

NOISE SCREENING ASSESSMENT

on behalf of

PEEL HOLDINGS (LAND & PROPERTY) LTD

for the site at

ELTON RESERVOIR AREA (BURY)

REPORT DATE: MARCH 2019

REPORT NUMBER: 101516

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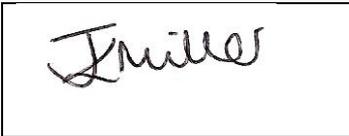
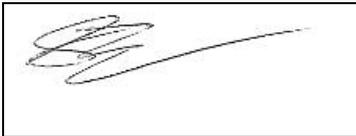
Summary

Miller Goodall Ltd (MG) has, on behalf of Peel Investments (North) Ltd, undertaken a desktop noise screening assessment to review the potential issues associated with noise on a proposed development of 558 acres at Elton Reservoir Area (Bury). The study has been undertaken to support the promotion of the land through the Greater Manchester Spatial Framework process.

The study concludes that noise should not be a barrier to residential development on the land except for the areas in close proximity to industrial areas or transport uses where additional mitigation may be required.

In relation to the impact of the development on the noise environment, information is limited and significance will need to be assessed via detailed modelling at a later date and mitigation measures considered.

Record of changes

Prepared By	Joanne Miller MIOA	Reviewed By	Colin Foster MIOA
Signed		Signed	
Date	March 2019	Date	March 2019

Version	Date	Change	Initials
1	March 2019	Draft issue	JLM

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1 Introduction

- 1.1 This noise report is submitted in support of a proposed housing allocation within the Greater Manchester Spatial Framework for a site located to the south west of Bury town centre known as Elton Reservoir Area (Bury). The site lies within the administrative boundary of Bury Council (BC).
- 1.2 The report provides a review of the existing noise sources in proximity to the proposed development site and assesses the potential impact of the proposed development on the local noise environment.
- 1.3 The external noise in urban areas is generally dominated by road traffic sources, along with industrial and commercial sources in some areas. Generally residential areas do not generate significant noise sources of concern.
- 1.4 Noise impacts need to be considered as part of the planning process both to ensure the new development does not create adverse noise impacts on existing receptors and also that new developments are not impacted by the existing noise sources.
- 1.5 An initial review of the area has been undertaken to determine noise sources and noise sensitive receptors and any potential key noise issues have been identified together with any additional work which may be required.

2 Site Description

- 2.1 The site is located in Elton Reservoir Area (Bury). The site location is shown outlined in red in Appendix 1.
- 2.2 The site is 226 ha in size and is located approximately 1.6 km to the south west of Bury town centre. It is primarily agricultural land with two reservoirs, Elton Reservoir and Withins Reservoir.
- 2.3 The site is bounded by Radcliffe to the south and Ainsworth to the north. The A58 runs through the northern section of the site. Existing dwellings and Ainsworth Road lie to the west of the site and Bury Road and the disused Manchester, Bolton and Bury Canal run along the eastern side of the site.
- 2.4 To the southern and eastern site boundary lies the Bury to Manchester Metrolink tram line.
- 2.5 The topography of the site is a gently undulating site, rising from South to North.

3 Proposed Development

- 3.1 The proposal is to develop the site for a residential community, with the potential to provide approximately 3400 new dwellings along with supporting infrastructure and facilities, including; new Metrolink stop, Park and Ride facilities, new schools and improvements in walking and cycling infrastructure routes.
- 3.2 This assessment seeks to review the potential for noise impacting on the proposed residential dwellings and assess the likelihood of noise from the new development impacting on existing noise sensitive properties.

4 Policy Context

4.1 Noise Policy Statement for England

4.1.1 The Noise Policy Statement for England (NPSE¹), published in March 2010, sets out the long-term vision of Government noise policy. The Noise Policy aims, as presented in this document, 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; and
- where possible, contribute to the improvement of health and quality of life.”

4.1.2 The NPSE makes reference to the concepts of NOEL (No Observed Effect Level) and LOAEL (Lowest Observed Adverse Effect Level) as used in toxicology but applied to noise impacts. It also introduces the concept of SOAEL (Significant Observed Adverse Effect Level) which is described as the level above which significant adverse effects on health and the quality of life occur.

4.1.3 The first aim of the NPSE is to avoid significant adverse effects, taking into account the guiding principles of sustainable development (as referenced in Section 1.8 of the Statement). The second aim seeks to provide guidance on the situation that exists when the potential noise impact falls between the LOAEL and the SOAEL, in which case:

“...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”.

4.1.4 Importantly, the NPSE goes on to state:

“This does not mean that such adverse effects cannot occur”.

4.1.5 The Statement does not provide a noise-based measure to define SOAEL, acknowledging that the SOAEL is likely to vary depending on the noise source, the receptor and the time in question. NPSE advises that:

“Not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available”

4.1.6 It is therefore likely that other guidance will need to be referenced when applying objective standards for the assessment of noise, particularly in reference to the SOAEL, whilst also taking into account the specific circumstances of a proposed development.

¹ Noise Policy Statement for England, Defra, March 2010

4.2 National Planning Policy Framework

4.2.1 The National Planning Policy Framework (NPPF²) initially published in March 2012, was updated in July 2018. One of the documents that the NPPF replaces is Planning Policy Guidance Note 24 (PPG 24) "Planning and Noise"³.

4.2.2 The revised NPPF advises that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives). One of these is an environmental objective which is described in par. 8 (c):

"to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy."

4.2.3 At par. 170 we are advised that:

"Planning policies and decisions should contribute to and enhance the natural and local environment by:

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans.

4.2.4 Par. 180 goes on to state:

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

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

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

² National Planning Policy Framework, Ministry of Housing, Communities and Local Government, July 2018

³ Planning Policy Guidance 24: Planning and Noise, DCLG, September 1994

4.3 Planning Practice Guidance – Noise

4.3.1 As of March 2014, a Planning Practice Guidance⁴ for noise was issued which provides additional guidance and elaboration on the NPPF. It advises that when plan-making and decision-taking, the Local Planning Authority should consider the acoustic environment in relation to:

- 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; and
- Whether or not a good standard of amenity can be achieved.

4.3.2 In line with the Explanatory Note of the NPSE, the PPG goes on to reference the LOAEL and SOAEL in relation to noise impact. It also provides examples of outcomes that could be expected for a given perception level of noise, plus actions that may be required to bring about a desired outcome. However, in line with the NPSE, no objective noise levels are provided for LOAEL or SOAEL although the PPG acknowledges 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”.

4.3.3 Examples of these factors include:

- The source and absolute noise level of the source along with the time of day that it occurs;
- Where the noise is non-continuous, the number of noise events and pattern of occurrence;
- The frequency content and acoustic characteristics of the noise;
- The effect of noise on 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.

4.3.4 The PPG also provides general advice on the typical options available for mitigating noise. It goes on to suggest that Local Plans may include noise standards applicable to proposed developments within the Local Authority's administrative boundary, although it states that:

“Care should be taken, however, to avoid these being implemented as fixed thresholds as specific circumstances may justify some variation being allowed”.

4.3.5 The PPG was amended in December 2014 to clarify guidance on the potential effect of noise from existing businesses on proposed new residential accommodation. Even if existing noise levels are intermittent (for example, from a live music venue), noise will need to be carefully considered and appropriate mitigation measures employed to control noise at the proposed accommodation.

⁴ Planning Practice Guidance – Noise, <http://planningguidance.planningportal.gov.uk/blog/guidance/noise/>, 06 March 2014

4.4 Greater Manchester Spatial Framework

4.4.1 In August 2014 the 10 Local Planning Authorities in Greater Manchester (Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Stockport, Tameside, Trafford and Wigan) agreed to prepare a joint Development Plan Document to set out the approach to housing and employment land across Greater Manchester for the next 20 years. This is known as the Greater Manchester Spatial Development Framework (GMSF).

4.4.2 Following election of the Mayor in May 2017 part of the GMSF may become the Spatial Strategy and part will remain a joint development plan document to be adopted by the resolution of the full Councils of all 10 authorities. The GMSF is looking to accommodate land for 200,000 jobs and provide over 227,000 new homes.

4.4.3 A 'Call for Sites' exercise was carried out in November 2015 following which a draft GMSF was published for consultation. The Elton Reservoir Area (Bury) is identified within the draft GMSF which states that the development of this site will need to:

- Provide a mix of housing across the site to diversify the type of accommodation in the Bury and Radcliffe areas; offering higher densities of development in areas of good accessibility and potential for improved public transport connectivity;
- Make provision for affordable housing in line with local planning policy requirements;
- Make provision for recreation to meet the needs of the prospective residents in accordance with locally-derived standards;
- Make provision for significant transport infrastructure to enable the proposed level of development to be accommodated. The scale of the development will require different access points, with the potential to provide a link road from north to the south of the site;
- There will be a requirement for major investment in public transport, with opportunities to provide a new Metrolink stop and park and ride facilities in order to serve the development and wider area;
- Make provision for new schools to meet the additional needs for arising from the development;
- Make provision for a large amount of new and upgraded multi-functional green infrastructure throughout the area, including the enhancement of the existing assets at Elton and Withins Reservoirs and the Manchester, Bolton and Bury Canal;
- Improve linkages and connections to adjoining communities, particularly those in Inner Radcliffe;
- Retain and enhance existing ecological assets and incorporate the creation of new habitats and wetland areas;
- Upgrade the recreation, leisure and tourism offer of the wider area;
- Enable more trips to be made by walking and cycling by retaining, extending and enhancing strategic recreation routes on the former Bury to Bolton railway line and beside the Manchester, Bolton and Bury Canal, together with improvements to the network of pedestrian and cycle routes and public rights of way across the site, facilitating new connections to surrounding urban areas; and
- Incorporate measures to mimic natural drainage through the use of green sustainable urban drainage to control the rate of surface water run-off.

4.5 Local Planning Policy

4.5.1 Bury Council has produced Development Control Policy Guidance Note 16 – Design and Layout of New Development in Bury⁵. The guidance promotes good design principle for new development within the Borough. In relation to noise the guidance at section 6a states:

- Promote compatible uses within developments and consider amenity issues such as noise and visual impact.

4.6 The adopted Bury Unitary Development Plan, dated 29th August 1997 has an Environment chapter 6, which states

EN7/2 - Noise Pollution

In seeking to limit noise pollution the Council will not permit:

- development which could lead to an unacceptable noise nuisance to nearby occupiers and/or amenity users;
- development close to a permanent source of noise.

5 Acoustic Standards and Guidance

5.1 BS 8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings

5.1.1 This standard provides recommended guideline values for internal noise levels within dwellings which are similar in scope to guideline values contained within the World Health Organisation (WHO) document, Guidelines for Community Noise (1999)⁶. These guideline noise levels are shown in Table 1, below.

Table 1: BS 8233: 2014 guideline indoor ambient noise levels for dwellings

Location	Activity	07:00 to 23:00	23:00 to 07:00
Living Room	Resting	35 dB $L_{Aeq,16hr}$	-
Dining room/area	Dining	40 dB $L_{Aeq,16hr}$	-
Bedroom	Sleeping (daytime resting)	35 dB $L_{Aeq,16hr}$	30 dB $L_{Aeq,8hr}$

5.1.2 BS 8233:2014 advises that:

⁵ Development Control Policy Guidance Note 16 – Design and Layout of New Development in Bury – October 2008

⁶ World Health Organisation Guidelines for Community Noise, 1999

“regular individual noise events...can cause sleep disturbance. A guideline value may be set in terms of SEL⁷ or L_{Amax,F} depending on the character and number of events per night. Sporadic noise events could require separate values”.

5.1.3 BS 8233:2014 adopts guideline external noise values provided in WHO for external amenity areas such as gardens and patios. The standard states that it is “desirable” that the external noise does not exceed 50 dB $L_{Aeq,T}$ with an upper guideline value of 55 dB $L_{Aeq,T}$ whilst recognising that development in higher noise areas such as urban areas or those close to the transport network may require a compromise between elevated noise levels and other factors that determine if development in such areas is warranted. In such circumstances, the development should be designed to achieve the lowest practicable noise levels in external amenity areas.

5.2 World Health Organisation (WHO) Guidelines for Community Noise 1999

5.2.1 The WHO Guidelines 1999 recommends that to avoid sleep disturbance, indoor night-time guideline noise values of 30 dB L_{Aeq} for continuous noise and 45 dB L_{AFmax} for individual noise events should be applicable. It is to be noted that the WHO Night Noise Guidelines for Europe 2009⁸ makes reference to research that indicates sleep disturbance from noise events at indoor levels as low as 42 dB L_{AFmax} . The number of individual noise events should also be taken into account and the WHO guidelines suggest that indoor noise levels from such events should not exceed approximately 45 dB L_{AFmax} more than 10 – 15 times per night.

5.2.2 The WHO document recommends that steady, continuous noise levels should not exceed 55 dB L_{Aeq} on balconies, terraces and outdoor living areas. It goes on to state that to protect the majority of individuals from moderate annoyance, external noise levels should not exceed 50 dB L_{Aeq} .

5.3 BS 4142: 2014 ‘Methods for rating and assessing industrial and commercial sound’

5.3.1 BS 4142: 2014⁹ provides guidance on the assessment of the likelihood of complaints relating to noise from industrial sources. It replaced the 1997 edition of the Standard in October 2014. The key aspects of the Standard are summarised below.

5.3.2 The standard presents a method of assessing potential noise impact by comparing the noise level due to industrial sources (the Rating Level) with that of the existing background noise level at the nearest noise sensitive receiver in the absence of the source (the Background Sound Level).

5.3.3 The Specific Noise Level - the noise level produced by the source in question at the assessment location - is determined and a correction applied for certain undesirable acoustic features such as tonality, impulsivity or intermittency. The corrected Specific Noise Level is referred to as the Rating Level.

5.3.4 In order to assess the noise impact, the Background Sound Level is arithmetically subtracted from the Rating Level. The standard states the following:

⁷ Sound exposure level or L_{AE}

⁸ WHO Night Noise Guidelines for Europe 2009

⁹ BS 4142:2014 Methods for rating and assessing industrial and commercial sound

- Typically, the greater this difference, the greater the magnitude of the impact,
- A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context,
- A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context,
- The lower the Rating Level is relative to the measured Background Sound Level, the less likely it is that the specific sound source will have an adverse impact or a significant 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.

5.3.5 In addition to the margin by which the Rating Level of the specific sound source exceeds the Background Sound Level, the 2014 edition places emphasis upon an appreciation of the context, as follows:

An effective assessment cannot be conducted without an understanding of the reason(s) for the assessment and the context in which the sound occurs/will occur. When making assessments and arriving at decisions, therefore, it is essential to place the sound in context.

5.3.6 The 2014 edition of BS 4142 also introduces a requirement to consider and report the uncertainty in the data and associated calculations and to take reasonably practicable steps to reduce the level of uncertainty.

6 Impact of Existing Noise Sources on the Development

6.1 Noise Mapping

6.1.1 Environmental noise mainly consists of noise from transport sources, such as road, rail and aviation. Department for Environment, Food and Rural Affairs (DEFRA) is responsible for creating noise maps and drawing up Action Plans under the Environmental Noise (England) Regulations 2006 (as amended), which requires Defra to:

- adopt noise maps which show people's exposure to environmental noise;
- adopt action plans based on the results of noise mapping
- aims to preserve environmental noise quality where it is good; and
- provides information to the public on environmental noise and its effects.

6.1.2 The Elton Site is within the Agglomeration for Greater Manchester. Examination of the noise map for this area, provided in Appendix 2 shows that the only potential rail transport noise source which has been identified is close to the southern boundary of the site along the Metrolink tram line. It also predicts that the only area of the site that will be affected by road traffic noise is a small portion of the site along Bury and Bolton Road.

6.2 Road Traffic Noise

6.2.1 The main existing road traffic noise source which has the potential to impact on the site is from the A58 Bolton Road. Existing properties lie adjacent to the A58, however this is a busy road and a further assessment would be needed to ensure that National noise standards are not exceeded.

6.3 Railway Noise

- 6.3.1 To the east of the site lies the Metrolink tram line. This line is an electrified line running between 06:00 and 23:00 Monday to Thursday, 06:00 and 00:30 Friday and Saturday and 07:00 to 22:30 Sundays.
- 6.3.2 The line does not have any heavy freight running along it. There are also densely populated residential areas located close to the railway line, suggesting that housing should not be prohibited from this area.
- 6.3.3 Given the risk, as part of the submission for housing a further detailed assessment of noise and vibration from this source shall be undertaken.

6.4 Industrial Noise

- 6.4.1 Appendix 3 provides the locations of the industrial and commercial noise sources identified during the noise screening assessment.
- 6.4.2 The main industrial areas which have the potential to impact on the development site have been identified from a desktop Internet search and drive around the site during the week commencing 10th April 2017. The sources identified are detailed in Table 2 below.

Table 2: Industrial Sources with potential to impact on the site

Identity No.	Location	Name of Site	Type of Operation	Types of Noise Sources
1	Wellington Street, Bury	RTK Grab Hire	Hire of plant and equipment	Machinery noise
2	Wellington Street, Bury	Rota Engineering	Industrial manufacturing process	Industrial manufacturing noise
3	Wellington Street, Bury	Rakem	Industrial manufacturing process	Industrial manufacturing noise
4	Wellington Street, Bury	Airmatic	Industrial manufacturing process	Industrial manufacturing noise
5	Wellington Street, Bury	Failsworth Training Services	Training of plant and machinery for construction industry	Impact noise, use of power tools
6	Wellington Street, Bury	Vactech Engineering Ltd	Industrial manufacturing process	Industrial manufacturing noise

Identity No.	Location	Name of Site	Type of Operation	Types of Noise Sources
7	Warth Business Centre, Warth Road, Bury	Viridor Waste Management	Waste management site	Forklift trucks, plant, machinery and HGV deliveries
8	Warth Business Centre, Warth Road, Bury	Mintech Spares UK Limited	Car servicing, Mot, breakers yard	Impact noise, use of power tools
9	Warth Business Centre, Warth Road	Aggregate Process	Storage and distribution of aggregates	Machinery noise externally, possibly plant noise
10	Bury Road, Radcliffe	Cocklestorm Fencing Company	Retail of fencing, sheds and garden building material	Forklift trucks and HGV deliveries
11	Brookbottom Road, Radcliffe	Doffer Fold Farm	Farm Buildings	Machinery associated with farm buildings
12	Brookbottom Road, Radcliffe	Old Hall Farm	Farm Buildings	Machinery associated with farm buildings
12	Woos Nab Farm, Bury	Woos Nab Farm	Farm Buildings	Machinery associated with farm buildings
13	Off Bury Road, Radcliffe	Crow Trees Farm	Farm Buildings	Machinery associated with farm buildings
14	Higher Ainsworth Road, Radcliffe	Ashworth	Distributors of building services and process industry for Building suppliers and process	Forklift trucks and HGV deliveries
15	Higher Ainsworth Road, Radcliffe	Frazer	Distributors of civils and utilities	Forklift trucks and HGV deliveries
16	Bury Road, Ainsworth	149 Bury Road	Farm buildings	Machinery associated with farm buildings
17	Street Lane, Ainsworth	Pilkington Fold Farm	Farm buildings	Machinery associated with farm buildings

Identity No.	Location	Name of Site	Type of Operation	Types of Noise Sources
18	Starling Road, Ainsworth	Gorse Hill Farm	Farm buildings	Machinery associated with farm buildings

6.4.3 A detailed noise assessment has not been undertaken in relation to these noise sources and consequently a noise assessment would be prepared and submitted alongside future applications to consider these sources in more detail.

6.5 Commercial Noise and Entertainment Noise

6.5.1 Table 3 details the commercial and entertainment noise sources identified located around the development site from a desktop Internet search and drive around the area during the week commencing 10th April 2017.

Table 3: Location and description of Commercial and Entertainment Noise sources

Identity No.	Location	Name of Site	Type of Operation	Types of Noise Sources
19	Starling Road, Ainsworth	The Ainsworth Arms	Public House	Noise from music, external eating and seating and patrons visiting the public house
20	Bury and Bolton Road, Ainsworth	Former Jolly Carters Public House	Public House (demolished)	Currently demolished, future use of site currently unknown
21	Elton Reservoir, Bury	Elton Sailing Club	Sailing club	Potential noise from patrons using the club and facilities
22	Cygnets Hospital Bury, Buller Street, Bury	Cygnets Hospital Bury	Hospital	Plant and equipment, emergency vehicles and sirens.
23	Sprint Lane, Radcliffe	Radcliffe Leisure Centre	Leisure facility	Sports facilities and plant and machinery

6.5.2 A detailed noise assessment has not been undertaken in relation to these noise sources and consequently these potential noise sources would be considered as part of a noise assessment prepared and submitted alongside future applications.

7 Impact of Noise from the Proposed Development

7.1 Transport Noise

- 7.1.1 New residential development and infrastructure developments of this size will result in additional vehicles on the local road network. At this stage traffic data is not available to allow an assessment to evaluate the extent of noise increase as a result of this development. If there are any roads with a 25% increase in traffic flow this may necessitate the requirement for a detailed noise assessment.
- 7.1.2 Noise impacts from the new infrastructure projects will need to be considered in terms of their noise impact as more information becomes available.

7.2 Construction Noise and Vibration Impacts

- 7.2.1 It is common for the control of construction noise, vibration and dust emission to be addressed by the application of Best Practicable Means (BPM) and detailed within a Construction and Environmental Management Plan (CEMP). The impact of construction noise from a development of this size is likely to be the main noise impacting on existing noise sensitive receptors, albeit over a relatively short period of time.
- 7.2.2 Prior to commencement of works, a quantitative noise impact assessment using guidance in BS 5228¹⁰ on site may also be required but in our experience is usually unnecessary, unless there are nearby high risk or noise sensitive receptors, provided a robust CEMP is in place and agreed upon by the Local Authority.
- 7.2.3 Bury Council are likely to have their own recommended wording for planning conditions relating to the control of noise and vibration from construction works but an example condition is provided in Appendix 4 for reference.

7.3 New Commercial and Educational developments

- 7.3.1 Any new commercial, retail and educational developments will need to be considered as part of the planning application for the site. The likely noise sources from these areas will need detailed prediction to ensure their impact is not significant on existing or future residential uses.
- 7.3.2 Good acoustic design incorporated at an early stage in the development of the site will help to reduce the impact of existing noise on these sources along with protecting existing noise sensitive receptors.

7.4 Protecting areas from increased noise.

- 7.4.1 The NPPF recommends protecting areas of tranquillity and areas prized for their recreational and amenity value. Table 4 identifies areas which it is felt meets this criteria.

¹⁰ BS 5228 Noise and Vibration Control on Construction and Open Sites - Part 1: Noise: 2009+A1:2014

Table 4: Locations where noise should be protected

Identity No.	Name of Site	Type of Operation	Reason
24	East Lancashire Crematoria, Cemetery Road	Crematoria and grave yard	Protect the use of the site
25	Elton Reservoir	Public open space	Protect the public open space
26	Manchester, Bolton and Bury Canal	Public open space	Protect the public open space

7.4.2 The use of good acoustic design would enable the site to be developed to protect the identified tranquil areas. This would be considered as part of the noise assessment submitted to support the planning application.

8 Summary and Conclusions

8.1 A noise screening assessment has been undertaken to identify any potential noise sources which are likely to have an impact on the development of a site for a significant housing and infrastructure development. The information indicates that the impact of noise would not be a barrier to residential development on most of the land under consideration.

8.2 It is recommended that;

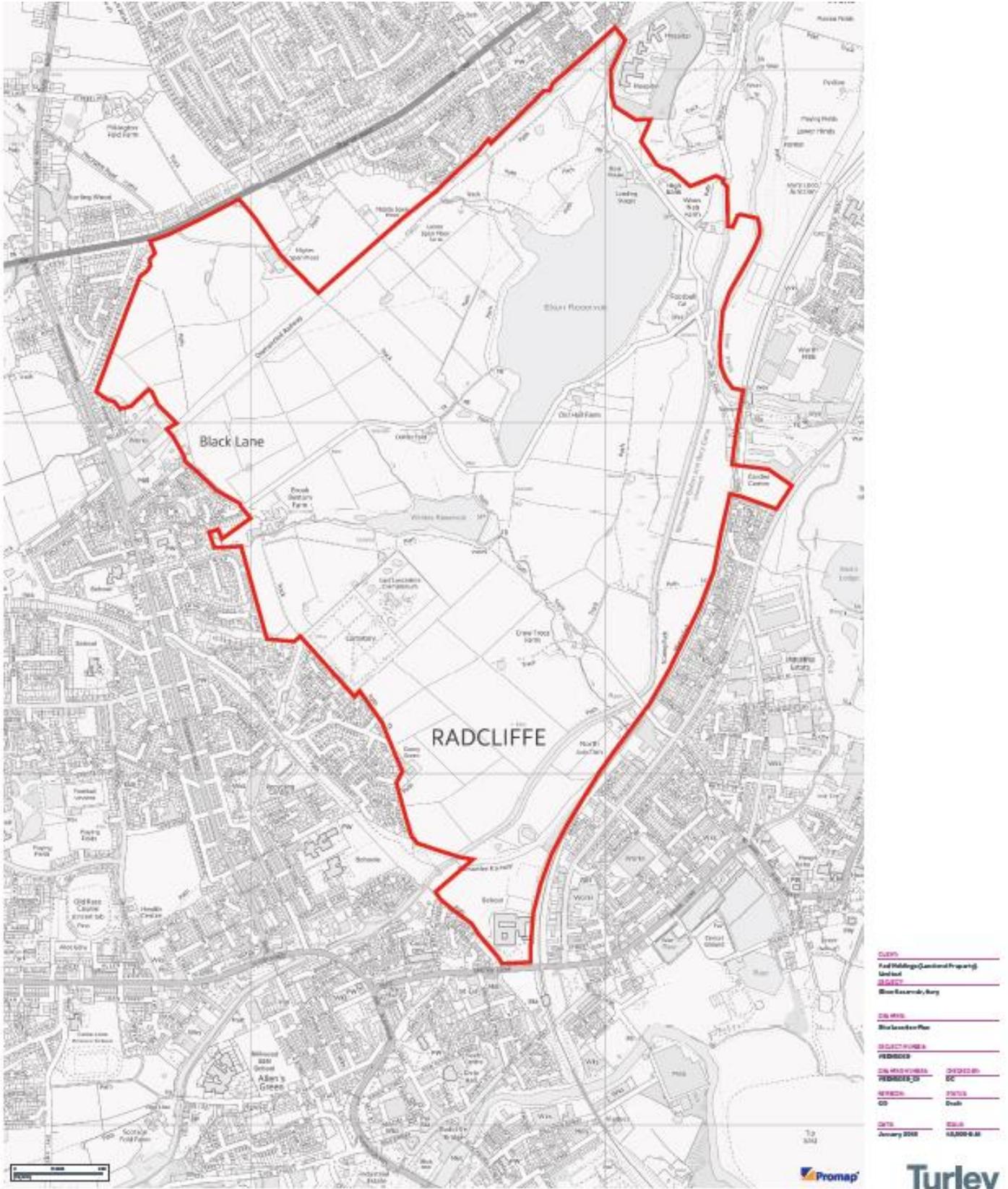
- Noise from transportation sources around the site would need to be considered as part of the detailed masterplan for the site and considered as part of the planning submission which is likely to require an Environmental Impact Assessment.
- Noise from industrial and commercial sources located around the periphery of the site would need to be assessed in more detail as part of a detailed planning submission for the site.
- There are areas within the site and located close to the site which are considered tranquil areas and careful design of the masterplan should aim to protect the noise environment at these locations.

8.3 An assessment of the impact of the development in terms of noise from; transport, new infrastructure, construction noise and commercial and retail sources would need to be assessed as part of the planning submission for the application site. Good acoustic design should be considered as part of the development of the masterplan to protect existing noise sensitive receptors.

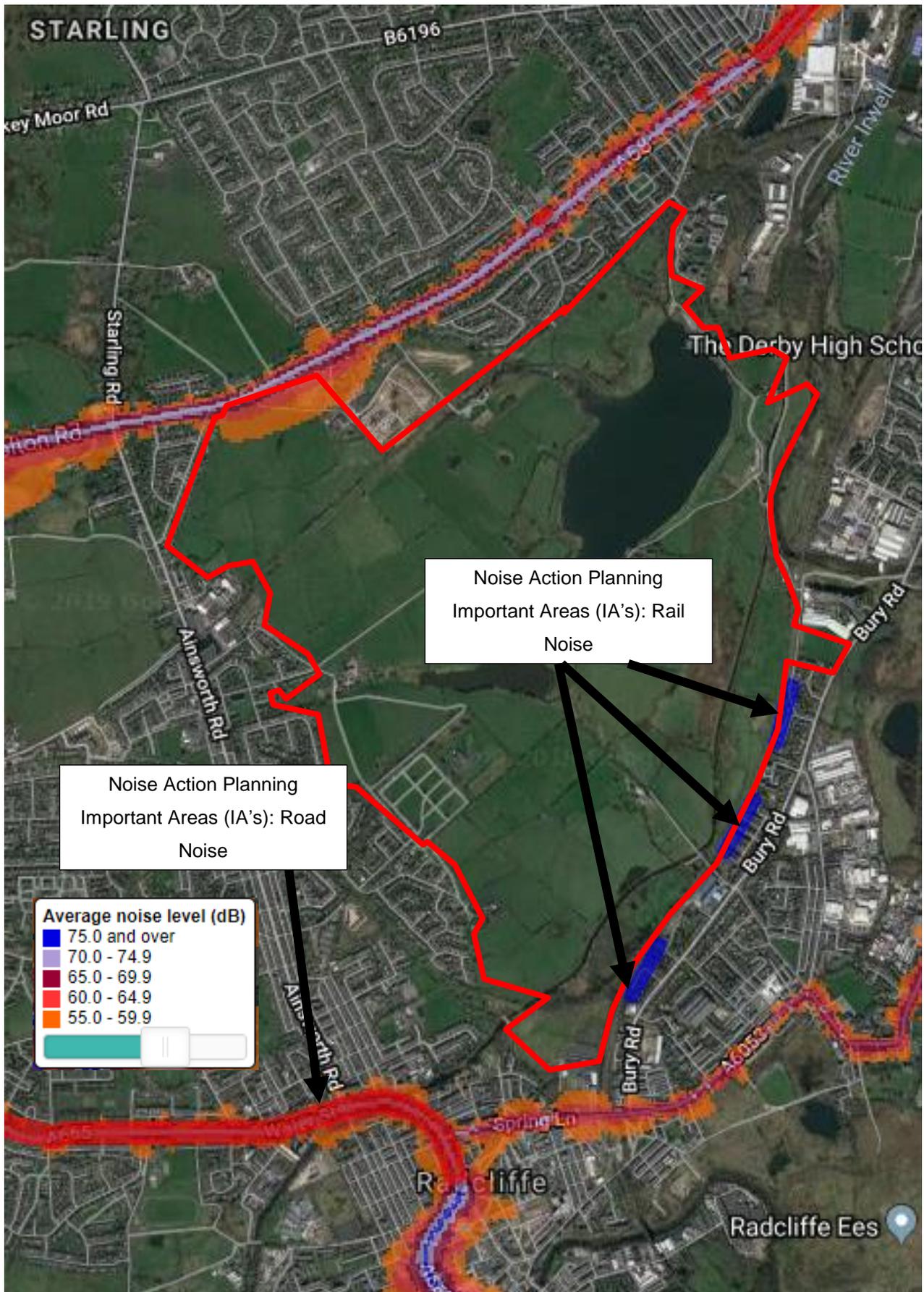
APPENDICES

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Appendix 1: Site Outline



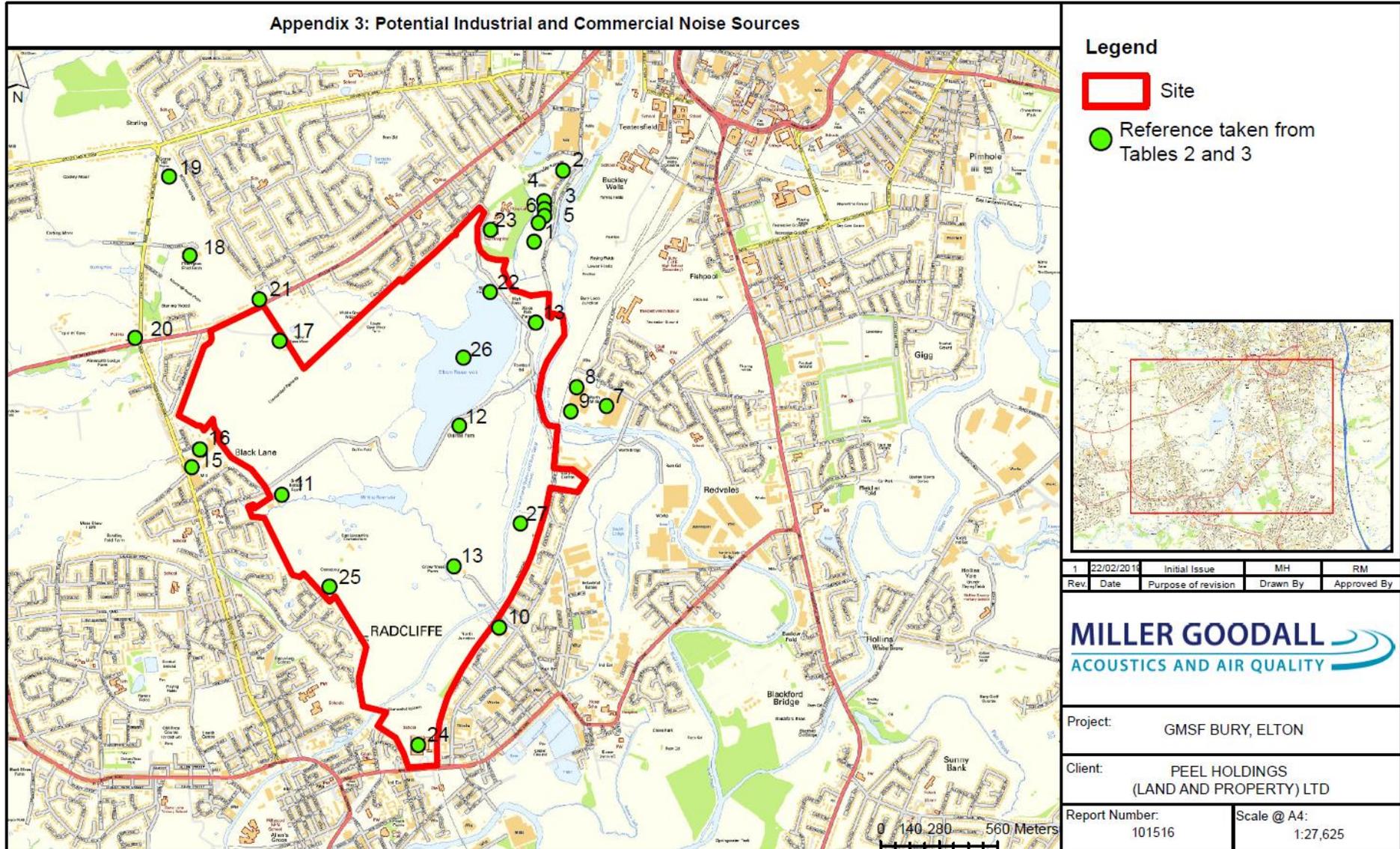
Appendix 2A: DEFRA Noise Mapping for the Area Daytime ($L_{Aeq,16hour}$)



Appendix 2B: DEFRA Noise Mapping for the Area Night-Time ($L_{Aeq,8hour}$)



Appendix 3: Potential Industrial and Commercial Noise Sources



Legend

- Site
- Reference taken from Tables 2 and 3



1	22/02/2016	Initial Issue	MH	RM
Rev.	Date	Purpose of revision	Drawn By	Approved By

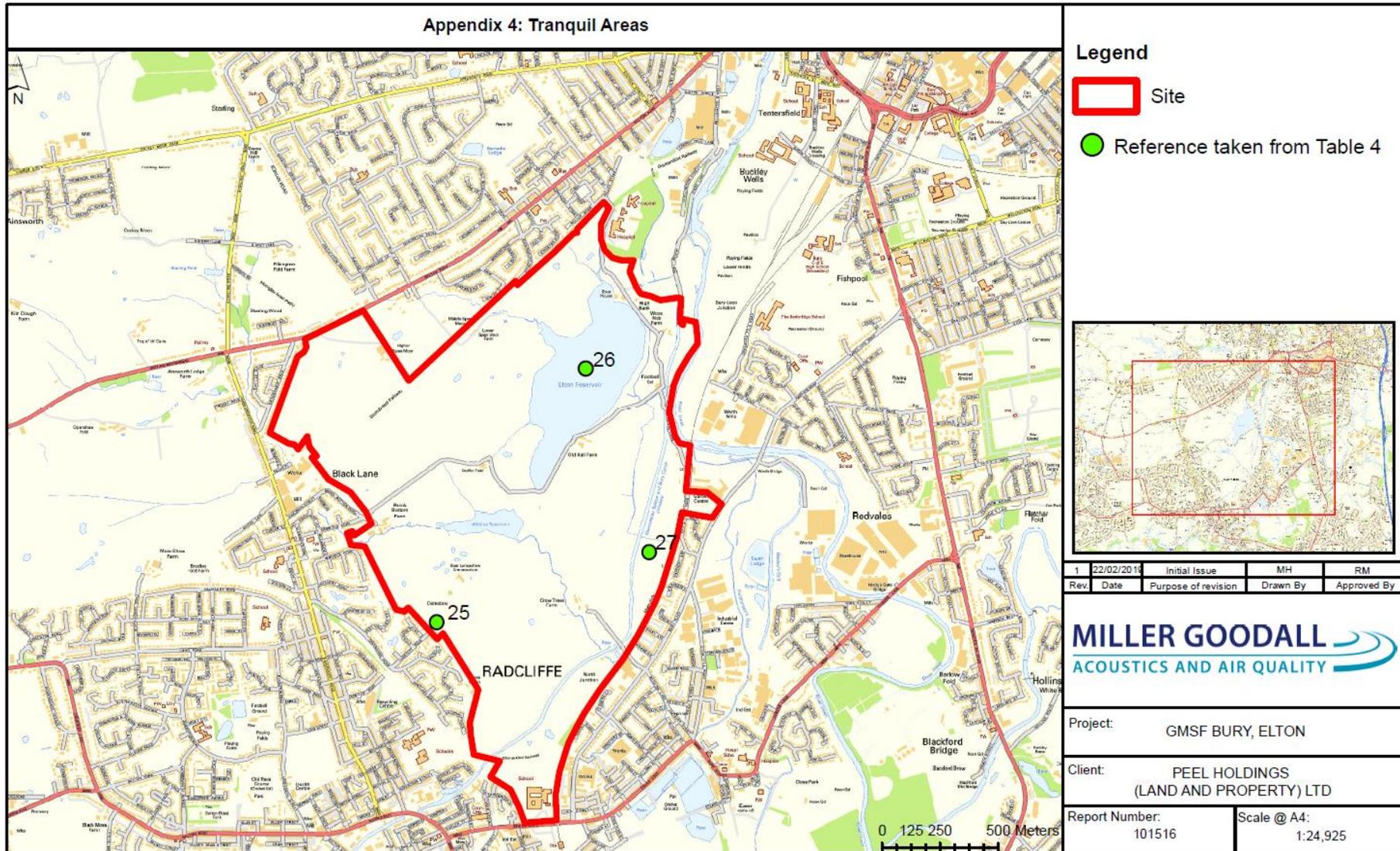


Project: GMSF BURY, ELTON

Client: PEEL HOLDINGS (LAND AND PROPERTY) LTD

Report Number: 101516 Scale @ A4: 1:27,625

Appendix 4: Tranquil Areas



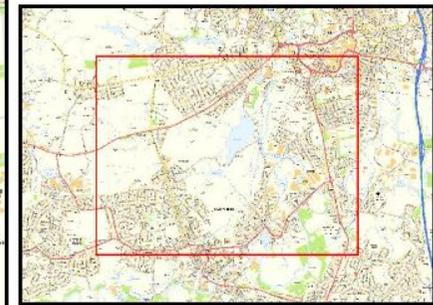
Legend



Site



Reference taken from Table 4



1	22/02/2014	Initial Issue	MH	RM
Rev.	Date	Purpose of revision	Drawn By	Approved By

MILLER GOODALL
ACOUSTICS AND AIR QUALITY

Project: GMSF BURY, ELTON

Client: PEEL HOLDINGS
(LAND AND PROPERTY) LTD

Report Number:
101516

Scale @ A4:
1:24,925

Glossary of Terms

- Decibel (dB)** The unit used to quantify sound pressure levels; it is derived from the logarithm of the ratio between the value of a quantity and a reference value. It is used to describe the level of many different quantities. For sound pressure level the reference quantity is 20 μPa , the threshold of normal hearing is in the region of 0 dB, and 140 dB is the threshold of pain. A change of 1 dB is usually only perceptible under controlled conditions.
- dB L_A** Decibels measured on a sound level meter incorporating a frequency weighting (A weighting) which differentiates between sounds of different frequency (pitch) in a similar way to the human ear. Measurements in dB L_A broadly agree with an individual's assessment of loudness. A change of 3 dB L_A is the minimum perceptible under normal conditions, and a change of 10 dB L_A corresponds roughly to halving or doubling the loudness of a sound. The background noise level in a living room may be about 30 dB L_A ; normal conversation about 60 dB L_A at 1 meter; heavy road traffic about 80 dB L_A at 10 meters; the level near a pneumatic drill about 100 dB L_A .
- $L_{A90,T}$** The A weighted noise level exceeded for 90% of the specified measurement period (T). In BS 4142: 1997 it is used to define background noise level.
- $L_{Aeq,T}$** The equivalent continuous sound level. The sound level of a notionally steady sound having the same energy as a fluctuating sound over a specified measurement period (T). $L_{Aeq,T}$ is used to describe many types of noise and can be measured directly with an integrating sound level meter.
- L_{Amax}** The highest A weighted noise level recorded during the time period. It is usually used to describe the highest noise level that occurred during the event.
- NOEL** No observed effect level: the level of noise exposure below which no effect at all on health or quality of life can be detected.
- LOAEL** Lowest observed adverse effect level: the level of noise exposure above which adverse effects on health or quality of life can be detected.
- SOAEL** Significant observed adverse effect level: the level of noise exposure above which significant adverse effects on health or quality of life can be detected.

