

NOISE IMPACT ASSESSMENT

41 Ashton Vale Rd, Bristol BS3 2HW

ETM Recycling Ltd

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1.2	25/02/2021	TB	CP	Client comments
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Drawing No. AVR/2369/03 – Site Layout & Fire Plan

Drawing No. AVR/2369/01 – Sensitive Receptors Plan

Appendix II - Photographs of Screening/Specification

1 Introduction

1.1 Site history / background

1.1.1 Oaktree Environmental Ltd have been instructed by ETM Recycling Ltd to prepare a Noise Impact Assessment (NIA) as per BS4142:2014 in order to quantify the impacts associated with the proposed extension of operating hours and throughput at ETM Recycling Ltd.

1.1.2 Specific mitigation and good practice measures derived from this assessment will be used to inform the subsequent Noise & Vibration Management Plan (NVMP). These mitigation measures will be put in place by the management of ETM Recycling Ltd.

1.1.3 The site is a Household, commercial & industrial waste transfer station with treatment and operate Environmental Permit (EP) Ref. EPR/EP3794SH. This NIA has been produced to accompany the following variations to the permit:

- i) Increase the annual throughput from 150,000 tonnes per annum (tpa) to 300,000 tpa.
- ii) Make a minor increase to the permit boundary
- iii) Be able to operate the site i.e. mechanical treatment plant and plant/machinery on a 24/7 basis.
- iv) Update the wording of the second paragraph in Table S1.1; activities, to allow transfer and treatment of waste to take place outside of a building.

1.1.4 This revision contains details of the additional background noise monitoring undertaken post-submission as well as a revised measurement for the materials recycling facility.

1.1.5 Contact details for Oaktree Environmental are as follows:

Oaktree Environmental Ltd	Contact:	Thomas Benson
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Winsford Industrial Estate	E-mail:	thomas@oaktree-environmental.co.uk
Winsford CW7 3QZ		

1.2 **Site location**

1.2.1 The site is located on Land at 41 Ashton Vale Rd, Bristol BS3 2HW as shown on Drawing Nos. AVR/2369/01 & 02. The national grid reference for the site is ST 56367 71194.

1.2.2 The site is located within a predominantly industrial setting with surrounding land uses comprising; the existing ETM Recycling Ltd site, civil engineering contractors, several vehicle repair and recovery workshops as well as numerous units which are used for a variety of commercial/industrial uses.

1.3 **Facility overview**

1.3.1 The permit boundary is outlined in green on Drawing No. AVR/2369/02. All references to 'the site' in this document shall mean this area and the associated infrastructure, plant and equipment.

1.3.2 The recycling centre allows for the reception, storage, sorting and treatment (using fixed and mobile plant) of household, industrial and commercial (HIC) waste to permit recycling and recovery. Recycled/recovered materials include hardcore, wood, plastics, paper/card, scrap metal, etc. Non-recyclable general wastes are bulked up and sent to an appropriately permitted site for disposal or further recovery. Waste treatment processes which can be carried out on site are summarised below:

- Compacting (by loading shovel/360° excavator)
- Sorting (with loading shovel/360° excavator or by hand)
- Screening (by using appropriate mechanical screening plant and equipment)

- Separation (by using appropriate mechanical screening plant and equipment)
- Shredding (by using appropriate plant and equipment)
- Baling (by using appropriate plant and equipment)
- Magnetic separation of ferrous metals
- Cutting (using hand-held equipment)
- Blending (by loading shovel / 360° tracked excavator and trommel)

1.4 **Proposed Hours of operation**

- 1.4.1 It is proposed that the site is to operate 24/7 which includes manoeuvring of plant and vehicles, loading and unloading of wastes and the operation of the treatment plant.

2 Planning Policy

2.1 Noise Policy Statement for England

2.1.1 The Noise Policy Statement for England (NPSE), March 2010, sets out the Governments long-term noise policy, the aims of which are:

2.1.2 “Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- Avoid significant adverse effects on health and quality of life;
- Mitigate and minimise adverse effects on health and quality of life;
- Where possible, contribute to the improvement of health and quality of life.”

2.1.3 The first aim of the NPSE is to avoid significant adverse effects, considering the shared UK principles of sustainable development.

2.1.4 The second aim provides guidance on the scenario when the potential noise impact falls between the LOAEL (Lowest Observed Adverse Effect Level) and the SOAEL (Significant Observed Adverse Effect Level), in which case it is stated; “all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life while also taking into account the guiding principles of sustainable development”. However, it is also stated “This does not mean that such adverse effects cannot occur”.

2.1.5 With regards to the SOAEL, the document states “It is not possible to have a single objective noise-based measure that defines SOAEL that is applicable to all sources of noise in all situations”, acknowledging that this is very much dependent on the noise source, the receptor and the time of day. Therefore, the NPSE provides the necessary policy flexibility until further guidance / evidence is available.

2.1.6 Other guidance will need to be taken into account when applying the principles of the NPSE, as well the nature of the proposed development and its specific circumstances.

2.2 **National Planning Policy Framework**

2.2.1 The NPPF, revised in 2019, replaces the Planning Policy Guidance Note 24 (PPG 24) and does not make reference to any other relevant noise guidance, other than the NPSE.

2.2.2 With regards to noise, the NPPF states the planning process should “contribute and enhance the natural and local environment”, with regards to noise this means “preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affect by unacceptable levels” of, amongst other things, noise.

2.2.3 The NPPF states that Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life,

b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

2.3 **Planning Practice Guidance – Noise**

2.3.1 Although this NVMP is being submitted to the Environment Agency, it is important to set out the appropriate guidance set out in the NPPF which advises that the Local Authority should consider the following when decision making:

- Whether or not a significant adverse effect is occurring or likely to occur.
- Whether or not an adverse effect is occurring or likely to occur.
- Whether or not a good standard of amenity can be achieved.

2.3.2 As previously discussed within the NPSE, the guidance discusses the LOAEL and SOAEL and provides scenarios that could be expected for the perception level of noise, plus the associated activities that may be required to bring about the desired outcome. Again, as with the NPSE, no objective noise levels are provided for LOAEL or SOAEL.

2.3.3 It is stated that “the subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any particular situation”. These factors include:

- The absolute noise level of the source and the time of day it occurs.
- Where the noise is non-continuous (intermittent), the number of noise events along with any patterns of occurrence.
- The frequency of content and acoustic characteristics (tonality etc.) of the noise.
- The effects of noise on the surrounding wildlife.
- The acoustic environment of external amenity areas provided as an intrinsic part of the overall design.
- The impact of noise from certain commercial developments such as night clubs and pubs where activities are often at their peak during the evening and night.

3 Sensitive Receptors

3.1 Receptor Plan

3.1.1 A sensitive receptors plan (SRP) has been produced to accompany this NVMP and is shown in Appendix I referenced as on Drawing No. AVR/2369/04. The receptors highlighted are those which are considered to be at risk by noise generated by the site.

3.2 List of receptors

3.2.1 The receptors listed from the SRP are also shown in the table below with approximate distances to these residential properties.

Table 3.1 – Distances to Selected, Representative Sensitive Locations

Boundary	Receptor	Approximate distance from site boundary (m)
West	David Lloyd Bristol Long Ashton (Gym and Leisure Centre)	5
North	Ashton Park School and associated playing fields	200
North	Residential dwellings off Blackmoors Lane	245
South	Residential dwellings off Silbury Road	285
South	Residential dwellings off Fraynes Close	300
South	Ashton Drive	540

3.3 **Other noise sources**

3.3.1 The site is located within an established industrial estate with numerous surrounding commercial/industrial uses. Other land uses which will contribute to the background noise level are tabulated below in the Table below.

Table 3.2 – Other Noise Emitting Operators

Company	Address	Type of Business	Approximate distance from site boundary (m)
Bristol City Timber	39 Ashton Vale Rd, Bristol BS3 2HW	Timber merchant	Adjacent
David Lloyd Bristol Long Ashton	Ashton Rd, Bristol BS3 2HB	Large gym and sports centre including external playing pitches and pool	5m west
Manheim Bristol Auctions	Ashton Vale Rd, Ashton Vale, Bristol BS3 2AZ	Auction house	15m south
Flynn Ltd	54 Ashton Vale Rd, Bristol BS3 2HQ	Civil engineering yard	20m north
Masters Garage	54 Ashton Vale Rd, Bristol BS3 2HQ	Vehicle repair	25m north
Simbars Ltd	46 Ashton Vale Rd, Bristol BS3 2HQ	Manufacturer	30m north
Avdon Bristol	Longbrook Trading Estate, Ashton Vale Rd, Bristol BS3 2HT	Manufacturer	50m east
Avonline Networks	42 Ashton Vale Rd, Bristol BS3 2HQ	Network build and construction (depot/yard)	50m northeast
Cutline Glass	Unit 4, Longbrook Trading Estate, Ashton Vale Rd, Bristol BS3 2HT	Stained glass manufacturer	100m northeast
Babcock International	Coventry House, Ashton Vale Rd, Bristol, BS3 2HQ	Repair and goods inwards yard	100m northeast
EMF metal fabrications	42 Ashton Vale Rd, Bristol BS3 2HQ	Metal fabricators	125m northeast
Long Ashton Park & Ride	Bristol BS3 2HB	Park and ride serving Bristol area	275m south and west

3.3.2 Additional noise emitting operators are also located within 200-750m including additional warehouses, manufacturers, builders yards, car and transit centres and Ashton Gate Stadium and associated sports bar.

4 Noise Assessment Criteria

4.1 General

4.1.1 In order to assess the impacts of existing road traffic and industrial noise on the proposed development, the following documents have been used:

- BS8233:2014
- BS4142:2014
- World Health Organisation (WHO) Guidelines on Community Noise

4.2 BS8283:2014

4.2.1 This document provides guidance on the relevant level of sound insulation required by a variety of building types affected by general environmental noise and provides recommendations for appropriate internal ambient noise level criteria for a variety of different situations including residential dwellings. The table below includes the proposed noise criteria within BS8283:2014 with regards to residential properties:

Table 4.1 - BS8233:2014 Internal Criteria

Activity	Location	07:00 – 23:00	23:00 – 7:00
Resting	Living rooms	35 L _{Aeq, 16hour}	-
Dining	Dining room	40 L _{Aeq, 16hour}	-
Sleeping	Bedroom	35 L _{Aeq, 16hour}	30 L _{Aeq, 16hour}

4.3 BS4142:2014

4.3.1 BS4142:2014 provides a method for assessing and rating sound of an industrial / commercial nature. The method described in the standard uses the rating level from a noise source and the existing background noise level to assess the potential effects of sound on the residential premises upon which sound is incident.

4.3.2 Using this method, the background sound level is subtracted from the rating level. The resulting figure is assessed using the following guidance from the document:

- The greater the difference between the background sound level and the rating level, the greater the impact on the receptor.
- An exceedance of the background level of around 10dB or more is likely to be an indication of a significant adverse impact, dependent on the context.
- An exceedance of the background level of around 5dB is likely to be an indication of an adverse impact, dependent on the context.
- The lower the rating level compared to the existing background level, the less likely an adverse impact or a significant adverse impact. Where the rating level does not exceed the background level, this is indicative of a low impact, dependent on context.

4.3.3 The document introduces a requirement to consider and report the uncertainty in the data as well as also including guidance for applying a correction/penalty for certain adverse acoustic features such as tonality, impulsivity or intermittency. The following table summarises the corrections based on the subjective assessment of the noise.

Table 4.2 - BS4142:2014 Corrections and Penalties

	Tonality	Impulsivity	Other characteristics
Just perceptible	<i>+ 2dB</i>	<i>+ 3dB</i>	
Clearly perceptible	<i>+ 4dB</i>	<i>+ 6dB</i>	
Highly perceptible	<i>+ 6dB</i>	<i>+ 9dB</i>	
Readily Distinctive against Residual Environment			<i>+ 3dB</i>

4.4 **WHO Guidelines for Community Noise**

4.4.1 The WHO Guidelines (1999) recommends indoor night-time guidelines in order to avoid sleep disturbance, the document states these to be 30 dB (LAeq) and 45 dB (LA_{fmax}) for continuous and individual noise events respectively.

- 4.4.2 The document states that the number of noise events should also be considered and that individual noise events should not exceed 45 dB (LA_{fmax}) more than 10 – 15 times per night.
- 4.4.2.1 The WHO document also recommends that steady, continuous noise levels should not exceed 55 dB (LA_{eq}) on outdoor living areas (balconies, terraces etc.). However, in order to protect the majority of individuals from moderate annoyance, external noise levels should not exceed 50 dB (LA_{eq}).

5 Survey

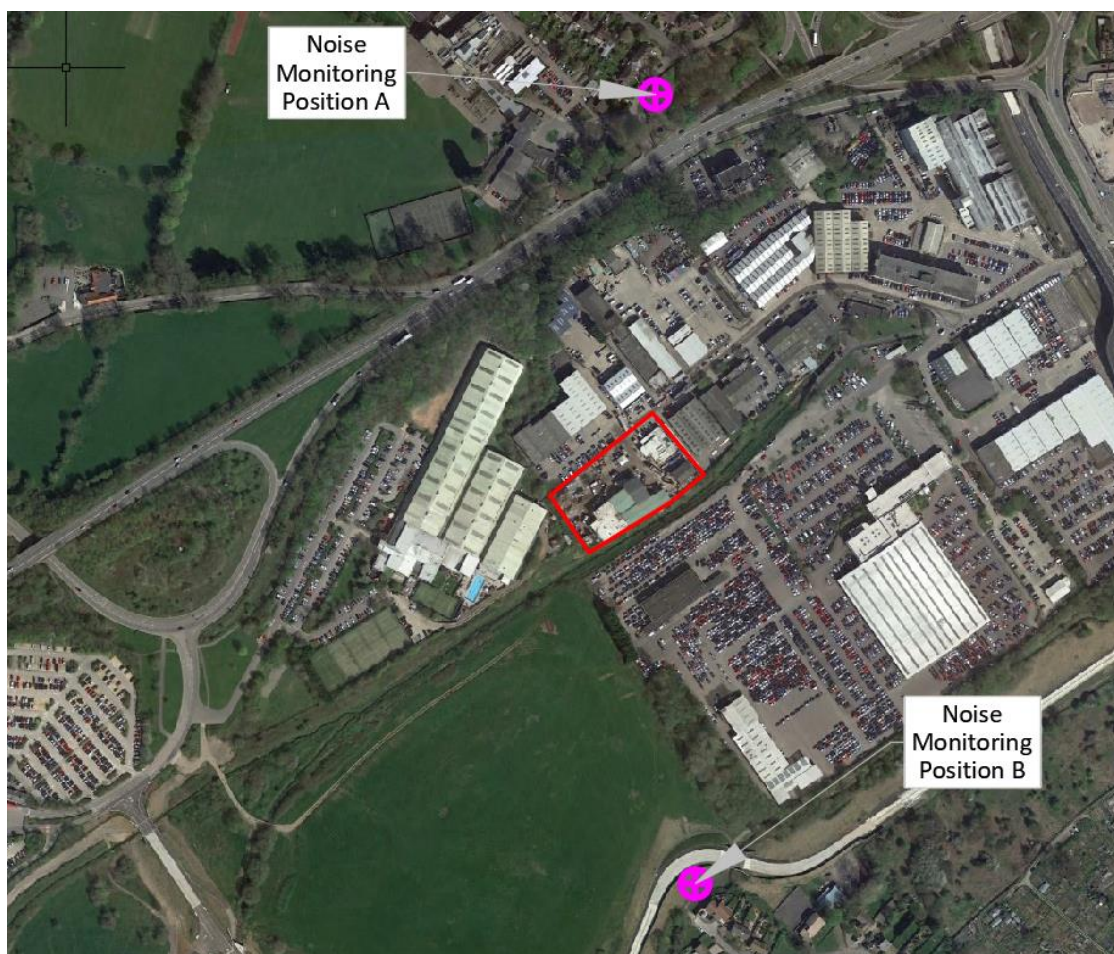
5.1 Procedure and Monitoring Locations

5.1.1 An initial noise survey was completed between Friday 15th January 2021 and Sunday 14th February 2021 in accordance with BS 7445-1: 2003 by Thomas Benson of Oaktree Environmental Ltd. Attended background level measurements were taken at locations representative of the nearest noise sensitive receptors within the vicinity of the site.

5.1.2 The Pollution Planning team at Bristol City Council were contacted via email (dated 12th December) for comments prior to the survey, however no feedback was received.

5.1.3 The measurement locations are presented within the Noise Monitoring Plan within Figure 5.1, below:

Figure 5.1 - Site location and noise monitoring position



5.2 **Neighbouring Land Use and National Restrictions**

5.2.1 It should of course be noted that the background monitoring was undertaken during a period of significant national restrictions taking place during January and February 2021. At this time people are asked to stay at home, except for specific purposes and to avoid meeting people with whom you do not live (including working from home where possible). The closure of schools and certain business and venues is taking place during this time. Further discussion regarding how these restrictions may have affected the results are provided further on in this chapter, however from onsite observations the following noise emitting operators/sites were not active during this time:

- David Lloyd Bristol Long Ashton (5m west) – Large sports and gym centre including external sports pitches and swimming pool. This site was not in use at all during the monitoring and therefore noise arising from; road traffic, external sports and fixed machinery such as ventilation etc. will not be reflected during this round of monitoring.
- Manheim Bristol Auctions (15m south) – Whilst some movements were observed from workers moving stock, it appeared that the site remained closed to the public and no auctions were observed to have taken place during the monitoring.
- Flynn Ltd (20m north) – It is understood that work within the civil engineering yard has ceased completely.
- Long Ashton Park & Ride (275m south/west) – Vehicle movements within this area were extremely limited during the monitoring with very few vehicle movements observed. Obviously during less restricted times this would change considerably.
- Ashton Gate Stadium (470m east) – Ashton Gate Stadium has a seated capacity of 27,000 which are currently unable to attend games. Evidently noise would arise from associated road traffic, pedestrians, fans attending pubs/eateries etc.

5.2.2 In addition, Ashton Park School and associated sports centre adjacent to the closest residential receptors at Blackmoors Lane was also largely closed to the majority of students and extremely limited movements were observed.

5.2.3 Whilst the impact as a result of the covid-19 lockdown/restrictions is hard to quantify, studies have shown that in varying urban environments, noise levels have reduced on average 5.4dB (LAeq), with example locations ranging from a reduction of 1.2-10.7dB (A)¹. Road traffic levels are likely to be considerably lower than would normally be the case as a result of; many people choosing to work from home, schools being closed and non-essential retail including pubs/restaurants being closed.

5.3 **Weather conditions**

5.3.1 The weather during the background surveys is summarised in the table below:

Date	Wind Speed (max)	Cloud Cover	Temperature	Precipitation
15/01/2021	Max gusts of 3.5m/s although generally more still. Wind direction is E when blowing	95-100%	-1 - 1 ^o C	None recorded whilst onsite
23/01/2021	Max gusts of 4.0m/s later on in the day. Wind direction is N/W	50-100%	2 - 6 ^o C	None recorded whilst onsite
25/01/2021	Max gusts of 2.5m/s although generally more still. Wind direction is S/SW	100%	-1 - 2 ^o C	None recorded whilst onsite
26/01/2021	1.0 – 2.0m/s. Wind direction is S	100%	-1 ^o C	None recorded whilst onsite

¹ Francesco Aletta, Tin Oberman, Andrew Mitchell, Huan Tong, and Jian Kang (2020). "Assessing the changing urban sound environment during the COVID-19 lockdown period using short-term acoustic measurements". Noise Mapp. 2020; 7:123–134

Date	Wind Speed (max)	Cloud Cover	Temperature	Precipitation
30/01/2021	Max gusts of 4.5m/s although generally more still. Wind direction is N/NE	100%	2-5 °C	None recorded whilst onsite.
31/01/2021	Max gusts of 3.8m/s although generally more still. Wind direction is NE/E	100%	-1 - 1 °C	None recorded during early morning monitoring. Light rain had fell prior to evening monitoring, stopping approximately 19:00. Short outbreaks of rain continued throughout the evening with monitoring undertaken between rainfall.
14/02/2021	Max gusts of 3.2m/s. Wind direction is S/SE	100%	1-2 °C	Light rainfall following 06:50-07:50 measurement. Sporadic rainfall between 08:00 and 10:30 with monitoring undertaken during times when this ceased.
05/06/2021	Generally still, max gusts of 1.5m/s	100%	13 °C	None recorded whilst onsite

Date	Wind Speed (max)	Cloud Cover	Temperature	Precipitation
06/06/2021	Max gusts of 1.5m/s	100%	11 °C	Very light rain was observed between the hours of 01:00 and 02:30 which restricted monitoring, however by 03:00 weather returned to being dry and still.

5.4 **Equipment Used During the Survey**

5.4.1 Details of the equipment used during the survey are shown in the table below:

Table 5.1 - Survey Equipment

Description	Model	Manufacturer	Serial No.	Calibration Date
Class 1 Sound Analyser	NOR 150	Norsonic	15030504	02/10/2020
Microphone	Norsonic Type 1225	Norsonic	305208	02/10/2020
Field Calibrator	NOR 1251	Norsonic	35205	03/03/2020

5.5 **Results**

5.5.1 The results of the background noise monitoring survey are tabulated overleaf in tables 5.2 and 5.3. In addition, the individual 15-minute LA₉₀ values for each measurement are provided within Table 5.4 and 5.5.

Table 5.2 - Measurement Results for NMP A (Blackmoors Lane)

Measurement Time	LA_{eq}	LA_{fmax}	LA₉₀	LA₁₀
15/01/2021 07:15-08:15	64.6	73.4	61.6	66.5
15/01/2021 12:15-13:15	63.9	80.3	60.1	66.1
15/01/2021 15:45-16:45	64.9	86.4	61.3	66.5
23/01/2021 07:05-08:05	60.2	74.1	52.3	63.7
23/01/2021 10:35-11:35	62.9	72.6	59.1	65.3
25/01/2021 19:15-20:15	60.9	84.5	53.7	63.3
25/01/2021 22:46-23:46	54.4	74.3	39.7	58.9
26/01/2021 02:10-03:10	38.4	35.7	37.0	35.4
30/01/2021 19:00-20:00	60.2	72.7	54.4	63.1
30/01/2021 22:30-23:30	54.9	74.9	43.8	59.3
31/01/2021 00:45-01:45	52.5	68.2	39.3	57.1
31/01/2021 19:20-19:35	58.8	68.7	50.6	62.9
31/01/2021 20:15-20:35	58.8	74.8	49.3	62.8
14/02/2021 06:50-07:50	56.9	69.9	46.3	61.1

Table 5.3 - Measurement Results for NMP B (Silbury Road)

Measurement Time	LA_{eq}	LA_{fmax}	LA₉₀	LA₁₀
15/01/2021 08:25-09:15	45.9	67.2	42.9	47.3
15/01/2021 13:25-14:25	45.6	74.3	41.1	46.6
15/01/2021 16:55-17:55	47.9	64.4	45.4	49.9
23/01/2021 08:16-09:16	49.7	66.1	46.8	51.5
23/01/2021 11:55-12:55	48.3	69.9	45.8	49.5
25/01/2021 20:25-21:25	46.2	59.3	43.0	48.4
25/01/2021 23:55-00:55	38.9	57.2	32.3	42.0
26/01/2021 03:20-04:05	41.8	71.6	36.1	44.7

Measurement Time	LA _{eq}	LA _{fmax}	LA ₉₀	LA ₁₀
30/01/2021 20:10-21:10	47.2	64.4	43.9	49.1
30/01/2021 23:35-00:35	39.5	51.5	36.5	41.7
31/01/2021 01:50-02:50	36.9	53.4	33.5	39.1
31/01/2021 21:05-21:35	43.3	72.6	39.6	45.3
31/01/2021 23:30-00:30	41.0	57.4	36.7	43.7
14/02/2021 08:30-09:30	46.1	72.1	42.7	47.3
14/02/2021 10:02-10:17	48.6	66.4	46.1	49.6
05/06/2021 20:30-21:30	46.0	66.3	40.8	48.5
05/06/2021 21:45-22:45	41.5	60.0	37.9	43.8
05/06/2021 23:00-00:00	39.4	56.7	34.9	41.8
06/06/2021 04:00-04:45	51.0	67.9	37.9	55.6

Table 5.4 – 15 min LA90 values for NMP A (Blackmoors Lane)

Measurement Time	LA90	Measurement Time	LA90
15/01/2021 07:15-07:30	61.8	15/01/2021 07:30-07:45	61.6
15/01/2021 07:45-08:00	62.1	15/01/2021 08:00-08:15	61.2
15/01/2021 12:15-12:30	60.1	15/01/2021 12:30-12:45	60.5
15/01/2021 12:45-13:00	59.9	15/01/2021 13:00-13:15	60.0
15/01/2021 15:45-16:00	60.7	15/01/2021 16:00-16:15	61.3
15/01/2021 16:15-16:30	62.3	15/01/2021 16:30-16:45	61.3
23/01/2021 07:05-07:20	51.8	23/01/2021 07:20-07:35	52.0
23/01/2021 07:35-07:50	52.2	23/01/2021 07:50-08:05	53.3
23/01/2021 10:35-10:50	58.5	23/01/2021 10:50-11:05	59.1
23/01/2021 11:05-11:20	58.8	23/01/2021 11:20-11:35	59.7
25/01/2021 19:15-19:30	55.7	25/01/2021 19:30-19:45	53.1
25/01/2021 19:45-20:00	52.6	25/01/2021 20:00-20:15	53.7
25/01/2021 22:46-23:01	41.4	25/01/2021 23:01-23:16	40.3

Measurement Time	LA90	Measurement Time	LA90
25/01/2021 23:16-23:31	40.5	25/01/2021 23:31-23:46	37.7
26/01/2021 02:10-02:25	38.4	26/01/2021 02:25-02:40	35.7
26/01/2021 02:40-02:55	37.0	26/01/2021 02:55-03:10	35.4
30/01/2021 19:00-19:15	55.4	30/01/2021 19:15-19:30	53.6
30/01/2021 19:30-19:45	54.7	30/01/2021 19:45-20:00	54.5
30/01/2021 22:30-22:45	45.3	30/01/2021 22:45-23:00	43.9
30/01/2021 23:00-23:15	43.3	30/01/2021 23:15-23:30	43.4
31/01/2021 00:45-01:00	40.6	31/01/2021 01:00-01:15	40.8
31/01/2021 01:15-01:30	39.4	31/01/2021 01:30-01:45	37.7
31/01/2021 19:20-19:35	50.6	31/01/2021 20:15-20:30	49.6
31/01/2021 20:30-20:45	49.1	14/02/2021 06:50-07:05	45.4
14/02/2021 06:50-07:05	46.3	14/02/2021 06:50-07:05	46.1
14/02/2021 06:50-07:05	48.5		

Table 5.5 – 15 min LA90 values for NMP B (Silbury Road)

Measurement Time	LA90	Measurement Time	LA90
15/01/2021 08:25-08:40	44.1	15/01/2021 08:40-08:55	43.3
15/01/2021 08:55-09:10	44.3	15/01/2021 09:10-09:25	41.5
15/01/2021 13:25-13:40	40.4	15/01/2021 13:40-13:55	41.1
15/01/2021 13:55-14:10	41.6	15/01/2021 14:10-14:25	41.9
15/01/2021 16:55-17:10	45.5	15/01/2021 17:10-17:25	45.7
15/01/2021 17:25-17:40	45.2	15/01/2021 17:40-17:55	45.5
23/01/2021 08:16-08:31	46.7	23/01/2021 08:31-08:46	46.5
23/01/2021 08:46-09:01	46.9	23/01/2021 09:01-09:16	47.4
23/01/2021 11:55-12:10	45.8	23/01/2021 12:10-12:25	46.2
23/01/2021 12:25-12:40	45.4	23/01/2021 12:40-12:55	45.8
25/01/2021 20:25-20:40	44.1	25/01/2021 20:40-20:55	44.3
25/01/2021 20:55-21:10	42.8	25/01/2021 21:10-21:25	42.1

Measurement Time	LA90	Measurement Time	LA90
25/01/2021 23:55-00:10	33.8	26/01/2021 00:10-00:25	31.1
26/01/2021 00:25-00:40	33.1	26/01/2021 00:40-00:55	32.3
26/01/2021 03:20-03:35	34.8	26/01/2021 03:35-03:50	38.1
26/01/2021 03:50-04:05	36.4	30/01/2021 20:10-20:25	44.3
30/01/2021 20:25-20:40	44.3	30/01/2021 20:40-20:55	43.7
30/01/2021 20:55-21:10	43.4	30/01/2021 23:35-23:50	37.5
30/01/2021 23:50-00:05	36.1	31/01/2021 00:05-00:20	36.2
31/01/2021 00:20-00:35	36.5	31/01/2021 01:50-02:05	34.2
31/01/2021 02:05-02:20	33.4	31/01/2021 02:20-02:35	33.6
31/01/2021 02:35-02:50	33.3	31/01/2021 21:05-21:20	40.3
31/01/2021 21:20-21:35	39.3	31/01/2021 23:30-23:45	38.5
31/01/2021 23:45-00:00	37.8	01/02/2021 00:00-00:15	36.1
01/02/2021 00:15-00:30	36.0	14/02/2021 08:30-08:45	42.7
14/02/2021 08:45-09:00	42.9	14/02/2021 10:02-10:17	46.1
05/06/2021 20:30-20:45	41.1	05/06/2021 20:45-21:00	40.5
05/06/2021 21:00-21:15	41.4	05/06/2021 21:15-21:30	40.5
05/06/2021 21:45-22:00	38.4	05/06/2021 22:00-22:15	38.1
05/06/2021 22:15-22:30	37.8	05/06/2021 22:30-22:45	37.3
05/06/2021 23:00-23:15	35.8	05/06/2021 23:15-23:30	36.1
05/06/2021 23:30-23:45	35.8	05/06/2021 23:45-00:00	33.4
06/06/2021 04:00-04:15	36.0	06/06/2021 04:15-04:30	40.2
06/06/2021 04:30-04:45	41.6		

5.6 **Existing Noise Climate at Blackmoors Lane**

Weekdays

- 5.6.1 During the monitoring it was evident that the noise climate was dominated by road traffic from the adjacent A370 which includes a mixture of; private vehicles, public transport, heavy goods vehicles and emergency vehicles.
- 5.6.2 As expected, road traffic is busier during the usual “rush hours”, however traffic does continue throughout the day with heavy goods vehicles and emergency vehicles audible. Indeed, several ambulances and police cars and associated sirens were observed during the 23:00-07:00 monitoring periods.
- 5.6.3 As stated previously, Ashton Park School and associated sports centre adjacent to the closest residential receptors at Blackmoors Lane were closed to the majority of students and extremely limited movements were observed, however some limited movements from caretakers and staff were noted between 07:00-08:45 in the morning and 15.45-16.45 in the afternoon.
- 5.6.4 The cycle lane leading from Blackmoors Lane to the south also appears exceedingly busy with up to 15 cyclists and a similar number of joggers observed per hour at its most active. Whilst these are not expected to contribute significantly to the existing noise climate they confirm that the receptors lie in a busy, inner city area.
- 5.6.5 Additional noise sources include birdsong primarily from the small landscaped area to the south of Blackmoors Lane and comings/goings associated with local residents (leaving for work, couriers, takeaway drivers etc.).

Weekends

- 5.6.6 As per the previous weekday surveys it is apparent that the primary sources with regards to the existing noise sources comprised road traffic and contributions from passing pedestrians and movements from residents.

5.6.7 Of course, road traffic is expected to have been reduced from weekday levels however at times this was not particularly noticeable.

5.6.8 The limited movements associated with the adjacent school also ceased over the weekend. However, levels of cyclists and joggers using Blackmoors Lane remain unchanged.

5.6.9 At no time during the monitoring was noise from the industrial estate to the south audible.

5.7 **Existing Noise Climate at Silbury Road**

Weekdays

5.7.1 The monitoring survey at this receptor revealed that background levels at this receptor are considerably lower than those at Blackmoors Lane. Indeed, there is not a constant noise source such as that of the road traffic at the previous monitoring location.

5.7.2 The existing noise climate generally comprises dog walkers, cyclists and joggers heading northwards via the path north of the dwellings and more occasional vehicle movements from local residents and couriers/post workers etc.

5.7.3 Distant road traffic from the A370 and South Bristol Link Road as well as the Rail Line to the east are also audible at times.

5.7.4 Additional noise sources include birdsong and very low level contributions from the industrial estate to the north and east.

5.7.5 As discussed previously, the access road for the Long Ashton Park & Ride is located to just 30m north of these receptors, however at the time of monitoring the significant restrictions on non-essential business and travel meant that vehicle movements were significantly reduced. During the daytime a maximum of 2no. bus movements were observed per hour, of course this could change considerably as restrictions are eased.

5.7.6 It is also noted that access road for Long Ashton Park & Ride is approximately 2m above that of Silbury Road with a recently constructed 2m acoustic screen placed at the edge of this area.

Weekends

5.7.7 During the weekend monitoring at this location contributors to the background noise level remained largely unchanged with occasional vehicle movements, birdsong and dog walkers, joggers etc providing the majority of noise events. However, the distant contributions from local industry appeared to cease from Saturday afternoon.

5.7.8 Distant road traffic is also audible at quieter times over the course of the weekend.

6 Noise Levels Associated with the Proposed Development

6.1 Introduction

6.1.1 The noise sources associated with the development during the proposed extension hours will primarily comprise the loading and operation of the materials recycling facility which will be located as shown on Drawing No. AVR/2369/03.

6.1.2 Noise Levels Used Within the Assessment

6.1.3 In order to adequately assess the impact of the proposed development on the closest noise sensitive receptors, it is necessary to determine the noise levels associated with the proposed operations and items of plant/equipment.

6.1.4 With this in mind, Oaktree Environmental attended site on 15th January 2021 and the 6th May 2021 in order to undertake specific measurements of individual items of plant which make up the treatment plant. Table 7.1 overleaf includes the sound power levels and distance from the plant.

6.1.5 For measurements taken at the existing yard, electronic noise files, photographs and videos can be provided, if required.

6.1.6 Weather during the survey was dry and cloudy with wind speed varied from 1-3m/s whilst onsite however was much lower within the vicinity of the plant due to the recently constructed acoustic screen and surrounding structures.

6.1.7 It should be noted that whilst care has been taken to remove any uncertainty from the assessment and measurements, the treatment plant operates as a system rather than individual items of plant and therefore onsite measurements taken by Oaktree will contain some contribution from neighbouring items of plant. The greatest example is likely the flip flop screen and single drum separator measurements, which are located very close to the double drum separator which is one of the noisier items of plant. Whilst measuring these items the double drum separator is clearly audible.

6.1.8 In addition to the onsite itemised measurements, offsite monitoring was undertaken in order to corroborate the calculations/assumptions made further on in the report. A measurement was undertaken within the adjacent field 45m from the site boundary between the hours of 03:00-03:15 on the 6th May 2021 when additional site sources were not active (HGVs, sorting, unloading etc.) this measurement replaces that used previously and is also included within Table 6.1.

Table 6.1 – Noise levels Associated with Washing Plant

Activity	Noise Level (LAeq)	Additional Notes
Primary sizer, loading hopper & bag splitter including loading via grab	87.1 at 2m	The measurement will also include a limited contribution from 2no. excavators which were sorting waste during the measurement. The noise source is between 1 and approximately 3m in height and is adequately screened by the 8m acoustic fence and open fronted portal frame building.
Long object separator and associated discharge/conveyors	82.7 at 3m	Main noise source heights between approx. 3.0 and 5.0m in height. The main noise sources (discharge shoots and operational sections) are adequately screened, however some conveyors are above the height of the 8m screen.
Overband magnet and associated discharge/conveyors	86.6 at 3m	Main noise source heights between approx. 3.0 and 5.0m in height. The main noise sources (discharge shoots and operational sections) are adequately screened, however some conveyors are above the height of the 8m screen.
Waste screener	86.6 at 1m	Th waste screener is up to 9-10m in height.
Flip flop screener	83.0 at 1m	The flip flop screen is up to 9-10m in height. The measurement will also include a limited contribution from the double drum separator which was audible during the measurement.
Double drum separator	87.0 at 1m	Main noise source between 6-8m but up to 10m in height.
Single drum separator	83.5 at 1m	Main noise source between 6-8m but up to 9m in height. The measurement will also include a limited contribution from the double drum separator which was audible during the measurement.
RDF discharge conveyor	81.7 at 1m	Noise source approximately 3-4m from ground level.
Eddy current separator	82.7 at 1m	Noise source approximately 3-4m from ground level.
Ballistic separator	89.1 at 1m	Noise source approximately 3-4m from ground level.

Noise level of operations over 15-minute reference period at a point 45m from site	53.8	This figure replaces that used in the previous revision which was taken whilst additional noise sources were active.
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- 6.1.9 Table 6.2 below which also includes the sound power levels for the remaining activities, which have been either measured by Oaktree Environmental at the existing yard, from an existing measurement or from relevant literature (i.e. BS5228-1:2009).
- 6.1.10 For measurements taken at the existing yard, electronic noise files, photographs and videos can be provided if required.
- 6.1.11 Unfortunately, the unloading of wastes/aggregates could not be measured whilst onsite. Previously the figure submitted for this activity was 80dB (A) at 10m (BS5228:2011 Table C.1 Ref 11). However, this value corresponds to the dumping of brick wastes. Having visited the site and observed the nature of the material (fine gravel, sand, silt etc.) this is a likely very large exaggeration of the risk. It should also be noted that BS5228:2011 which utilises historic data which is likely to over exaggerate noise levels from certain activities (due to age of machinery etc.).

Table 6.2 – Noise levels Associated with External Operations

Activity	Noise Level (LAeq)	Source	Notes
Telescopic handler loading wagon	76.4 at 3m	Oaktree measurement of similar activity	
Loading shovel moving material	77.4 at 3m	Oaktree measurement of similar activity	
Tipping of wastes/materials	80.0 at 10m	BS5228-1:2009+A1:2014	See Section 6.1.11

7 Noise Impact Assessment

7.1 Introduction

7.1.1 Table 7.1 overleaf includes the calculation of noise levels arising from the operation of the treatment plant whilst Table 7.2 includes an assessment of the proposed development (treatment plant and additional noise sources) compared to the background noise levels at the nearest residential receptor as per BS4142: 2014.

7.1.2 All distances used in the calculations presented in Table 8.1 have been produced based on the location of the activity on the Site Layout Plan.

7.2 Screening

7.2.1 Screening will be provided to the receptors via a mixture of structures including the newly constructed onsite acoustic screen which comprises solid concrete to 6m and a further 2m close boarded timber panel fencing to 8m as well as the 10m open fronted portal frame building (refer to Drawings provided in Appendix II). In addition, further screening is provided to those on Blackmoors Lane and Silbury Road as a result of the intervening commercial buildings and acoustic screen/topographical fall associated with the Park & Ride respectively which ensure no line of sight between the receptors and the site, appendix II provides further details on these.

7.2.2 With regards to the level of attenuation provided by the onsite acoustic screens and intervening commercial buildings a worst-case scenario figure of 15dB has been applied based on the likely path differences and frequencies of the noise level. The actual figure is likely to be slightly higher. Additional barrier calculations clarifying the actual level can be undertaken if required by the EA.

7.2.3 In order to accurately calculate the attenuation provided by the acoustic screen and topographical fall the following calculation has been undertaken. This is based on the Maekawa method and a path difference of 0.27 which has been calculated using the 2m height of the acoustic fence and then a subsequent 2.5m fall in ground height (this in actuality may be as much as 3m). A noise source height of 8m has been assumed

based on the height of the acoustic screen along the southern site boundary whilst a receiver height of 1.5m has been used. The 1/3 octave bands have been taken from the Oaktree measurement. This measurement only applies to the noise associated with the processing plant.

Table 7.1– Barrier calculation for acoustic fence/topographical fall associated with the Park & Ride to the north of Silbury Road

Barrier Calculation									
Freq	31.5	63	125	250	500	1000	2000	4000	8000
Wavelength (m)	10.889	5.444	2.744	1.372	0.686	0.343	0.172	0.086	0.043
Path difference	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Fresnel no.	0.050	0.099	0.200	0.394	0.790	1.57	3.140	6.280	12.560
Δ barrier	6.0	7.0	8.5	10.4	12.7	15.4	18.2	21.0	24.0
Noise source	59.2	60.8	53.6	43.2	42.7	43.9	41.5	38.4	21.2
Attenuated level	53.2	53.8	45.1	32.8	30.0	28.5	23.3	17.4	0
Correction to A weighting	13.8	27.6	29.0	24.2	26.8	28.5	24.5	18.4	0.0

7.3 Background levels

7.3.1 With regards to background levels, BS4142:2014 stresses the importance of ascertaining the typical background level rather than utilising the lowest. With this in mind, rather than use the lowest or highest 15-minute LA₉₀ the median figure for each extension period has been used. Therefore, the following figures will be used within the assessment:

Table 7.2 – Median 15 minute LA90 figures for each relevant extension period

Extension period	Location	Median LA90
Weekday 18:00-23:00	Blackmoors Lane	53.1
	Silbury Road	43.5
Weekday 23:00-06:00	Blackmoors Lane	37.7
	Silbury Road	33.8
Saturday 18:00-23:00	Blackmoors Lane	54.2
	Silbury Road	44.0
Weekends 23:00-06:00	Blackmoors Lane	40.7
	Silbury Road	36.5
Sunday 07:00-23:00	Blackmoors Lane	48.8

	Silbury Road	39.3
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7.4 **Assessment of Site Operations – BS4142:2014**

7.4.1 Table 7.1 includes the determination of the noise levels associated solely with the operation of the treatment plant at the nearest residential receptors. Table 7.1-7.3 include an assessment of the proposed development (treatment plant and additional noise sources) compared to the background noise levels at the nearest residential receptor as per BS4142: 2014.

7.4.2 All distances used in the calculations presented in Tables 7.1-7.3 have been produced based on the location of the activity on the Site Layout Plan.

7.4.3 With regards to the corrections/penalties as per BS4142:2014, based on observations made during the attended background monitoring and measurements made during the operation of the plant, the site is generally inaudible at the nearest residential receptors. Therefore, it is considered it would be generally unreasonable to apply any acoustic penalties to the noise level. However, a worst-case scenario figure of 3dB is to applied with regards to the nighttime assessment as it considered that the impulsive nature of the noise (crashes and bangs etc.) may just be audible when background levels are lower.

Table 7.3 – Assessment of noise levels associated with the site as per BS4142:2014 over hourly reference period (i.e. 07:00-23:00)

Operation	Calculated noise level at Blackmoors Lane (dB A)	Calculated noise level at Silbury Road (dB A)	Comments
Operation of wash plant	$53.8 - 20\log(310/45) = 37.0$ $-15 = 22.0$	$53.8 - 20\log(290/45) = 37.6$ $-18.8 = 18.8$	As per Table 7.2
Telescopic handler loading wagon	$76.4 + 10\log(45/60) = 75.2$ $75.2 - 20\log(290/3) = 35.5$ $-15 = 20.5$	$76.4 + 10\log(45/60) = 75.2$ $-20\log(320/3) = 34.5$ $-15 = 19.5$	<p>Distance based on location as per Site Layout & Fire Plan within Appendix II.</p> <p>Assumed to be operating up to 45 minutes for each hourly reference period based on discussions with site management.</p> <p>15dB subtracted based on the plant height and surrounding screening (as per Section 7.2.2).</p>

Operation	Calculated noise level at Blackmoors Lane (dB A)	Calculated noise level at Silbury Road (dB A)	Comments
Movement of wastes/aggregates using loading shovel	$77.4+10\log(45/60) = 76.2$ $76.2-20\log(275/3) = 37.0$ $-15 = 22.0$	$77.4+10\log(45/60) = 76.2$ $76.2-20\log(310/3) = 35.9$ $-10 = 20.9$	<p>Distance based on location as per Site Layout & Fire Plan within Appendix II.</p> <p>Assumed to be operating up to 45 minutes for each hourly reference period based on discussions with site management.</p> <p>15dB subtracted based on the plant height and surrounding screening (as per Section 7.2.2).</p>
Unloading/tipping of wastes/aggregates	$80.0+10\log(10/60) = 72.2$ $74.0-20\log(290/10) = 42.9$ $-15 = 27.9$	$80.0+10\log(15/60) = 72.2$ $74.0-20\log(320/10) = 43.9$ $-15 = 28.9$	<p>Distance based on location as per Site Layout & Fire Plan within Appendix II.</p> <p>Assumed to be operating up to 15 minutes for each hourly reference period based on discussions with site management.</p> <p>15dB subtracted based on the plant height and surrounding screening (as per Section 7.2.2).</p>
Calculated sound level	$10\log (10^{22.0/10}) + (10^{20.5/10}) + (10^{22.0/10}) + (10^{27.9/10}) = 30.2\text{dB (A)}$	$10\log (10^{18.8/10}) + (10^{19.5/10}) + (10^{20.9/10}) + (10^{28.9/10}) = 30.3\text{dB (A)}$	
Acoustic Correction Feature (BS4142:2014)	N/A	N/A	As per Section 7.4.3

Operation	Calculated noise level at Blackmoors Lane (dB A)	Calculated noise level at Silbury Road (dB A)	Comments
Median 15minute LA90 value for the 18:00-23:00 (weekday) extension period	$53.1 - 30.2 = 22.9\text{dB (A)}$ below median LA90 value	$43.5 - 30.3 = 13.2\text{dB (A)}$ below median LA90 value	As per Table 7.1 Discussed further within Sections 7.4 and 7.5
Median 15minute LA90 value for the 18:00-23:00 (Saturday) extension period	$54.2 - 30.2 = 24.0$ below median LA90 value	$44.0 - 30.3 = 13.7$ below median LA90 value	As per Table 7.1 Discussed further within Sections 7.4 and 7.5
Median 15minute LA90 value for the 07:00-23:00 (Sunday) extension period	$48.8 - 30.2 = 18.6$ below median LA90 value	$39.3 - 30.3 = 9.0$ above median LA90 value	As per Table 7.1 Discussed further within Sections 7.4 and 7.5

Table 7.4 – Assessment of noise levels associated with the site as per BS4142:2014 over 15 minute reference period (i.e. 23:00-07:00)

Operation	Calculated noise level at Blackmoors Lane (dB A)	Calculated noise level at Silbury Road (dB A)	Comments
Operation of wash plant	22.0	18.8	As per Table 8.1
Telescopic handler loading wagon	$76.4 - 20\log(290/3) = 36.7$ -15 = 21.7	$76.4 - 20\log(320/3) = 35.8$ -15 = 20.8	Assumed to be operating for the full duration of each 15-minute reference period. Distance based on location as per Site Layout & Fire Plan within Appendix II. 15dB subtracted based on the plant height and surrounding screening (as per Section 7.2.2).
Movement of wastes/aggregates using loading shovel	$77.4 - 20\log(275/3) = 38.2$ -15 = 23.2	$77.4 - 20\log(310/3) = 37.1$ -15 = 22.1	Assumed to be operating for the full duration of each 15-minute reference period. Distance based on location as per Site Layout & Fire Plan within Appendix II. 15dB subtracted based on the plant height and surrounding screening (as per Section 7.2.2).

Operation	Calculated noise level at Blackmoors Lane (dB A)	Calculated noise level at Silbury Road (dB A)	Comments
Unloading/tipping of wastes/aggregates	$80.0 + 10\log(5/15) = 75.2$ $75.2 - 20\log(290/10) = 46.0$ $-15 = 31.0$	$80.0 + 10\log(5/15) = 75.2$ $75.2 - 20\log(320/10) = 45.0$ $-15 = 30.0$	<p>Assumed to be operating for 5 minutes per 15 minutes.</p> <p>Distance based on location as per Site Layout & Fire Plan within Appendix II.</p> <p>15dB subtracted based on the plant height and surrounding screening (as per Section 7.2.2).</p>
Calculated sound level	$10\log(10^{22.0/10}) + (10^{21.7/10}) + (10^{23.2/10}) + (10^{31.0/10}) = 32.5\text{dB (A)}$	$10\log(10^{18.8/10}) + (10^{20.8/10}) + (10^{22.1/10}) + (10^{30.0/10}) = 31.3\text{dB (A)}$	
Acoustic Correction Feature (BS4142:2014)	+3	+3	As per Section 7.4.3
Median 15minute LA90 value for the 23:00-06:00 (weekday) extension period	$37.7 - 35.5 = 2.2\text{dB (A)}$ below median LA90 value	$33.8 - 34.3 = 0.5\text{ dB (A)}$ above median LA90 value	
Median 15minute LA90 value for the 23:00-06:00 (weekends) extension period	$40.7 - 35.5 = 5.2\text{dB (A)}$ below median LA90 value	$36.5 - 34.3 = 2.2\text{ dB (A)}$ below median LA90 value	

7.4.4 Therefore, the preliminary assessment shows that with regards to the proposed weekday operations, the rating level between 9.0dB (A) above or up to 24.0dB (A) below the typical background level measured at these times and therefore the impacts associated with noise as a result of the proposed operation of the site at these times is negligible to very low.

7.4.5 The assessment with regards to night time noise levels demonstrates that the rating level is between 5.2dB (A) below to 0.5dB(A) above the typical background level measured at these times and therefore is indicative of a low impact as per BS4142:2014. BS4142:2014 states: *“An exceedance of the background level of around 5dB is likely to be an indication of an adverse impact, dependent on the context”*.

7.4.6 In addition, the context of the site and its surroundings should be considered. Including;

- That the site is within a busy, inner-city urban area,
- The operation lies within an already operational waste site, bordered similar industrial/commercial land uses,
- The noise levels fall comfortably within the WHO criteria for external amenity areas.

7.4.7 It should also be noted that the assessment overleaf likely comprises an over-estimation of the risk due the following factors:

- The background monitoring undertaken during a period of significant national restrictions taking place during January and February 2021. At this time people are asked to stay at home, except for specific purposes and to avoid meeting people with whom you do not live (including working from home where possible). A review of surrounding land uses and the national restrictions impact on the background noise level is provided within Section 5.2. It would not be unreasonable to assume that the measured LA90 figures for night time levels are considerably lower than would normally be the case, and that an increased level

of road traffic/activity as a result of the reopening of pubs/restaurants and other night time venues would see a significant increase.

- A greater level of attenuation is likely provided by the screening than that used within Tables 8.1-8.3 for the majority of items of plant. Given the close proximity of the wall to the plant, the actual level of attenuation may be as much as 20+dB (A) given the associated path differences. Whilst individual calculations may be undertaken to demonstrate this, it is considered that this is not necessary in this instance.
- Tonal/corrections likely over-estimate the impact, a 3dB penalty has been applied for the impulsive nature of the noise during the nighttime. However, it may be considered more appropriate to remove the impulsive penalty due to the rarity of these events and general audibility of the site.
- The calculations do not take into account any attenuation due to absorbant ground cover. Given the presence of 230m+ of soft, grassy ground between the proposed operations and the receptors at Silbury Road it would not be unreasonable to expect an additional, conservative reduction of 3dB (A).

7.5 **Assessment of Site Operations – BS8233:2014**

- 7.5.1 BS8233:2014 provides recommended guideline values for internal noise levels within dwellings which are similar in scope to guideline values contained within the World Health Organisation (WHO) guidance document.
- 7.5.2 In some instances it may be more appropriate to assess night time noise levels using the internal criteria within this standard in order to give an indication of the likelihood of noise complaints given the context of the other standards (i.e. BS4142:2014 gives an indication with regards to external noise levels and is not intended to be applied to the derivation of indoor sound levels arising from external noise sources or the assessment of indoor sound levels - it is reasonable to assume that residents would not expect to be utilising external amenity areas between 23:00 and 07:00).
- 7.5.3 Whilst BS8233 is not intended for the assessment of noise generating activities, it does serve to give an additional layer with regards to the indication of the likelihood of noise complaints. Indeed, source of the noise levels aside, assuming 15dB (A) attenuation from an open window (WHO Guidelines for Community Noise) it is possible to calculate that noise levels as a result of the proposals would be between 19.7-24.3dB (A) within the nearest dwellings during the night time (in lieu of acoustic penalties as per BS4142:2014 and over the 15-minute reference period). These figures are comfortably within those quoted by the standard (provided in Table 4.1).
- 7.5.4 Therefore, the noise levels associated with the operations within dwellings (19.7-24.3dB A) would be extremely unlikely to cause annoyance to residents indoors at these times. For reference, 20dB (A) is commensurate with the faint rustling of leaves as 30dB (A) is to a whisper. Again, as per the reasons explained in Section 7.4.11, these noise levels may in turn be a likely overestimation.

8 Conclusion

8.1 Summary & Recommendations

8.1.1 Oaktree Environmental Ltd has undertaken a full Noise Impact Assessment in line with per BS4142: 2014 for the proposed activities to take place at the site which is located at 41 Ashton Vale Rd, Bristol BS3 2HW.

8.1.2 The Noise Impact Assessment has been undertaken in order to determine the impacts associated with the proposed operation of the site 24 hours a day, 7 days a week. The assessment includes a comparison of the rating level from the proposed operations against the measured background sound level for each proposed extension period.

8.1.3 The site benefits from being within an established industrial estate, with the nearest receptors located approximately 250m from the site boundary.

8.1.4 It should of course be noted that the background monitoring was undertaken during a period of significant national restrictions taking place during January and February 2021. At this time people are asked to stay at home, except for specific purposes and to avoid meeting people with whom you do not live (including working from home where possible). A review of surrounding land uses and the national restrictions impact on the background noise level is provided within Section 5.2. It would not be unreasonable to assume that the measured LA90 are considerably lower than would normally be the case, Whilst the impact as a result of the Covid-19 lockdown/restrictions is hard to quantify, studies have shown that in varying urban environments, noise levels have reduced on average 5.4dB (LAeq), with example locations ranging from a reduction of 1-11dB (A). It should therefore be considered that the assessment comprises a worst-case scenario assessment.

8.1.5 The overall impact associated with the proposed extension of operating hours is considered low based on the; BS4142:2014 assessment within Tables 7.1-7.3, the following discussion regarding context and attenuation etc. and the BS8233:2014 assessment.

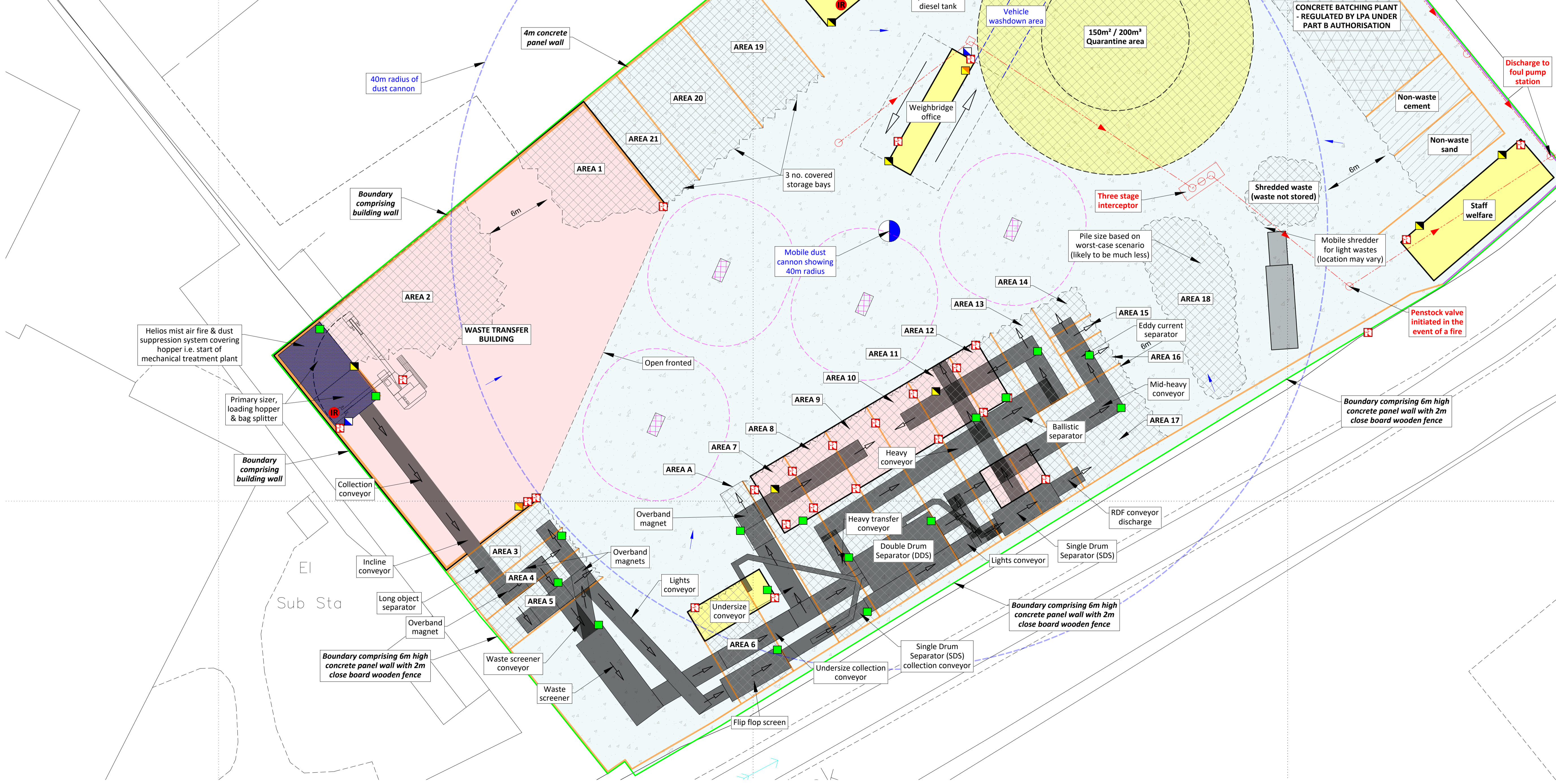
- 8.1.6 It should therefore be considered that noise does not constitute an impediment to the grant of the proposed application to extend the existing operations to 24 hours a day, 7 days a week.
- 8.1.7 This NVMP also produced by Oaktree Environmental Ltd will contain the relevant control measures required in order to further minimise the noise levels associated with the operation of the site as well as providing a methodology for responding to and investigating noise complaints.

Appendix I

Drawings

Plan Ref	Description	Storage type	Containment	Height / width of firewall (m)	Max Width (m)	Max Length (m)	Height (m)	Max area (m2)	Conversion factor used	Volume (m3)	Tonnage (approx.)	Max duration of storage
AREA 1	Oversize / sorted waste i.e. mattresses	Unprocessed	Free-standing (partly contained) inside concrete block storage bay	3.0 / 0.3	12.5	9	3	112.5	0.666	225	74	<12 hours
AREA 2	Main waste reception and initial sorting area	Unprocessed	As above	As above	11	18	3	198	0.666	396	119	<12 hours
AREA 3	Metals	Sorted by overband magnet	Free standing pile / 3 sided concrete panel storage bay	As above	4.5	11	3	49.5	0.666	99	65	<12 hours
AREA 4	Metals	Sorted by overband magnet	As above	As above	3.5	11	2	38.5	0.666	51	62	<12 hours
AREA 5	Residual (non-recyclable) waste	Sorted (by screen)	As above	As above	4.5	11	3	49.5	0.666	99	33	<12 hours
AREA 6	Trommel fines	Sorted (by screen)	As above	As above	4.5	11	3	49.5	0.666	99	33	<12 hours
AREA A	Metal skip	Sorted by overband magnet	As above	As above	6.1	2.44	2.62	15	1	39	25-30	<12 hours
AREA 7	Residual (non-recyclable) waste	Sorted (by screen and hand-picked)	As above	As above	4.5	17.5	3	78.75	0.666	157	52	<12 hours
AREA 8	Clean wood	As above	As above	As above	4.5	17.5	3	78.75	0.666	157	79	<12 hours
AREA 9	Hardcore	Sorted (by screen, ballistic separator and hand-picked)	As above	As above	4.5	17.5	3	78.75	0.666	157	189	<12 hours
AREA 10	Clean wood	As above	As above	As above	4.5	17.5	3	78.75	0.666	157	79	<12 hours
AREA 11	Dirty wood	As above	As above	As above	4.5	17.5	3	78.75	0.666	157	79	<12 hours
AREA 12	Residual (non-recyclable) waste	As above	As above	As above	4.5	17.5	3	78.75	0.666	157	52	<12 hours
AREA 13	Ballistic fines	As above	As above	As above	4.5	9	3	40.5	0.666	81	27	<12 hours
AREA 14	Ferrous metals	Mechanical separation via eddy current	As above	As above	5	3.5	3	17.5	0.666	35	35	<12 hours
AREA 15	Eddy current	Mechanical separation via eddy current	As above	As above	2	3.5	3	7	0.666	14	14	<12 hours
AREA 16	Clean stone	Mechanical separation via eddy current	As above	As above	5	3.5	3	17.5	0.666	35	35	<12 hours
AREA 17	Refuse derived fuel (RDF) - light mixed waste	Mechanical separation via eddy current	As above	As above	9	8.5	3	76.5	0.666	153	51	<12 hours
AREA 18	Refuse derived fuel (RDF) - light mixed waste	Mechanical separation via eddy current	As above	As above	17.5	8	3	100	0.5	150	50	<12 hours
AREA 19	Plasterboard	Hand sorted or by grab	As above	As above	4	12.5	3	50	0.666	100	50	<12 hours
AREA 20	Soils (inert)	Hand sorted or by grab	Free-standing inside concrete storage bay	3.0 / 0.2	8	12.5	3	100	0.666	200	240	<12 hours
AREA 21	Stone/minerals	Hand sorted or by grab	Free-standing inside concrete storage bay	3.0 / 0.2	8	12.5	3	100	0.666	200	240	<12 hours

Conversion factors for waste piles are worked out using the following methods set out by the Environment Agency:
 Conversion of 1 for materials stored within containers, area of storage in stackable containers and waste/bale stacks
 Conversion of 0.66 for waste stored within a bay
 Conversion of 0.33 for waste stored in a free-standing stockpile
 For areas containing skips, conversion is calculated by volume of each skip x number of skips

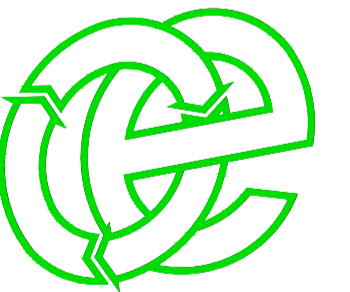


NOTES
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Rev	Date	Init:	Description:
-	05.12.17	CP	Initial Drawing
A	06.02.18	CP	EA comments
B	01.02.21	CP	New draft
C	08.03.21	CP	Client comments/submission

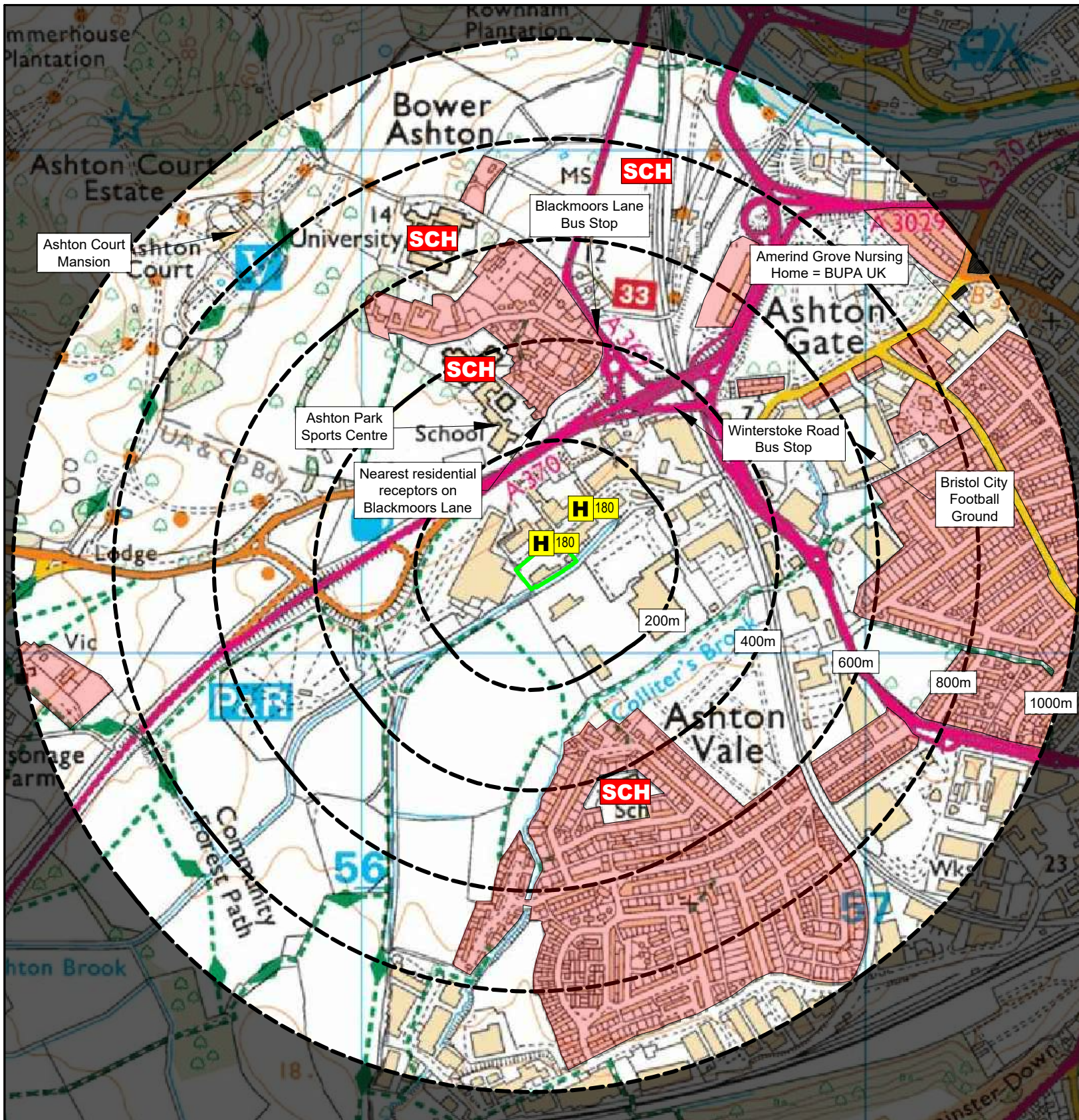
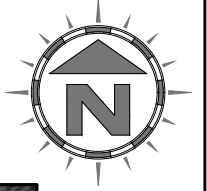
- Key:**
- Permit boundary
 - Waste storage areas
 - Temporary waste storage areas
 - Out-of-hours mobile plant storage
 - Hazardous fluid storage (double bunded tanks)
 - Quarantine area
 - Hardstanding surface
 - Waste storage and treatment building
 - Other buildings (offices, etc.)
 - Unsurfaced / vegetated areas (tree covered)
 - Mains water point
 - Spill kit & containment kits
 - Fire water containment equipment
 - Fire fighting equipment (extinguishers, etc.)
 - Access routes for emergency vehicles
 - Fire alarms including break glass and horns
 - Surface water fall direction
 - U-channel drain
 - Underground drainage (foul)
 - Manhole
 - Gully
 - Plant /electrics shut off
 - Fire assembly point
 - Fire doors / escapes
 - CCTV cameras (indicative)
 - Emergency services box
 - 0.3m wide concrete panel wall (height varies)
 - 0.2m wide concrete panel wall (height varies)
 - 0.15m high concrete kerb
 - Fire hydrants
 - Infra red / heat detection camera and
 - Proposed wind sock

Oaktree Environmental Ltd
 Waste, Planning and Environmental Consultants



DRAWING TITLE SITE LAYOUT & FIRE PLAN		
CLIENT ETM Recycling Ltd		
PROJECT/SITE 41 Ashton Vale Road, Ashton Bristol BS3 2HW		
SCALE @ A1 1:200	JOB NO 005	CLIENT NO 2369
DRAWING NUMBER AVR/2369/03	REV C	STATUS Issued
DRAWN CP	CHECKED -	DATE 08.03.21

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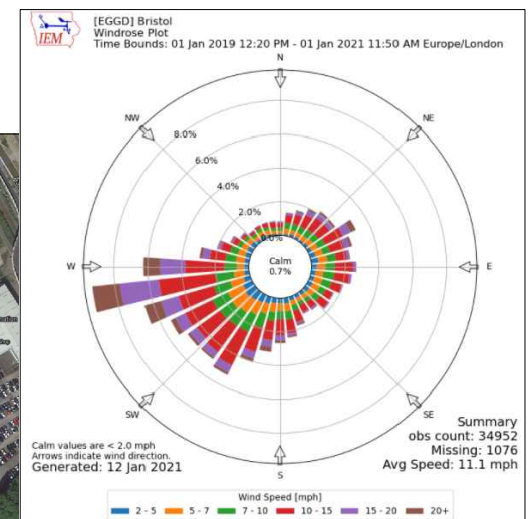


KEY:

- Permit boundary
- Surface water body (river / stream / pond / pool / lake)
- Residential blocks / workplaces
- Woodland habitats
- H 180 Fire hydrant & water main size (mm)
- Mixture of retail, commercial, industrial & recreational premises
- Mixture of A, B, C roads
- Railway line
- SCH Schools

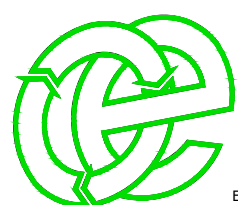


Google capture showing adjacent sites (not to scale)



Compass Wind Rose for Bristol (EGGD) Period 2019-2021

Scale Bar (1:10,000)



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Waste Management and Environmental Consultants
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Client: ETM Recycling Ltd
 Site: ETM Recycling Facility, 41 Ashton Vale Road, Ashton Bristol BS3 2HR
 NGR: ST 56367 71194
 Date: 08 March 2021
 Printed At: A3

Notes:

- (1) Drawing is for indication only.
- (2) Wind rose data shows the prevailing wind direction to be blowing from the WSW towards the ENE.

Revision Details:

Rev:	Description:	Date:
-	Initial drawing	30/11/17
A	Variation copy	08/03/21

Title: RECEPTOR PLAN
 Drawing No: AVR/2369/04

Scale: 1:10,000
 Revision: A
 Client No: 2369
 Job No: 005
 Drawn By: CP
 Checked:

Appendix II

Photographs of Screening/Specification



Appendix II

