8k	16k	
21:40												
L_{eq}	45	18	28	30	36	42	41	37	34	24	10	
L_{max}	66	40	41	54	60	62	63	58	55	46	32	
L_{10}	44	18	29	30	34	42	40	36	33	24	11	
L_{90}	42	12	25	25	30	40	38	34	30	16	4	
21:45												
L_{eq}	43	16	28	28	33	41	40	35	30	16	4	
L_{max}	52	26	33	34	39	45	51	43	35	23	11	
L_{10}	43	19	29	30	34	42	40	35	30	17	4	
L_{90}	42	12	25	26	31	40	39	34	30	16	4	
21:50												
L_{eq}	43	15	28	27	33	41	40	35	31	17	4	
L_{max}	48	24	36	32	37	44	44	42	33	25	12	
L_{10}	43	17	29	29	34	42	40	35	31	17	4	
L_{90}	42	12	25	25	31	40	39	34	30	16	4	
21:55												
L_{eq}	43	15	27	28	33	41	40	35	31	17	5	
L_{max}	50	22	32	32	37	43	43	44	45	35	21	
L_{10}	43	16	28	29	34	42	40	35	30	16	4	
L_{90}	42	11	25	25	31	40	39	34	30	16	4	
22:00												
L_{eq}	44	15	27	31	36	42	40	35	31	17	5	
L_{max}	51	22	34	39	47	50	44	41	44	33	22	
L_{10}	44	16	29	34	39	43	41	35	30	16	4	
L_{90}	42	11	25	26	32	40	39	34	30	16	4	
22:05												
L_{eq}	44	14	27	30	36	41	40	35	31	17	5	
L_{max}	52	21	33	42	46	46	44	43	47	38	24	
L_{10}	44	16	28	31	38	42	41	35	30	16	4	
L_{90}	42	11	25	26	32	40	39	34	30	16	4	
22:10												
L_{eq}	43	15	27	27	33	41	40	35	31	17	5	
L_{max}	48	24	33	32	39	44	42	41	43	33	19	
L_{10}	43	16	29	29	34	42	40	35	30	17	4	
L_{90}	42	11	25	25	31	40	39	34	30	16	4	
22:15												
L_{eq}	45	15	27	31	39	44	41	35	30	16	4	
L_{max}	55	21	31	42	52	56	50	36	32	22	7	
L_{10}	46	16	29	35	43	46	42	35	30	16	4	
L_{90}	42	11	25	25	31	40	39	34	30	16	4	

16 th October 2023												
Octave Band Centre Frequency, Hz.	dB(A)	31.5	63	125	250	500	1k	2k	4k	8k	16k	
10:40												
L_{eq}	50	19	30	36	36	44	45	45	39	38	11	
L_{max}	73	45	56	65	64	69	69	66	61	53	38	
L_{10}	52	19	30	33	34	44	47	47	41	42	10	
L_{90}	45	14	25	28	31	42	41	39	35	22	5	
10:45												
L_{eq}	49	17	28	32	34	43	44	44	40	31	6	
L_{max}	65	25	34	42	49	50	54	63	52	49	23	
L_{10}	51	19	29	34	35	44	46	46	41	33	6	
L_{90}	45	14	26	29	32	42	40	38	35	22	4	
10:50												
L_{eq}	50	18	28	35	40	43	43	46	41	31	9	
L_{max}	64	25	38	50	55	50	55	61	56	47	29	
L_{10}	53	20	30	38	45	44	44	50	44	34	11	
L_{90}	44	15	25	29	32	42	40	36	34	21	4	
10:55												
L_{eq}	48	18	28	35	39	43	43	42	38	34	10	
L_{max}	66	26	35	44	51	50	55	62	59	51	32	
L_{10}	49	21	29	38	42	44	45	43	40	36	11	
L_{90}	44	15	26	30	33	42	40	36	34	21	4	
11:00												
L_{eq}	50	18	28	33	37	44	44	45	40	31	11	
L_{max}	70	27	35	42	58	65	62	67	61	52	36	
L_{10}	52	20	29	35	39	44	46	48	42	34	11	
L_{90}	45	14	25	29	33	42	41	37	34	21	4	
11:05												
L_{eq}	49	19	29	34	37	43	43	44	39	30	10	
L_{max}	66	25	43	49	55	63	55	61	57	49	31	
L_{10}	50	21	30	35	39	44	45	46	39	30	10	
L_{90}	44	15	26	31	34	42	40	37	34	21	4	
11:10												
L_{eq}	49	18	27	33	36	42	43	45	38	29	10	
L_{max}	68	25	36	43	54	65	57	63	59	50	34	
L_{10}	50	20	30	36	39	43	45	45	40	35	11	
L_{90}	44	16	25	31	32	41	40	35	34	20	6	
11:15												
L_{eq}	49	18	29	34	38	43	43	45	39	31	10	
L_{max}	68	27	37	45	57	62	59	64	61	50	31	
L_{10}	51	20	31	36	40	42	44	47	40	33	12	
L_{90}	44	15	25	31	33	41	40	36	35	21	5	

17 th October 2023												
Octave Band Centre Frequency, Hz.	dB(A)	31.5	63	125	250	500	1k	2k	4k	8k	16k	
02:20												
L_{eq}	45	17	27	28	34	42	41	37	33	23	11	
L_{max}	68	41	45	48	57	61	64	63	58	47	34	
L_{10}	43	17	28	28	34	42	40	34	31	24	12	
L_{90}	41	11	24	24	29	39	38	33	29	15	4	
02:25												
L_{eq}	42	15	26	26	32	40	39	33	30	16	4	
L_{max}	48	20	32	30	38	43	41	42	42	37	20	
L_{10}	42	16	28	27	33	41	39	33	30	16	4	
L_{90}	41	12	24	24	30	39	38	33	29	15	3	
02:30												
L_{eq}	42	15	26	26	32	40	39	33	30	16	4	
L_{max}	46	22	31	30	36	44	42	36	32	34	8	
L_{10}	42	17	28	27	33	41	39	33	30	16	4	
L_{90}	41	12	24	24	30	39	38	33	29	15	3	
02:35												
L_{eq}	42	15	26	26	32	40	39	34	30	19	7	
L_{max}	53	21	36	37	42	48	46	48	43	39	28	
L_{10}	43	17	28	27	33	41	40	33	30	16	4	
L_{90}	41	11	24	24	30	39	38	33	29	15	3	

Position 3

Wooltex. New Hey Road, Huddersfield											
Existing noise climate surveys											
12 th October 2023											
Octave Band Centre Frequency, Hz.	dB(A)	31.5	63	125	250	500	1k	2k	4k	8k	16k
15:20											
<i>L_{eq}</i>	44	18	28	30	31	36	39	39	37	29	15
<i>L_{max}</i>	66	24	36	36	42	51	56	62	60	53	40
<i>L₁₀</i>	44	20	29	31	32	37	40	39	36	29	15
<i>L₉₀</i>	37	14	25	28	29	33	35	30	23	14	4
15:25											
<i>L_{eq}</i>	43	19	28	30	32	35	38	36	36	29	11
<i>L_{max}</i>	65	33	37	36	40	46	59	62	54	46	35
<i>L₁₀</i>	45	21	29	32	34	37	40	37	39	32	13
<i>L₉₀</i>	37	15	25	28	29	33	35	30	24	15	4
15:30											
<i>L_{eq}</i>	41	19	28	31	32	34	37	35	34	29	18
<i>L_{max}</i>	63	33	36	37	43	51	56	55	59	56	46
<i>L₁₀</i>	42	22	29	33	34	35	38	36	33	26	12
<i>L₉₀</i>	37	14	26	28	30	32	35	30	23	14	4
15:35											
<i>L_{eq}</i>	43	17	29	31	33	35	39	37	31	23	9
<i>L_{max}</i>	56	28	38	42	48	46	51	52	47	43	29
<i>L₁₀</i>	44	19	31	32	33	36	40	39	33	24	9
<i>L₉₀</i>	36	14	26	28	29	32	34	29	22	14	4
15:40											
<i>L_{eq}</i>	40	18	27	30	31	34	37	33	32	25	10
<i>L_{max}</i>	59	31	33	38	37	43	51	52	54	50	34
<i>L₁₀</i>	41	19	29	31	32	35	38	34	31	24	10
<i>L₉₀</i>	37	14	25	28	29	32	35	29	23	14	4
15:45											
<i>L_{eq}</i>	43	17	28	29	31	35	39	38	35	26	12
<i>L_{max}</i>	67	26	39	37	41	50	60	63	60	51	35
<i>L₁₀</i>	42	19	30	31	32	36	39	35	31	22	8
<i>L₉₀</i>	38	14	25	27	29	33	36	29	21	12	4
15:50											
<i>L_{eq}</i>	44	18	31	34	38	40	39	37	35	28	16
<i>L_{max}</i>	63	29	42	46	50	56	53	56	59	53	41
<i>L₁₀</i>	45	20	35	36	41	43	41	36	33	25	11
<i>L₉₀</i>	37	15	26	28	29	33	35	30	21	12	4
15:55											
<i>L_{eq}</i>	42	19	30	32	33	37	38	36	33	27	15
<i>L_{max}</i>	63	30	45	44	49	54	54	58	57	51	39
<i>L₁₀</i>	41	21	34	34	31	35	37	35	31	25	11
<i>L₉₀</i>	37	15	26	29	30	32	34	28	22	13	6

12 th October 2023												
Octave Band Centre Frequency, Hz.	dB(A)	31.5	63	125	250	500	1k	2k	4k	8k	16k	
22:20												
L_{eq}	39	15	26	28	30	34	37	31	25	18	7	
L_{max}	58	30	41	41	45	46	51	55	48	36	25	
L_{10}	39	17	27	29	31	35	37	29	23	15	5	
L_{90}	37	12	24	26	29	33	36	27	19	11	4	
22:25												
L_{eq}	39	15	26	27	30	35	38	29	20	12	4	
L_{max}	41	20	31	31	33	37	40	31	22	13	4	
L_{10}	40	17	27	28	31	36	38	29	21	11	4	
L_{90}	38	11	24	25	29	34	36	28	20	11	4	
22:30												
L_{eq}	39	15	26	27	30	35	38	28	20	12	4	
L_{max}	44	21	32	33	35	38	40	39	31	23	7	
L_{10}	40	17	28	28	31	36	38	29	21	11	4	
L_{90}	38	12	24	26	29	34	36	27	18	11	4	
22:35												
L_{eq}	39	15	26	28	31	35	37	28	21	12	4	
L_{max}	42	23	34	32	38	37	39	33	28	15	5	
L_{10}	39	17	28	29	31	35	37	30	25	12	4	
L_{90}	37	12	24	26	29	33	36	26	18	11	4	
22:40												
L_{eq}	38	15	26	28	30	34	36	29	22	12	4	
L_{max}	44	22	34	31	34	39	41	39	31	27	14	
L_{10}	39	16	28	29	30	35	37	30	22	12	4	
L_{90}	37	11	23	26	28	33	35	27	20	11	4	
22:45												
L_{eq}	37	14	26	27	30	33	35	27	20	12	4	
L_{max}	40	20	31	32	36	38	37	30	21	14	4	
L_{10}	38	16	27	28	31	34	36	27	20	11	4	
L_{90}	36	11	23	25	28	32	34	26	19	11	4	
22:50												
L_{eq}	38	15	26	30	34	34	36	27	19	11	4	
L_{max}	42	23	30	38	46	38	39	30	21	15	5	
L_{10}	39	17	27	33	37	35	37	28	20	11	4	
L_{90}	36	12	24	27	29	32	35	25	17	11	4	
22:55												
L_{eq}	37	15	26	30	31	33	35	27	19	12	4	
L_{max}	41	22	31	40	40	36	39	30	23	27	4	
L_{10}	38	18	27	32	32	34	36	28	20	12	4	
L_{90}	36	12	24	26	29	32	34	25	18	11	4	

16 th October 2023												
Octave Band Centre Frequency, Hz.	dB(A)	31.5	63	125	250	500	1k	2k	4k	8k	16k	
11:20												
L_{eq}	44	17	28	29	34	37	40	38	36	28	15	
L_{max}	70	28	39	44	54	62	68	61	61	54	42	
L_{10}	44	19	29	32	35	36	39	40	36	29	14	
L_{90}	35	14	25	25	28	31	32	28	22	12	4	
11:25												
L_{eq}	41	18	28	29	32	33	35	36	34	27	11	
L_{max}	60	26	35	37	44	43	49	54	57	50	34	
L_{10}	42	20	29	31	34	34	36	37	34	28	12	
L_{90}	35	14	26	27	28	31	32	28	20	12	4	
11:30												
L_{eq}	43	19	30	33	36	35	37	39	32	24	8	
L_{max}	59	29	43	45	51	45	47	57	50	42	25	
L_{10}	45	21	32	36	39	38	41	40	33	26	8	
L_{90}	35	14	26	26	28	31	32	28	21	12	4	
11:35												
L_{eq}	45	18	28	30	35	37	40	41	36	30	18	
L_{max}	61	31	41	45	50	49	54	56	53	48	43	
L_{10}	48	20	30	32	37	39	42	44	39	33	18	
L_{90}	35	14	26	26	28	31	32	28	22	13	4	
11:40												
L_{eq}	43	18	28	29	32	36	38	35	36	30	20	
L_{max}	59	30	39	42	45	48	51	52	55	49	43	
L_{10}	44	20	30	31	34	36	39	39	38	31	16	
L_{90}	35	14	26	26	29	31	32	28	21	13	4	
11:45												
L_{eq}	41	17	28	28	31	33	35	36	34	27	13	
L_{max}	59	27	34	42	48	47	48	53	54	46	33	
L_{10}	43	19	29	30	34	34	37	38	36	30	15	
L_{90}	35	14	25	26	28	31	32	28	21	13	4	
11:50												
L_{eq}	42	17	27	29	31	34	37	35	34	30	17	
L_{max}	60	29	40	44	49	48	49	55	56	44	35	
L_{10}	44	20	31	32	35	35	38	39	37	32	16	
L_{90}	35	14	26	25	29	31	32	28	20	13	5	
11:55												
L_{eq}	40	18	28	28	32	33	35	34	32	28	15	
L_{max}	58	28	39	43	47	48	47	51	55	44	30	
L_{10}	43	19	30	32	34	35	37	37	36	31	15	
L_{90}	35	14	25	25	28	30	32	28	20	13	4	

17 th October 2023												
Octave Band Centre Frequency, Hz.	dB(A)	31.5	63	125	250	500	1k	2k	4k	8k	16k	
02:40												
L_{eq}	40	16	26	27	31	35	37	34	30	25	13	
L_{max}	66	41	45	49	54	60	62	60	53	47	36	
L_{10}	39	15	27	28	29	34	35	33	31	27	13	
L_{90}	34	9	22	23	27	32	31	26	19	11	3	
02:45												
L_{eq}	34	15	26	28	29	32	31	26	21	14	5	
L_{max}	50	21	31	39	44	45	39	46	43	32	21	
L_{10}	35	17	27	29	30	32	32	25	20	15	5	
L_{90}	34	12	24	26	27	31	30	26	18	11	3	
02:50												
L_{eq}	35	15	26	28	30	32	31	27	23	17	7	
L_{max}	52	23	30	42	50	46	41	47	44	36	24	
L_{10}	36	17	27	29	30	33	33	28	22	16	6	
L_{90}	34	12	24	26	29	32	31	26	19	13	4	
02:55												
L_{eq}	36	15	26	28	29	32	31	28	25	20	9	
L_{max}	55	23	30	33	33	42	49	51	48	36	24	
L_{10}	37	17	27	29	30	33	33	29	27	22	10	
L_{90}	34	12	24	26	30	33	29	25	18	11	4	