



Manchester Road, Heywood (Application Ref 22/01410/FUL)

Noise Statement – Response to the Reasons for Refusal

March 2024

Waterman Infrastructure & Environment Limited

6th Floor, Trinity Court, 16 John Dalton Street, Manchester, M2 6HY
www.watermangroup.com

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This document has been prepared and checked in accordance with
Waterman Group’s IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015 and BS EN ISO 45001:2018)

Issue	Date	Prepared by	Checked by	Approved by
P01	21/03/24	Mark Maclagan Technical Director	Innes Urbanski Associate Director	Mark Maclagan Technical Director
				
				
Comments				

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Contents

1. Introduction	4
2. Site Context	5
2.1 Site Location and Layout	5
2.2 Proposed Development	6
3. Planning Policy, Guidance and Assessment Criteria	7
3.1 National Planning Policy Framework	7
3.2 Noise Policy Statement For England	7
3.3 Local Planning Policy	8
3.4 Guidance and Assessment Criteria	8
3.4.1 Fixed External Plant and Industrial Operations	8
3.4.2 Comparative Noise Assessment Proposed Development vs Existing Ambient Noise Levels	10
3.4.3 Absolute Noise Levels	10
4. Review of Planning History	11
4.1.1 Rochdale Borough Council Committee Report	11
4.1.2 Russell Homes Noise and Vibration ES Chapter	12
4.1.3 BWB Planning Report	14
4.1.4 Russell Homes Objection E3P Report	14
5. Baseline Conditions	16
Noise Sensitive Receptors	16
Baseline Noise Surveys	16
5.1.1 BWB Noise Surveys	16
Measurement Results	18
5.1.2 E3P Noise Surveys	19
Measurement Results	19
Waterman Baseline Noise Survey	20
Measurement Results	21
Comparison and Summary of Results	22
6. Noise Assessment and Reason for Refusal	25
6.1 Existing Acoustic Character of the Environment	25
6.2 Noise Emissions from Industrial Uses	25
6.3 Noise Impact Assessment BS4142 Assessment (no context)	26
6.4 Change in Ambient Noise Levels	28
6.5 Absolute Noise Levels	28
6.6 Summary	28

Contents

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

7. Planning Conditions	29
8. Conclusions	30

Figures

Figure 2-1 South Heywood Indicative Masterplan.....	5
Figure 2-2 Acoustic Barrier Locations	6
Figure 5-1: BWB Baseline Noise Survey Measurement Locations	17
Figure 5-2: EP3 Baseline Noise Survey Measurement Location	19

Tables

Table 3-1: Significance of change in prevailing noise levels.....	10
Table 4-1 Russell Homes Calculation of Rating Level of BS4142 Assessment	12
Table 4-2: Comparison of Predicted Rating Levels of Yearsely v Proposal 22/01410/FUL by E3P ..	13
Table 5-1: Nearest Noise Sensitive Receptors	16
Table 5-2: BWB Noise Monitoring Locations.....	18
Table 5-3: Summary of Baseline Noise Survey Data at ML1 and ML2.....	18
Table 5-4: EP3 Noise Monitoring Location.....	19
Table 5-5: Summary of Baseline Noise Survey Data at NMP1.....	20
Table 5-6: Waterman Noise Monitoring Locations.....	20
Table 5-7: Summary of Waterman Baseline Noise Survey Measurements	21
Table 5-8: Comparison Between Waterman's LT1 and BWB ML1 Measured Background Sound Levels.....	23
Table 5-9: Comparison Between Waterman's LT2 and E3P NM1 Measured Background Sound Levels.....	23
Table 5-10: Comparison Between Waterman's LT3 and BWB ML2 Measured Background Sound Levels.....	24
Table 6-1 BWB Predicted Noise Levels from HGV movements with Mitigation	26
Table 6-2: E3P Daytime Predicted Noise Levels from HGV movements with Mitigation	27
Table 6-3: E3P Night-time Predicted Noise Levels from HGV movements with Mitigation.	27

Appendices

- A. Glossary of Acoustic Terminology
- B. Waterman Baseline Survey Equipment
- C. Noise Management Plan

Contents

DRAFT

Contents

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

1. Introduction

Waterman Infrastructure & Environment Limited has prepared this Statement of Case (SoC) on behalf of Trammel Crow Company (the Appellant) in response to their appeal under Section 78 of the Town and Country Planning Act 1990 (as amended) following refusal of planning application reference 22/01410/FUL.

The refused Proposal is as outlined below.

Redevelopment of site comprising the demolition of all existing units and erection of new storage and distribution units (Use Class B8) with ancillary office space, vehicular, pedestrian and cycle access, external yards, parking, landscaping and associated works.

The reason for refusal as provided by Rochdale Borough Council (RBC) is as below.

By virtue of its size, scale and form, the proposed development is not well designed and would represent an overdevelopment of the site which is not compatible with surrounding land uses due to the detrimental and unacceptable impacts on the noise environment and the visual amenity of surrounding residents, with particular regard to future residents adjacent the site. Due to this overbearing and unacceptable relationship with surrounding land uses the application fails to accord with Policy DM1 of the adopted Rochdale Core Strategy and the National Planning Policy Framework.”

The planning application for the scheme was supported by a Noise Impact Assessment (NIA) which was prepared by BWB Consulting. Subsequent to the issue of the NIA a number of comments were raised by third party objectors. However, the Environmental Health Officer of Rochdale Borough Council had no objections to the proposal.

This statement of case has been prepared with reference to the following documents:

- BWB Noise Impact Assessment (220785 Rev P10)
- E3P Noise Impact Assessment 22/01410/FUL Trammel Crow Company – Heywood Stores
- E3P Response to Noise Aspects in Committee Report 23rd November 2023 Trammel Crow Department of Work and Pensions DCS Distribution Centre, Manchester Road, Heywood
- Russel Homes Environmental Statement Chapter 15 Noise and Vibration

Further to the above Waterman has completed additional noise monitoring and modelling to allow clarification of a number of issues raised during the application stage. The finding of this exercise are discussed within the relevant section of this document.

Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

2. Site Context

2.1 Site Location and Layout

The development site is currently occupied by nine warehouse buildings and is used by the Department for Work and Pensions (DWP) as a storage facility. The site currently operates under a B8 consent since a certificate of lawful use of the site for its current use was issued in December 2018.

The site is located to the west of Manchester Road, just to the north of its junction with Hareshill Road. The site's north-eastern boundary is adjacent to the playing fields of Newhouse Academy. The site's eastern boundary is adjacent to dwellings off Oldbury Close, Whitehouse Close and Badger Drive.

The southwest and northwest boundaries of the site are adjacent to open land, which is currently undeveloped, but which is within the red line boundary of the South Heywood masterplan application (planning ref:16/01399/HYBR).

The southern boundary of the site is bound by a new link road (Queen Elizabeth II Way) introduced as part of the South Heywood masterplan development. This link road runs parallel to the southern boundary of the site with acoustic barriers located along its length.

For completeness a copy of the South Heywood masterplan is presented below. Of keynote is the proximity of B8/B2 use proposed as part of the masterplan with a number of new units proposed in close proximity to future residential use.

Figure 2-1 South Heywood Indicative Masterplan



Figure 2 also serves to demonstrate that the area of the proposed development is mixed in character with the noise environment being characterised by existing industrial sources as well as road traffic noise

Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

associated with the local road network and the nearby M62.

2.2 Proposed Development

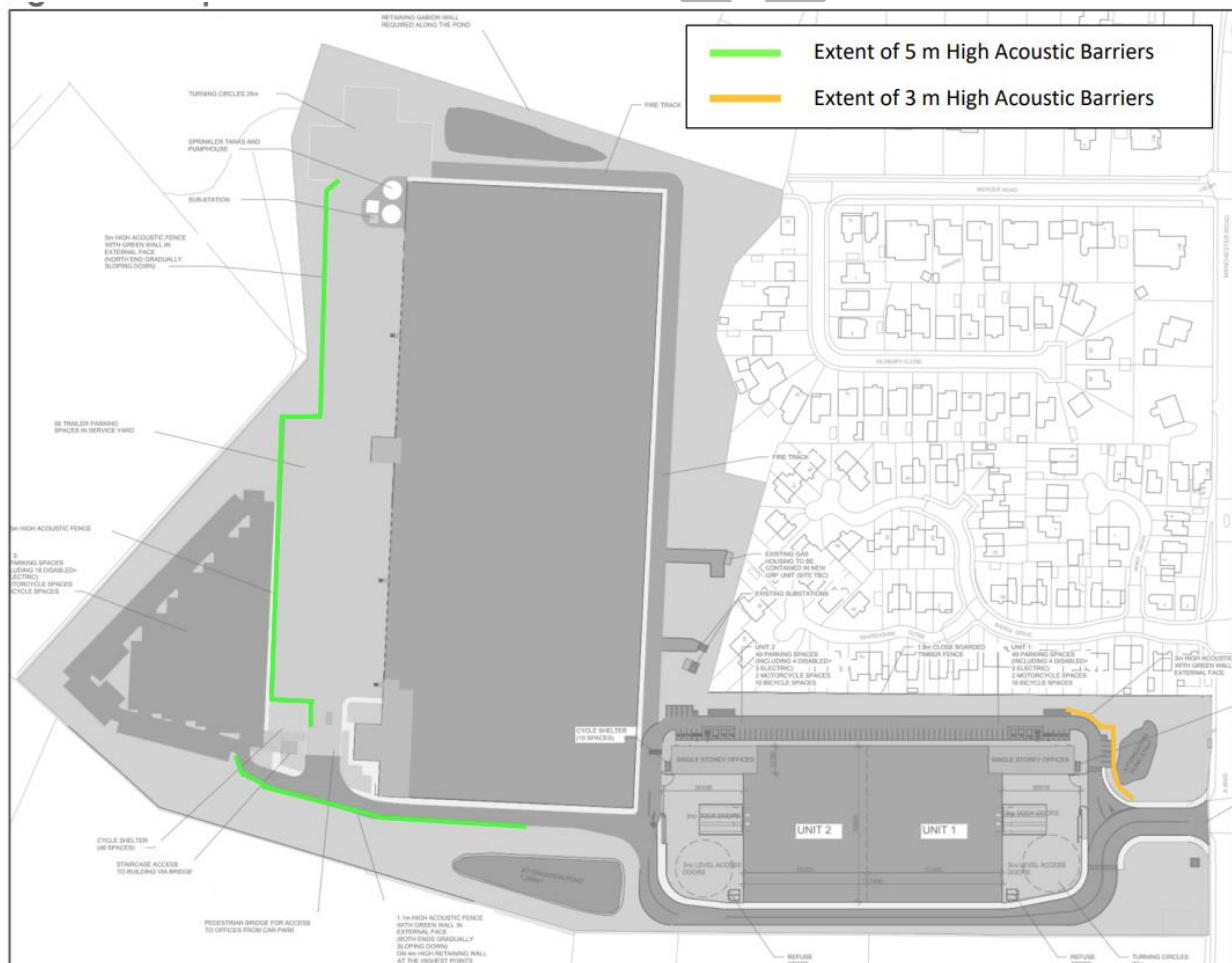
As previously described the description of the Proposals as set out in the planning application is as set out below.

Redevelopment of site comprising the demolition of all existing units and erection of new storage and distribution units (Use Class B8) with ancillary office space, vehicular, pedestrian and cycle access, external yards, parking, landscaping and associated works.

Expanding upon this the development comprises three warehouse units spread across two structurally separate buildings, the largest of which will have a floor area of 35.1k m² and will have 44 HGV delivery bays on the northwest façade. The smaller building will have a floor area of 10.2k m² and will be split in half to operate as two units, each with 3 HGV delivery bays at opposite ends of the building.

In recognition of the proximity of the Proposals to both existing and proposed sensitive receptors a comprehensive scheme of acoustic mitigation has been proposed which includes multiple acoustic barriers as illustrated below.

Figure 2-2 Acoustic Barrier Locations



Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

3. Planning Policy, Guidance and Assessment Criteria

3.1 National Planning Policy Framework

The National Planning Policy Framework¹ (NPPF) was updated December 2023. With regard to noise the NPPF promotes ‘good design’ as part of ‘sustainable development’ and advocates ‘preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels ofnoise pollution...’

Paragraph 191 of NPPF states ‘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;’

Paragraph 193 of the NPPF introduces the ‘Agent of change principle’. ‘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.’

3.2 Noise Policy Statement For England

Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development the Noise Policy Statement For England² (NPSE) aims to:

- avoid significant adverse impacts on health and quality of life;
- mitigate and minimise adverse impacts on health and quality of life; and
- where possible, contribute to the improvement of health and quality of life.

It introduces the concept of noise “effect levels” although it does not equate these to a specific level of noise as this is likely to be different for different noise sources, receptors and time of day. The effect levels are as follows:

- NOEL – No Observed Effect Level: Level below which no effect on health and quality of life due to noise can be detected;
- LOAEL – Lowest Observed Adverse Effect Level: Level above which adverse effects on health and quality of life can be detected;
- SOAEL – Significant Observed Adverse Effect Level: Level above which significant adverse effects on health and quality of life occur.

Predominantly, guidance is drawn from the World Health Organisation (WHO) when setting specific noise levels to the above effect levels, which essentially have been transposed into various British Standards, Policy and Guidance.

¹ Department for Levelling Up, Housing Communities. (December 2023) National Planning Policy Framework. HMSO.

² Defra. (2010) Noise Policy Statement for England: Crown copyright.

Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

3.3 Local Planning Policy

Rochdale Borough Council's core strategy³ was adopted on 19 October 2016. It's the lead document in the Local Plan.

This strategic document sets out planning policies for Rochdale to guide the quality of the built environment, which is used to inform decisions on planning applications. Noise is addressed within Policy G9 'Reducing the impact of pollution, contamination and land instability' under Section 10 of the document, stating in general; *"We will reduce all forms of pollution, contamination, and land instability in the borough, by: Requiring that development does not have impacts that lead to an unacceptable increase in air, water, noise, light, or other pollution."*

Also specifically relevant to this document is Policy DM1 General Development Requirements as replicated below:

All development proposals, including changes of use of land and buildings, extensions and alterations, will be expected to demonstrate that they:

- a) *Are of high quality design and take the opportunity to enhance the quality of the area;*
- b) *Are compatible with the surrounding land uses, both in terms of its impact upon those uses and the impact on the surrounding land uses upon amenities of the future residents/users;*
- c) *Do not adversely affect the amenity of residents or users through visual intrusion, overbearing impact, overshadowing or loss of privacy.*
- d) *Mitigate against any impacts due to noise, air, dust, light and odour pollution, traffic generation or inadequate access, where such mitigation is identified as being necessary.*
- e) *Provide satisfactory vehicular access with adequate parking, manoeuvring, and servicing arrangements taking into account of the proposed use and location;*
- f) *Do not have an adverse impact on health, through its impact or the effect of existing problems e.g. land contamination, or poor air quality;*
- g) *Provide, or demonstrate the availability of, the service and community infrastructure necessary to meet local needs e.g. local shops, community, leisure and sport facilities and provision of open space;*
- h) *Minimise opportunities for crime against people or property;*
- i) *Take account of ground conditions including unstable or contaminated land - where a potential risk exists, a survey should be carried out and any necessary remedial measures identified and carried out;*
- j) *Incorporate, where appropriate, high quality landscape schemes;*
- k) *Have assessed whether the development may be affected by ground instability;*
- l) *Have considered the availability of water and wastewater infrastructure, and any need for additional capacity; and m. Do not lead to impacts detrimental to the conservation interests of European Protected Sites.*

3.4 Guidance and Assessment Criteria

3.4.1 Fixed External Plant and Industrial Operations

When considering noise which is industrial in nature the primary source of guidance is BS 4142:2014+A1:2019⁴. BS 4142 states that the potential impact from industrial / commercial sound is based on the level difference between the source, known as the 'specific sound' level ($L_{Aeq,Tr}$), compared with the 'background sound' level ($L_{A90,T}$) that exists in the absence of the source in question. Where the sound contains any acoustic characteristics at the receptor location such as tonality, impulsiveness or intermittency, then the specific noise level is adjusted in-line with BS 4142 advice to determine the 'rating' level ($L_{Ar,Tr}$). These acoustic feature corrections are described below:

³ Core Strategy documents | Rochdale Borough Council (October 2016).

⁴ British Standard Institute (BSI) (2019) BS4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound. BSI.

Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

“Tonality

For sound ranging from not tonal to prominently tonal the Joint Nordic Method gives a correction of between 0 dB and +6 dB for tonality. Subjectively, this can be converted to a penalty of 2 dB for a tone which is just perceptible at the noise receptor, 4 dB where it is clearly perceptible, and 6 dB where it is highly perceptible.

Impulsivity

A correction of up to +9 dB can be applied for sound that is highly impulsive, considering both the rapidity of the change in sound level and the overall change in sound level. Subjectively, this can be converted to a penalty of 3 dB for impulsivity which is just perceptible at the noise receptor, 6 dB where it is clearly perceptible, and 9 dB where it is highly perceptible.

Intermittency

When the specific sound has identifiable on/off conditions, the specific sound level should be representative of the time period of length equal to the reference time interval which contains the greatest total amount of on time. This can necessitate measuring the specific sound over a number of shorter sampling periods that are in combination less than the reference time interval in total, and then calculating the specific sound level for the reference time interval allowing for time when the specific sound is not present. If the intermittency is readily distinctive against the residual acoustic environment, a penalty of 3 dB can be applied.

Other sound characteristics

Where the specific sound features characteristics that are neither tonal nor impulsive, nor intermittent, though otherwise are readily distinctive against the residual acoustic environment, a penalty of 3 dB can be applied.”

Typically, the greater the difference between the rating level and the background sound level, the greater the potential of an adverse impact. BS 4142 states:

- A difference of +10dB or more is likely to be an indication of a significant adverse impact, depending on the context;
- A difference of +5dB or more is likely to be an indication of an adverse impact, depending on the context; and
- The lower the rating level is in relation to the background level, the less likely it is that a specific sound source will have an adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.

BS 4142 further states:

‘Adverse impacts include, but are not limited to, annoyance and sleep disturbance. Not all adverse impacts will lead to complaints and not every complaint is proof of an adverse impact.’

Context is an important consideration of a BS 4142 assessment, and the impact may require modification due to context, which may include:

- The absolute level of sound.
- The character and level of the residual sound compared to the character and level of the specific sound.
- Receptor sensitivity but taking account of screening, sound insulation, design measures.

It should be noted that the BS 4142 standard is not intended to be applied to the assessment of indoor sound levels.

Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

3.4.2 Comparative Noise Assessment Proposed Development vs Existing Ambient Noise Levels

The proposed development is to be located on a site with extant planning permission and a certificate of lawful use for B8 use. On this basis, in addition to a BS4142 assessment, an assessment of the change in noise emissions resultant from the development of the site against the existing ambient noise level has also been assessed. The significance of the predicted change in noise level due to the proposal is presented in the table below.

Table 3-1: Significance of change in prevailing noise levels

Change in prevailing noise level (dB)	Significance
< 3	Negligible
3 to 5	Minor
6 to 10	Moderate
≥ 10	Substantial

3.4.3 Absolute Noise Levels

Consideration has also been given to the absolute predicted noise levels. Absolute noise levels have been assessed against guidance provided in the WHO 'Guidelines for Community Noise'⁵ which is commonly adopted by acousticians in the United Kingdom. It should be recognised that this guidance relates to anonymous noise (road traffic), however the guidance therein provides a useful benchmark against which noise can be assessed.

The guidance contained within the WHO guidelines suggests that

"To protect the majority of people from being seriously annoyed during the daytime, the outdoor sound level from steady, continuous noise should not exceed 55 dB L_{Aeq} on balconies, terraces and in outdoor living areas. To protect the majority of people from being moderately annoyed during the daytime, the outdoor sound level should not exceed 50 dB L_{Aeq} . Where it is practical and feasible, the lower outdoor sound level should be considered the maximum desirable sound level for new development."

The above guidance has subsequently been transposed into BS8233:2014 (BS8223) which states

"For traditional external areas that are used for amenity space, such as gardens and patios, it is desirable that the external noise level does not exceed 50 dB $L_{Aeq,T}$, with an upper guideline value of 55 dB $L_{Aeq,T}$ which would be acceptable in noisier environments."

⁵ World Health Organisation, 1996, WHO 'Guidelines for Community Noise', WHO

4. Review of Planning History

The below section sets out a summary of key documents relating to the application. Cognizance will be given to the contents of these documents when discussing the reasons for refusal in the relevant section of this document.

4.1.1 Rochdale Borough Council Committee Report

The Committee report as prepared by RBC for the application recommended that planning approval be provided. With regard to noise the report stated:

“No unacceptable harm has been identified in respect of residential living conditions of surrounding occupiers (current or future) either by way of visual intrusion, overshadowing, overbearing impact or through noise, lighting and disturbance, which cannot be controlled by way of suitably worded planning condition(s).”

This statement was further supported by the Environmental Health Department of RBC who stated the following:

“Environmental Health – 21 March 2023 Confirmed no objection subject to implementation of recommended mitigation measures as set out in the submitted Noise Impact Assessment. In addition, a condition will be required ensuring that any proposed or future external plant does not exceed noise limits.”

The report goes on to state:

“Policy G9 of the adopted Rochdale Core Strategy sets out that noise pollution, including transport noise, should be carefully considered, particularly to new developments. Measures to reduce noise from new development could include planting buffers, noise barriers, banking, placement of traffic calming measures and careful consideration of building materials and road surfaces. Policy DM1 goes on to say that potential negative amenity impacts to surrounding occupiers, including noise, should be mitigated against. Policy C6 additionally sets out that measures to reduce noise pollution should be identified and implemented. 45. In support of the proposals, the applicant has submitted a Noise Impact Assessment. The submitted Noise Impact Assessment concluded that the main source of noise for a development of this type would be noise generated by HGVs manoeuvring and loading/unloading, as well as associated plant equipment. 46. Noise emissions from HGV activity in particular has the potential for adverse impact when considering the nearest existing receptors, including when considering some adjacent land parcels which have outline approval for residential development. Upon carrying out noise assessments, it was concluded that there would be a requirement for acoustic barriers to ensure that noise emissions remain acceptable to nearby noise receptors. The acoustic barrier locations are demonstrated on the submitted ‘Proposed Site Plan’. Whilst the principle of the acoustic barriers is accepted, further information will be required as to their appearance and materiality. This can be achieved by way of imposing a materials condition to include the acoustic barriers.”

Subsequent to the above the below planning conditions were recommended:

No part of the development hereby permitted shall be occupied until such time that the measures set out in Section 5 of the Noise Impact Assessment (ref 220785 dated June 2023) and as demonstrated on the Approved Site Plan (Ref: 21157-ASA-00-ZZ.ZZ-D-A-0003 (SP-P13) shall be installed. The approved measures shall be retained in good working order for the lifetime of the development hereby approved. Reason: To ensure that the development does not result in undue amenity impacts to the existing or future occupiers/users of surrounding dwellings/buildings, in accordance with Policies DM1, G9 of the adopted Rochdale Core Strategy and the National Planning Policy Framework.

Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

Noise levels from fixed plant, in conjunction with all other noise from the unit, shall not exceed 52 dB(A) Leq,15mins between 0700 and 2300 hours and 47 dB(A) Leq,5mins at any other time as measured at the façade of any noise sensitive property, (or 48 dB(A) Leq,15mins and 43dB(A) Leq(5mins) as free measurements within the curtilage of any noise sensitive building. Reason: In the interest of residential amenity and in accordance with Policies G9 and DM1 of the adopted Rochdale Core Strategy and the National Planning Policy Framework.

4.1.2 Russell Homes Noise and Vibration ES Chapter

The Russell Homes Scheme was granted hybrid planning permission (part full and part outline) on 31 March 2020 (ref. 16/01399/HYBR). The application was supported by an Environmental Statement Chapter 15 of which addressed noise.

It is important to note that in the preparing Chapter 15 no consideration was given to the extant use of the Proposal site for industrial use. However, the Russell Homes application does address noise associated with Yearsley Distribution which is an existing B8 unit located to the west of the site.

The assessment completed by Russell Homes for the Yearsley Distribution Site was based upon monitored noise levels on the closest site boundary to the facility. A summary of the assessment results is presented as Table 4-1 below.

Table 4-1 Russell Homes Calculation of Rating Level of BS4142 Assessment

Period	Calculated Combined Specific Noise Level (dB LAeq,1hr)	Acoustic Penalty (dB)	Calculated Rating Level, (dB LA,r)	Lowest Average Measured Background Sound Level, dB LA90,1hr	BS4142 Criteria (dB)	Difference (+/- dB)
Day	55.4	+7	62.4	38.7	38.7	+23.7
Night	53.3	+3	56.3	41.8	41.8	+14.5

Russel Homes go on to state that:

The sensitivity of the receptors is high and it is predicted that there would be a major impact at the closest garden areas to the commercial premises without mitigation in place or considered. Accordingly, there is predicted to be a major magnitude of impact during the night-time period.

It is also worth considering that the BS4142:2014 criteria will not be achieved at the facades during the night-time period without an extensive stand-off distance. Therefore, it may be more prudent to consider internal noise levels at night, as residents are likely to be in bedrooms, sleeping during the night-time period than outside, as described in BS4142:2014.

When considering internal noise levels the chapter identifies that the internal criteria set out in BS8233:2014 would be achieved with windows closed but not with windows open. In light of the above mitigation measures are proposed as replicated below:

Table 15.28 determined that, during the daytime period any garden areas located close to the boundary with Yearsley's in the north-western area of the Site would experience a rating level that is 23.7dB above the existing typical background sound level. This would result in a major impact. Therefore, mitigation and/or appropriate site design is required.

Given the level of exceedence, acoustic barriers for gardens along the boundary would be ineffective. Barriers typically achieve up to 18.4dB attenuation.

Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

Therefore, consideration towards the site layout is required. Accordingly, the applicant will work with Yearsleys to reduce noise levels from the roof mounted fans and employ Best Practicable Means at their site or the detailed layout will incorporate a stand-off distance from the boundary of Yearsley's into the design.

A distance of 30m from the boundary, resulting in approximately 65m from the closest South Heywood sources, would result in a rating level being 17.8dB in exceedance. This combined with dwellings fronting Yearsley's should provide sufficient protection to external amenity areas.

Standard thermal double glazing would be sufficient to achieve internal noise levels at the proposed residential properties but alternative ventilation would be required as previously mentioned in the road traffic noise mitigation.

It is important to recognise that the predicted noise levels from the Yearsley Site to the west of the Russell Homes development are significantly higher than those predicted from the Proposals as shown below in Table 4-2.

Table 4-2: Comparison of Predicted Rating Levels of Yearsley v Proposal 22/01410/FUL by E3P

Period	Predicted Rating Levels Yearsley Site	Worst Case Predicted Rating Levels from the Proposals By E3P at AL2 Location
Day	62.4	46
Night	56.3	48

Given that Russell Homes are confident that noise levels can be adequately controlled on the western site boundary where levels are significantly higher than those likely to be generated by the proposals, it is unclear how the proposals would impact upon the viability of the Russell Homes development.

Further to the above the outline planning permission for the Russell Homes development is subject to the following planning condition.

No development shall take place on any phase of development until a scheme of noise mitigation measures has been submitted to and approved in writing by the Local Planning Authority, demonstrating that all residential units within that particular phase of development shall achieve the following internal and external noise levels:

- 35 dB(A) Leq (16 hour) in the bedrooms between the daytime hours 7 am and 11pm to protect daytime resting;
- 30 dB(A) Leq (8 hour) in the bedrooms between the night-time hours of 11pm and 7am; • 35 dB(A) Leq (16 hour) in the living room/s between the daytime hours of 7 am and 11pm;
- 40 dB(A) Leq (16 hour) in any dining rooms during daytime hours;
- Noise in external amenity areas shall aim to achieve the guideline values given in BS8233:2014 and ProPG or the lowest practicable levels in accordance with BS8233:2014 and ProPG; to a maximum of 58 dB(A);
- Maximum instantaneous sound levels should not exceed 45 dB(A) Lmax,fast measured in bedrooms more than 10 times per night; and
- Any sound associated with existing and/or proposed industrial/commercial premises shall not result in the predicted Rating Level exceeding the existing typical Background Sound Level at the closest existing or proposed receptors (LA,r = LA90).

Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

All works which form part of the approved scheme shall be completed before the residential units within that phase are occupied and retained thereafter. Reason: To safeguard the living conditions of future residents in accordance with Core Strategy Policy G9 and the National Planning Policy Framework.

Further to the above, it is important to note that the Russel Homes application is in outline only and as such should they feel that noise levels are excessive it is within their gift to design their development to further mitigate noise. This approach would mirror that which has been taken by Russel Homes when considering the existing industrial uses to the north-west of their site.

4.1.3 BWB Planning Report

The planning application for the Proposals (Ref 22/01410/FUL) is supported by a Noise Impact Assessment (NIA) prepared by BWB Consulting (Document Reference 220785 Rev P10).

The BWB NIA considered the following primary noise sources in completing their assessment:

- HGV Noise
- Noise from Fixed Mechanical Plant.

A baseline noise survey was conducted in the vicinity of the closest sensitive receptors to the site. Subsequently, the likely noise emissions from the loading and unloading of HGVs and HGV movements to and from the site were determined and suitable noise limits for any fixed plant which will be installed as part of the scheme (details for which are currently unknown) provided.

Noise emissions from HGV activity at the site were assessed during daytime and night-time periods in accordance with the methodology outlined in BS 4142. A potentially adverse impact was predicted at the nearest existing receptors and at some adjacent land parcels which have approval for residential development. As such, mitigation, in the form of acoustic barriers, has been recommended to be incorporated into the proposed development.

As the details of fixed plant items associated with the site are not known at this stage, noise level limits have been proposed at nearby sensitive locations based on the guidance within BS 4142. Provided these noise level limits are achieved a low impact would be predicted from the fixed plant items.

4.1.4 Russell Homes Objection E3P Report

Following submission of the BWB a number of objections were raised by Russel Homes culminating in the appointment of E3P to assess the potential noise impacts from the Proposals the principal findings of this report (Document Ref 50-767-R3-3) are as outlined below.

- E3P undertook its own background noise survey in May 2023, and found that the background noise levels to be lower than those stipulated by BWB (Trammel Crow's noise consultant), by as much as by 1-5dB.
- The E3P Assessment shows that proposed noise levels exceed levels deemed acceptable at the housing receptors.
- The degree of adverse noise encroachment into the Russells' approved housing site and existing housing, is stark.
- The proposed mitigation measures have been evidenced to be insufficient for day and night-time noise.
- Noise from the site would have an unacceptable adverse impact at existing and proposed receptors.

Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

- Fundamental changes to the design of the application will be required, such is the limited protection the noise mitigation provides to housing receptors.
- If the application was approved in its current form, then it would be physically impossible for Russells' approved housing to achieve acceptable noise standards.
- Large areas of the Russells site would be undeliverable, with large numbers of housing being lost.

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Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

5. Baseline Conditions

Noise Sensitive Receptors

The following potential noise sensitive receptors have been identified and are presented in Table 5-1.

Table 5-1: Nearest Noise Sensitive Receptors

Receptor	Type of Receptor	Description / Name	Approximate Distance from Site Boundary
SR A	Residential	Residential dwellings along Hareshil Road	Approximately 100m East of site boundary
SR B	Residential	Residential dwellings along Oldbury Close	Approximately 40m North of site boundary
SR C	Residential	Residential dwellings along Whitehouse Close	Approximately 35m West of site boundary
SR D	Residential	Residential dwellings along Badger Drive	Approximately 65m West of site boundary

Baseline Noise Surveys

5.1.1 BWB Noise Surveys

BWB conducted a baseline noise survey to determine the prevailing noise climate at locations representative of the two closest noise sensitive receptors. The survey comprised of unattended noise monitoring kit set up at two measurements locations, shown in Figure 5-1. Noise monitoring was undertaken at both locations over a four-day period commencing from Thursday 19th May 2022 - Monday 23rd May 2022. Full details of measurement locations are presented as Table 5-2 .

Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

Figure 5-1: BWB Baseline Noise Survey Measurement Locations



Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

Table 5-2: BWB Noise Monitoring Locations

Monitoring Location (Refer to Figure 5-1)	Description	Notes/Comments
ML1	Long-term noise unattended measurement taken at southern boundary of site to represent prevailing noise climate for dwellings off Hareshil Road. Free field measurement, microphone situated approximately 2m above ground level	Noise climate noted to be dominated by local road traffic noise from vehicles travelling on Manchester Road and road traffic noise from M62 motorway (100m southeast of ML1)
ML2	Long term noise unattended measurement taken at eastern boundary of site. This area is largely screened from the main local traffic routes. ML2 is representative of the prevailing noise climate at SRS nearest to the eastern boundary of site. Namely residential dwelling off Oldbury Close, Whitehouse Close, Badger Drive and land to the northwest of site which has planning approval for a residential development. Free field measurement, microphone situated approximately 1.5m above ground level	Noise climate is noted to be dominated by natural sounds and distant road traffic.

Measurement Results

Table 5-3 presents a summary of the sound pressure levels measured during daytime and night-time periods.

Table 5-3: Summary of Baseline Noise Survey Data at ML1 and ML2

Start Date	Period	ML1		ML2	
		L _{Aeq} (dB)	L _{A90,15min} (dB)	L _{Aeq} (dB)	L _{A90,15min} (dB)
Thursday 19 th	Night-time	54	46	49	40
Friday 20 th	Daytime	57	54	51	46
	Night-time	55	48	49	43
Saturday 21 st	Daytime	53	50	48	42
	Night-time	52	48	52	41
Sunday 22 nd	Daytime	56	53	50	44
	Night-time	56	49	54	42
Monday 23 rd	Daytime	55	50	51	44

Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

5.1.2 E3P Noise Surveys

EP3 conducted a full weekday and weekend baseline noise survey covering the background and ambient noise levels in a position representative of the proposed residential receptors along southern, southwestern and western boundaries of the site. EP3 noted that this measurement location is representative of BWB’s ML1 position. The survey was conducted from Thursday 29th June 2023 – Monday 3rd July 2023. Figure 5-2 illustrates E3P’s monitoring location (yellow pin) with description in Table 5-4.

Figure 5-2: EP3 Baseline Noise Survey Measurement Location



Table 5-4: EP3 Noise Monitoring Location

Monitoring Location (Refer to Figure 5-2)	Description	Notes/Comments
NMP1	Long-term noise unattended measurement taken at western boundary of site. Placed equal distance from the Link Road as proposed receptors subject to the main sound sources from site. Free field measurement, microphone situated approximately 1.2m above ground level	Noise climate noted to be dominated by road traffic noise.

Measurement Results

Table 5-5 presents a summary of the sound pressure levels measured during daytime and night-time periods at NMP1.

Table 5-5: Summary of Baseline Noise Survey Data at NMP1

Start Date	Period	Range of Background Sound Levels	Median Background Sound Level	Average Measured Background Sound Level	Modal Measured Background Sound Level
		L _{A90,T} (dB)	L _{A90,T} (dB)	L _{A90,T} (dB)	L _{A90,T} (dB)
Thursday 29 th June 2023	Daytime	41.8 - 49.1	46	46	48
	Night-time	41.1 - 51.6	45	45	44
Friday 30 th June 2023	Daytime	47.2 - 54.2	52	52	52
	Night-time	42.7 - 48.8	45	46	45
Saturday 1 st July 2024	Daytime	44.6 - 53.9	51	50	49
	Night-time	41.4 - 45.1	43	43	42
Sunday 22 ^d July 2024	Daytime	44.7 - 53.1	51	50	53
	Night-time	42.3 - 53.3	45	46	45

Notes: ¹ EP3 noted that the Sunday period is a irregularity when compared to other measurement periods.

Waterman Baseline Noise Survey

A baseline environmental noise survey was carried out at Site by Waterman from Wednesday 6th March 2024 to Tuesday 12th March 2024. The survey comprised of 3 long term unattended noise monitors being set up at Site to continuously measure noise levels for a 6-day period. One short term measurement was carried out by surveyors on Site to supplement the long-term monitoring positions. Table 5-6 describes the monitoring locations.

Table 5-6: Waterman Noise Monitoring Locations

Monitoring Location (Refer to Figure 3-1)	Description	Notes/Comments
LT1	Long term unattended noise measurement on the southern boundary facing Queen Elizabeth II Way.	Noise environment at location dominated by RTN from Queen Elizabeth II Way.
		Background noise at this location predominantly consisted of RTN from the surrounding transportation network, in particular M62.
LT2	Long term unattended noise measurement at the SW Corner	Noise from reversing alarms from ongoing construction in the north of the site faintly audible at this location. Other noise sources included noise from leaves rustling, birdsong and horses neighing in the adjacent field.

Monitoring Location (Refer to Figure 3-1)	Description	Notes/Comments
LT3	Long term unattended noise measurement at the NW Corner	Noise at this location consisted of a mixture of distant road traffic noise from the surrounding road network, noise school activities at Newhouse Academy (Newhouse Rd, Heywood OL10 2NT) and noise from ongoing construction adjacent Newhouse Academy.
		Noise emissions from construction site included metal clattering, vehicle noise, reversing alarms, etc.
LT4	Long term unattended noise measurement at eastern boundary with existing sensitive receptors (rear of properties Bader Drive)	Noise environment consisted of a mixture of distant RTN from surrounding transport network and some distant noise from Newhouse Academy and the associated construction works.
ST1	1hr 30mins Short term noise measurement conducted adjacent to Manchester Road	Noise at this location a mixture of RTN from Manchester Road and Queen Elizabeth II Way.

Note: RTN – Road Traffic Noise

Measurement Results

Table 5-7 presents a summary of the measured day and night-time noise levels.

Table 5-7: Summary of Waterman Baseline Noise Survey Measurements

Start Date	Period	LT1		LT2		LT3		LT4	
		LAeq (dB)	LA90,15min (dB)	LAeq (dB)	LA90,15min (dB)	LAeq (dB)	LA90,15min (dB)	LAeq (dB)	LA90,15min (dB)
Wednesday 6th March 2024	Daytime	64	58	52	49	55	49	50	49
	Night-time	62	46	50	43	50	44	48	41
Thursday 7th March 2024	Daytime	65	59	51	50	52	51	52	51
	Night-time	61	49	49	41	48	43	48	43
Friday 8th March 2024	Daytime	66	60	52	50	53	51	53	51
	Night-time	64	52	53	46	55	45	50	44
Saturday 9th March 2024	Daytime	64	55	52	48	54	48	52	50
	Night-time	60	49	51	45	49	43	48	42
Sunday 10th	Daytime	63	56	49	47	51	49	51	49

Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

Start Date	Period	LT1		LT2		LT3		LT4	
		LAeq (dB)	LA90,15min (dB)	LAeq (dB)	LA90,15min (dB)	LAeq (dB)	LA90,15min (dB)	LAeq (dB)	LA90,15min (dB)
March 2024	Night-time	60	44	48	38	47	39	46	38
Monday 11th	Daytime	64	52	48	42	48	38	48	41
March 2024	Night-time	63	50	53	44	50	44	49	42
Tuesday 12th	Daytime	69	60	56	53	55	52		
March 2024									

Notes: All figures above are rounded to nearest whole decibel.
 LAeq – Logarithmic average. LA90 – modal value.

Comparison and Summary of Results

Table 5-8 presents a comparison between Waterman's and BWB's measured average background sound levels at the boundary with Queen Elizabeth II Way. Waterman's measured background sound levels are higher than those measured by BWB, which is expected as BWB's original noise measurements were conducted before the link road (Queen Elizabeth II Way) was completed and operational. The lowest measured average daytime background sound level at this location by Waterman was on a Sunday (55dB LA90,T) as was the night-time background sound level of 48dB LA90,T. This compares to BWB's lowest day and night-time average background sound levels of 50dB LA90,T (Saturday) and 46dB LA90,T (Thursday) respectively.

Table 5-9 presents a comparison between Waterman's and E3P's measured average background sound level at the southwestern boundary (LT2 v E3P NM1). There is good correlation between levels measured by E3P and Waterman, all being within ± 3 dB, except for Sunday night which is regarded as atypical when compared to the measured levels on the other nights. A good correlation was anticipated given the measurement location was comparable and both conducted when Queen Elizabeth II Way was completed and operational. The lowest average measured daytime background sound levels at this location by Waterman was on a Sunday (47dB LA90,T) and lowest night-time background sound level of 44dB LA90,T on both a Thursday and Saturday, discounting that on a Sunday night due to the large discrepancy between Waterman and E3P measured noise level. This compares to E3P's lowest day and night-time average background sound levels of 46dB LA90,T (Thursday) and 43dB LA90,T (Saturday) respectively.

Table 5-10 presents a comparison between Waterman's LT3 and BWB's ML2 measured average background sound levels at the northwestern boundary (LT3 v ML2). At this location Waterman predominantly measured higher average background sound levels than BWB, ranging from -2dB Monday daytime to +7dB Saturday daytime, although the lowest average measured levels were comparable. The lowest average measured daytime background sound level at this location by Waterman was on a Monday (42dB LA90,T) with lowest average night-time background sound level of 42dB LA90,T on a Sunday. This compares to BWB's lowest day and night-time average background sound levels of 42dB LA90,T (Sunday) and 40dB LA90,T (Thursday) respectively.

The measured background sound levels at LT4 by Waterman were comparable to those measured at LT3.

Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

Table 5-8: Comparison Between Waterman's LT1 and BWB ML1 Measured Background Sound Levels

Start Date	Period	Waterman Average Measured Background Sound Level $L_{A90,T}$ (dB) at LT1	BWB Measured Background Sound Level $L_{A90,T}$ (dB) at ML1	Difference, +/- (dB)
Thursday	Night-time	52	46	+6
	Daytime	59	54	+5
Friday	Night-time	53	48	+5
	Daytime	57	50	+7
Saturday	Night-time	49	48	+1
	Daytime	55	53	+2
Sunday	Night-time	48	49	+1

Table 5-9: Comparison Between Waterman's LT2 and E3P NM1 Measured Background Sound Levels

Start Date	Period	Waterman Average Measured Background Sound Level $L_{A90,T}$ (dB) at LT2	E3P Measured Background Sound Level $L_{A90,T}$ (dB) at NM1	Difference, +/- (dB)
Thursday	Daytime	49	46	+3
	Night-time	44	45	-1
Friday	Daytime	49	52	-3
	Night-time	47	46	+1
Saturday	Daytime	48	50	-2
	Night-time	44	43	+1
Sunday	Daytime	47	50	-3
	Night-time	41	46	-5

Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

Table 5-10: Comparison Between Waterman's LT3 and BWB ML2 Measured Background Sound Levels

Start Date	Period	Waterman Average Measured Background Sound Level $L_{A90,T}$ (dB) at LT3	BWB Measured Background Sound Level $L_{A90,T}$ (dB) at ML2	Difference, +/- (dB)
Thursday	Daytime	50	-	
	Night-time	45	40	+5
Friday	Daytime	51	46	+4
	Night-time	47	43	+3
Saturday	Daytime	49	42	+7
	Night-time	44	41	+3
Sunday	Daytime	49	44	+5
	Night-time	42	42	0
Monday	Daytime	42	44	-2
	Night-time	46	-	

Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

6. Noise Assessment and Reason for Refusal

As previously discussed, the reason for refusal is as set out below:

“By virtue of its size, scale and form, the proposed development is not well designed and would represent an overdevelopment of the site which is not compatible with surrounding land uses due to the detrimental and unacceptable impacts on the noise environment and the visual amenity of surrounding residents, with particular regard to future residents adjacent the site. Due to this overbearing and unacceptable relationship with surrounding land uses the application fails to accord with Policy DM1 of the adopted Rochdale Core Strategy and the National Planning Policy Framework.”

Policy DM1 of the RBC Core Strategy is summarised as Section 3.3 of this report. When considering the noise impacts of the Proposals upon both existing and future residential receptors the following points are of key consideration:

- Existing Acoustic Character of the Environment
- Noise Emissions from Industrial Uses (HGV's, Fixed Mechanical Plant)
- Comparison of noise emissions with background noise levels (BS4142)
- Consideration of change in ambient noise levels with operation of the development.
- Consideration of absolute noise levels.

Each of the above points is discussed in turn below.

6.1 Existing Acoustic Character of the Environment

Following a review of the site and its surrounds, multiple site visits and baseline noise surveys it has been identified that the acoustic character of the site to be dominated by high levels of road traffic noise associated with the M62, Queen Elizabeth II Way Link Road. Noise from existing industrial noise sources was also noted to be present and distinctive in the environment. As such the environment is considered to be mixed in acoustic character.

6.2 Noise Emissions from Industrial Uses

To assess the impacts of the Proposals on nearby noise sensitive receptors consideration has been given to key industrial noise sources, which, were identified by BWB as HGV movements, unloading and loading of HGVs and fixed mechanical plant.

With regards to fixed mechanical plant, at this stage noise emissions from these sources are not known, as such in line with best practice it is considered appropriate that the cumulative effect of all external plant and noise breakout from the development should not exceed the representative background noise levels.

With regards to noise emissions associated with HGV use it has been assumed that HGVs will arrive at the site via the access point on Manchester Road, where HGVs visiting Unit 1 will immediately turn right into Unit 1's delivery yard, and all other HGVs will turn left and travel on the access road parallel to the southern site boundary to either Unit 2 or Unit 3. Once in the respective delivery yards, the HGVs will each travel to a loading bay, manoeuvre, reverse into a delivery bay, unloading/loading for 30mins (with no engine idling), and then drive away via the same route. The noise source data for these activities, which has been used in this assessment, are presented in Table 4-1 of the BWB NIA.

The assessment has assumed that during a worst case (busiest) 1-hour period during the daytime and night-time 50% of the delivery bays at each unit would be used. This assumption is considered to be both

Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

reasonable and robust in the absence of specific details of vehicle movements associated with the units.

It is important to note that for the purpose of the assessment and in line with best practice car parking noise is not classified as industrial noise. Car park use is likely to be limited to key shift changes rather than continuous and present throughout the day.

Noise emissions from the Proposals have been predicted using the noise modelling software package CADNA A. Table 4-2 of the BWB presents the results in the absence of mitigation and Table 5-1 of the BWB report presents the results with mitigation (refer to Figure 2-2).

It is noted that there is some disagreement between the noise emissions predicted by BWB and those predicted by Russel Homes Consultant E3P, although the reason for this discrepancy is not clear they are likely to be as a result of the following:

- E3P have included car park noise at high usage which is non-industrial in nature.
- E3P have assumed 100% use of loading bays which is unrealistic.
- E3P have assumed roller shutter doors would be open. The use of roller shutters would be controlled by a management plan requiring them to be closed unless in use.

6.3 Noise Impact Assessment BS4142 Assessment (no context)

The noise impacts associated with the Proposals have been assessed in line with the guidance provided in BS4142:2014+A1:2019 both with and without mitigation. In line with the guidance provided in BS4142:2014+A1:2019 it has been recognised that noise from HGV deliveries may under certain conditions be distinctive against the residual acoustic environment as such a +3dB correction has been applied to the predicted noise emissions discussed in Section 6.2. This approach is in line with best practice. No allowance for tonality has been made as a noise management plan would be in place to prevent the use of tonal reversing alarms by either requiring the use of broadband reversing alarms or banksman to allow reversing alarms to be disengaged.

The assessment of noise from the Proposals with mitigation in place following the guidance provided in BS4142:2014+A1:2019 are presented as Table 5-1 of the BWB NIA and replicated below for clarity.

Table 6-1 BWB Predicted Noise Levels from HGV movements with Mitigation

Assessment Location	Predicted Specific Noise Level (dB $L_{Aeq,T}$)	Predicted Rating Level (dB $L_{ar,T}$)	Background (day/night) (L_{A90})	Difference (day/night)
AL1	39	42	50/46	-8/-4
AL2	39	42	42/40	0/+2
AL3	31	34	42/40	-8/-6
AL4	34	37	42/40	-5/-3
AL5	43	47	40/46	-3/-1

With reference to Table 6-1 it can be seen that at all locations, with the exception of Location AL2 during the night-time, the predicted noise levels fall below the background sound levels. It should be noted that for all locations other than AL1 and AL5 the quietest representative background sound levels from Location ML2 have been adopted (refer to Figure 5-1). In reality background noise levels at locations closer to the Queen Elizabeth II Way link road are likely to be higher. As such the above assessment can be considered worst case. With reference to Waterman's noise surveys set out as Section 5 it can be seen that with the Queen Elizabeth II Way link road now open and operational background sound levels

Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

are higher, although largely within the +/-3dB of E3Ps survey results whilst being significantly higher than the BWB survey results. It is also important that these background sound levels are only likely to increase as the Heywood South Masterplan, which includes in itself a significant proportion of B8 use, is built out.

As previously discussed E3P predicted slightly higher noise levels than those predicted by BWB a summary of the E3P results is presented below.

Table 6-2: E3P Daytime Predicted Noise Levels from HGV movements with Mitigation

Assessment Location	Predicted Rating Level (dB L _{ar,T})	Background (day) (L _{A90})	Difference (day)
AL1	41	42	-1
AL2	44-46	42	+2 to +4
AL3	45	42	+3
AL4	46	42	+4
AL5	41-43	42	-1 to +1

Table 6-3: E3P Night-time Predicted Noise Levels from HGV movements with Mitigation.

Assessment Location	Predicted Rating Level (dB L _{ar,T})	Background (night) (L _{A90})	Difference (night)
AL1	37	40	-3
AL2	44-48	40	+4 to +8
AL3	43	40	+3
AL4	44	40	+4
AL5	40-45	40	0 to +5

With reference to Table 6-2 and Table 6-3 it can be seen that based upon the E3P figures there would be an exceedance of the background sound levels by up to 4dB during the daytime and 8dB during the night-time. However, it is important to note that predicted noise levels at all locations reduce during the night-time with the exception of AL2 where a slight increase is reported. The reason for this increase is not clear.

It is also important to note that E3P have adopted the same backgrounds as adopted by BWB and have not utilised their own survey data which would have resulted in higher noise limits than those adopted.

All of the above assessments have been completed without considering context. It is important to note that as previously advised. BS 4142 further states:

'Adverse impacts include, but are not limited to, annoyance and sleep disturbance. Not all adverse impacts will lead to complaints and not every complaint is proof of an adverse impact.'

Context is an important consideration of a BS 4142 assessment, and the impact may require modification due to context, which may include:

- The absolute level of sound.
- The character and level of the residual sound compared to the character and level of the specific sound.
- Receptor sensitivity but taking account of screening, sound insulation, design measures.

Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

6.4 Change in Ambient Noise Levels

When considering context and accounting for the current permitted B8 use the likely change in ambient noise levels with the Proposals in operation is a key consideration. With reference to Table 5-7 it can be seen the ambient noise levels are in the region of circa 48-53dB $L_{Aeq,T}$ for both the daytime and night-time periods. Assuming a maximum specific sound level of 43dB $L_{Aeq,T}$ (E3P rating noise level – acoustic character corrections) would result in change in noise levels of ≤ 1 dB. With reference to Table 3-1 it can be seen that such an increase in ambient noise levels would be negligible.

6.5 Absolute Noise Levels

The absolute noise levels from the Proposals excluding acoustic character corrections would be 43dB $L_{Aeq,T}$ based upon E3Ps worst case predicted noise levels, such noise levels are considered low given the acoustic character of the area (Section 6.1).

The predicted sound levels resultant from operational Proposals all fall below 50dB $L_{Aeq,1-hour}$ at which level the WHO state the onset of community annoyance may arise. It is recognised that this limit applies to anonymous noise however, it does provide a good benchmark against which to consider potential noise impacts.

6.6 Summary

In summary and when considered on balance and given due consideration to the context the noise impacts associated with the operation of the Proposals would not give rise to detrimental or unacceptable noise impacts and as such would not be in contravention of Policy DM1.

Furthermore all matters relating to noise would be controlled via the proposed acoustic barriers and adoption of a suitable noise management plan both of which could be secured by way of an appropriately worded planning condition an example condition is suggested later in this document. This approach is in line with that proposed by Russell Homes when addressing noise impacts associated with existing industrial uses to the north.

Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

7. Planning Conditions

With reference to Section 6 it is considered that all noise impacts associated with the operation of the Proposals could be adequately controlled through the incorporation of physical mitigation measures and adoption of a noise management plan as appropriate. An example draft Noise Management Plan is presented as Appendix A.

Suggested planning conditions are set out below.

"No part of the development hereby permitted shall be occupied until such time that the measures set out in Section 5 of the Noise Impact Assessment (ref 220785 dated June 2023) and as demonstrated on the Approved Site Plan (Ref: 21157-ASA-00-ZZ.ZZ-D-A-0003_(SP-P13) shall be installed. The approved measures shall be retained in good working order for the lifetime of the development hereby approved. Reason: To ensure that the development does not result in undue amenity impacts to the existing or future occupiers/users of surrounding dwellings/buildings, in accordance with Policies DM1, G9 of the adopted Rochdale Core Strategy and the National Planning Policy Framework.

"No part of the development hereby permitted shall be occupied until a Noise Management Plan has been prepared and submitted for approval. The Noise Management Plan would be followed for the lifetime of the development hereby approved. Reason: To ensure that the development does not result in undue amenity impacts to the existing or future occupiers/users of surrounding dwellings/buildings, in accordance with Policies DM1, G9 of the adopted Rochdale Core Strategy and the National Planning Policy Framework.

Noise levels from fixed plant, in conjunction with all other noise from the unit, shall not exceed 52 dB(A) $L_{eq,15mins}$ between 0700 and 2300 hours and 47 dB(A) $L_{eq,5mins}$ at any other time as measured at the façade of any noise sensitive property, (or 48 dB(A) $L_{eq,15mins}$ and 43dB(A) $L_{eq(5mins)}$ as free measurements within the curtilage of any noise sensitive building. Reason: In the interest of residential amenity and in accordance with Policies G9 and DM1 of the adopted Rochdale Core Strategy and the National Planning Policy Framework.

Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

8. Conclusions

Noise and vibration has been identified as a reason for refusal by the Local Planning Authority this is despite the Environmental Health Officer of RBC confirming that they had no objection to the Proposals subject to implementation of recommended mitigation measures as set out in the submitted Noise Impact Assessment. In addition, a condition will be required ensuring that any proposed or future external plant does not exceed noise limits."

This document summarises the likely significant effects as a result of the operation of the proposed development in terms of noise to existing and future residential receptors surrounding the site. Relevant legislation and local and national policy in respect of noise has been set out. Sensitive receptors and study areas have been defined and the operational impact of the development in terms of both the change in noise levels which would arise and the excess above existing background sound levels which would be experienced as a result of the operation of the proposed development has been assessed.

Reference has been made to the National Planning Policy Framework (NPPF) and Noise Policy Statement for England as well as relevant British Standards and guidance documents.

Operational noise associated with the development have been predicted using the noise modelling software package CADNA A. Under worst-case operating conditions in terms of HGV movements and loading/unloading of HGVs it has been demonstrated that when considering context noise impacts associated with the proposals would be negligible to low. At all receptors the predicted change in prevailing noise is $\leq 1\text{dB}$ and also negligible.

In term of absolute noise levels The absolute noise levels from the Proposals excluding acoustic character corrections would be $43\text{dB } L_{Aeq,T}$ based upon E3Ps worst case predicted specific sound levels, such levels are considered low given the acoustic character of the area (Section 6.1).

The predicted sound levels resultant from operational Proposals all fall below $50\text{dB } L_{Aeq,1\text{-hour}}$ at which level the WHO state the onset of community annoyance may arise. It is recognised that this limit applies to anonymous noise however, it does provide a good benchmark against which to consider potential noise impacts.

All noise impacts associated with the development could be adequately controlled via measures secured by way of an appropriate planning condition.

As such, on balance noise level associated with the operation of the Proposals is considered acceptable and would not give rise to detrimental or unacceptable noise impacts.

Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

APPENDICES

A. Glossary of Acoustic Terminology

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Decibel [dB]	The level of noise is measured objectively using a Sound Level Meter. This instrument has been specifically developed to mimic the operation of the human ear. The human ear responds to minute pressure variations in the air. These pressure variations can be likened to the ripples on the surface of water but of course cannot be seen. The pressure variations in the air cause the eardrum to vibrate and this is heard as sound in the brain. The stronger the pressure variations, the louder the sound that is heard. The range of pressure variations associated with everyday living may span over a range of a million to one. On the top range may be the sound of a jet engine and on the bottom of the range may be the sound of a pin dropping. Instead of expressing pressure in units ranging from a million to one, it is found convenient to condense this range to a scale 0 to 120 and give it the units of decibels. The following are examples of the decibel readings of every day sounds: <table> <tbody> <tr> <td>Four engine jet aircraft at 100m</td><td>120 dB</td></tr> <tr> <td>Riveting of steel plate at 10m</td><td>105 dB</td></tr> <tr> <td>Pneumatic drill at 10m</td><td>90 dB</td></tr> <tr> <td>Circular wood saw at 10m</td><td>80 dB</td></tr> <tr> <td>Heavy road traffic at 10m</td><td>75 dB</td></tr> <tr> <td>Telephone bell at 10m</td><td>65 dB</td></tr> <tr> <td>Male speech, average at 10m</td><td>50 dB</td></tr> <tr> <td>Whisper at 10m</td><td>25 dB</td></tr> <tr> <td>Threshold of hearing, 1000 Hz</td><td>0 dB</td></tr> </tbody> </table>	Four engine jet aircraft at 100m	120 dB	Riveting of steel plate at 10m	105 dB	Pneumatic drill at 10m	90 dB	Circular wood saw at 10m	80 dB	Heavy road traffic at 10m	75 dB	Telephone bell at 10m	65 dB	Male speech, average at 10m	50 dB	Whisper at 10m	25 dB	Threshold of hearing, 1000 Hz	0 dB
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L_{Amin} noise level	This is the lowest level during the measurement period.
L_{Aeq,T} noise level	This is the 'equivalent continuous A-weighted sound pressure level, in decibels' and is defined in British Standard 7445 as the 'value of the A-weighted sound pressure level of a continuous, steady sound that, within a specified time interval, T, has the same mean square sound pressure as a sound under consideration whose level varies with time'. It is a unit commonly used to describe construction noise, noise from industrial premises and is the most suitable unit for the description of other forms of environmental noise.
L_{A90} noise level	This is the noise level that is exceeded for 90% of the measurement period and gives an indication of the noise level during quieter periods. It is often referred to as the background noise level and is used in the assessment of disturbance from industrial noise.
L_{A10} noise level	This is the noise level which is achieved for 10% of the monitoring period and is often used to describe road traffic noise.
Rating Level, dB L_{Af,Tr}	Specific sound level plus any adjustment for the characteristic features of the sound.
Residual Sound	Ambient sound remaining at the assessment location when the specific sound source is suppressed to such a degree that it does not contribute to the ambient sound source.
Sound Reduction Index (R)	The sound reduction index is a single-number rating of the sound reduction through a wall or other building element. Since the sound reduction may be different at different frequencies, test measurements are subjected to a standard procedure which yields a single number that is about equal to the average sound reduction in the middle of the human hearing range.
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Weighted Sound Reduction Index dB R_w	Single number rating used to describe the laboratory airborne sound insulation properties of a material or building element over a range of frequencies, typically 100-3150Hz.
C_{TR}	An adjustment to the R _w scale to take account of the lower performance against a typical spectrum of road traffic noise dominated by low frequencies.
D_{ne,W}	Weighted element normalised level difference.
PPV	Ground vibration is measured in terms of Peak Particle Velocity (PPV) with units in mm/s. It should be noted that the PPV refers to the movement within the ground of molecular particles and not surface movement. The displacement value in mm refers to the movement of particles at the surface (surface movement).

Appendices

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20647103-WAT-XX-XX-RP-N-710001_P01_S3

B. Waterman Baseline Survey Equipment

Table B1 presents the equipment detail used for the baseline noise survey. The equipment was field calibrated before and on completion of the survey with no significant drift.

Table B1: Equipment Detail

Location	Description	Serial Number	Date of Last Calibration
LT1 Southern Boundary Queen Elizabeth Way	Rion NL-52 Type 1 Sound Level Meter	810563	2 nd January 2024 Certificate Number TCRT/1004
	Rion NH-25 Pre-amplifier	11106	
	Rion UC-59 Microphone	19954	
LT2 Western Border (same as E3P Location NM1)	Rion NL-52 Type 1 Sound Level Meter	620872	9 th January 2024 Certificate Number UCRT24/1048
	Rion NH-25 Pre-amplifier	20932	
	Rion UC-59 Microphone	03715	
LT3 Northwestern Boundary (same as BWB ML2)	Rion NL-52 Type 1 Sound Level Meter	1043379	15 th March 2023 Certificate Number TCRT23/1239
	Rion NH-25 Pre-amplifier	43591	
	Rion UC-59 Microphone	10129	
LT4 Eastern Boundary with existing SR Whitehouse Close.	Norsonic 140 Type 1 Sound Level Meter	1406408	4 th December 2023 Certificate Number 1507311-1
	1209 Pre-amplifier	20690	
	1225 Microphone	355496	
ST1 Manchester Road	Rion NL-52 Type 1 Sound Level Meter	1043379	15 th March 2023 Certificate Number TCRT23/1239
	Rion NH-25 Pre-amplifier	43591	
	Rion UC-59 Microphone	10129	
All	Acoustic Calibrator Cirrus CR:513A	029778	6 th June 2022 Certificate Number U41219

Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3

C. Noise Management Plan

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Appendices

Manchester Road, Heywood (Application Ref 22/01410/FUL)

Document Reference: 20647

20647103-WAT-XX-XX-RP-N-710001_P01_S3



Trammell Crow Company, Heywood Stores, Manchester Road, Heywood

Noise Management Plan

February 2024

Waterman Infrastructure & Environment Limited

Pickfords Wharf, Clink Street, London, SE1 9DG
www.watermangroup.com

Client Name: Trammell Crow Company
Document Reference: 20647101-WAT-XX-XX-RP-N-710001-C02_A0
Project Number: WIE20647

Quality Assurance – Approval Status

This document has been prepared and checked in accordance with
Waterman Group’s IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015 and BS EN ISO 45001:2018)

Issue	Date	Prepared by	Checked by	Approved by
C02_A0	16 Feb 2024	Innes Urbanski Associate Director	Mark Maclagan Technical Director	Mark Maclagan Technical Director
				

Comments

Comments

Disclaimer

This report has been prepared by Waterman Infrastructure & Environment Limited, with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporation of our General Terms and Condition of Business and taking account of the resources devoted to us by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at its own risk.

Contents

1. Introduction	1
1.1 The Development.....	1
2. Noise Management Plan	3
2.1 Sensitive Receptors	3
2.2 Prevailing Noise Levels (Pre-Redevelopment of Site).....	4
2.3 Key Noise Sources.....	5
2.4 Inherent Noise Mitigation Measures	6
3. Summary	8

Figures

Figure 1-1: Site Location Plan	1
Figure 1-2: Development Layout	2
Figure 2-1: Sensitive Receptors	3
Figure 2-2: Noise Monitoring Locations.....	5
Figure 2-3: Proposed Acoustic Screening (reproduced from Ashton Smith drawing 21157-ASA-00-EX.00-D-A-0030_(S3-P2)	7

Tables

Table 2-1: Sensitive Receptors	3
Table 2-2: Prevailing Noise Level (Pre Redevelopment of Site).....	4

Appendices

A. Glossary of Acoustic Terminology	
-------------------------------------	--

Contents

Contents

Trammell Crow Company,
Heywood Stores, Manchester Road, Heywood
Document Reference: WIE20647
20647101-WAT-XX-XX-RP-N-710001-C02_A0

1. Introduction

This report presents the Noise Management Plan (NMP) for the proposed Warehouse Storage & Distribution Facility (B8 Use Class) at Heywood Stores, Manchester Road, Heywood, which will be implemented to control noise emissions.

The purpose of the NMP is to safeguard the existing and future residential amenity proximate to the Site.

A glossary of the acoustic terminology used throughout this report is presented as **Appendix A**.

This is a working document that will be updated on a regular basis to be agreed with the Local Planning Authority through a suitably worded planning condition.

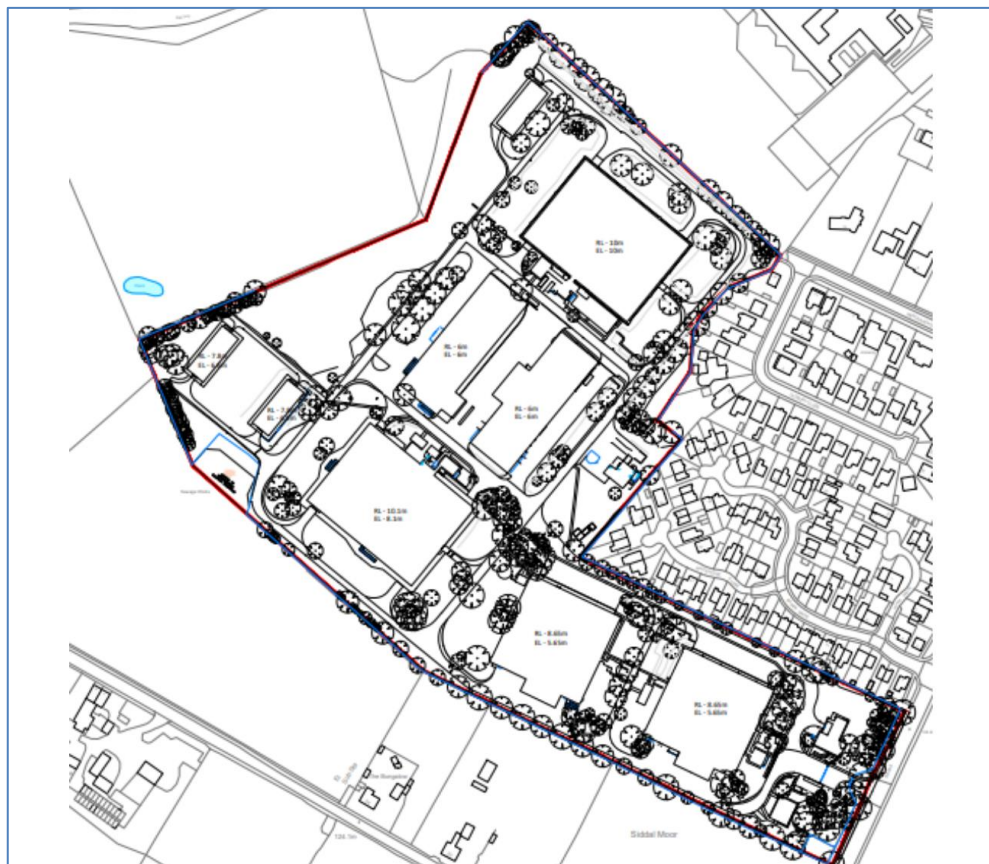
1.1 The Development

The development comprises “*Redevelopment of site comprising the demolition of all existing units and erection of new storage and distribution units (Use Class B8) with ancillary office space, vehicular, pedestrian and cycle access, external yards, parking, landscaping and associated works*”.

The Site location is the Department of Work and Pensions Dcs Distribution Centre, Manchester Road, Heywood, OL10 2PZ.

Figure 1-1 presents the Site Location Plan and **Figure 1-2** presents the Development Layout of the redeveloped Site.

Figure 1-1: Site Location Plan



2. Noise Management Plan

2.1 Sensitive Receptors

There are a number of existing and also future permitted sensitive receptors proximate to the Site that may potentially be adversely impacted by noise emissions from Warehouse Storage & Distribution operations without the incorporation of suitable mitigation measures. Sensitive receptors proximate to the Site are presented in **Table 2-1** and **Figure 2-1**.

Table 2-1: Sensitive Receptors

SR ID	Sensitive Receptor Description	Distance From Site Boundary (Approx. m)
A	Residential housing on White House Close, Oldbury Close, Mercers Road, Bader Drive	40m East and 10m North
B	Newhouse Academy School	100m North-East (to school building)
C	Residential housing on Bracken Close, Heather Close	85m North-East
D	Residential housing on Salisbury Avenue, Shaftesbury Drive	165-200m North
E	Future residential, Russell Homes Permitted Development (16/01399/HYBR)	Adjacent to western Site boundary.
F	Residential housing on Hareshill Road	50m-110m South
G	Future residential, Russell Homes Permitted Development (16/01399/HYBR)	20m East

Figure 2-1: Sensitive Receptors



It should be noted that Planning Condition 24 for the Russell Homes permitted development (16/01399/HYBR) states:-

No development shall take place on any phase of development until a scheme of noise mitigation measures has been submitted to and approved in writing by the Local Planning Authority, demonstrating that all residential units within that particular phase of development shall achieve the following internal and external noise levels:

- 35dB(A) Leq (16 hour) in bedrooms between the daytime hours 7am and 11pm to protect daytime resting;
- 30dB(A) Leq (8 hour) in the bedrooms between the night-time hours of 11pm and 7am;
- 35dB(A) Leq (16 hour) in the living rooms/s between the daytime hours of 7am and 11pm;
- 40dB(A) Leq (16 hour) in any dining rooms during daytime hours;
- Noise in external amenity areas shall aim to achieve the guideline values given in BS8233:2014 and ProPG or the lowest practicable levels in accordance with BS8233:2014 and ProPG; to a maximum of 58dB(A);
- Maximum instantaneous sound levels should not exceed 45dB(A) L_{max,fast} measured in bedrooms more than 10 times per night; and
- Any sound associated with existing and/or proposed industrial/commercial premises shall not result in the predicted Rating Level exceeding the existing typical Background Sound Level at the closest existing or proposed receptors (L_{A,r} = L_{A90}).

In light of the above, it is assumed that mitigation will also be a consideration of future residential receptors proximate to the Site.

2.2 Prevailing Noise Levels (Pre-Redevelopment of Site)

Prevailing ambient noise levels have been established through baseline noise surveys undertaken by BWB at two locations in May 2022, prior to Queen Elizabeth II Way being open and operational and by E3P in June/July 2023 at one location post Queen Elizabeth II Way being operational. **Figure 2-2** presents the noise monitoring locations and **Table 2-2** presents a summary of the measured noise levels. The noise level data for BWB was extracted from document reference (BWB Noise Impact Assessment - 220785, dated 6 June 2023) and that from E3P from document reference (E3P Noise Impact Assessment, dated 12 October 2023 and E3P Technical Review of October 2022 BWB Noise Assessment, date 1 December 2022).

Table 2-2: Prevailing Noise Level (Pre Redevelopment of Site)

ID	Noise Monitoring Location Description	Period	dB LAeq,T ^[1]	dB LA90,T ^[2]
BWB-ML1	On southern boundary of Site. Dominant noise noted as road traffic noise.	Day (0700-2300)	53-57	50-54
		Night (2300-0700)	52-56	46-49
BWB-ML2	On north-western boundary of Site. Dominant noise noted as distant road traffic noise and 'natural sounds'.	Day (0700-2300)	48-51	42-46
		Night (2300-0700)	49-54	40-43
E3P	On western boundary of Site. No description of noise environment.	Day (0700-2300)	No Data	46-52
		Night (2300-0700)	No Data	43-46

Note: ^[1] – period logarithmic average. ^[2] period arithmetic average.

Figure 2-2: Noise Monitoring Locations



Subsequent to this, BWB have conducted further noise measurements at monitoring location ML1 from Thursday 16th November to Monday 20th November 2023. The measured background sound levels (dB LA90) in 2023 were generally higher than those measured in 2022. All of the measured background sound levels were within ± 3 dB of those measured in 2022, except for Friday day and Saturday night. A difference of this magnitude in measured environmental noise levels is considered to be within acceptable tolerances. On this basis the noise levels used in the noise assessment by BWB are considered to be representative of current noise conditions within the vicinity of the Application Site.

2.3 Key Noise Sources

The key noise sources of the redeveloped site are as follows:

- HGV movements within the Site.
- Reverse alarms from HGVs reversing into loading docks.
- Loading/unloading operations.

- Fixed external plant.
- Break-out from Warehouse Units (building envelope/doors/windows.)
- External yard operations.

2.4 Inherent Noise Mitigation Measures

Inherent design noise mitigation measures of the redeveloped site are as follows:

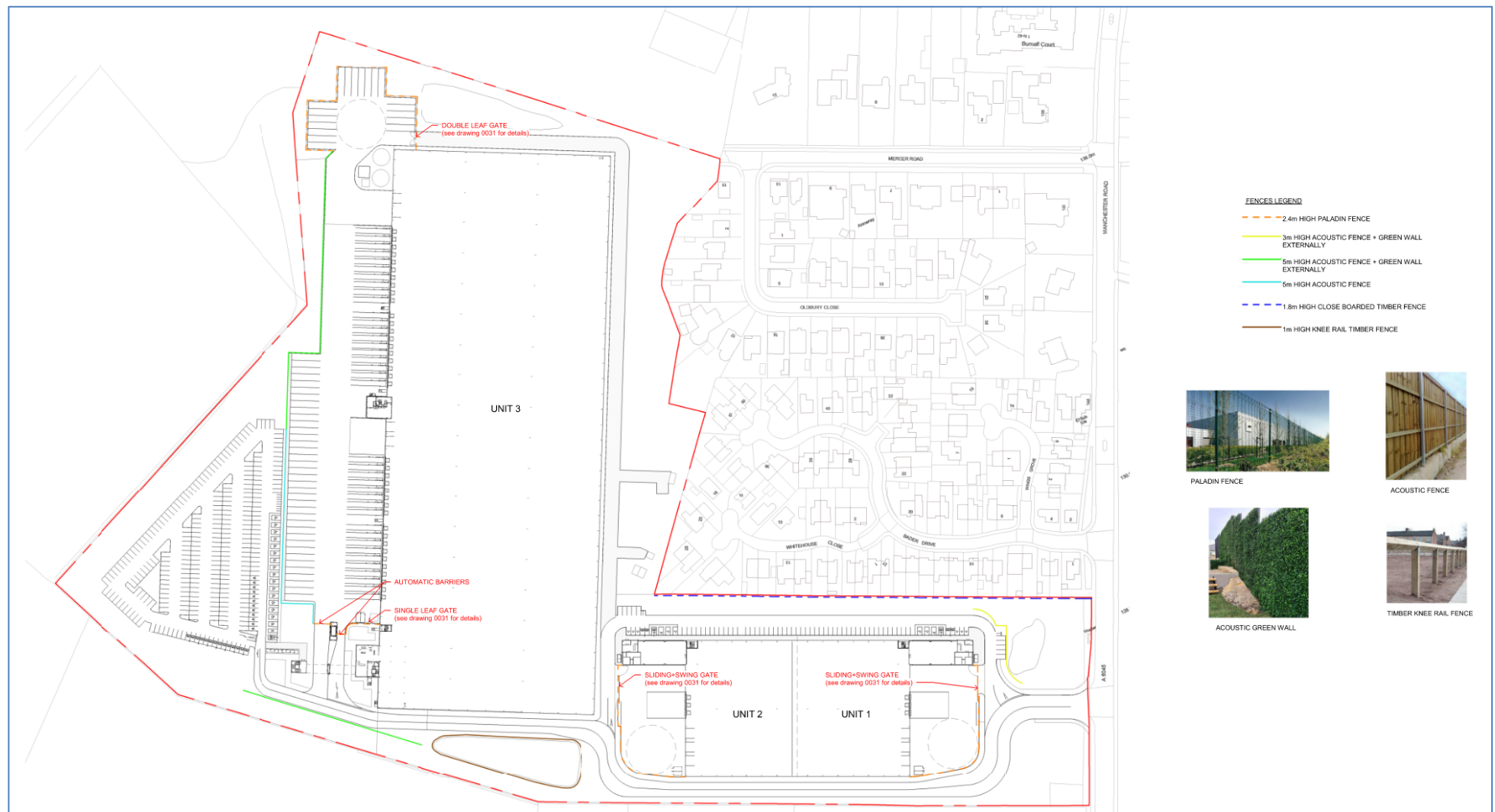
- Acoustic fence/wall (refer to **Figure 2-3**).
- Strategic layout of buildings (office blocks serving Units 1 and 2 screen external loading/unloading areas to residential located north of the Site and Unit 3 screens external loading/unloading areas to residential located east of the Site.)
- Provision of dock levellers which HGVs hook up to with loading/unloading direct into the Units (not external).
- Sound insulation of units will be designed and specified to control noise breakout to acceptable noise levels (not to exceed background sound levels at nearest sensitive receptors).
- All HGVs to be fitted with broad-band reverse alarms.
- All fixed external plant noise emissions, expressed as a Rating Level (BS4142), will be selected and designed so as not to exceed the prevailing background sound level at sensitive receptors.
- All fixed external plant will undergo commission testing to check compliance with the required noise criterion by the Local Planning Authority.

Inherent operational noise mitigation measures of the redeveloped site are as follows:

- All doors closed when not in use.
- All personell will receive noise awareness training so that all operations are conducted symphetically to the surrounding land-uses.
- Development of a noise complaints procedure to be submitted to and approved by the Local Planning Authority.
- Investigation of noise complaints received, which where required, will include noise measurements of plant/operations to ensure they are compliant with LPAs noise criteria.

With regard to future residential receptors which form part of the Russell Homes development, regard will also be given to mitigation measures that will be provided in accordance with Planning Condition 24 of 16/01399/HYBR.

Figure 2-3: Proposed Acoustic Screening (reproduced from Ashton Smith drawing 21157-ASA-00-EX.00-D-A-0030_(S3-P2))



3. Summary

The Heywood Stores Site, Manchester Road, Heywood, is located proximate to a number of existing and future sensitive receptors, which are identified within this report. On this basis it is accepted that noise emissions from the Site have the potential to adversely impact the nearest sensitive receptors without mitigation and therefore a Noise Management Plan (NMP) has been developed to minimise emissions to acceptable levels alongside various design measure such as provision of acoustic fencing.

The NMP has been specifically developed for the proposed redevelopment of the Heywood Stores Site to Warehouse Storage & Distribution (B8 Use Class).

The NMP outlines inherent mitigation measures to manage and reduce noise emissions, some of which include commitment to additional work. This includes development of a complaints procedure together with commission testing of fixed external plant to check compliance with the Local Planning Authority noise criterion.

With implementation of the NMP, noise emissions from the Site would be reduced to acceptable levels compatible with the adjacent land-uses.

The NMP is a working document and will be updated at regular periods to be agreed with the Local Planning Authority through a suitably worded planning condition.

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Appendices

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