



# The Sizewell C Project

Deed of Obligation, Schedule 12, Annex W: Operational Rail  
Refreshed Noise Assessment

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Revision: 1.0

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# 1. Introduction

- 1.1 AECOM has been appointed by Sizewell C Limited (SZC) to identify residential buildings that will qualify under the Noise Mitigation Scheme (NMS) (as set out in Annex W of the **Deed of Obligation**<sup>1</sup>) as a result of the construction and operation of the Sizewell C nuclear power station project ('the project'). The project includes the following elements:
- The main development site (MDS) comprising land required for the Sizewell C nuclear power station, offshore works and land used temporarily to support construction, including a temporary accommodation campus and caravan site for the construction workforce. This includes the Land East of Eastlands Industrial Estate (LEEIE).
  - Two temporary park and ride sites, one at Darsham (the 'northern park and ride site') and one at Wickham Market (the 'southern park and ride site'), to reduce the amount of traffic generated by the construction workforce on local roads and through local villages.
  - A permanent road to bypass Stratford St Andrew and Farnham (referred to as the 'two village bypass' or TVB), to alleviate traffic and mitigate road safety effects on the A12 through the two villages.
  - A permanent road linking the A12 to west of the Sizewell C main development site (referred to as the 'Sizewell link road' or SLR), to alleviate traffic from the B1122 through Theberton and Middleton Moor.
  - Permanent highway improvements at the junction of the A12 and B1122 east of Yoxford (referred to as the 'Yoxford roundabout') and other road junctions to accommodate Sizewell C construction traffic and mitigate road safety effects.
  - A temporary freight management facility (FMF) at Seven Hills on land to the south-east of the A12/A14 junction to manage the flow of freight to the main development site [no longer proposed to be developed].
  - A temporary extension of the existing Saxmundham to Leiston branch line into the main development site (referred to as 'the green rail route' or GRR) and other permanent rail improvements on the Saxmundham to Leiston branch line, to transport freight by rail to remove large numbers of lorries from the regional and local road network.
- 1.2 In addition, there will be temporary intensification for approximately 8 to 10 years of the use of the existing East Suffolk line railway between Westerfield Junction, just north of Ipswich and the junction with the Saxmundham to Leiston branch line, just north of Saxmundham, and the Saxmundham to Leiston branch line itself.
- 1.3 The project received development consent on 20 July 2022 under Statutory Instrument 2022 No 853. 'The Sizewell C (Nuclear Generating Station) Order 2022'.
- 1.4 Separate reports have been produced regarding qualification under the NMS due to the construction and operational use of each of the various elements of the project set out in paragraphs 1.1 and 1.2, except for the operational use of the power station itself, since the **Development Consent Order (DCO)** (Requirement 40: Operational Noise) precludes the operation of the power station at noise levels that could lead to properties being eligible for noise insulation.
- 1.5 This report focuses on which properties are eligible for noise insulation or ventilation under the NMS due to:
- The intensification of the use of the existing Saxmundham to Leiston branch line by Sizewell C freight trains during the construction of the Sizewell C new nuclear power station, including through Leiston in the early years before the GRR is operational;

<sup>1</sup> The Sizewell C Project 8.17/10.4 *Deed of Obligation Engrossment Version – Annexures - Part 3 of 3*, Book 8 Revision: 9.0, Book 10 Revision: 1.0, PINS Reference Number: EN010012, <https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010012/EN010012-008256-SZC%20Co.%20-%20Final%20signed%20and%20dated%20s.106.%20final%20s.106%20Explanatory%20Memorandum%20and%20final%20Confirmation%20and%20Compliance%20Document%2017.pdf>



- The use of the GRR by Sizewell C freight trains outside the MDS, once the GRR is constructed in the later years of construction; and
  - The intensification of the use of the existing East Suffolk line between Westerfield Junction, just north of Ipswich and the junction with the Saxmundham to Leiston branch line by Sizewell C freight trains during the construction of the Sizewell C new nuclear power station.
- 1.6 A freight train comprises a train carrying construction material to either the LEEIE or TCA railheads to support construction of the Sizewell C new nuclear power station, and does not include trains used on the construction of the rail infrastructure itself.
- 1.7 Figure 1 provides an overview of the existing East Suffolk line, the existing Saxmundham to Leiston branch line, and the GRR.
- 1.8 The potential eligibility for noise insulation as a result of noise from works to upgrade the Saxmundham to Leiston branch line and the alterations to the junction on the East Suffolk line that accesses the branch line has been considered in a separate report<sup>2</sup>.
- 1.9 The construction and operation of the temporary rail terminal within the ancillary construction area (ACA), also known as LEEIE, which consists of a temporary rail unloading facility to be used prior to the completion of the GRR, is not covered in this report. Those activities are considered in the report on noise insulation qualification due to the construction works at the MDS<sup>3</sup>. The MDS construction noise report also includes activities associated with the construction and operation of the GRR to the east of Abbey Road, within the MDS red line boundary.
- 1.10 Section 1.5 of the NMS contains provisions for SZC to review the eligible buildings identified in this refreshed noise assessment at any time, for example, in response to additional information.

## 2. Criteria

- 2.1 Table 1.1 of the NMS sets out the criteria for eligibility for insulation for operational railway noise, which are:

*“Eligibility will require one of the following two criteria (A or B) to be established, when measured 1 m from the external façade of any Eligible Room:*

*A. A Property will be eligible for an offer for noise insulation based on averaging rail noise over the day and night time periods, where:*

*(a) the Future (Rail) Noise Levels exceed façade noise levels of 69 dB  $L_{Aeq,16hrs}$  during the hours of 07:00 to 23:00 or 58 dB  $L_{Aeq,8hrs}$  during the hours of 23:00 to 07:00; and*

*(b) the Future (Rail) Noise Levels are at least 1 dB higher than the Existing (Rail) Noise Levels as a result of the use of the new or amended railway line associated with the Development; and*

*(c) the contribution from the use of new or amended railway line associated with the Development to the Future (Rail) Noise Levels at the façade is at least 1 dB;*

*or*

*B. A Property will be eligible for an offer for noise insulation based on the maximum noise level created at night where the predicted maximum sound level as a result of the use of the new or amended railway line associated with the Development is  $L_{AFmax}$  73 dB or more between 23:00 and 07:00 hours.*

*The same criteria must also apply to noise impacts from construction rail traffic on the existing East Suffolk line between Westerfield Junction and the junction between the East Suffolk line and the Saxmundham to Leiston branch line.”*

<sup>2</sup> <https://www.eastsuffolk.gov.uk/assets/Planning/Energy-Projects/Sizewell/Deed-of-Obligation/Refreshed-Noise-Assessment-in-relation-to-the-Noise-Mitigation-Scheme-Railway-Construction-December-2023.pdf>

<sup>3</sup> <https://www.eastsuffolk.gov.uk/assets/Planning/Energy-Projects/Sizewell/Deed-of-Obligation/Refreshed-Noise-Assessment-in-relation-to-the-Noise-Mitigation-Scheme-Main-Development-Site-July-2023.pdf>

- 2.2 Operational railway noise is also subject to a criterion for eligibility for the provision of ventilation only, which is:

*“Eligibility will require the following criterion to be established, when measured 1 m from the external façade of any Eligible Room:*

*A. A Property will be eligible for an offer for ventilation only based on the maximum noise level created at night where the predicted maximum sound level as a result of the use of the new or amended railway line associated with the Development exceeds  $L_{AFmax}$  60 dB and is below 73 dB between 23:00 and 07:00 hours.*

*The same criterion must also apply to noise impacts from construction rail traffic on the existing East Suffolk line between Westerfield Junction and the junction between the East Suffolk line and the Saxmundham to Leiston branch line.”*

- 2.3 The NMS refers to ‘construction rail traffic’ and ‘SZC Co’s freight services’ interchangeably, and to be consistent with the approach that is adopted in the Rail Noise Mitigation Plan (RNMP) to be approved by East Suffolk Council in accordance with Requirement 39, construction / freight trains are trains carrying construction material to either the LEEIE or TCA railheads to support construction of the Sizewell C new nuclear power station, and do not include trains used on the construction of the rail infrastructure itself.
- 2.4 Section 1.9 of the NMS defines a ‘property’ as *“a building lawfully consented as a dwelling house (Use Class C3) or house in multiple occupation (Use Class C4) prior to the grant of the DCO”*. The NMS does not apply to holiday letting accommodation.
- 2.5 Section 1.8 of the NMS sets out a range of ‘exceptional circumstances’ relating to buildings where the sound reduction performance of the external fabric is low, defined as less than 25 dB  $R_w$ , which could potentially include residential houseboats, caravans and park homes. The NMS allows SZC to make an offer of insulation works, or for ventilation works, at lower eligibility criteria than would otherwise apply, with the provision that SZC may not increase the eligibility criteria.
- 2.6 The provisions set out Section 1.8 of the NMS have not been implemented in this report, as it is a decision for SZC, subject to the sound reduction performance of the relevant properties being demonstrated as being lower than 25 dB  $R_w$ .

## 3. Methodology

### Railway noise source data

- 3.1 The operational railway noise calculations use the SoundPLAN noise modelling software (version 8.2). Data for the existing passenger rail traffic on the East Suffolk line have been taken from the timetable on the operator’s website<sup>4</sup>. The timetable shows that there are 16 no. southbound passenger trains per day (07:00-23:00), 15 no. northbound per day, and one train per night (23:00-07:00) in each direction along the East Suffolk line.
- 3.2 The passenger trains that operate along the East Suffolk line are Stadler Class 755 trains, which are either 3-car or 4-car bi-mode multiple units. The largest increase in noise levels due to the addition of the Sizewell C freight trains will be from the assumption that the existing passenger trains comprise 3-car units as they will generate slightly less noise than the 4-car units. Therefore, 3-car units have been used as the train type for the existing passenger rail traffic. The vehicle correction for a Class 755 has been calculated based on the number of powered and unpowered axles on a 3-car unit using the method given in the Defra additional Calculation of Railway Noise (CRN) source terms report<sup>5</sup>. The vehicle correction for a 3-car unit has been calculated to be +11.3 dB.
- 3.3 The speed of the existing passenger trains on the East Suffolk line is based on the Anglia Route Sectional Appendix<sup>6</sup>. The majority of the route operates at 55 mph (88 km/h), with some slower sections of between

<sup>4</sup> Greater Anglia Timetable 6: Lowestoft and Felixstowe to Ipswich, valid from 2 June 2024

<sup>5</sup> Defra, Additional railway noise source terms for Calculation of Railway Noise 1995, January 2007

<sup>6</sup> National Rail, Anglia Route Sectional Appendix, September 2024

- 15 mph (24 kmph) and 40 mph (64 km/h), mainly through Saxmundham and Woodbridge. As was adopted for the ES, the passenger trains in the noise model have been assumed to be travelling at the relevant line speed.
- 3.4 Freight trains necessary to support the construction of the Sizewell C new nuclear power station have been assumed to be Class 66 locomotives hauling 20 no. HTA hopper wagons. These have been assumed to be loaded when travelling towards Sizewell (northbound) and empty when travelling away from Sizewell (southbound). It has been assumed that in the early years before the GRR is operational, there will be two Sizewell C freight trains in each direction per 24 hour period. In the later years once the GRR is operational, it has been assumed that there will be four Sizewell C freight trains in each direction per 24 hour period, with all four trains travelling to the railhead on the MDS via the GRR. As a conservative approach, all Sizewell C freight trains are assumed to run during the night-time, except for the section through Leiston when these trains will be held on the branch line outside Leiston until the daytime period.
- 3.5 The Sizewell C freight trains have been assumed to be running at 10 mph (16 km/h) through Woodbridge, Campsea Ashe, Saxmundham and along the Saxmundham to Leiston branch line, and at 20 mph (32 km/h) along the sections between the 10 mph sections. These assumptions are based on the speed limit zones shown in Appendix B of the draft **Rail Noise Mitigation Plan (dRNMP)**<sup>7</sup> and the approach set out in the **ES**. The Sizewell C freight trains will need to operate at full power in some locations when travelling uphill (depending on the gradient and load), and when the speed increases from 10 mph to 20 mph<sup>8</sup>. The speeds and locations of full power adopted in the modelling are shown graphically on the 30 no. sheets that make up Figure 2.

## Ground heights

- 3.6 The noise model contains a 3-dimensional representation of the existing ground heights in the study area. The ground data is based on 2020 2 m Digital Terrain Model (DTM) LIDAR data downloaded from the Defra website<sup>9</sup> in December 2021, which has been filtered using the standard settings in the SoundPLAN software to minimise the size of the dataset.
- 3.7 No changes to the existing ground heights along the existing East Suffolk line and the existing Saxmundham to Leiston branch line are proposed. The proposed ground heights for the GRR between the branch line and Abbey Road are based on data provided by SZC in September 2024<sup>10</sup>. Some refinements to the design of the earthworks along the GRR are still ongoing, however, this is not expected to affect the identification of properties qualifying for noise insulation or ventilation under the NMS.

## OS datasets

- 3.8 The noise model contains a 3-dimensional representation of residential and non-residential buildings in the surrounding area, and a representation of the existing ground type, for example, acoustically hard surfaces such as concrete or water, or acoustically soft surfaces such as vegetation. These data are based on OS MasterMap (including the Building Height Attribute dataset) and OS AddressBase Plus data provided by Dalcour Maclaren in December 2021.
- 3.9 Some manual additions to the OS Mastermap buildings dataset have been made for new developments that are not yet included in the mapping or not yet constructed. In particular, the Johnsons Farm housing development on the western edge of Leiston close to the start of the GRR, Deben Meadows on the northern edge of Woodbridge, and the holiday let plots at Whitearch Park. Additional buildings have been added to the noise model based on information available online and/or provided by SZC from a site visit.
- 3.10 The OS MasterMap dataset also identifies a number of residential houseboats in four areas in Woodbridge and a single residential caravan north of Campsea Ashe, see Sheets 9, 10 and 20 of

<sup>7</sup> The Sizewell C Project 6.14/10.9 Environmental Statement Addendum, Volume 3, *Chapter 9 Rail - Appendix 9.3E: Draft Rail Noise Mitigation Plan - Clean Version*, Book 6 Revision: 3.0, Book 10 Revision: 1.0, [https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010012/EN010012-008117-Carly%20Vince%20-%20Other-%20Control%20Document%20-%20Draft%20Rail%20Noise%20Mitigation%20Plan%20\(clean%20version\).pdf#page=6](https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010012/EN010012-008117-Carly%20Vince%20-%20Other-%20Control%20Document%20-%20Draft%20Rail%20Noise%20Mitigation%20Plan%20(clean%20version).pdf#page=6)

<sup>8</sup> WSP, file 'SZC High throttle zones.kmz', 27 September 2024

<sup>9</sup> <https://environment.data.gov.uk/surveydownloaded> 16/12/21 © Environment Agency copyright and/or database right 2021. All rights reserved.

<sup>10</sup> SZC, file: 'SZC-EW0415-ATK-XX-HSZ-14XXXX-MDL-CIV-900003.dwg', 25 September 2024



Figure 2. Receptor points used in the model to represent houseboat locations are based on the OS AddressBase Plus data, the assumptions on houseboat locations in the **ES** and aerial photography. A houseboat is unlikely to be located at every possible mooring location, some may be occupied by boats for leisure use or may be vacant, instead the modelled receptor locations are intended to cover the likely range of potential houseboat locations. The single residential caravan location identified in the OS AddressBase Plus data has been included in the assessment as a conservative approach. The location is not visible from publicly accessible land, however, observations from trains on the East Suffolk line indicate that it may not be residential in nature.

## Receptors

- 3.11 The operational railway noise levels have been calculated for every floor and façade of every building identified as residential in the OS Addressbase Plus dataset within approximately 300 to 500 m of the railway depending on the speed and power of the Sizewell C freight trains, plus the houseboat and caravan locations. If a façade on any floor of a residential building is identified as qualifying for noise insulation or ventilation, then all floors on that façade have been identified as qualifying.
- 3.12 Some professional judgement has been applied to the identification of noise insulation and ventilation qualification due to operational railway noise. In a very small number of locations a façade has been discounted, for example, if it is clear there are no windows or doors on the relevant façade. In a number of locations, to adopt a conservative approach, additional residential buildings or façades have been identified as qualifying. For example, if the façade of one half of a pair of semi-detached properties is just over the criteria and the other half is just under the criteria then both have been identified as qualifying.

## Acoustic barriers

- 3.13 No specific mitigation was included in the **ES**. However, the final draft RNMP included a requirement to consider the effectiveness of a series of acoustic barriers along the railways used by the project. No decision on these barriers has been made to date, therefore as a conservative approach, this assessment of operational railway noise has not included any potential acoustic barriers.

## Prediction method

- 3.14 For the operational railway noise, the  $L_{Aeq}$  results have been calculated using the Calculation of Railway Noise<sup>11</sup> (CRN) procedure, as was the case for the **ES**. CRN requires the source height for rolling noise to be at the top of the rail at the contact point with the wheels, and the source height for full power noise generated by the locomotive to be at 4 m above the rail.
- 3.15 For the purposes of the CRN calculations, the speed extrapolation is only valid to a lower bound of 20 km/h (12 mph) so where the trains are proposed to operate at 10 mph, a speed of 12 mph has been used in the CRN calculations so that the assessment is within the quoted ranges of validity of CRN.
- 3.16 The CRN methodology provides for the calculation of noise levels in terms of an 18 hour day and 6 hour night, while the noise insulation trigger levels are based on a 16 hour day and 8 hour night. Based on the number of existing and proposed trains during the day and night the SoundPLAN noise model calculates the 16 hour day and 8 hour night noise levels.
- 3.17 For the operational railway  $L_{AFmax}$  noise results, the ISO 9613-2:1996<sup>12</sup> methodology has been used with a sound power level derived from measurements of the  $L_{AFmax}$  of appropriate freight train rolling stock, as was the case for the **ES**. At the **ES** stage, measurements of freight trains were carried out to define  $L_{AFmax}$  source levels for when the trains are operating at the different speeds/power. These source sound power levels have been applied to the extents of the relevant sections of track as illustrated on the 30 no. sheets that make up Figure 2:
- 10 mph: 105 dB  $L_{AFmax}$  sound power level
  - 20 mph: 113 dB  $L_{AFmax}$  sound power level
  - Full power: 117 dB  $L_{AFmax}$  sound power level

<sup>11</sup> Department of Transport, *Calculation of Railway Noise*, 1995

<sup>12</sup> ISO 9613-2:1996 'Acoustics — Attenuation of sound during propagation outdoors — Part 2: General method of calculation'

- 3.18 The  $L_{AFmax}$  source height is set at 3 m for 10 mph and 20 mph speeds, mid-way up the side of the locomotive, and 4 m for full power, to represent the exhaust height, as was adopted at the **DCO** stage<sup>13</sup>.

## Assumptions and limitations

- 3.19 The  $L_{AFmax}$  calculations for the operation of Sizewell C freight trains have been based on the measurements that were carried out at the **ES** stage, which have been assumed to be adequate and sufficient to determine the appropriate sound power levels used in the model. Given the very short duration of the  $L_{AFmax}$  parameter, there will inevitably be some variability in the  $L_{AFmax}$  levels generated by each individual freight train.
- 3.20 There will also be some variability between drivers in the precise location and extent of the areas where the Sizewell C freight trains will operate at full power, both when the wagons are full (northbound) and empty (southbound). Data obtained during the operation of a test freight train in 2023 have been used by relevant rail specialists to derive the assumptions on which the assessment is based, however there is likely to be some variability.
- 3.21 While this variability is inevitable, the approach adopted for this assessment is consistent with the **ES** and considered robust.
- 3.22 Given the large number of buildings and residential properties in the study area it is not practicable to manually check the OS Mastermap and OS Addressbase datasets. If there is some uncertainty over the presence of a residential use at a property, they have been included in the assessment. The exact use of the buildings identified as qualifying under the NMS will be confirmed on site by the surveyors.
- 3.23 The eligibility for insulation or ventilation under the NMS is based on the predicted noise level meeting or exceeding the relevant criteria. The results have been rounded to the nearest whole decibel, i.e. 0.5 dB is rounded up. This is considered a reasonable approach given the inherent uncertainties in the noise calculation process.

## 4. Results

- 4.1 The results of the railway noise modelling show that there are no residential buildings that qualify for noise insulation due to the change in  $L_{Aeq}$  noise levels, which do not also qualify due to the night-time  $L_{AFmax}$  noise levels; however, there are properties that are eligible under the night-time  $L_{AFmax}$  criterion that are not eligible under the  $L_{Aeq}$  criteria. Therefore, the eligibility for both noise insulation and ventilation is based on the night-time  $L_{AFmax}$  noise levels.
- 4.2 The residential buildings and façades identified as qualifying for noise insulation and/or ventilation based on the night-time  $L_{AFmax}$  noise levels are shown on the 30 no. sheets that make up Figure 2.
- 4.3 A total of 152 no. residential buildings have been identified as eligible for noise insulation based on the worst-affected façade. The majority of these buildings also qualify for ventilation on additional façades.
- 4.4 A total of 1,056 no. residential buildings have been identified as eligible for ventilation, based on the worst-affected façade, but are not eligible for noise insulation.
- 4.5 Some of the residential buildings identified as qualifying contain multiple residential properties, e.g. blocks of flats in Woodbridge. This report only identifies the building within which the flats are located, with the separate households not identified individually. Where this situation arises, individual eligible households will be identified through the property referencing process, prior to any site visits by surveyors.
- 4.6 Residential buildings that qualify for noise insulation are located in Westfield, Little Bealings, Woodbridge, Campsea Ashe, Whitearch Park, Saxmundham and a number of individual/small groups of properties along the route. The distance from the track at which properties meet the noise insulation criteria is

<sup>13</sup> The Sizewell C Project, 9.63 *Comments at Deadline 6 on Submission from Earlier Submissions and Subsequent Written Submissions to ISH1-ISH6 - Appendices*, Revision: 1.0, August 2021, <https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010012/EN010012-006554.63%20Comments%20at%20Deadline%20on%20Submission%20from%20Earlier%20Submissions%20and%20Subsequent%20Written%20Submissions%20to%20ISH1-ISH6%20-%20Appendices%20-%20Revision%201.0.pdf>

generally smallest on the sections where the Sizewell C freight trains are operating at 10 mph and greatest on sections of full power, subject to the local topography.

- 4.7 The location and extent of residential buildings that qualify for ventilation is more extensive due to the lower criteria, with properties in Westfield, Little Bealings, Woodbridge, Melton, Campsea Ashe, Whitearch Park, Benhall Green, Saxmundham and the edge of the Johnsons Farm development on the western edge of Leiston. In addition, individual/small groups of properties along the route also qualify.
- 4.8 Three level crossing cottages on the Saxmundham to Leiston branch line, identified as qualifying for noise insulation on various façades, have previously been identified as qualifying for noise insulation at all façades due to the construction works to upgrade the branch line.
- 4.9 Sheet 20 of Figure 2 shows that the single residential caravan receptor point north of Campsea Ashe is identified as qualifying for noise insulation. As noted in paragraph 3.10, there is some uncertainty over the residential use of this caravan, which will need to be confirmed either by the property referencing process, or on-site by surveyors.
- 4.10 Sheets 9 and 10 of Figure 2 also show that the very closest potential houseboat mooring to the East Suffolk line in Woodbridge meets the noise insulation eligibility criteria, and a further 53 no. potential houseboat mooring locations in Woodbridge meet the ventilation eligibility criterion.

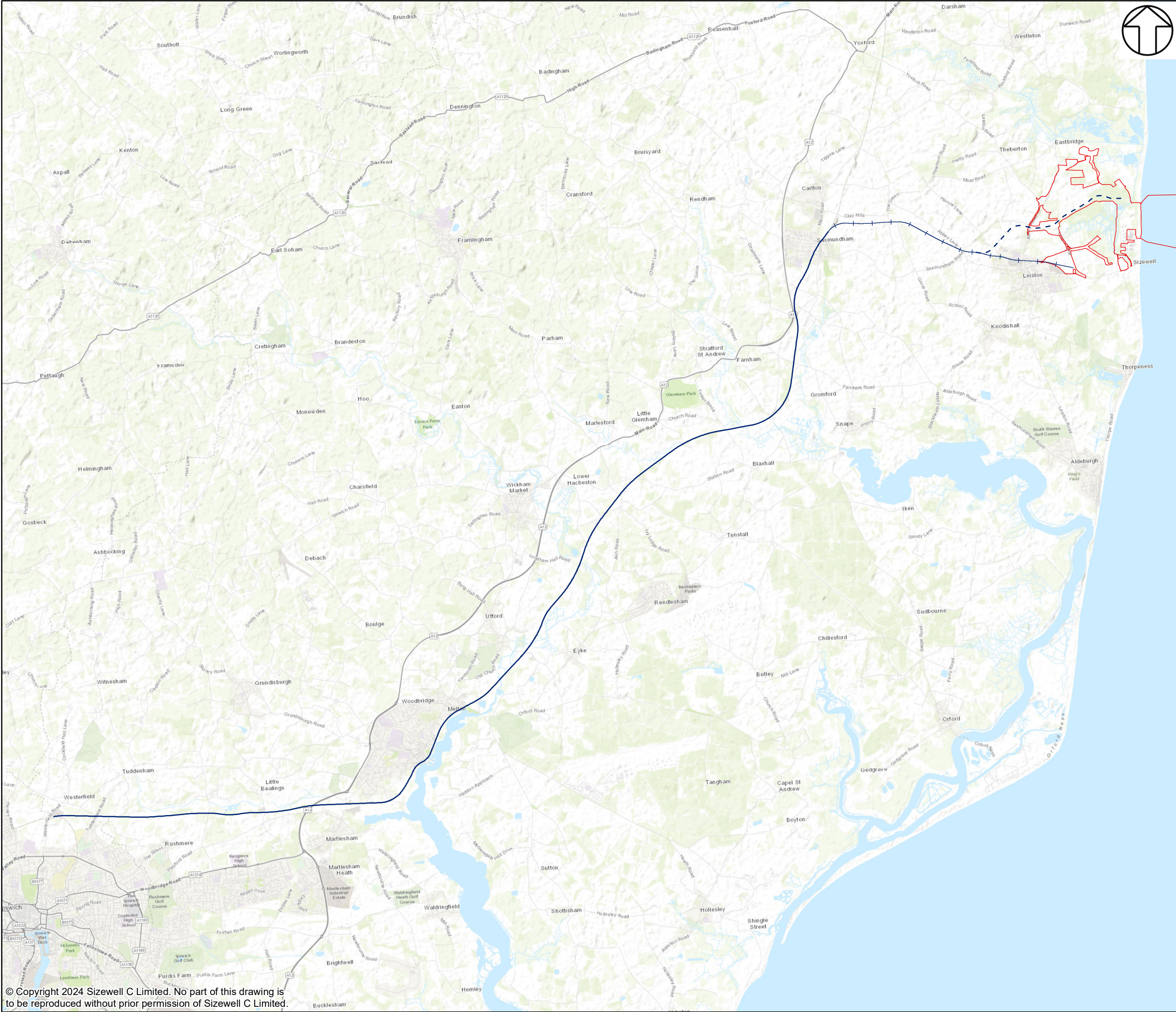
## 5. Conclusion

- 5.1 The assessment of the use of the East Suffolk line, Saxmundham to Leiston branch line and Green Rail Route for Sizewell C construction freight trains under Annex W of the Project's **Deed of Obligation** indicates that there are 152 no. residential buildings that qualify for noise insulation due to night-time  $L_{AFmax}$  noise levels based on the worst-affected façade, and a further 1,056 no. residential buildings that qualify for ventilation. In addition, one potentially residential caravan and one potential houseboat mooring qualify for noise insulation, and a further 53 no. potential houseboat moorings qualify for ventilation.



## Figure 1. Rail Overview Map





KEY:

Extent of East Suffolk line to be used by SZC freight trains

Saxmundham to Leiston branch line

Green Rail Route

MDS Red Line Planning Boundary

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Sizewell C

The power of good for Britain

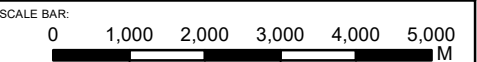
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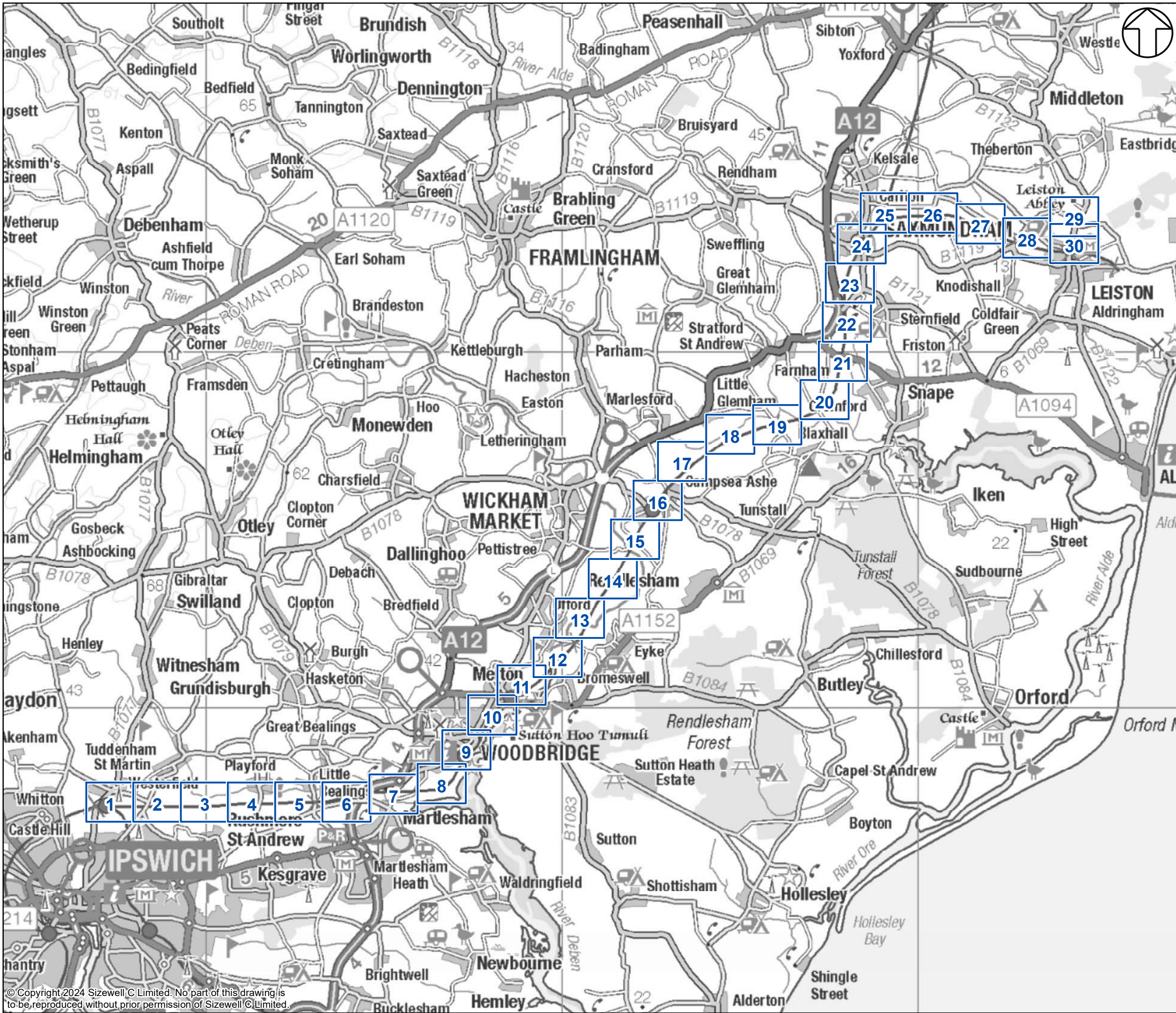
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## Figure 2. Operational Railway Noise Insulation and Ventilation Qualification





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DOCUMENT:  
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DRAWING TITLE:  
OPERATIONAL RAILWAY NOISE INSULATION  
AND VENTILATION QUALIFICATION  
OVERVIEW

DRAWING NO:  
FIGURE 2

REVISION:  
01

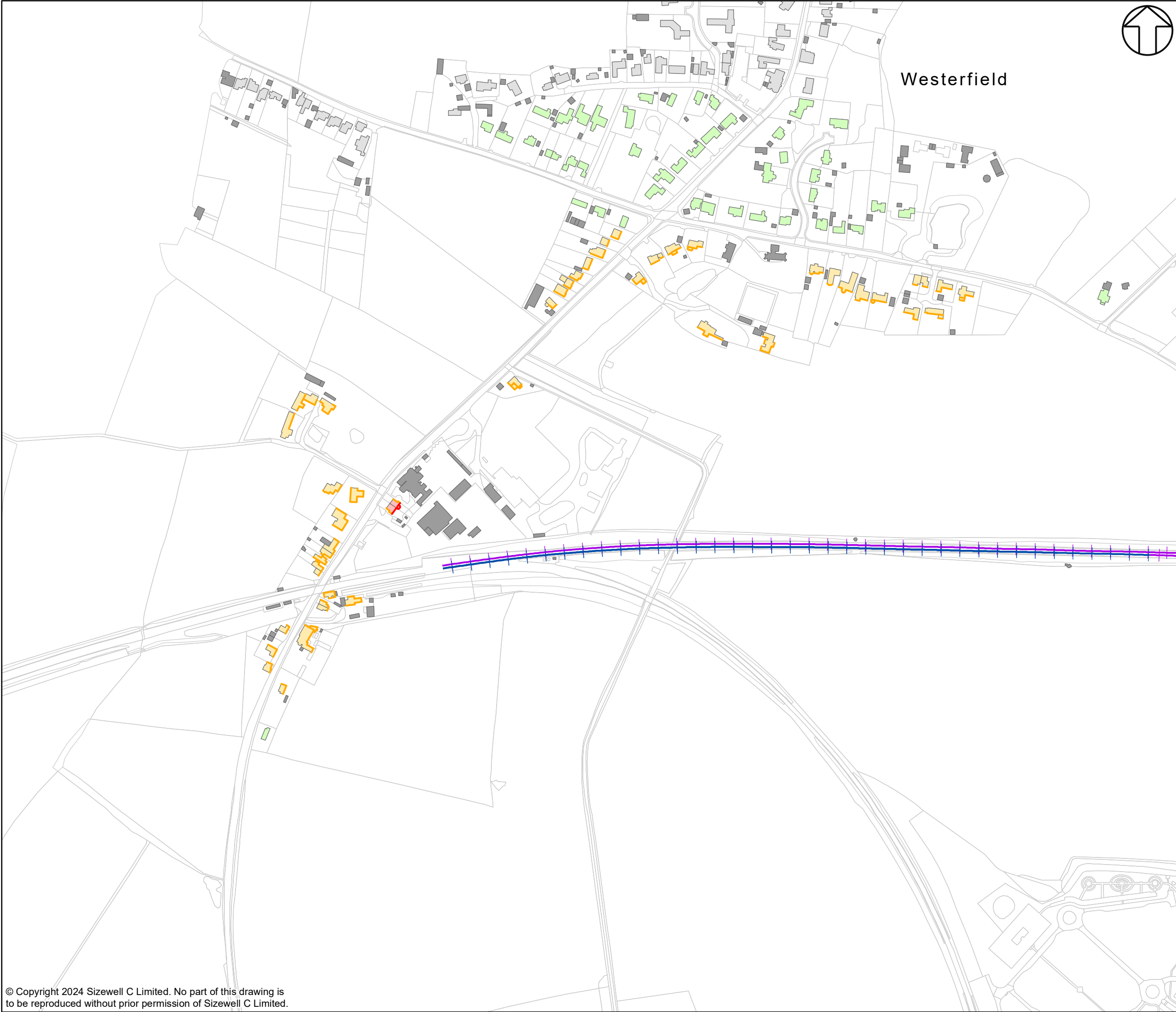
DATE:  
OCT 2024

DRAWN:  
O.B.

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- KEY:
- Rail Alignment - Speed / Power**
- 10 mph
  - 20 mph
  - Full power
- Noise Mitigation (Façades)**
- Noise Insulation Qualification
  - Ventilation Qualification
- Noise Mitigation (Buildings)**
- Based on worst affected façade*
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification
  - Not calculated (outside study area)
  - Non Residential
- Noise Mitigation (Boat Moorings and Caravans)**
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification

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DOCUMENT:  
60679030\_NI\_RAIL\_1

DRAWING TITLE:  
OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 1 OF 30

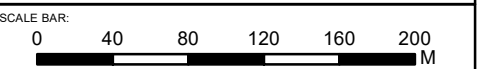
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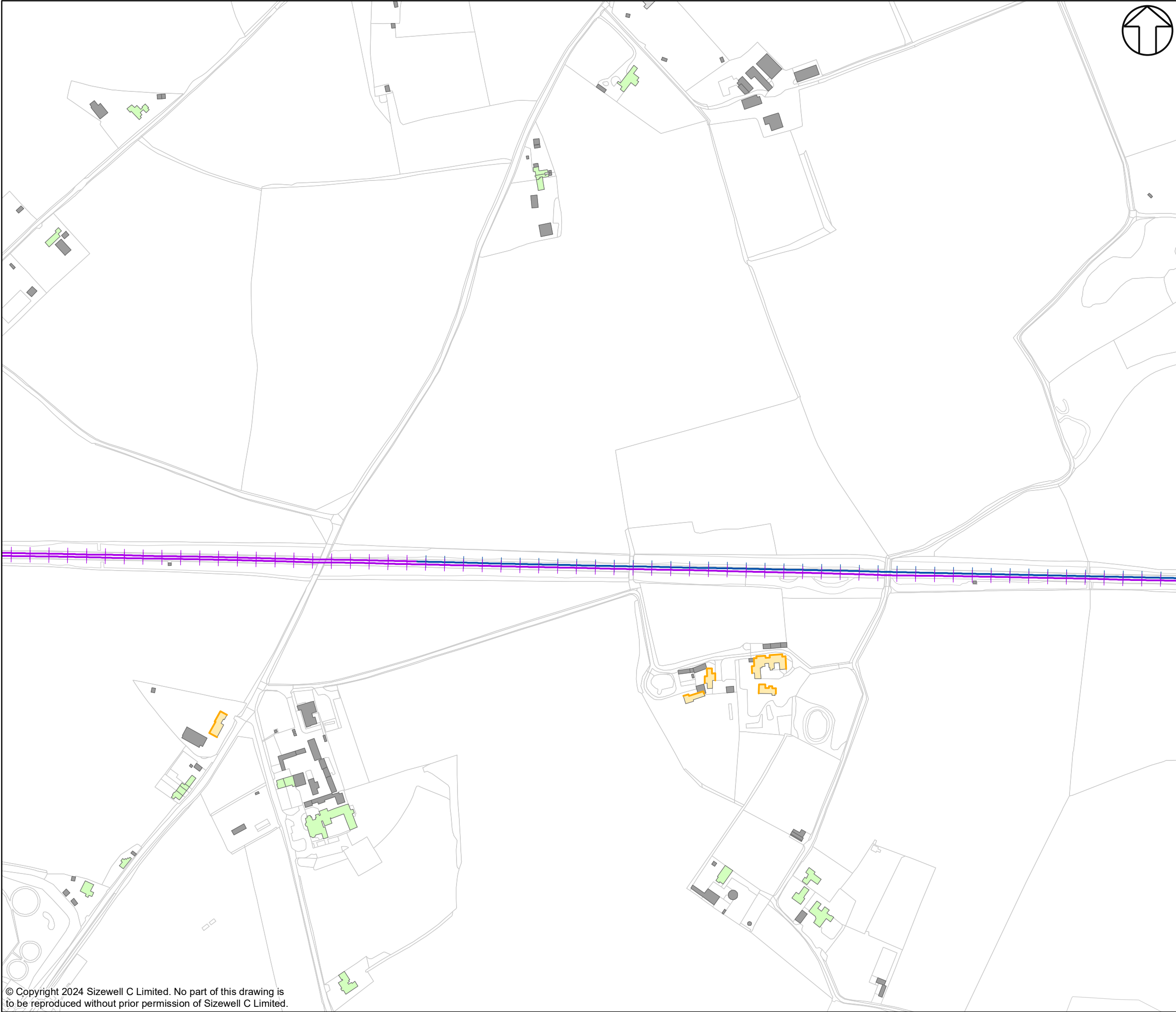
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DATE:  
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- KEY:
- Rail Alignment - Speed / Power**
- 10 mph
  - 20 mph
  - Full power
- Noise Mitigation (Façades)**
- Noise Insulation Qualification
  - Ventilation Qualification
- Noise Mitigation (Buildings)**
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DOCUMENT:  
60679030\_NI\_RAIL\_1

DRAWING TITLE:  
OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 2 OF 30

DRAWING NO:  
FIGURE 2

REVISION:  
01

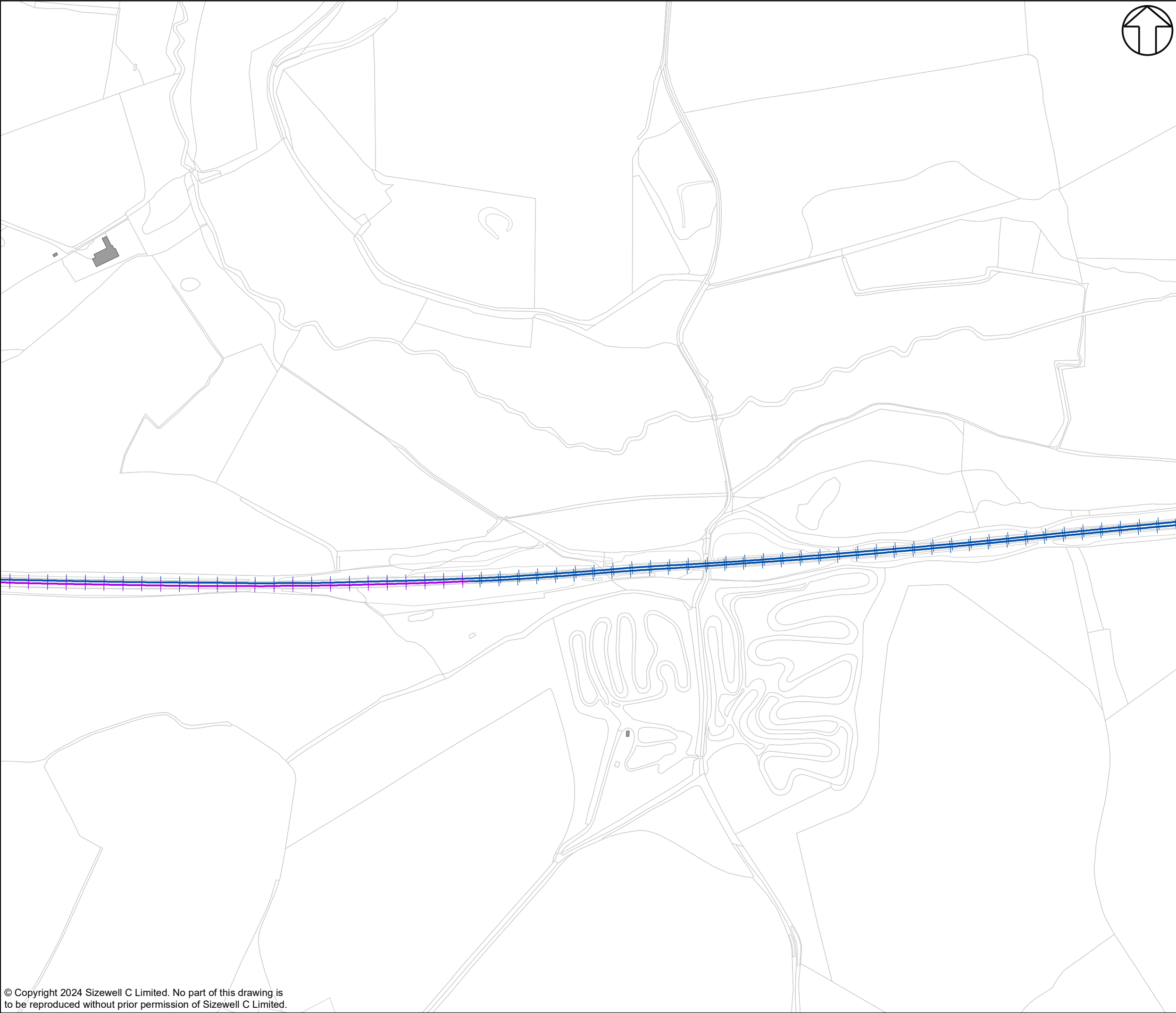
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- KEY:
- Rail Alignment - Speed / Power**
- 10 mph
  - 20 mph
  - Full power
- Noise Mitigation (Façades)**
- Noise Insulation Qualification
  - Ventilation Qualification
- Noise Mitigation (Buildings)**
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  - Ventilation Qualification
  - Noise Insulation Qualification
  - Not calculated (outside study area)
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  - Ventilation Qualification
  - Noise Insulation Qualification

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DOCUMENT:  
60679030\_NI\_RAIL\_1

DRAWING TITLE:  
OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 3 OF 30

DRAWING NO:  
FIGURE 2

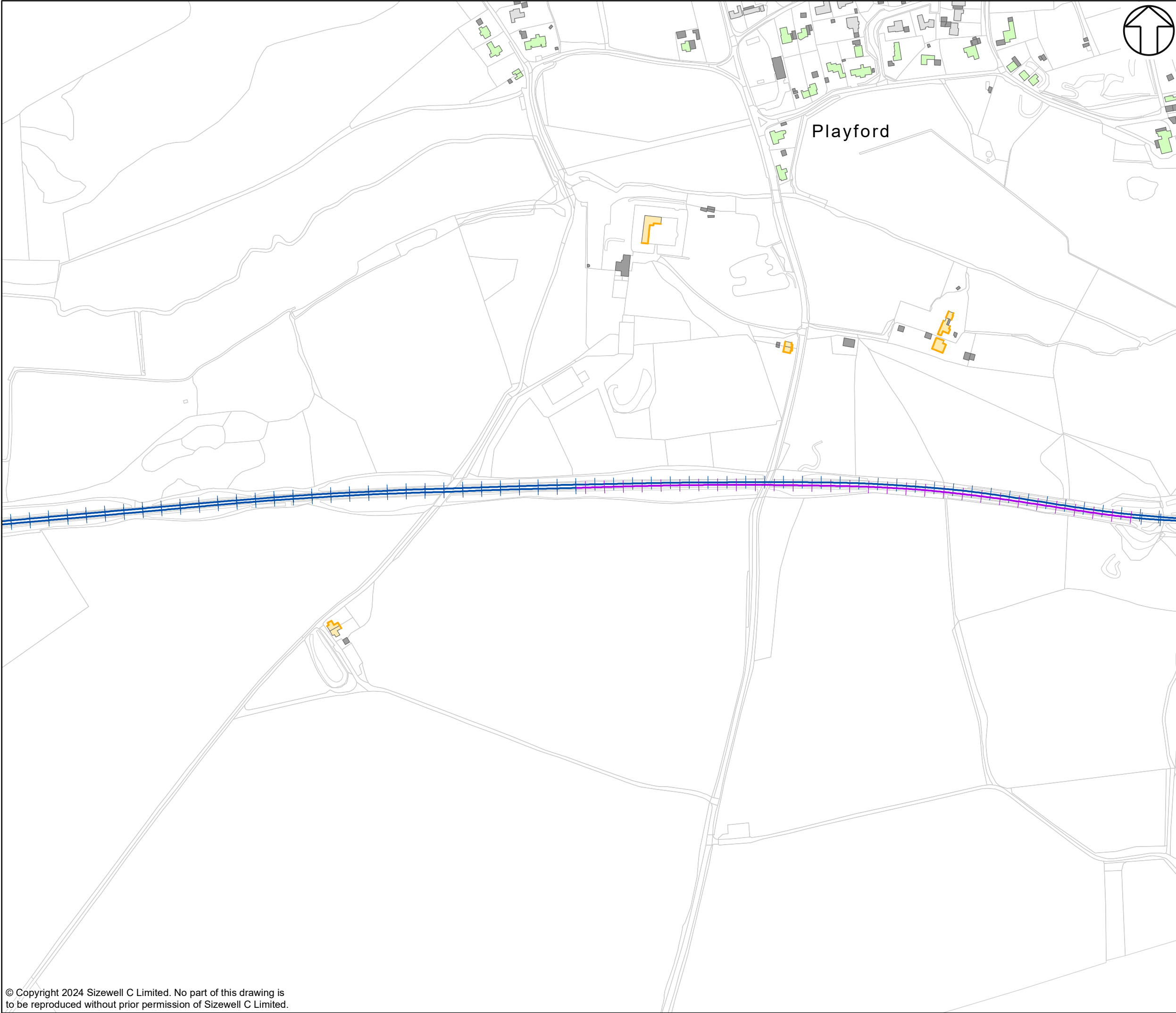
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OCT 2024

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O.B.

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1:4,000 @A3





- KEY:**
- Rail Alignment - Speed / Power**
- 10 mph
  - 20 mph
  - Full power
- Noise Mitigation (Façades)**
- Noise Insulation Qualification
  - Ventilation Qualification
- Noise Mitigation (Buildings)**
- Based on worst affected façade*
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification
  - Not calculated (outside study area)
  - Non Residential
- Noise Mitigation (Boat Moorings and Caravans)**
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification

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**DRAWING TITLE:**  
OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 4 OF 30

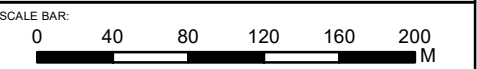
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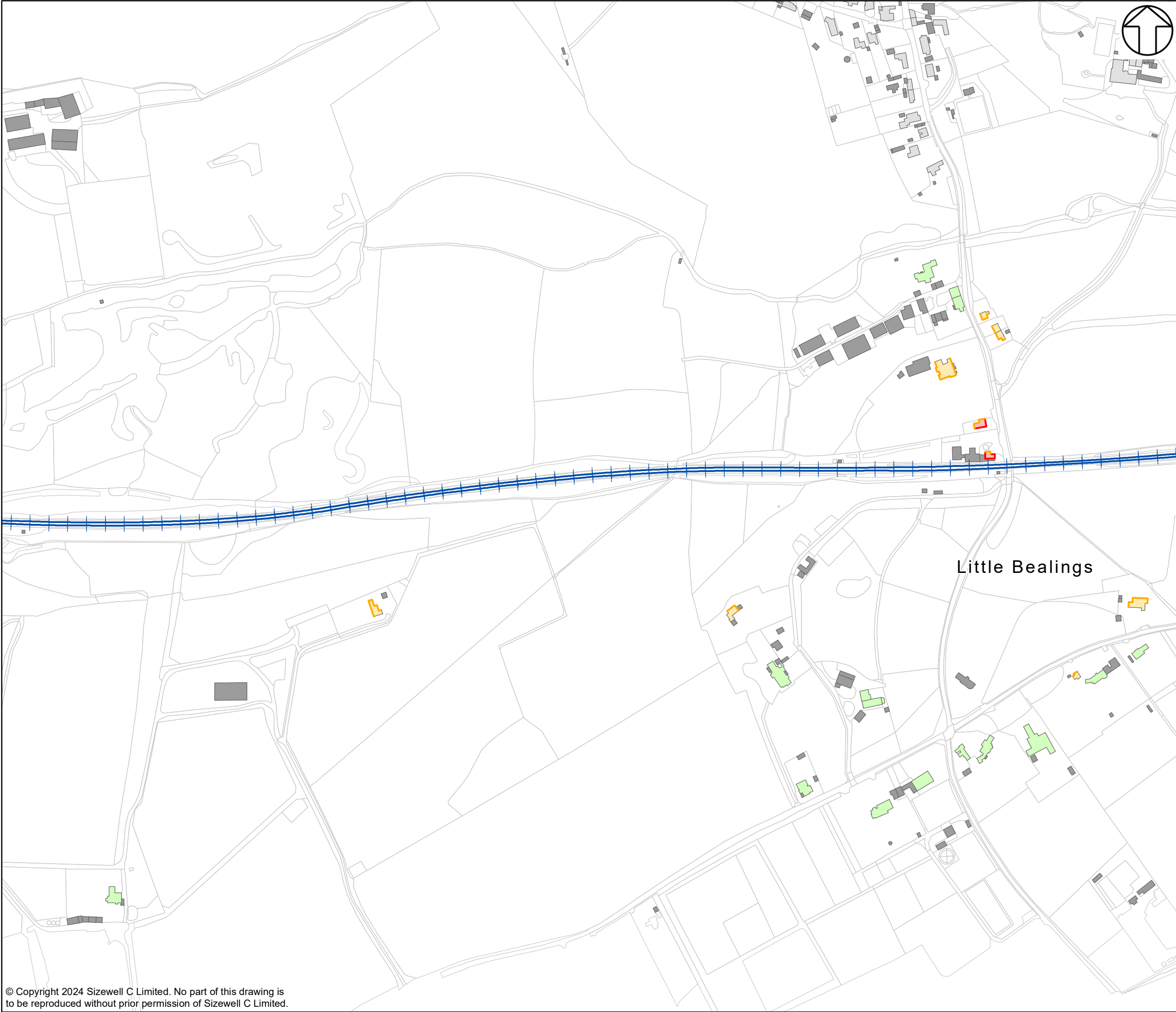
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**DATE:**  
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O.B.

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- KEY:
- Rail Alignment - Speed / Power**
- 10 mph
  - 20 mph
  - Full power
- Noise Mitigation (Façades)**
- Noise Insulation Qualification
  - Ventilation Qualification
- Noise Mitigation (Buildings)**
- Based on worst affected façade*
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification
  - Not calculated (outside study area)
  - Non Residential
- Noise Mitigation (Boat Moorings and Caravans)**
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification

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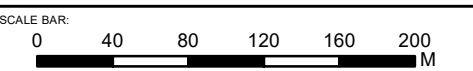
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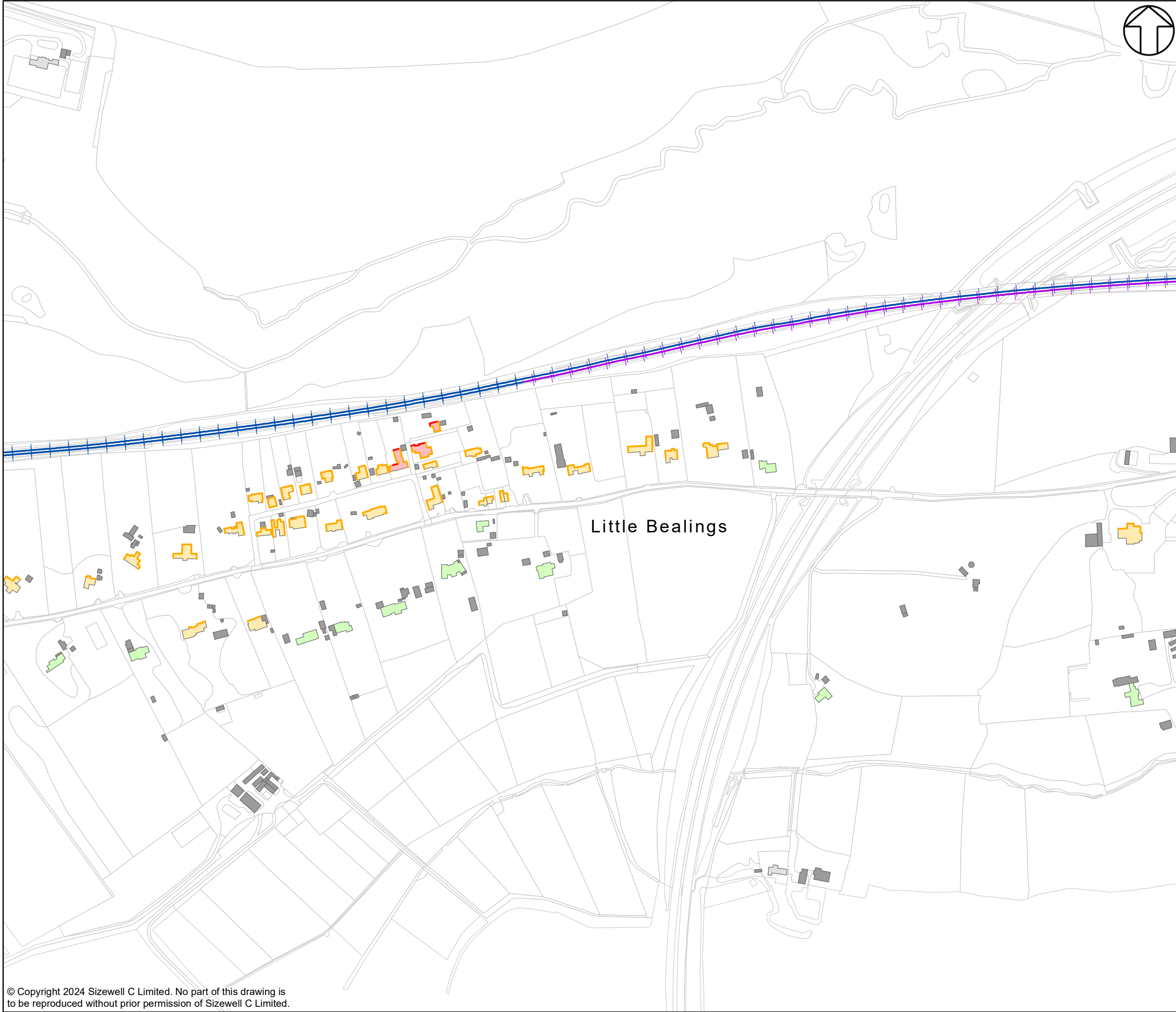
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OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 5 OF 30

DRAWING NO: FIGURE 2	REVISION: 01
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- KEY:
- Rail Alignment - Speed / Power**
- 10 mph
  - 20 mph
  - Full power
- Noise Mitigation (Façades)**
- Noise Insulation Qualification
  - Ventilation Qualification
- Noise Mitigation (Buildings)**
- Based on worst affected façade*
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification
  - Not calculated (outside study area)
  - Non Residential
- Noise Mitigation (Boat Moorings and Caravans)**
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification

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OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 6 OF 30

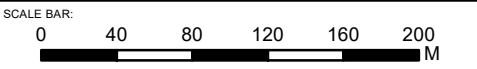
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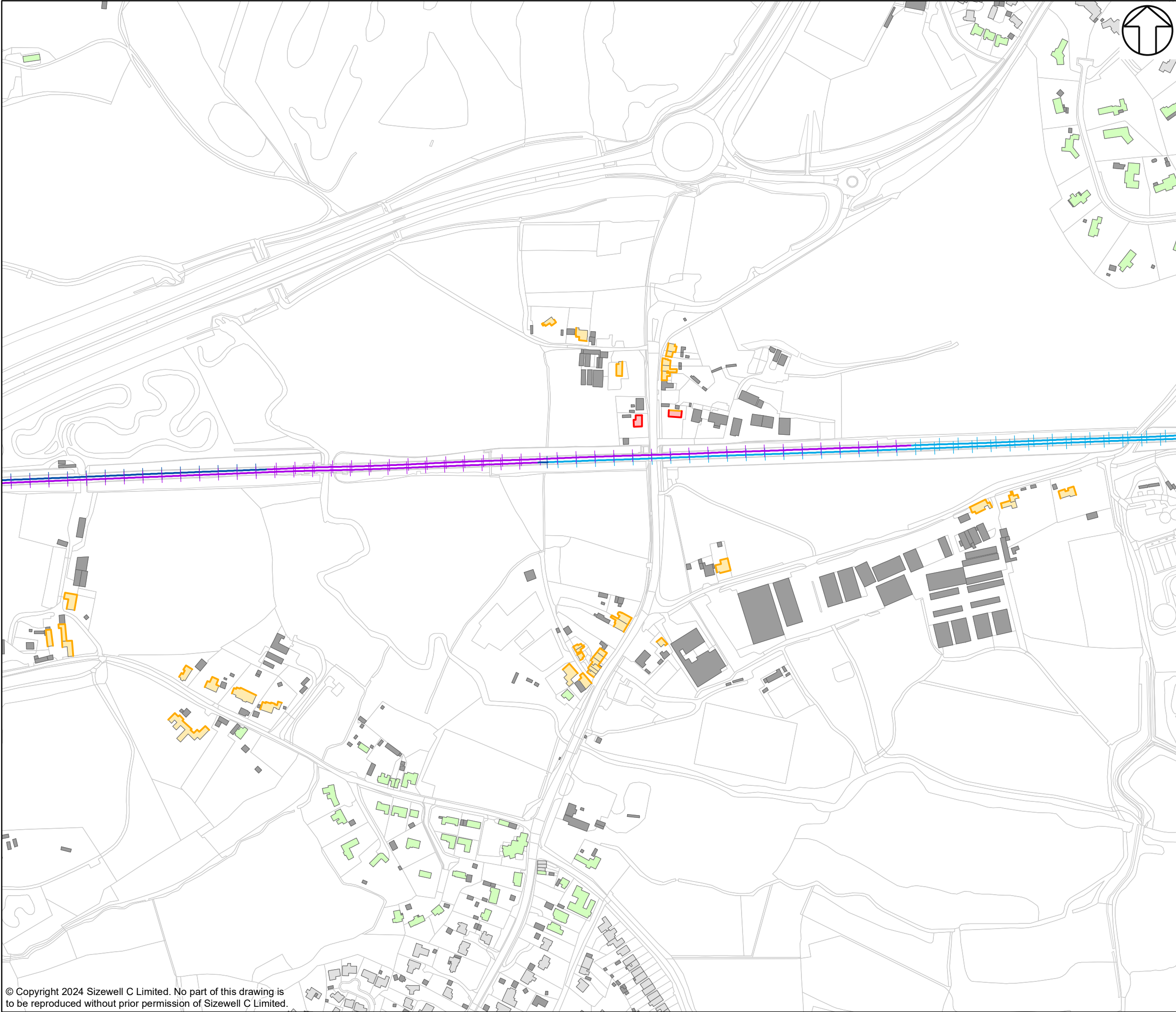
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SCALE:  
1:4,000 @A3





- KEY:**
- Rail Alignment - Speed / Power**
- 10 mph
  - 20 mph
  - Full power
- Noise Mitigation (Façades)**
- Noise Insulation Qualification
  - Ventilation Qualification
- Noise Mitigation (Buildings)**
- Based on worst affected façade*
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification
  - Not calculated (outside study area)
  - Non Residential
- Noise Mitigation (Boat Moorings and Caravans)**
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification

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SHEET 7 OF 30

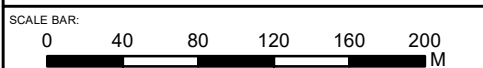
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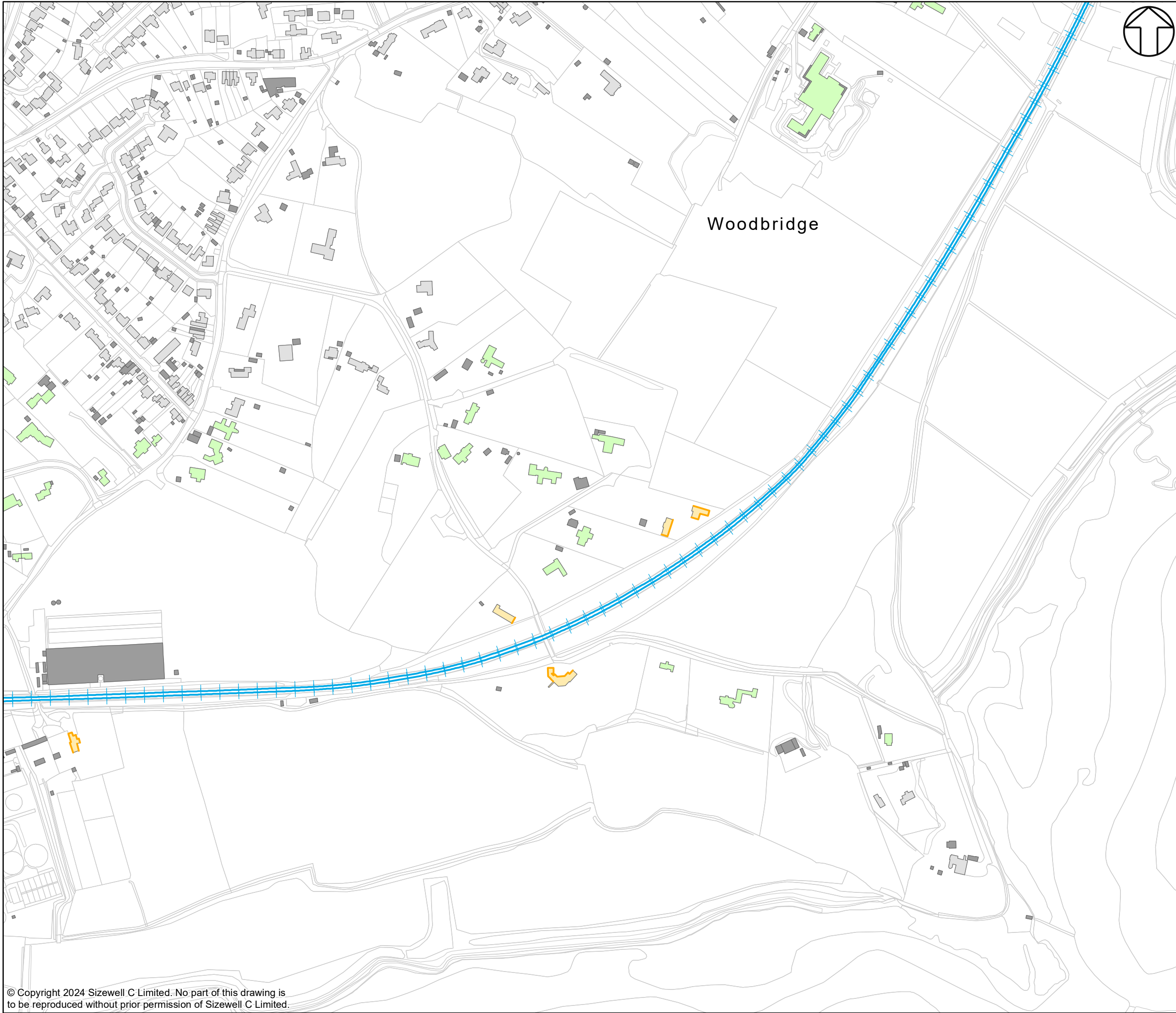
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- KEY:**
- Rail Alignment - Speed / Power**
- 10 mph
  - 20 mph
  - Full power
- Noise Mitigation (Façades)**
- Noise Insulation Qualification
  - Ventilation Qualification
- Noise Mitigation (Buildings)**
- Based on worst affected façade*
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification
  - Not calculated (outside study area)
  - Non Residential
- Noise Mitigation (Boat Moorings and Caravans)**
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification

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OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 8 OF 30

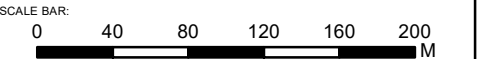
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FIGURE 2

REVISION:  
01

DATE:  
OCT 2024

DRAWN:  
O.B.

SCALE:  
1:4,000 @A3







KEY:

**Rail Alignment - Speed / Power**

- 10 mph
- 20 mph
- Full power

**Noise Mitigation (Façades)**

- Noise Insulation Qualification
- Ventilation Qualification

**Noise Mitigation (Buildings)**

*Based on worst affected façade*

- No Qualification
- Ventilation Qualification
- Noise Insulation Qualification
- Not calculated (outside study area)
- Non Residential

**Noise Mitigation (Boat Moorings and Caravans)**

- No Qualification
- Ventilation Qualification
- Noise Insulation Qualification

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OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 9 OF 30

DRAWING NO: FIGURE 2			REVISION: 01
DATE: OCT 2024	DRAWN: O.B.	SCALE: 1:4,000 @A3	

SCALE BAR:  
0 40 80 120 160 200 M





KEY:

**Rail Alignment - Speed / Power**

- 10 mph
- 20 mph
- Full power

**Noise Mitigation (Façades)**

- Noise Insulation Qualification
- Ventilation Qualification

**Noise Mitigation (Buildings)**

*Based on worst affected façade*

- No Qualification
- Ventilation Qualification
- Noise Insulation Qualification
- Not calculated (outside study area)
- Non Residential

**Noise Mitigation (Boat Moorings and Caravans)**

- No Qualification
- Ventilation Qualification
- Noise Insulation Qualification

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The power of good for Britain

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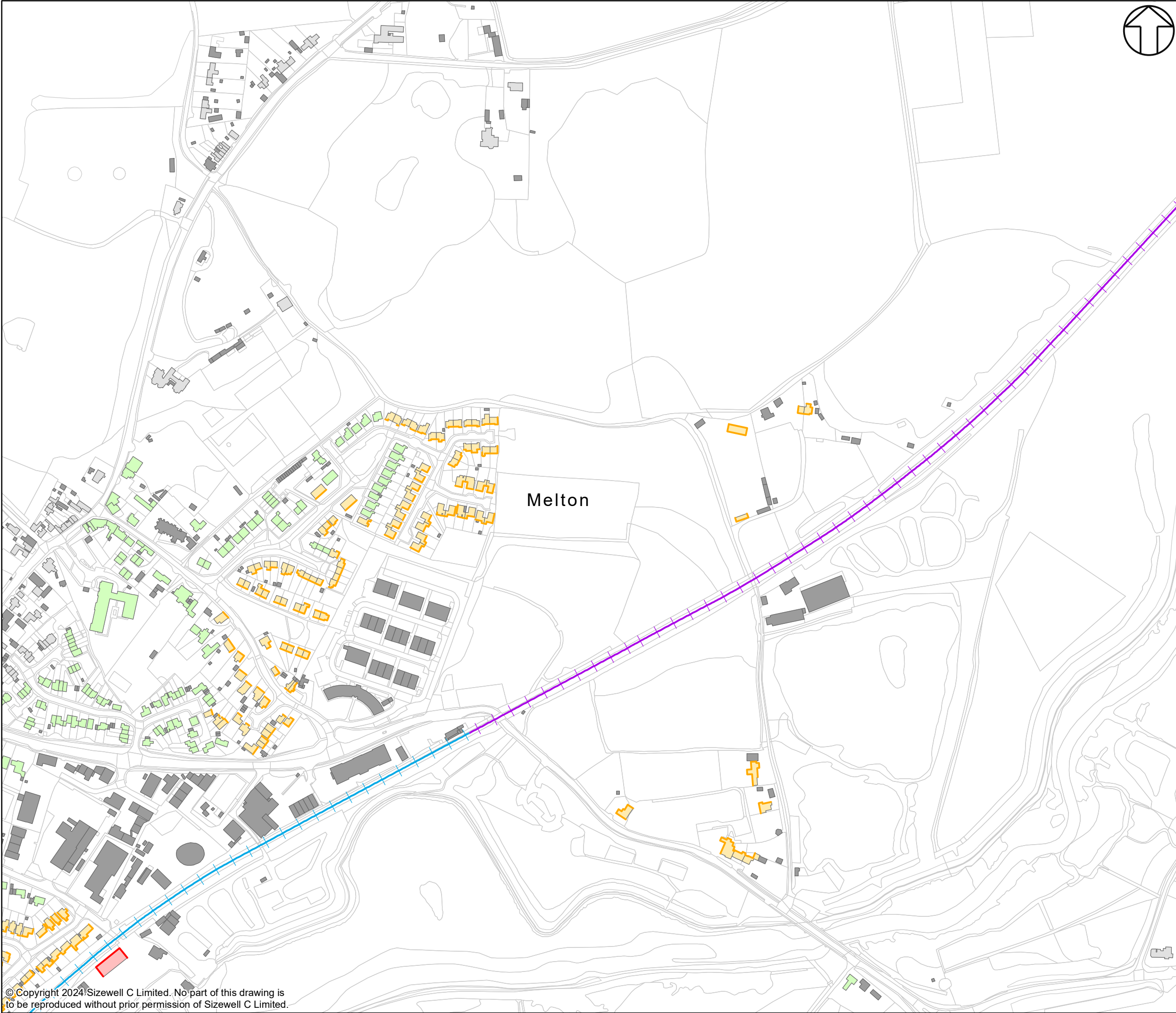
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OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 10 OF 30

DRAWING NO: FIGURE 2			REVISION: 01
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SCALE BAR:  
0 40 80 120 160 200 M





- KEY:
- Rail Alignment - Speed / Power**
- 10 mph
  - 20 mph
  - Full power
- Noise Mitigation (Façades)**
- Noise Insulation Qualification
  - Ventilation Qualification
- Noise Mitigation (Buildings)**
- Based on worst affected façade*
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification
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- No Qualification
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  - Noise Insulation Qualification

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DOCUMENT:  
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DRAWING TITLE:  
OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 11 OF 30

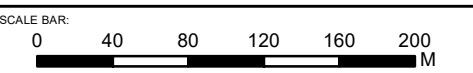
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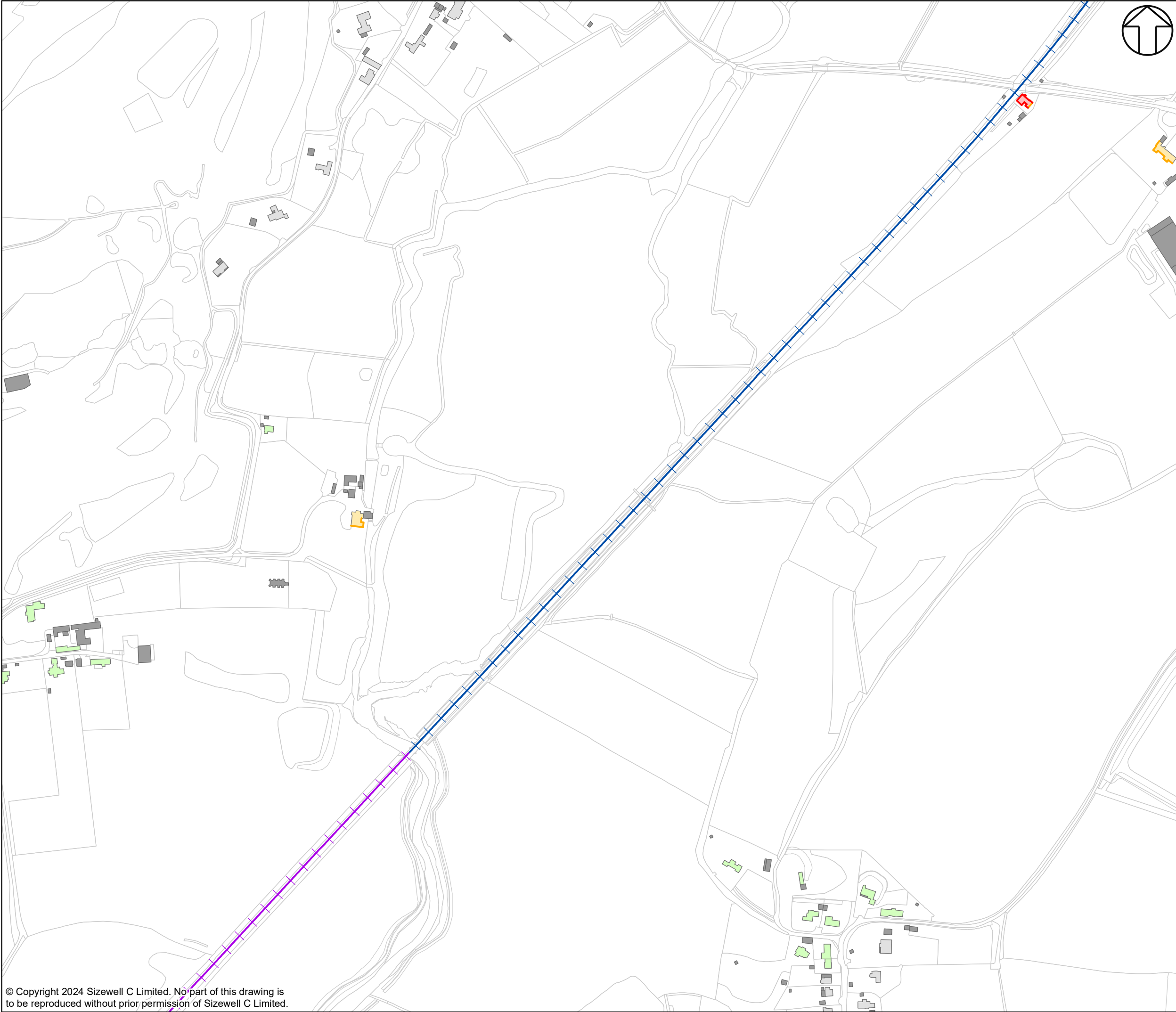
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- KEY:
- Rail Alignment - Speed / Power**
- 10 mph
  - 20 mph
  - Full power
- Noise Mitigation (Façades)**
- Noise Insulation Qualification
  - Ventilation Qualification
- Noise Mitigation (Buildings)**
- Based on worst affected façade*
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  - Ventilation Qualification
  - Noise Insulation Qualification
  - Not calculated (outside study area)
  - Non Residential
- Noise Mitigation (Boat Moorings and Caravans)**
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification

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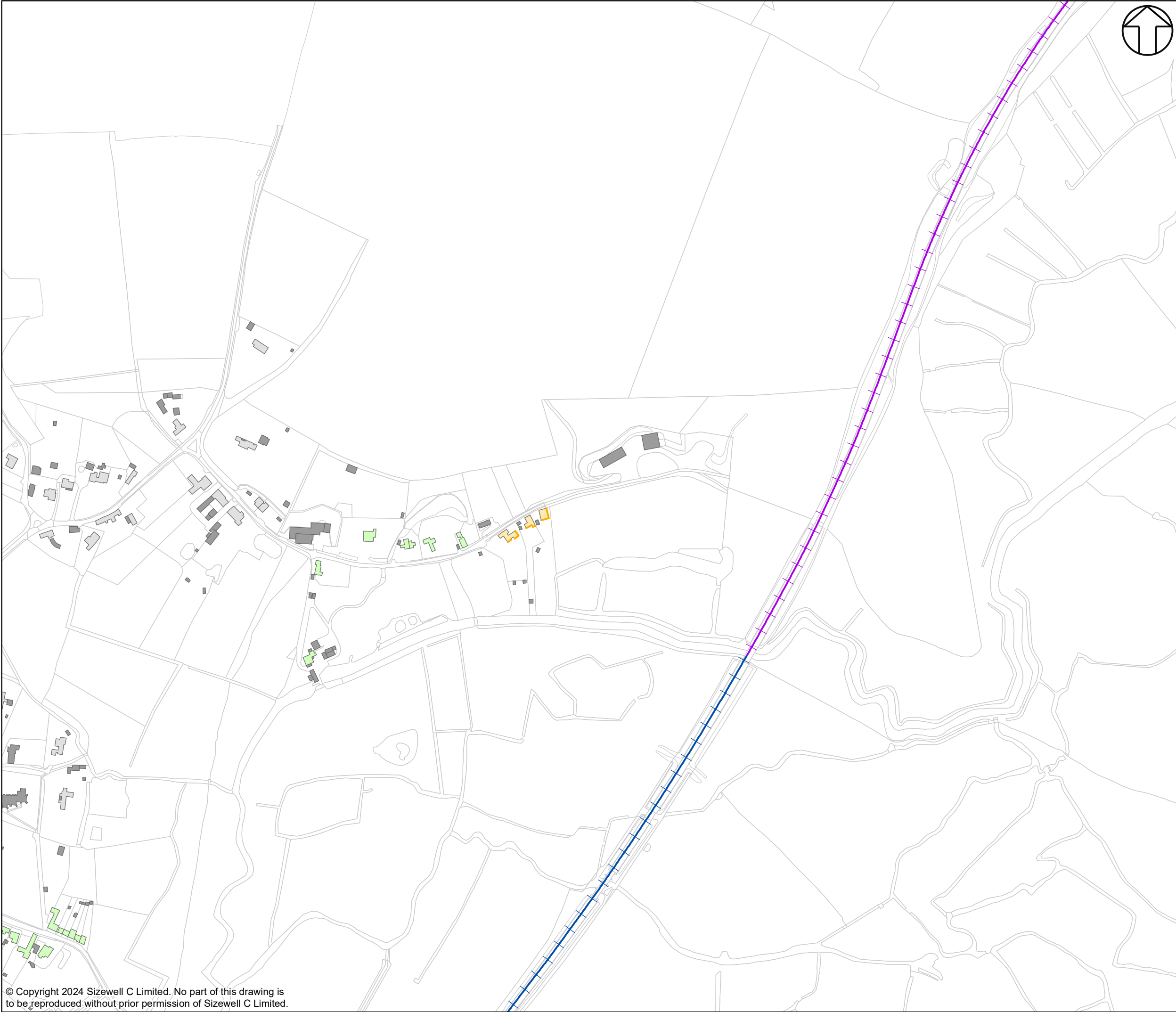
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OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 12 OF 30

DRAWING NO: FIGURE 2	REVISION: 01
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DATE: OCT 2024	DRAWN: O.B.	SCALE: 1:4,000 @A3
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- KEY:
- Rail Alignment - Speed / Power**
- 10 mph
  - 20 mph
  - Full power
- Noise Mitigation (Façades)**
- Noise Insulation Qualification
  - Ventilation Qualification
- Noise Mitigation (Buildings)**
- Based on worst affected façade*
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification
  - Not calculated (outside study area)
  - Non Residential
- Noise Mitigation (Boat Moorings and Caravans)**
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification

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DRAWING TITLE:  
OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 13 OF 30

DRAWING NO:  
FIGURE 2

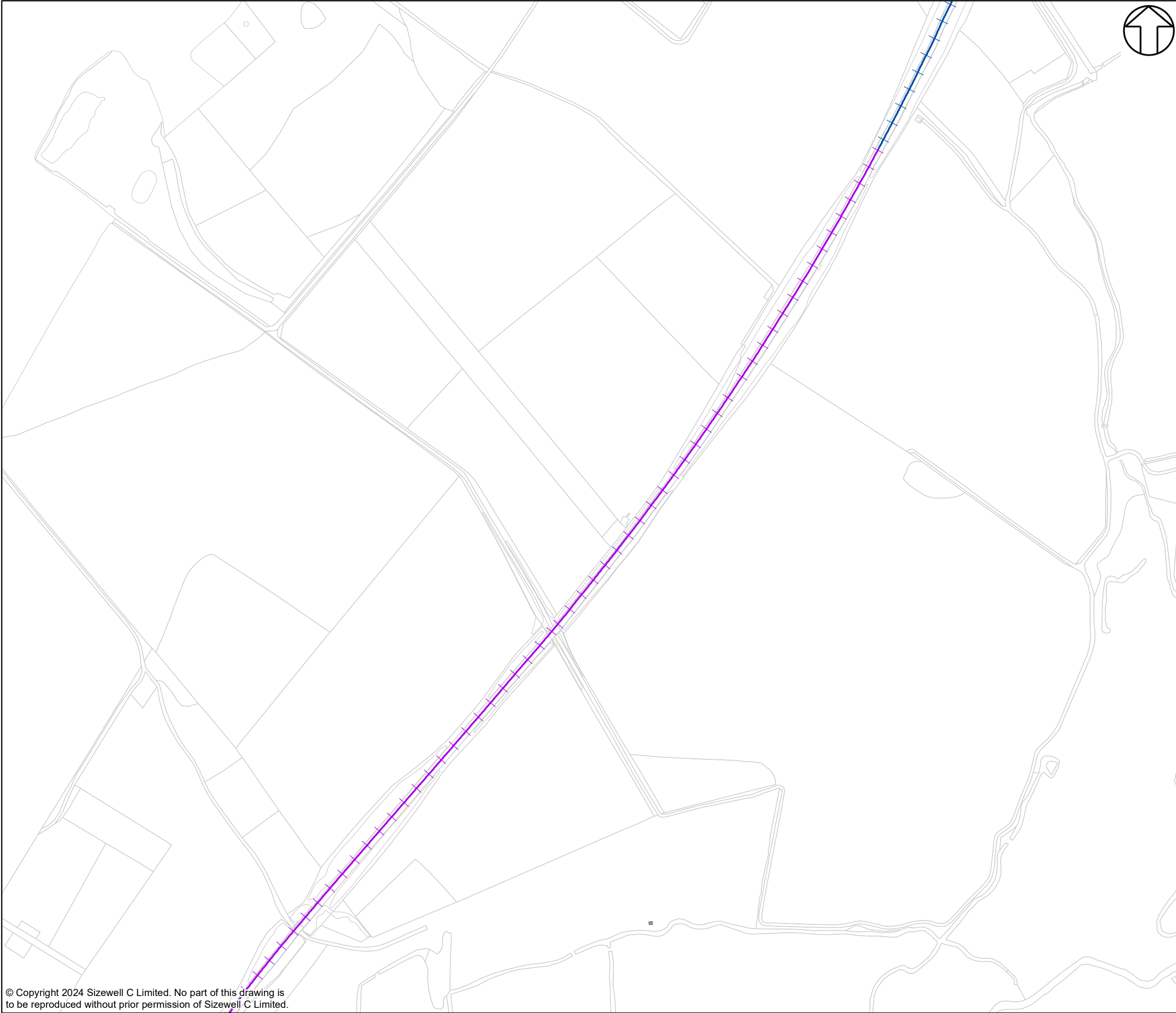
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- KEY:
- Rail Alignment - Speed / Power**
- 10 mph
  - 20 mph
  - Full power
- Noise Mitigation (Façades)**
- Noise Insulation Qualification
  - Ventilation Qualification
- Noise Mitigation (Buildings)**
- Based on worst affected façade*
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification
  - Not calculated (outside study area)
  - Non Residential
- Noise Mitigation (Boat Moorings and Caravans)**
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification

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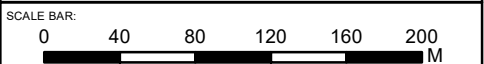
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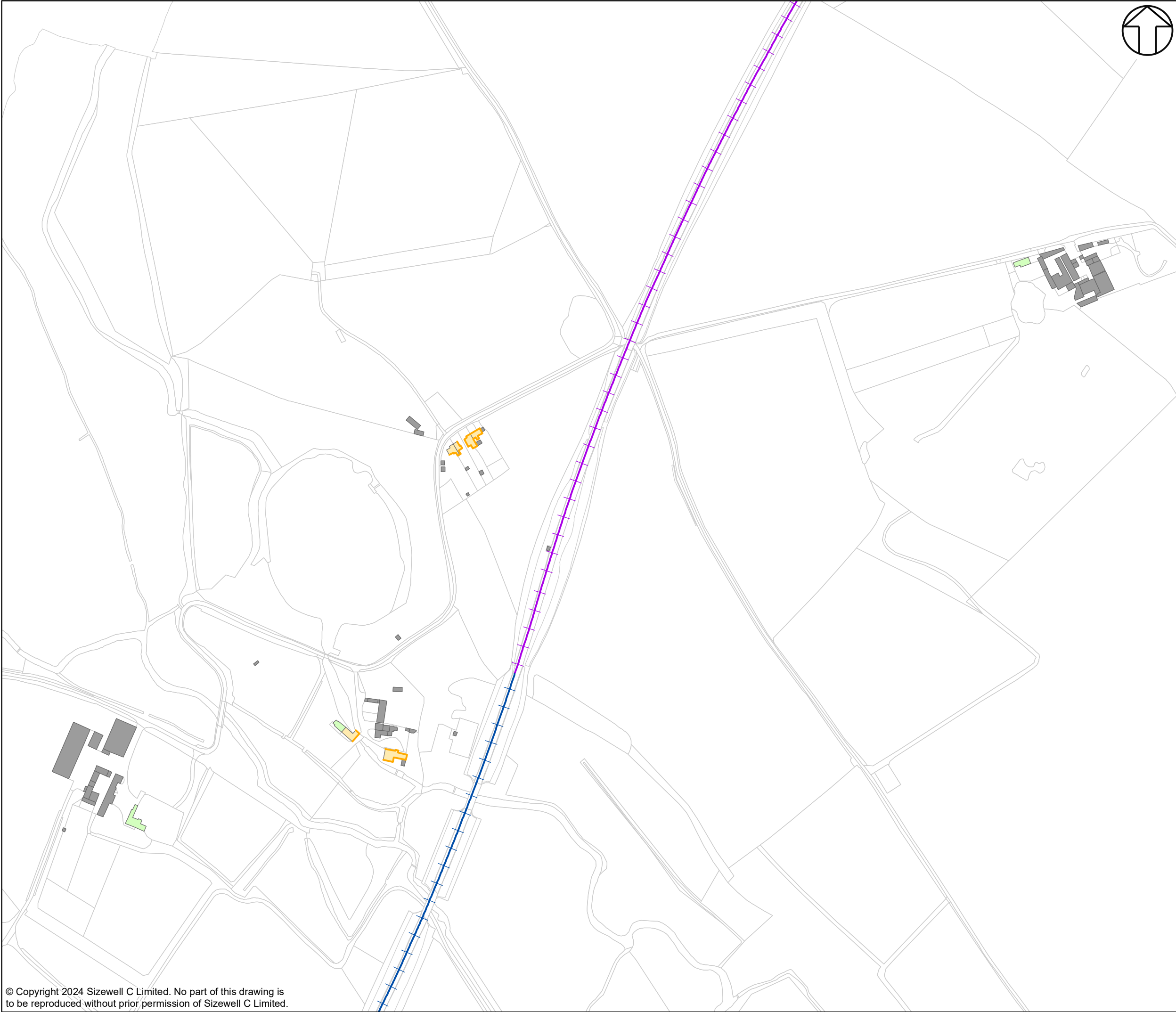
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OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 14 OF 30

DRAWING NO: FIGURE 2	REVISION: 01
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- KEY:
- Rail Alignment - Speed / Power**
- 10 mph
  - 20 mph
  - Full power
- Noise Mitigation (Façades)**
- Noise Insulation Qualification
  - Ventilation Qualification
- Noise Mitigation (Buildings)**
- Based on worst affected façade*
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification
  - Not calculated (outside study area)
  - Non Residential
- Noise Mitigation (Boat Moorings and Caravans)**
- No Qualification
  - Ventilation Qualification
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OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 15 OF 30

DRAWING NO:  
FIGURE 2

REVISION:  
01

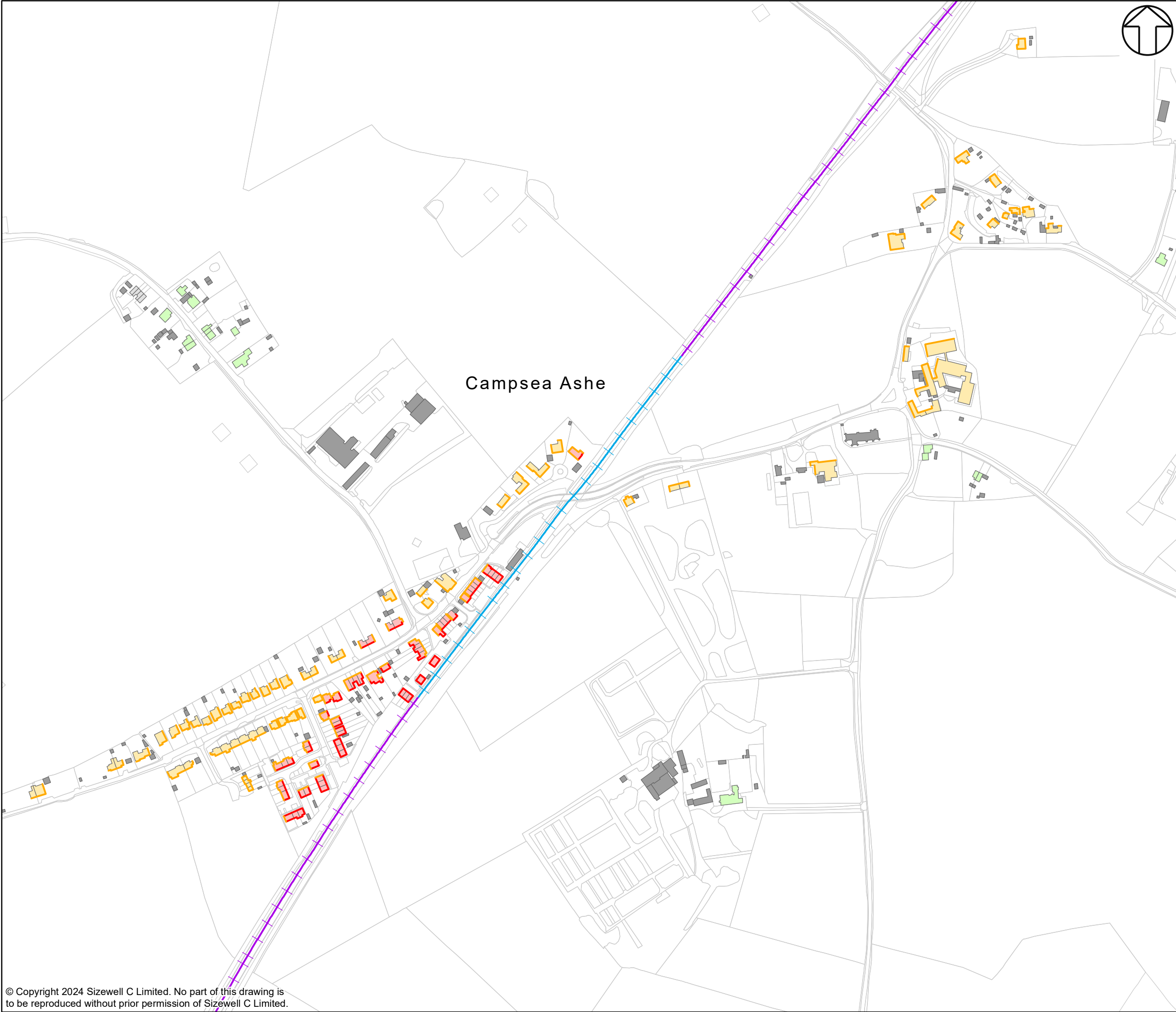
DATE:  
OCT 2024

DRAWN:  
O.B.

SCALE:  
1:4,000 @A3







Campsea Ashe



**KEY:**  
**Rail Alignment - Speed / Power**  
+ 10 mph  
+ 20 mph  
+ Full power  
**Noise Mitigation (Façades)**  
— Noise Insulation Qualification  
— Ventilation Qualification  
**Noise Mitigation (Buildings)**  
*Based on worst affected façade*  
■ No Qualification  
■ Ventilation Qualification  
■ Noise Insulation Qualification  
■ Not calculated (outside study area)  
■ Non Residential  
**Noise Mitigation (Boat Moorings and Caravans)**  
○ No Qualification  
○ Ventilation Qualification  
○ Noise Insulation Qualification

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The power of good for Britain

PROJECT:  
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DOCUMENT:  
60679030\_NI\_RAIL\_1

DRAWING TITLE:  
OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 16 OF 30

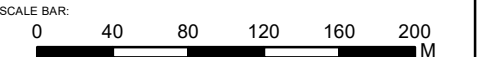
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FIGURE 2

REVISION:  
01

DATE:  
OCT 2024

DRAWN:  
O.B.

SCALE:  
1:4,000 @A3





- KEY:
- Rail Alignment - Speed / Power**
- 10 mph
  - 20 mph
  - Full power
- Noise Mitigation (Façades)**
- Noise Insulation Qualification
  - Ventilation Qualification
- Noise Mitigation (Buildings)**
- Based on worst affected façade*
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification
  - Not calculated (outside study area)
  - Non Residential
- Noise Mitigation (Boat Moorings and Caravans)**
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification

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DOCUMENT:  
60679030\_NI\_RAIL\_1

DRAWING TITLE:  
OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 17 OF 30

DRAWING NO:  
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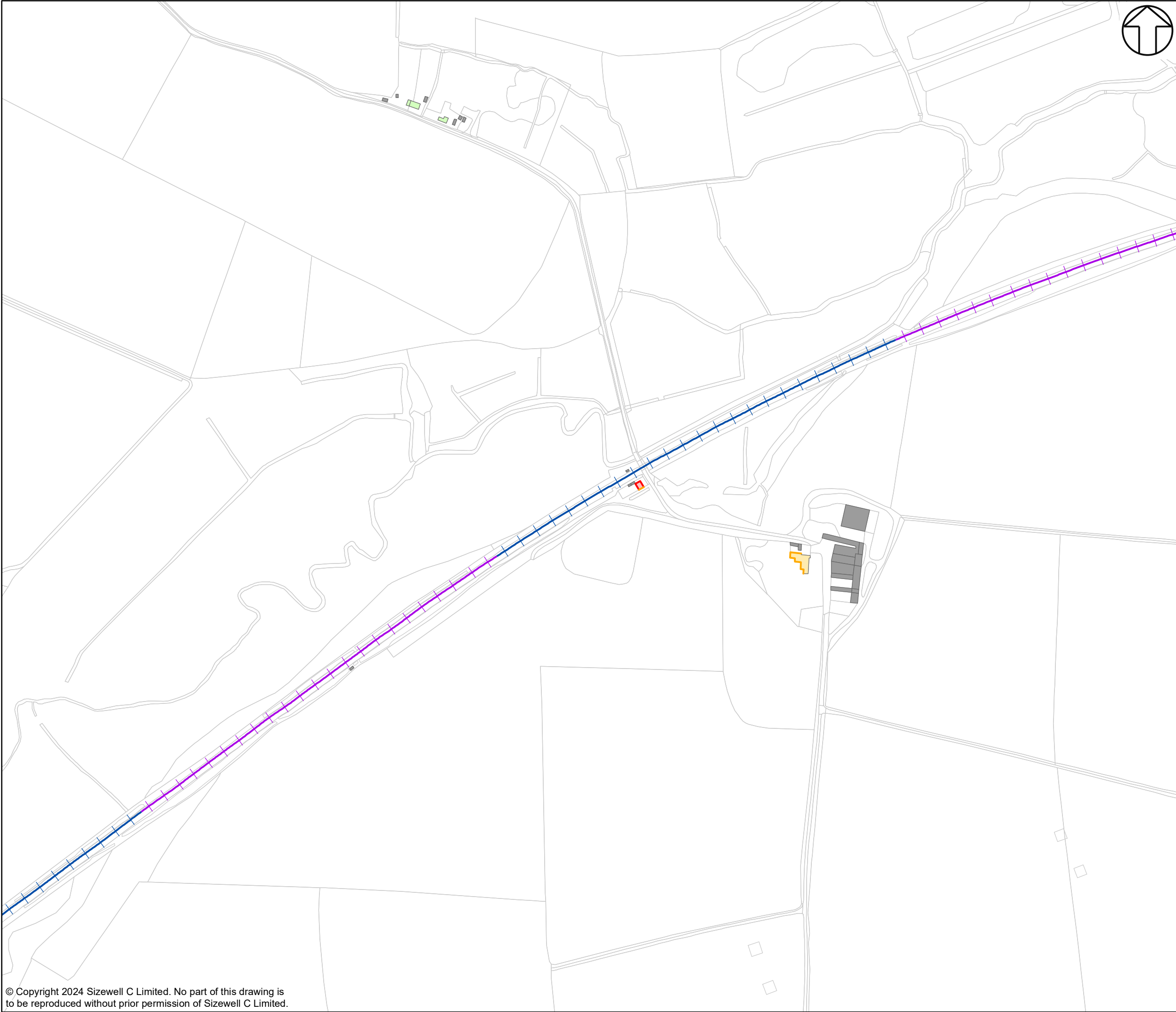
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OCT 2024

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1:4,000 @A3





- KEY:
- Rail Alignment - Speed / Power**
- 10 mph
  - 20 mph
  - Full power
- Noise Mitigation (Façades)**
- Noise Insulation Qualification
  - Ventilation Qualification
- Noise Mitigation (Buildings)**
- Based on worst affected façade*
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification
  - Not calculated (outside study area)
  - Non Residential
- Noise Mitigation (Boat Moorings and Caravans)**
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification

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OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 18 OF 30

DRAWING NO:  
FIGURE 2

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01

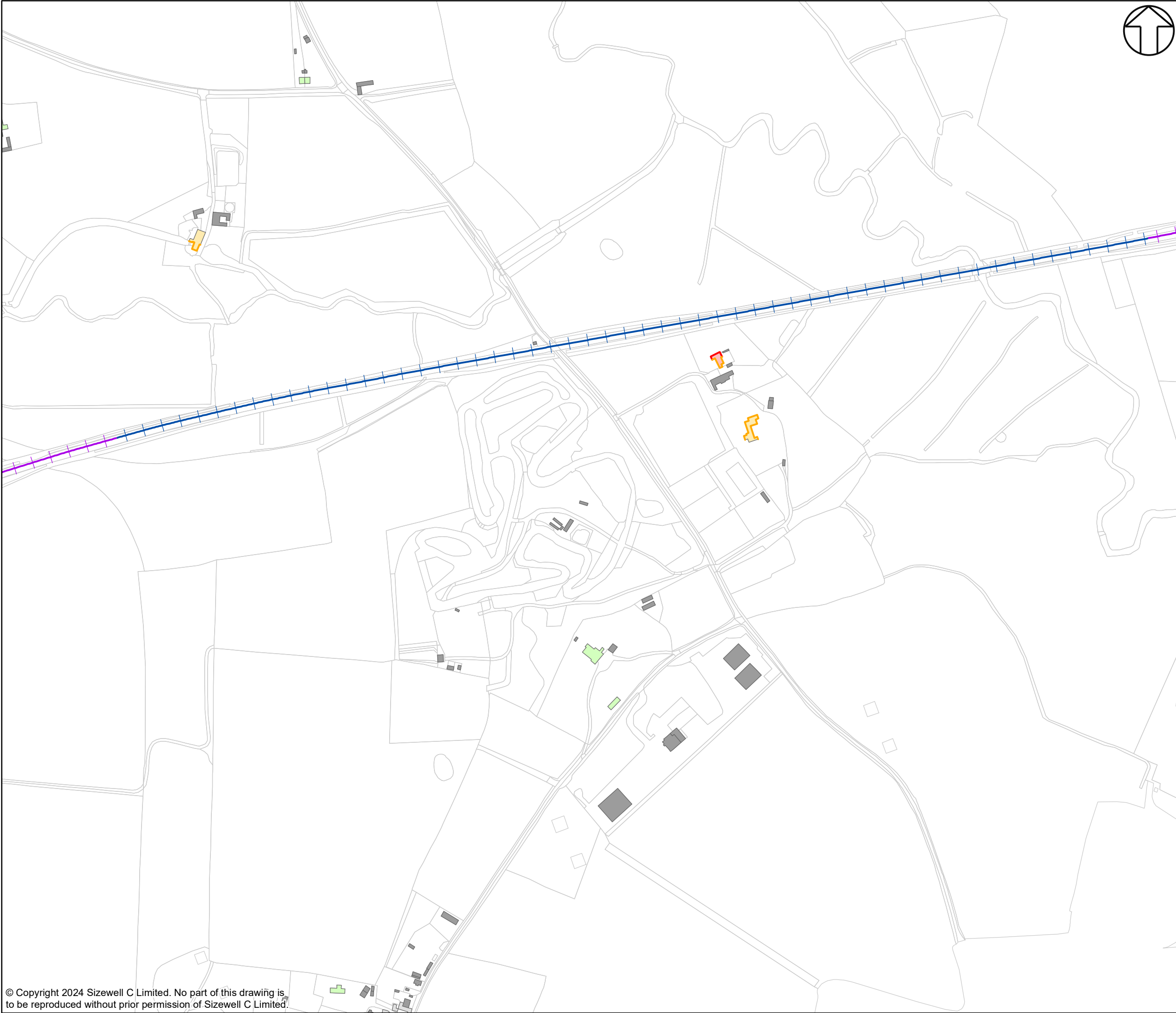
DATE:  
OCT 2024

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O.B.

SCALE:  
1:4,000 @A3







- KEY:
- Rail Alignment - Speed / Power**
- 10 mph
  - 20 mph
  - Full power
- Noise Mitigation (Façades)**
- Noise Insulation Qualification
  - Ventilation Qualification
- Noise Mitigation (Buildings)**
- Based on worst affected façade*
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification
  - Not calculated (outside study area)
  - Non Residential
- Noise Mitigation (Boat Moorings and Caravans)**
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification

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DRAWING TITLE:  
OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 19 OF 30

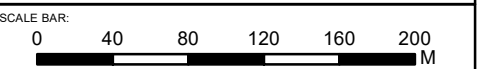
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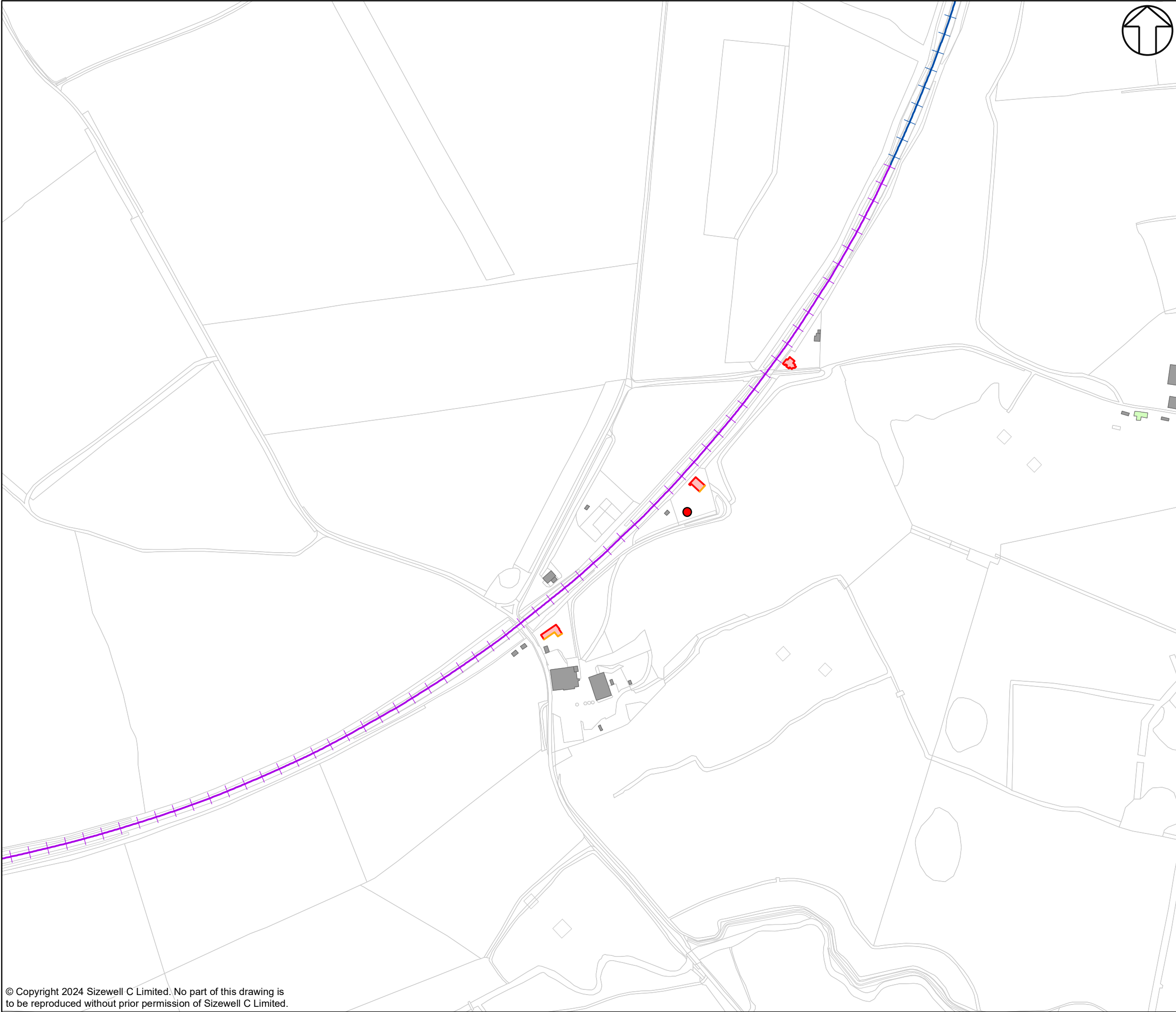
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SCALE:  
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- KEY:
- Rail Alignment - Speed / Power**
- 10 mph
  - 20 mph
  - Full power
- Noise Mitigation (Façades)**
- Noise Insulation Qualification
  - Ventilation Qualification
- Noise Mitigation (Buildings)**
- Based on worst affected façade*
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification
  - Not calculated (outside study area)
  - Non Residential
- Noise Mitigation (Boat Moorings and Caravans)**
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification

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OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 20 OF 30

DRAWING NO:  
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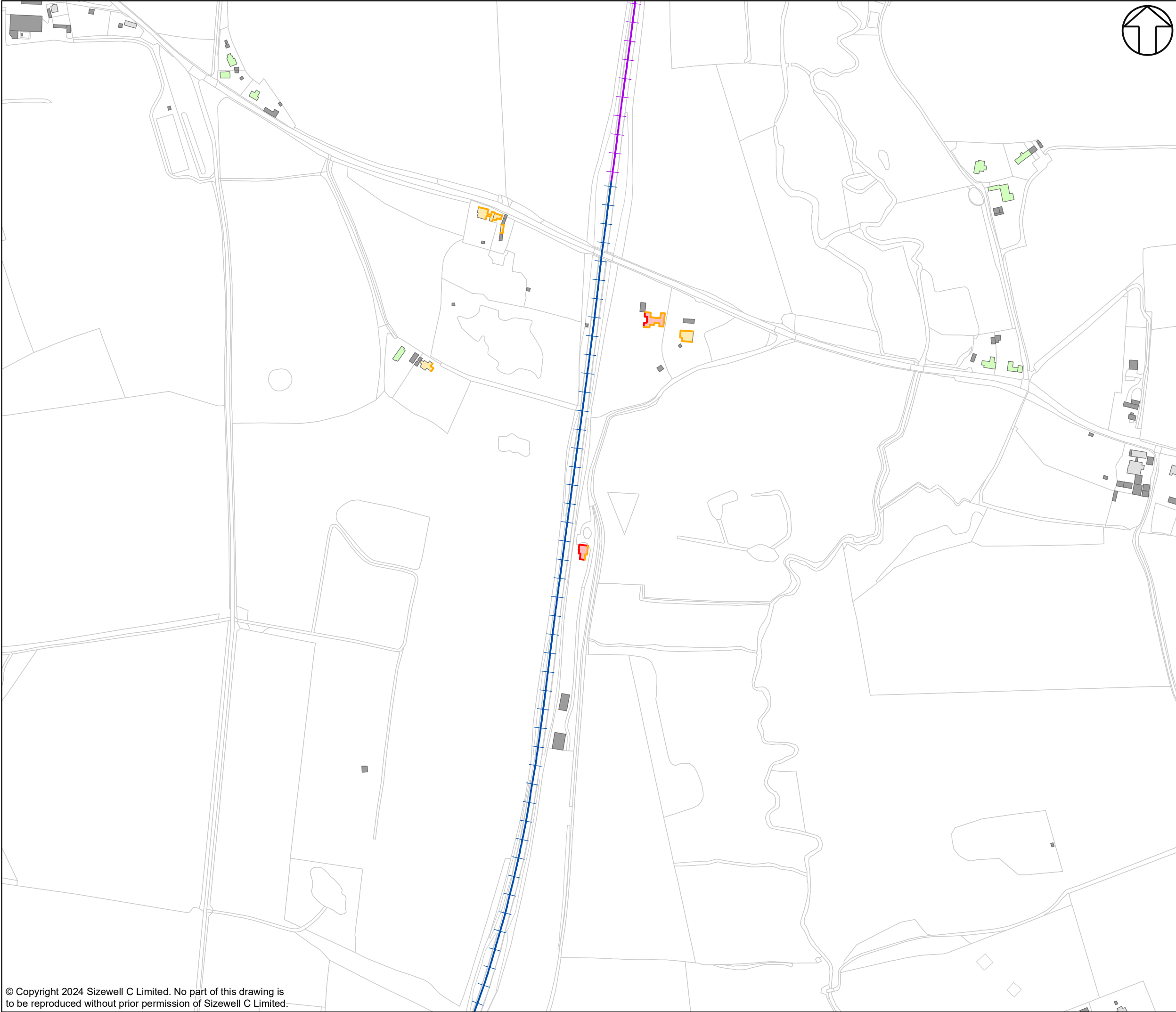
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OCT 2024

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O.B.

SCALE:  
1:4,000 @A3





- KEY:
- Rail Alignment - Speed / Power**
- 10 mph
  - 20 mph
  - Full power
- Noise Mitigation (Façades)**
- Noise Insulation Qualification
  - Ventilation Qualification
- Noise Mitigation (Buildings)**
- Based on worst affected façade*
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification
  - Not calculated (outside study area)
  - Non Residential
- Noise Mitigation (Boat Moorings and Caravans)**
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification

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SHEET 21 OF 30

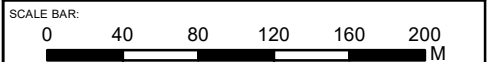
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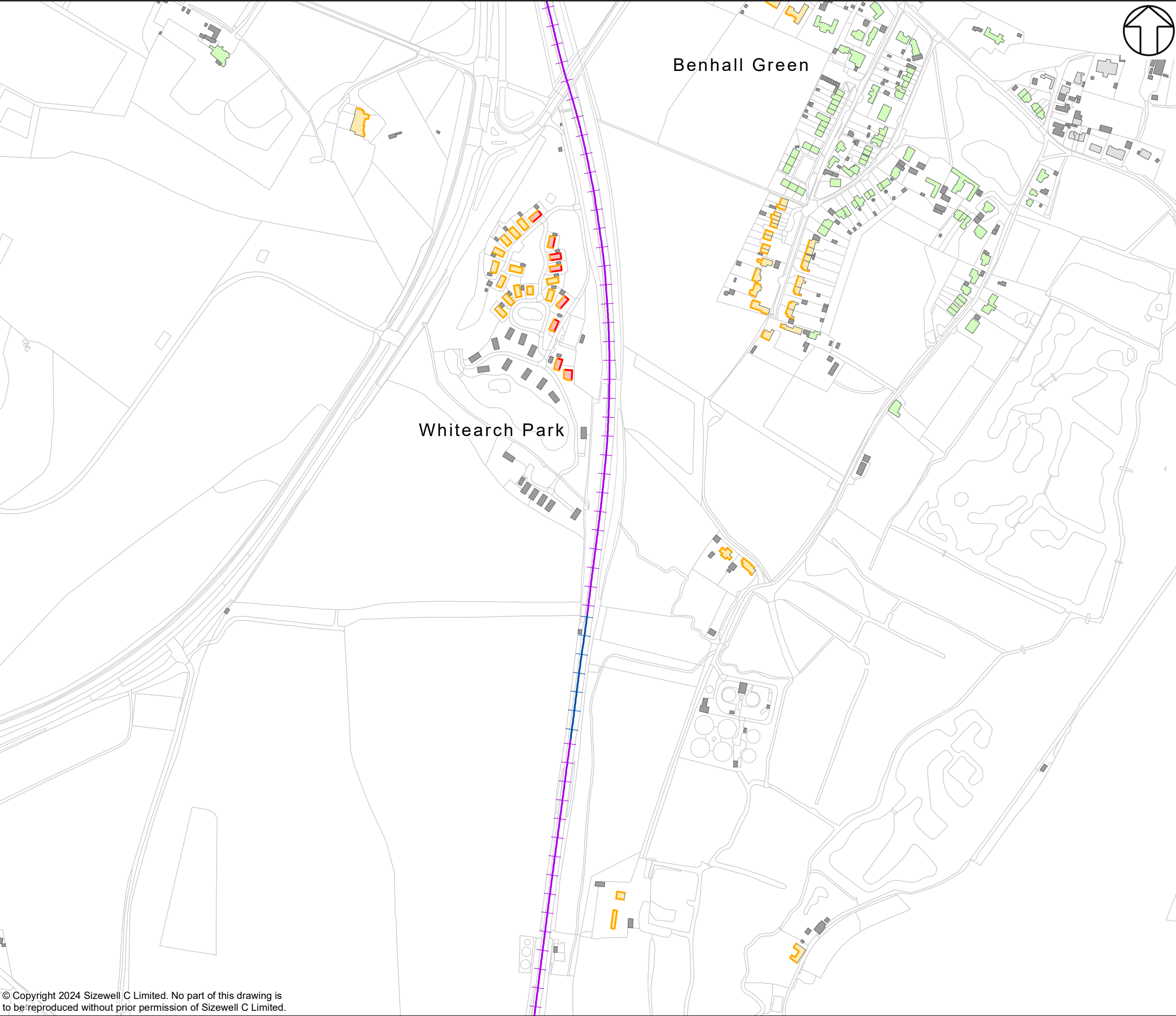
DATE:  
OCT 2024

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1:4,000 @A3







- KEY:**
- Rail Alignment - Speed / Power**
- 10 mph
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- Noise Mitigation (Façades)**
- Noise Insulation Qualification
  - Ventilation Qualification
- Noise Mitigation (Buildings)**
- Based on worst affected façade*
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification
  - Not calculated (outside study area)
  - Non Residential
- Noise Mitigation (Boat Moorings and Caravans)**
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification

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SHEET 22 OF 30

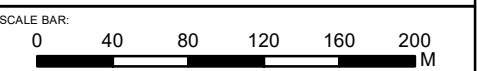
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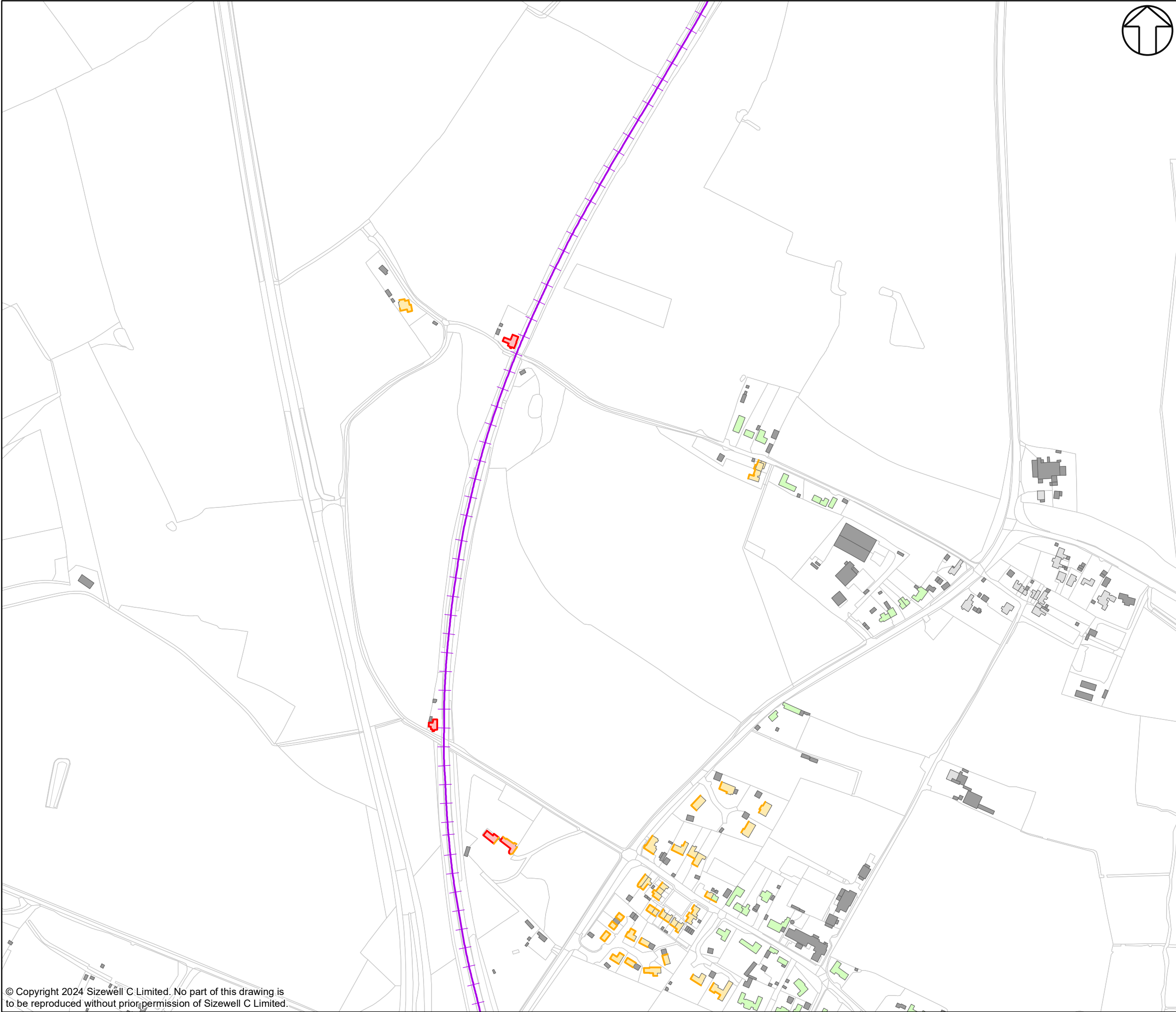
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SCALE:  
1:4,000 @A3





- KEY:
- Rail Alignment - Speed / Power**
- 10 mph
  - 20 mph
  - Full power
- Noise Mitigation (Façades)**
- Noise Insulation Qualification
  - Ventilation Qualification
- Noise Mitigation (Buildings)**
- Based on worst affected façade*
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification
  - Not calculated (outside study area)
  - Non Residential
- Noise Mitigation (Boat Moorings and Caravans)**
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification

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OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 23 OF 30

DRAWING NO:  
FIGURE 2

REVISION:  
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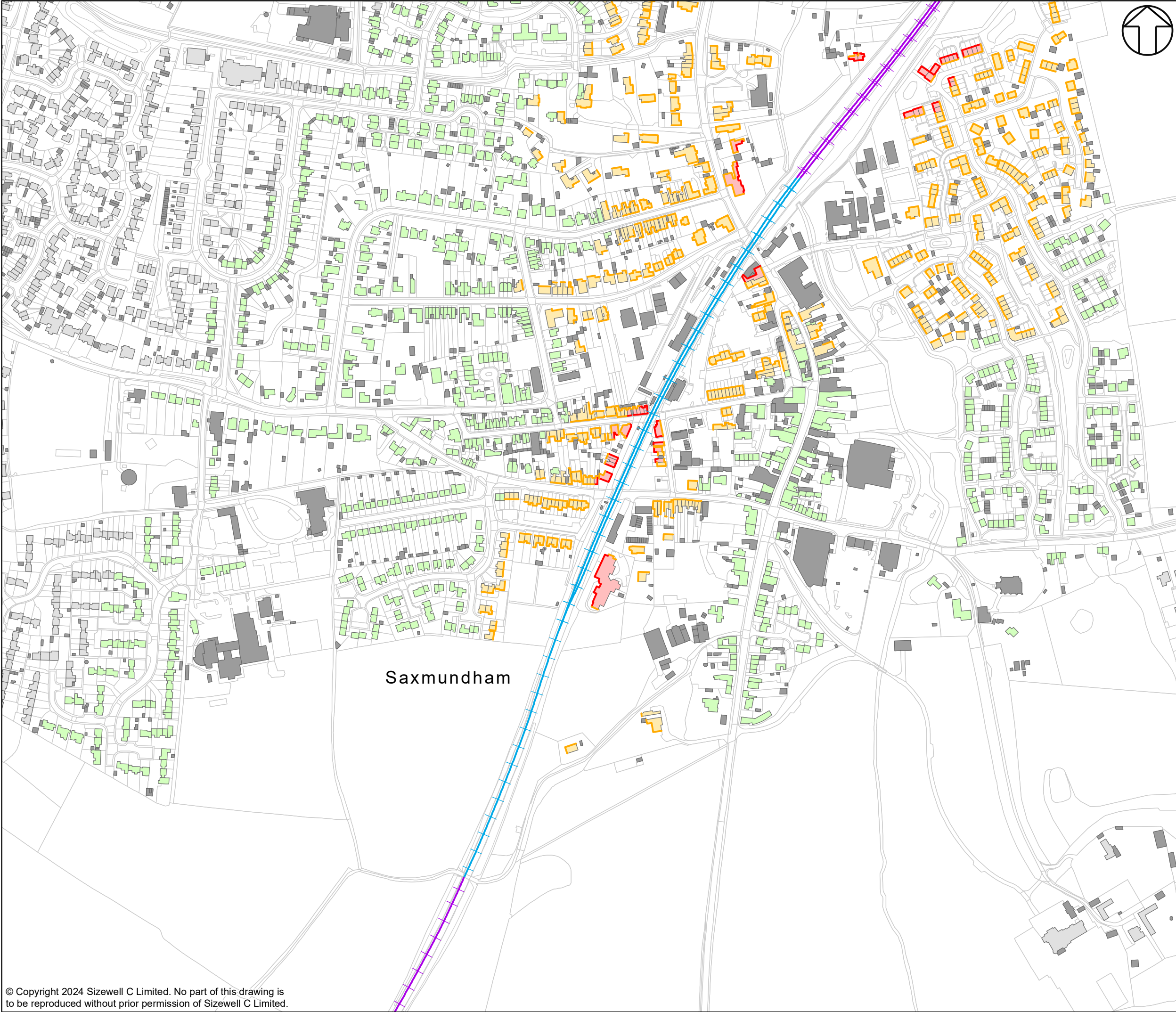
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OCT 2024

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- KEY:**
- Rail Alignment - Speed / Power**
- 10 mph
  - 20 mph
  - Full power
- Noise Mitigation (Façades)**
- Noise Insulation Qualification
  - Ventilation Qualification
- Noise Mitigation (Buildings)**
- Based on worst affected façade*
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification
  - Not calculated (outside study area)
  - Non Residential
- Noise Mitigation (Boat Moorings and Caravans)**
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification

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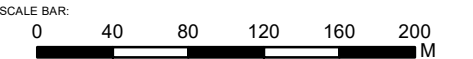
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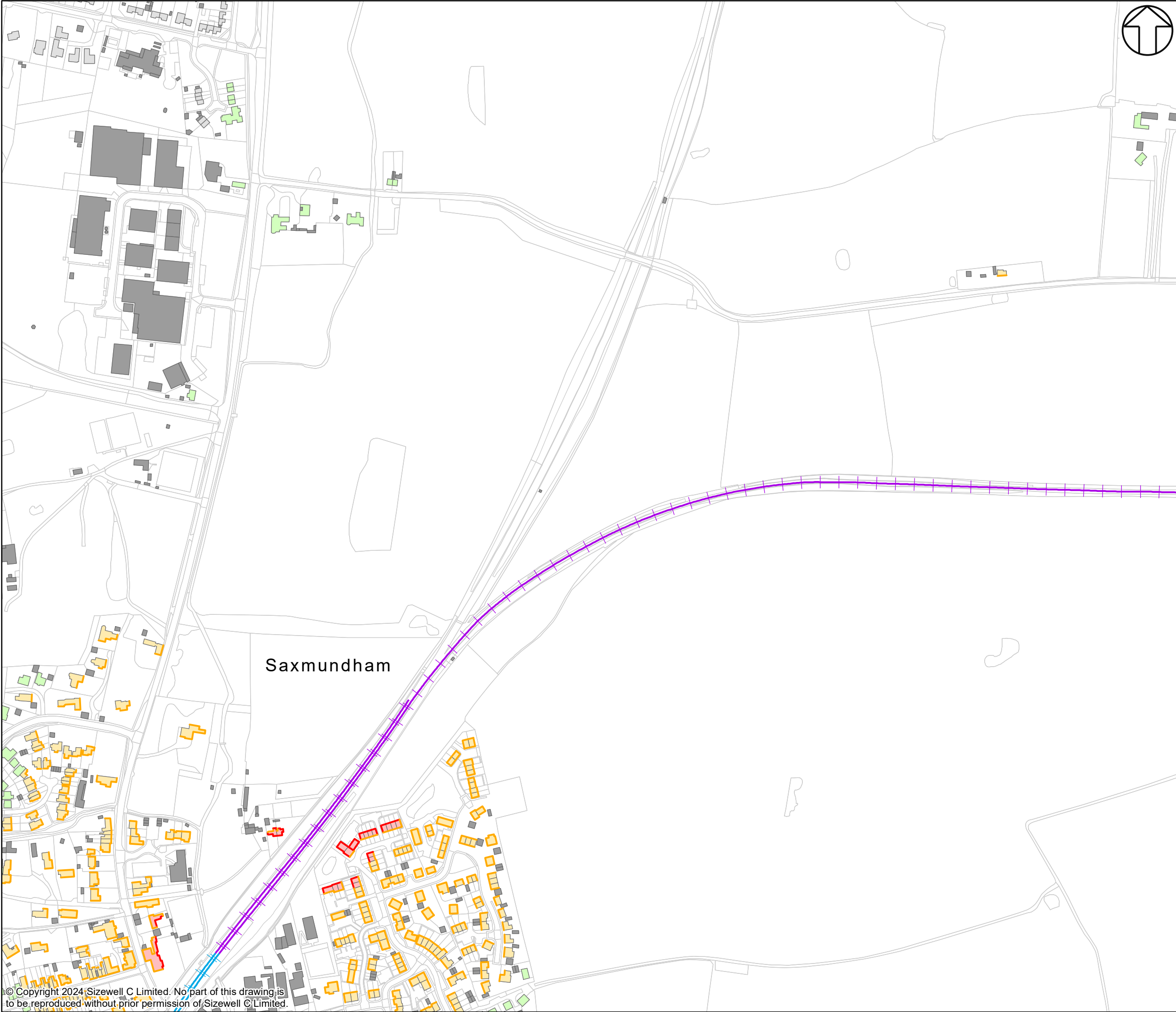
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OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 24 OF 30

DRAWING NO: FIGURE 2	REVISION: 01
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- KEY:
- Rail Alignment - Speed / Power**
- 10 mph
  - 20 mph
  - Full power
- Noise Mitigation (Façades)**
- Noise Insulation Qualification
  - Ventilation Qualification
- Noise Mitigation (Buildings)**
- Based on worst affected façade*
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification
  - Not calculated (outside study area)
  - Non Residential
- Noise Mitigation (Boat Moorings and Caravans)**
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification

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DOCUMENT:  
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DRAWING TITLE:  
OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 25 OF 30

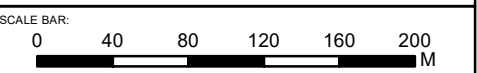
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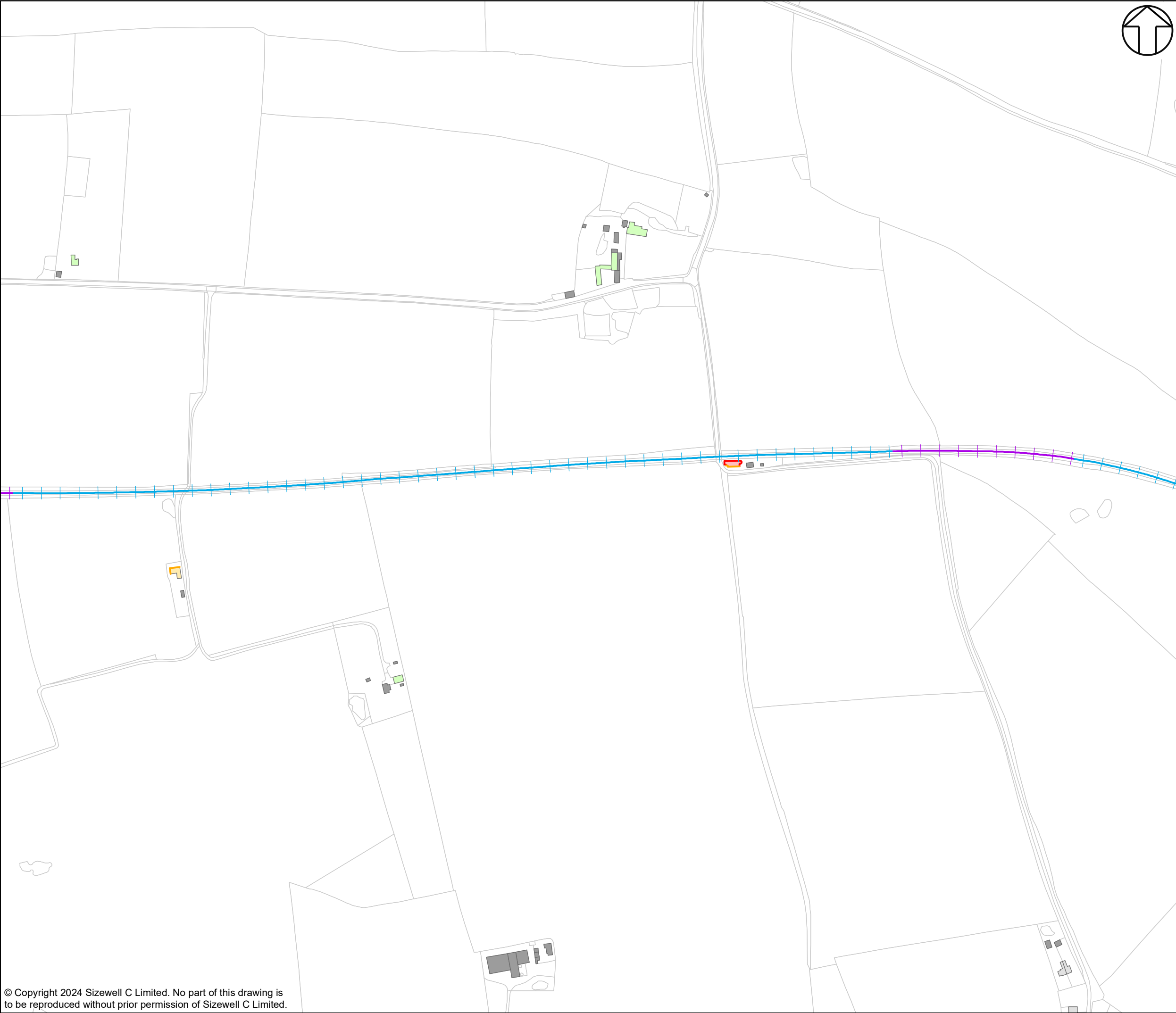
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- KEY:
- Rail Alignment - Speed / Power**
- 10 mph
  - 20 mph
  - Full power
- Noise Mitigation (Façades)**
- Noise Insulation Qualification
  - Ventilation Qualification
- Noise Mitigation (Buildings)**
- Based on worst affected façade*
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification
  - Not calculated (outside study area)
  - Non Residential
- Noise Mitigation (Boat Moorings and Caravans)**
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification

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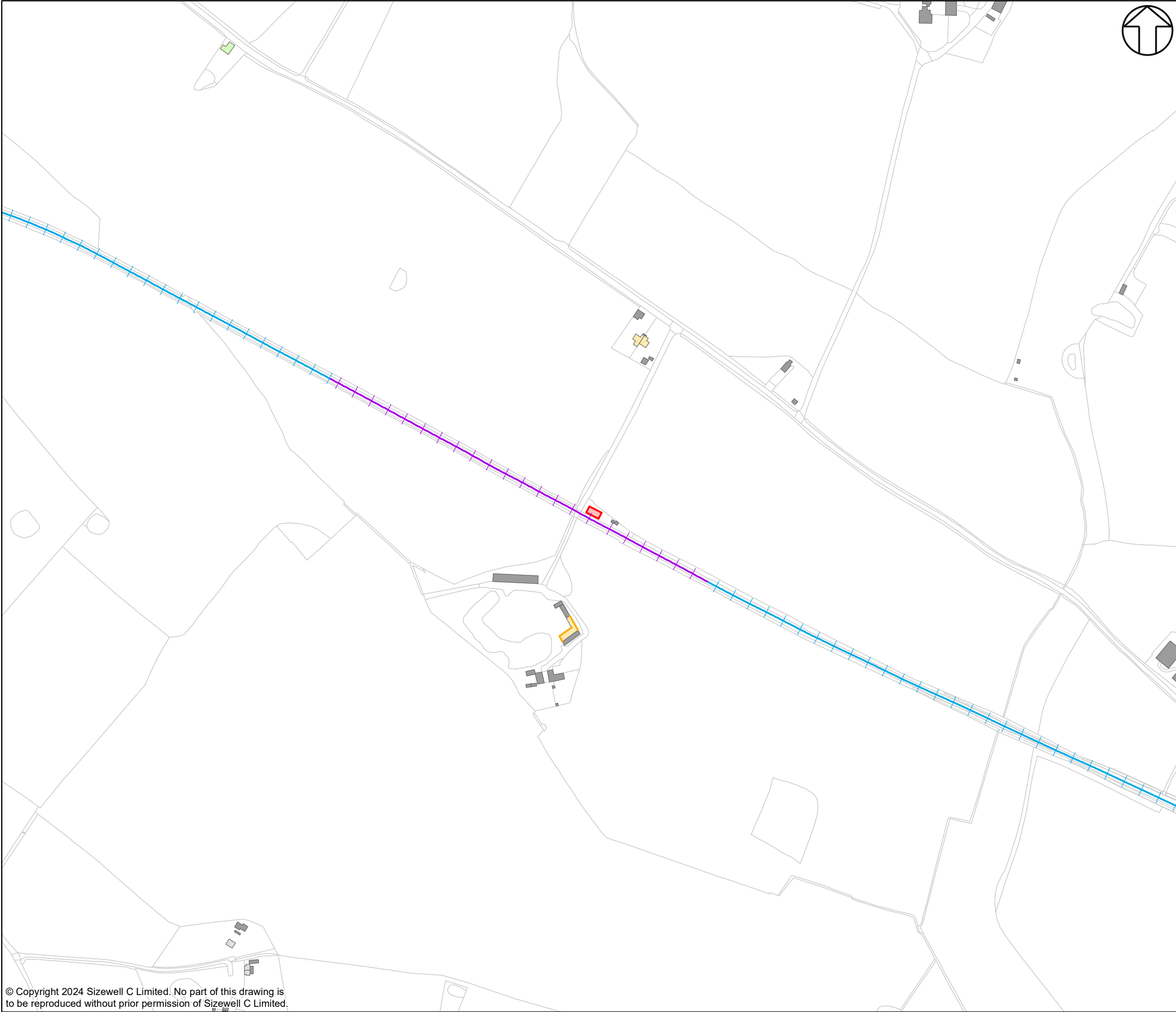
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OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 26 OF 30

DRAWING NO: FIGURE 2	REVISION: 01
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- KEY:
- Rail Alignment - Speed / Power**
- 10 mph
  - 20 mph
  - Full power
- Noise Mitigation (Façades)**
- Noise Insulation Qualification
  - Ventilation Qualification
- Noise Mitigation (Buildings)**
- Based on worst affected façade*
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification
  - Not calculated (outside study area)
  - Non Residential
- Noise Mitigation (Boat Moorings and Caravans)**
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification

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OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 27 OF 30

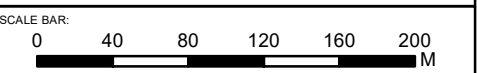
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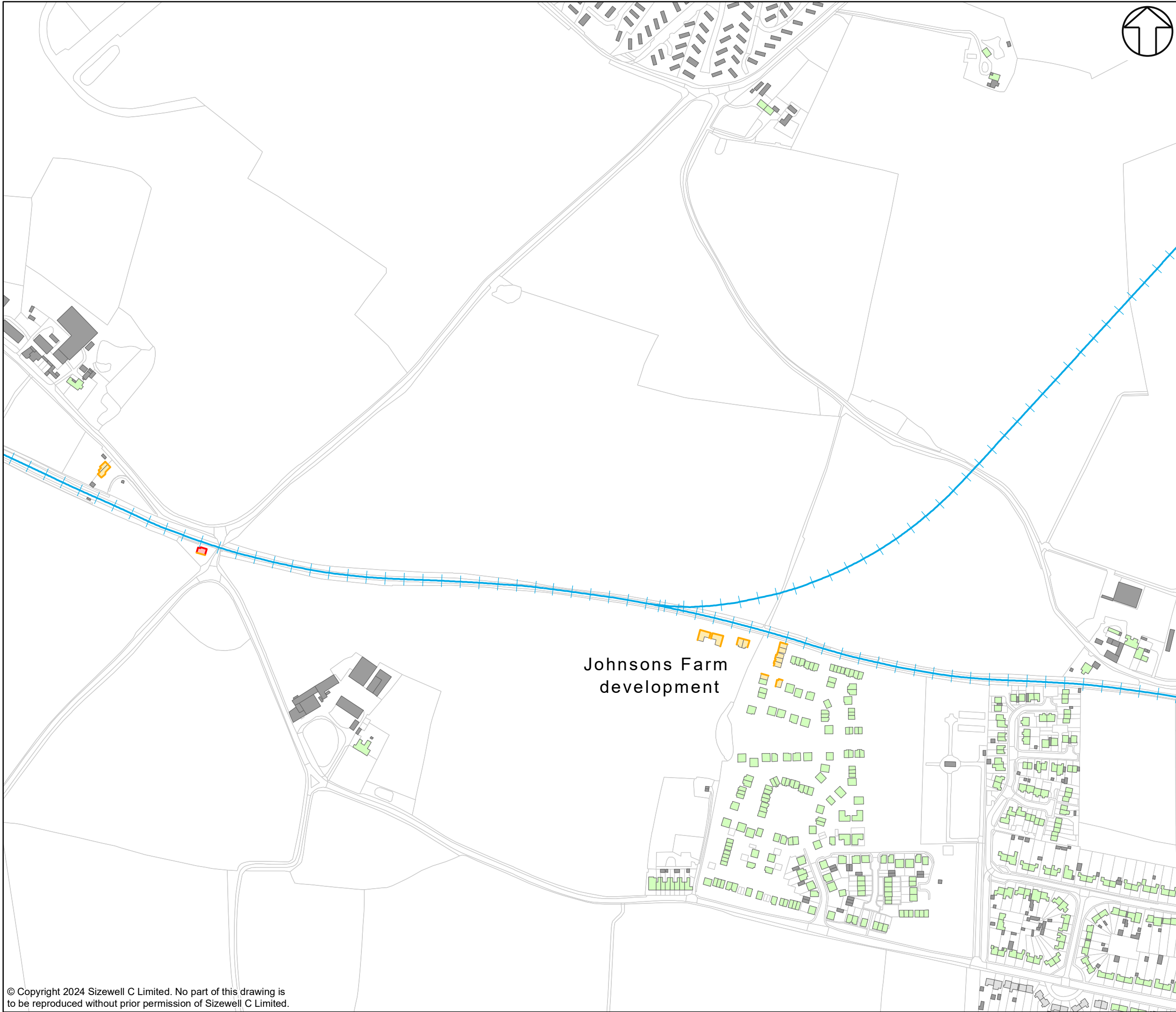
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OCT 2024

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O.B.

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1:4,000 @A3





- KEY:
- Rail Alignment - Speed / Power**
- 10 mph
  - 20 mph
  - Full power
- Noise Mitigation (Façades)**
- Noise Insulation Qualification
  - Ventilation Qualification
- Noise Mitigation (Buildings)**
- Based on worst affected façade*
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification
  - Not calculated (outside study area)
  - Non Residential
- Noise Mitigation (Boat Moorings and Caravans)**
- No Qualification
  - Ventilation Qualification
  - Noise Insulation Qualification

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OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 28 OF 30

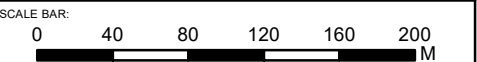
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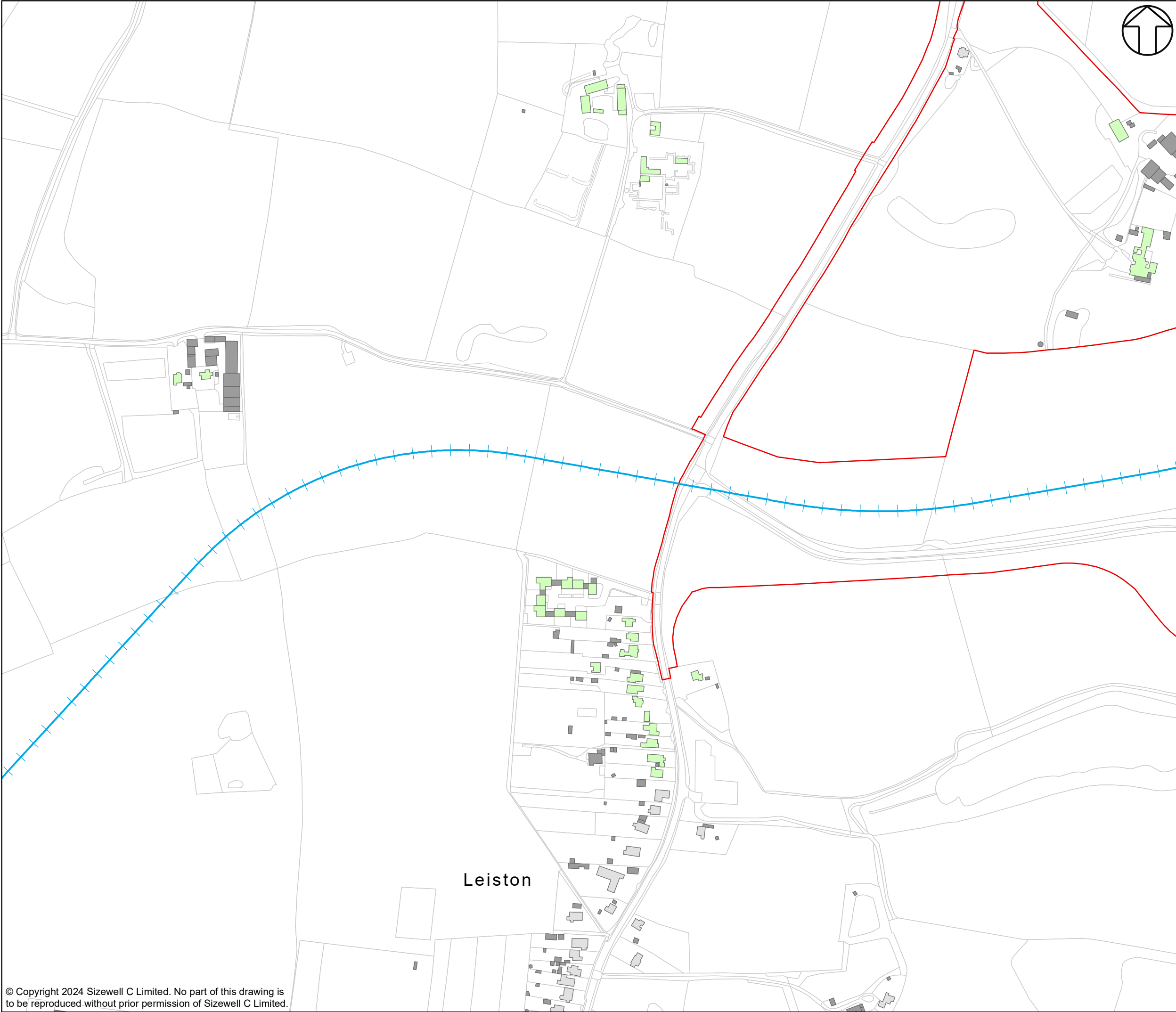
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DATE:  
OCT 2024

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O.B.

SCALE:  
1:4,000 @A3





**KEY:**

**Rail Alignment - Speed / Power**

- 10 mph
- 20 mph
- Full power

**Noise Mitigation (Façades)**

- Noise Insulation Qualification
- Ventilation Qualification

**Noise Mitigation (Buildings)**

*Based on worst affected façade*

- No Qualification
- Ventilation Qualification
- Noise Insulation Qualification
- Not calculated (outside study area)
- Non Residential

**Noise Mitigation (Boat Moorings and Caravans)**

- No Qualification
- Ventilation Qualification
- Noise Insulation Qualification

MDS Red Line Planning Boundary

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DRAWING TITLE:  
OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 29 OF 30

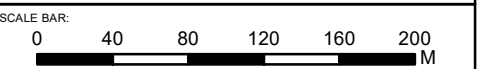
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FIGURE 2

REVISION:  
01

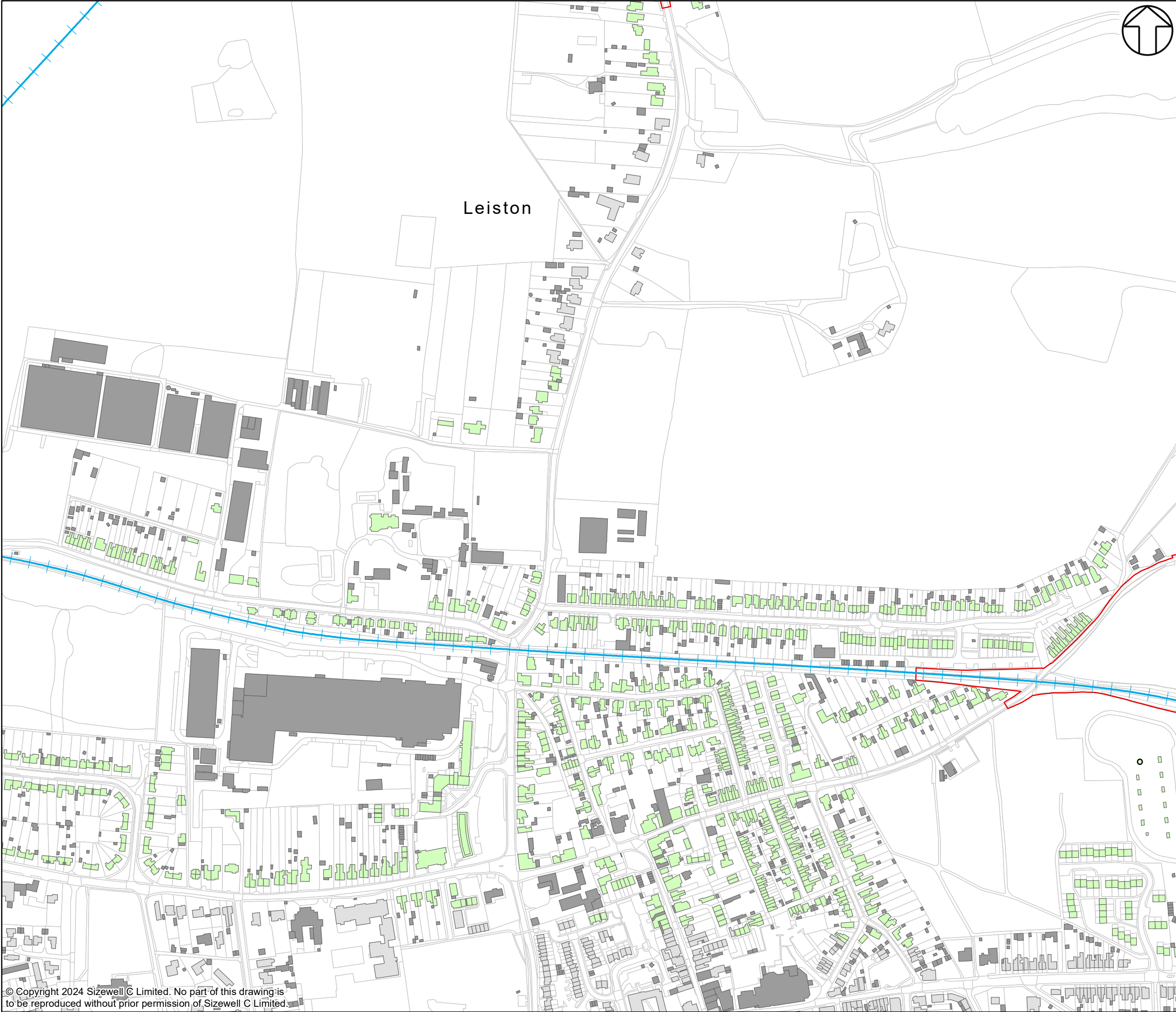
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O.B.

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**KEY:**

**Rail Alignment - Speed / Power**

- 10 mph
- 20 mph
- Full power

**Noise Mitigation (Façades)**

- Noise Insulation Qualification
- Ventilation Qualification

**Noise Mitigation (Buildings)**

*Based on worst affected façade*

- No Qualification
- Ventilation Qualification
- Noise Insulation Qualification
- Not calculated (outside study area)
- Non Residential

**Noise Mitigation (Boat Moorings and Caravans)**

- No Qualification
- Ventilation Qualification
- Noise Insulation Qualification

MDS Red Line Planning Boundary

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PROJECT:  
SIZEWELL C

DOCUMENT:  
60679030\_NI\_RAIL\_1

DRAWING TITLE:  
OPERATIONAL RAILWAY NOISE INSULATION AND VENTILATION QUALIFICATION  
SHEET 30 OF 30

DRAWING NO:  
FIGURE 2

REVISION:  
01

DATE:  
OCT 2024

DRAWN:  
O.B.

SCALE:  
1:4,000 @A3

