



# The Sizewell C Project

## 9.10.12 Statement of Common Ground - East Suffolk Council and Suffolk County Council Appendix 11B: SZC Co.'s Second Set of LPA Request for Information Responses

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Revision: 1.0  
Applicable Regulation: Regulation 5(2)(q)  
PINS Reference Number: EN010012

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September 2021

Planning Act 2008  
Infrastructure Planning (Applications: Prescribed  
Forms and Procedure) Regulations 2009



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SIZEWELL C PROJECT  
SZC CO.'S SECOND SET OF LPA RFI RESPONSES

**NOT PROTECTIVELY MARKED**

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## **APPENDICES**

APPENDIX A: AJA TECHNICAL NOTE M006

APPENDIX B: AJA TECHNICAL NOTE M007

APPENDIX C: JUNE/JULY 2019 PRESENTATION

**NOT PROTECTIVELY MARKED**

## 1 INTRODUCTION

1.1.1 This paper sets out SZC Co.'s second set of responses to the requests for information (RfIs) raised by Adrian James Associates (AJA), on behalf of East Suffolk Council (ESC) and Suffolk County Council (SCC).

1.1.2 The points were raised in two AJA technical memoranda:

- 'SZC Noise and Vibration – Further Requests for Clarification' dated 26<sup>th</sup> May 2021 (reference 12804 M006), referred to in this paper as '*AJA technical note M006*' and included as Appendix A.
- 'SZC Noise and Vibration – Further Requests for Clarification' dated 23<sup>rd</sup> July 2021 (reference 12804 M007), referred to in this paper as '*AJA technical note M007*' and included as Appendix B.

1.1.3 SZC Co's first set of responses, covering AJA technical memoranda M004 and M005, was submitted to the Examination at Deadline 5 as **Appendix 11A** of the **Statement of Common Ground between SZC Co. and ESC and SCC** [[REP3-031](#)].

## 2 TECHNICAL MEMORANDUM M006

### 2.1 Main Development Site

#### a) Operation

*'Request for information 24 – ESC previously asked (RFI 23) what specific mitigation is proposed to protect amenity and recreation (A&R) receptors from MDS construction noise. The same question applies to the operational phase of the MDS – what specific mitigation measures are proposed to protect A&R receptors from operational noise?'*

2.1.1 As set out in **Volume 2, Chapter 15** of the **ES** [APP-267], significant adverse effects are expected at Receptor Group 12 and Receptor Group 13 once the power station is operational.

2.1.2 **Paragraphs 15.6.238 to 15.6.241** in **Volume 2, Chapter 15** of the **ES** [APP-267] set out the reasons for the significant adverse effect at Receptor Group 12, where sea defence changes, the narrowing of accessible coast and changes to the views were all contributory factors along with the change in tranquillity from good to fairly tranquil within 1km of the power station.

2.1.3 Similarly, **paragraphs 15.6.242 to 15.6.245** in **Volume 2, Chapter 15** of the **ES** [APP-267] set out the reasons for the significant adverse effect at Receptor Group 13, where the closure of a permissive footpath is a key cause of the magnitude of the effect, although it is not the sole cause; the expected changes in the views and the change in tranquillity from good to tranquil are also relevant.

2.1.4 While the tranquillity in each instance is a relevant factor in the identified significant adverse effects, it is the cumulative combination of the changes that lead to the assessments of significant adverse effects, and no specific mitigation measures are proposed to address the change in tranquillity at these two receptor groups.

### 2.2 Park and Ride Sites

#### b) Construction/Reinstatement

*'Request for information 25 – During construction of the Northern Park and Ride site, significant adverse effects are predicted at 4 receptors during each construction phase, and at other receptors during most phases of construction. However, most of these effects are predicted on Saturdays between 13:00-19:00hrs, when more stringent construction noise criteria apply. Some significant adverse effects are*

*predicted at some receptors during core weekday/Saturday morning hours but are more sporadic.*

*The Applicant states (Bk6, Vol3, Ch4, Para 4.6.17) that exceedance of SOAEL will be avoided by scheduling the noisiest activities away from the most sensitive times of day, or otherwise through the provision of noise insulation via the Noise Mitigation Scheme. However, the most effective way of avoiding the vast majority of all predicted significant adverse effects/exceedances of SOAEL would be to avoid scheduling any construction (or at least significant noise-generating construction activities) on Saturday afternoons. AJA consider it unlikely that Saturday afternoon construction will be critical to the timely construction of this site, and request that The Applicant explains why this construction period is essential when associated adverse noise effects would be so significant.'*

2.2.1 The ExA has asked a similar question at NV.2.1 in its second set of questions [[PD-036](#)]. A full answer will be submitted at Deadline 7 in response to NV.2.1.

**'Request for information 26** – *The Applicant states (Bk6, Vol3, Ch4, Para 4.6.17) that significant effects are deemed to occur where the relevant criteria are exceeded for:*

- *“10 or more days or nights in any 15 consecutive days or nights; or*
- *a total number of days or nights exceeding 40 in any 6 consecutive months.”*

*It is unclear how this test has been or would be applied with respect to construction periods which do not occur every day, such as Saturdays 13:00-19:00hrs. Clearly, where a construction work period occurs only once a week, it makes it very unlikely (if not impossible) to meet this condition. However, in AJA's view this does not mean that significant adverse effects could/would not occur during these periods and this is reflected in the assessment outcomes.*

*Can the Applicant please provide some explanation of how non-daily work periods were assessed in accordance with this test? This query is raised in relation to construction of the Northern Park and Ride site but applies to all construction across the development where non-daily work periods are proposed, including where the Noise Mitigation Scheme might otherwise apply without the caveat.'*

2.2.2 The wording quoted in RfI 26 is taken directly and verbatim from British Standard 5228: 2009+A1: 2014 [Ref 1] and is widely used in exactly the way applied by SZC Co.

2.2.3 However, SZC Co. recognises that where construction works extend beyond typical construction weekday and Saturday morning working hours, the application of the criteria to periods that occur once a week may be unclear.

2.2.4 To overcome this, the version of the **Noise Mitigation Scheme** [REP6-015] submitted at Deadline 6 adopted the following wording:

*'(2) an exceedance of (1) where:*

*(a) the exceedance is predicted to occur on 10 or more days of working in any 15 consecutive days or on a total number of days exceeding 40 in any 6 consecutive months; or*

*(b) where the exceedance occurs only on a Saturday or Sunday, it is predicted to occur on 2 weekends, or part thereof, in any 15 consecutive days or on 6 weekends, or part thereof, in any 6 consecutive months.'*

2.2.5 SZC Co. consider that this revised wording overcomes the issue identified in the RfI26.

c) **Operation**

*'Request for information 27 – Mechanical plant noise emissions from both P&R sites cannot currently be assessed because the design and specifications are unknown. Instead all plant serving these sites will be designed and specified not to exceed a cumulative operational noise limit of 35 dB L<sub>Ar</sub> at the nearest human receptors. ESC understands this approach and supports the 35 dB L<sub>Ar</sub> noise limit, but request that The Applicant clarifies how this would be secured, considering that there is currently no assessment to indicate how difficult this noise limit is likely to be to achieve in practice.'*

2.2.6 The selection of appropriate plant at the two park and ride sites to achieve the stated target noise levels is secured through the **Associated Developments Design Principles** [REP2-041], which is itself secured through Requirement 20(3) of the draft DCO [REP5-029]. The relevant references can be found at:

- Item 6 under 'Building Design Principles' in Table 3.1 for the northern park and ride site [REP2-041]; and
- Item 6 under 'Building Design Principles' in Table 3.2 for the southern park and ride site [REP2-041].

2.2.7 It is not unusual for a project to set noise limits for fixed building services plant in advance of details being available. If ESC supports the stated limit,

and SZC Co. commits to achieve that limit in the way described, then the outcome is acceptable and the necessary protection is secured.

- 2.2.8 Should ESC require certainty that the plant noise limits set out in the submitted assessments for the Associated Development sites are explicit commitments, then the Building Design Principles documents can be amended.

***'Request for information 28 – Queries regarding two of the baseline noise monitoring positions adopted for the Southern Park and Ride operational noise assessment:***

*Position PRS1 is intended to represent the nearest residential receptors in Hacheston village. However, the Noise and Vibration Baseline Report (Bk6, Vol2, Ch11) shows that this position only 1-2m from the edge of the B1116 carriageway. This is a relatively busy road linking the A12 with Framlingham and is also just outside the 30mph zone so southbound vehicles are typically accelerating away from Hacheston at this spot.*

*However, by comparison the nearest receptors are set back at least 18-20m from the road. Not only this but it will be the south/east façades of these dwellings which are facing and most exposed to noise from the park and ride site, and these façades would be at least partly screened from road noise. For these reasons we consider it unlikely that this monitoring position is representative of the nearest receptors in Hacheston.*

*Position RT14 (and by extension Noise Receptor Location C) are apparently intended to represent the nearest residential receptors in the village of Marlesford. However, this monitoring position is directly adjacent to the A12 and there are relatively few dwellings there in comparison to the main settlement of Marlesford. The main village of Marlesford is situated approximately 550m to the north, and ambient noise levels in the village are likely to be significantly lower than at Position RT 14 due to the increased distance and other environmental effects (ground absorption, landscape screening).*

*For these reasons we consider it unlikely that this monitoring position is representative of the nearest receptors in the main settlement of Marlesford.*

*It is very important that monitoring positions are representative of receptor positions because the construction noise assessment methodology requires an understanding of the prevailing ambient noise level. ESC request that The Applicant carries out additional measurements at more representative locations to validate the assessment, and/or provides otherwise satisfactory technical explanation of why additional measurements are not required. For*



*Marlesford, a more representative location is likely to be much further from the A12, for the reasons outlined in RFI 29, below.'*

- 2.2.9 The main purpose of the monitoring was to evaluate roadside levels in these locations at that time and this is what was achieved. The monitoring locations were selected and informally discussed with ESC in 2013/14, although these discussions were not minuted.
- 2.2.10 No measurements were taken in Marlesford village away from the A12 as the reduction due to topography and distance (between the boundary of the site at that time and Marlesford) was such that no adverse effects were expected. The village of Marlesford, as described in AJA technical note M006 is outside of the study area and so no assessment of effects has been made there.
- 2.2.11 The existing ambient levels at receptors in the vicinity were taken from modelled noise levels, as set out in **section 4.4 of Volume 4, Chapter 4** of the **ES [APP-384]**. These levels are considered to provide a reasonable basis for the assessment.
- 2.2.12 For Hacheston, the assessment of construction noise takes account of the baseline ambient noise levels set out in **Table 4.15 in Volume 4, Chapter 4** of the **ES [APP-384]**, which are calculated values based on road traffic noise levels. The baseline ambient noise levels adopted for the assessment of construction noise, as shown in **Table 4.15**, are considerably lower than the measured values set out in **Table 4.14 in Volume 4, Chapter 4** of the **ES [APP-384]**.
- 2.2.13 Should further measurements at the receptor locations be undertaken under the 'Noise Monitoring and Management Plan' that will be adopted for the works, and these further measurements demonstrate that the baseline ambient noise levels are lower than the values set out in **Table 4.15** by 3dB or more, the assessment of construction noise set out in **Table 4.16** and **Table 4.17** of in **Volume 4, Chapter 4** of the **ES [APP-384]** would find that the outcomes are minor adverse effects rather than negligible. In both instances, the effect is not significant in an EIA context.

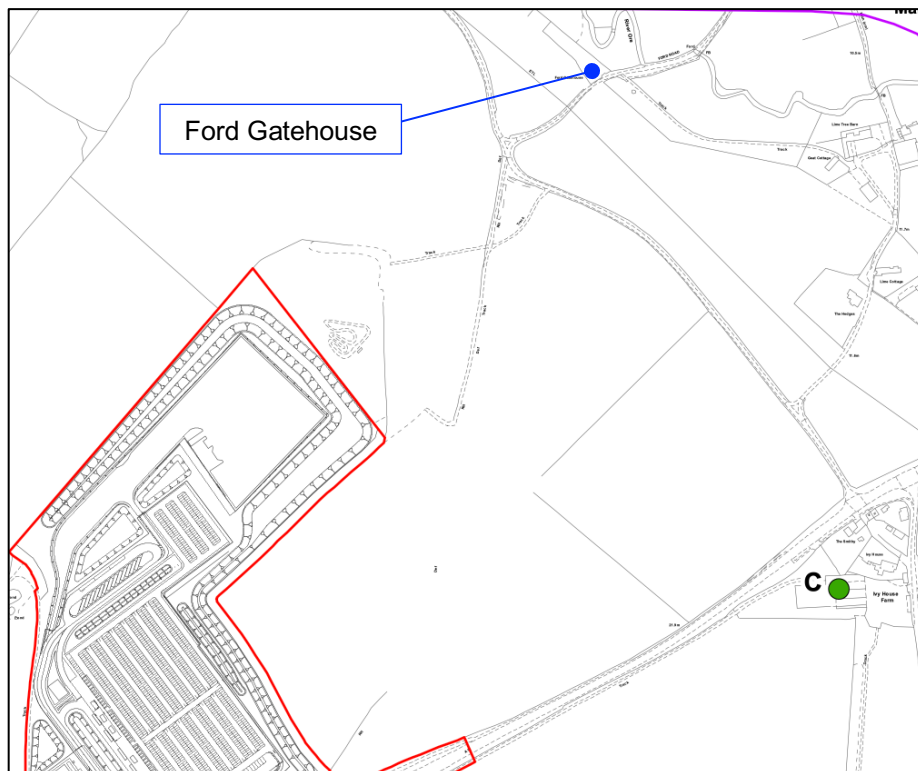
*'Request for information 29 – This query is closely related to the second part of RFI 28. Receptor C at the Southern Park Ride Site is apparently intended to represent the village of Marlesford. However, as shown in Figure 3 this receptor location (and the associated baseline monitoring position RT14) is relatively close to the A12 and the main settlement of Marlesford is actually situated more than 500m away to the north.*

*Receptor C does not represent the nearest receptor in Marlesford.*

*The nearest residential property to the east would be Ford Gatehouse, Ford Road, as circled in red in Figure 5. This property is closer to the east site boundary than any properties in the vicinity of 'Receptor C' and ambient noise levels on Ford Road will be much lower than adjacent to the A12 (so will require additional baseline measurements per RFI 28). ESC therefore request that The Applicant provides an updated assessment which includes Ford Gatehouse on Ford Road to the east, circled in red.'*

- 2.2.14 The predicted levels at the closest receptor in Marlesford are expected to be similar to those at Receptor C, and consequently the effects would be either 'negligible' or 'minor', depending on ambient noise levels; in either case, the effects would not be significant in an EIA context.
- 2.2.15 To demonstrate this, additional calculations have been undertaken to determine the construction noise levels for each phase of works at Ford Gatehouse, Ford Road. The existing daytime ambient noise level at the receptor can be determined from **Volume 4, Figure 4.3** of the **ES [APP-386]**, which suggests a level of approximately 46 to 47dB.
- 2.2.16 The receptor location is shown in Figure 2.1.

**Figure 2.1: Receptor at Ford Gatehouse, Ford Road**



2.2.17 The predicted construction noise levels and effects for Ford Gatehouse are shown in Table 2.1, for the same five phases of work set out in **Volume 4, Chapter 4** of the **ES** [APP-384]. The assessment of effects is based on a baseline ambient noise level of 46dB and takes account of the partial screening offered by the intervening topography between the receptor and the site.

**Table 2.1: Predicted construction noise levels and effects at Ford Gatehouse, Ford Road (free-field  $L_{Aeq,day}$  values)**

| Enabling Works, Earthworks and Excavation | Parking and Circulation Routes | Utilities and Building Construction | Final Surfacing             | Removal and Reinstatement      |
|-------------------------------------------|--------------------------------|-------------------------------------|-----------------------------|--------------------------------|
| 44                                        | 46                             | 40                                  | 42                          | 52                             |
| Negligible, not significant               | Minor adverse, not significant | Negligible, not significant         | Negligible, not significant | Minor adverse, not significant |

2.2.18 It can be seen from Table 2.1 that the effects would be regarded as not significant in an EIA context. Since the predicted noise levels are likely to be above the LOAEL, which for construction noise is taken to be equal to the existing baseline sound levels, the measures described in the CoCP [REP5-078] will be implemented to mitigate and minimise the effects.

*'Request for information 30 – Exceedance of the operational noise LOAEL for the Northern Park and Ride site is identified at one receptor and The Applicant states (in Bk6, Vol 3, Ch4) that "this will be mitigated and minimised through the measures described in section 4.5 of this chapter". However, no specific operational noise mitigation is prescribed other than earth bunds, which are included in the predictions. Could The Applicant please clarify what mitigation would be applied to mitigate and minimise operational noise where it is predicted to exceed the LOAEL.'*

2.2.19 The question may imply that primary mitigation does not count towards meeting the policy tests between LOAEL and SOAEL to mitigate and minimise adverse effects. However primary mitigation is mitigation, and contributes to meeting the policy tests.

2.2.20 The mitigation proposed is considered commensurate with the low level of effects from the operation of the northern park and ride. For the single location where the LOAEL is predicted to be exceeded (Receptor B), the predicted noise level from the operation of the northern park and ride is expected to be comfortably below the existing ambient noise levels, as

shown in **Table 4.15** in **Volume 3, Chapter 4** of the ES [[APP-354](#)]. In practice, a perceptible impact is unlikely to occur.

## Freight Management Facility

### d) Construction

**‘Request for information 31 – Paragraph 4.3.31 of Vol 8 Ch 4 states that “no baseline monitoring was undertaken as part of the assessment since the existing noise climate would not influence the outcome of the assessment” because noise and vibration are considered against absolute values. However, both the BS 5228-1 ABC Method (Table 4.2) and the adopted LOAEL threshold (paragraph 4.3.28) are set according to baseline ambient noise levels. ESC request that The Applicant clarifies this approach because it is unclear how the assessment was completed with no baseline monitoring.’**

2.2.21 Only the assessment of construction noise requires baseline information, and even then, only to distinguish between ‘very low’ and ‘low’ impacts, the distinction between the two outcomes depending on whether the construction noise levels are above or below the ambient noise levels.

2.2.22 Paragraph 4.6.7 of Volume 8, Chapter 4 of the ES [[APP-515](#)] states that the outcomes were ‘... no more than a low magnitude of impact, irrespective of ambient level.’

2.2.23 Since the construction noise levels did reach the thresholds identified as a ‘medium’ impact, it was possible to conclude that the effects would be either ‘negligible’ or ‘minor adverse’, neither of which are considered significant in an EIA context.

2.2.24 It is considered acceptable to reach this conclusion without reference to ambient levels.

**‘Request for information 32 – Paragraph of 4.6.10 of Vol 8 Ch 4 states that “the LOAEL, which for construction noise is taken to be equal to the existing baseline sound levels, may be exceeded at the closest receptor locations for at least some of the time during the construction works” and that this would be mitigated and minimised through implementation of the CoCP. However, ESC notes that the adopted LOAEL threshold (paragraph 4.3.28) is aligned with existing baseline ambient noise levels, which have not been measured. ESC request that The Applicant clarifies this approach, and in particular how the above conclusion was reached without any baseline monitoring.’**

- 2.2.25 In the absence of baseline noise data, it is not possible to definitively state that the LOAEL would be exceeded, so the conclusion recognised that the LOAEL may be exceeded at times, and where that is the case, the measures set out in the **Code of Construction Practice (CoCP)** [[REP5-078](#)] will apply.
- 2.2.26 Further baseline monitoring is proposed under the 'Noise Monitoring and Management Plans', which are enforceable through the CoCP.
- 2.2.27 An initial draft of the Noise Monitoring and Management Plan for the main development site [[REP6-029](#)] was submitted at Deadline 6. Once the general content of the initial document is agreed, it is anticipated that similar documents will follow for each Associated Development site, including the freight management facility.

## 2.3 Operation

*'Request for information 33 – There are no predictions of noise from mechanical plant serving the operational FMF, nor criteria adopted for the assessment of plant noise. The site is proposed to contain amenity and office buildings, which presumably would require some mechanical plant to serve their basic functions, and on this basis, ESC consider that noise from mechanical plant during the operational phase should be assessed, and request that The Applicant provides an explanation for this exclusion and, as far as is appropriate, provides an assessment of potential plant noise impacts and of mitigation which might be required to mitigate/minimise/avoid adverse effects.'*

- 2.3.1 No details are available as to what plant might be included at the freight management facility, if any.
- 2.3.2 Where plant is to be included at the freight management facility, the 'Building Design Principles' section of **Table 3.3** of the **Associated Development Design Principles** [[REP2-041](#)] will be amended to refer to the selection of appropriate plant to achieve the same 35dB L<sub>Ar,T</sub> limit specified elsewhere.

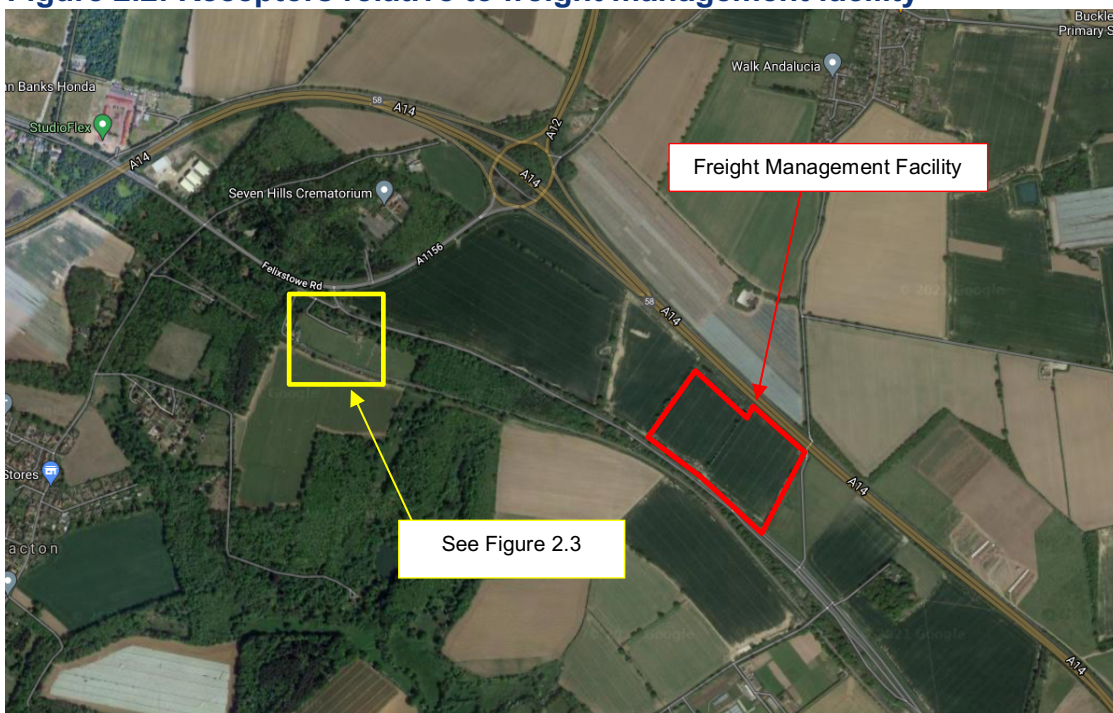
*'Request for information 34 – The operational noise assessment does not include potential increases in road traffic noise on Felixstowe Road, which would be the only access route for vehicles using the FMF. This is the old Ipswich to Felixstowe route (which was replaced by the A14) and therefore does not currently carry high volumes of traffic. This makes it more likely that noise from increased traffic could be significant.*

*As indicated in Figure 6, there are at least 2 residential properties on Felixstowe Road which could be subject to increased road traffic noise*

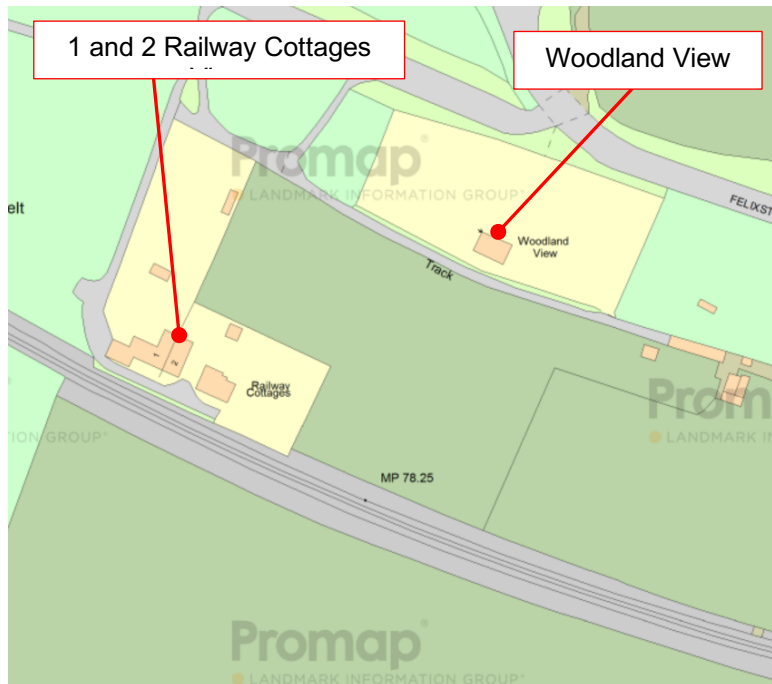
levels as a result of vehicles attending or leaving the FMF. SCC request clarification of why this was not assessed, and if necessary, that The Applicant provides an assessment of this potential impact.'

2.3.3 It is noted that there are three residential properties on Felixstowe Road, although two are set back from the road. These are shown in Figures 2.2 and 2.3.

**Figure 2.2: Receptors relative to freight management facility**



**Figure 2.3: Receptors on Felixstowe Road**



- 2.3.4 To respond to RfI 34, it has been necessary to undertake detailed modelling of potential road traffic noise impacts as a result of the use of the freight management facility, using the SoundPLAN model, i.e. the same detailed approach as was used for the assessment of road traffic noise from the Sizewell link road and the two village bypass.
- 2.3.5 It was necessary to use 3D modelling software, rather than simply considering the change in noise level along Felixstowe Road, because the identified receptors are likely to be affected by road traffic noise from multiple sources in the area, most notably from the A14, the Seven Hills junction, the A1156, and to a lesser extent, by the A12.
- 2.3.6 While the use of Felixstowe Road by SZC HGVs may well increase the traffic noise level on that road, given the contributions from the other roads that carry more traffic, the effect of more HGVs on Felixstowe Road may be less pronounced.
- 2.3.7 Traffic data for Felixstowe Road has been supplied by WSP, the project's traffic consultants. The traffic data is shown in Table 2.2.

**Table 2.2: Felixstowe Road traffic data**

| Scenario            | Period     | Traffic flow (% HGVs) |
|---------------------|------------|-----------------------|
| 2023 Reference Case | Daytime    | 3,697 (4.2%)          |
|                     | Night-time | 167 (8.5%)            |
| 2023 Early Years    | Daytime    | 3,972 (11.4%)         |
|                     | Night-time | 210 (22.2%)           |
| 2028 Reference Case | Daytime    | 3,889 (4.2%)          |
|                     | Night-time | 176 (8.5%)            |
| 2028 Typical Day    | Daytime    | 3,996 (11.6%)         |
|                     | Night-time | 223 (21.0%)           |
| 2028 Busiest Day    | Daytime    | 3,996 (11.6%)         |
|                     | Night-time | 222 (20.9%)           |

2.3.8 Traffic data for the other roads in the area was as used in the main road traffic noise assessments.

2.3.9 The noise levels at the three receptor locations, with and without the freight management facility, are shown in Table 2.3 for the daytime and Table 2.4 for the night-time. All of the calculations are undertaken for a first floor receptor height, which gave higher noise levels than a ground floor receptor location.

**Table 2.3: Predicted noise levels for receptors on Felixstowe Road, daytime façade LA10,18hrs dB<sup>(1)</sup>**

| Receiver                                                                                                                                                                                                          | 2023<br>Ref Case | 2023<br>Early Years | 2028<br>Ref Case | 2028<br>(Typical) | 2028<br>(Busiest) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------|------------------|-------------------|-------------------|
| Railway Cottages                                                                                                                                                                                                  | 63.4             | 63.6 (+0.2)         | 63.4             | 63.6 (+0.2)       | 63.6 (+0.2)       |
| Woodland View                                                                                                                                                                                                     | 67.0             | 67.5 (+0.5)         | 67.0             | 67.6 (+0.6)       | 67.6 (+0.6)       |
| Note: <sup>(1)</sup> – The values stated are the calculated road traffic noise levels for each scenario, with the change caused by SZC traffic relative to the reference case for each assessed year in brackets. |                  |                     |                  |                   |                   |



**Table 2.4: Predicted noise levels for receptors on Felixstowe Road, night-time free-field  $L_{night}$  dB<sup>(1)</sup>**

| Receiver         | 2023<br>Ref Case | 2023<br>Early Years | 2028<br>Ref Case | 2028<br>(Typical) | 2028<br>(Busiest) |
|------------------|------------------|---------------------|------------------|-------------------|-------------------|
| Railway Cottages | 51.0             | 51.2 (+0.2)         | 50.7             | 51.1 (+0.3)       | 51.1 (+0.4)       |
| Woodland View    | 56.0             | 56.5 (+0.5)         | 55.8             | 56.4 (+0.6)       | 56.5 (+0.7)       |

Note: <sup>(1)</sup> – The values stated are the calculated road traffic noise levels for each scenario, with the change caused by SZC traffic relative to the reference case for each assessed year in brackets.

- 2.3.10 It can be seen from Tables 2.3 and 2.4 that the additional SZC traffic associated with the freight management facility will increase the noise levels at the three receptors on Felixstowe Road, but by less than +1dB in all instances. This would be regarded as a ‘very low’ magnitude impact when assessed against the short-term road traffic noise impact categories used in the submitted assessments of road traffic noise, which are shown, for example, in **Table 4.5 of Volume 5, Chapter 6** of the **ES** [[APP-415](#)].
- 2.3.11 Combining the ‘very low’ magnitude impact with the ‘medium’ sensitivity adopted for residential dwellings, results in a negligible effect, which is not significant in an EIA context.

### 3 TECHNICAL MEMORANDUM M007

#### 3.1 Code of Construction Practice

##### a) Community Engagement

**'Request for information 35** – Can The Applicant please confirm the following:

- a) *East Suffolk Council will receive any information on construction activity circulated to the local communities, particularly in relation to any "out of the ordinary" events.*
- b) *That logs of all complaints received by SZC will be passed on to relevant regulatory authorities (e.g. ESC for matters to noise, air quality, or light pollution etc.) on a periodic basis along with details any the actions arising from the complaints.*
- c) *That SZC will provide complainants with contact details for the relevant statutory authority as part of the standard complaints handling procedure should they want to make a formal, or an anonymous complaint.*
- d) *Whether the above will be secured within the CoCP.'*

3.1.1 SZC CO. confirms that ESC will receive copies of any communications sent to local communities. It is highly likely that through the process outlined in the 'Noise Monitoring and Management Plans', that ESC will be aware of the need for any such communications, and of their content, in advance of them being sent. A draft of the **Noise Monitoring and Management Plan** for the main development site [\[REP6-029\]](#) was submitted to the Examination at Deadline 6.

3.1.2 Logs of complaints received by SZC Co. will be passed on to ESC on a regular basis, including details of actions arising. Details of complainants will be included in these complaint logs, subject to appropriate data protection controls.

3.1.3 SZC Co. expects the handling of complaints to be reciprocal, and that ESC will provide details to SZC Co. of complaints they receive, subject to their own data protection arrangements.

3.1.4 Recent discussions with ESC have highlighted the absence of a documented arrangement for the exchange of complaints information, and for the recognition that ESC's statutory role in investigating complaints is not discharged by passing details to SZC Co. This latter point was raised by ESC as Item 17 in the table on page 54 of their Deadline 6 submission

'Comments on Deadline 5 submissions from the Applicant and other Interested Parties' [[REP6-032](#)].

3.1.5 SZC Co. confirms that the complaints handling procedure in **section 3.1(i)** in **Part A** of the **CoCP** [[REP5-078](#)] will be amended to reflect these points.

### 3.2 Noise Monitoring and Management Plan

*'Request for information 36 – Can the Applicant please confirm whether the document will include a procedure for reasonable investigation of noise complaints associated with the development to determine whether the various thresholds, including those in the Noise Mitigation Scheme, are met in relation to construction noise, operational noise and transportation noise and vibration sources.'*

3.2.1 A draft of the **Noise Monitoring and Management Plan** for the main development site [[REP6-029](#)] was submitted to the Examination at Deadline 6, and does not seek to replicate the complaints handling procedure contained in **section 3.1(i)** in **Part A** of the **CoCP** [[REP5-078](#)].

3.2.2 In discussion with ESC, SZC Co. has agreed to amend the **Noise Mitigation Scheme** [[REP6-015](#)] so that the review procedure set out in **section 1.5** will include reference to complaints.

### 3.3 Noise Mitigation Scheme

#### b) Application

*'Request for information 37 – The Noise Mitigation Scheme is detailed in Volume 2 Main Development Site Chapter 11 Noise and Vibration Appendix 11H. Presumably, the intention is for the single document to apply to receptors across all the study areas considered in the different chapters of the Environmental Statement and that a single document has been submitted to avoid unnecessary duplication between chapters. Can The Applicant please confirm whether this is the case?'*

3.3.1 Yes, SZC Co. confirms that the **Noise Mitigation Scheme** will be a stand-alone document, not solely linked to the assessment of noise from the main development site. The current version can be found at [[REP6-015](#)].

#### c) Thresholds for Operational Noise

*'Request for information 38 – Can the Applicant please confirm in what circumstances the Noise Mitigation Scheme thresholds for operational noise might be expected to be applied without the operational noise limits having been breached?'*

- 3.3.2 Operational noise is referenced in the **Noise Mitigation Scheme** [REP6-015] in two areas: noise from fixed plant associated with either the operational power station or the Associated Development sites, and noise associated with activities undertaken in the use of the Associated Development site. Operational noise was included in the **Noise Mitigation Scheme** [REP6-015] to provide a comprehensive document, however, SZC Co. agree that some amendments could usefully be made.
- 3.3.3 Limits on noise from plant at Associated Development sites are secured through the **Associated Developments Design Principles** document [REP2-041], which is itself secured through Requirement 20(3) of the draft DCO. SZC Co. agrees that there is no need to provide for insulation for this element of the project, as noise will not be permitted to reach the specified eligibility criteria.
- 3.3.4 As noted in SZC Co.'s response to Rfl 57, where clarification is requested on how a limit on operational noise from the power station could be secured, options include the Design Principles for the Main Development Site set out in the Design and Access Statement or through a DCO requirement.
- 3.3.5 Subject to noise from the operational power station being secured in this manner, operational noise from the power station will not be permitted to reach the thresholds in the **Noise Mitigation Scheme** [REP6-015] and SZC Co. agrees that there is no need to provide for insulation for this element of the project.
- 3.3.6 The other element of operational noise covered by the **Noise Mitigation Scheme** [REP6-015] is that related to the use of the Associated Development sites, for example vehicle movements. SZC Co. is content that the **Noise Mitigation Scheme** is appropriate in this regard.
- a) **Temporary Rehousing Thresholds – Construction Noise**
- 'Request for information 39 – Given the unusually long duration of the construction works in this case, can The Applicant confirm if they have considered the feasibility of adopting bespoke noise trigger levels at lower thresholds to those set out in Annex A4 of BS 5228-1 to provide increased protection to the properties most affected by construction noise from the development?'*
- 3.3.7 SZC Co. is content that the thresholds identified for temporary rehousing are appropriate and consistent with both BS5228-1: 2009+A1: 2014 [Ref 1], and with similarly large-scale projects across the country.
- 3.3.8 Temporary rehousing is considered to be the last resort in terms of resolving identified effects, and it is not desirable to create this level of

upheaval; the preferred strategy is to manage the works in a way that the temporary rehousing thresholds are not reached.

b) Revised Assessments

*'Request for information 40 – Can the Applicant please confirm whether the assessments against the road noise criteria in the Noise Mitigation Scheme are proposed to be based on the typical or busiest day levels?'*

3.3.9 SZC Co. confirms that the refreshed assessments will be based on the worst-case road traffic noise outcomes, which will generally be the busiest day in 2028.

3.3.10 Approval of the refreshed assessments will sit with ESC and that approval process can include confirmation that the worst-case has been assessed if ESC wishes.

3.4 Road Traffic Noise

d) New Road Schemes

*'Request for information 41 – It is recognised that not all of the options for noise mitigation measures identified in DMRB LA111 are practical or desirable for the new road schemes in this case. However, can The Applicant please confirm:*

- a) *What specific noise mitigation measures are included in modelling used to assess the impact of noise from new road schemes?.*
- b) *What additional noise mitigation measures will be considered as part of the detailed design of the road schemes?*
- c) *How will the various stakeholders be consulted, and a final decision be reached, where the addition of noise mitigation measures requires a balance to be struck between noise control and any associated negative impacts (e.g. the visual impact of noise barriers or bunds)?*
- d) *Will the predicted noise levels be revised at the detailed design stage to include the finalised road alignments and the effect of any additional noise mitigation measures, and the results submitted to the Highways Authority as part of the technical sign off process?'*

3.4.1 The calculations of road traffic noise include the effects of bunds or cuttings proposed along the new roads. Noise was also a consideration in the alignment of the roads, although that is not included as mitigation, in the terms intended by RfI 41.

- 3.4.2 Further consideration is being given to the potential to include landscaped bunding along the two new roads, particularly for the two village bypass, as SZC Co. is seeking to maximise screening within the order limits. Any such landscaping will be secured and delivered through Requirement 22A of the draft DCO [[REP6-006](#)].
- 3.4.3 Consultation with the various stakeholders is ongoing, with the most recent meetings happening on 21<sup>st</sup> July 2021, where SZC Co. met with representatives of Farnham Environment Residents and Neighbours association (FERN), Mollett's Farm, and Mr and Mrs Lacey of Oakfield House.
- 3.4.4 The noise predictions will be updated as part of the refreshed assessments for the **Noise Mitigation Scheme** [[REP6-015](#)], and if required as part of the highways approval process, they will be sent to the highways authority too.

e) Existing Roads

*'Request for information 42 – Where the projected increase in traffic on existing roads associated with the development is expected to exceed the LOAEL, can The Applicant please confirm:*

- a) *What noise reduction measures are being considered for existing roads to meet the policy requirement to mitigate and minimise adverse impacts on health and quality of life? For example this might include, resurfacing works and funding for highways maintenance due to additional traffic volumes associated with the development.*
- b) *Where noise measures for existing roads are being considered, can the Applicant please confirm how any such offers to the highways authority will be secured?'*

- 3.4.5 The **Freight Management Strategy** [[AS-280](#)] seeks to balance three modes of transporting freight to the SZC site, via road, rail and sea. One of the key aims of that strategy is to keep the amount of road-going traffic to a practical minimum.
- 3.4.6 There is a B1122 maintenance fund under **Schedule 16** of the draft **Deed of Obligation** [[REP5-082](#)], which provide sums of money pre- and post-construction of the Sizewell link road to maintain the road in good condition, which will serve to mitigate and minimise noise and vibration.
- 3.4.7 It is considered reasonable to offer this as the B1122 will carry the most SZC traffic in the early years, before the Sizewell link road is complete. The maintenance of other roads in the area will remain the responsibility of the highways authority.

3.4.8 SZC Co. also proposes to offer insulation under the **Noise Mitigation Scheme** [REP6-015] to all properties fronting the B1122 between Yoxford and the site, irrespective of whether they meet the qualifying thresholds or not. This will be secured through the **Noise Mitigation Scheme** [REP6-015].

### 3.5 Identification of Noise Sensitive Commercial Receptors

*'Request for information 43 – Can the applicant please provide some commentary on the screening process used to identify potentially noise sensitive commercial operations in the various study areas and how the noise impact onto individual commercial operations was assessed?'*

3.5.1 When predicting noise effects, sample locations were chosen to represent groups of potentially noise-sensitive premises within the study area and noise levels were reported for these. These receptors were occasionally individual premises, but often represented larger groups of receptors.

3.5.2 Since, in all cases, the receptor groups contained either dwellings alone (medium sensitivity) or dwellings and commercial premises, which could be medium or low sensitivity, the assessment of effects assumed the worst-case sensitivity within each group, i.e. medium sensitivity was assumed.

### 3.6 Rail - Groundborne Noise and Vibration

#### f) Combined airborne and groundborne criteria

*'Request for information 44 – Given that the mitigation measures required to control groundborne and airborne noise are largely unrelated, can The Applicant please confirm what practical advantages there are in this case to novel approach of a SOAEL of 50  $L_{ASmax}$  based on a combined ground-borne noise and low airborne noise levels over the precedent of a ground-borne noise only SOAEL of 45 dB  $L_{ASmax}$  adopted for HS2 and other rail assessments and agreed in pre-application consultation with the Local Authority.'*

3.6.1 The mitigation measures required to control groundborne and airborne noise are not unrelated. The major cause of the measured noise inside the houses surveyed along the Saxmundham to Leiston branch line in August 2020 was the passage of wheels over rail joints, and in the case of the East Suffolk line, the passage of wheels over aluminothermic welds. The impulses that are caused in this way result in large peaks in both the airborne and the groundborne noise time histories, and they are heard together as one phenomenon, accompanied by significant vibration in the case of the Leiston branch.

- 3.6.2 If the HS2 thresholds for groundborne noise were transposed to the SZC case directly that would raise a number of important questions, given that the HS2 thresholds are for a large number of events of short duration, occurring in the night period as well as the day period. The HS2 thresholds apply where the railway is in tunnel and there is no airborne noise, and no feelable vibration. The spectrum of groundborne noise from a high speed train in tunnel running on mitigated trackform is quite different from that of freight trains operating on the Saxmundham to Leiston branch line or East Suffolk lines at grade a short distance from some receptors. Groundborne noise from HS2 will not contain impulses from running over rail joints, except near the small number of switches and crossings.
- 3.6.3 As explained in **Appendix 9.3.A** of the **First ES Addendum** [[AS-257](#)], no project since the publication of the 'Noise Policy Statement for England' [Ref 2] has addressed the in-combination effects of groundborne and airborne noise as a result of which there are no precedents for values of LOAEL and SOAEL for the overall indoor sound level due to combined airborne and groundborne noise.
- 3.6.4 There have been studies on the effect of noise and tactile vibration experienced in combination, but no studies on the effect of airborne and groundborne noise experienced in combination.
- 3.6.5 Furthermore, the precedents for setting thresholds for groundborne noise from railways all relate to train services where the duration of the train passage is only a few seconds. The combination of very low speeds and long freight trains results in the duration of train passages in this case being, at over a minute.
- 3.6.6 On the other hand, HS2 services are assumed to be at least twenty trains per hour, compared with a maximum of seven trains per night on the East Suffolk line.
- 3.6.7 For these reasons it has been necessary to consider the criteria for this in-combination effect from first principles, and the reasoning and conclusions reach in this process are set out at length in **Appendix 9.3.A** of the **First ES Addendum** [[AS-257](#)].

g) **Modelling Uncertainty**

*'Request for information 45 – The assessment of vibration and ground-borne noise is based in a part on internal levels predicted using finite difference modelling software, Findwave. Can the Applicant please confirm the typical range of uncertainty expected with predictions made using this software and what effect variations within*



*this range of uncertainty would have on the overall outcomes of the assessment?’*

3.6.8 The Findwave model was used to model the insertion gain of resilient under-ballast mats. The insertion gain predicted is shown in Figure 8 of **Appendix B of Appendix 9.3.A of the First ES Addendum [AS-257]** and is consistent with published data on the performance of under ballast mats [https://www.matec-conferences.org/articles/mateconf/pdf/2018/78/mateconf\\_balcon2018\\_05002.pdf](https://www.matec-conferences.org/articles/mateconf/pdf/2018/78/mateconf_balcon2018_05002.pdf).

h) Leiston and Saxmundham branch line and green rail route

*‘Request for information 46 – Can the Applicant confirm whether engine coasting is being considered as a viable mitigation measure for this section of line and if so, how would this be secured in their agreement with Network Rail and implemented in practice.’*

3.6.9 This is not currently under consideration and is not relied upon in the draft **Rail Noise Mitigation Strategy [AS-258]**.

*‘Request for information 47 – Can the Applicant please confirm:*

a) *The number of properties where the LOAEL and SOAEL is expected to be exceeded in the “early years” before the existing track is proposed to be upgraded and engineering mitigation measures in the RNMS implemented.*

b) *The number of properties where the LOAEL and SOAEL is expected to be exceeded if the mitigation measures highlighted in RNMS cannot be implemented in practice.’*

3.6.10 The Saxmundham to Leiston branch line will not be used until it is upgraded, so no properties will be subject to noise or vibration levels above LOAEL or SOAEL prior to it being upgraded. After it has been upgraded SOAEL will be avoided and impacts between LOAEL and SOAEL mitigated and minimised through the measures set out in the draft **Rail Noise Mitigation Strategy [AS-258]** and the **Noise Mitigation Scheme [REP6-015]**.

3.6.11 It is not anticipated that any measures in the draft **Rail Noise Mitigation Strategy [AS-258]** cannot be implemented. The terms of Requirement 25 of the draft DCO [\[REP5-029\]](#) should provide comfort to the authorities in that respect.

3.6.12 The number of properties that exceed LOAEL has not been confirmed at this time as the extent of noise or vibration levels above LOAEL has been identified in the form of a distance from the railway line.

i) East Suffolk line

**'Request for information 48 – Can the Applicant please confirm:**

- a) *If these variations were assumed to be due solely to differences in groundwater levels or other propagation effects, as opposed to variations in the characteristics of the existing trains running on the line, would this add uncertainty to the assessment results?*
- b) *What effect variations within this range of uncertainty would have on the overall outcomes of the assessment?'*

3.6.13 The variation observed was within a range of 5dB(A). If it were due solely to differences in groundwater levels or other propagation effects, the only effect that was not observed would be that of frozen ground. In locations in the world where frozen ground is common, such as northern China, the effect has been found to be an increase of 13% to 26% <https://doi.org/10.1177%2F1077546318802980>. In dB terms this is an increase of 2dB.

3.6.14 The occurrence of the climatic conditions of north China is very rare in East Suffolk, so no variation due to this is likely.

**'Request for information 49 – Can the Applicant please confirm:**

- a) *Has the presence and condition of resilient rail pads at Woodbridge been confirmed with Network Rail?*
- b) *Whether the assessment of impacts along the East Suffolk Line assumes that the track conditions found at Woodbridge apply along the whole length of the line?*
- c) *If Network Rail have confirmed whether resilient rail pads are installed along the length of the East Suffolk Line within the study area and if not, what effect would sections of un-isolated track would have on the extent of impacts predicted to properties along the length of the line?'*

3.6.15 The presence of resilient rail pads at Woodbridge has not been confirmed by Network Rail, and the assessment does assume that the track conditions at Woodbridge are representative of the whole line.

3.6.16 Since Network Rail has not confirmed the presence of rail pads at Woodbridge, part (c) is not applicable.

**'Request for information 50 – Can the Applicant please confirm:**

- a) *The number of properties in the study area expected to be subject to levels exceeding LOAEL and SOAEL where are no rail joints in the vicinity?*

- b) *The number of additional properties that fall within the minimum stand-off distances from rail joints and are therefore also expected to be subject levels exceed the LOAEL and SOAEL.*
- c) *If the position of rail joints on the East Suffolk Line is not presently known, when will this necessary survey work be undertaken to determine the number of properties adjoining the East Suffolk Line expected to be subject levels exceeding the LOAEL and SOAEL levels?’*

3.6.17 As was stated in SZC Co.’s answer to the ExA’s first questions at NV.1.12 [REP2-100], where there are properties that fall within the distance stated for SOAEL for the particular combination of train speed, track type and rail joint type that is relevant to them, the expectation is that the **Noise Mitigation Scheme** [REP6-015] will apply and a sufficient reduction in noise entering the property via the airborne path achieved so that the combined total of groundborne noise and low frequency airborne noise will be below SOAEL. Examples of where this outcome is expected are stated in **paragraphs 9.3.81 to 9.3.83 in Volume 1, Chapter 9 of the ES Addendum** [AS-188]. As the expectation is that SOAEL will be avoided even where properties are within the distances stated, SZC Co. does not consider that any properties will exceed SOAEL.

3.6.18 The number of properties likely to exceed LOAEL is not currently known; work is in progress to discover the exact locations of, for example, aluminothermic welds. When they are known the practicability of replacing them will be evaluated.

*‘Request for information 51 – In the event that the speed limits are not imposed can The Applicant please confirm what effect this would have on the outcome of the assessment?’*

3.6.19 If the speed limits were not imposed, the outcomes would be similar to those listed in **Table 4.34 in Volume 9, Chapter 4 of the ES** [APP-545] prior to the application of mitigation.

3.6.20 However, the speed limits on both the Saxmundham to Leiston branch line and in the locations on the East Suffolk line specified in the draft **Rail Noise Mitigation Strategy** [AS-258] are enforceable. As stated in SZC Co.’s response to the ExA’s first written questions at Cu.1.33(iii) [REP2-100], the **Rail Noise Mitigation Strategy**, including the speed limits, is secured by Requirement 25 of the draft DCO [REP5-029] and the restrictions will be enforced, on a practical level, through the contractual arrangement with the Freight Operating Company, who will in turn require their train drivers to adhere to the restrictions.

j) Selection of rolling stock

*'Request for information 52 – Can the Applicant please confirm whether this mechanism will include a requirement for the locomotives and wagons used by the Freight Operating Company to be properly maintained and with appropriate suspension systems?'*

- 3.6.21 As set out at NV.1.19 in SZC Co.'s Deadline 3 submission **Comments on Responses to Examining Authority's First Written Questions (ExQ1)** [[REP3-046](#)], Freight Track Access Contracts are the standard mechanism for specifying rolling stock. It is expected that faulty rolling stock will be replaced at the earliest opportunity as standard freight track access contracts impose obligations to maintain rolling stock.

k) Mitigation

*'Request for information 53 – Given the limited practical options for mitigation to control ground-borne noise and vibration at the receptors can The Applicant please confirm how the requirement of Section 5.11.9 of Overarching National Policy Statement for Energy (EN-1) to "mitigate and minimise other adverse impacts on health and quality of life from noise [and vibration]" will be met in instances of where the SOAEL threshold is predicted to be exceeded?'*

- 3.6.22 The draft **Rail Noise Mitigation Strategy** [[AS-258](#)] sets out the proposed measures to mitigate and minimise railway noise and vibration, including groundborne noise and vibration. The measures are a mix of physical mitigation and operational controls, which provide benefits and can be secured by Requirement 25 of the draft DCO [[REP5-029](#)].
- 3.6.23 In addition to the measures listed in the draft **Rail Noise Mitigation Strategy**, SZC Co. continues to liaise with Network Rail to secure the legal agreement necessary to secure surveys of the East Suffolk line, which will in turn assist in determining whether the existing track or joints would benefit from replacement and if they would, the practical implications of this.

l) Monitoring

*'Request for information 54 – Can the Applicant please confirm whether the Noise Monitoring and Management Plan will also include measurements of ground-borne noise and vibration as part of reasonable investigation into complaints.'*

- 3.6.24 At this time, an initial **Noise Monitoring and Management Plan** for the main development site [[REP6-029](#)] has been submitted to the Examination and to ESC/SCC for comment. Indicative monitoring regimes and protocols have been set out, with a view to agreeing the over-arching principles that

can then be incorporated into Noise Monitoring and Management Plans for the Associated Development sites.

- 3.6.25 The intention is to agree the detail of monitoring to be included in each Noise Monitoring and Management Plan, and if SZC Co. and ESC agree, groundborne noise and/or vibration can be included in that regime. Without wishing to prejudice those further discussions, SZC Co. considers such monitoring to be a sensible measure to include in circumstances where it would be helpful.

### 3.7 Main Development Site – Operational Noise

#### m) Health and safety constraints

*‘Request for information 55 – If there are specific reasons why the health and safety constraints would prevent the lower night-time noise criterion being achievable, could The Applicant please explain what these are?’*

- 3.7.1 There are not specific reasons why health and safety considerations constrain noise control for the operational power station, rather the reference to health and safety in the Initial Statement of Common Ground was concerned with the overarching principle that each element of the power station is designed to perform a specific task and redesigning those components to reduce noise levels may alter their primary function in a way that is impractical for a nuclear power station.

- 3.7.2 There is also a very large number of components that are known to each generate noise, combining to give the overall values set out in **Volume 2, Chapter 11** of the ES [APP-202]. To materially alter the overall noise levels from the operational power station would require noise from every component to be reduced by a similar amount, or for a large number of components to be made radically quieter.

- 3.7.3 The design of the power station is based on that being constructed at Hinkley Point C, and altering that design to seek to achieve what is likely to be an insignificant reduction in sound is not considered cost-effective nor practicable.

#### n) Comparison with HPC operational noise limit

*‘Request for information 56 – Could The Applicant please clarify the assumed equivalence between  $L_{Aeq,1hour}$  and  $L_{night}$  in more technical detail, particularly in relation to the relationship with the “annual nature of the  $L_{night}$  index”?’*

- 3.7.4 The two indices stated in Rfl 56 are a façade level of  $L_{Aeq,1hr}$  and a free-field  $L_{night}$ . There are therefore two components to this, firstly the difference between a free-field and a façade value and secondly the difference between a night-time level averaged over a year and a level measured during any given one hour period at night.
- 3.7.5 On the first point, a value of 3dB is generally added to free-field values to account for façade reflections and hence a value of 45dB expressed as a façade value would be equivalent to 42dB, if expressed as a free-field value.
- 3.7.6 On the second point, noise propagation depends on meteorological conditions and this means that a noise source that produces steady, continuous levels throughout a year will fluctuate from one period to another at a given receptor. The  $L_{night}$  parameter seeks to average levels over a year, accounting for these potential seasonal variations.
- 3.7.7 A  $L_{Aeq,1hr}$  considers levels in any given hour that might occur. The inevitable fluctuations result in average levels at a receptor at night that are likely to be at least 2dB below levels that would occur in the noisiest hour at night during that year, even for relatively steady sources of noise.
- 3.7.8 For these reasons, and as stated in **paragraph 2.3.25 of Appendix 11A** to the initial **Statement of Common Ground between SZC Co. and ESC/SCC [REP3-031]**, an  $L_{night}$  level of 40dB is considered to be 'very similar in effect' to an  $L_{Aeq,1hr}$  of 45dB, as was used at Hinkley Point C

o) Security of operational noise limits

*'Request for information 57 – Could The Applicant please clarify how they intent the operational noise limits for the power station to eventually be secured?'*

- 3.7.9 Operational noise limits for the operational power station can be included in the Main Development site Design Principles contained within the Design and Access Statement [REP5-070] or made the subject of a specific DCO requirement.

### 3.8 Noise Assessment Methodology Paper

*'Request for information 58 – ESC recognise that this is an accurate reflection of the regulations but are unsure if, how and/or where such effects are proposed to be "offset" in the various noise and vibration assessments, as opposed to avoidance, prevention, or reduction. Could The Applicant please clarify if/how and/or where this applies?'*

3.8.1 For clarity, Rfl 58 relates to the following paragraph in AJA technical note M007:

*'In paragraph 2.5.4 of the June 2021 'Noise Methodology Assessment Paper' (part of the June 2021 initial Statement of Common Ground) there is discussion about the range of responses permitted in The EIA Regulations 2017, particularly the option to "offset" significant adverse noise effects rather than 'avoid, prevent or reduce' them.'*

3.8.2 SZC Co. was not stating that any effects were 'offset' in the way set out in Rfl 58. The point that was being made in **paragraph 2.5.4 of the Noise Assessment Methodology Paper [REP3-031]** was that the EIA Regulations [Ref 3] set out a number of different options in response to a significant effect, which is broader than the responses permitted under planning policy to an exceedance of the significant observed adverse effect level (SOAEL).

3.8.3 The point was made in the context of demonstrating that 'significant adverse effects' are not equivalent between the EIA Regulations [Ref 3] and planning policy.

*'Request for information 59 – In the same paragraph (2.5.4) of the June 2021 'Noise Methodology Assessment Paper' it is stated that "a significant adverse noise effect could be legitimately addressed through provision of measures that do not alter the noise outcomes themselves." ESC do not believe this is not explicitly stated in the regulations and seems to be an interpretation of them. Could The Applicant please clarify this statement, or provide a reference to the regulations clearly explaining it?'*

3.8.4 This is not explicit in the EIA Regulations [Ref 3], but the word 'offset' means that redress is provided through a means other than those that directly address the identified effect.

3.8.5 Planning Practice Guide (PPG) on noise [Ref 4] provides examples of what is meant by 'offsetting' noise impacts, stating at paragraph 011:

*'Noise impacts may be partially offset if residents have access to one or more of:*

- a relatively quiet facade (containing windows to habitable rooms) as part of their dwelling;*
- a relatively quiet external amenity space for their sole use, (e.g. a garden or balcony). Although the existence of a garden or balcony is generally desirable, the intended benefits will be reduced if this*

area is exposed to noise levels that result in significant adverse effects;

- a relatively quiet, protected, nearby external amenity space for sole use by a limited group of residents as part of the amenity of their dwellings; and/or
- a relatively quiet, protected, external publically accessible amenity space (e.g. a public park or a local green space designated because of its tranquillity) that is nearby (e.g. within a 5 minute walking distance).

3.8.6 In these instances, the measure describes offsets the impact, without affecting the impact itself. SZC Co. considers this to exemplify what 'offset' means in the context of the EIA Regulations [Ref 3].

**'Request for information 60 – Could The Applicant please provide meeting notes and a copy of the presentation from June/July 2019 to clarify this, and to confirm if the previously proposed MDS construction noise criteria were referred to at this meeting?'**

3.8.7 There are no notes from the July 2019 meeting on file, but a copy of the presentation is contained in Appendix C.

3.8.8 The MDS criteria that were proposed at that time were contained in the presentation, as extracted and shown in Figure 3.1.

**Figure 3.1: Extract from presentation July 2019**

### MDS Construction Noise Criteria – All Sources

| Period                 | LOAEL | SOAEL | Parameter                         |
|------------------------|-------|-------|-----------------------------------|
| Any day 07:00 to 23:00 | 50    | 60    | L <sub>Aeq,T</sub> dB, free field |
| Night 2300 to 0700     | 40    | 50    |                                   |
| Night 2300 to 0700     | 60    | 70    | L <sub>Amax</sub> dB, façade      |

Time period T in this table refers to the period in question: day (16 hours), evening (4 hours) or night (8 hours).



3.8.9 The thresholds were referred to as 'LOAEL' and 'SOAEL' at that time, and for the reasons set out in the **Noise Assessment Methodology Paper** contained in **Appendix D** of **Appendix 11A** to the initial **Statement of Common Ground between SZC Co. and ESC/SCC** [[REP3-031](#)] this approach was amended towards the end of 2019.

3.8.10 The values labelled as SOAEL subsequently became the levels at which an adverse impact became a significant effect in an EIA context for a medium sensitivity receptor (e.g. a residential dwelling).

### 3.9 Initial Statement of Common Ground

3.9.1 Under the heading 'Initial Statement of Common Ground', Rfl 61 is noted to be unused.

### 3.10 High Sensitivity Receptors

*'Request for information 62 – While ESC do not necessarily disagree that Pro Corda operate some activities which are sensitive to noise, could The Applicant please clarify why this means they should be classified as 'high sensitivity' in EIA terms, particularly in comparison to residential receptors?'*

3.10.1 Pro Corda delivers chamber music training through residential courses for students aged 5 to 24 years old, runs courses for young people with special educational needs and disabilities (SEND) and hosts concerts and musical events within the historic buildings on the site, and in external courtyard areas.

3.10.2 Some of the individuals that Pro Corda caters for may be as sensitive to changes in the character of the acoustic environment as they are to absolute levels of noise, even when the individual may not have been exposed to the local acoustic environment for some time.

3.10.3 Given these sensitivities, it was considered that Pro Corda was likely to be a more sensitive receptor than a residential dwelling, and was treated accordingly in the submitted assessments.

### 3.11 Draft DCO (June 2021)

#### p) Leiston Sports Facilities

*'Request for information 63 – Could The Applicant please clarify this apparent contradiction, because the proposed noise barrier on the east boundary of the facility will be vital in ensuring significant adverse noise effects are avoided, per NPS EN-1.'*

3.11.1 Rfl 63 relates to this extract from AJA technical note M007:

*'Requirement 12A indicates that the design of external and landscaping works will be prepared by The Applicant and submitted to ESC for approval. This appears to contradict Section 2.1 of the draft Deed of Obligation (June 2021) which indicates that "East Suffolk Council shall prepare or procure the preparation of the design of the Leiston Sports Facilities Works".'*

3.11.2 There is no contradiction between these two documents. Sections 2.1 and 2.2 of Schedule 10 to the **Deed of Obligation** [REP5-082] set out a process for the design and then subsequent construction of the Leiston Sports Facilities which involves input from both SZC Co. and ESC, with ESC preparing or procuring the design of the Leiston Sports Facilities Works, SZC Co. approving a proposal from ESC dealing with that design, and SZC Co. then submitting details of the layout, scale and external appearance of the Leiston Sports Facilities to ESC for approval in accordance with Requirement 12A of the **draft DCO** [REP5-029].

3.11.3 The terms of the **Deed of Obligation** including Schedule 10 have been the subject of discussion between ESC and SZC Co.

q) Rail Noise

*'Request for information 64 – Could The Applicant please clarify why the night-time hours are apparently defined differently in this requirement that in the ES documents?'*

3.11.4 Rfl 64 relates to this extract from AJA technical note M007:

*'In relation to sub-clauses (1) and (3) of draft Requirement 25, ESC are unclear why these refer to the hours of "11pm and 6am". It is assumed this relates to the night-time period, but the ES and ES addendum both clearly define the night-time period for rail noise and vibration as between 23:00hrs and 07:00hrs (in line with guidance).'*

3.11.5 For the purposes of the submitted assessments, night-time is defined as 23:00 to 07:00 hours. Similarly, and **paragraph 3.2.2** of the draft **Rail Noise Mitigation Strategy** [AS-258] states the same hours.

3.11.6 However, the purpose of Requirement 25 is to prohibit use of the Saxmundham to Leiston branch line until such time as a Rail Noise Mitigation Strategy is approved by ESC. The stated hours relate to time period when it is expected to be used by SZC Co., to coincide with the available pathing capacity on the East Suffolk line.

3.11.7 The hours in Requirement 25 can either be amended to match the adopted night-time period of 23:00 to 07:00 hours, or removed entirely.

***‘Request for information 65 – Could The Applicant please clarify why sub-clause (1) of draft Requirement 25 only refers to Work No.4 and not also to the ESL?’***

3.11.8 The East Suffolk line is not within the DCO limits, so cannot be subject to a requirement. However, since the only purpose of using the East Suffolk line is to access the Saxmundham to Leiston branch line, prohibiting use of the branch line until the ‘Rail Noise Mitigation Strategy’ is approved by ESC has the effect of preventing the use of the East Suffolk line by SZC trains until that time as well.

3.11.9 SZC Co. does not propose running trains along the East Suffolk line other than to access the Saxmundham to Leiston branch line.

## 4 CONCLUSION

- 4.1.1 This paper sets out SZC Co.'s second set of responses to requests for information raised by Adrian James Associates on behalf of East Suffolk Council and Suffolk County Council.

## REFERENCES

1. British Standard BS5228-1: 2009+A1: 2014 Code of Practice for noise and vibration control at open construction sites – Noise
2. DEFRA (2010) Noise Policy Statement for England
3. The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017 No 572)
4. MHCLG (2019) Planning Practice Guidance on noise



SIZEWELL C PROJECT  
SZC CO.'S SECOND SET OF LPA RFI RESPONSES

**NOT PROTECTIVELY MARKED**

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## APPENDIX A: AJA TECHNICAL NOTE M006

**NOT PROTECTIVELY MARKED**

## TECHNICAL MEMORANDUM

|                   |                             |                   |               |
|-------------------|-----------------------------|-------------------|---------------|
| <b>Project</b>    | 12804 SZC Noise & Vibration |                   |               |
| <b>Date</b>       | 26 May 2021                 | <b>Memo No</b>    | M006          |
| <b>Written by</b> | Gary Percival MIOA          | <b>Checked by</b> | Joe Bear MIOA |
| <b>Filename</b>   | 12804 M006.docx             |                   |               |

### SZC NOISE AND VIBRATION – FURTHER REQUESTS FOR CLARIFICATION

#### 1 INTRODUCTION

Following the meeting with ESC, SCC, AJA and the Sizewell C team on Tuesday 25 May 2021, this memo presents a further list of requests for information/clarification.

For the purposes of referencing, attendees at the meeting were as follows:

Adrian James Acoustics (AJA)

- Gary Percival (GP)
- Joe Bear (JB)

East Suffolk Council (ESC):

- Mark Kemp (MK)

Suffolk County Council (SCC):

- Kerry Allen (KA)

Sizewell C team:

- Mike Brownstone, Resound Acoustics (MB)

## 2 MAIN DEVELOPMENT SITE

### 2.1 Operation

#### NV21

##### *Tranquillity - Mitigation*

**Request for information 24** – ESC previously asked (RFI 23) what specific mitigation is proposed to protect amenity and recreation (A&R) receptors from MDS construction noise. The same question applies to the operational phase of the MDS – what specific mitigation measures are proposed to protect A&R receptors from operational noise?

## 3 PARK AND RIDE SITES

### 3.1 Construction/Reinstatement

#### NV41

##### *Noise – Mitigation*

**Request for information 25** – During construction of the Northern Park and Ride site, significant adverse effects are predicted at 4 receptors during each construction phase, and at other receptors during most phases of construction. However, most of these effects are predicted on Saturdays between 13:00-19:00hrs, when more stringent construction noise criteria apply. Some significant adverse effects are predicted at some receptors during core weekday/Saturday morning hours but are more sporadic.

The Applicant states (Bk6, Vol3, Ch4, Para 4.6.17) that exceedance of SOAEL will be avoided by scheduling the noisiest activities away from the most sensitive times of day, or otherwise through the provision of noise insulation via the Noise Mitigation Scheme. However, the most effective way of avoiding the vast majority of all predicted significant adverse effects/exceedances of SOAEL would be to avoid scheduling any construction (or at least significant noise-generating construction activities) on Saturday afternoons. AJA consider it unlikely that Saturday afternoon construction will be critical to the timely construction of this site, and request that The Applicant explains why this construction period is essential when associated adverse noise effects would be so significant.

**Request for information 26** – The Applicant states (Bk6, Vol3, Ch4, Para 4.6.17) that significant effects are deemed to occur where the relevant criteria are exceeded for:

- “10 or more days or nights in any 15 consecutive days or nights; or
- a total number of days or nights exceeding 40 in any 6 consecutive months.”

It is unclear how this test has been or would be applied with respect to construction periods which do not occur every day, such as Saturdays 13:00-19:00hrs. Clearly, where a construction work period occurs only once a week, it makes it very unlikely (if not impossible) to meet this condition. However, in AJA’s view this does not mean that significant adverse effects could/would not occur during these periods and this is reflected in the assessment outcomes.

Can the Applicant please provide some explanation of how non-daily work periods were assessed in accordance with this test? This query is raised in relation to construction of the Northern Park and Ride site but applies to all construction across the development where non-daily work periods are proposed, including where the Noise Mitigation Scheme might otherwise apply without the caveat.



## 3.2 Operation

### NV43

#### Noise – Criteria

**Request for information 27** – Mechanical plant noise emissions from both P&R sites cannot currently be assessed because the design and specifications are unknown. Instead all plant serving these sites will be designed and specified not to exceed a cumulative operational noise limit of 35 dB  $L_{Ar}$  at the nearest human receptors. ESC understands this approach and supports the 35 dB  $L_{Ar}$  noise limit, but request that The Applicant clarifies how this would be secured, considering that there is currently no assessment to indicate how difficult this noise limit is likely to be to achieve in practice.

### NV44

#### Noise – Assessment

**Request for information 28** – Queries regarding two of the baseline noise monitoring positions adopted for the Southern Park and Ride operational noise assessment:

Position PRS1 is intended to represent the nearest residential receptors in Hacheston village. However, the Noise and Vibration Baseline Report (Bk6, Vol2, Ch11) shows that this position only 1-2m from the edge of the B1116 carriageway. This is a relatively busy road linking the A12 with Framlingham and is also just outside the 30mph zone so southbound vehicles are typically accelerating away from Hacheston at this spot.



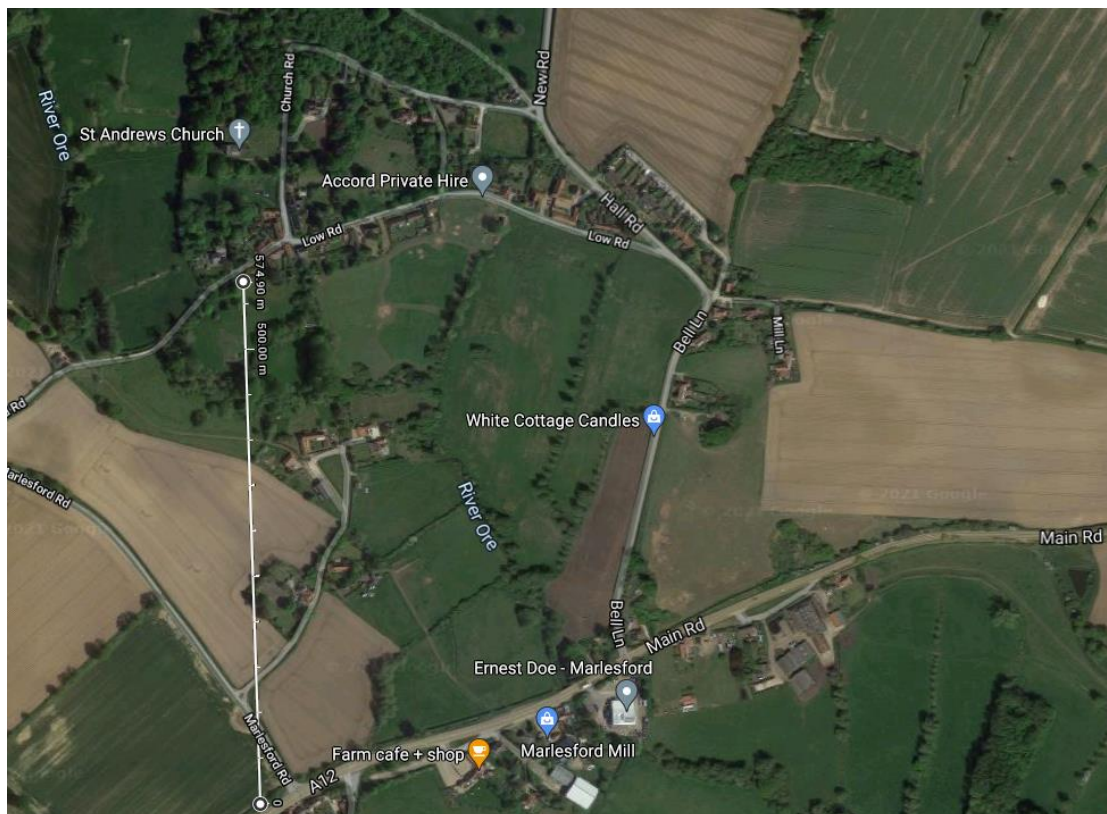
**Figure 1 – Extract from the Noise and Vibration Baseline Report showing PRS1**

However, by comparison the nearest receptors are set back at least 18-20m from the road. Not only this but it will be the south/east façades of these dwellings which are facing and most exposed to noise from the park and ride site, and these façades would be at least partly screened from road noise. For these reasons we consider it unlikely that this monitoring position is representative of the nearest receptors in Hacheston.

Position RT14 (and by extension Noise Receptor Location C) are apparently intended to represent the nearest residential receptors in the village of Marlesford. However, this monitoring position is directly adjacent to the A12 and there are relatively few dwellings there in comparison to the main settlement of Marlesford. The main village of Marlesford is situated approximately 550m to the north, and ambient noise levels in the village are likely to be significantly lower than at Position RT 14 due to the increased distance and other environmental effects (ground absorption, landscape screening).



**Figure 2 – Extract from the Noise and Vibration Baseline Report showing RT14**

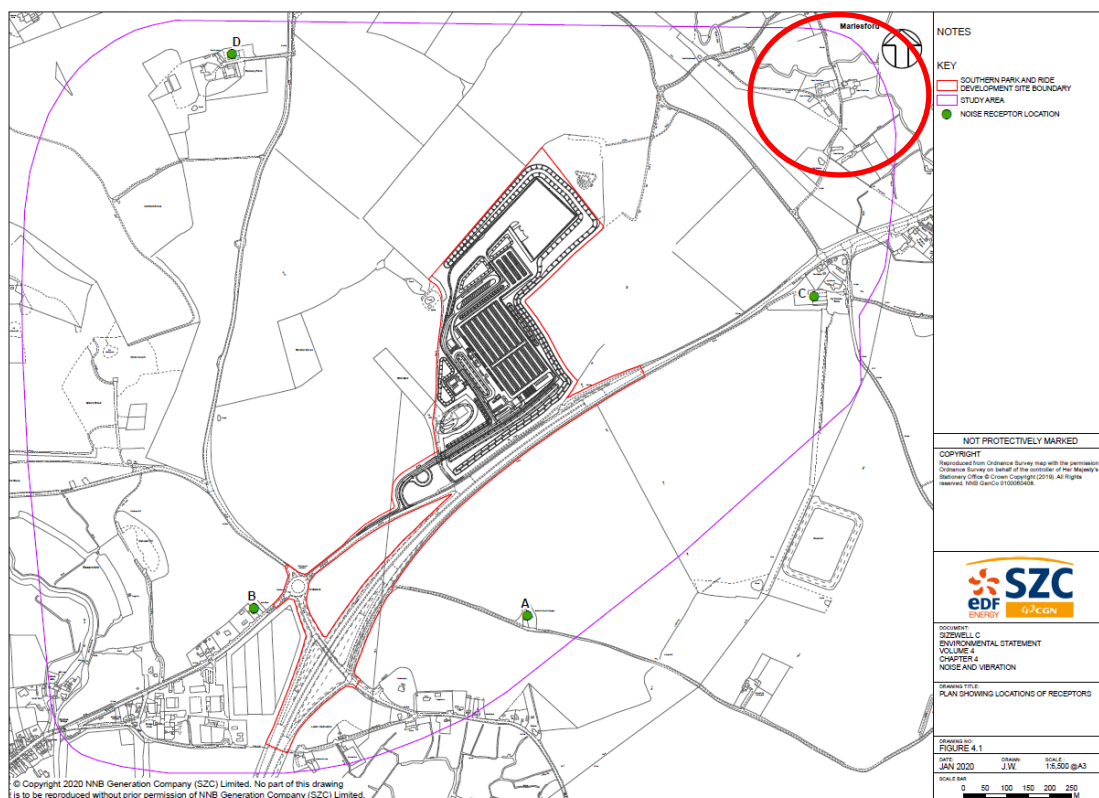


**Figure 3 – Aerial photo showing distance from RT14 to main settlement of Marlesford**

For these reasons we consider it unlikely that this monitoring position is representative of the nearest receptors in the main settlement of Marlesford.

It is very important that monitoring positions are representative of receptor positions because the construction noise assessment methodology requires an understanding of the prevailing ambient noise level. ESC request that The Applicant carries out additional measurements at more representative locations to validate the assessment, and/or provides otherwise satisfactory technical explanation of why additional measurements are not required. For Marlesford, a more representative location is likely to be much further from the A12, for the reasons outlined in RFI 29, below.

**Request for information 29** – This query is closely related to the second part of RFI 28. Receptor C at the Southern Park Ride Site is apparently intended to represent the village of Marlesford. However, as shown in Figure 3 this receptor location (and the associated baseline monitoring position RT14) is relatively close to the A12 and the main settlement of Marlesford is actually situated more than 500m away to the north.



**Figure 4 – Figure 4.1 from Bk6, Vol4, Ch4 showing Receptor C and Marlesford (circled)**

Receptor C does not represent the nearest receptor in Marlesford.

The nearest residential property to the east would be Ford Gatehouse, Ford Road, as circled in red in Figure 5. This property is closer to the east site boundary than any properties in the vicinity of 'Receptor C' and ambient noise levels on Ford Road will be much lower than adjacent to the A12 (so will require additional baseline measurements per RFI 28). ESC therefore request that The Applicant provides an updated assessment which includes Ford Gatehouse on Ford Road to the east, circled in red.



**Figure 5 – Aerial photo showing nearest residential property to the east of SP&R**

NV45

*Noise – Mitigation*

**Request for information 30** – Exceedance of the operational noise LOAEL for the Northern Park and Ride site is identified at one receptor and The Applicant states (in Bk6, Vol 3, Ch4) that *“this will be mitigated and minimised through the measures described in section 4.5 of this chapter”*. However, no specific operational noise mitigation is prescribed other than earth bunds, which are included in the predictions. Could The Applicant please clarify what mitigation would be applied to mitigate and minimise operational noise where it is predicted to exceed the LOAEL

**4 FREIGHT MANAGEMENT FACILITY (FMF)**

**4.1 Construction**

NV66

*Noise – Assessment*

**Request for information 31** – Paragraph 4.3.31 of Vol 8 Ch 4 states that *“no baseline monitoring was undertaken as part of the assessment since the existing noise climate would not influence the outcome of the assessment”* because noise and vibration are considered against absolute values. However, both the BS 5228-1 ABC Method (Table 4.2) and the adopted LOAEL threshold (paragraph 4.3.28) are set according to baseline ambient noise levels. ESC request that The Applicant clarifies this approach because it is unclear how the assessment was completed with no baseline monitoring.

## NV67

### *Noise – Mitigation*

**Request for information 32** – Paragraph of 4.6.10 of Vol 8 Ch 4 states that “*the LOAEL, which for construction noise is taken to be equal to the existing baseline sound levels, may be exceeded at the closest receptor locations for at least some of the time during the construction works*” and that this would be mitigated and minimised through implementation of the CoCP. However, ESC notes that the adopted LOAEL threshold (paragraph 4.3.28) is aligned with existing baseline ambient noise levels, which have not been measured. ESC request that The Applicant clarifies this approach, and in particular how the above conclusion was reached without any baseline monitoring.

## **4.2 Operation**

### NV68

#### *Noise – Predictions*

### NV69

#### *Noise – Criteria*

### NV70

#### *Noise – Assessment*

**Request for information 33** – There are no predictions of noise from mechanical plant serving the operational FMF, nor criteria adopted for the assessment of plant noise. The site is proposed to contain amenity and office buildings, which presumably would require some mechanical plant to serve their basic functions, and on this basis, ESC consider that noise from mechanical plant during the operational phase should be assessed, and request that The Applicant provides an explanation for this exclusion and, as far as is appropriate, provides an assessment of potential plant noise impacts and of mitigation which might be required to mitigate/minimise/avoid adverse effects.

**Request for information 34** – The operational noise assessment does not include potential increases in road traffic noise on Felixstowe Road, which would be the only access route for vehicles using the FMF. This is the old Ipswich to Felixstowe route (which was replaced by the A14) and therefore does not currently carry high volumes of traffic. This makes it more likely that noise from increased traffic could be significant.

As indicated in Figure 6, there are at least 2 residential properties on Felixstowe Road which could be subject to increased road traffic noise levels as a result of vehicles attending or leaving the FMF. SCC request clarification of why this was not assessed, and if necessary, that The Applicant provides an assessment of this potential impact.



**Figure 6 – Aerial photo showing residences on Felixstowe Road, to the west of the FMF**

## Report Status

| Revision | Date        | Prepared by        | Checked by    |
|----------|-------------|--------------------|---------------|
| -        | 26 May 2021 | Gary Percival MIOA | Joe Bear MIOA |
|          |             |                    |               |
|          |             |                    |               |

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SIZEWELL C PROJECT  
SZC CO.'S SECOND SET OF LPA RFI RESPONSES

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## APPENDIX B: AJA TECHNICAL NOTE M007

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## TECHNICAL MEMORANDUM

|                   |                             |                   |                    |
|-------------------|-----------------------------|-------------------|--------------------|
| <b>Project</b>    | 12804 SZC Noise & Vibration |                   |                    |
| <b>Date</b>       | 23 July 2021                | <b>Memo No</b>    | M007               |
| <b>Written by</b> | Joe Bear MIOA               | <b>Checked by</b> | Gary Percival MIOA |
| <b>Filename</b>   | 12804 M007.docx             |                   |                    |

### SZC NOISE AND VIBRATION – FURTHER REQUESTS FOR CLARIFICATION

#### 1 INTRODUCTION

This memo presents a further list of requests for information/clarification following our ongoing review of documents submitted by The Applicant to the Examining Authority. For brevity, and to avoid duplication of comments these requests are grouped per subject area as opposed to separate assessment study areas.

#### 2 CODE OF CONSTRUCTION PRACTICE

##### 2.1 Community Engagement

Section 3. Communication, Community and Stakeholder Engagement sets out proposals for engagement with the local community stakeholders and handling complaints, including noise.

**Request for information 35** – Can The Applicant please confirm the following:

- a) East Suffolk Council will receive any information on construction activity circulated to the local communities, particularly in relation to any “*out of the ordinary*” events.
- b) That logs of all complaints received by SZC will be passed on to relevant regulatory authorities (e.g. ESC for matters to noise, air quality, or light pollution etc.) on a periodic basis along with details any the actions arising from the complaints.
- c) That SZC will provide complainants with contact details for the relevant statutory authority as part of the standard complaints handling procedure should they want to make a formal, or an anonymous complaint.
- d) Whether the above will be secured within the CoCP.

### **3 NOISE MONITORING AND MANAGEMENT PLAN**

The Code of Construction Practice and other submitted documents refer to a Noise Monitoring and Management Plan to be developed in conjunction with the relevant local planning authorities. ESC's expectation is that the Noise Monitoring and Management Plan will be developed in conjunction with the detailed assessments required for the Noise Mitigation Scheme and Section 61 applications (or equivalent bespoke processes) so that the data collected aligns with the areas of concern.

**Request for information 36** – Can the Applicant please confirm whether the document will include a procedure for reasonable investigation of noise complaints associated with the development to determine whether the various thresholds, including those in the Noise Mitigation Scheme, are met in relation to construction noise, operational noise and transportation noise and vibration sources.

### **4 NOISE MITIGATION SCHEME**

#### **4.1 Application**

**Request for information 37** – The Noise Mitigation Scheme is detailed in Volume 2 Main Development Site Chapter 11 Noise and Vibration Appendix 11H. Presumably, the intention is for the single document to apply to receptors across all the study areas considered in the different chapters of the Environmental Statement and that a single document has been submitted to avoid unnecessary duplication between chapters. Can The Applicant please confirm whether this is the case?

#### **4.2 Thresholds for Operational Noise**

The Noise Mitigation Scheme includes insulation eligibility thresholds for operational plant and activity noise. However, these thresholds are set at higher levels than the operational noise criteria which are referred to in the various Environmental Statement Chapters. We expect that some of these operational noise criteria (particularly for operational power station noise) will eventually be secured via a DCO requirement, or otherwise by the associated documents, and will therefore be legally binding.

**Request for information 38** – Can the Applicant please confirm in what circumstances the Noise Mitigation Scheme thresholds for operational noise might be expected to be applied without the operational noise limits having been breached?

### 4.3 Temporary Rehousing Thresholds – Construction Noise

The Noise Mitigation Scheme states that

An offer of insulation means a property which is predicted to experience a construction noise level which exceeds either:

(1) (a) the noise insulation trigger levels set out in Table 1.2 for the corresponding times of the day; or  
(b) the existing Baseline Ambient Sound Level for the corresponding times of the day;  
whichever is the higher; and

(2) any exceedance of (1) is predicted to last for a period of 10 or more days of working in any 15 consecutive days or for a total number of days exceeding 40 in any 6 consecutive months.

This wording and the associated noise insulation trigger levels are taken from Annex A4 of BS 5228-1:2009+A1:2014 *Code of practice for noise and vibration control on construction and open sites. Noise* which is a traceable and appropriate source. However, the above criterion would permit daytime construction noise levels in gardens and external amenity spaces of up to 84 dB  $L_{Aeq,T}$ , which would clearly interfere with the resident's use of these spaces.

**Request for information 39** – Given the unusually long duration of the construction works in this case, can The Applicant confirm if they have considered the feasibility of adopting bespoke noise trigger levels at lower thresholds to those set out in Annex A4 of BS 5228-1 to provide increased protection to the properties most affected by construction noise from the development?

### 4.4 Revised assessments

The various road traffic noise assessments include predictions for the “*typical and busiest day in 2028*”.

**Request for information 40** – Can the Applicant please confirm whether the assessments against the road noise criteria in the Noise Mitigation Scheme are proposed to be based on the typical or busiest day levels?

Given that the “*busiest day*” conditions are expected to last for a total of seven months over the prolonged construction period, Suffolk County Council have expressed a strong preference for the assessment to be based on the “*busiest day*” levels.

## 5 ROAD TRAFFIC NOISE

### 5.1 New road schemes

New roads schemes are proposed as part of strategy to minimise the impact of development related traffic on the existing road network. This is expected to result in an overall reduction in the number of receptors adversely affected by traffic noise associated with the development. However the new road schemes will generate adverse impacts on receptors not currently affected by road noise, albeit in smaller numbers. The policy aim of Section 5.11.9 of Overarching National Policy Statement for Energy (EN-1) to “mitigate and minimise other adverse impacts on health and quality of life from noise” is therefore triggered.

Design Manual for Roads and Bridges LA 111 Noise and vibration states that measures to mitigate and manage operational noise from new roads may include, but are not limited to:

- 1) vertical or horizontal alignment of the road;
- 2) earth bunds to act as a noise barrier;
- 3) noise barriers;
- 4) low noise road surfacing;
- 5) speed limits;
- 6) restrictions on noisy vehicle types

**Request for information 41** – It is recognised that not all of the options for noise mitigation measures identified in DMRB LA111 are practical or desirable for the new road schemes in this case. However, can The Applicant please confirm:

- a) What specific noise mitigation measures are included in modelling used to assess the impact of noise from new road schemes?
- b) What additional noise mitigation measures will be considered as part of the detailed design of the road schemes?
- c) How will the various stakeholders be consulted, and a final decision be reached, where the addition of noise mitigation measures requires a balance to be struck between noise control and any associated negative impacts (e.g. the visual impact of noise barriers or bunds)?
- d) Will the predicted noise levels be revised at the detailed design stage to include the finalised road alignments and the effect of any additional noise mitigation measures, and the results submitted to the Highways Authority as part of the technical sign off process?

## 5.2 Existing roads

The Applicant has assessed the impact of increased traffic on existing roads using the same criteria as applied to new road schemes, which is welcomed. This process has identified a large number of receptors where traffic noise from existing roads is expected to exceed the LOAEL and a smaller number of receptors where noise levels are expected to exceed SOAEL.

**Request for information 42** – Where the projected increase in traffic on existing roads associated with the development is expected to exceed the LOAEL, can The Applicant please confirm:

- a) What noise reduction measures are being considered for existing roads to meet the policy requirement to mitigate and minimise adverse impacts on health and quality of life? For example this might include, resurfacing works and funding for highways maintenance due to additional traffic volumes associated with the development.
- b) Where noise measures for existing roads are being considered, can the Applicant please confirm how any such offers to the highways authority will be secured?

## 6 IDENTIFICATION OF NOISE SENSITIVE COMERCIAL RECEPTORS

The Environmental Statement for the Two Village Bypass identifies residential receptors at Mollet's Farm (Receptor 15) but does not identify the associated camping site as a receptor.

**Request for information 43** – Can the applicant please provide some commentary on the screening process used to identify potentially noise sensitive commercial operations in the various study areas and how the noise impact onto individual commercial operations was assessed?

## 7 RAIL - GROUNDBORNE NOISE AND VIBRATION

### 7.1 Combined airborne and groundborne criteria

The rail vibration report (Chapter 9 Rail Appendix 9.3.B) states that *“for low-speed freight trains, airborne  $L_{Amax}$  values are likely to be caused by locomotive engines and exhausts, whereas ground-borne noise is generated by wheel/rail-excited rolling noise particularly where wheels pass over track joints”*.

**Request for information 44** – Given that the mitigation measures required to control groundborne and airborne noise are largely unrelated, can The Applicant please confirm what practical advantages there are in this case to novel approach of a SOAEL of 50  $L_{ASmax}$  based on a combined ground-borne noise and low airborne noise levels over the precedent of a ground-borne noise only SOAEL of 45 dB  $L_{ASmax}$  adopted for HS2 and other rail assessments and agreed in pre-application consultation with the Local Authority

## 7.2 Modelling uncertainty

**Request for information 45** – The assessment of vibration and ground-borne noise is based in a part on internal levels predicted using finite difference modelling software, Findwave. Can the Applicant please confirm the typical range of uncertainty expected with predictions made using this software and what effect variations within this range of uncertainty would have on the overall outcomes of the assessment?

## 7.3 Leiston and Saxmundham branch line and green rail route

### 7.3.1 Engine coasting

The report identifies engine coasting as a potential noise mitigation measure to avoid significant effects at properties along the Saxmundham and Leiston Branch Line.

**Request for information 46** – Can the Applicant confirm whether engine coasting is being considered as a viable mitigation measure for this section of line and if so, how would this be secured in their agreement with Network Rail and implemented in practice.

### 7.3.2 Rail Noise Management Strategy

We understand that the outcome of the assessment is reliant on the various mitigation measures described in the Draft Rail Noise Mitigation Strategy being implemented, including:

- Refurbished trackbed, concrete or steel sleepers and continuous as-rolled rail with not aluminothermic joints within 25 metres of any sensitive receptors;
- Additional under-ballast mat where line passes within 15 metres of a residential property for a minimum distance of 10 metres either side of the property;
- Speed limit of 10 mph through Saxmundham and along the length of the Saxmundham and Leiston Branch line during the early years of the development.

However, we understand that Network Rail have yet to confirm whether these measures can be implemented in practice.

### 7.3.3 Extent of impacts

**Request for information 47** – Can the Applicant please confirm:

- a) The number of properties where the LOAEL and SOAEL is expected to be exceeded in the “*early years*” before the existing track is proposed to be upgraded and engineering mitigation measures in the RNMS implemented.
- b) The number of properties where the LOAEL and SOAEL is expected to be exceeded if the mitigation measures highlighted in RNMS cannot be implemented in practice.

## 7.4 East Suffolk Line

### 7.4.1 Measurement uncertainty

The survey report states that:

*“The principal finding from the long-term Woodbridge survey is that groundborne pseudo noise levels have LAmax values of approximately 45 dB at 7.5m from the track, and for the daytime period the LAeq 16h level varies between 30 and 35 dB. The reason for the variation is not known—possible causes include operation of three-car trains and four-car trains, speed variations and the effect of groundwater levels.”*

**Request for information 48** – Can the Applicant please confirm:

- a) If these variations were assumed to be due solely to differences in groundwater levels or other propagation effects, as opposed to variations in the characteristics of the existing trains running on the line, would this add uncertainty to the assessment results?
- b) What effect variations within this range of uncertainty would have on the overall outcomes of the assessment?

### 7.4.2 Resilient rail pads

The survey report states that:

*“The track support stiffness is not the same on the East Suffolk Line as it is on the Leiston branch. Measurements made in Woodbridge shown in Figures 42 and 44 indicate a loaded track natural frequency of 50-63Hz which may be due to the presence of a resilient rail pad”.*

**Request for information 49** – Can the Applicant please confirm:

- a) Has the presence and condition of resilient rail pads at Woodbridge been confirmed with Network Rail?
- b) Whether the assessment of impacts along the East Suffolk Line assumes that the track conditions found at Woodbridge apply along the whole length of the line?
- c) If Network Rail have confirmed whether resilient rail pads are installed along the length of the East Suffolk Line within the study area and if not, what effect would sections of un-isolated track would have on the extent of impacts predicted to properties along the length of the line?

### 7.4.3 Location of rail joints

The survey report identifies impacts as a function of distance from the East Suffolk Line and separate outcomes for properties near to rail joints.

**Request for information 50** – Can the Applicant please confirm:

- a) The number of properties in the study area expected to be subject to levels exceeding LOAEL and SOAEL where are no rail joints in the vicinity?
- b) The number of additional properties that fall within the minimum stand-off distances from rail joints and are therefore also expected to be subject levels exceed the LOAEL and SOAEL.
- c) If the position of rail joints on the East Suffolk Line is not presently known, when will this necessary survey work be undertaken to determine the number of properties adjoining the East Suffolk Line expected to be subject levels exceeding the LOAEL and SOAEL levels?

### 7.4.4 Speed limits

The outcome of the assessment is dependent on the speed of the freight movements on sections of track passing close to residential receptors. The Draft Rail Noise Mitigation Strategy includes proposed speed restrictions through Woodbridge and Campsea Ashe. However, we understand that there are questions as to whether these speed limits can be imposed in practice due to timetabling constraints and safety concerns of the timings of level crossings.

**Request for information 51** – In the event that the speed limits are not imposed can The Applicant please confirm what effect this would have on the outcome of the assessment?

## 7.5 Selection of rolling stock

Freight trains with poorly maintained or malfunctioning suspension systems are known to generate elevated levels of ground borne noise and vibration. The Rail Noise Mitigation Scheme states that

*“SZC Co. will seek to use Class 66 locomotives where there is equivalent choice. The submitted noise assessments show that Class 66 and Class 68 locomotives fall within the assessment envelope, but Class 66 locomotives are preferred, where there is equivalent choice.*

*A suitable mechanism for delivering this preference, where there is equivalent choice, will be put in place between SZC Co. and the Freight Operating Company”.*

**Request for information 52** – Can the Applicant please confirm whether this mechanism will include a requirement for the locomotives and wagons used by the Freight Operating Company to be properly maintained and with appropriate suspension systems?



## 7.6 Mitigation

**Request for information 53** – Given the limited practical options for mitigation to control ground-borne noise and vibration at the receptors can The Applicant please confirm how the requirement of Section 5.11.9 of Overarching National Policy Statement for Energy (EN-1) to “mitigate and minimise other adverse impacts on health and quality of life from noise [and vibration]” will be met in instances of where the SOAEL threshold is predicted to be exceeded?

## 7.7 Monitoring

The Applicant has proposed thresholds for vibration on the basis of human response and it is accepted that the thresholds related to building damage are substantially higher, and therefore much less likely to be exceeded in this case. However, the presence of the new sources of ground borne noise and vibration in properties adjoining rail routes can be reasonably expected to raise concerns from residents over potential damage to their properties.

**Request for information 54** – Can the Applicant please confirm whether the Noise Monitoring and Management Plan will also include measurements of ground-borne noise and vibration as part of reasonable investigation into complaints.

## 8 MAIN DEVELOPMENT SITE – OPERATIONAL NOISE

### 8.1 Health and safety constraints

With regard to the application of operational noise criteria for the electrical substation, in paragraph 2.3.8 of the Initial Statement of Common Ground (June 2021) The Applicant states that: *“It was considered prudent to target best practice, quieter equipment, where it was reasonably practical to do so. The electrical substation is considered to fall into that category. It is less straight-forward to apply noise control to a nuclear power station where health and safety considerations would override noise control considerations, than it is to apply noise control to an electricity substation.”*

While the night-time noise limits for operational noise from the MDS remain under discussion, ESC do acknowledge that health and safety considerations are, of course, important when designing a nuclear power station. However, it is unclear why *“health and safety considerations would override noise control considerations”* and in particular why such constraints might prevent noise from the operational power station being limited to 35 dB  $L_{Ar,Tr}$  (as has been adopted for operational noise for Associated Development sites, for example) in favour of a less onerous limit of 40 dB  $L_{night}$ .

**Request for information 55** – If there are specific reasons why the health and safety constraints would prevent the lower night-time noise criterion being achievable, could The Applicant please explain what these are?

## 8.2 Comparison with HPC operational noise limit

On the same matter, in paragraph 2.3.25 of the Initial Statement of Common Ground (June 2021) The Applicant compares 40 dB  $L_{night}$  to the HPC operational noise limit of 45dB  $L_{Aeq,1hour}$  façade and states that the HPC noise limit is “*very similar in effect to the 40dB  $L_{night}$  value applied in the SZC noise assessment once the annual nature of the  $L_{night}$  index and the façade correction are taken into account*”.

The derivation of the HPC operational power station noise limit is not known to ESC, but we would consider an  $L_{Aeq,1hour}$  (or  $L_{night}$ ) night-time noise limit to be inappropriate for SZC for because it would not adequately consider the tonal characteristics likely to be inherent, which The Applicant has acknowledged (in Volume 2, Chapter 11 of the Environmental Statement) to be an important consideration. A rating level limit would, such as the preferred threshold of 35 dB  $L_{Ar,15minutes}$  adopted for the MDS substation (and for mechanical plant equipment serving Associated Development sites).

Notwithstanding this point of general disagreement, the technical justification for the equivalence between  $L_{Aeq,1hour}$  and  $L_{night}$  is not entirely clear to ESC.

**Request for information 56** – Could The Applicant please clarify the assumed equivalence between  $L_{Aeq,1hour}$  and  $L_{night}$  in more technical detail, particularly in relation to the relationship with the “*annual nature of the  $L_{night}$  index*”?

## 8.3 Security of operational noise limits

Irrespective of any disagreements as to appropriate night-time absolute noise limits for the operational powers station, ESC note that neither the current draft DCO or Deed of Obligation (June 2021) contain operational noise limits for the power station.

**Request for information 57** – Could The Applicant please clarify how they intent the operational noise limits for the power station to eventually be secured?

## 9 NOISE ASSESSMENT METHODOLOGY PAPER

In paragraph 2.5.4 of the June 2021 ‘*Noise Methodology Assessment Paper*’ (part of the June 2021 initial Statement of Common Ground) there is discussion about the range of responses permitted in The EIA Regulations 2017, particularly the option to “*offset*” significant adverse noise effects rather than ‘*avoid, prevent or reduce*’ them.

**Request for information 58** – ESC recognise that this is an accurate reflection of the regulations but are unsure if, how and/or where such effects are proposed to be “*offset*” in the various noise and vibration assessments, as opposed to avoidance, prevention, or reduction. Could The Applicant please clarify if/how and/or where this applies?

**Request for information 59** – In the same paragraph (2.5.4) of the June 2021 ‘*Noise Methodology Assessment Paper*’ it is stated that “*a significant adverse noise effect could be legitimately addressed through provision of measures that do not alter the noise outcomes themselves.*” ESC do not believe this is not explicitly stated in the regulations and seems to be an interpretation of them. Could The Applicant please clarify this statement, or provide a reference to the regulations clearly explaining it?

In the same paragraph (2.5.4) of the June 2021 ‘*Noise Methodology Assessment Paper*’ it is stated that “*previous assessment methods were discussed with the local planning authorities over a series of meetings culminating in May 2019*”. However, ESC believe that a presentation was delivered by Sharps Redmore (on behalf of EDF)

in June/July 2019, where the previously proposed LOAEL and SOAEL values for MDS construction noise were again referred to.

**Request for information 60** – Could The Applicant please provide meeting notes and a copy of the presentation from June/July 2019 to clarify this, and to confirm if the previously proposed MDS construction noise criteria were referred to at this meeting?

## 10 INITIAL STATEMENT OF COMMON GROUND

ESC deadline 3 comments included a question regarding the omissions and inconsistencies in the information in Table 3.1 of the initial statement of common ground. These have since been resolved in further review.

**Request for information 61** – Not used

## 11 HIGH SENSITIVITY RECEPTORS

The noise and vibration assessment for the MDS (ES Volume 2, Chapter 11) classifies Pro Corda at Leiston Abbey as a 'High Sensitivity' receptor. Paragraph 11.1.19 of this chapter states that this is *"to take account of the potentially more sensitive activities that include, amongst other things, indoor and outdoor music performance and tuition."*

**Request for information 62** – While ESC do not necessarily disagree that Pro Corda operate some activities which are sensitive to noise, could The Applicant please clarify why this means they should be classified as *'high sensitivity'* in EIA terms, particularly in comparison to residential receptors?

## 12 DRAFT DCO (JUNE 2021)

### 12.1 Leiston Sports Facilities

Requirement 12A indicates that the design of external and landscaping works will be prepared by The Applicant and submitted to ESC for approval. This appears to contradict Section 2.1 of the draft Deed of Obligation (June 2021) which indicates that *"East Suffolk Council shall prepare or procure the preparation of the design of the Leiston Sports Facilities Works"*.

**Request for information 63** – Could The Applicant please clarify this apparent contradiction, because the proposed noise barrier on the east boundary of the facility will be vital in ensuring significant adverse noise effects are avoided, per NPS EN-1.

### 12.2 Rail Noise

In relation to sub-clauses (1) and (3) of draft Requirement 25, ESC are unclear why these refer to the hours of *"11pm and 6am"*. It is assumed this relates to the night-time period, but the ES and ES addendum both clearly define the night-time period for rail noise and vibration as between 23:00hrs and 07:00hrs (in line with guidance).

**Request for information 64** – Could The Applicant please clarify why the night-time hours are apparently defined differently in this requirement than in the ES documents?

Furthermore, in relation to sub-clause (1) of draft Requirement 25, ESC note that The Applicant clarify why this only refers to Work No.4 and not also to the East Suffolk Line.

**Request for information 65** – Could The Applicant please clarify why sub-clause (1) of draft Requirement 25 only refers to Work No.4 and not also to the ESL?

## Report Status

| Revision | Date         | Prepared by   | Checked by         |
|----------|--------------|---------------|--------------------|
| -        | 23 July 2021 | Joe Bear MIOA | Gary Percival MIOA |
|          |              |               |                    |
|          |              |               |                    |

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SIZEWELL C PROJECT  
SZC CO.'S SECOND SET OF LPA RFI RESPONSES

**NOT PROTECTIVELY MARKED**

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## APPENDIX C: JUNE/JULY 2019 PRESENTATION

**NOT PROTECTIVELY MARKED**

SHARPS REDMORE

ACOUSTIC CONSULTANTS

# Sizewell C – Main Development Site

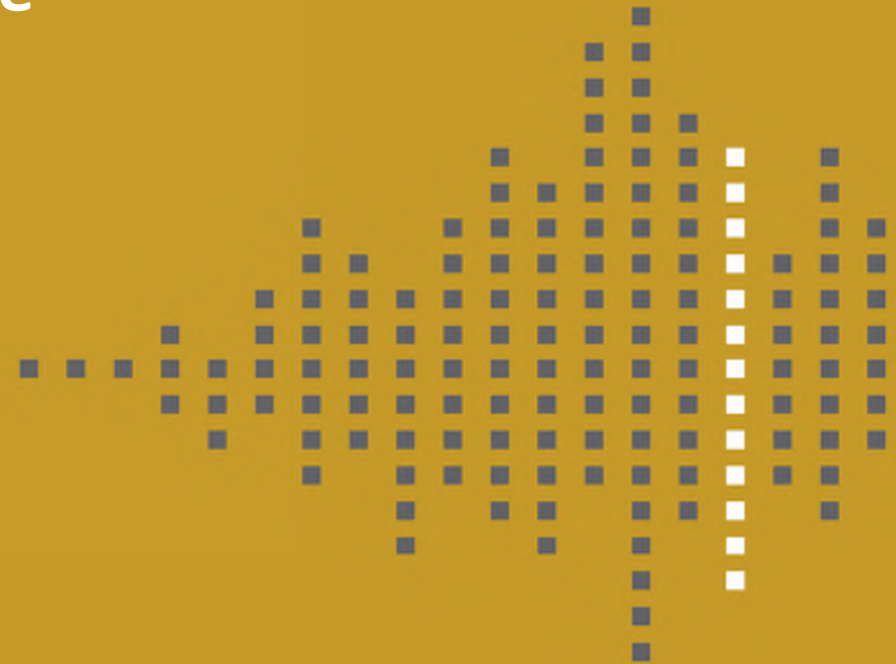
## Construction noise modelling update

## Baseline monitoring update

19 July 2019

Gary Percival

Dan Kinsman



# Agenda

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1. MDS Construction Phasing
2. Human Receptors
3. Construction Noise Modelling Methodology
4. Criteria – LOAELs and SOAELs
5. Mitigation
6. Modelling Results
7. Baseline Monitoring Update

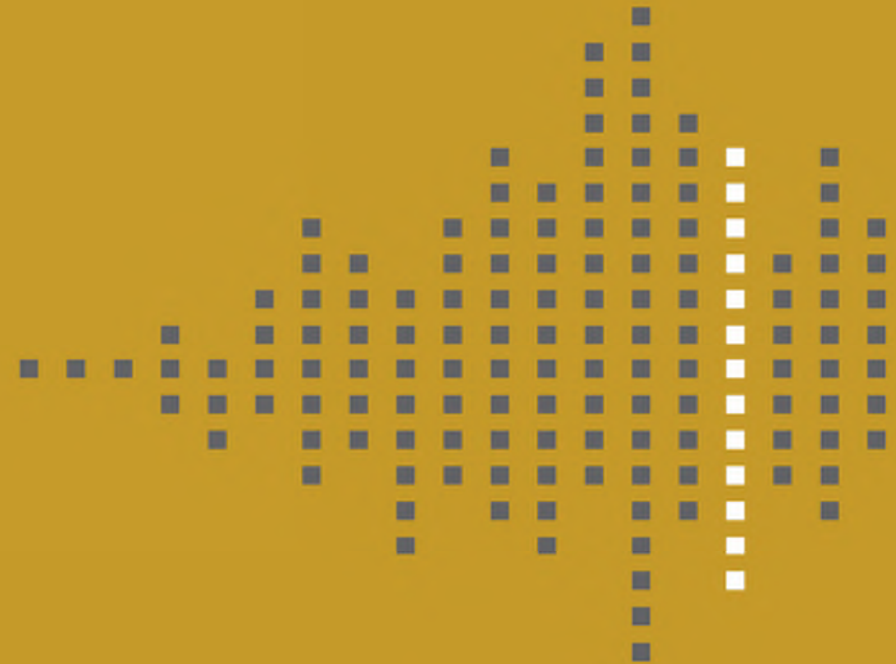




SHARPS REDMORE

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# MDS Construction Phasing



# MDS Construction Phasing

Construction will be in five main phases, with some overlap:

- Phase 1: Site establishment and preparation for earthworks (Years 1 – 2);
- Phase 2: Main earthworks (Years 1 – 4);
- Phase 3: Main civils (Years 3 – 9);
- Phase 4: M&E fit out, instrumentation and commissioning (Years 4 – 11); and,
- Phase 5: Removal of temporary facilities and land restoration (Years 10 – 12).

|                                                            | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 | Year 11 | Year 12 |
|------------------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|
| <b><u>Main Site</u></b>                                    |        |        |        |        |        |        |        |        |        |         |         |         |
| Phase 1: Site Establishment and Preparation for Earthworks | ■      | ■      |        |        |        |        |        |        |        |         |         |         |
| Phase 2: Main Earthworks                                   | ■      | ■      | ■      | ■      |        |        |        |        |        |         |         |         |
| Phase 3: Main Civils                                       |        |        | ■      | ■      | ■      | ■      | ■      | ■      | ■      |         |         |         |
| Phase 4: M&E Fit Out, Instrumentation & Commissioning      |        |        |        | ■      | ■      | ■      | ■      | ■      | ■      | ■       | ■       |         |
| Phase 5: Removal of Temporary Facilities & Restoration     |        |        |        |        |        |        |        |        |        | ■       | ■       | ■       |







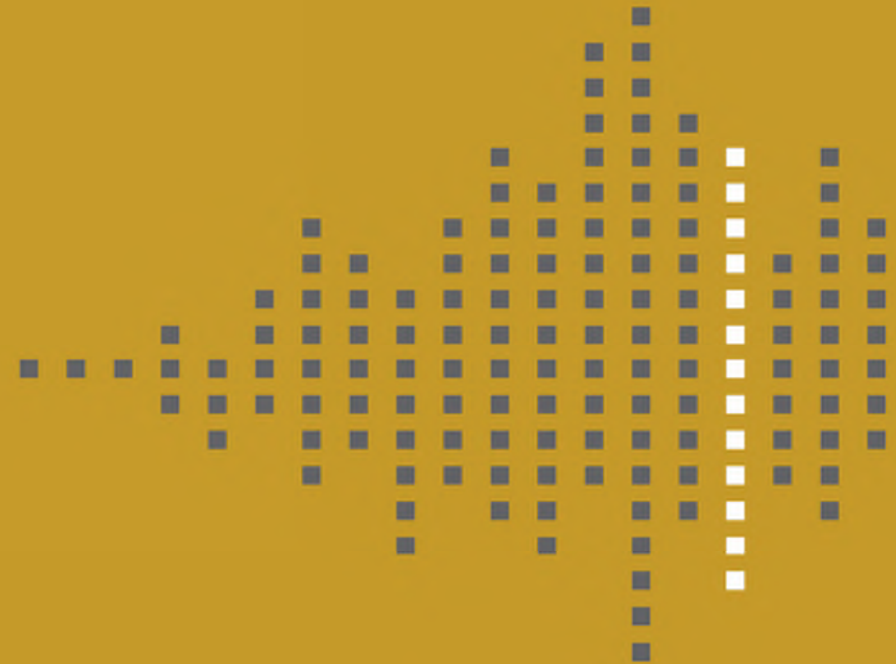




SHARPS REDMORE

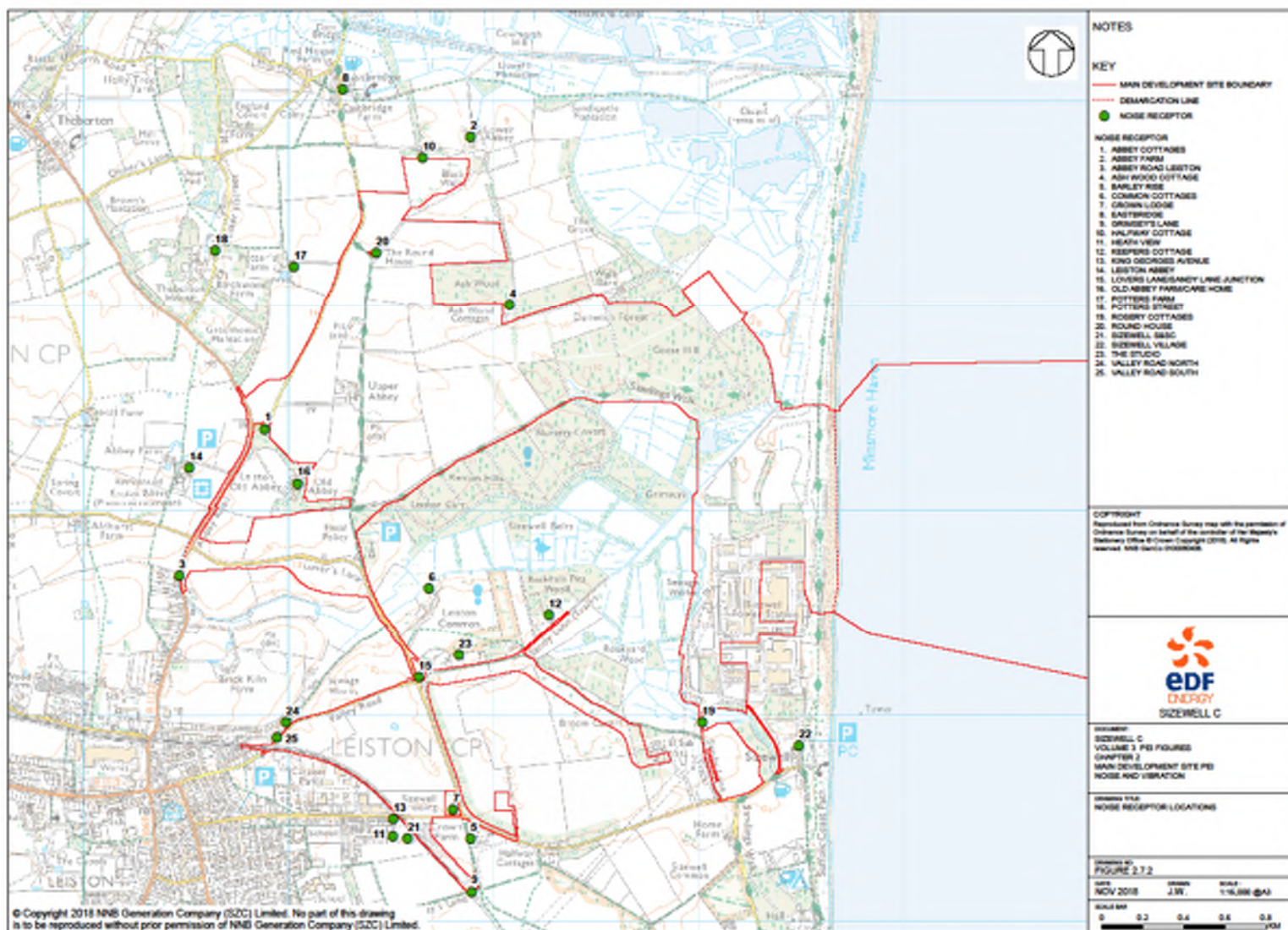
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# Human Receptors





# Human Receptor Locations



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# Construction Noise Modelling Methodology



# MDS Construction Noise Modelling

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## The Challenge:

- Multiple activities , plant types, and potential locations
- Multiple receptors
- 5 phases x 20 sub-phases x 'n' activities in each x no. each plant item
- Majority of activities involve mobile/transient sources, area ~ 3 km x 4 km
- Some activities/operations have multiple options eg. Borrow Pits
- Overall construction period T=12 years
- Changing ground levels/source heights over time/phases
- Uncertainty over 'on-times'
- Need to present results in a way which 'tells the story' of noise impact / time
- Final details of construction will not ultimately be known until post-DCO

# MDS Construction Noise Modelling

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## Our Solution:

- SoundPLAN 3D noise modelling software and statistical post-processing
- For each activity, define the extent of the area where this could potentially occur during the phase and create a matrix of identical sources in this area
- Repeat this for each type of plant/activity on the construction schedule
- Produce results for each activity at each receptor and use post-processing to determine and rank the contribution of each source at any chosen receptor
- For activities along a linear path, sources are spaced along the path and the same method used to calculate the worst case source location(s)
- Repeat for each receptor and combine with relevant on-time corrections to calculate a worst-case day in a typical week or month, or over the entire phase.
- Resulting output data shows relative contributions from each activity/source.
- Corresponding grid map also created in order to produce accurate contours.

# MDS Construction Noise Modelling

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## Assumptions and Limitations:

- Method assumes works will progress at steady rate across the defined area/path
- Borrow pits – worst case used in each case
- Limited data for Phase 5 Restoration
- Terrain data provided by WSP for each phase
- On times – levels could potentially be over estimate
- Assumes each activity lasts phase duration and all sub-phases occur simultaneously.
- Insufficient detail to fully account for phase overlaps and sub-phase duration.
- Material haulage and/or vehicle movements along a defined route modelled as moving point sources with source level, speed and no. movements per hour/day.
- Activities taking place in a fixed location modelled as a discreet point source.
- Operational on-site rail modelled as rail line in accordance with CRN.
- Day-time construction only (0700-2300hrs) – night-time construction under review

# MDS Construction Noise Modelling

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## Presentation of Results (Impact/Time)

Broadly speaking, the post-processed modelling outputs indicate that:

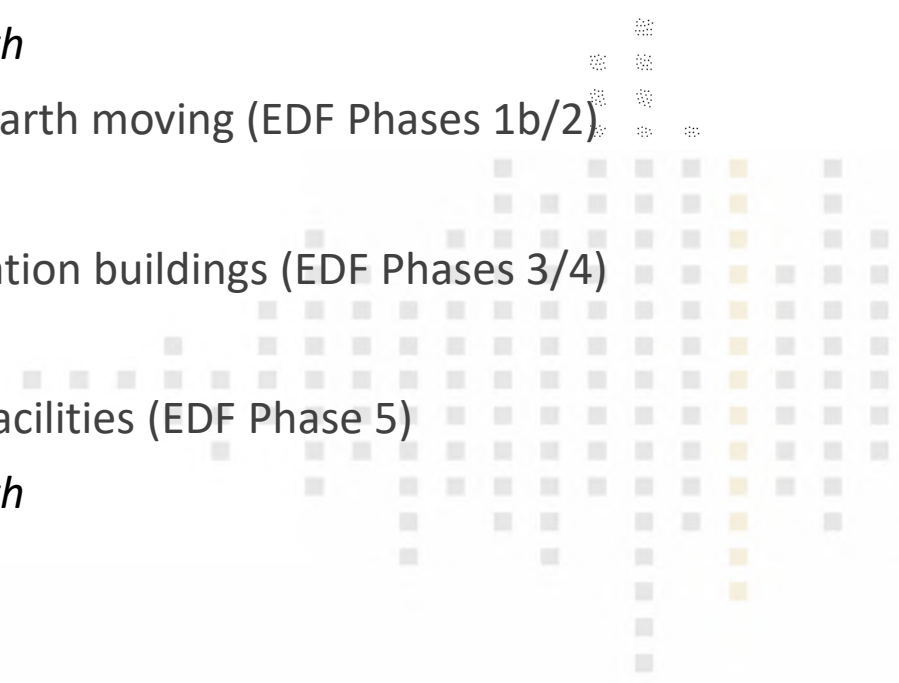
- The highest noise levels at human receptors are likely to occur during site stripping / levelling and concurrent noisy works (Phase 1a)
- Construction noise levels will then drop off slightly for the remainder of the site preparation and earthworks (Phase 1b/2) but remain significant at some receptors
- Noise levels during main civils, M&E fit-out, instrumentation and commissioning (Phases 3 and 4) will be much lower over a large proportion of construction period
- Construction noise will ramp up again during removal of temporary facilities and land restoration (Phase 5) with similar noise levels as Phase 1a at some receptors

# MDS Construction Noise Modelling

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## Presentation of Results (Impact/Time)

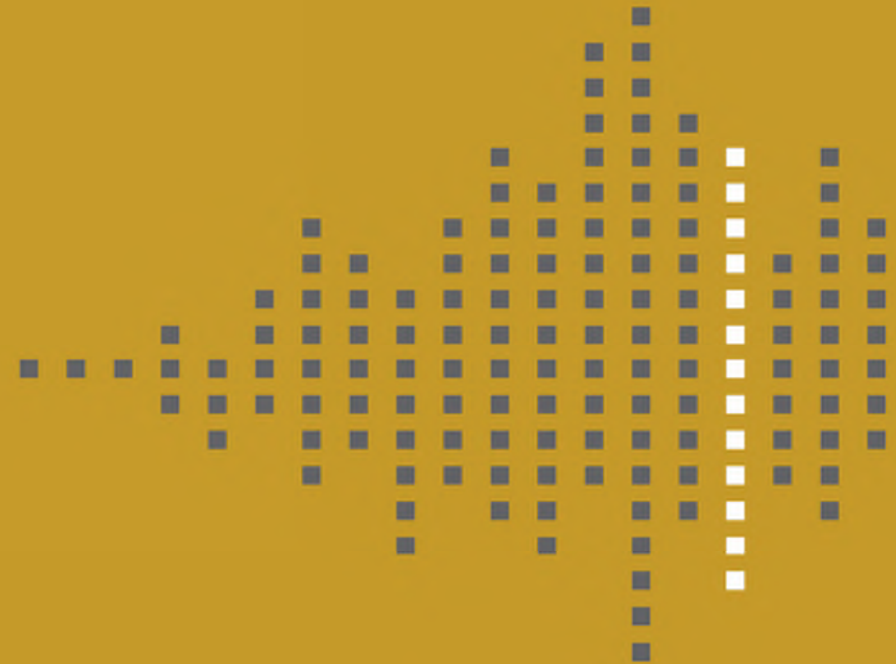
Outputs will therefore be categorised as follows for the purposes of assessment:

1. Initial site stripping/levelling and other concurrent noisy activities (EDF Phase 1a)  
*Based on typical day in the busiest month*
  2. Construction of site infrastructure and earth moving (EDF Phases 1b/2)  
*Based on phase average*
  3. Construction of above ground power station buildings (EDF Phases 3/4)  
*Based on phase average*
  4. Restoration and removal of temporary facilities (EDF Phase 5)  
*Based on typical day in the busiest month*
- 

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# Criteria





# MDS Construction Noise Criteria – All Sources

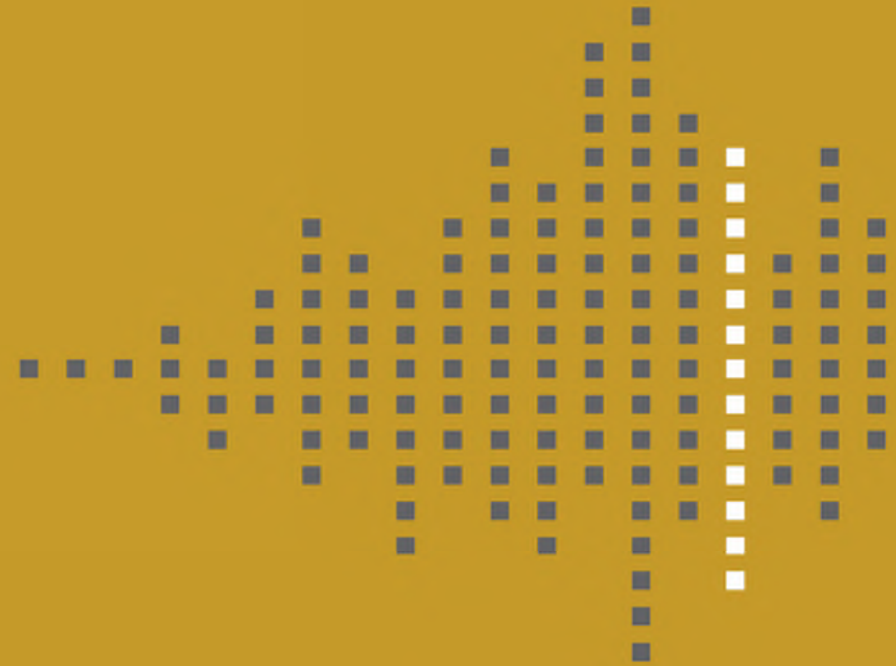
| Period                 | LOAEL | SOAEL | Parameter                   |
|------------------------|-------|-------|-----------------------------|
| Any day 07:00 to 23:00 | 50    | 60    | $L_{Aeq, T}$ dB, free field |
| Night 2300 to 0700     | 40    | 50    |                             |
| Night 2300 to 0700     | 60    | 70    | $L_{Amax}$ dB, façade       |

*Time period T in this table refers to the period in question: day (16 hours), evening (4 hours) or night (8 hours).*

SHARPS REDMORE

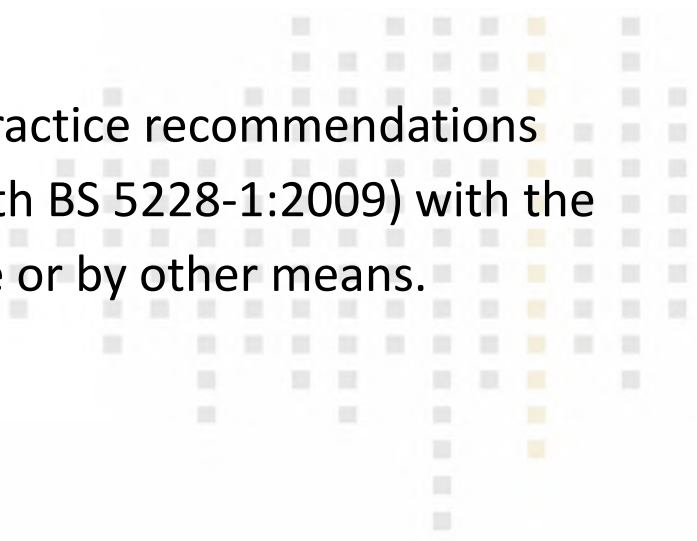
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# Mitigation

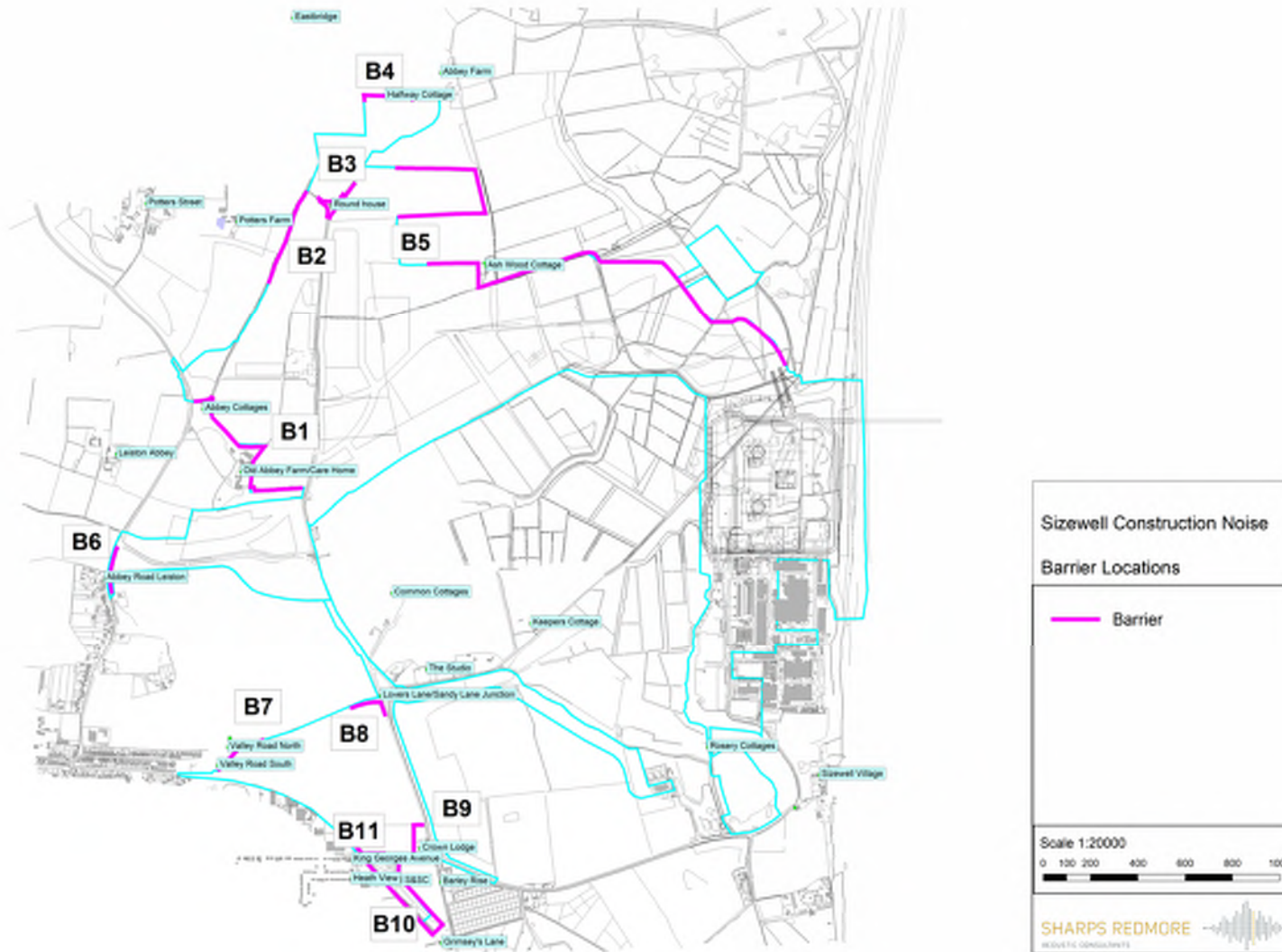


# Mitigation

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- Necessarily complex modelling methodology and limited detail regarding construction processes mean that mitigation recommendations discussed within the assessment will be limited in scope.
  - We are working with the landscape designers to show where physical barriers or other screening can be incorporated into the scheme. We will show results with/without screening to demonstrate what is achievable.
  - Where appropriate, we will also make good practice recommendations for specific plant/processes (in accordance with BS 5228-1:2009) with the aim of further reducing noise, either at source or by other means.
- 

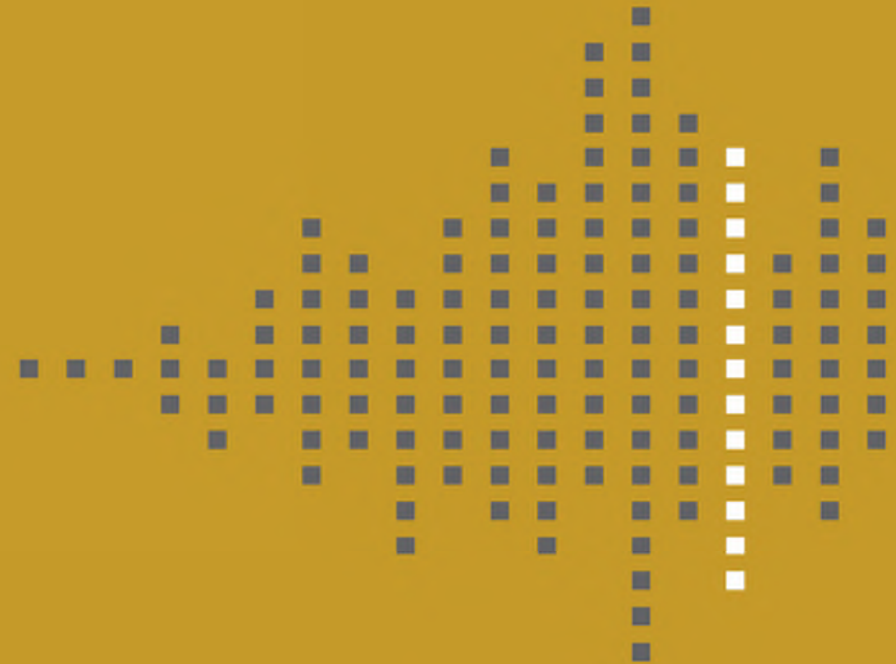
# Indicative Barrier Locations



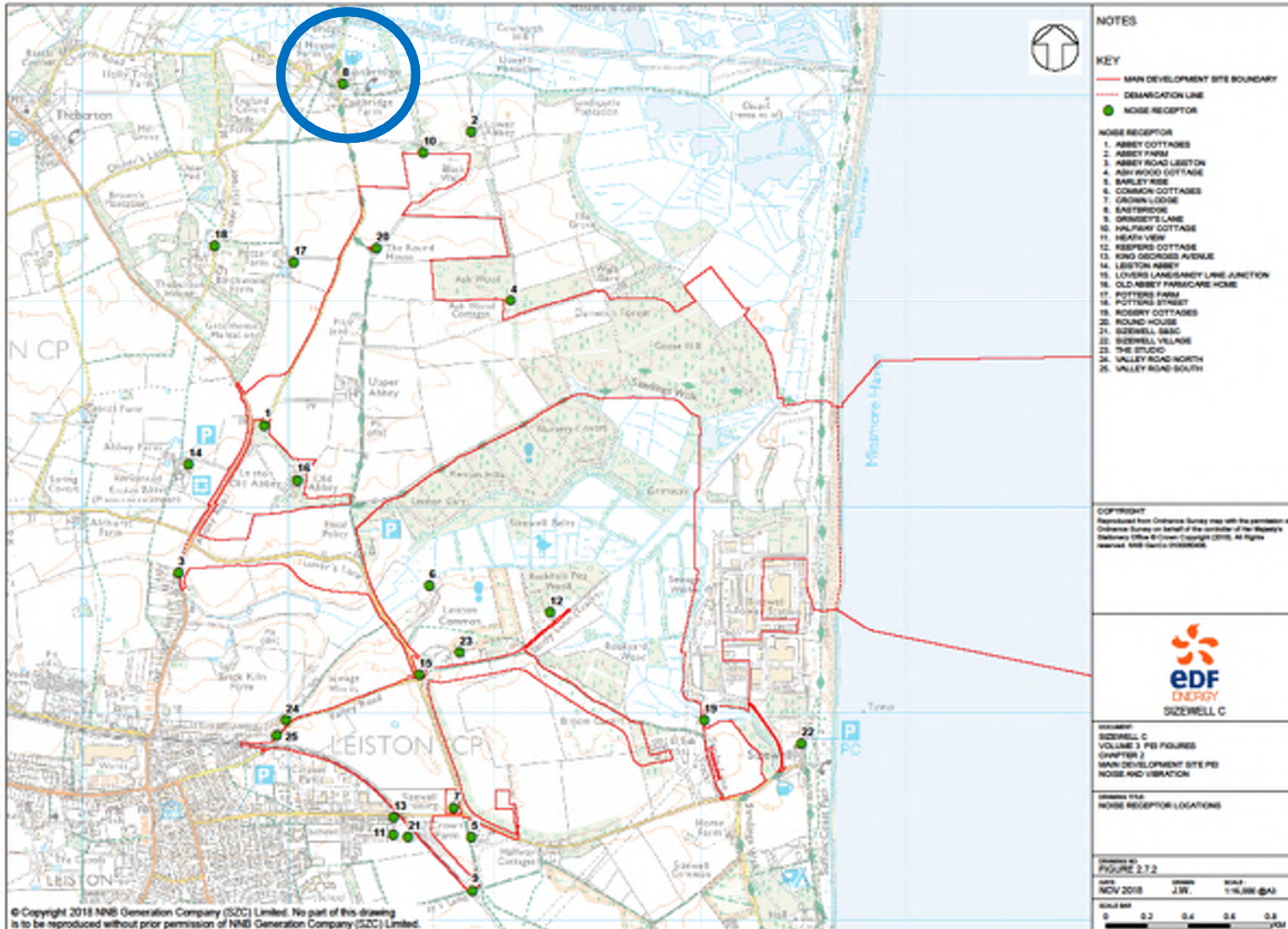
SHARPS REDMORE

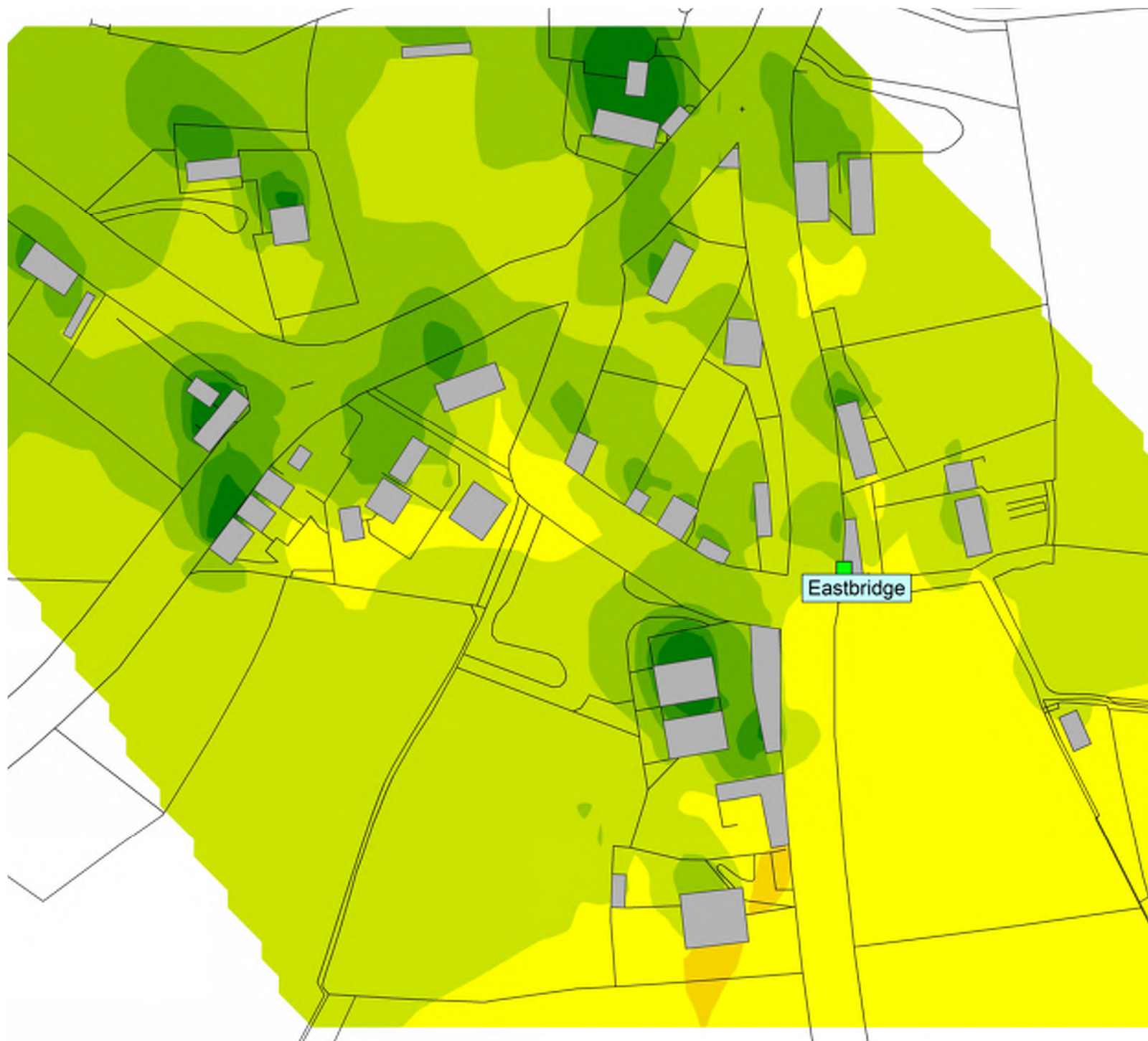
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# Results

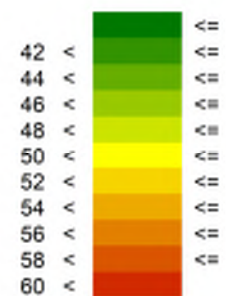


# Eastbridge





Noise level  
L<sub>Aeq</sub>(T)  
(dB)



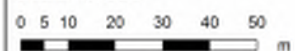
Sizewell Construcior

Phase 1A

Eastbridge

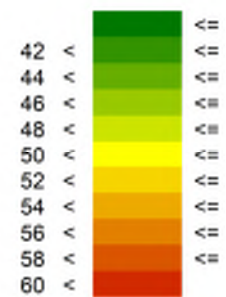
L<sub>Aeq</sub>(T)

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Noise level  
L<sub>Aeq</sub>(T)  
(dB)



Sizewell Construction

Phase 1B/2

Eastbridge

L<sub>Aeq</sub>(T)

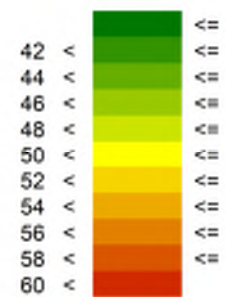
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Noise level  
LAeq(T)  
(dB)



Sizewell Construction

Phase 3/4

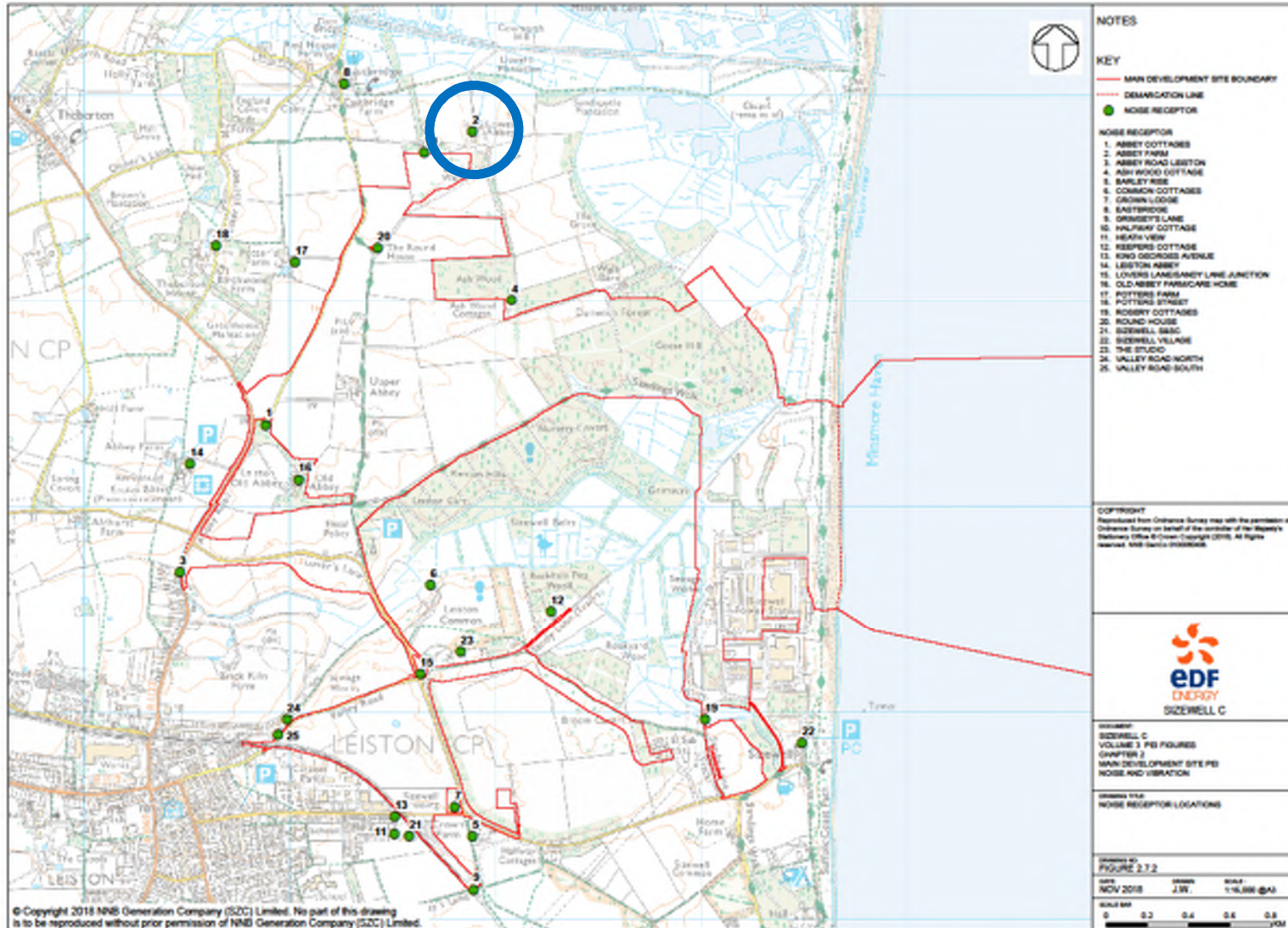
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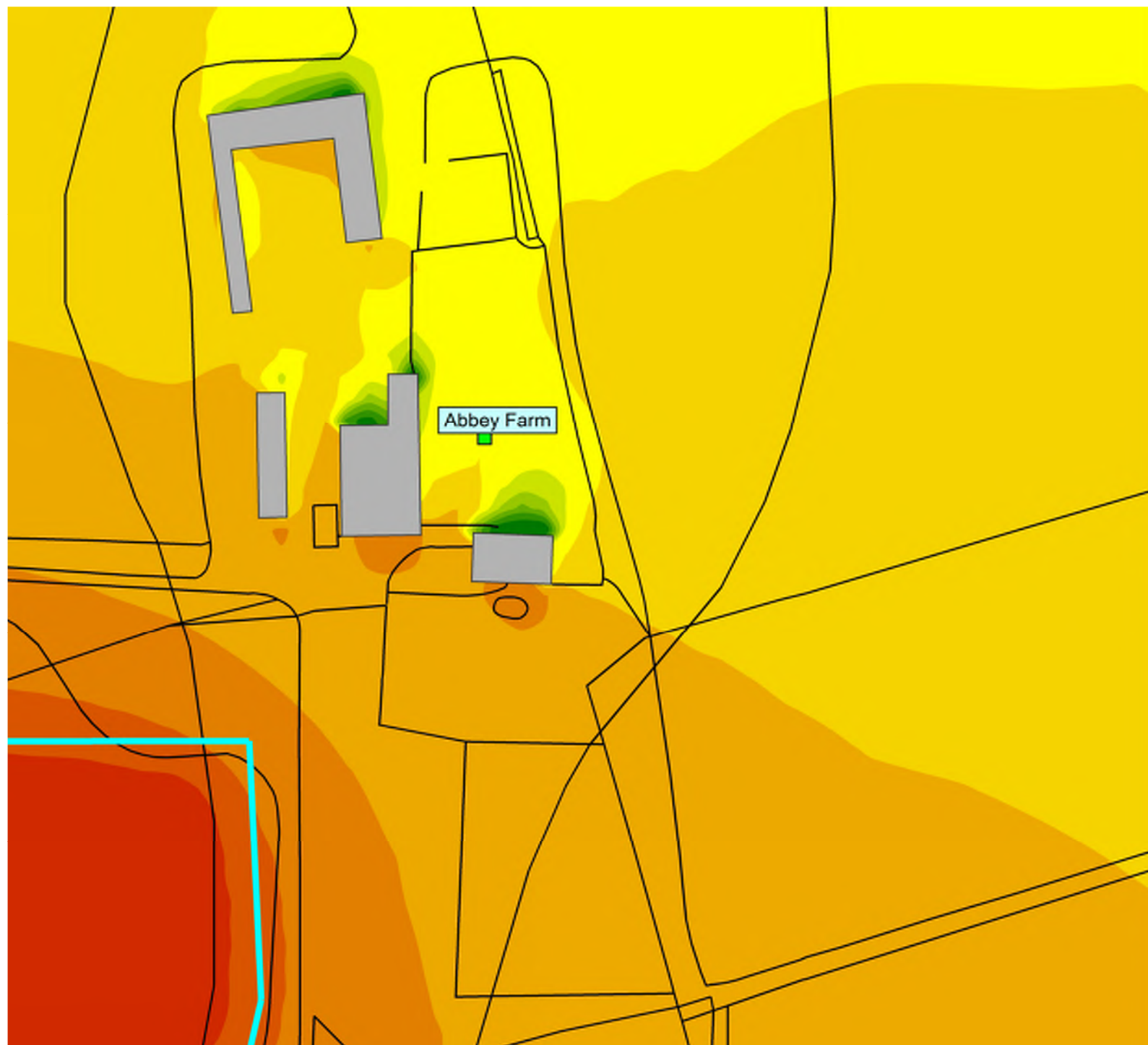
LAeq(T)

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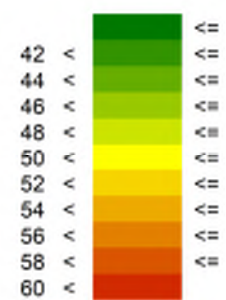


# Abbey Farm





Noise level  
LAeq(T)  
(dB)



Sizewell Construcion

Phase 1A

Abbey Farm

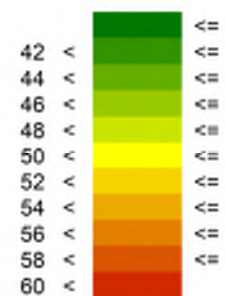
LAeq(T)

Scale 1:1250





Noise level  
L<sub>Aeq</sub>(T)  
(dB)



Sizewell Construction

Phase 1A

Abbey Farm

L<sub>Aeq</sub>(T)

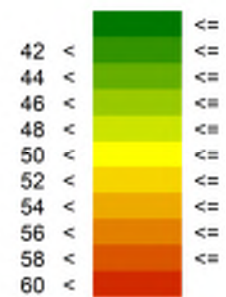
With 3m Barrier

Scale 1:1250

0 5 10 20 30 40



Noise level  
LAeq(T)  
(dB)



Sizewell Construction

Phase 1B/2

Abbey Farm

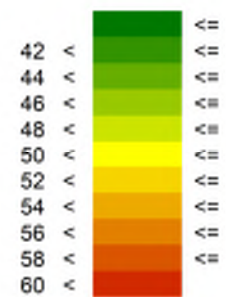
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Noise level  
L<sub>Aeq</sub>(T)  
(dB)



Sizewell Construcior

Phase 3/4

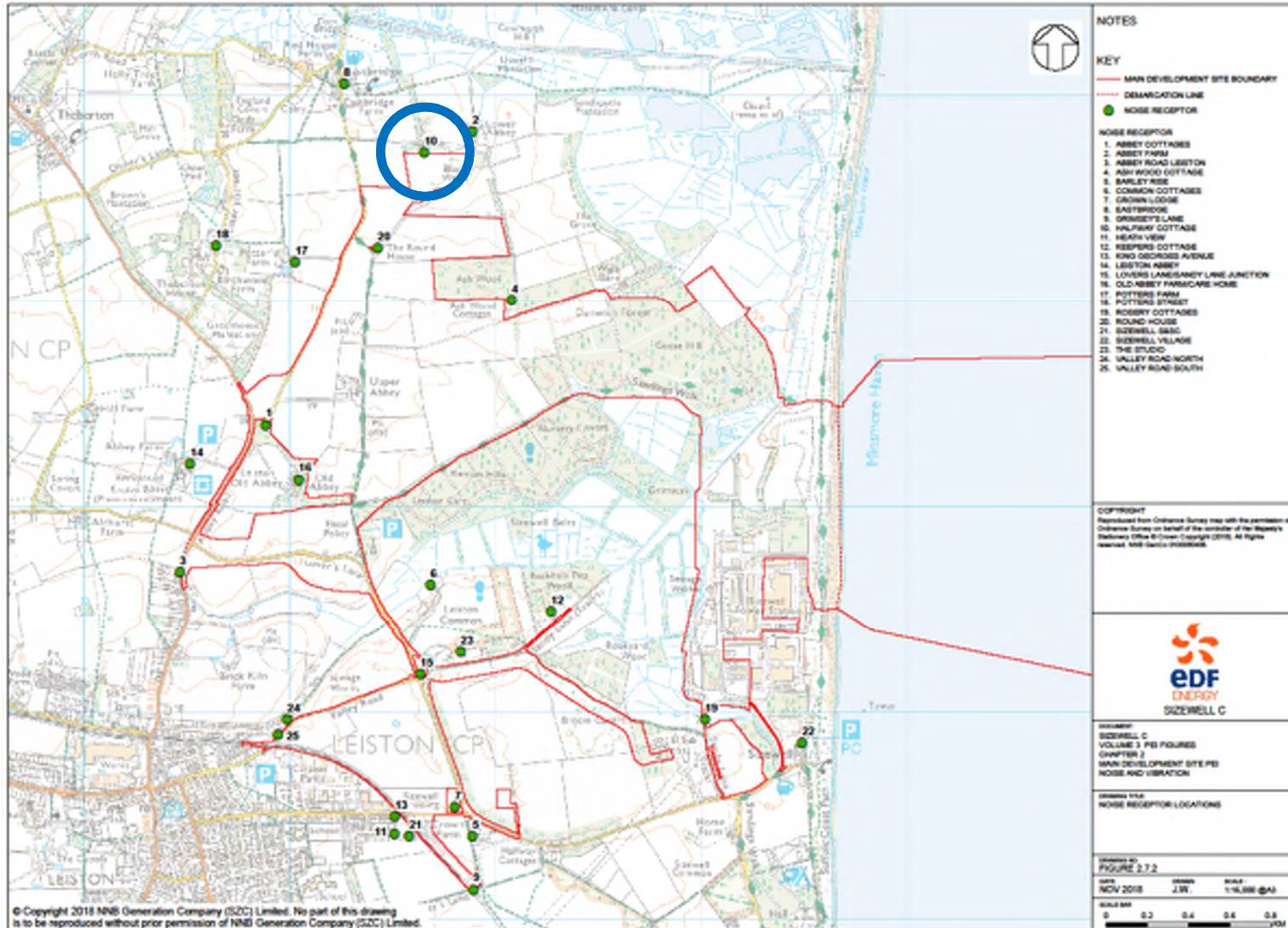
Abbey Farm

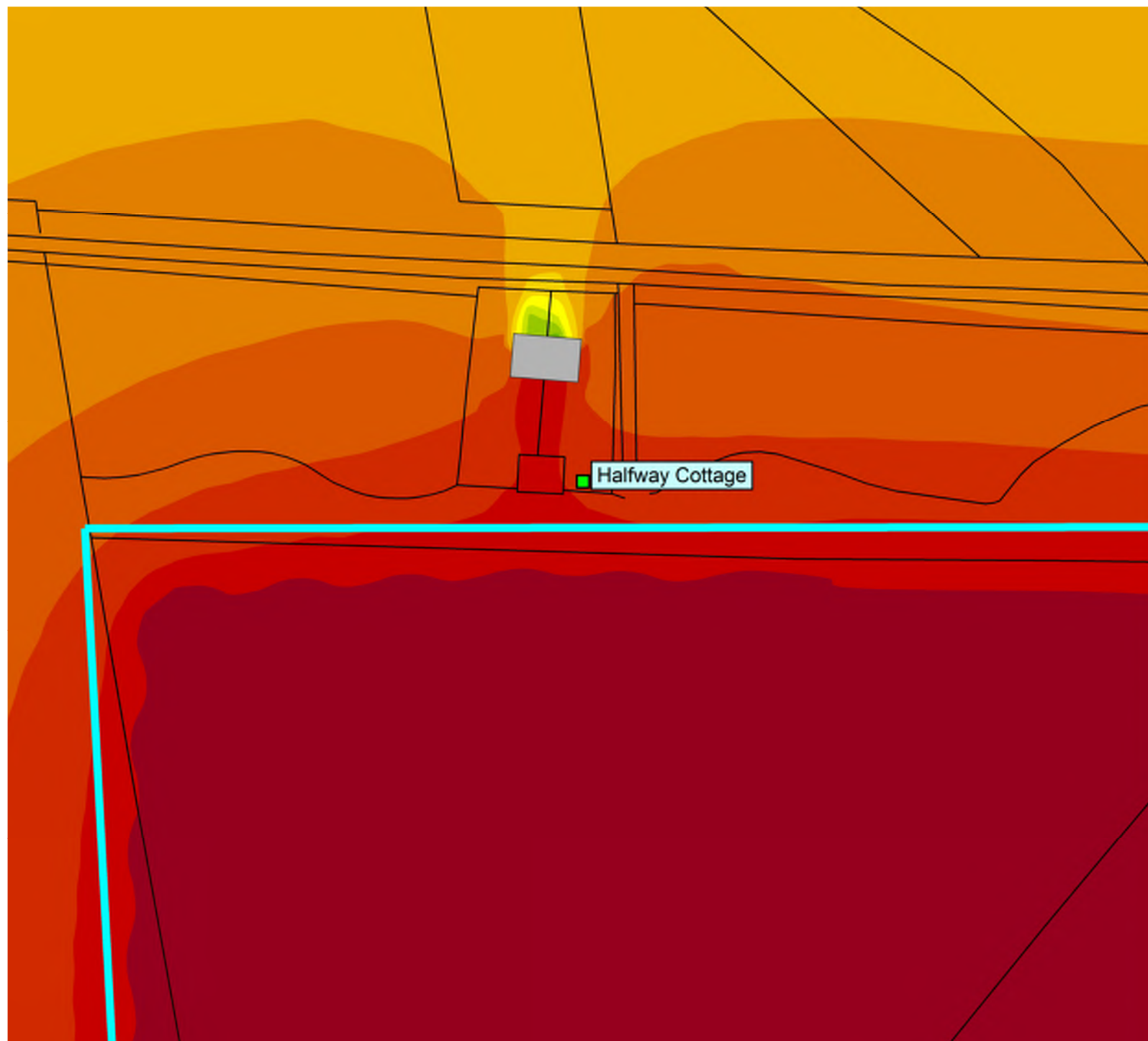
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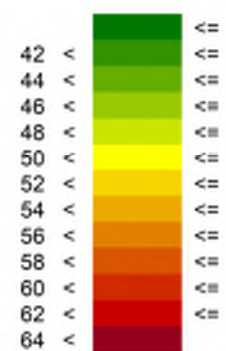


# Halfway Cottage





Noise level  
LAeq(T)  
(dB)



Sizewell Construction

Phase 1A

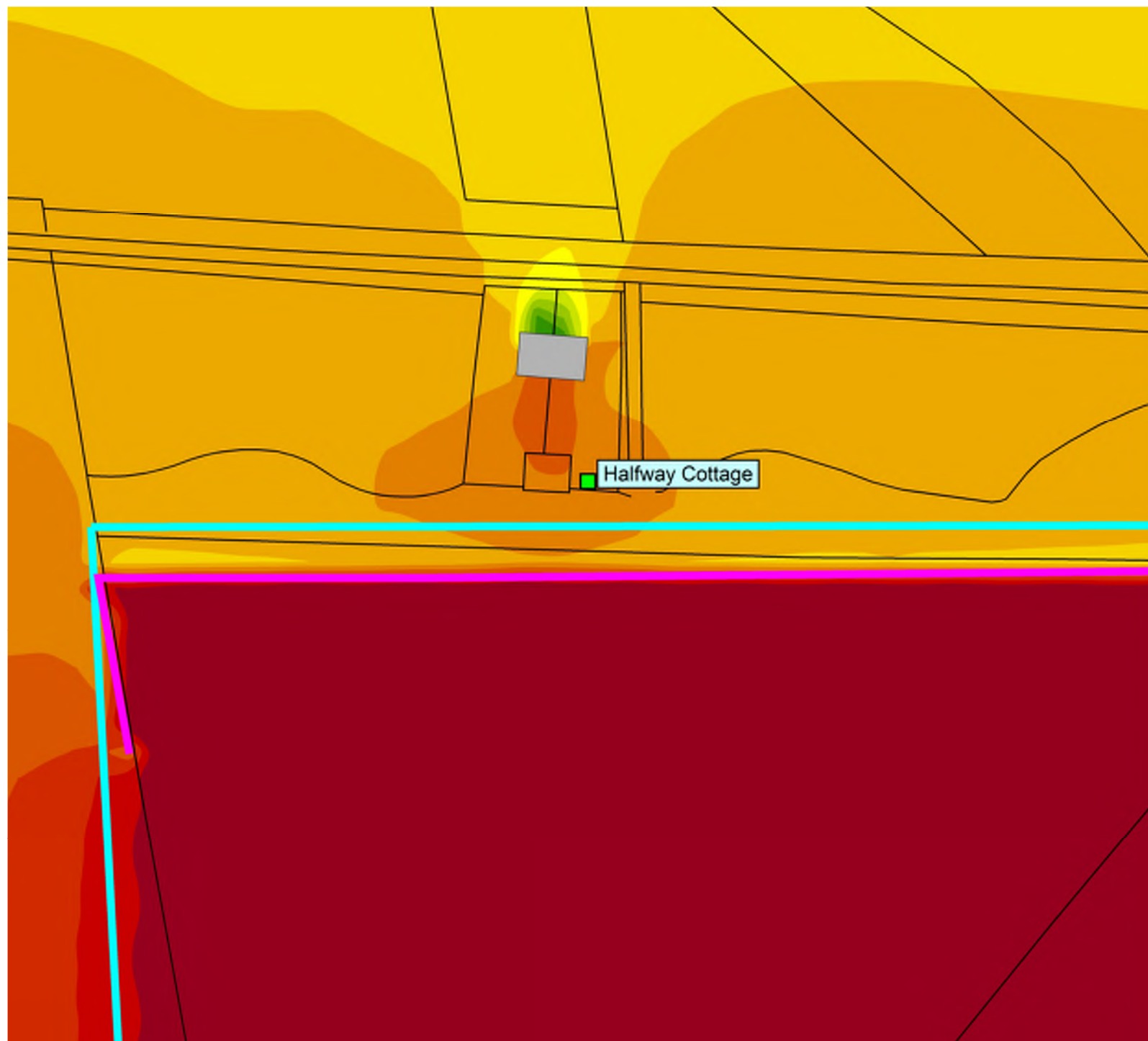
Halfway Cottage

LAeq(T)

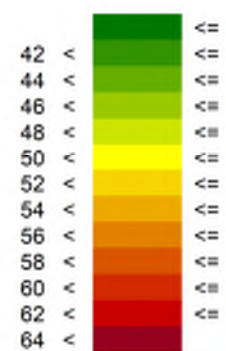
Scale 1:1000







Noise level  
L<sub>Aeq</sub>(T)  
(dB)



Sizewell Construction

Phase 1A

Halfway Cottage

L<sub>Aeq</sub>(T)

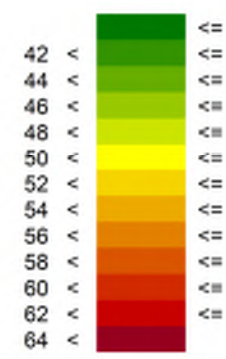
With 3m Barrier

Scale 1:1000





Noise level  
LAeq(T)  
(dB)



Sizewell Construction

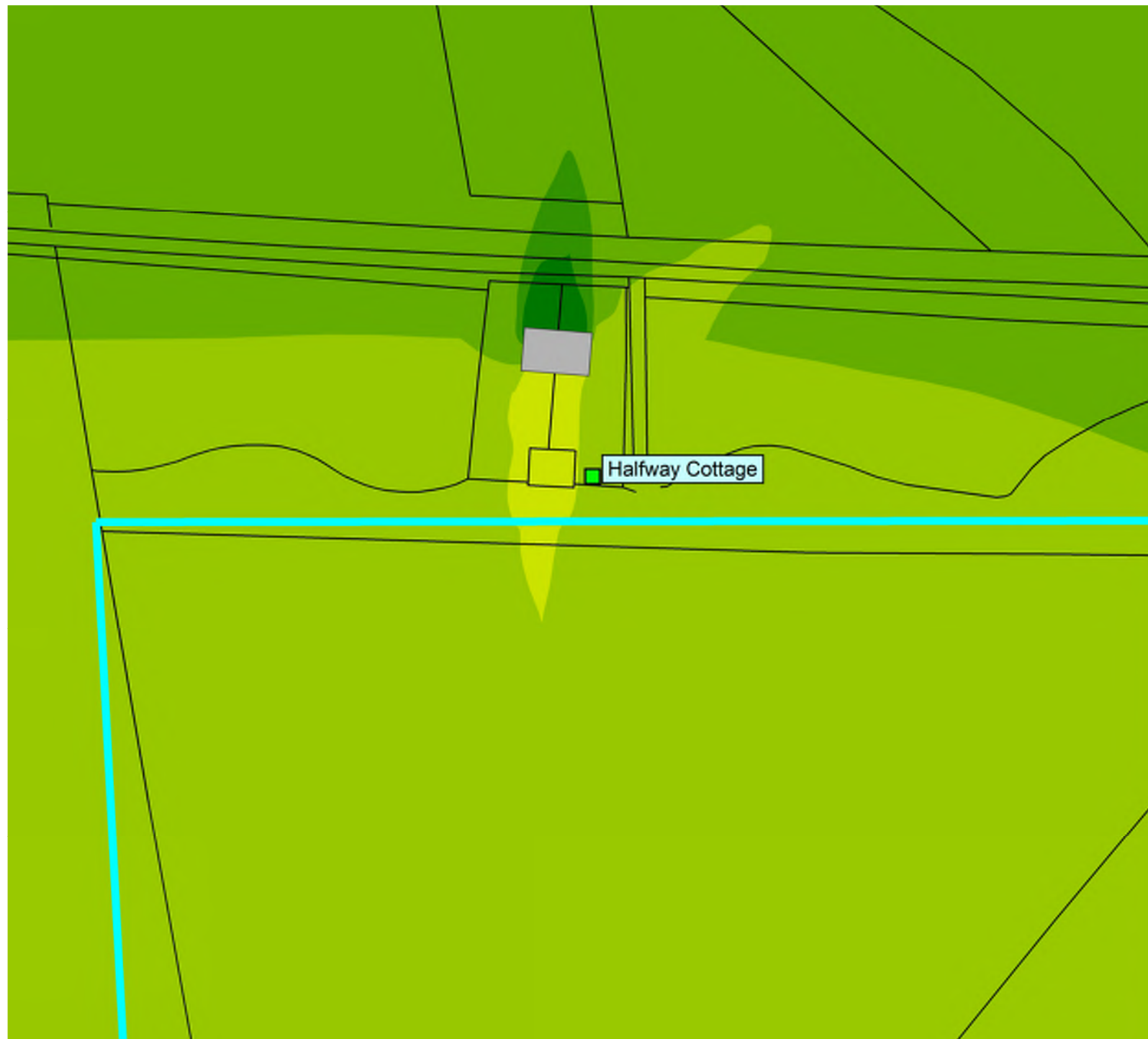
Phase 1B/2

Halfway Cottage

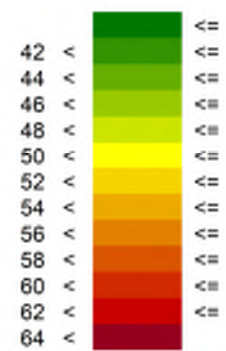
LAeq(T)

Scale 1:1000





Noise level  
LAeq(T)  
(dB)



Sizewell Construction

Phase 3/4

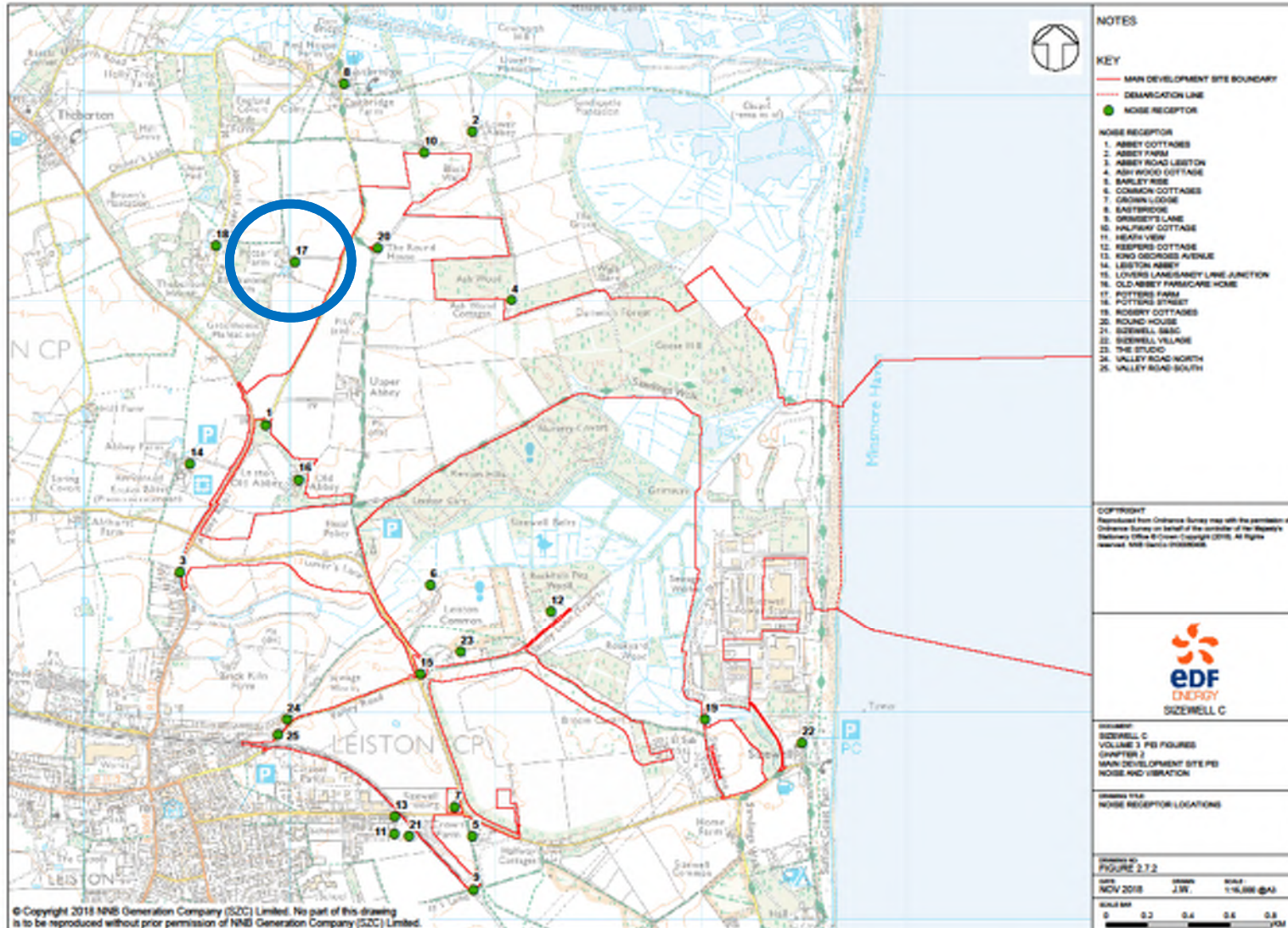
Halfway Cottage

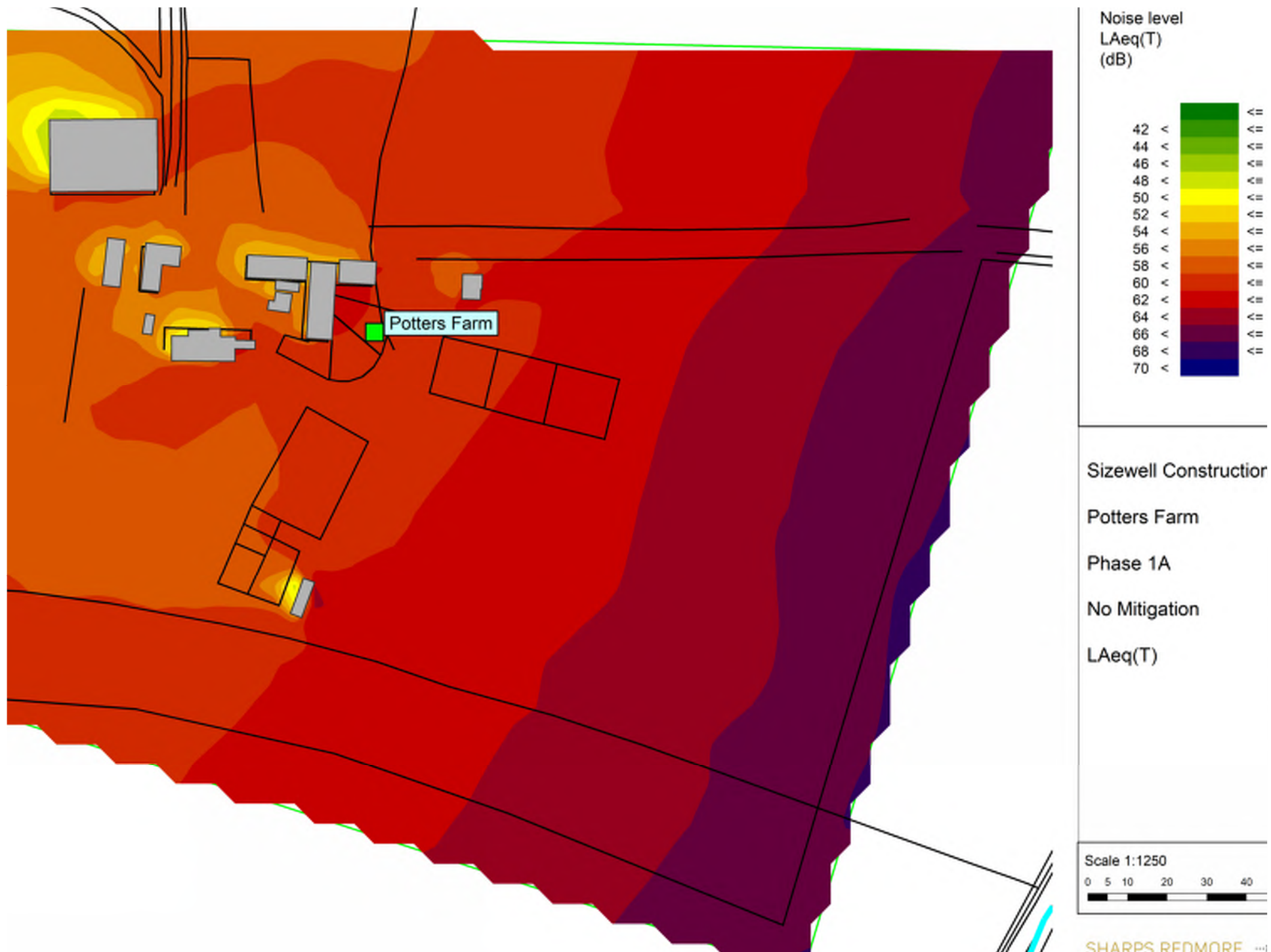
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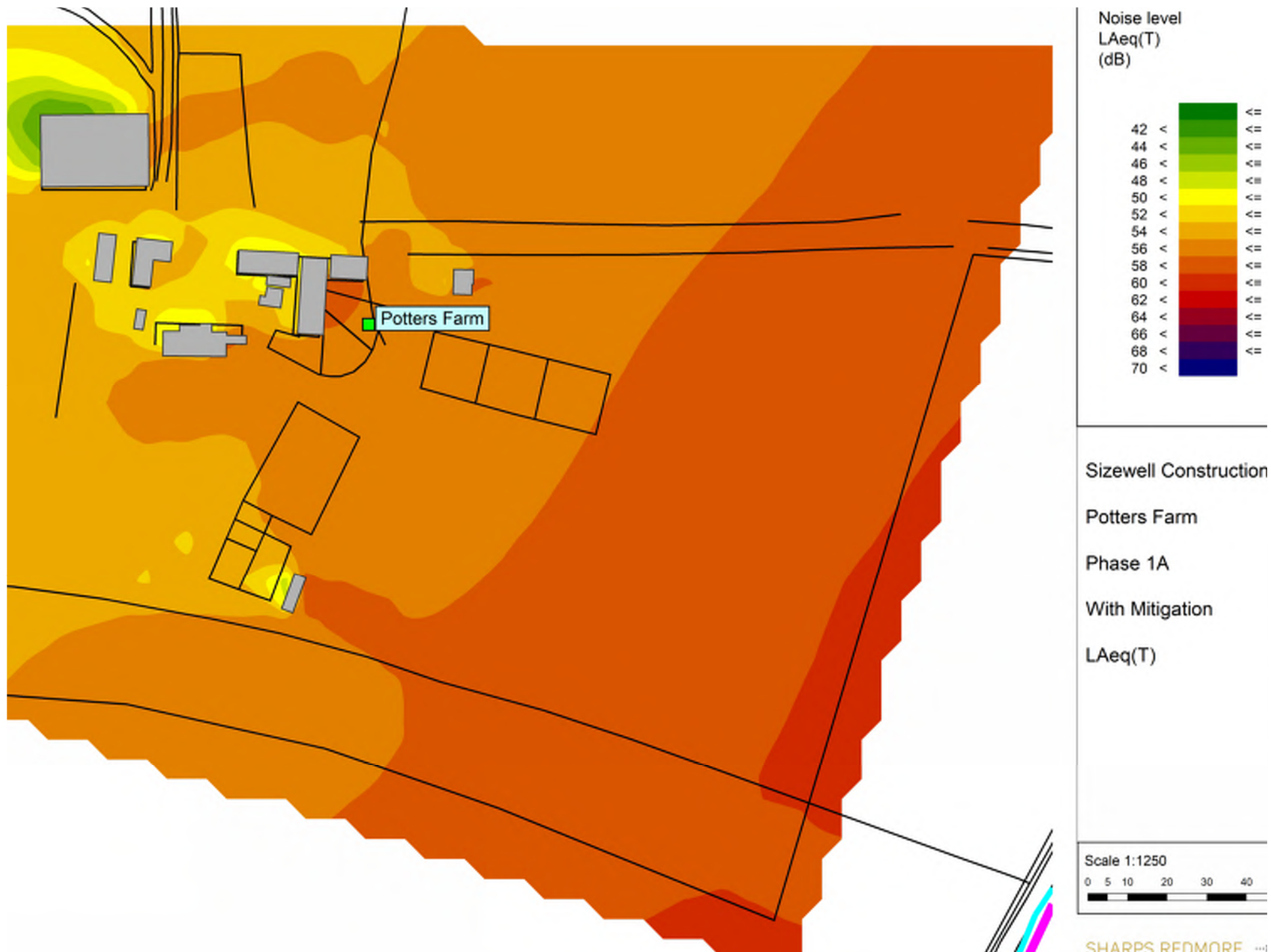
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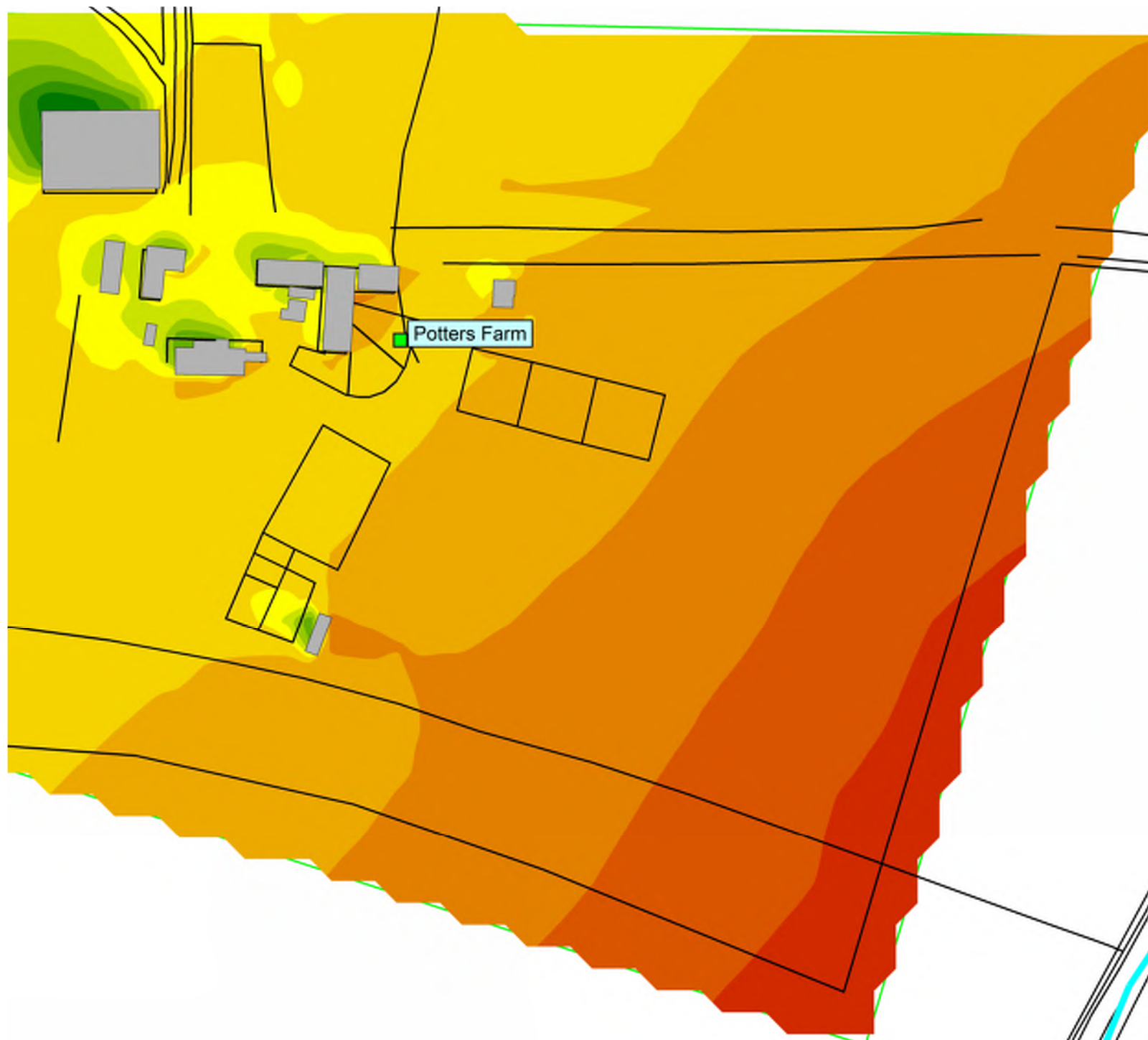


# Potters Farm

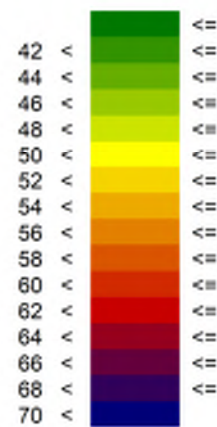








Noise level  
L<sub>Aeq</sub>(T)  
(dB)



Sizewell Construction

Potters Farm

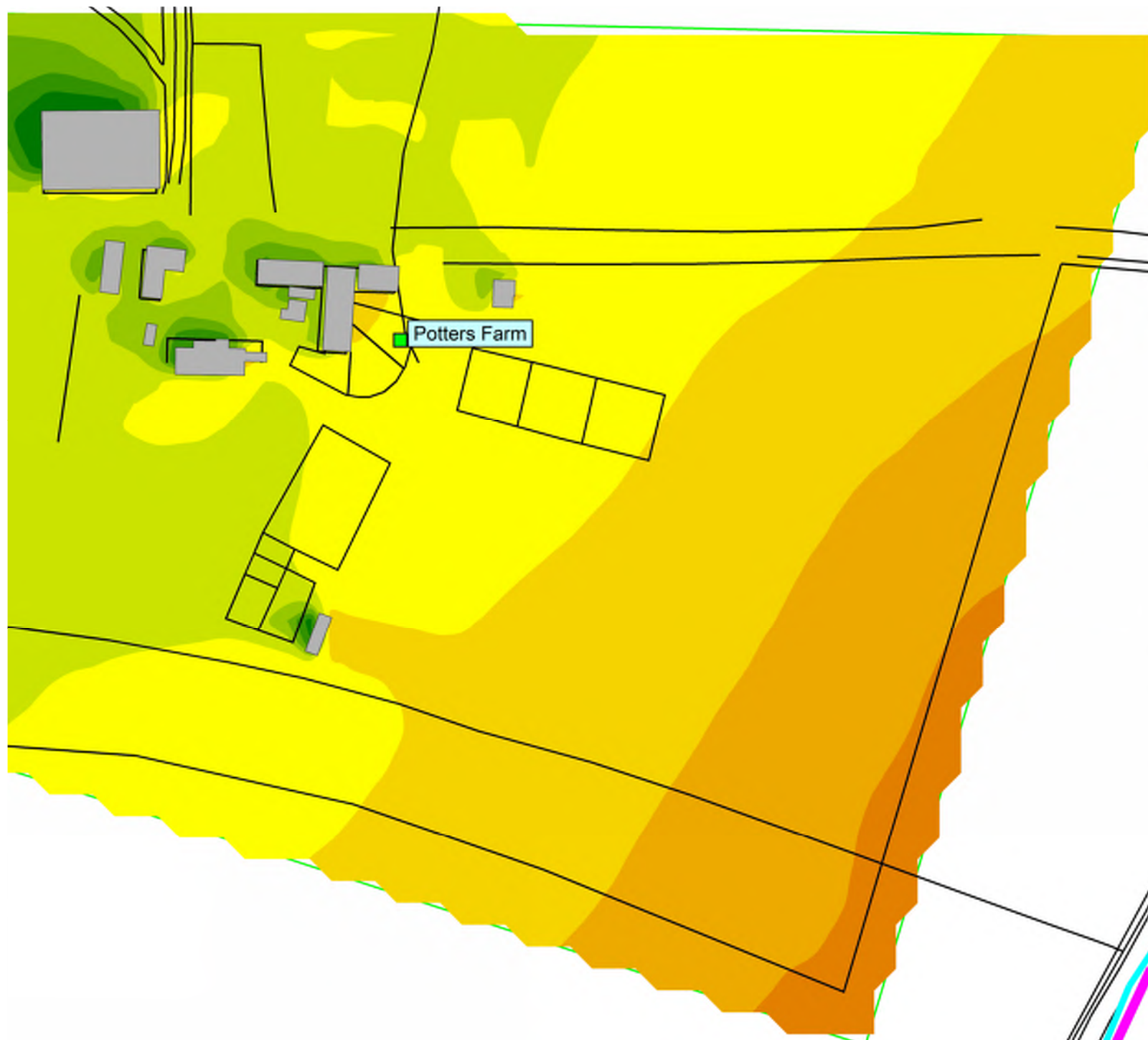
Phase 1B/2

No Mitigation

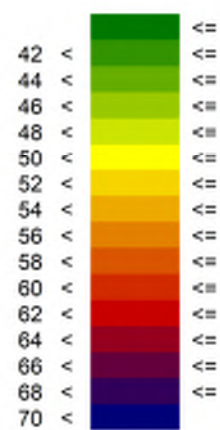
L<sub>Aeq</sub>(T)

Scale 1:1250

0 5 10 20 30 40



Noise level  
LAeq(T)  
(dB)



Sizewell Construction

Potters Farm

Phase 1B/2

With Mitigation

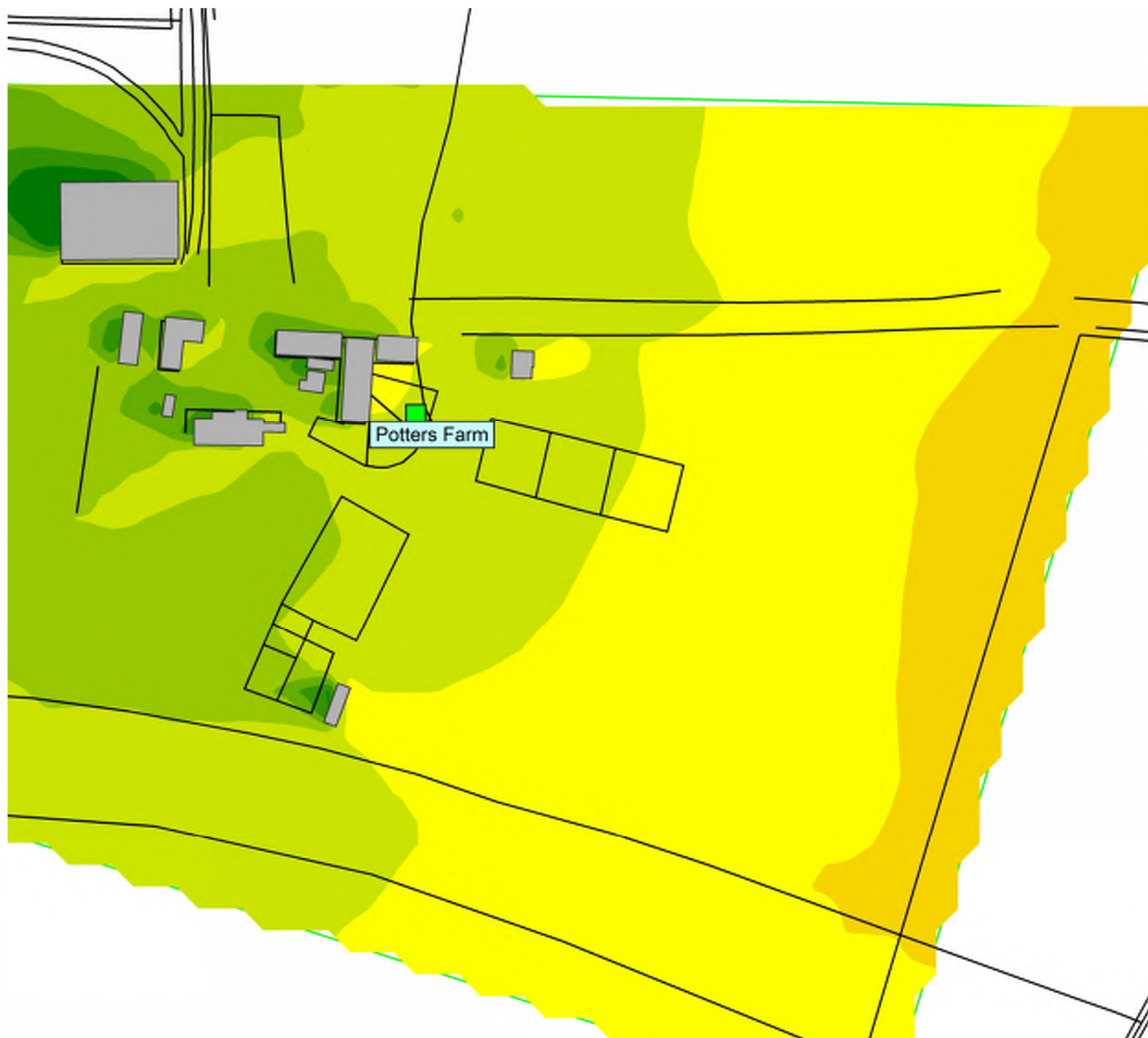
LAeq(T)

Scale 1:1250

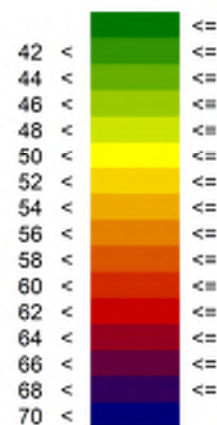
0 5 10 20 30 40

SHARPS RFDMORE





Noise level  
L<sub>Aeq</sub>(T)  
(dB)



Sizewell Construction

Phase 3/4

Potters Farm

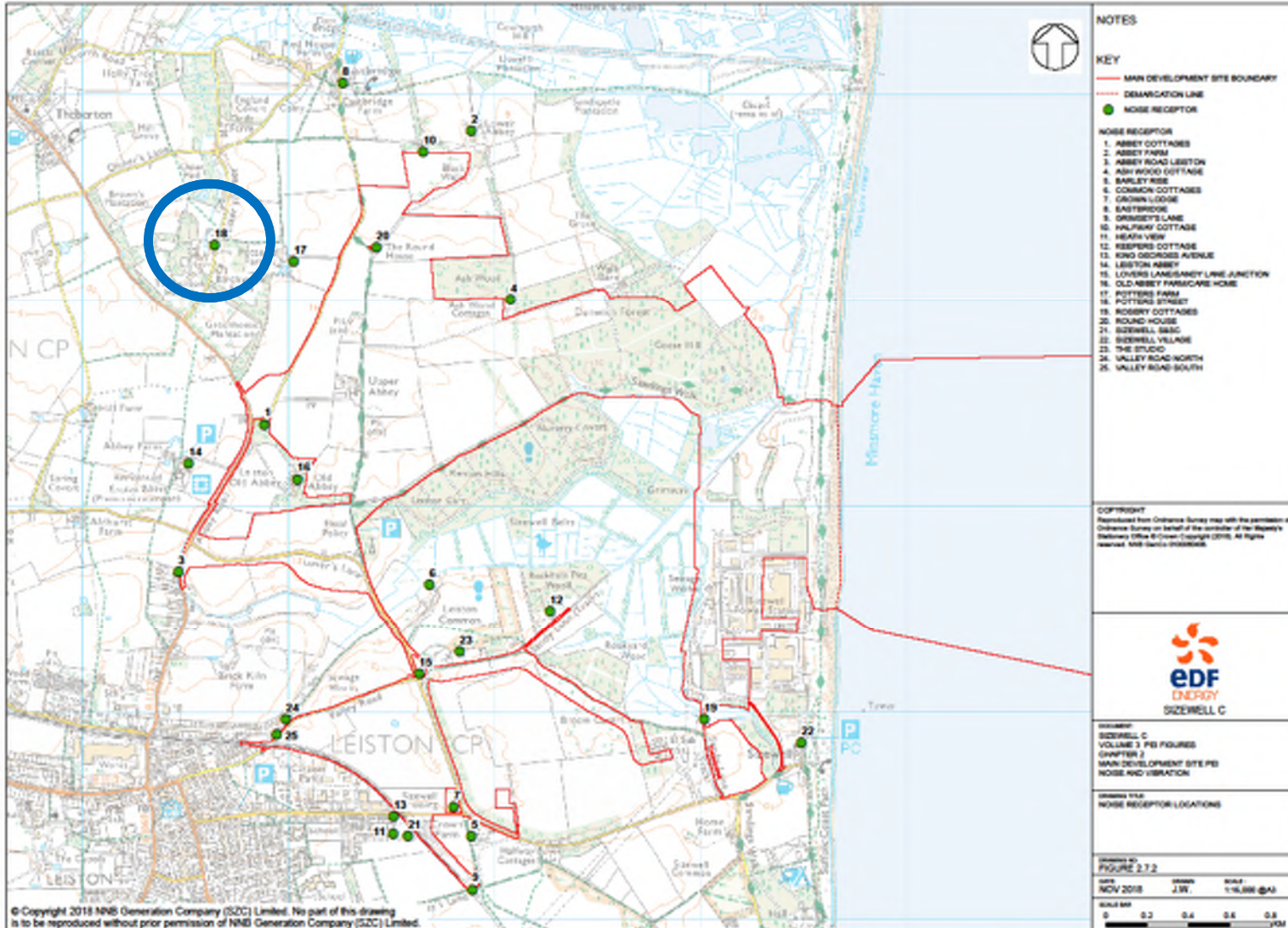
L<sub>Aeq</sub>(T)

Without Mitigation

Scale 1:1250

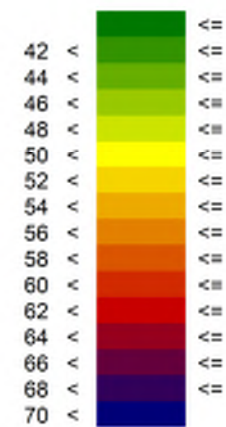
0 5 10 20 30 40

# Potters Street





Noise level  
L<sub>Aeq</sub>(T)  
(dB)



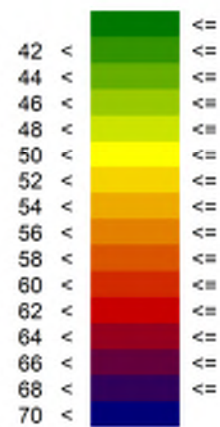
Sizewell Construction  
Phase 1A No Mitigation  
Potters Street  
L<sub>Aeq</sub>(T)

Scale 1:1500





Noise level  
L<sub>Aeq</sub>(T)  
(dB)



Sizewell Construction

Phase 1A With Mitiga

Potters Street

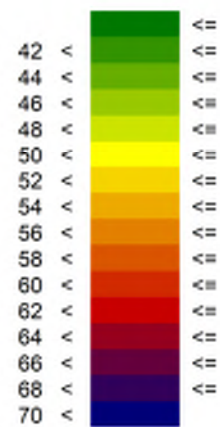
L<sub>Aeq</sub>(T)

Scale 1:1500

0 5 10 20 30 40 50



Noise level  
LAeq(T)  
(dB)



Sizewell Construction

Phase 1B/2 No Mitiga

Potters Street

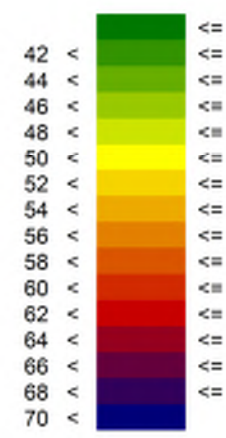
LAeq(T)

Scale 1:1500

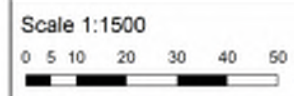
0 5 10 20 30 40 50



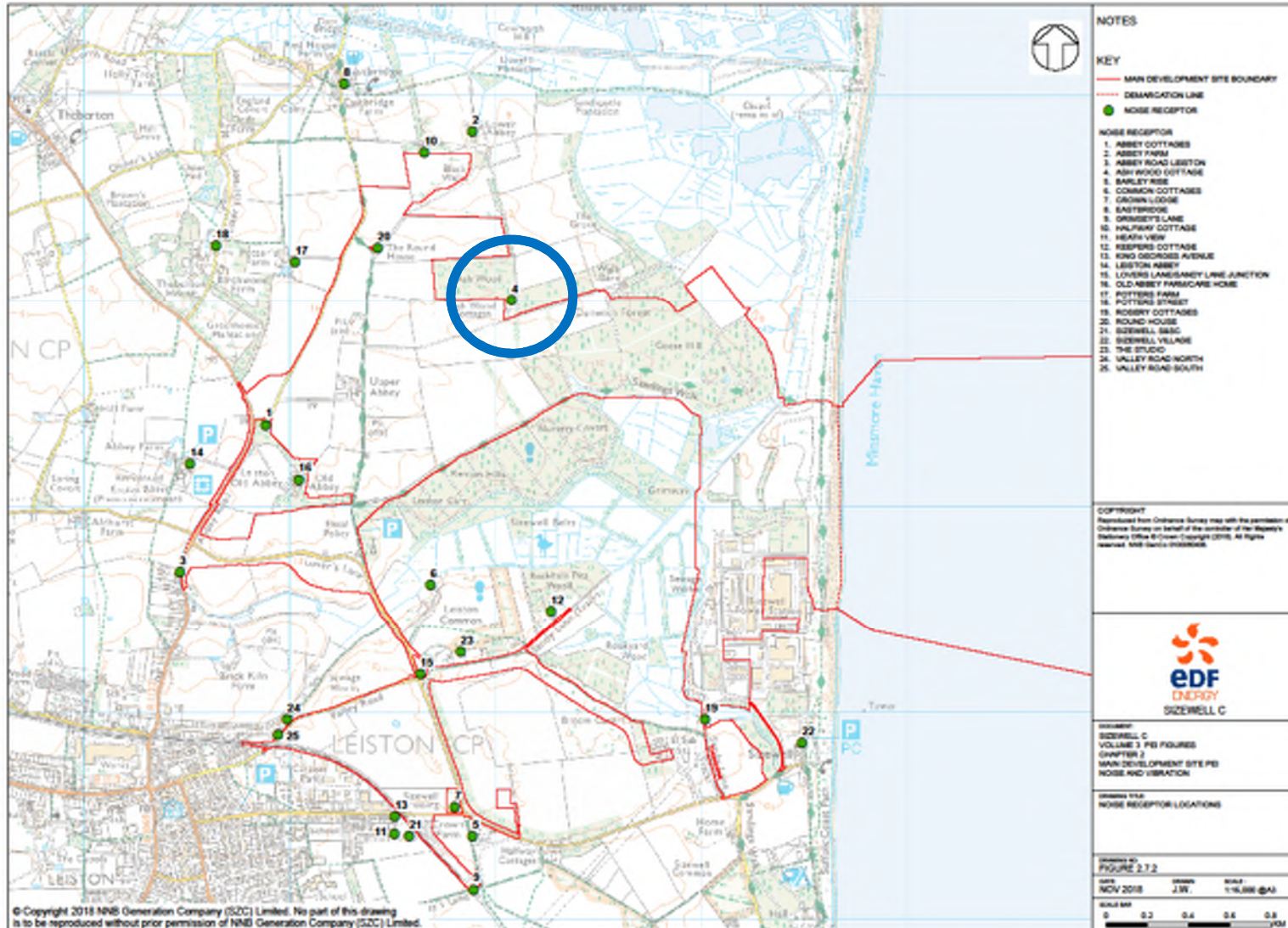
Noise level  
LAeq(T)  
(dB)

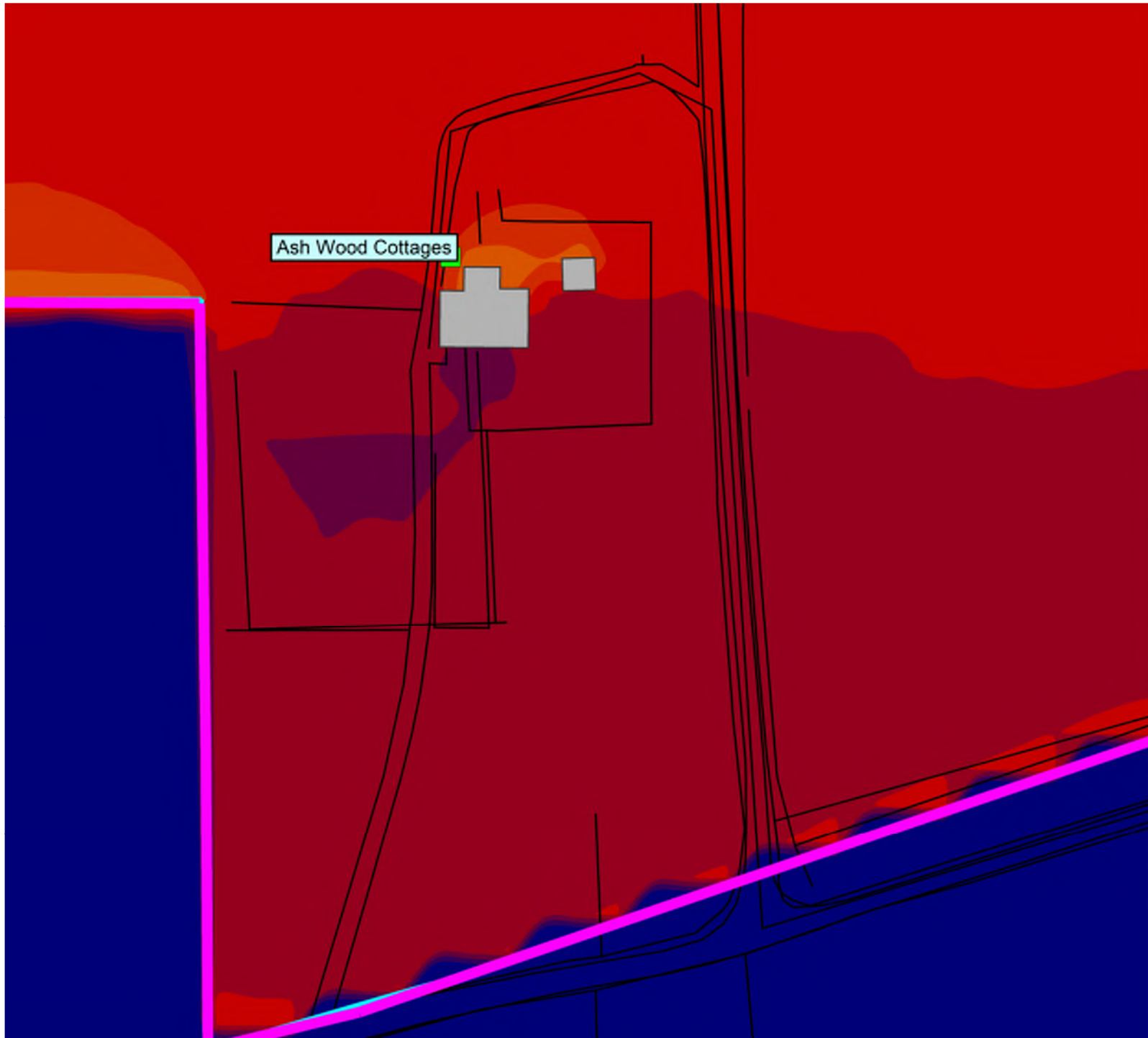


Sizewell Construction  
Phase 3/4 No Mitigati  
Potters Street  
LAeq(T)



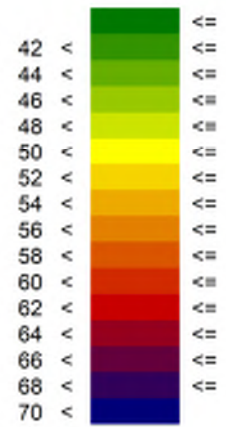
# Ash Wood Cottage





Ash Wood Cottages

Noise level  
L<sub>Aeq</sub>(T)  
(dB)



Sizewell Construction

Phase 1A

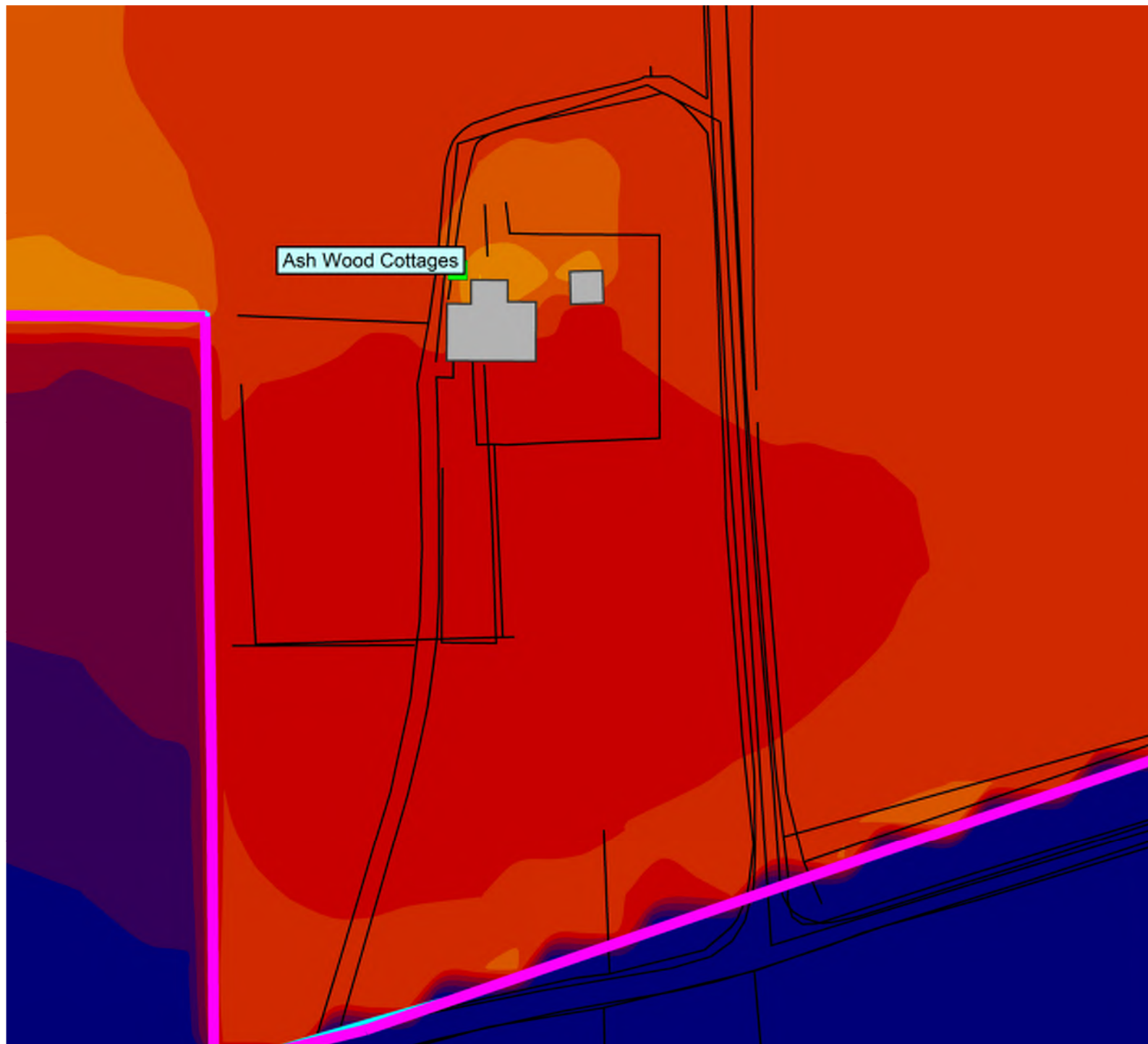
Ash Wood Cottage

L<sub>Aeq</sub>(T)

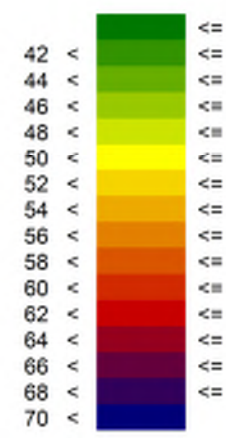
Scale 1:750







Noise level  
L<sub>Aeq</sub>(T)  
(dB)



Sizewell Construction

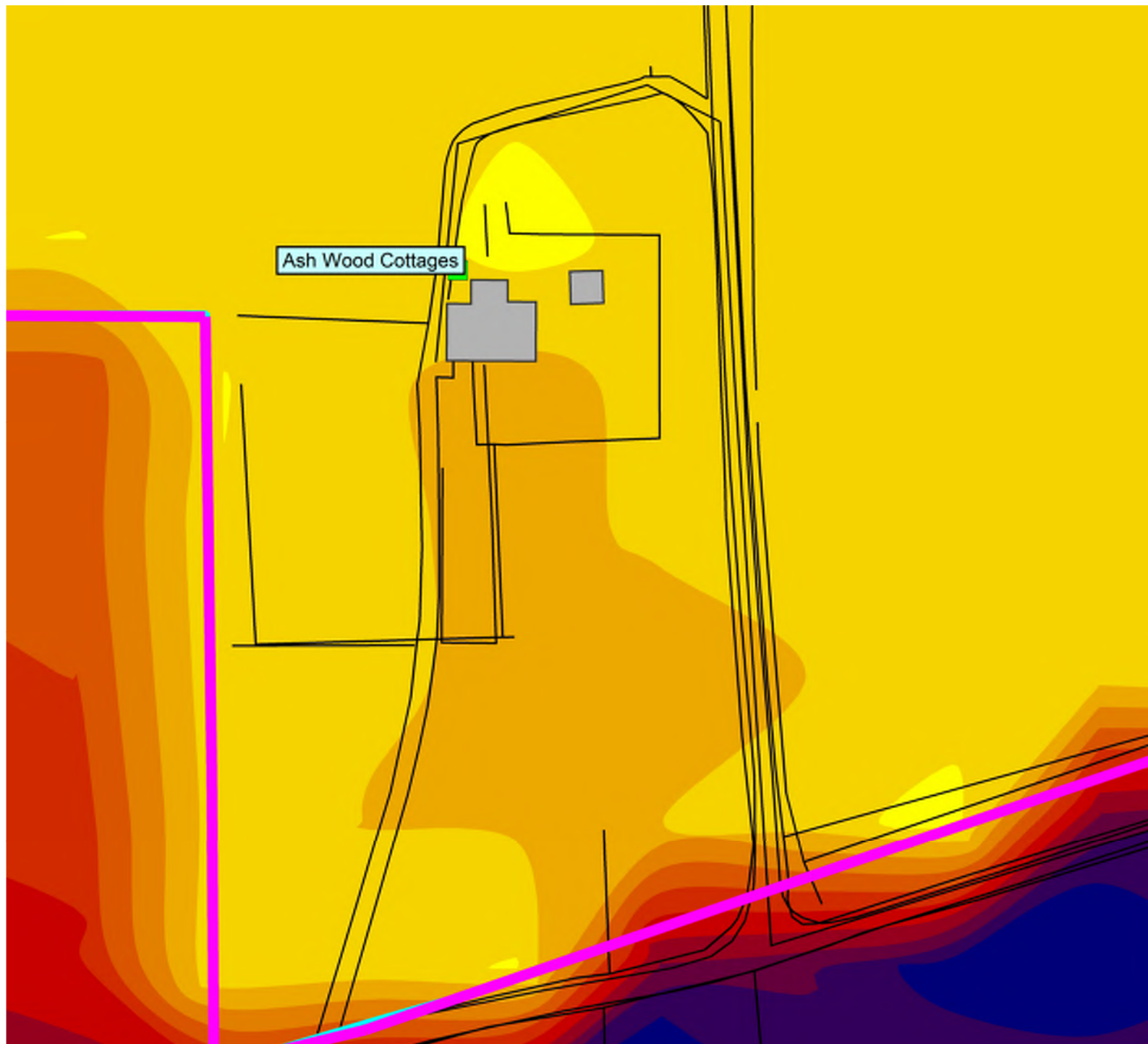
Phase 1B/2

Ash Wood Cottage

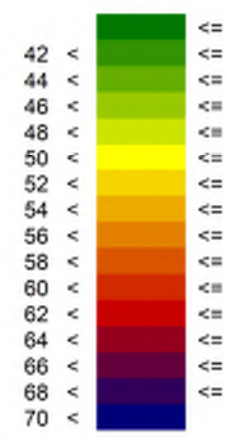
L<sub>Aeq</sub>(T)

Scale 1:750





Noise level  
L<sub>Aeq</sub>(T)  
(dB)



Sizewell Construction

Phase 3/4

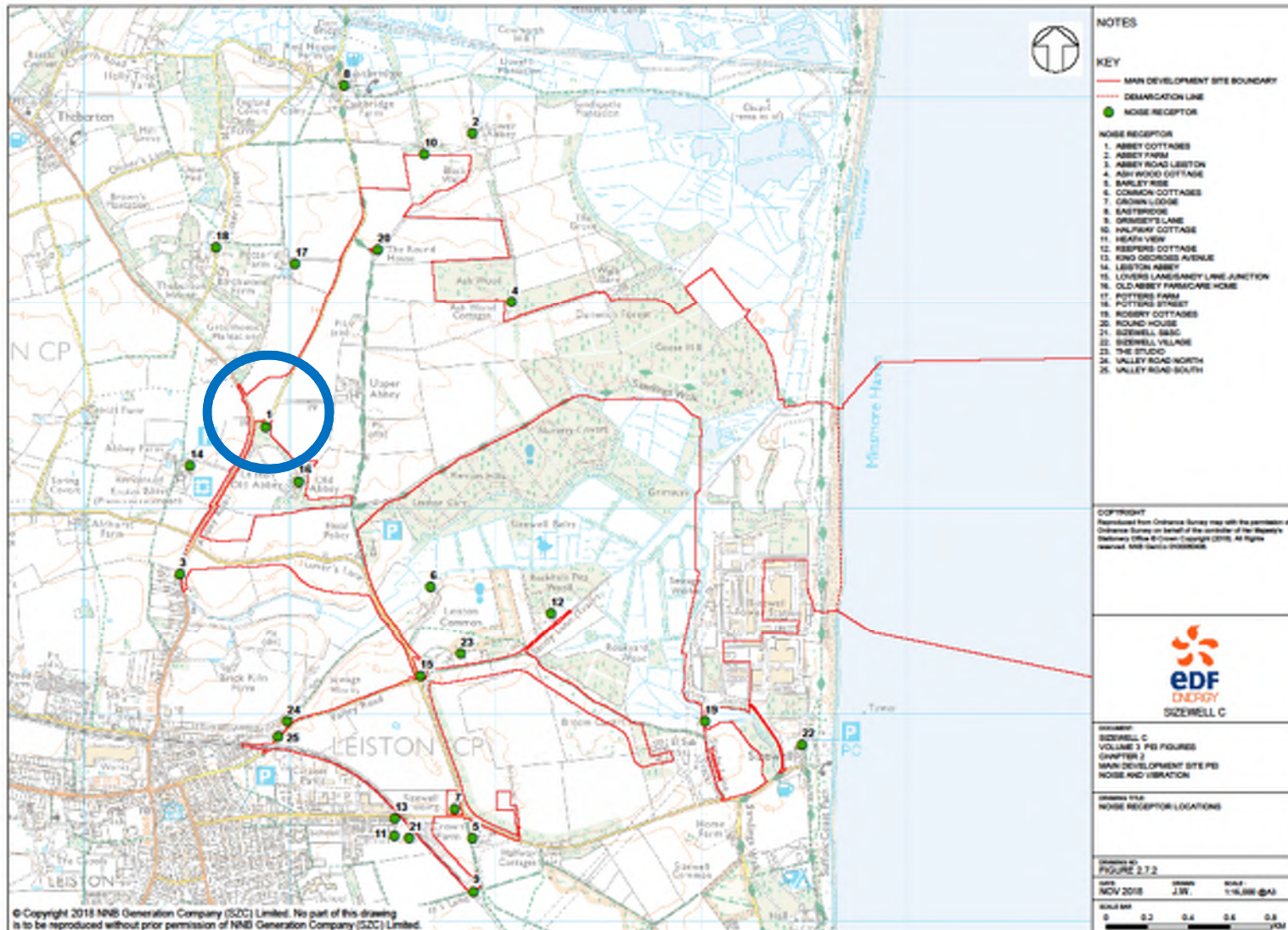
Ash Wood Cottage

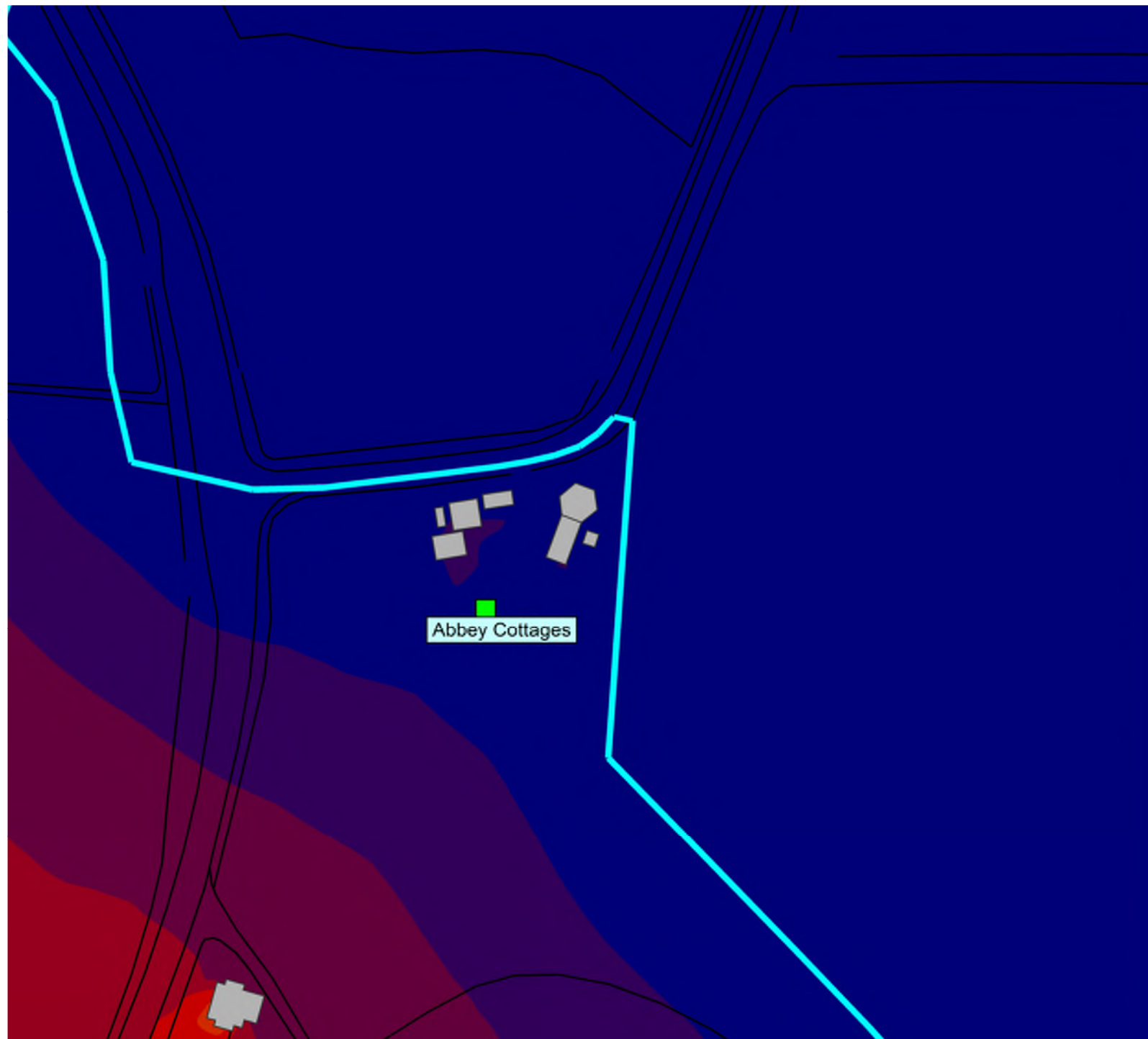
L<sub>Aeq</sub>(T)

Scale 1:750

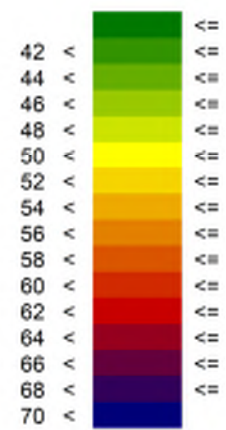


# Abbey Cottages





Noise level  
L<sub>Aeq</sub>(T)  
(dB)



Sizewell Construction

Phase 1A

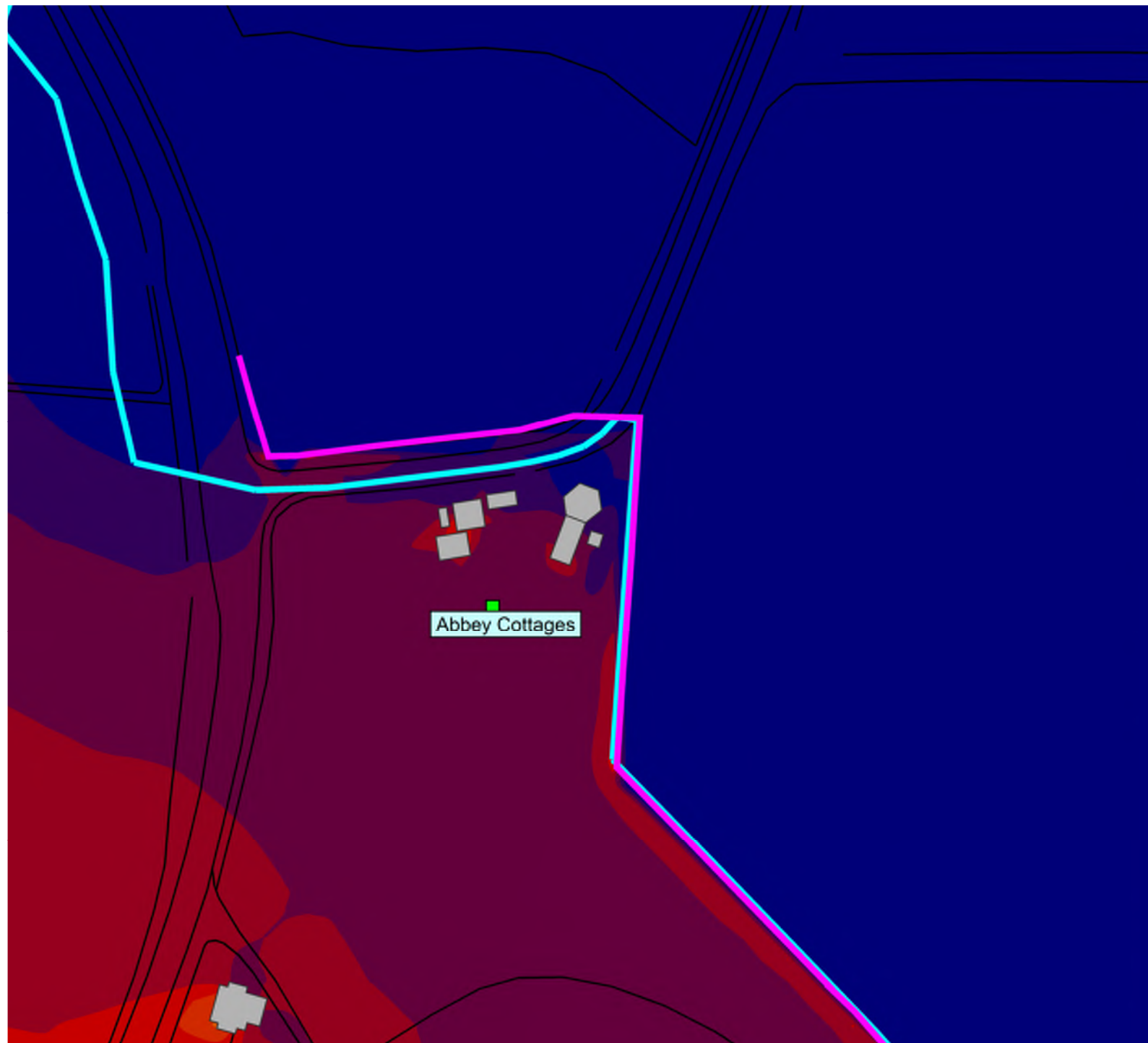
Abbey Cottages

L<sub>Aeq</sub>(T)

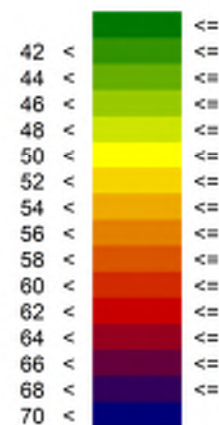
No Mitigation

Scale 1:1250

0 5 10 20 30 40



Noise level  
 LAeq(T)  
 (dB)



Sizewell Construction

Phase 1A

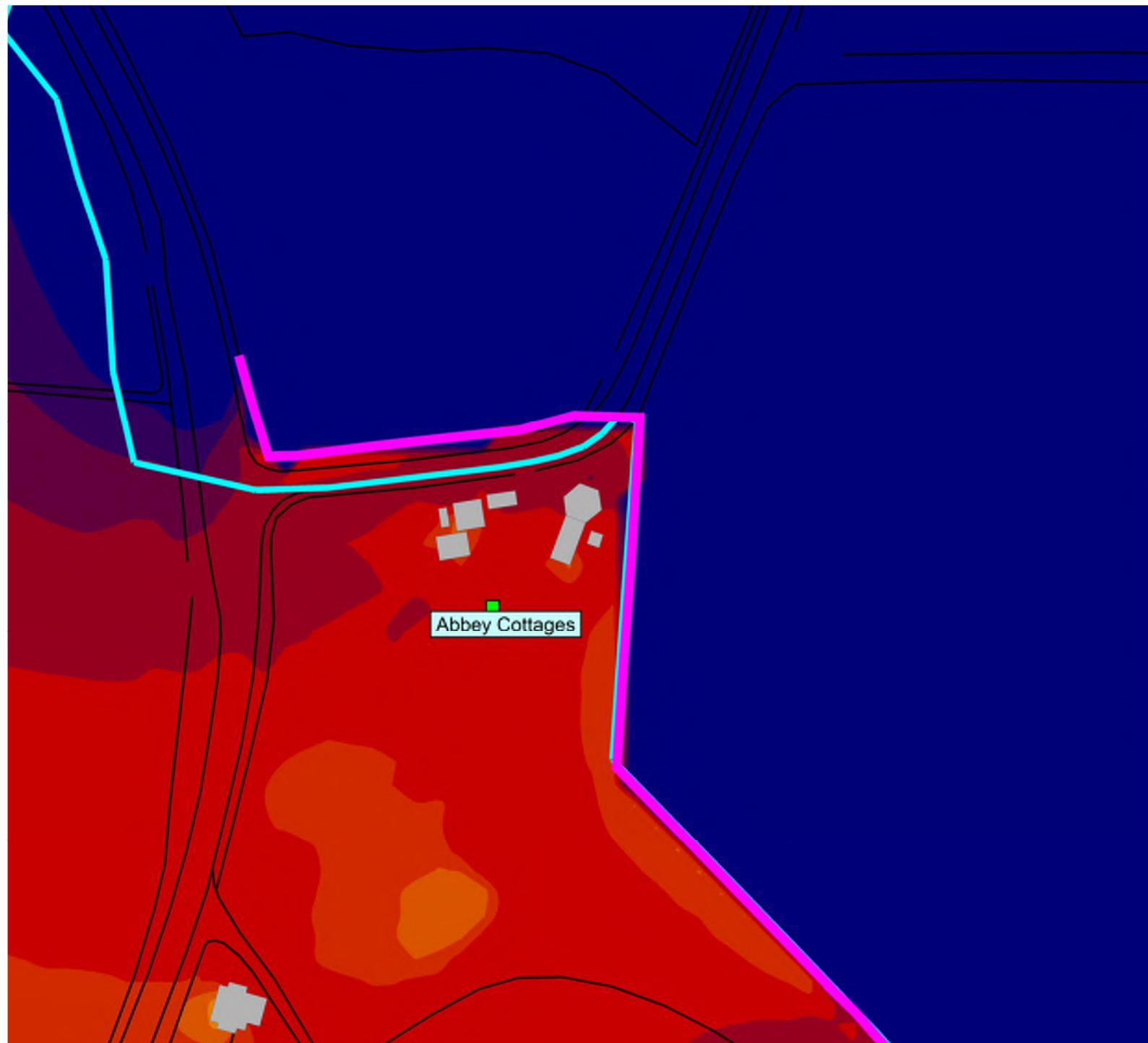
Abbey Cottages

With 3m Barrier

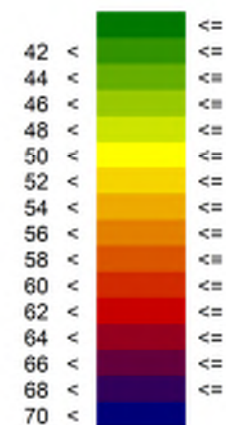
LAeq(T)

Scale 1:1250

0 5 10 20 30 40



Noise level  
 $L_{Aeq}(T)$   
 (dB)



Sizewell Construction

Phase 1A

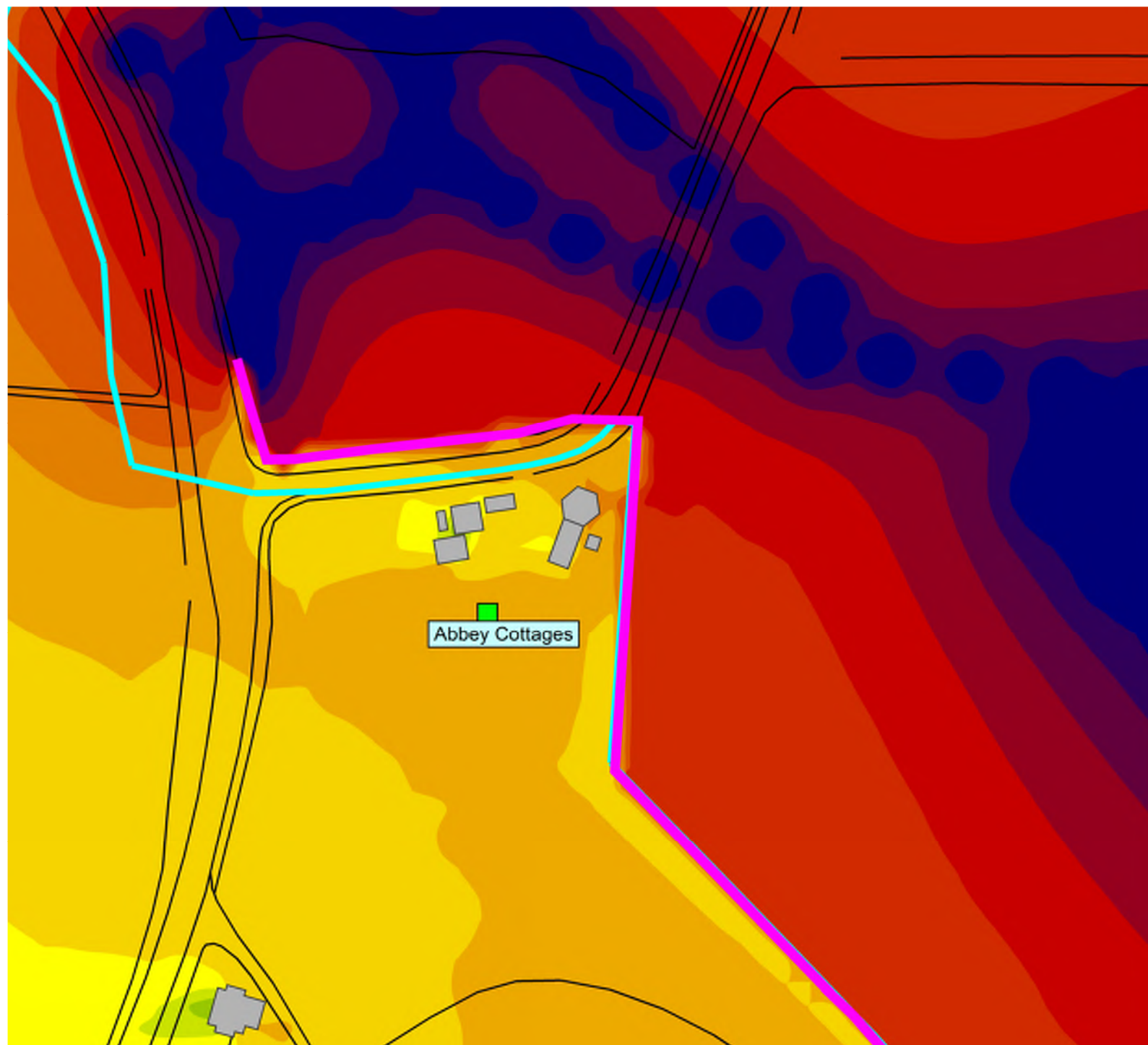
Abbey Cottages

With 5m Barrier

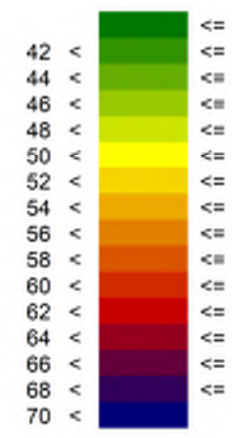
$L_{Aeq}(T)$

Scale 1:1250

0 5 10 20 30 40

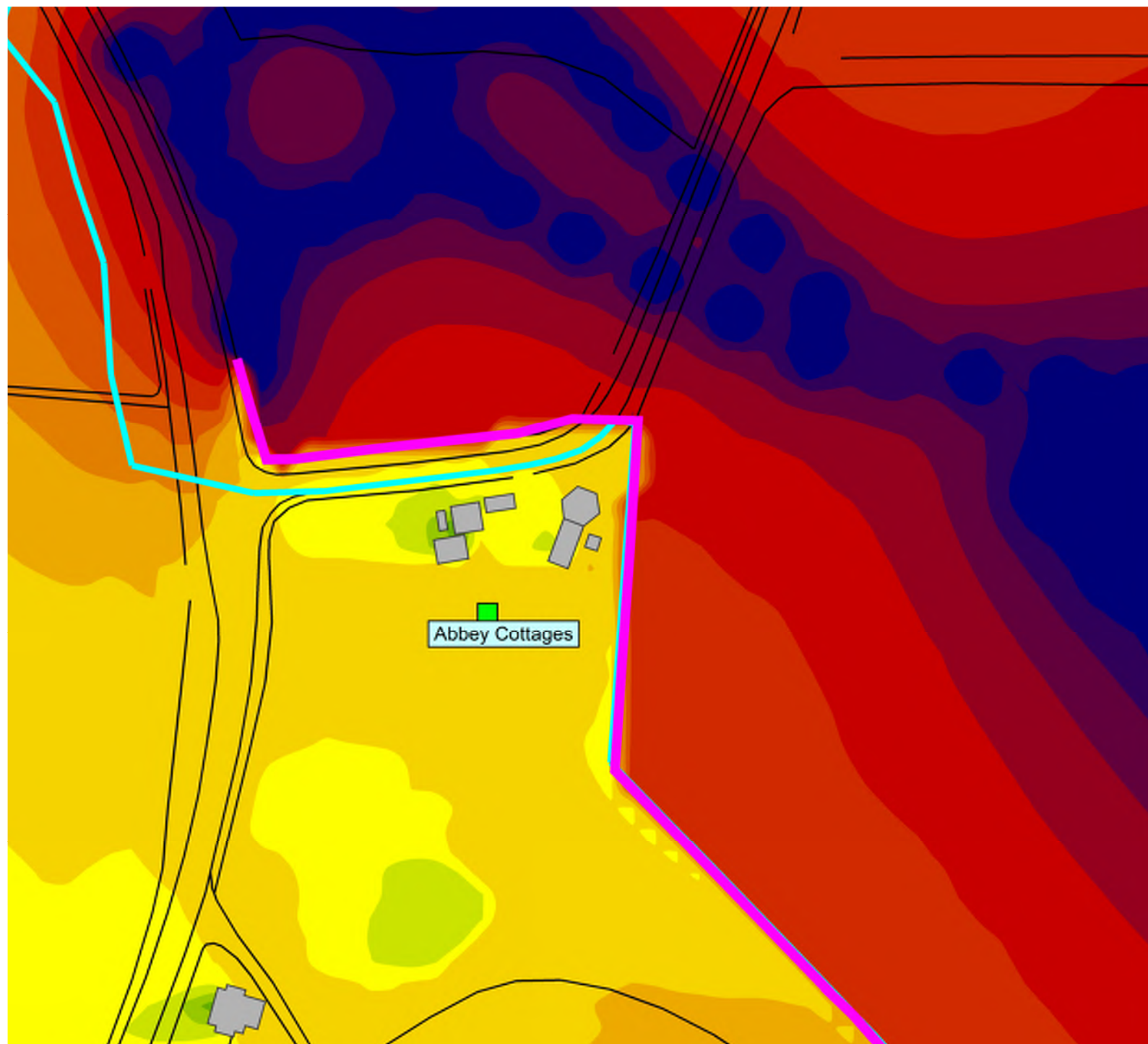


Noise level  
L<sub>Aeq</sub>(T)  
(dB)

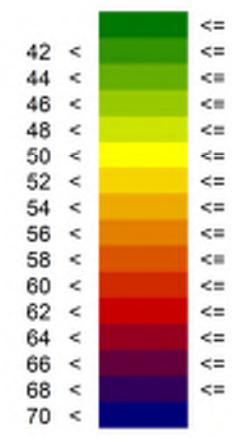


Sizewell Construction  
Phase 1B/2  
Abbey Cottages  
L<sub>Aeq</sub>(T)  
With 3m Barrier





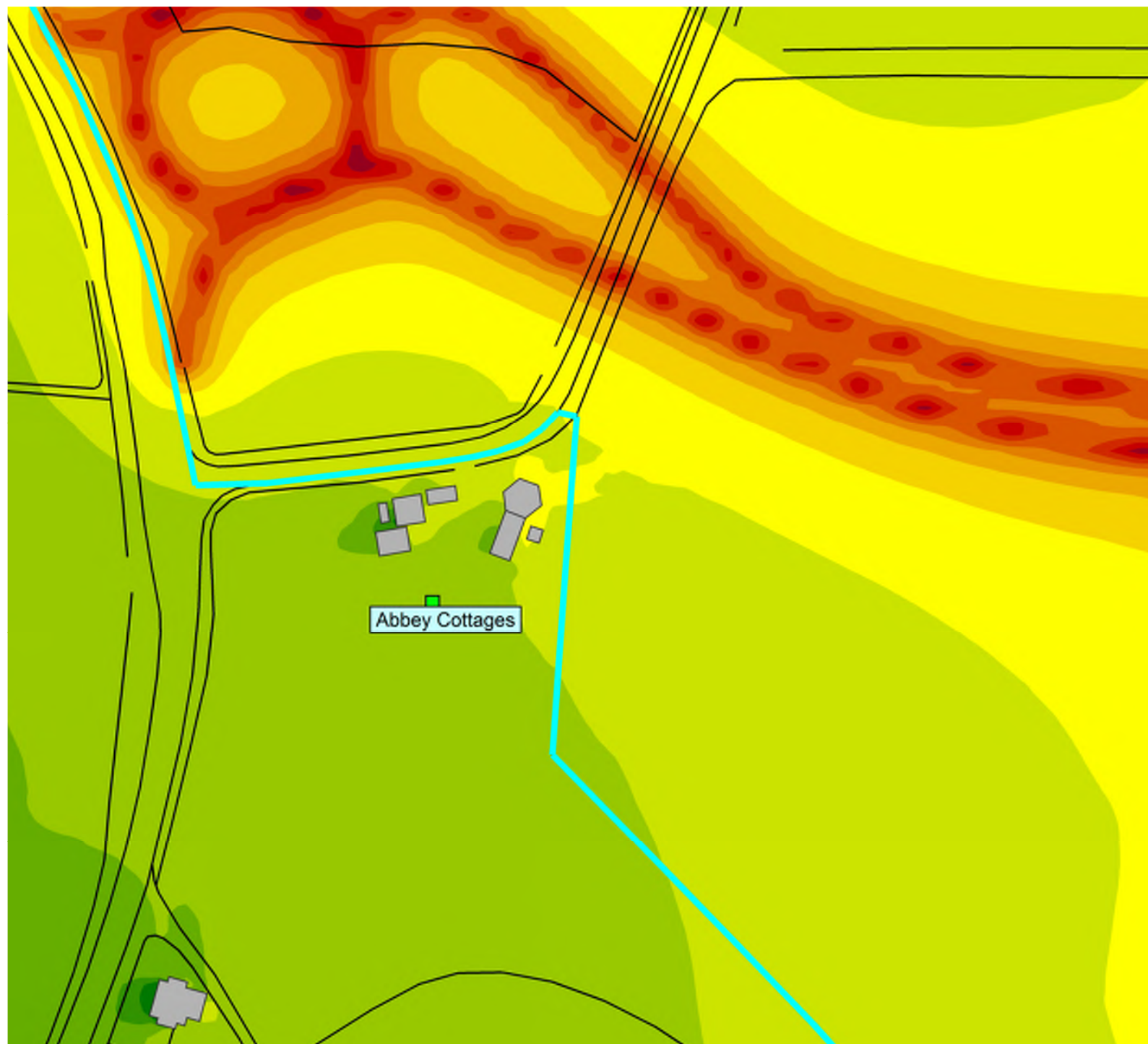
Noise level  
LAeq(T)  
(dB)



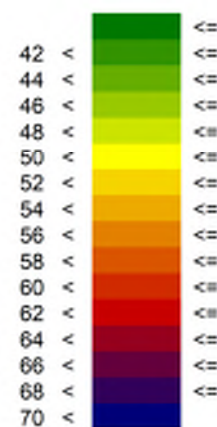
Sizewell Construction  
Phase 1B/2  
Abbey Cottages  
LAeq(T)  
With 5m Barrier







Noise level  
LAeq(T)  
(dB)



Sizewell Construction

Abbey Cottages

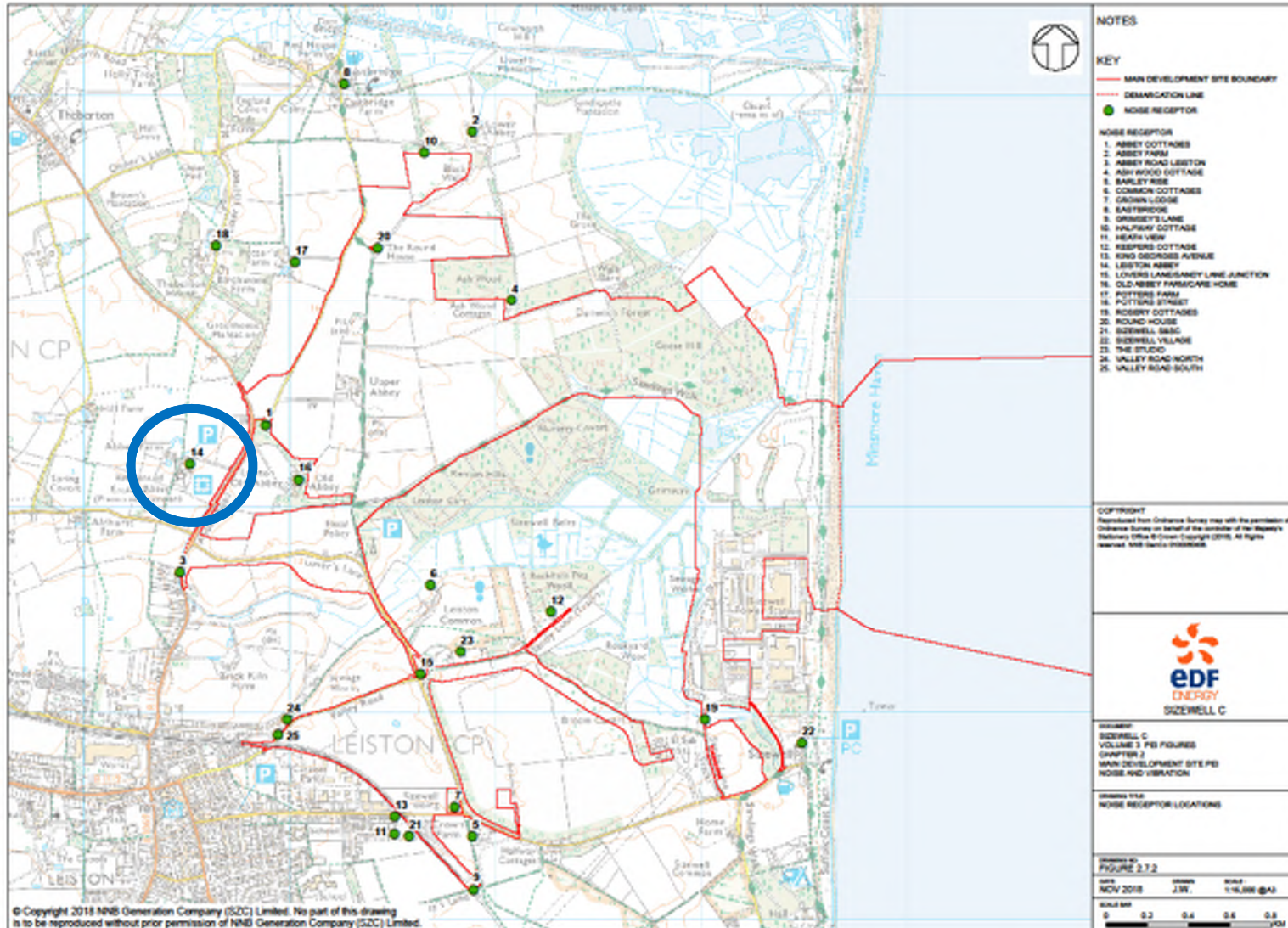
Phases 3 & 4

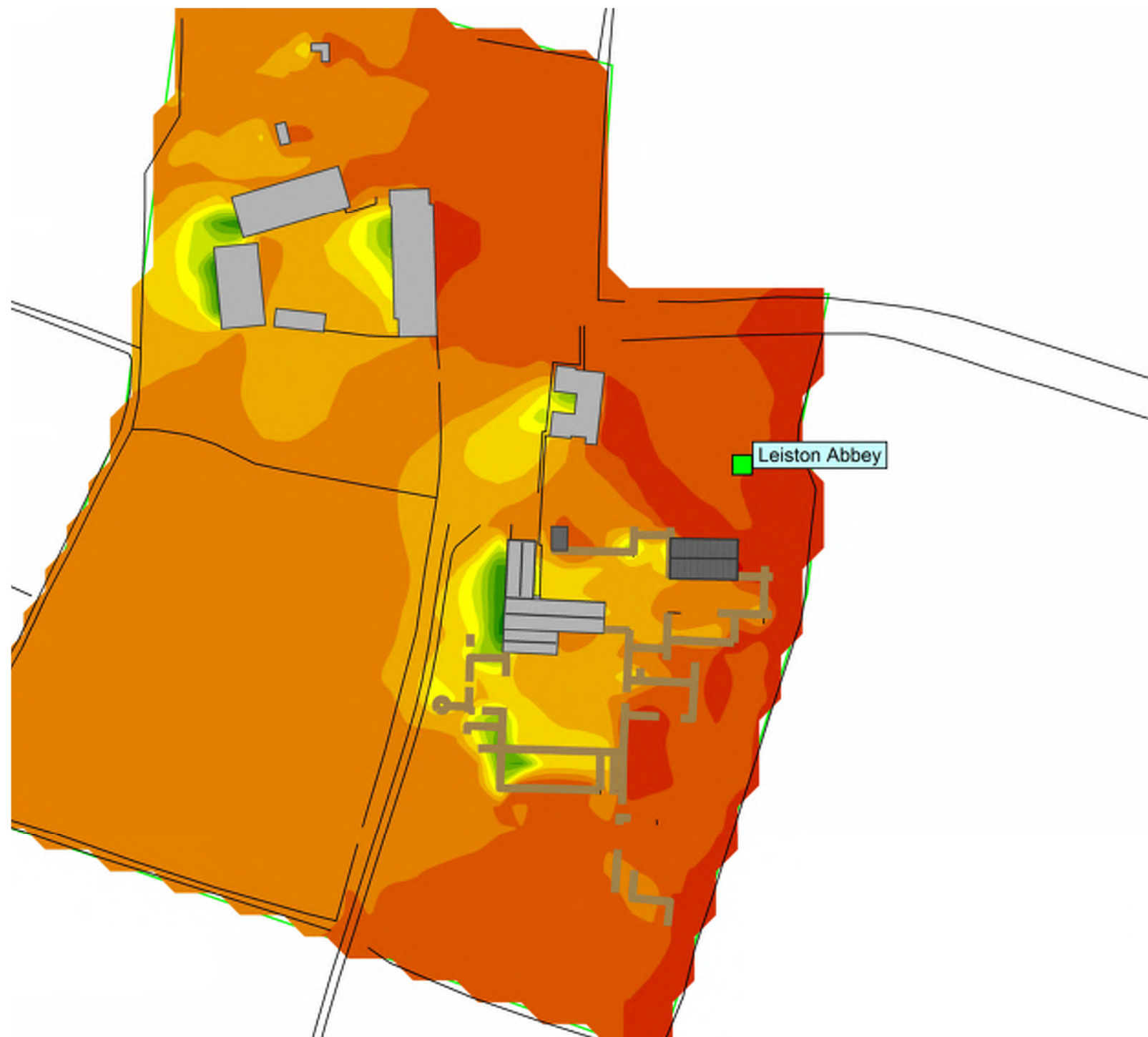
LAeq(T)

Scale 1:1250

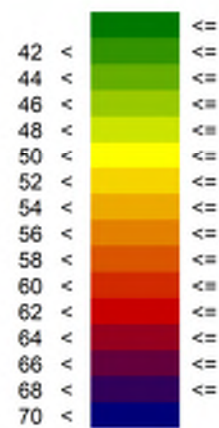
0 5 10 20 30 40

# Leiston Abbey





Noise level  
LAeq(T)  
(dB)



Sizewell Construction

Phase 1A

Leiston Abbey

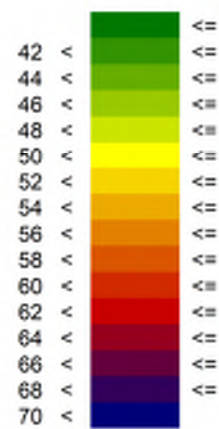
LAeq(T)

Scale 1:1250





Noise level  
LAeq(T)  
(dB)



Sizewell Construction

Phase 1B/2

Leiston Abbey

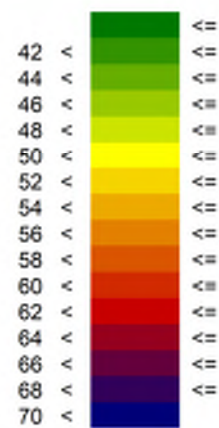
LAeq(T)

Scale 1:1250

0 5 10 20 30 40



Noise level  
LAeq(T)  
(dB)



Sizewell Construction

Phase 3/4

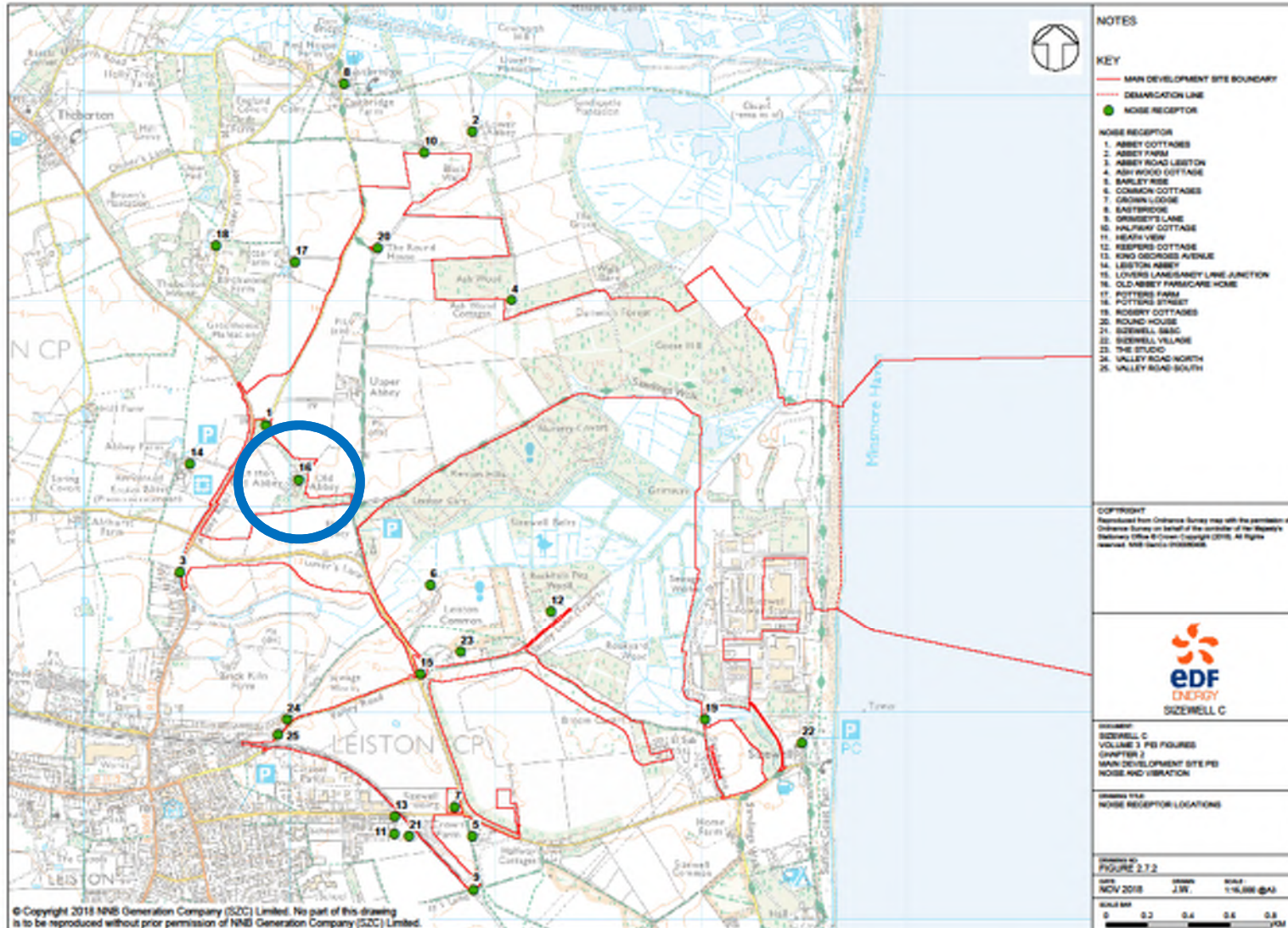
Leiston Abbey

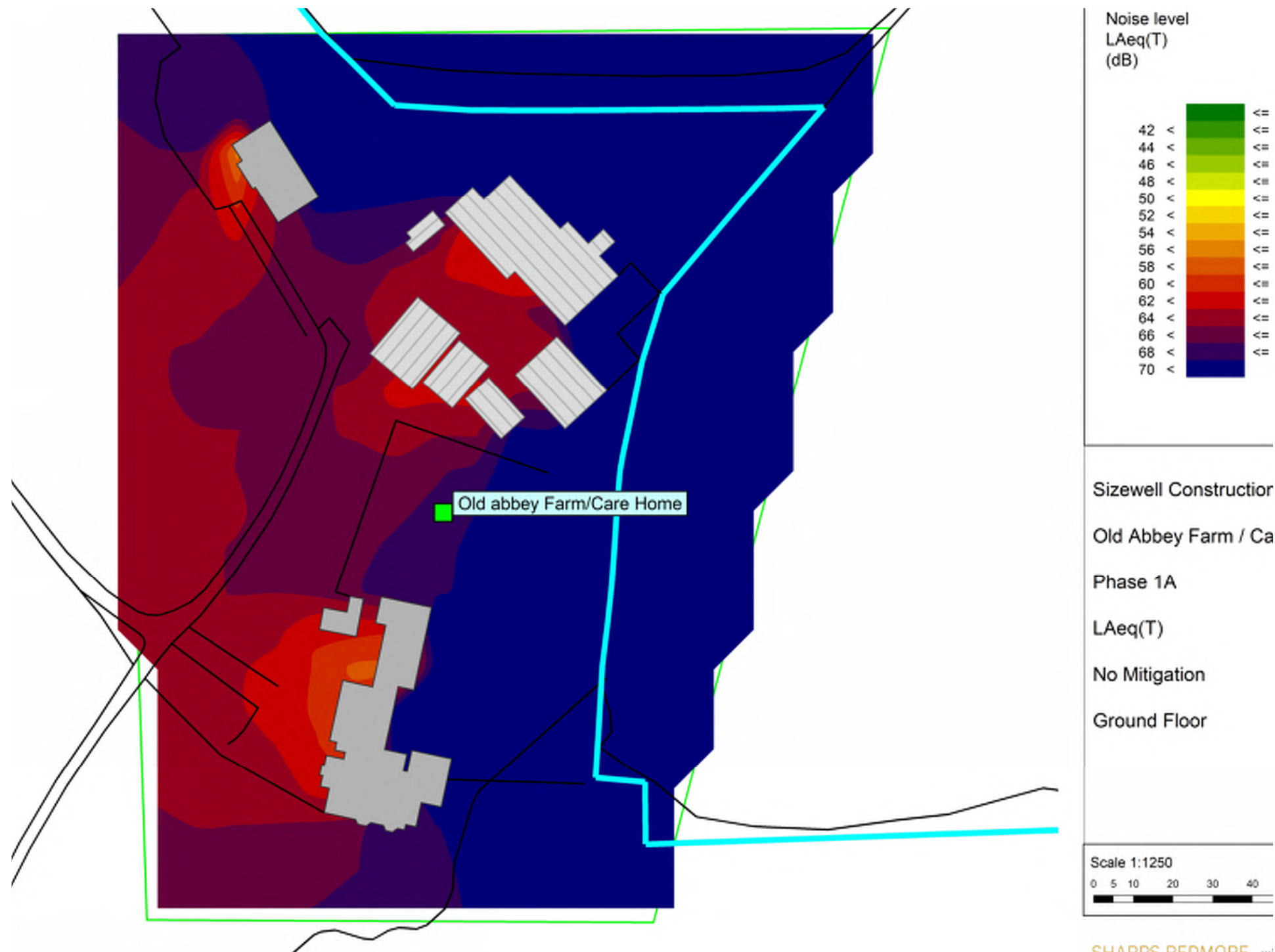
LAeq(T)

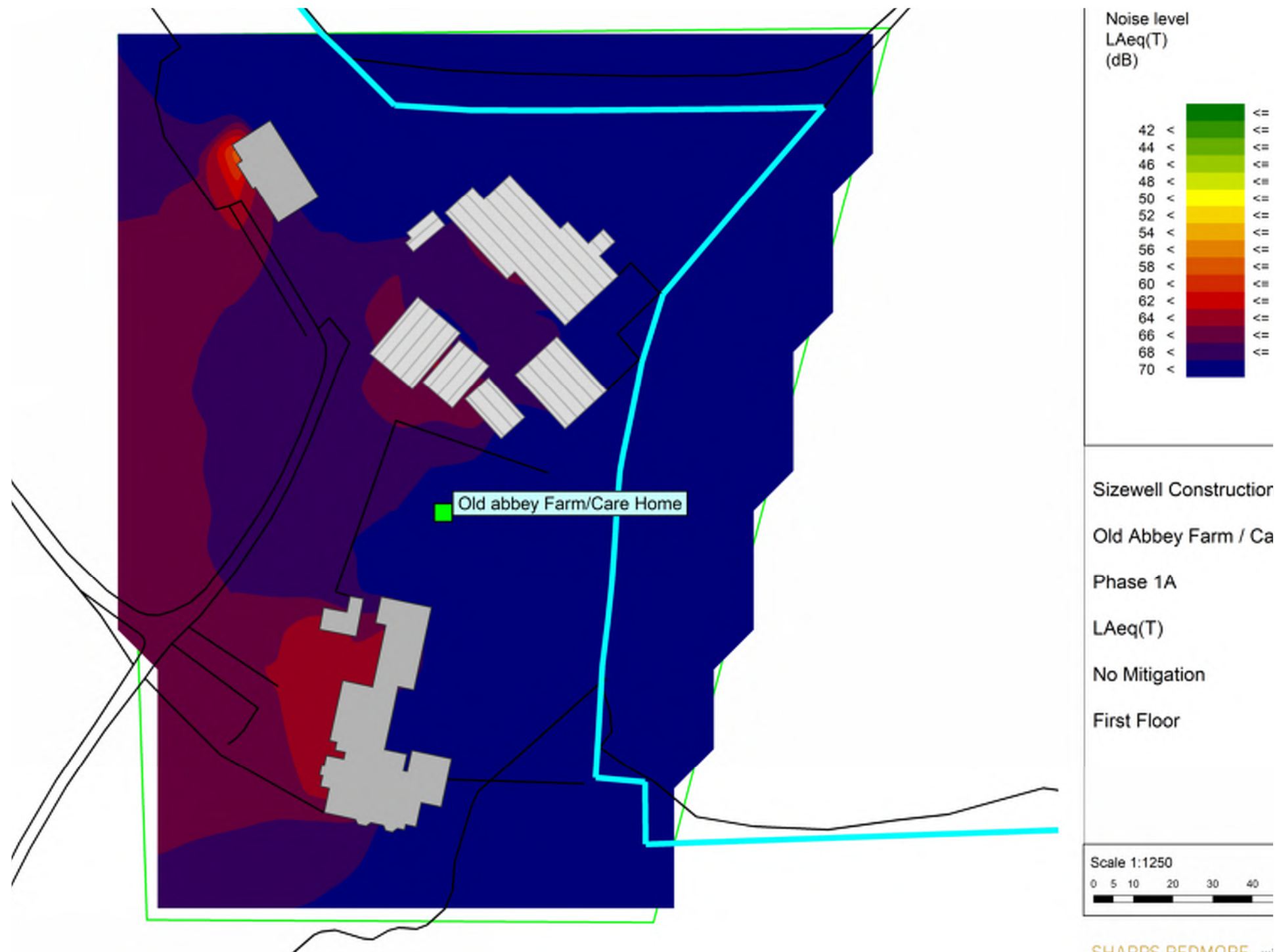
Scale 1:1250

0 5 10 20 30 40

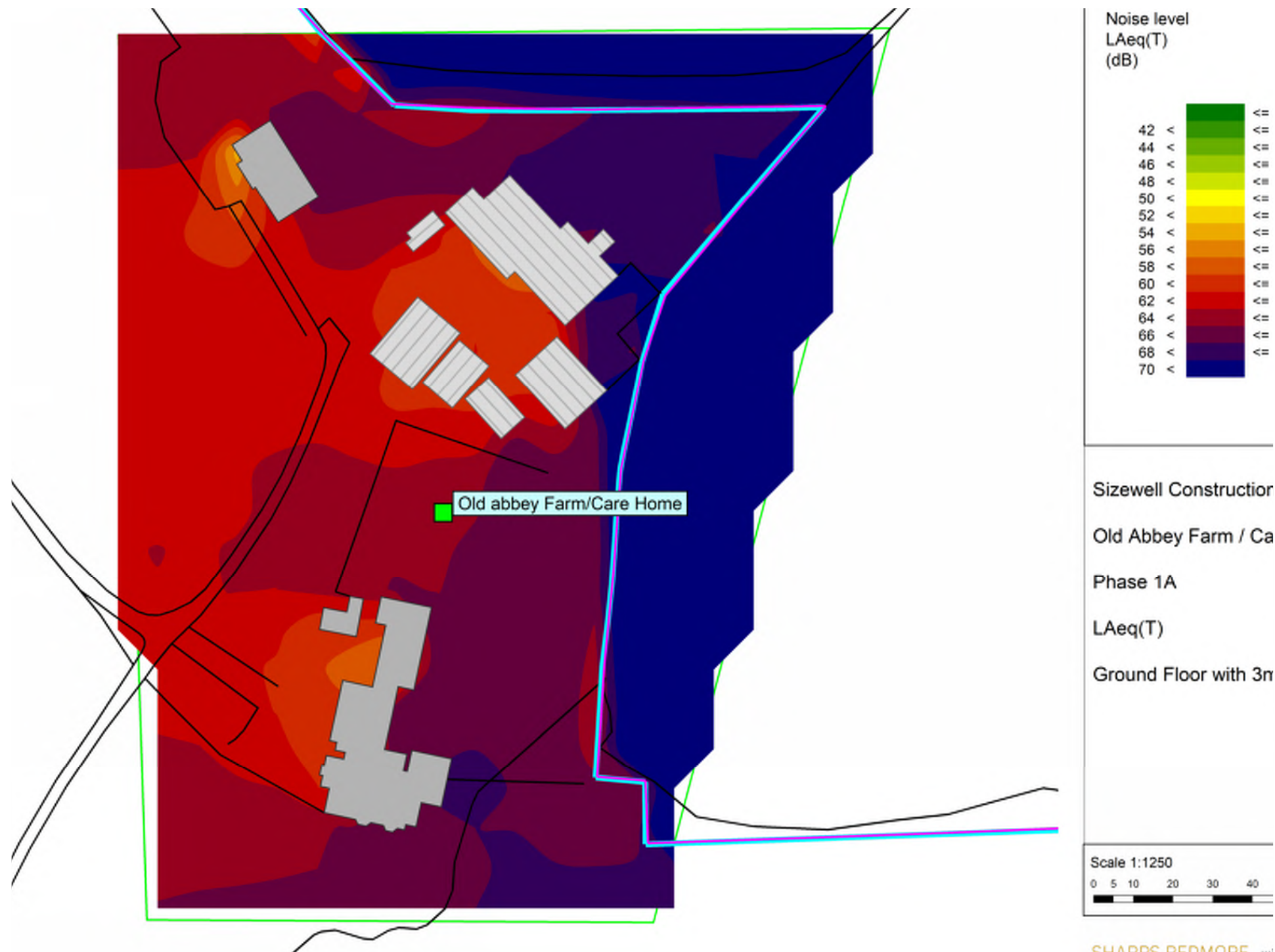
# Old Abbey Farm/Care Home

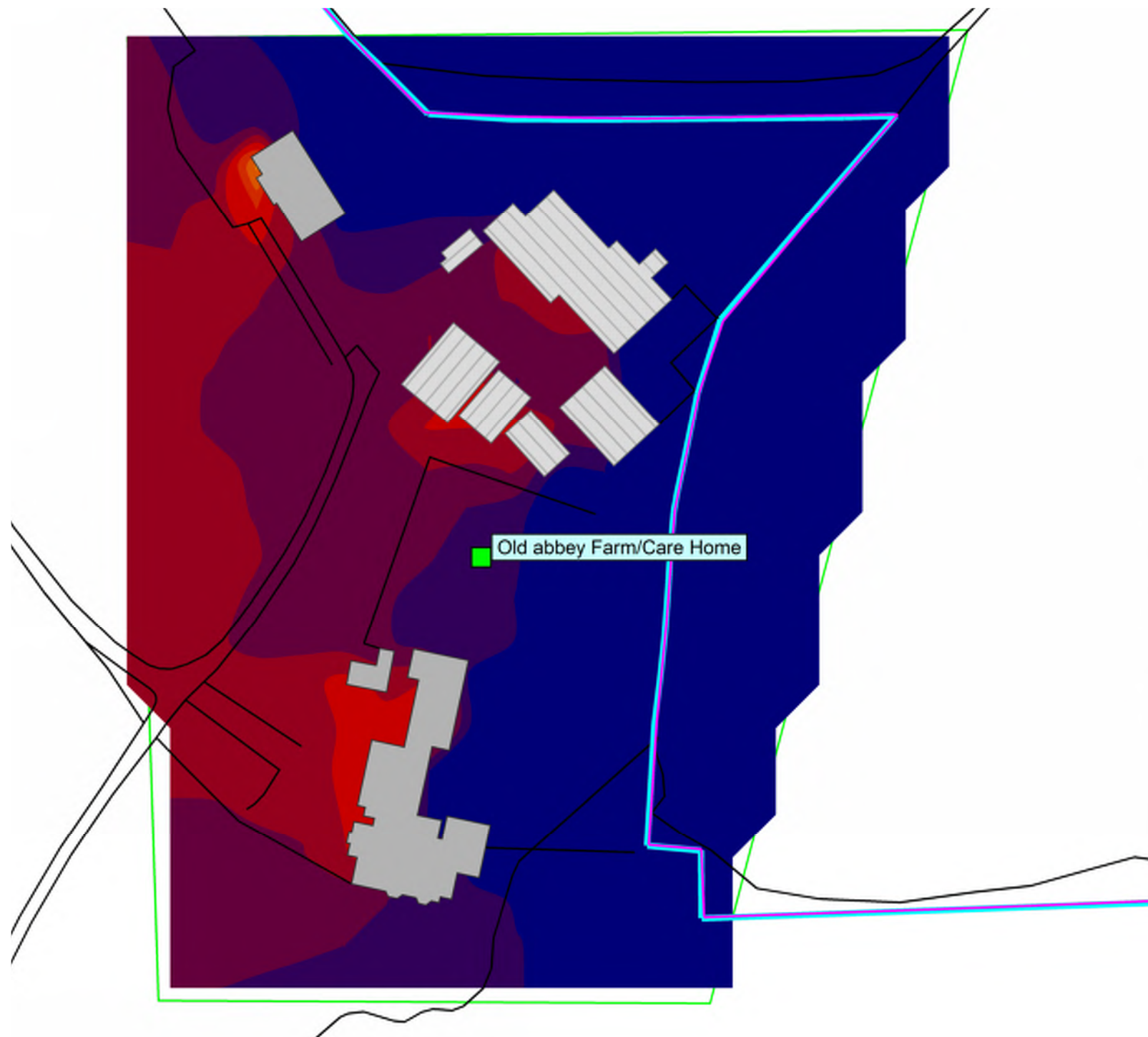




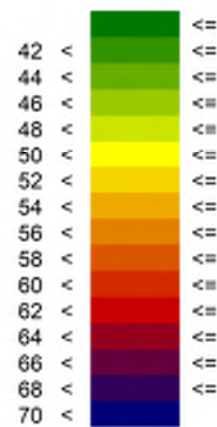








Noise level  
LAeq(T)  
(dB)



Sizewell Construction

Old Abbey Farm / Ca

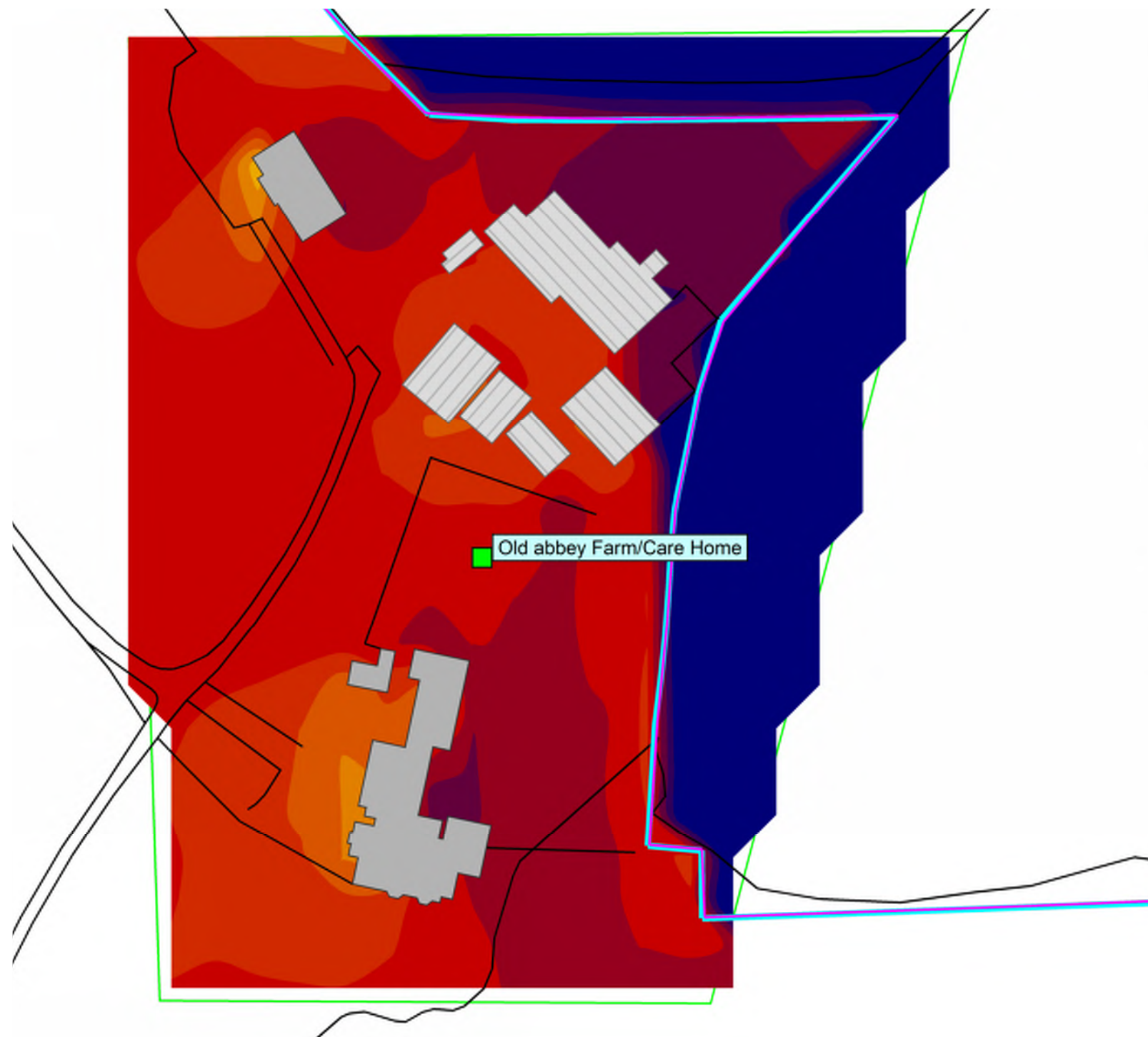
Phase 1A

LAeq(T)

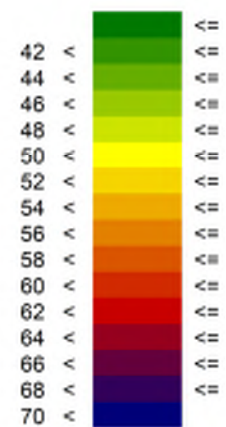
First floor with 3m Ba

Scale 1:1250

0 5 10 20 30 40



Noise level  
L<sub>Aeq</sub>(T)  
(dB)



Sizewell Construction

Old Abbey Farm / Ca

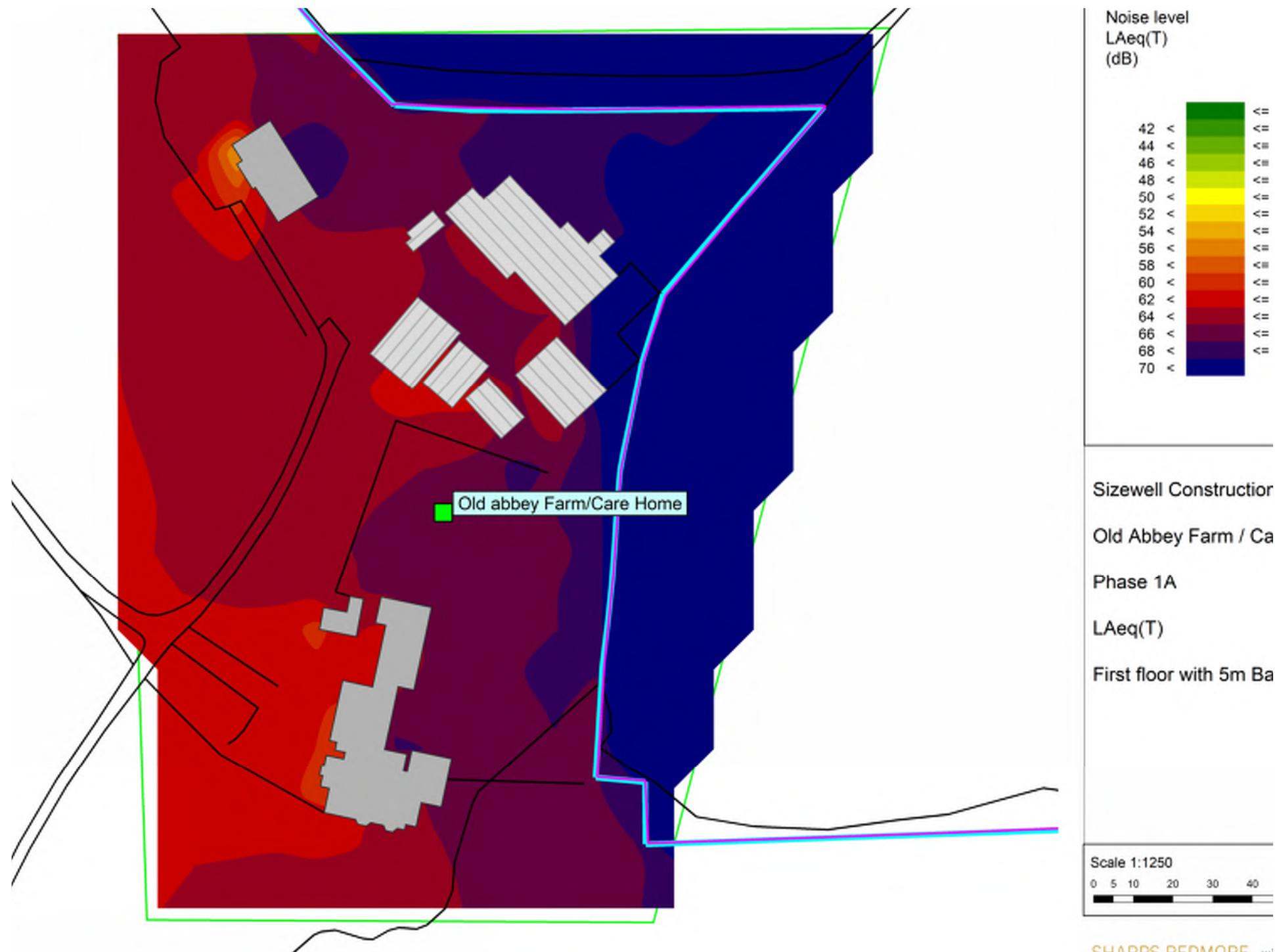
Phase 1A

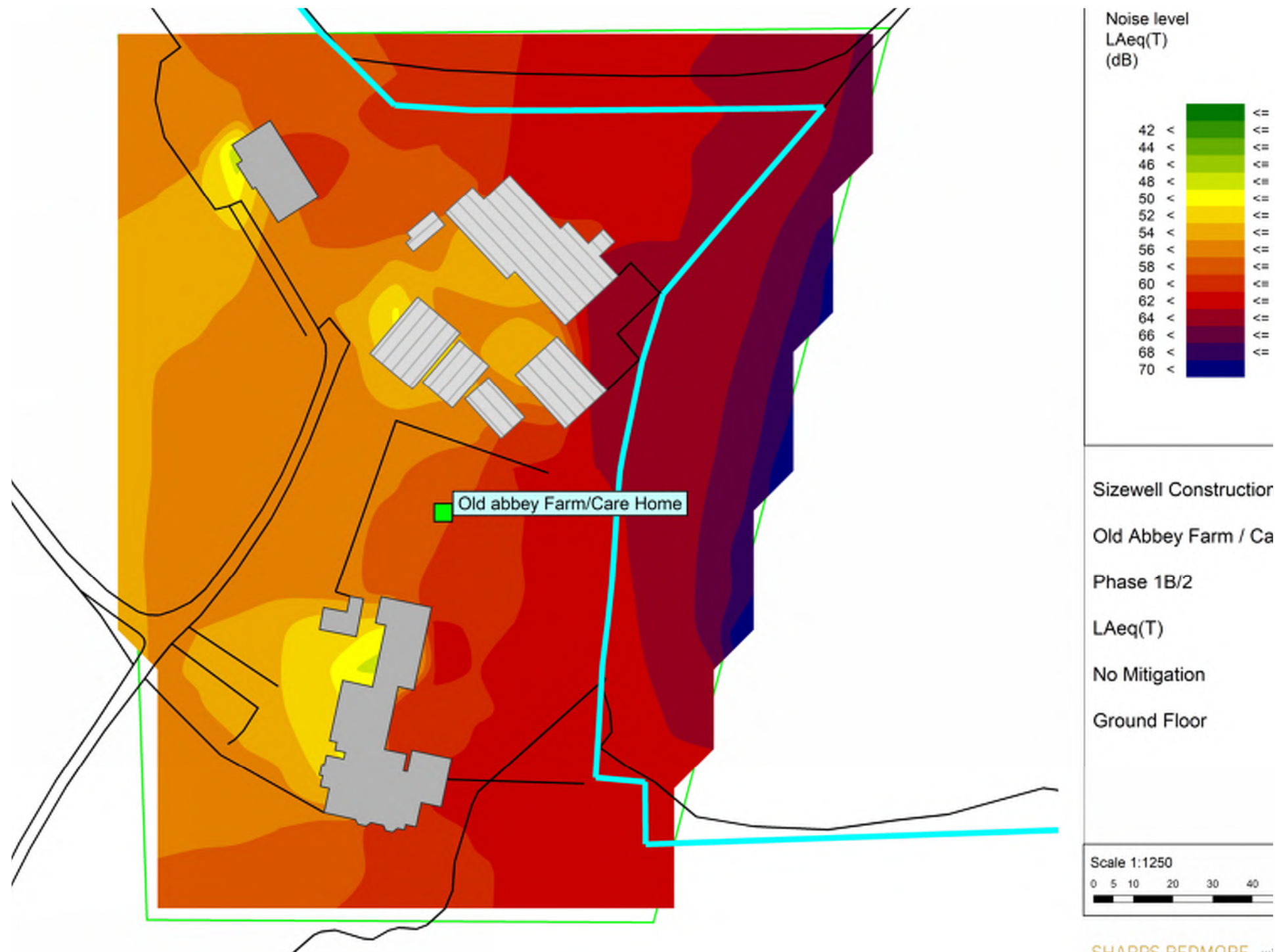
L<sub>Aeq</sub>(T)

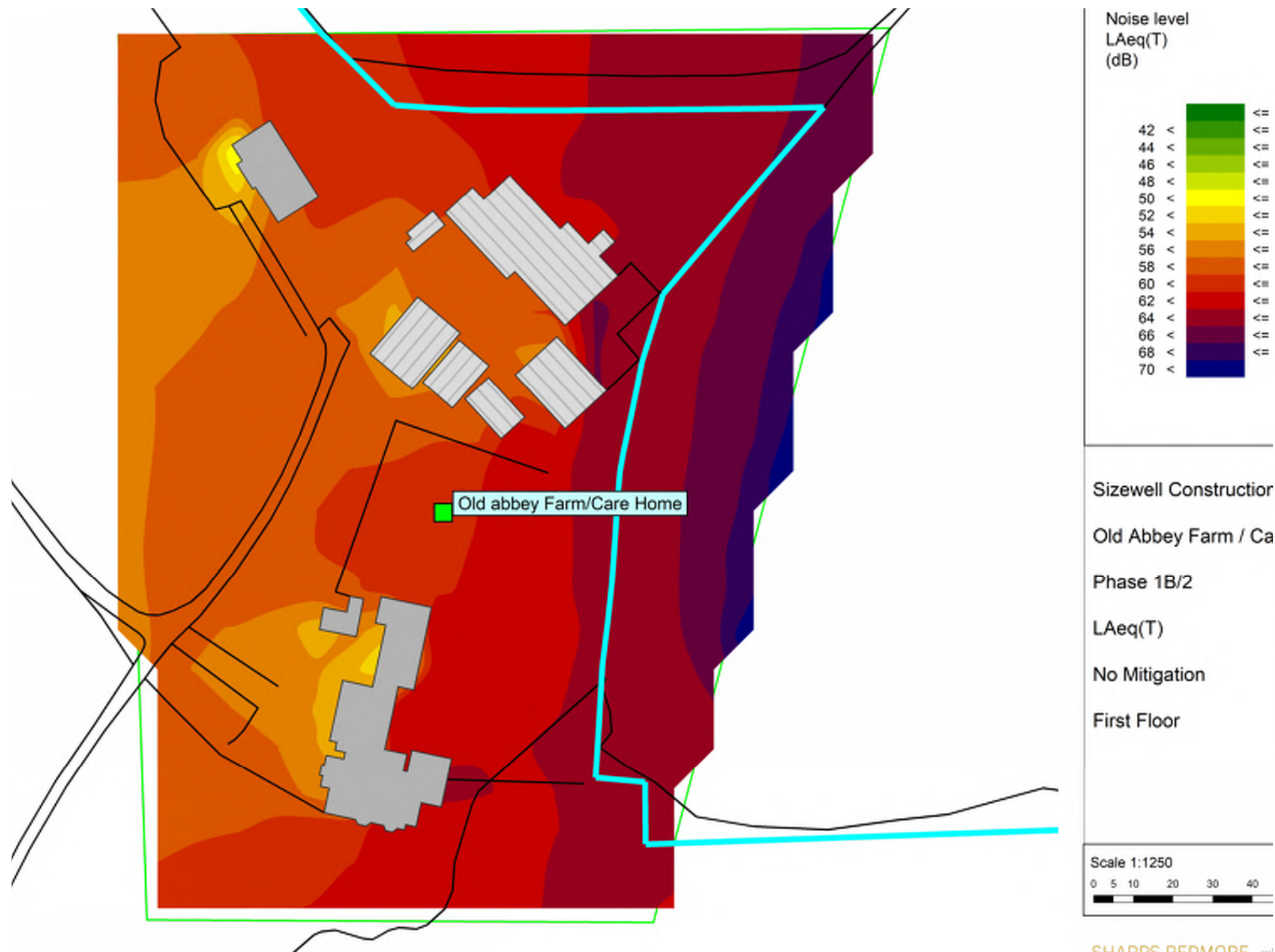
Ground floor with 5m

Scale 1:1250

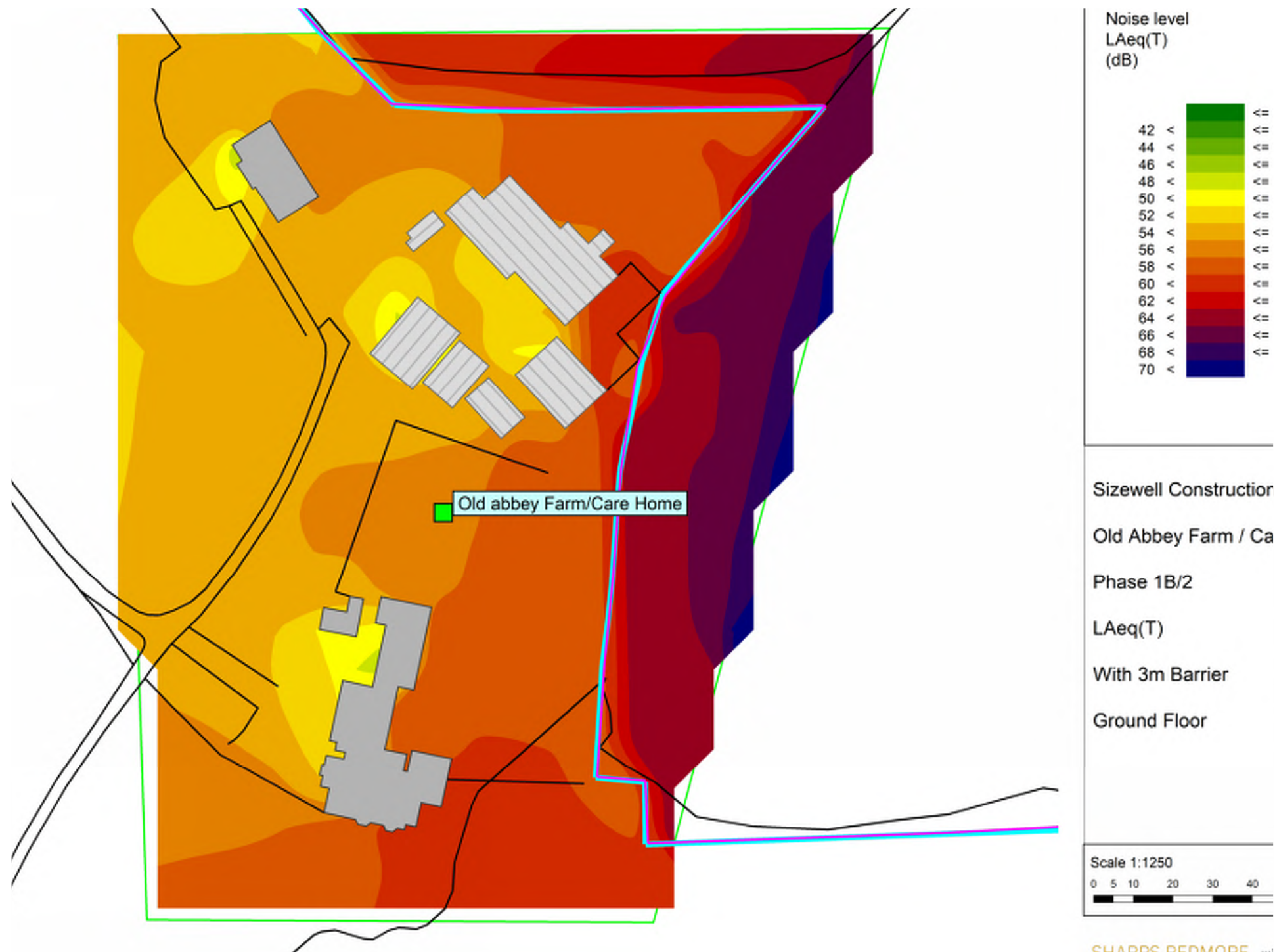
0 5 10 20 30 40

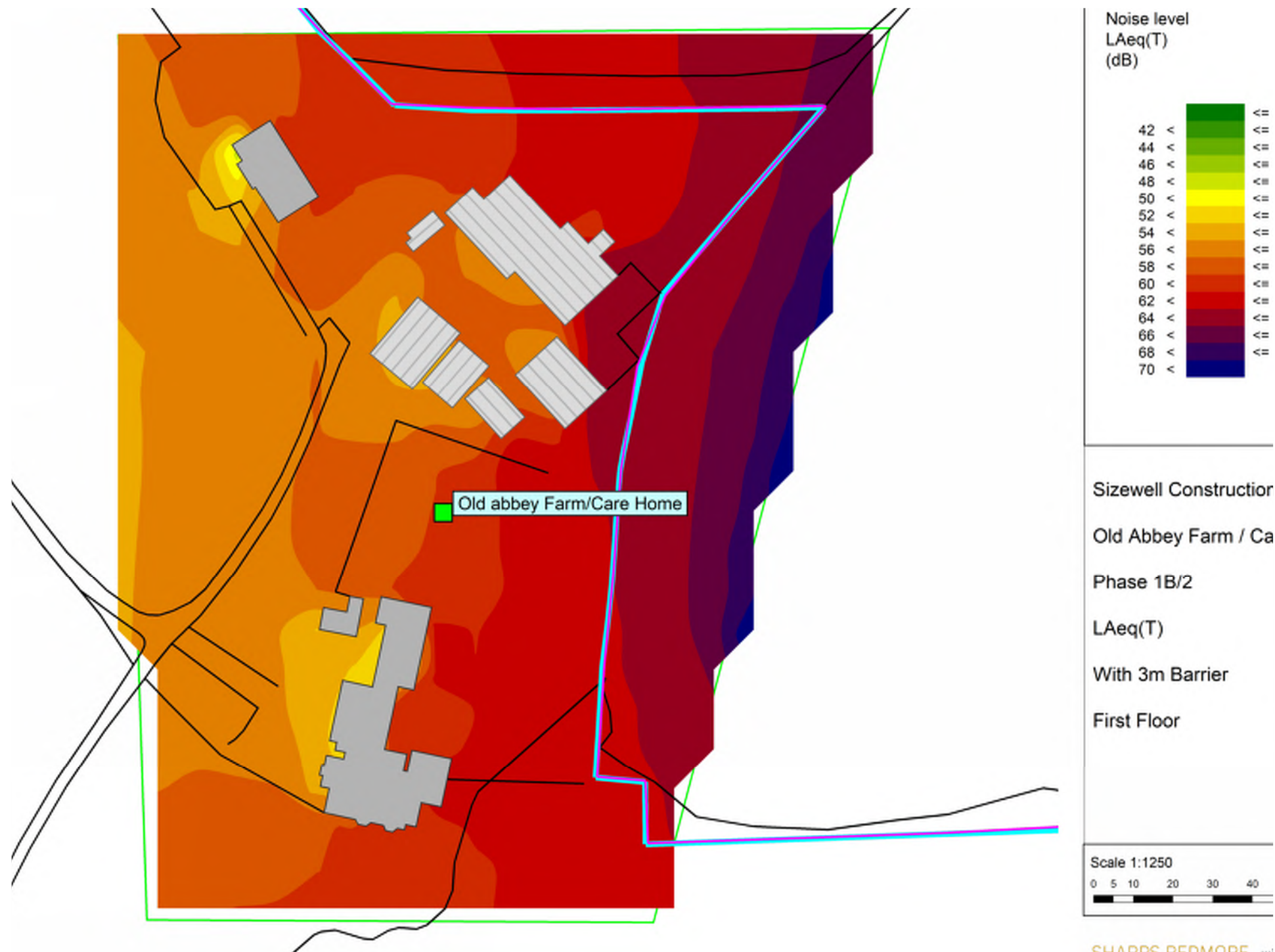




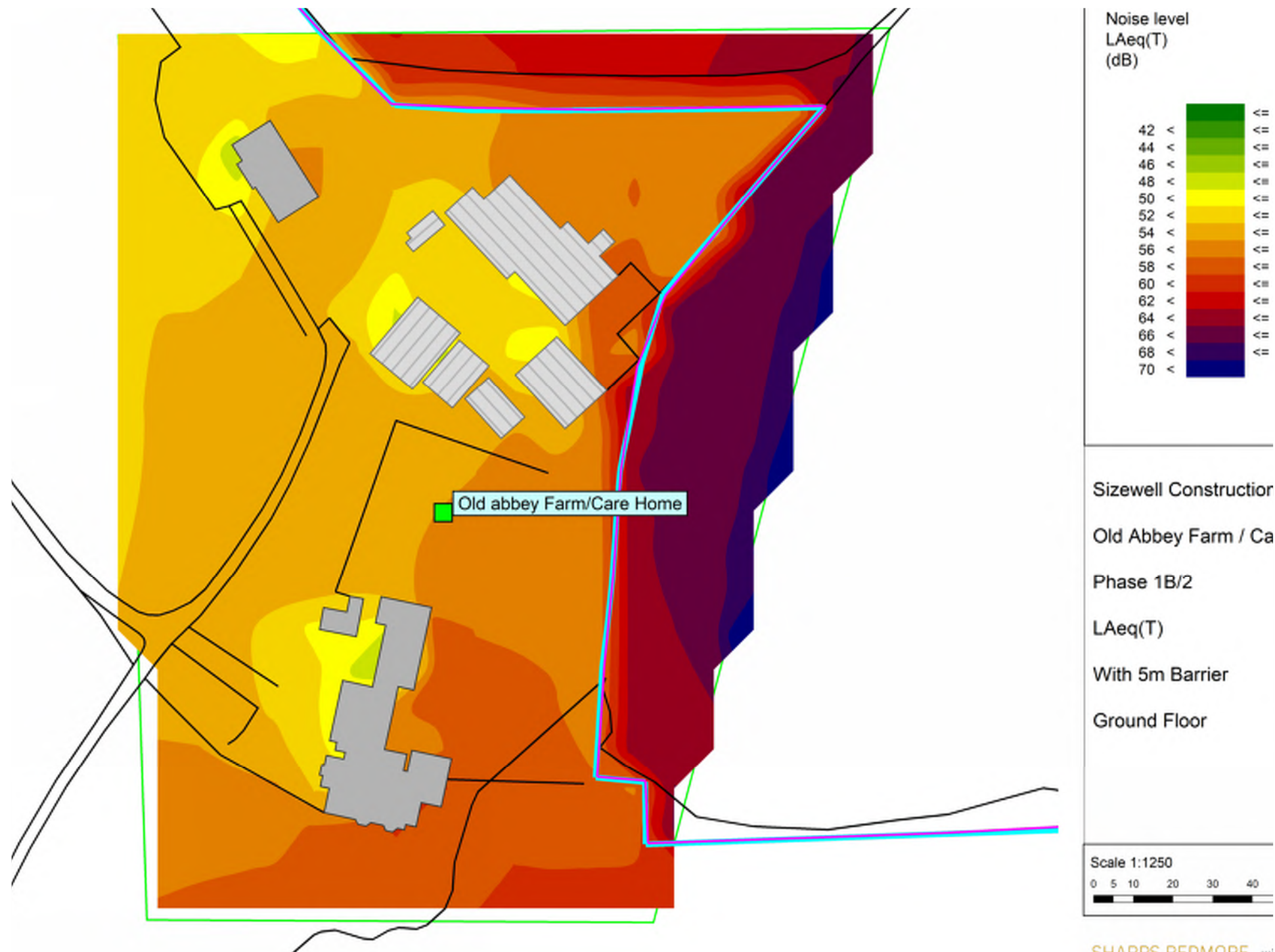


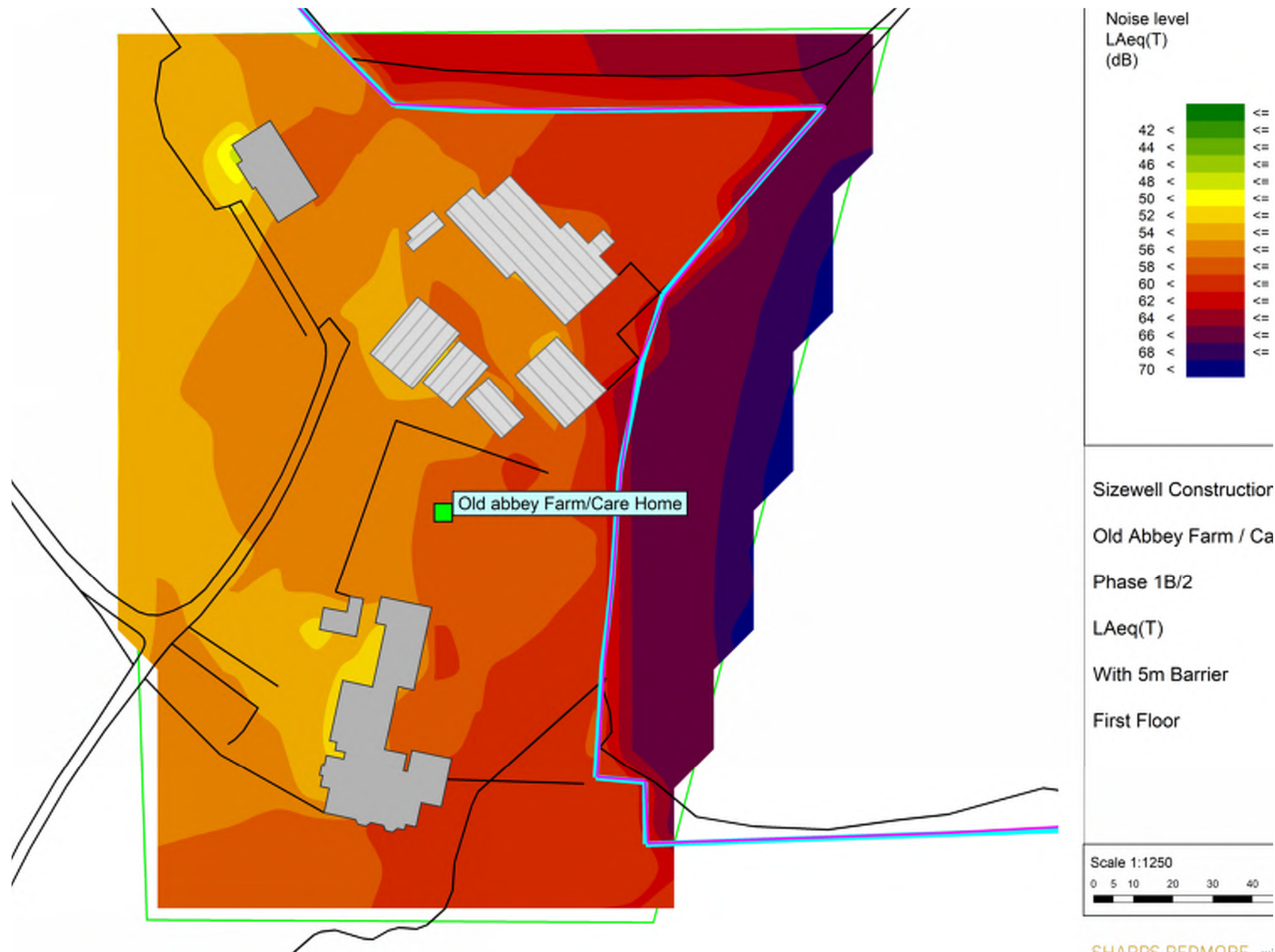
Sizewell Construction  
 Old Abbey Farm / Ca  
 Phase 1B/2  
 LAeq(T)  
 No Mitigation  
 First Floor



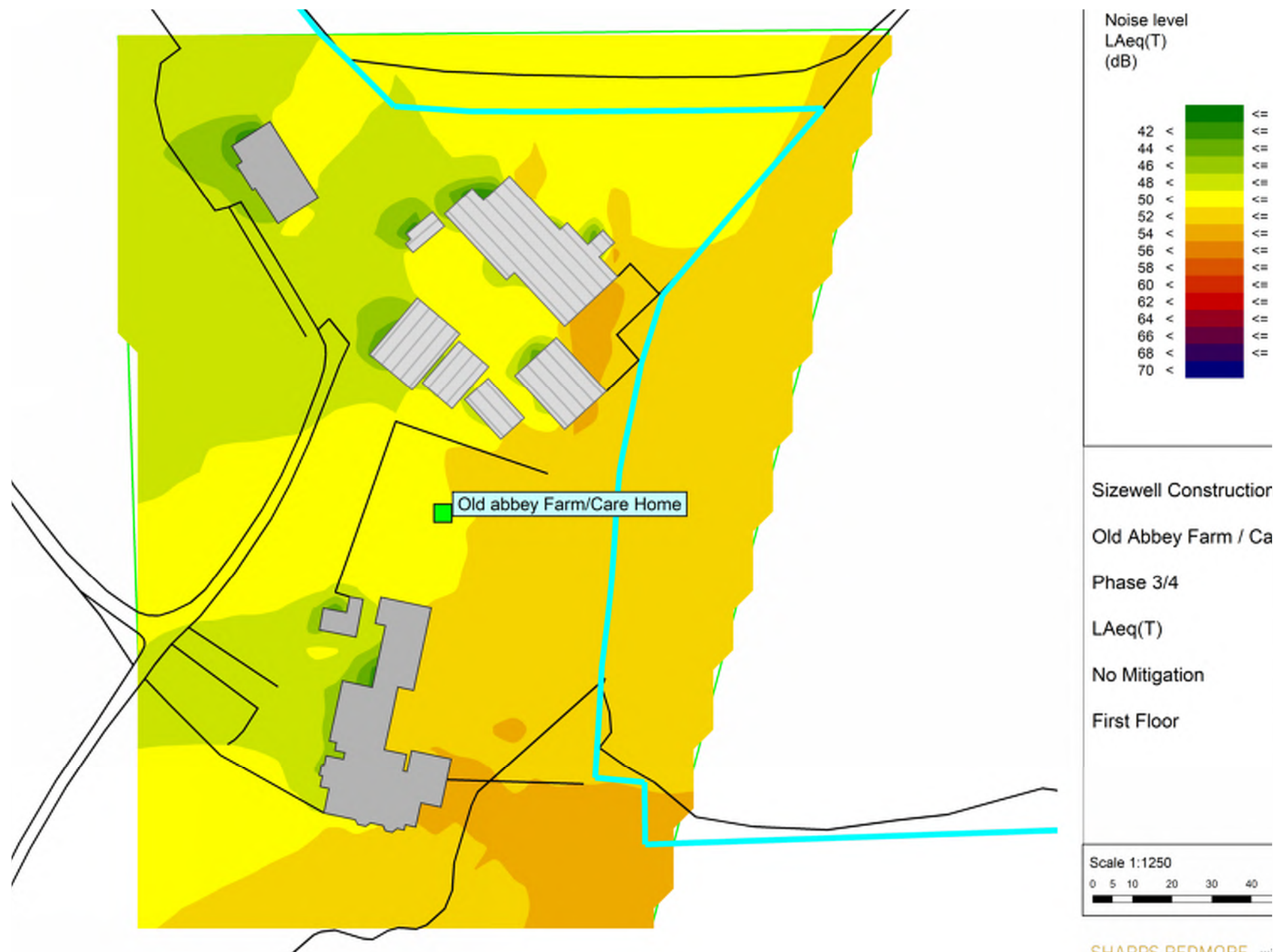






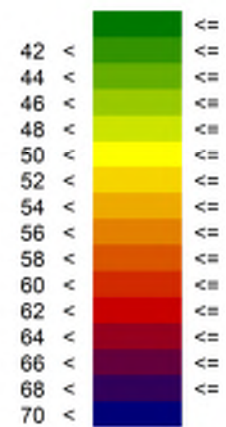








Noise level  
LAeq(T)  
(dB)



Sizewell Construction

Old Abbey Farm / Ca

Phase 3/4

LAeq(T)

With 3m Barrier

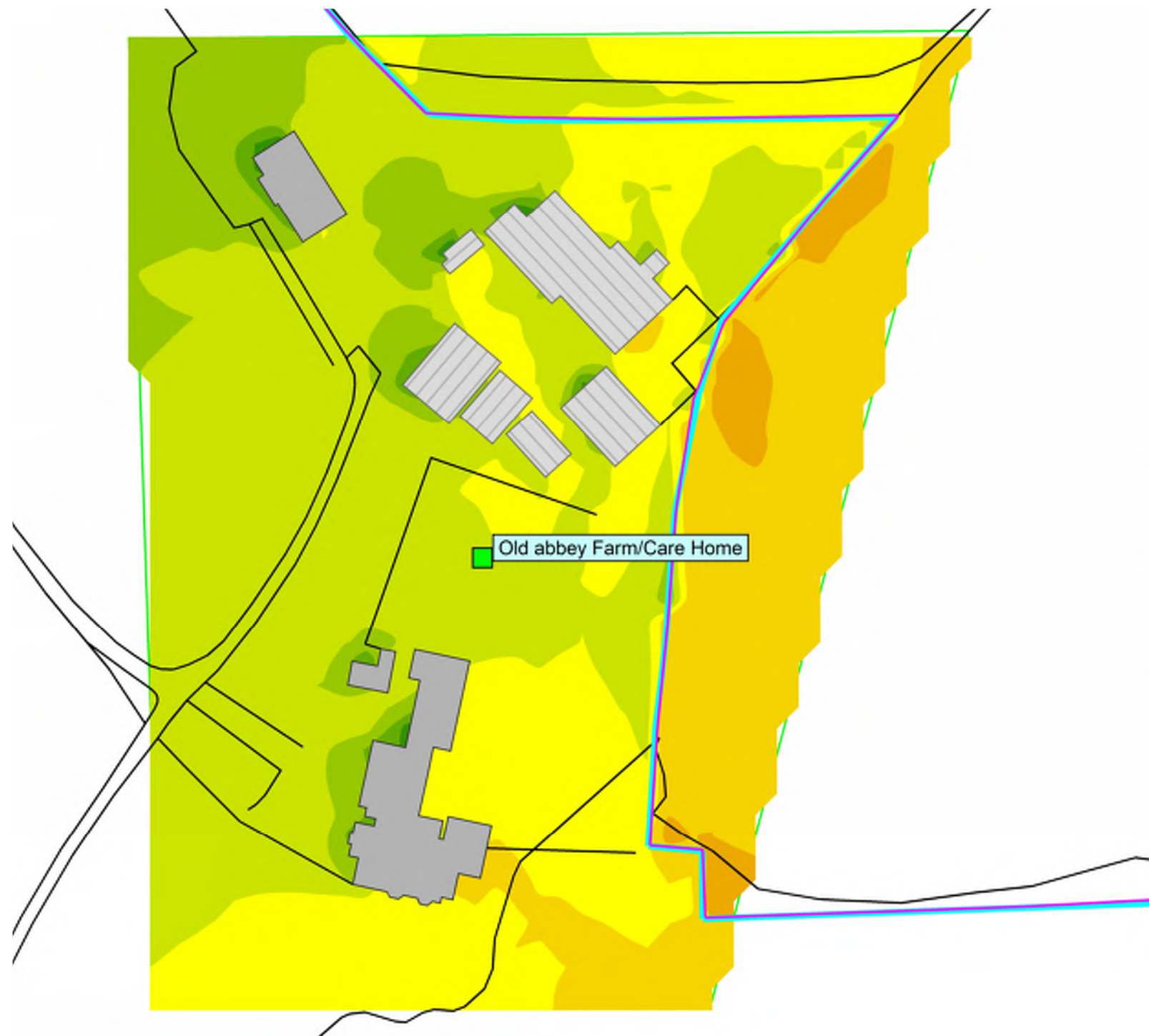
Ground Floor

Scale 1:1250

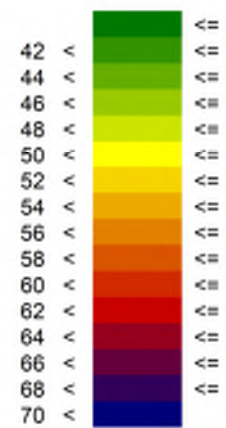
0 5 10 20 30 40







Noise level  
LAeq(T)  
(dB)



Sizewell Construction

Old Abbey Farm / Ca

Phase 3/4

LAeq(T)

With 5m Barrier

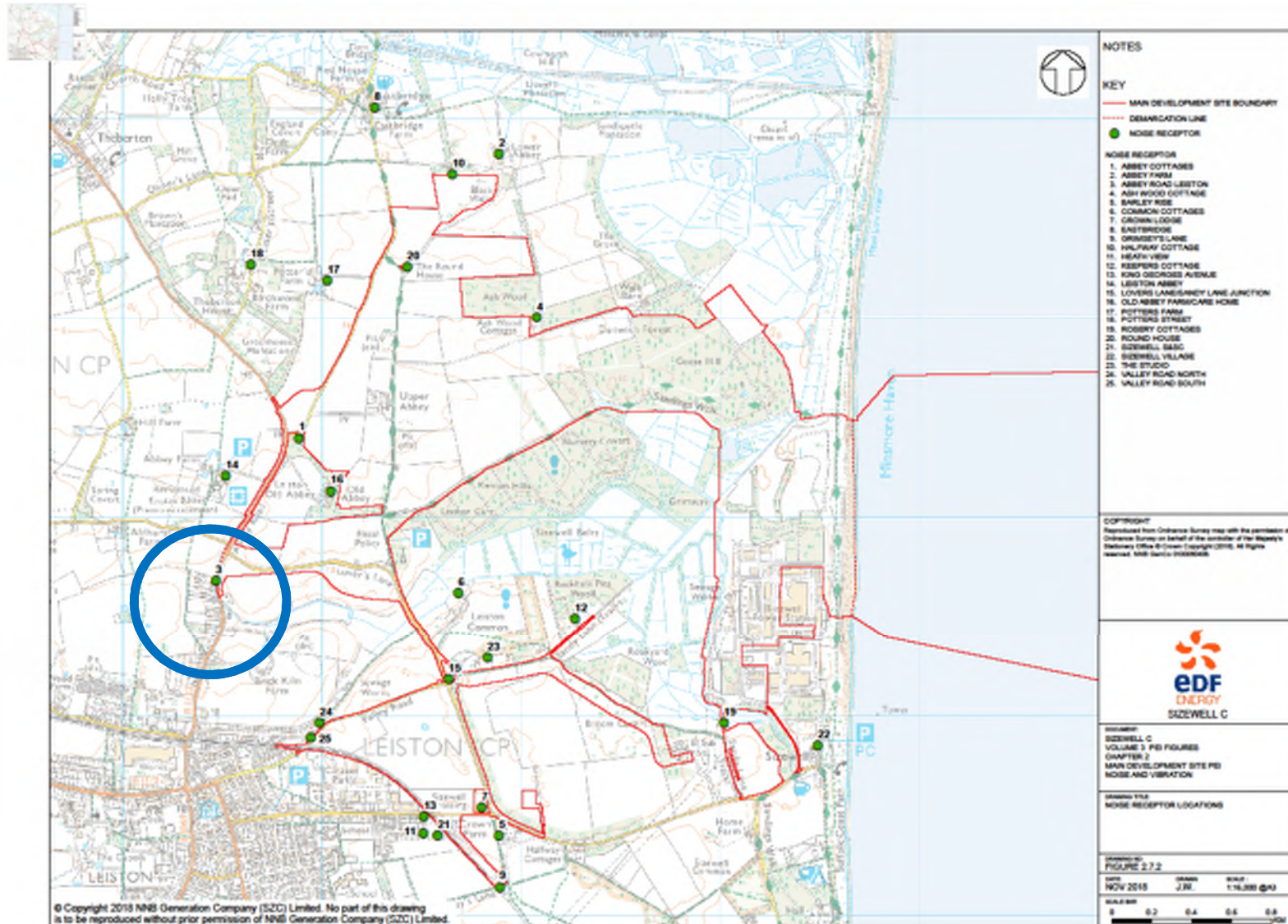
First Floor

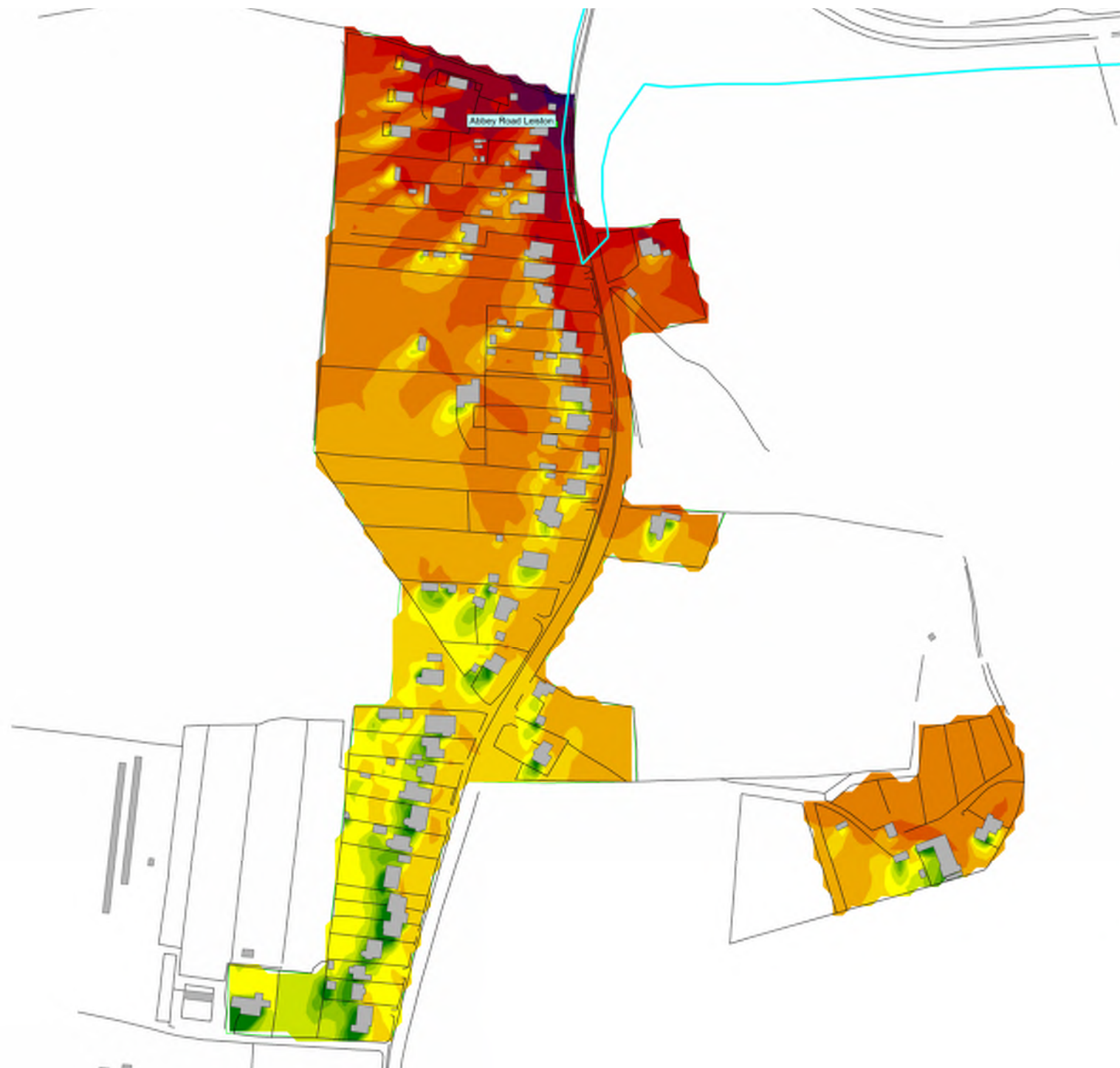
Scale 1:1250

0 5 10 20 30 40

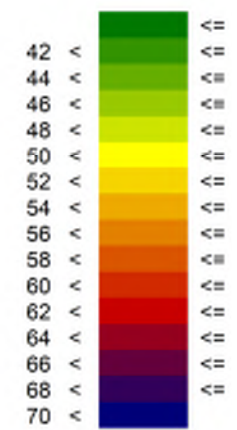


# Abbey Road, Leiston

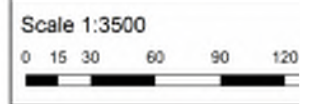


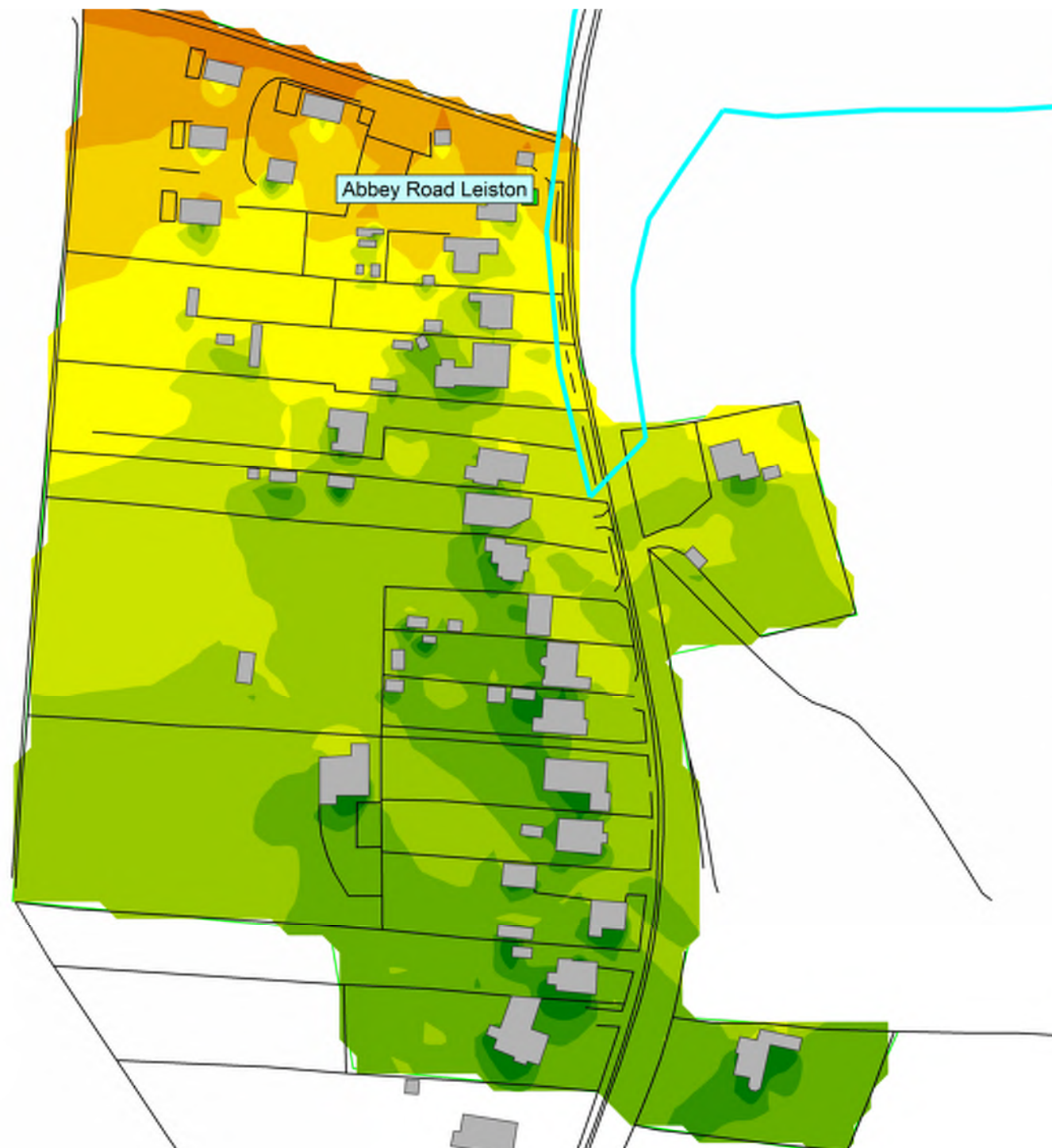


Noise level  
L<sub>Aeq</sub>(T)  
(dB)

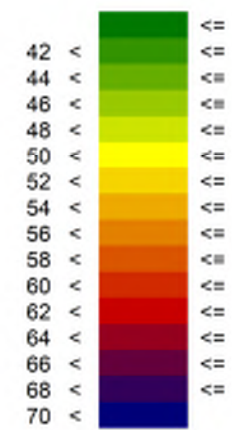


Sizewell Constructio  
Phase 1A  
Abbey Road Leiston  
L<sub>Aeq</sub>(T)



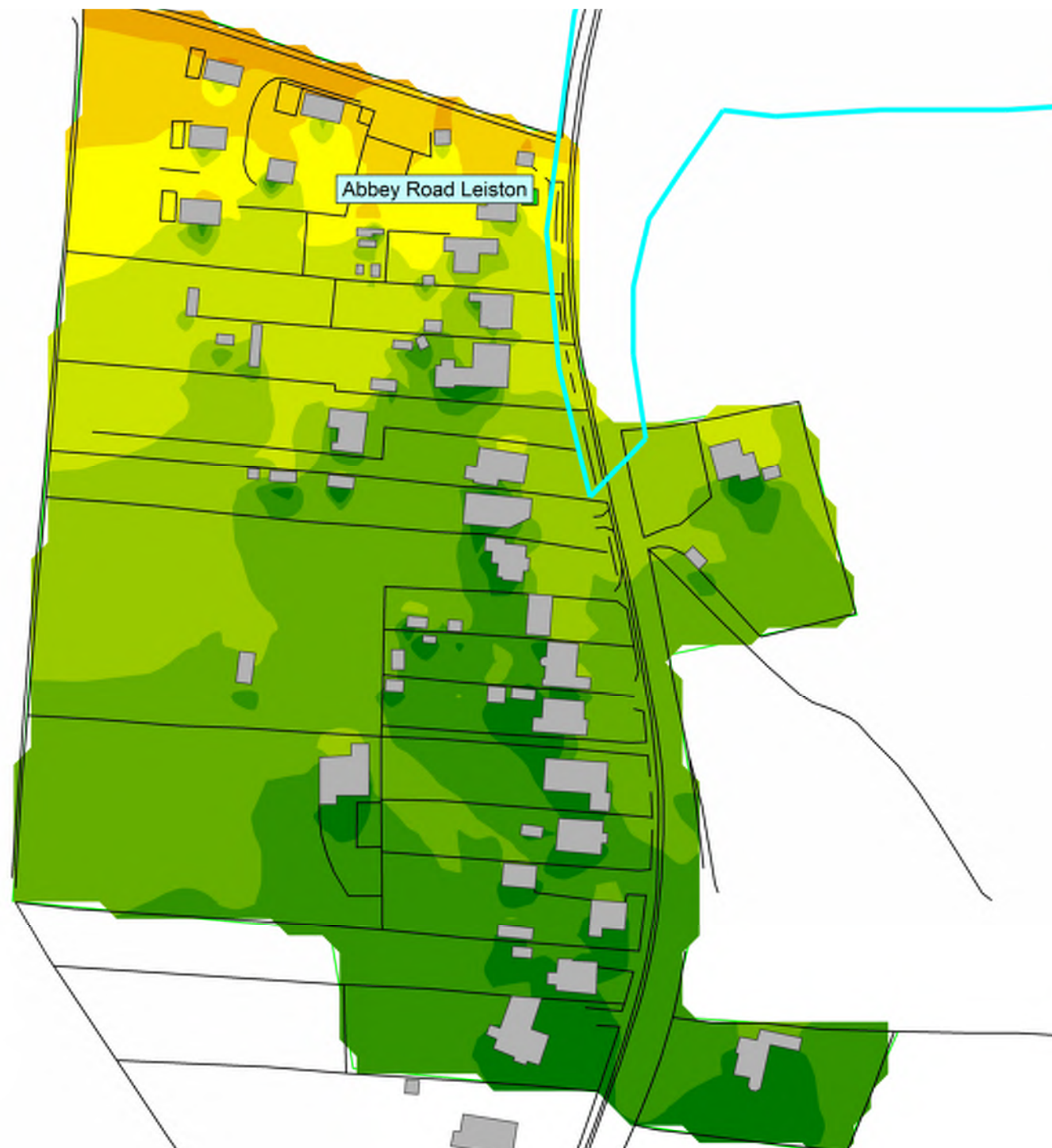


Noise level  
L<sub>Aeq</sub>(T)  
(dB)

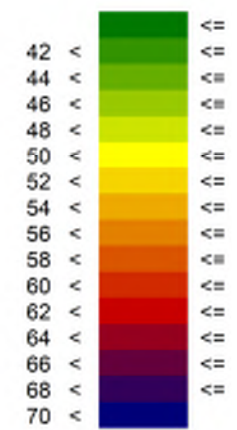


Sizewell Constructio  
Phase 1B/2  
Abbey Road Leiston  
L<sub>Aeq</sub>(T)





Noise level  
L<sub>Aeq</sub>(T)  
(dB)



Sizewell Constructior  
Phase 3/4  
Abbey Road Leiston  
L<sub>Aeq</sub>(T)



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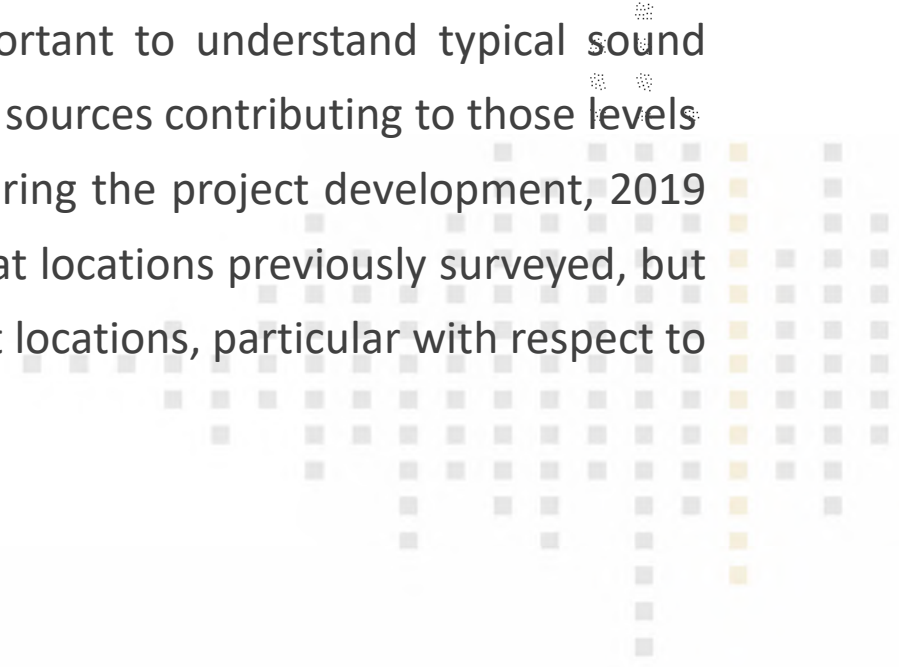
# Baseline Monitoring Update



# Sizewell C Baseline surveys

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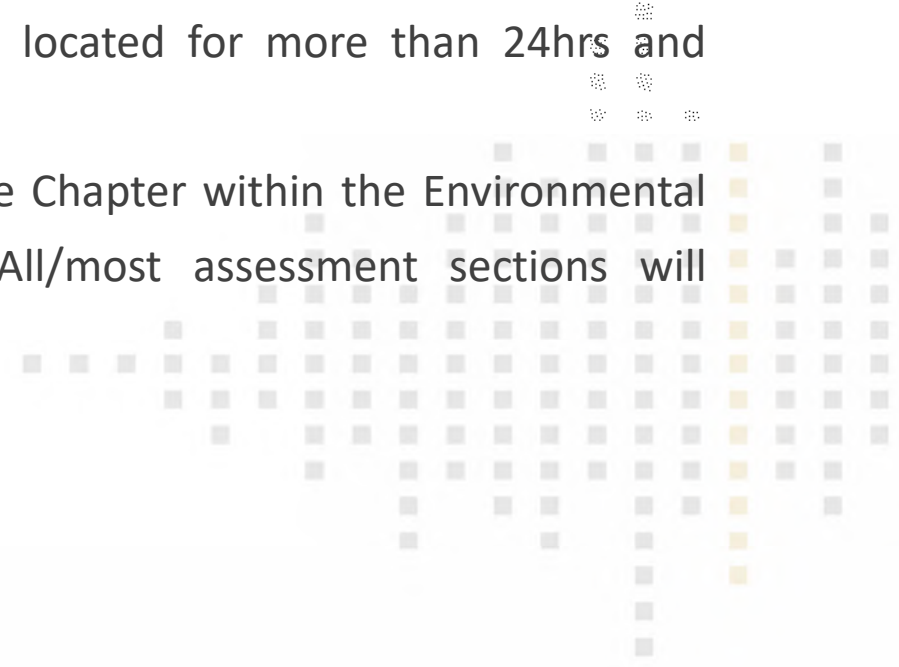
## General Purpose

- Baseline sound survey data gathered to characterise various receptor areas for the different assessment types undertaken
  - For some of the assessments types, the ambient or background sound levels at a location are directly part of the criteria
  - At all locations it was considered important to understand typical sound levels, but also the sound character and sources contributing to those levels
  - Surveys undertaken at various times during the project development, 2019 surveys undertaken to update/validate at locations previously surveyed, but also add new information at assessment locations, particular with respect to the new road proposals
- 

# Sizewell C Baseline surveys

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## General Methodology

- All surveys undertaken with Class 1 sound level meters, field-calibrated and within certified laboratory calibration periods
  - Samples undertaken in representative periods of the day and night depending on the assessment type
  - Some data collection from equipment located for more than 24hrs and some through attended only work
  - All the data will form part of a Baseline Chapter within the Environmental Statement of the DCO application. All/most assessment sections will therefore refer to the Baseline Chapter
- 

# Sizewell C Baseline surveys

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## Survey Areas

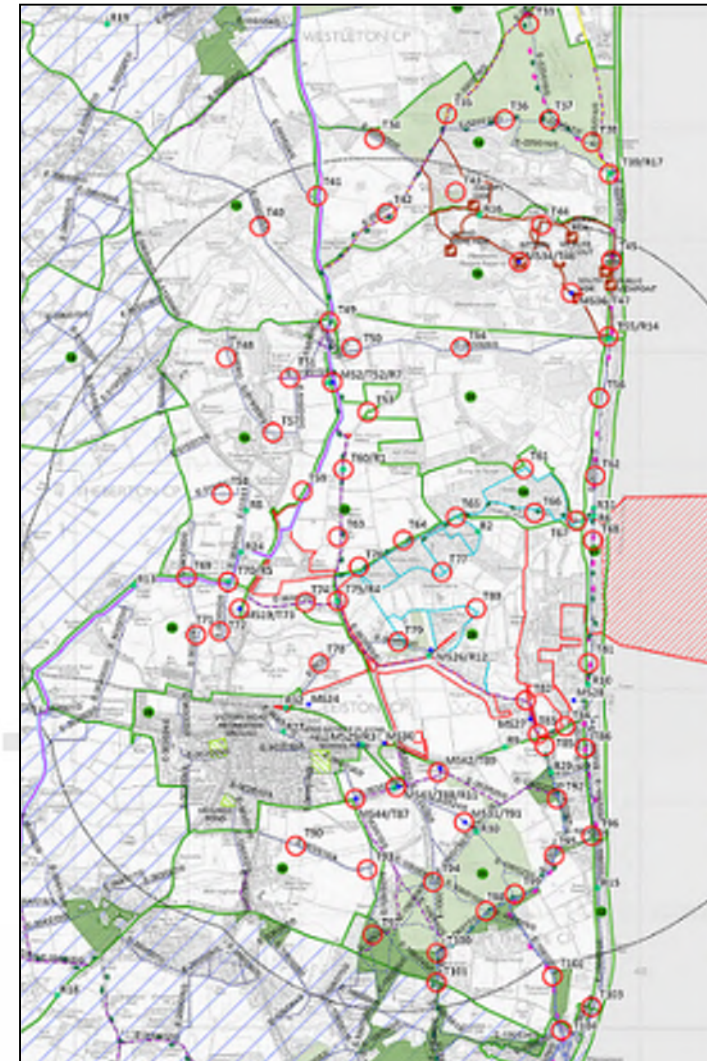
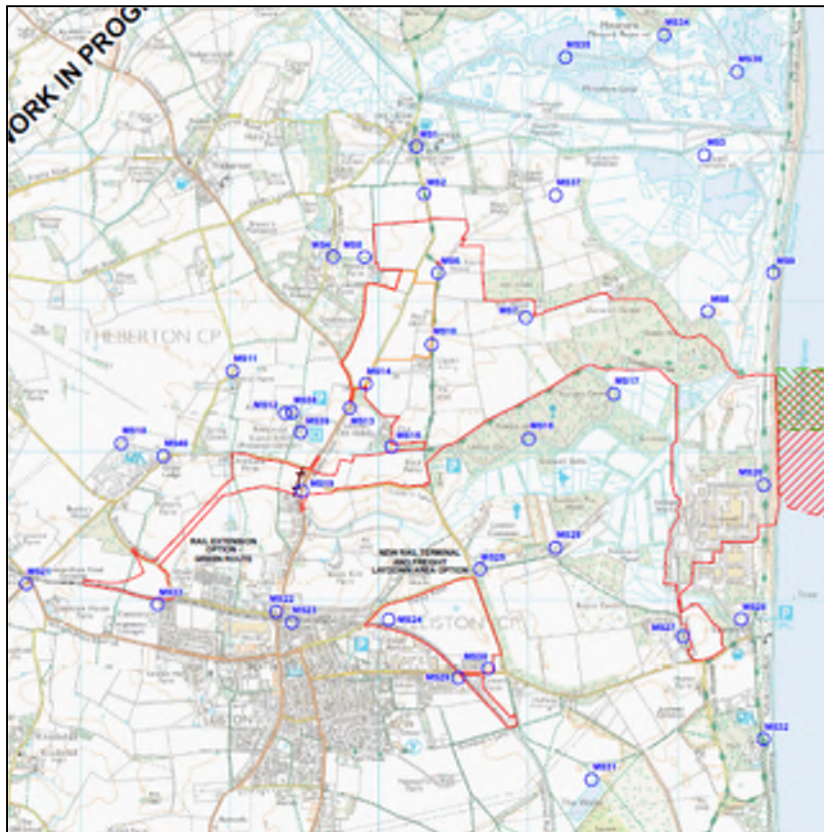
- Main Development Site – Leiston, Sizewell, Eastbridge areas for construction site and operational phase assessments
- Yoxford, Middleton and Theberton areas for the Sizewell Link Road assessments
- Farnham and Stratford St Andrew areas for the Two Village By-pass assessments
- Yoxford, Darsham, Wickham Market, and Nacton areas for Other Road Improvement scheme assessments, and Freight Management Facility
- Various locations including Saxmundham, Melton, and Martlesham for existing road assessments and rail assessments





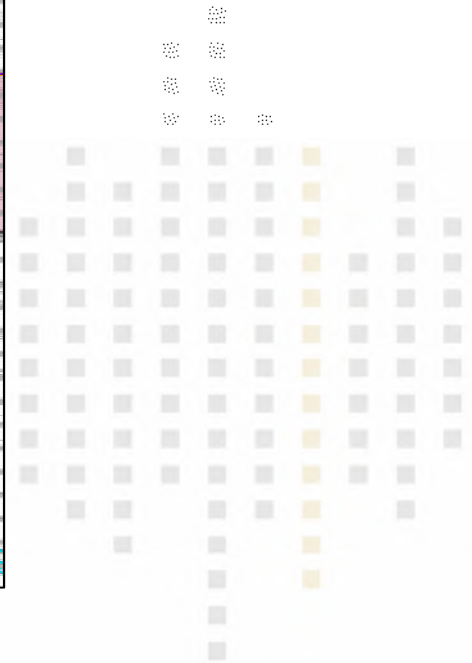
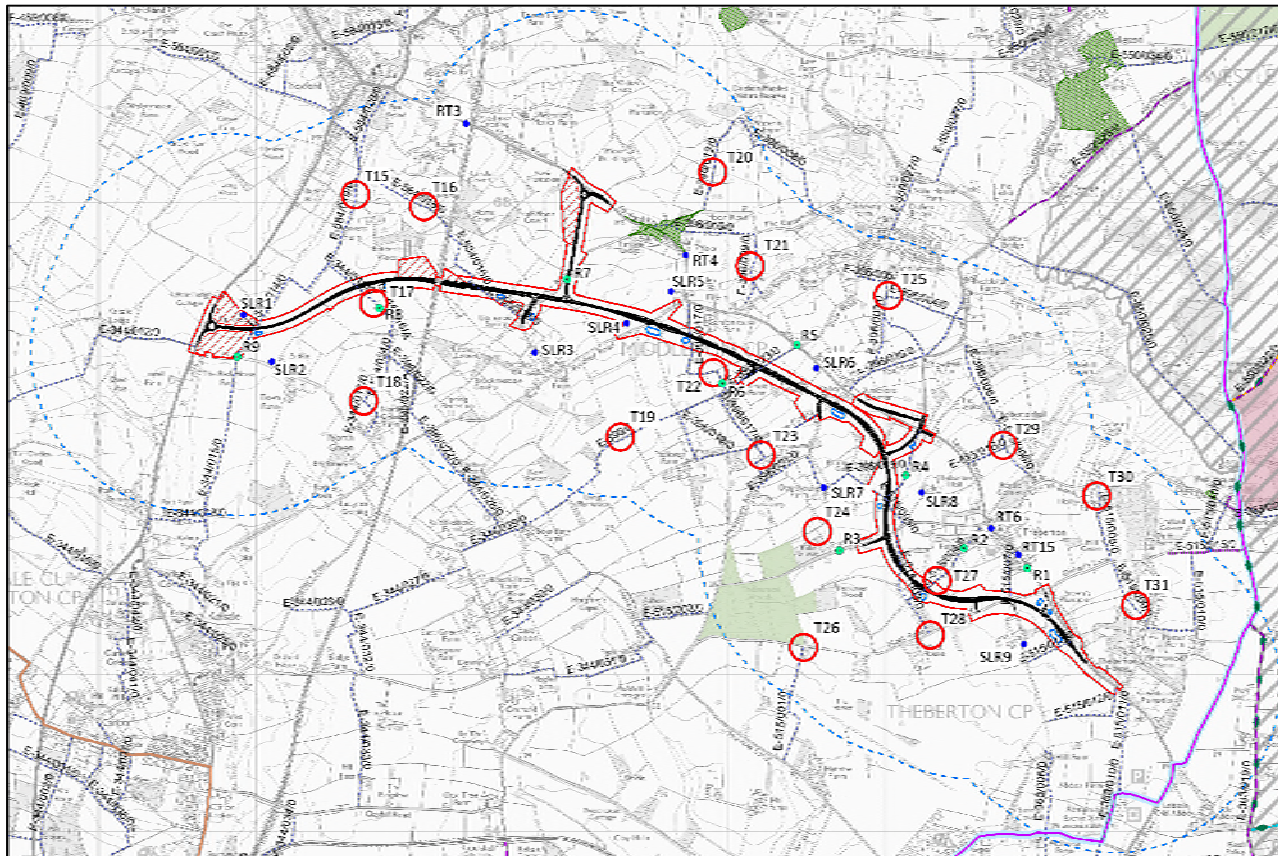
# Sizewell C Baseline surveys

## Survey Locations – Main Development Site



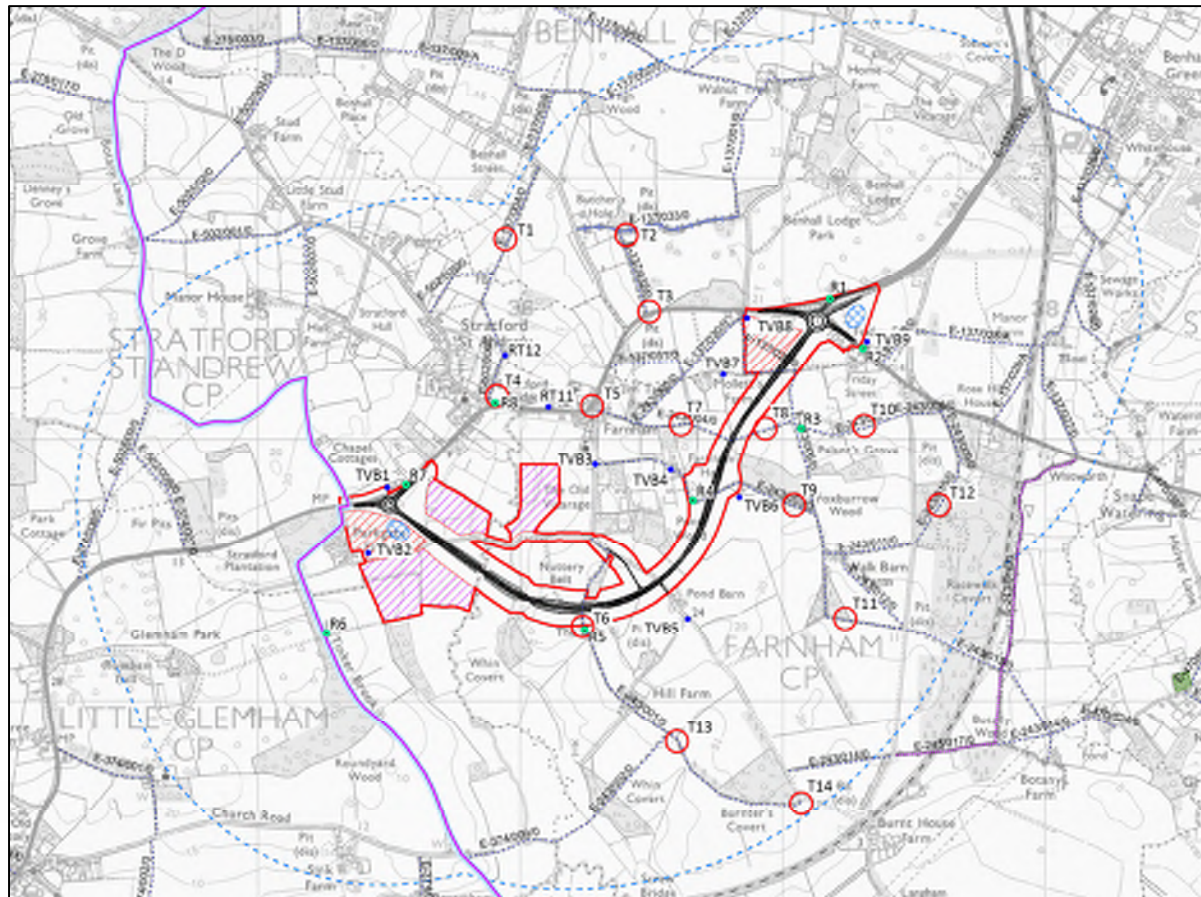
# Sizewell C Baseline surveys

## Survey Locations – Sizewell Link Road 2019



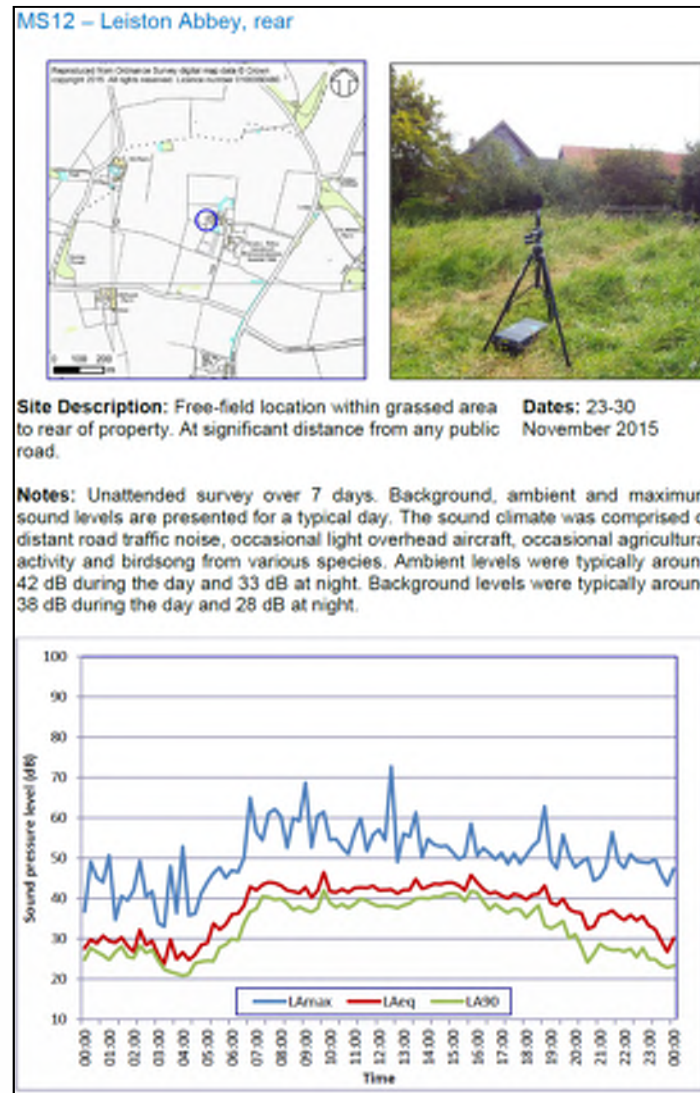
# Sizewell C Baseline surveys

## Survey Locations – 2 Village Bypass 2019



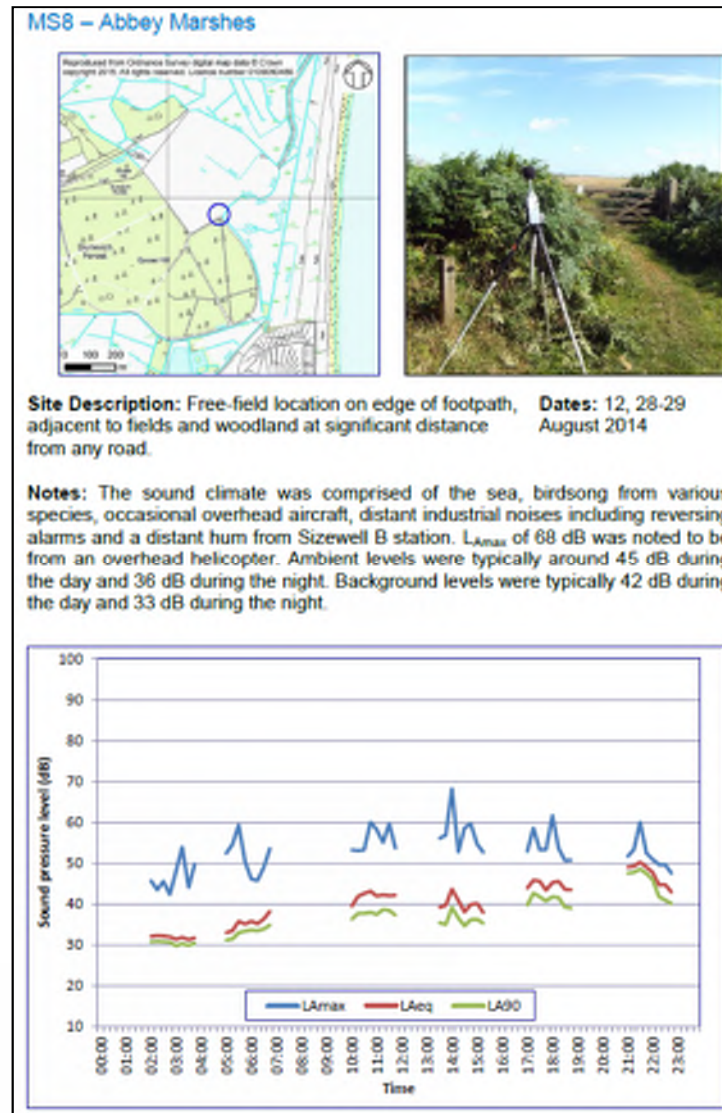
# Sizewell C Baseline surveys

## Example Baseline Reports



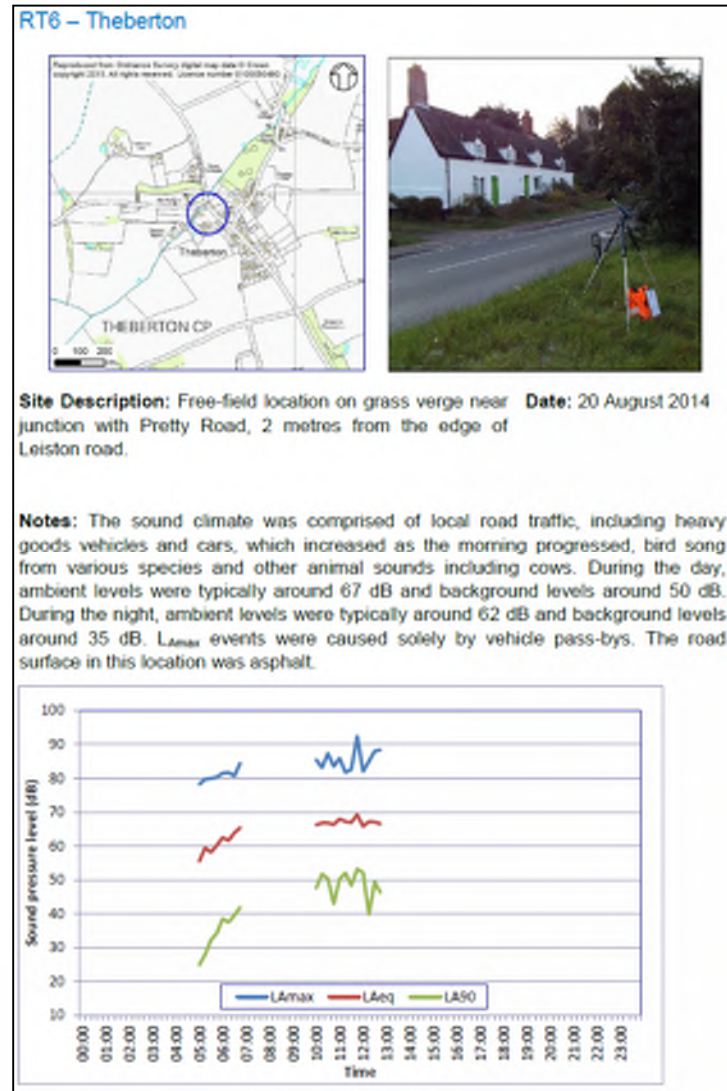
# Sizewell C Baseline surveys

## Example Baseline Reports



# Sizewell C Baseline surveys

## Example Baseline Reports



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## Sizewell C – Main Development Site

Thank You

