PRE-APPLICATION NOISE IMPACT ASSESSMENT

Severn Road, Hallen, Bristol, BS10 7SE

Bristol & Avon Transport and Recycling Ltd

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1 Introduction

1.1 Oaktree Environmental have been commissioned by Bristol & Avon Transport and Recycling Ltd to undertake a Noise Impact Assessment (NIA) for their waste management site at Severn Road, Hallen, Bristol, BS10 7SE.

1.2 The purpose of this document is to accompany a pre-application request for information to the Local Authority. Bristol & Avon (the operator) are applying to increase the site's annual waste throughput to 450,000 tonnes per annum, amend the existing operating hours and install a bespoke wash plant in order to facilitate the recovery of materials and saleable aggregates from the waste delivered to the site.

1.3 Site Description and Location

1.3.1 The centre of the site is located at approximate National Grid Reference (NGR) 354591, 181034. The site is currently operated as an existing waste recycling facility which accepts up to 250,000 tonnes per annum of construction and demolition wastes which are processed into re-usable aggregate products.

1.3.2 As a result of proposals to install the new bespoke wash plant and increasing the operating hours at the site, an increase in waste throughout is also proposed, which will increase the throughput to 450,000 tonnes of construction and demolition wastes per annum, thus also enabling the operator to meet increased demand for recycled products.

1.3.3 The nearest residential dwelling is located 375m southeast of the site, at Severn Road.

1.4 Hours of operation

1.4.1 In order to accommodate the increased demand, an extension to existing operational hours is proposed. The proposed daily operating hours at the site are summarised below:

- 06:30 to 16:30 – 10 hour working shift
- 16:30 to 17:30 – Site maintenance/shut down

- 17:30 to 03:30 – 10 hour working shift
- 03:30 to 04:30 - Site maintenance/shut down

1.4.2 Whilst there will be maintenance breaks as highlighted in 1.4.1 above, this NIA assumes that the wash plant will be operational 24/7 in order to ensure robust assessment.

1.5 Environmental Regulation

1.5.1 Potential impacts on air, land and water as a result of operations on-site will be fully controlled and regulated by the Environment Agency (EA), through conditions within an Environmental Permit (EP) which will be required to be in place for the life of the operation. The existing site operations are already operated in accordance with an existing EP.

1.5.2 An application will be submitted to vary the existing EP to allow for the increase in waste throughput and the inclusion of aggregate washing. Given the above, confidence is high that impacts will not be significant in this regard. In accordance with paragraph 188 of the National Planning Policy Framework (NPPF) and paragraph 7 of National Planning Policy for Waste (NPPW), there should be no duplication of permitting controls under the planning regime and the LPA must assume that controls that will be in place under the EP will be applied and enforced appropriately.

1.5.3 As the EA will be the primary regulator of noise emissions, this document and associated modelling utilising methodology is based upon the updated "Noise and vibration management: environmental permits" guidance and the "Method implementation document (MID) for BS 4142" both provided by the Environment Agency. In addition, assumptions and parameters utilised within the modelling have been previously agreed with the EA as part of similar approved EP applications.

1.5.4 This document and any noise models are to be reviewed by the EA prior to permit issue and a subsequent Noise Management Plan (NMP) based on the findings of the report will be put in place and adhered to by site management. The NMP and assessment will be utilised by the EA to regulate noise emissions.

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 Government's long-term noise policy, the aims of which are:

"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."*

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

2.1.3 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"*.

2.1.4 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"*, thus 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.

2.1.5 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 July 2021, 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:

- Mitigate and reduce to a minimum potential adverse impact resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;
- Identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

2.2.2 Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed.

2.2.3 The revised document also makes reference to the Noise Policy Statement for England.

2.3 Planning Practice Guidance – Noise

2.3.1 Further to the guidance set out in the NPPF, Planning Practice Guidance for Noise 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.

2.4 Environment Agency Guidance

2.4.1 This document has been produced in accordance with the EA's guidance "Noise and vibration management: environmental permits" updated 31 January 2022.

2.4.2 The guidance centres around BS4142:2014 and the application of the standard to permitted sites for whom the EA is considered to be the primary regulator. Importantly, the guidance includes additional guidance on subjective and contextual issues which may impact the final outcome of the assessment, following comparison of the rating level to the background level.

3 Noise Assessment Criteria

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

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

3.2 BS8233:2014

3.2.1 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 BS8233:2014 with regards to residential properties:

Table 3.1 - BS8233:2014 Internal Criteria

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

3.3 BS4142:2014

3.3.1 BS4142:2014 provides a method for "assessing and rating industrial 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.

3.3.2 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.

3.3.3 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 3.2 - BS4142:2014 Corrections and Penalties

	Tonality	**Impulsivity**	**Other characteristics**
Just perceptible	+ 2dB	+ 3dB	
Clearly perceptible	+ 4dB	+ 6dB	
Highly perceptible	+ 6dB	+ 9dB	
Readily Distinctive against Residual Environment			+ 3Db

3.4 WHO Guidelines for Community Noise

3.4.1 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.

3.4.2 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.

3.4.3 The WHO document also recommends that steady, continuous noise levels should not exceed 55 dB (LAeq) for 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 (LAeq).

4 Background Noise Monitoring

4.1 Procedure and Monitoring Locations

4.1.1 A noise survey was completed over several days between August 2022 and July 2023 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 receptor to the proposed development site. The measurement locations are presented within Appendix I and are provided in Figure 4.1, below:

Figure 4.1 - Site location and noise monitoring position

4.1.2 The microphone was placed as far from the carriageway as possible (approximately 9-10m) and was deemed representative of the receptor and its external amenity areas, which are to the south of the dwelling, adjacent to Hallen Road.

4.1.3 This receptor is located approximately 350m from the site boundary and is the only residential dwelling within a 500m radius of the site boundary. Additional receptors are located 800-970m east of the site boundary, off Berwick Lane, however due to the distance from the proposed operations, these were not considered relevant to the assessment.

4.1.4 Attended measurements were taken which allowed for a significant level of observation to be made with regards to the existing noise climate and the sources it is comprised of. As previously discussed, BS4142:2014 provides significant weight to context when determining the level of impact. The nature of the soundscape is discussed further within Section 4.4.

4.2 Weather

4.2.1 The weather during the background surveys is summarised in the table below, observations were made with a handheld anemometer whilst cloud cover and precipitation are provided from onsite observations.

Table 4.1– Weather Conditions during noise monitoring

Date	Wind Speed (max)	Cloud Cover	Temperature	Precipitation
Monday 01/08/2022	Max gusts of 4.4m/s within first hour falling to 2.5m/s	25-75%	17°C-21°C	None recorded whilst onsite.
Friday 12/08/2022	Max gusts of 4.0m/s, steady across duration of monitoring	0-10%	20°C-25°C	None recorded whilst onsite.
Tuesday 11/07/2023	Max gusts of 3.5m/s, steady across duration of monitoring	25-75%	14°C-16°C	None recorded whilst onsite.

4.3 Equipment Used During the Survey

4.3.1 Details of the equipment used during the survey are shown in the table overleaf:

Table 4.2 - Survey Equipment

Description	Model	Manufacturer	Serial No.	Calibration Date
Class 1 Sound Analyser	NOR 150	Norsonic	15030504	October 2020/October 2022

Description	Model	Manufacturer	Serial No.	Calibration Date
Microphone	Norsonic Type 1225	Norsonic	305208	October 2020/October 2022
Field Calibrator	NOR 1251	Norsonic	35205	March 2022

4.4 Results

4.4.1 The results of the background noise monitoring survey are tabulated below in tables 4.3-4.5 for Severn Road.

Table 4.3 - Measurement Results for Severn Road

Measurement Time	LA_{eq}	LA_{max}	LA_{90}	LA_{10}
01/08/2022 18:25-19:25	62.5	81.8	52.8	64.6
01/08/2022 19:25-20:25	61.5	82.7	51.5	62.9
01/08/2022 21:00-22:00	62.1	84.6	48.8	63.7

Table 4.4 - Measurement Results for Severn Road

Measurement Time	LA_{eq}	LA_{max}	LA_{90}	LA_{10}
12/08/2022 07:00-08:00	67.0	83.4	54.5	71.6
01/08/2022 08:00-09:00	64.9	83.3	50.4	68.5
01/08/2022 09:00-10:00	63.5	83.4	49.3	66.1

Table 4.5 - Measurement Results for Severn Road

Measurement Time	LA_{eq}	LA_{max}	LA_{90}	LA_{10}
11/07/2023 21:00-22:00	68.5	86.3	50.0	69.2
11/07/2023 22:00-23:00	66.3	90.8	46.4	65.0
11/07/2023 23:00-00:00	63.2	88.5	45.9	60.6

Measurement Time	LA_{eq}	LA_{max}	LA_{90}	LA_{10}
11/07/2023 00:00-01:00	61.4	89.8	44.2	57.5

4.5 Existing Noise Climate at Severn Road

4.5.1 During the monitoring it was evident that the greatest contributor to the existing soundscape is road traffic, both from the M49 and Severn Road itself. The noise arising from the M49 was observed to be constant, both during daytime and nighttime monitoring.

4.5.2 With regards to Severn Road, road traffic was observed to decrease throughout the evening and night-time, however this was still at a level of approximately 21 vehicles per hour during its lowest point (00:00-01:00).

4.5.3 It should also be noted that at the time of the monitoring, much of the proposed/recently constructed commercial units associated with various planning consents associated with SG.4244 were not in operation. It would be reasonable to assume that given that the operation of these units/buildings will result in an increase in road traffic (specifically in terms of HGV movements) which is likely to increase LA90 levels in the vicinity of the receptors, particularly during the night-time and evening.

4.5.4 Additional contributors to the background sound level were observed to comprise birdsong, dogwalkers and noise arising from movements at the residential receptor itself. However, the contribution of these is generally negligible.

5 Noise Impact Assessment

5.1 Introduction

5.1.1 It is considered the most significant noise sources associated with the development are:

- The loading and operation of the wash plant,
- The unloading/tipping of wastes,
- The loading of HGVs prior to egress,
- The loading and subsequent operation of onsite crushers/screeners,
- The movement/sorting of onsite waste/product via the waste handlers.

5.2 Background Levels

5.2.1 With regards to background levels, BS4142:2014 states that "*the objective is not simply to ascertain a lowest measured background sound level, but to quantify what is typical during particular time periods"* and also *"In practice there is no "single" background sound level as this is a fluctuating parameter. However, the level for the assessment should be representative of the period being assessed".*

5.2.2 With this in mind, the assessment will utilise the range of levels from Tables 4.2-4.3.

5.3 BS4142: Assessment

5.3.1 The CadnaA noise models were constructed using OS mapping Opendata and Google Earth satellite imagery, whilst topographical data was downloaded from DEFRA in the form of a digital terrain model.

5.3.2 Building heights for the recently constructed commercial units within the vicinity of the nearest residential receptor were taken from a topographical drone survey supplied to Oaktree Environmental.

5.3.3 The following assumptions/parameters are made within the models:

- The intervening land between the site boundary and residential properties was modelled with G = 1.0 as it was considered that the land is predominantly acoustically absorbent. This is the exception of the concrete pad and surrounding commercial land which is modelled as acoustically reflective (0.0).
- Buildings are assumed to be acoustically reflective, with a reflection loss of 1.0 and a maximum order of reflection assumed to be 3.0.
- Noise levels were determined at a receiver placed within the relevant external amenity area adjacent to the nearest facade of the residential receptor. This receiver is modelled as 1.5m height, commensurate with window height.
- The predicted grid noise levels were also calculated as free-field, A-weighted, sound pressure levels. The noise contours generated within the model are also at a height of 1.5 m, assumed to be the worst-case scenario.
- Barrier heights and waste storage bays have also been modelled based on onsite observations. These have been modelled as being hard and reflective (i.e. concrete) and as 2.0m in height.
- The "on-times" and associated geometry, height etc associated with noise sources is provided within Table 6.1.

5.3.4 The parameters discussed are commensurate with those submitted to and agreed with the Environment Agency as part of previous approved EP applications.

5.3.5 As the onsite activities have not yet commenced, measurements made from similar plant have been utilised within the model. For the wash plant, measurements have been made of a branded wash plant (CDE Group) which is understood, at present, to be the same wash plant proposed for installation at the application site.

5.3.6 As a worst-case scenario, all onsite noise sources have been assumed to be constant. Whilst this may be true for the wash plant (with the exception of staff breaks, maintenance pauses and plant downtime etc.), tipping, loading etc. are extremely unlikely to be constant. However, this ensures a robust, overly conservative assessment has been produced.

5.3.7 Table 5.1 includes the measured noise levels for the anticipated activities, which have either been measured by Oaktree Environmental or provided by the manufacturer. It should be noted that octave bands will be utilised within the model.

Table 5.1 – Measured levels of activities

Activity	**Noise Level (LAeq)**	**Source/comments**
Loading of the wash plant feed hopper	73.9 at 10m	Onsite measurement of a similar CDE plant made by Oaktree Environmental on the 11th January 2023. Modelled as a point source at 2m height. The plant is assumed to operate constantly and in steady state.
Magnet separator (wash plant) and associated discharge points	80.0 at 7m	Onsite measurement of a similar CDE plant made by Oaktree Environmental on the 11th January 2023. Modelled as a point source at 5m height. The plant is assumed to operate constantly and in steady state.
Aggmax (wash plant)	83.6 at 1m	Onsite measurement of a similar CDE plant made by Oaktree Environmental on the 11th January 2023. Modelled as a point source at 4m height. The plant is assumed to operate constantly and in steady state.
Evo B (wash plant)	84.7 at 1m	Onsite measurement of a similar CDE plant made by Oaktree Environmental on the 11th January 2023. The model includes 2 point sources, modelled at 3m height. The plant is assumed to operate constantly and in steady state.

Activity	Noise Level (LAeq)	Source/comments
Sizing screen (wash plant) and associated discharge points	80.4 at 11m	Onsite measurement of a similar CDE plant made by Oaktree Environmental on the 11th January 2023. Modelled as a point source at 6m height. The plant is assumed to operate constantly and in steady state.
Operation and loading of McCloskey J45 crusher	92.1 at 2.5m	Measurement made by Oaktree Environmental of a similar plant. Modelled as a point source at 2m height. The plant is assumed to operate constantly, however this is not included within the modelling of proposed operations between the hours of 23:00-07:00.
Operation and loading of Terex 883+	92.1 at 2.5m	Measurement made by Oaktree Environmental of a similar plant. Modelled as a point source at 2m height. The plant is assumed to operate constantly, however this is not included within the modelling of proposed operations between the hours of 23:00-07:00.
Loading of HGV with material	76.4 at 3m	Measurement made by Oaktree Environmental of a similar plant. Modelled as a 2 point sources at 2m height, it is assumed that loading will take place in the “dry area” in the west of the site and also the “wet area” in the east of the site. The activity is assumed to operate constantly.
Loading shovel moving/sorting material	77.4 at 3m	Measurement made by Oaktree Environmental of a similar plant. Modelled as a point source at 1m height. The activity is assumed to operate constantly.

Activity	Noise Level (LAeq)	Source/comments
Tipping of soils/inert wastes	72.6 at 8m	Oaktree measurement at a similar site. Modelled as 2 point sources at 1m height, it is assumed that tipping will take place in the "dry area" in the west of the site and also the "wet area" in the east of the site. The activity is assumed to operate constantly.

5.3.8 Additional noise sources including conveyors and filter presses are included within the onsite plant. However, whilst onsite it was observed that the contribution of these sources is negligible and that they were inaudible above the other noise sources associated with the wash plant listed within the above table. Therefore, they have not been included within the model. This is a view that has been accepted by the EA previously.

5.3.9 It should be noted that noise levels provided within Table 5.1 are commensurate with those measured previously by other third-party consultants and have been accepted by the EA when submitted in support of previous permitting applications.

5.3.10 Table 5.4-5.5 detail the predicted noise levels (in dB A) associated with the application site at the relevant receptors. These are based on the results of the modelling provided overleaf in Figures 5.2-5.3.

Figure 5.2 – Calculated noise levels (LAeq) associated with the typical operation the site between the hours of 07:00-23:00

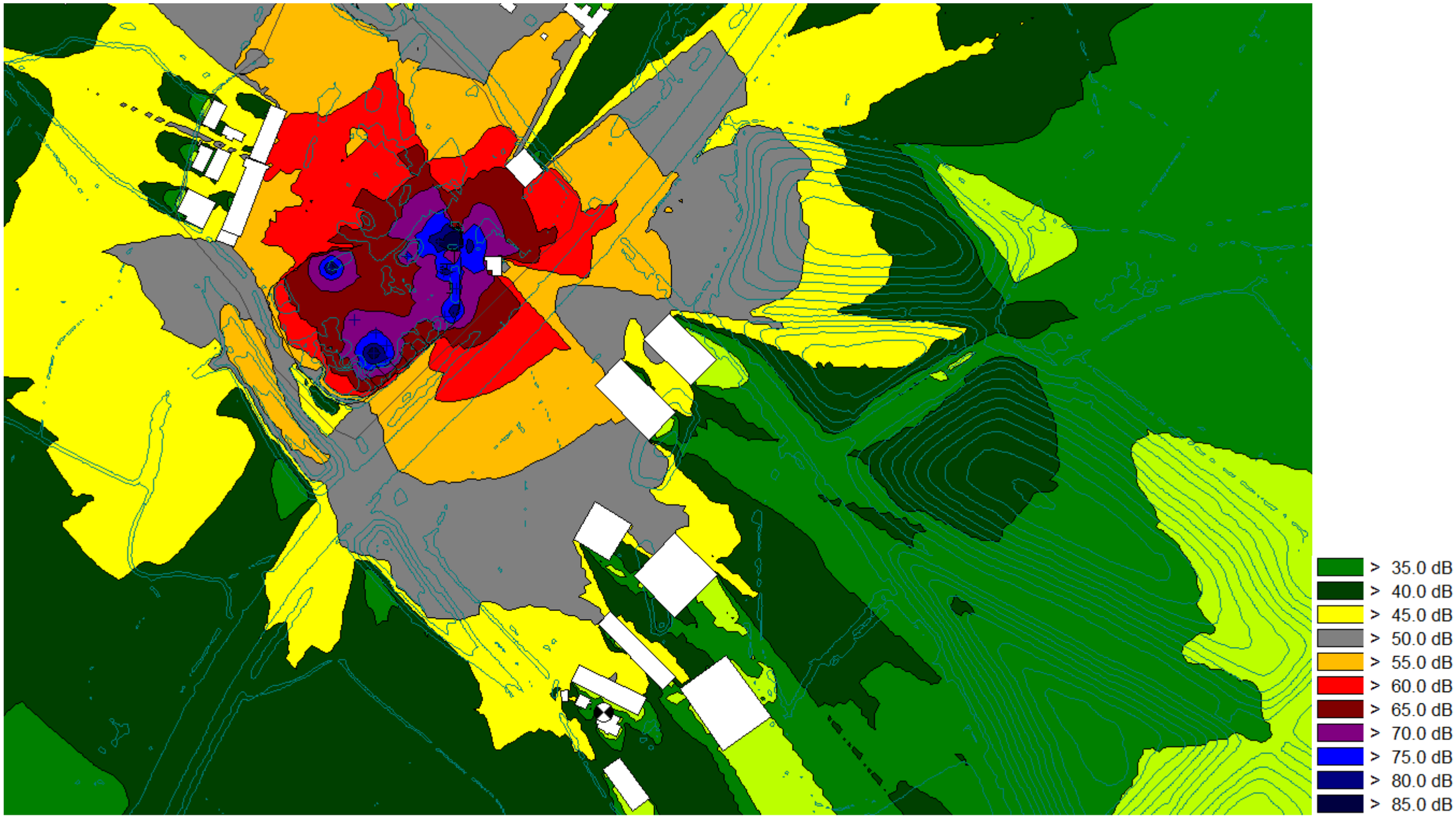
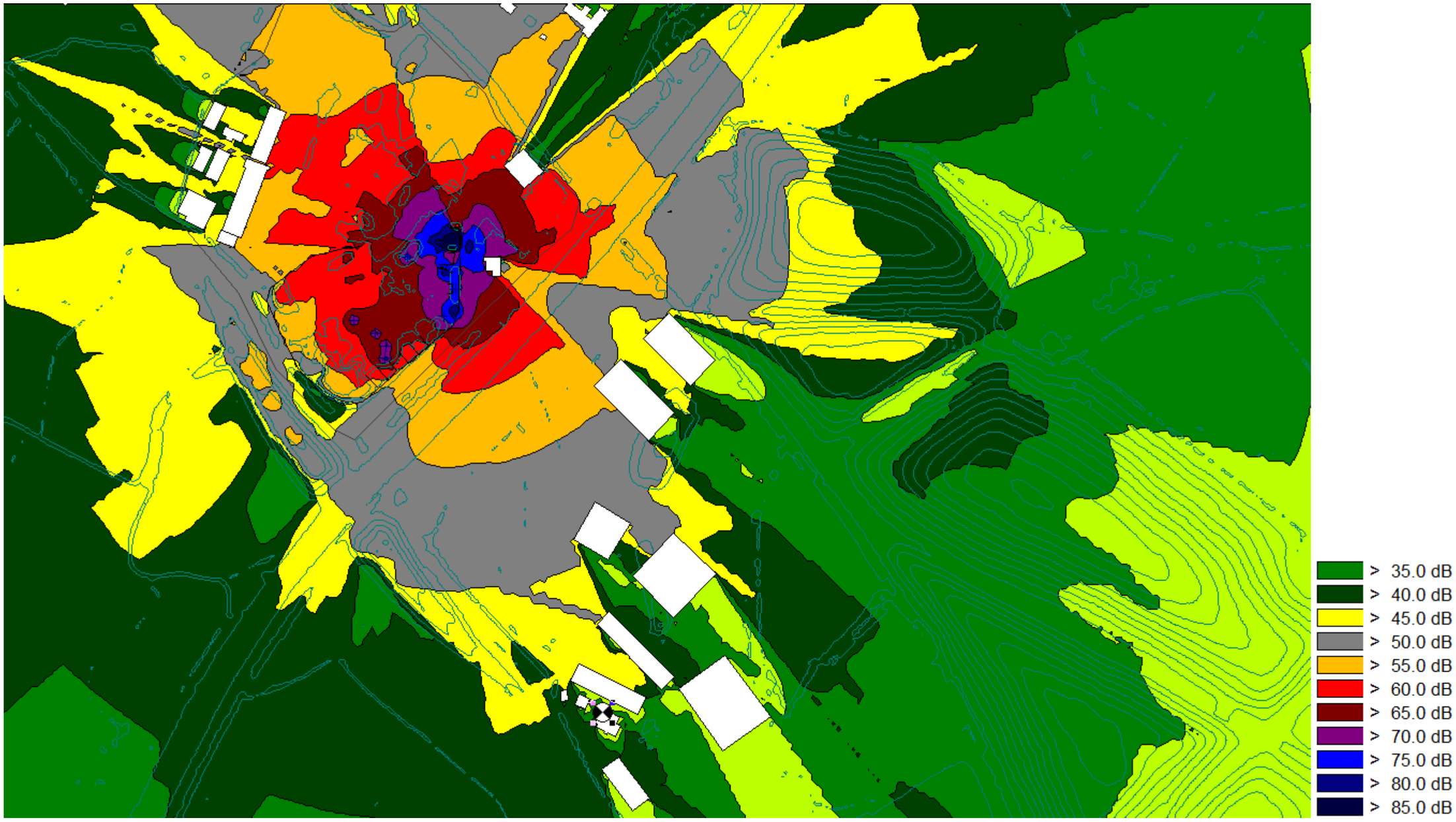


Figure 5.3 – Calculated noise levels (LAeq) associated with the typical operation the site between the hours of 23:00-07:00



5.3.11 With regards to character corrections as per BS4142:2014, the noise of the onsite operations is primarily tonal in nature as a result of the processing via the wash plant and contribution from the crusher/screener. Impulsive bangs and crashes may also be distinguishable as a result of falling material (i.e. tipping and loading of HGVs, reverse alarms etc.) however these elements are secondary to the constant tonal hum of the processing plant.

5.3.12 The tonal element of the plant is likely to be concealed considerably by the high levels of road traffic within the vicinity of the receptors. From review of tables 4.2-4.4, LA10 levels reach as high as 71.6dB (A) and therefore the tonal element is likely to be indistinguishable from the existing noise climate. Indeed, the Noise and Vibration Management for Environmental Permits confirms the following;

"In some cases a sound that is normally considered undesirable, such as road traffic, may in fact be masking a more unpleasant sound (such as industrial noise) and that an additional industrial sound source may not be a burden, as its level may be well masked by other sounds (for example traffic)".

5.3.13 Therefore, no character correction has been applied with regards to tonality.

5.3.14 In addition, noise from impulsive events (bangs/crashes and reversing alarms) are likely to be considerably below the existing background levels measured LAeq values which range from 61.4-68.5 and therefore are unlikely to be distinguishable or invasive.

5.3.15 It should also be noted that once the surrounding commercial units are occupied, these will introduce a number of noise sources with their own impulsive events which are likely to be far more prominent due to their increased distance. These will mask the impulsive events from the proposed operations further. Therefore, no correction has been applied with regards to these elements of the noise source.

Table 5.4– Assessment of Calculated noise levels (LAeq) associated with the typical operation the site between the hours of 07:00-23:00

	Calculated noise level at the receptors at Severn Road	**Comments**
Calculated noise level as per figure 6.2	40.3	
Addition of relevant penalties as per BS4142:2014	+0 = 40.3	As per Sections 5.2.10-5.2.16
Comparison to daytime background levels (07:00-23:00)	40.3 – 46.4/54.5 = 6.1 to 14.2dB (A) below	Low impact as per BS4142:2014

Table 5.5– Assessment of Calculated noise levels (LAeq) associated with the typical operation the site between the hours of 23:00-07:00

	Calculated noise level at the receptors at Severn Road	**Comments**
Calculated noise level as per figure 6.2	39.7	
Addition of relevant penalties as per BS4142:2014	+0 = 39.7	As per Sections 5.2.10-5.2.16
Comparison to nightime background levels (23:00-07:00)	39.7 – 44.2/45.9 = 4.5 to 6.2dB (A) below	Low impact as per BS4142:2014

5.3.16 As per Table 5.4-5.5, the rating level associated with the operation of the site is below that of the measured LA90 figures and therefore the associated impact is considered to be low.

5.3.17 As discussed in Section 5.2.6, modelling likely comprises an overly conservative assessment based on the overestimation of “on-times”, assumptions/parameters assumed in the model and the fact that the background level is likely to rise as a result of future development within the vicinity of the nearest receptors.

5.3.18 It should be observed that the calculated rating level is considerably below the external amenity criteria as prescribed within the WHO guidelines for community noise.

5.3.19 In addition, assuming 15dB attenuation provided by an open window, the calculated rating level will not exceed internal criteria as per BS8233:2014.

5.4 Comments on Noise Modelling

5.4.1 The noise modelling provided previously has been interrogated using the "part-level" tool. This form of analysis details the contribution to the overall sound level from each individual noise source.

5.4.2 The review of the "part-level" tool confirms that the greatest contributor to the overall sound level is the sizing screen. This is likely as a result of its height and associated noise level the item of plant produces.

5.4.3 It is prudent to note this fact as should mitigation or amendment be required in the future, the full or part enclosure of this noise source would deliver the greatest reduction in overall noise levels.

5.4.4 The modelling also confirms that ancillary activities such as loading HGVs, crushing, screening using mobile plant etc. have a minimal impact on noise emissions, with the wash plant providing the greatest impact on the rating level experienced at the nearest residential dwellings.

5.5 Control of Uncertainty

5.5.1 Uncertainty in this assessment was controlled via the following precautions/procedures:

- Both the sound level meter and calibrator have a traceable laboratory calibration and the meter was field-calibrated both before and after the measurements.
- The measurement locations are considered representative of the existing noise climate outside the nearest residential dwellings to the proposed development.
- Background monitoring was undertaken during favourable weather conditions (e.g. dry and under 5m/s wind speed).

6 Summary & Recommendations

6.1 Oaktree Environmental Limited have undertaken a Noise Impact Assessment for the increase in throughput and installation of a wash plant for the waste transfer site at Severn Road, Hallen, Bristol, BS10 7SE. The primary receptors are considered to be those located off Severn Road to the southeast of the site.

6.2 The site has been assessed with regards to BS4142:2014 and it is considered that the impacts associated with the proposed operation of the site are acceptable based on the comparison of the calculated rating level to the proposed background level.

6.3 This document comprises a pre-application assessment and therefore, proposals are subject to change (such as ancillary operations, locations of plant and activities, operational hours etc.). However, the modelling and subsequent assessment confirms that the wash plant is the primary contributor to the overall rating level and that this level is below the range of existing LA90 figures at the nearest residential receptor.

6.4 In addition, noise emissions will be controlled and regulated via the sites Noise Management Plan which is to be reviewed and regulated by the EA.

6.5 Therefore, based on the above, noise levels associated with the proposed development are acceptable and it should be considered that no further mitigations or assessment is required at this time.

APPENDIX I

DRAWINGS