

Spinksmire Mills, Meltham

Flood Risk Assessment

January 2026

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REPORT QUALITY MANAGEMENT

	First Issue	Revision 1	Revision 2	Revision 3
Remarks	Planning			
Date	January 2026			
Prepared	CS			
Checked	JE			
Authorised	GS			

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1 INTRODUCTION

1.1 OVERVIEW

- 1.1.1 This Flood Risk Assessment (FRA) has been provided at the request of Alistair Flatman, hereafter referred to as “the client”, to assess the flood risks associated with the proposed development of Spinksmire Mills, Meltham, hereafter referred to as “the site”.
- 1.1.2 The purpose of this FRA is to:
- ▶ Identify the possible hazards posed from all major sources of flooding (fluvial, surface water, groundwater, infrastructural and coastal sources);
 - ▶ Provide a qualitative assessment of the probability of each potential flood hazard representing a constraint on the proposed development, based on the proposed land use type for the development and likelihood of flood occurrence;
 - ▶ Recommend appropriate and necessary mitigation measures and additional assessments that may be required to progress the sustainable development of the site.
- 1.1.3 The FRA comprises the following:
- ▶ A desktop review of publicly available information, including information from the Environment Agency (EA) and Kirklees Council who are the Lead Local Flood Authority (LLFA) for the proposed development area; and
 - ▶ An assessment and outline design of hydraulic controls and drainage requirements and drainage elements required to support the development of the site.
- 1.1.4 This report further details the methodologies employed within this study and provides recommendations as to any further work or investigations required to support the development of the site through the planning application process.

1.2 REGULATORY POLICY AND LEGISLATION

- 1.2.1 This assessment has been carried out in line with the current Government legislation, the National Planning Policy Framework (NPPF) 2024.
- 1.2.2 It has been assessed with reference to the following documents and legislative guidelines:
- ▶ CIRIA 753 The SUDS Manual V8 (2018);
 - ▶ DEFRA “Flood Risk Assessment Guidance for New Developments” (2006);
 - ▶ DEFRA “Surface Water Management Plan Technical Guidance” (2010);
 - ▶ BS 8533 2017 Assessing & Managing Flood Risk in Development Code of Practice (2017);
 - ▶ BS 8582:2013 Code of practice for surface water management for development Sites (2013);
 - ▶ National Planning Practice Guidance (2012 – updated 2022);
 - ▶ C624 Development and Flood Risk – Guidance for the Construction Industry’ (2004);
 - ▶ Sewage Sector Guidance (2022);
 - ▶ Planning Policy Guidance – Flood Risk and Climate Change (2014 – updated 2022).
- 1.2.3 In addition to the above, this report has also been informed by the following documents:
- ▶ Kirklees Local Plan Strategy and Policies 2019
 - ▶ Calder Catchment Strategic Flood Risk Assessment – Volume II (Kirklees Council) 2016

1.3 SCOPE OF FLOOD RISK ASSESSMENT

- 1.3.1 The objective of this analysis and report is to provide an FRA in accordance with local and national guidance.
- 1.3.2 The detail and complexity of the FRA will reflect the level of risk to the site and consider the appropriateness of the proposed development type. This will also include assessment of potential risk to property and livelihoods, consideration of climate change, and the definition of appropriate flood risk mitigations required to satisfy the planning process.
- 1.3.3 Based on the assessment of requirements for a site-specific FRA as defined within NPPF 2024 technical guidance, the site is indicated as being located within Flood Zones 1, 2 and 3, therefore it is necessary to provide a site-specific FRA.
- 1.3.4 Flood Zone 1 refers to an area assessed as having less than 1 in 1,000 annual probability (<0.1%) of river or sea flooding in any one year.
- 1.3.5 Flood Zone 2 refers to an area assessed as having between a 1 in 100 and 1 in 1,000 annual probability (1% - 0.1%) of river flooding, or between a 1 in 200 and 1 in 1,000 annual probability (0.5% - 0.1%) of sea flooding in any one year.
- 1.3.6 Flood Zone 3 refers to an area assessed as having a 1 in 100 greater annual probability (>1%) of river flooding, or a 1 in 200 or greater annual probability (>0.5%) of sea flooding in any one year.
- 1.3.7 Similarly, as the site is indicatively located in an area that may be subject to other assessable sources of flooding, such as pluvial (surface water) flooding, it is necessary to undertake a further site-specific assessment to verify the proposals for development.
- 1.3.8 As indicated in Policy LP27 flood risk at the site must adhere to the following:
 - ▶ Proposals for development which require a Sequential Test in accordance with national planning guidance will need to demonstrate that development has been directed to areas at the lowest probability of flooding, following a sequential risk based approach. The whole Kirklees district should be the starting point for the sequential test with applicants required to provide justification where a smaller area of search is proposed. If following application of the sequential test, there are no reasonably available sites which could accommodate the development in zones with a lower probability of flooding, it should also be demonstrated that a sequential approach has been applied within sites. This is to ensure that highly vulnerable and more vulnerable uses are directed towards the areas of lowest flood risk within the site. Proposals will also need to demonstrate that the exception test is passed, where applicable, as set out in national planning policy.
 - ▶ Proposals within Flood Zone 3ai will be assessed in accordance with national policies relating to Flood Zone 3a but with all the following additional restrictions:
 - A. No new highly vulnerable or more vulnerable uses will be permitted;
 - B. less vulnerable uses may only be permitted provided that the sequential test has been passed and;
 - i. where extensions are linked operationally to an existing building or,
 - ii. Where redevelopment of a site provides buildings with the same or a smaller footprint;
 - C. All proposals will be expected to include flood mitigation measures such as compensatory storage which should be identified and considered through a site specific Flood Risk Assessment;
 - D. Development will not be permitted on any part of the site identified though a site specific Flood Risk Assessment as performing a functional floodplain role.
 - ▶ Proposals must be supported by an appropriate site specific Flood Risk Assessment in line with national planning policy. This must take account of all sources of flooding set out in the Strategic Flood Risk Assessment and demonstrate that the proposal will be safe throughout

the lifetime of the development (taking account of climate change). The proposal must also not increase flood risk elsewhere and where possible should reduce flood risk. Mitigation measures, where necessary, should be proposed.

- ▶ Proposals involving building over existing culverts or the culverting or canalisation of water courses will not be permitted unless it can be demonstrated to be in the interests of public safety or to provide essential infrastructure and that there will be no detrimental effect on flood risk and biodiversity. Where feasible, development proposals should be incorporate re-opening of culverts, modification of canalised watercourses and consideration of mitigation measures to achieve a more natural and maintainable state.
- ▶ Proposals for natural management such as targeted vegetation planting in upper catchments and along river banks will be supported in appropriate locations where consistent with national and local plan policies and relevant water catchment management plans to reduce flood risk and improve water quality.

- 1.3.9 Potential flood risk at the site has been assessed against the site layout plan, which has been provided as [Appendix A](#) to this report. Significant changes to the site's developable area may necessitate a further review of this document to ensure that risk of flooding is not exacerbated and has been satisfactorily addressed within the development proposal.

2 METHODOLOGY

2.1 INTRODUCTION

- 2.1.1 This report aims to demonstrate that the proposed development is sustainable and will not be impacted by or exacerbate flood risk elsewhere through the development of the site. This assessment will account for the effects of climate change, as well as identifying further opportunities to reduce the probability and consequences of flooding within the site locality.
- 2.1.2 This report aims to identify constraints and opportunities for the site based on the development proposals provided by the client ([Appendix A](#)) and provide recommendations for the sustainable provision of drainage and mitigation of any potential flood risk for the site.
- 2.1.3 The assessment methodology is as follows:
 - ▶ Desktop review of the geology, hydrology, and other pertinent environmental characteristics of the site, and how these affect flood risk of the proposed development and site drainage.
 - ▶ Obtain and review existing baseline flood risk and drainage guidance information from relevant environmental authorities (EA, LLFA, etc.) as to site specific flood risk from all applicable sources.
 - ▶ Review the findings from the above and advise on the suitability of developing the site for the proposed development in consideration of the applicable flood risk and comment on limitations and opportunities for the site, with recommendations of further mitigation where applicable and appropriate.

3 PROJECT BACKGROUND

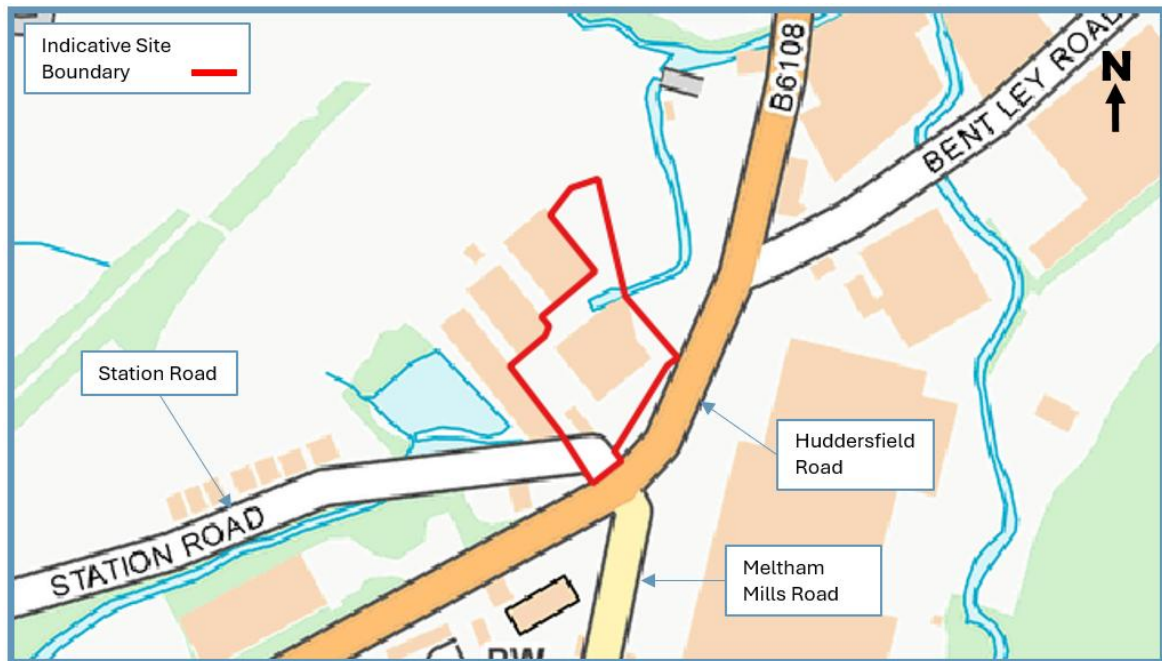
3.1 DEVELOPMENT DESCRIPTION AND LOCATION

- 3.1.1 Andrew Moseley Associates (AMA) was appointed by Alistair Flatman to provide a Flood Risk Assessment in support of an industrial development, located at Spinksmire Mill, Meltham, Holmfirth, Huddersfield, West Yorkshire, HD9 4AN.
- 3.1.2 The proposed development is located in the area of Meltham, approximately 4.1 miles from Huddersfield city centre. Proposals for the site are for industrial use, consisting of a replacement industrial building with associated infrastructure. A site layout can be found in [Appendix A](#).
- 3.1.3 The Local Planning Authority for this development is Kirklees Council who are also the Lead Local Flood Authority for the area.
- 3.1.4 This report has been prepared in accordance with the National Planning Policy Framework (NPPF) and the accompanying technical guidance to assess all forms of flooding including the management of surface water on-site.
- 3.1.5 The site is referenced in [Table 3-1](#) and [Figure 3-1](#) below.

Table 3-1 Site Context

Site Name	Spinksmire Mills
Location	Meltham
NGR (approx..)	SE 10868 11120
General Locality	The site is located on previously developed brownfield land and borders undeveloped land to its east, industrial development to its north, west and south. Pedestrian and vehicular access to the site is provided via Huddersfield Road which is located along the southern boundary of the site.
Development Type	Industrial
EA Flood Zone	Flood Zone 1, 2 and 3

Figure 3-1 Site Location Plan



3.2 TOPOGRAPHY

- 3.2.1 A topographic survey provided by client and undertaken by CT Surveys and Discovery Surveys Ltd (Ref: 5237CT/1; 6376CTS 160525 362) shows ground levels at the site to be in the region of 140.41 to 144.84 m Above Ordnance Datum (m AOD). The topographic survey can be seen in [Appendix B](#).
- 3.2.2 Further review of topographical shows site levels to be lowest at the east of the site near the Meltham Dike, while greatest levels are located at the south of the site. A general fall in gradient towards the east of the site is observed across the site.

3.3 GEOLOGY AND GROUND CONDITIONS

- 3.3.1 British Geological Survey (BGS) Open Geoscience website indicates that the south of the site is underlain by Huddersfield White Rock-Sandstone with no overlying superficial deposits. The centre contains is underlain by Rossendale Formation-Mudstone and siltstone. The centre of the site is also underlain by Rossendale Formation-Mudstone and siltstone with overlying superficial deposits of Alluvium-Clay, sand and gravel. The north of the site is underlain by Rossendale Formation-Mudstone and siltstone with no overlying superficial deposits.
- 3.3.2 The BGS website information indicates that there is no borehole record located in close proximity to the site.
- 3.3.3 As indicated by aerial imagery, the previously developed site consists of areas of hardstanding which make up approximately 60% of the site, with the remainder consisting of grass land consisting of light vegetation.
- 3.3.4 Information obtained from the Cranfield University's Soilscape website indicates that the site is located in an area classified as being Soilscape 6, which is defined as having freely draining slightly acid loamy soils.

3.4 HYDROGEOLOGY

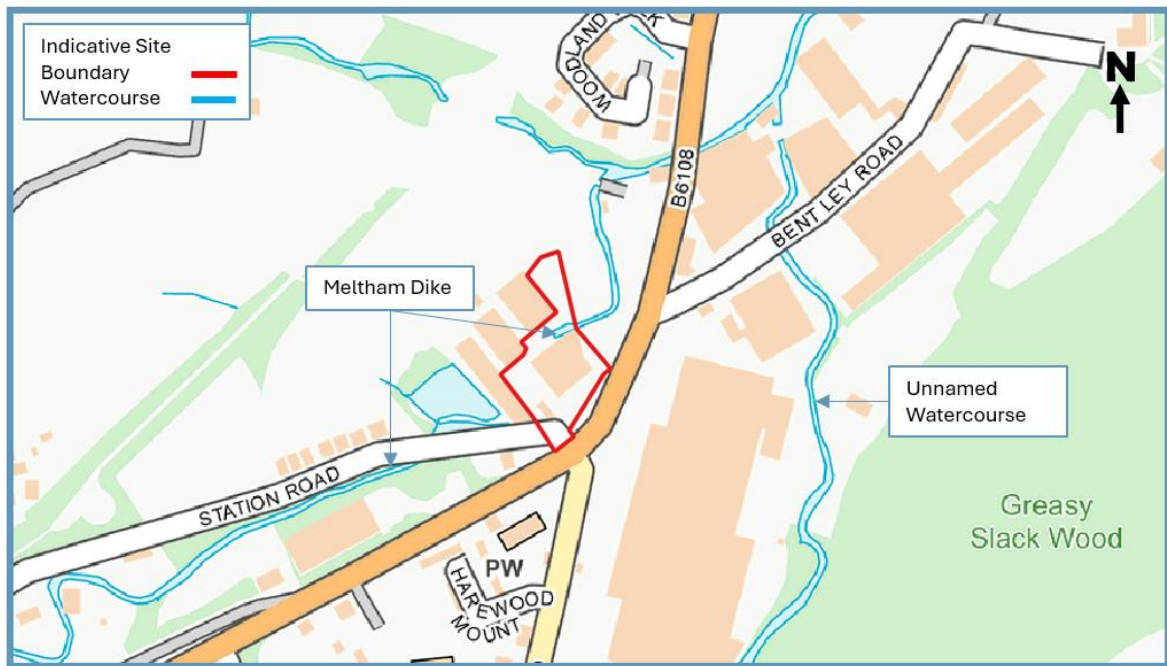
- 3.4.1 According to the Department for Environment, Food and Rural Affairs (DEFRA) MAGIC map, the site is indicated as not being located in a Groundwater Source Protection Zone (SPZ), as defined by the Environment Agency (EA) for the protection of a potable groundwater supply.

- 3.4.2 The site is located as being in an area of medium-high groundwater vulnerability with a small area in the southwest of the site being in an area of high groundwater vulnerability. The site is located above a Principal bedrock with an overlying Principal superficial aquifer.

3.5 HYDROLOGY

- 3.5.1 The Meltham Dike is culverted through the site and flows in a northwestern direction, before opening up at a point in the east of the site. There is an unnamed watercourse located approximately 150m to the east of the site at its closest point.
- 3.5.2 The EA's Catchment Data Explorer website indicates that the site resides within the Colne and Holme operational catchment and the Mag Brook from Source to River Holme sub catchment.

Figure 3-2 Watercourse Location



4 POTENTIAL FLOOD RISK

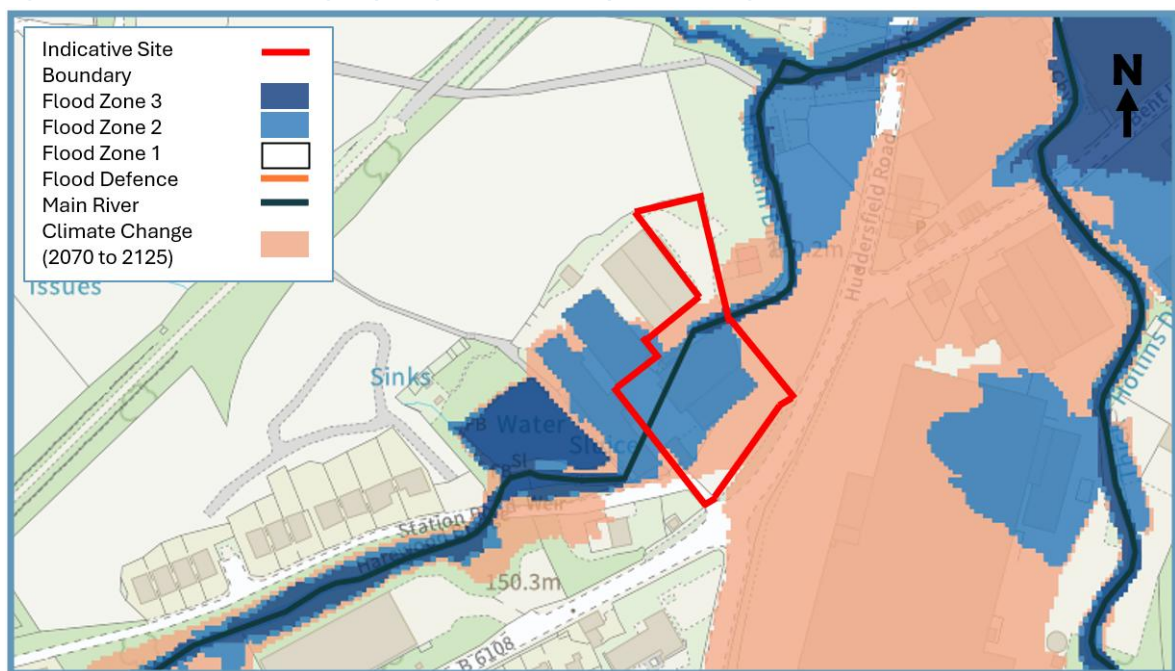
4.1 SOURCES OF FLOODING

- 4.1.1 This report is to consider flood risk from all potential sources. [Section 5](#) then discusses in further detail the probability of flooding, any potential impacts and necessary mitigation, where required.

4.2 ENVIRONMENT AGENCY FLOOD ZONES

- 4.2.1 The EA Flood Map for Planning shows the site is located within Flood Zones 1, 2 and 3. Flood Zone 1 is designated as land assessed as having less than 1 in 1,000 annual probability (<0.1%) of river or sea flooding in any one year. Flood Zone 2 is designated as land assessed as having between a 1 in 100 and 1 in 1,000 annual probability (1% - 0.1%) of river flooding, or between a 1 in 200 and 1 in 1,000 annual probability (0.5% - 0.1%) of sea flooding in any one year. Flood Zone 3 is designated as land assessed as having a 1 in 100 great annual probability (>1%) of river flooding, or a 1 in 200 year or greater annual probability (>5%) of sea flooding in any one year.
- 4.2.2 This potential fluvial/coastal flood risk to the site has been illustrated in [Figure 4-1](#). This also shows areas at the edge of Flood Zones 2 and 3 which are anticipated to become a flood zone in the future, under the impacts of climate change.

Figure 4-1 Environment Agency Long Term Flood Map for Planning



4.3 FLUVIAL AND COASTAL FLOODING

- 4.3.1 It is necessary to consider the risk of fluvial and coastal flooding at the site during both present times and with the impacts of climate change. Therefore, the EA Long Term Flood Risk Map for fluvial and coastal flooding between the years 2036 and 2069 has been presented below in [Figure 4-2](#). This figure indicates that the majority of the site is at very low risk of fluvial and/or coastal flooding. The remainder of the site is at low to high risk of surface water flooding.

Figure 4-2 Environment Agency Long Term Flood Map – Rivers and Sea – Yearly Chance of Flooding between 2036 and 2069



- 4.3.2 As the site is situated in Flood Zones 2 and 3 additional flood data was requested from the EA on the 9th of January 2026 and was not received at the time of writing this report. Data from the 2020 Colne, Holme and Tribs model that covers the site has been used to assess the flood risk at the site.
- 4.3.3 The 2020 Colne, Holme and Tribs model for Meltham includes the following undefended scenarios: 1in2year, 1in5year, 1in10year, 1in20year, 1in25year, 1in30year, 1in50year, 1in75year, 1in100year, 1in100year + 20% climate change, 1in100year + 30% climate change, 1in100year + 50% climate change, 1in200year, 1in1000year, and 1in1000year + 20% climate change.
- 4.3.4 As the site is situated in Flood Zones 2 and 3 and is classified as less vulnerable being an industrial development, the central allowance should be used in applying climate change to the assessment of the site.
- 4.3.5 The proposals for the site are a replacement industrial building and as such a baseline flood event of 1in100year + 30% climate change will be used in assessing the flood risk at the site and outlining appropriate mitigation measures where necessary.

Defences

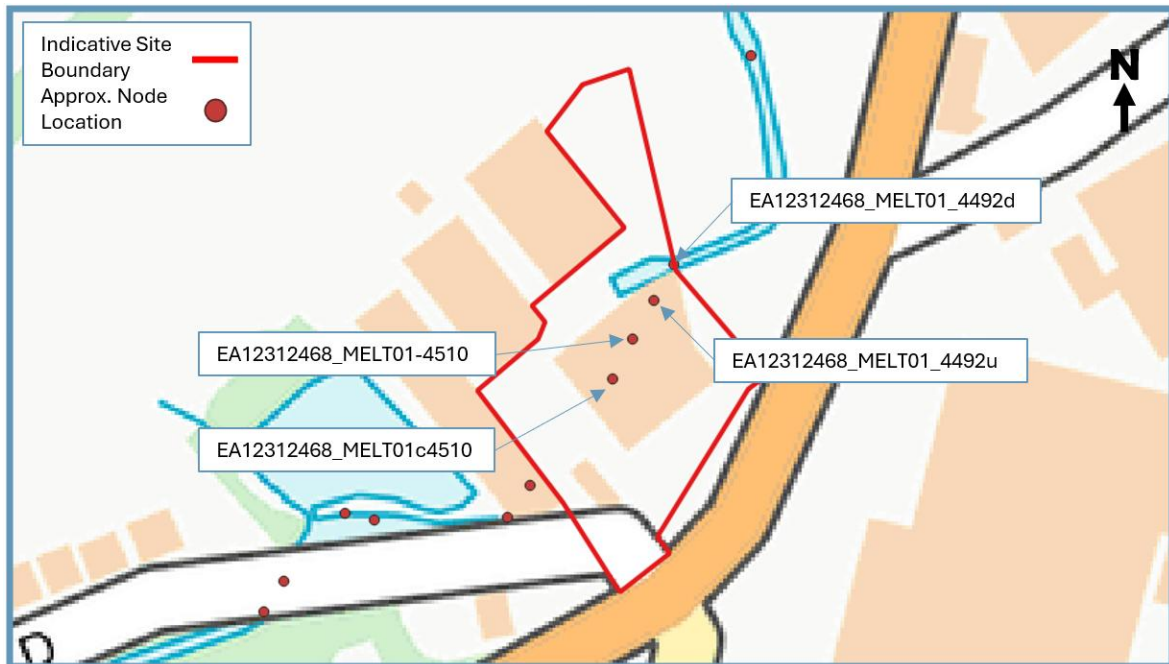
- 4.3.6 As shown in [Figure 4-1](#), there is no formal flood defences along the Meltham Dike near the site.
- 4.3.7 The EA AIMS Spatial Flood Defence information shows that there is natural high ground located within the site adjacent to the Meltham Dike. However, these defences have been considered and rejected from the Flood Map for Planning.
- 4.3.8 As such, the site shall be assessed against an undefended scenario.

Fluvial

- 4.3.9 The model data available for Meltham only includes a model flood outline for the fluvial scenarios, and does not provide any depth information. As such, node data shall be used to assess the fluvial risk to the site.
- 4.3.10 There are 4 nodes located within the site boundary, three located under the replacement industrial building in the culverted part of the Meltham Dike and one within the open waters of the Meltham Dike. The node locations are shown below in [Figure 4-3](#). The node references are: EA12312468_MELT01c4510, EA12312468_MELT01_4510, EA12312468_MELT01_4492u, and

EA12312468_MELT01_4492d. The levels for a 1in100year + 30% climate change for each note are 140.76, 140.63, 140.62, and 139.98 mAOD respectively.

Figure 4-3 2020 Colne, Holme and Tribs model – Meltham Node Location

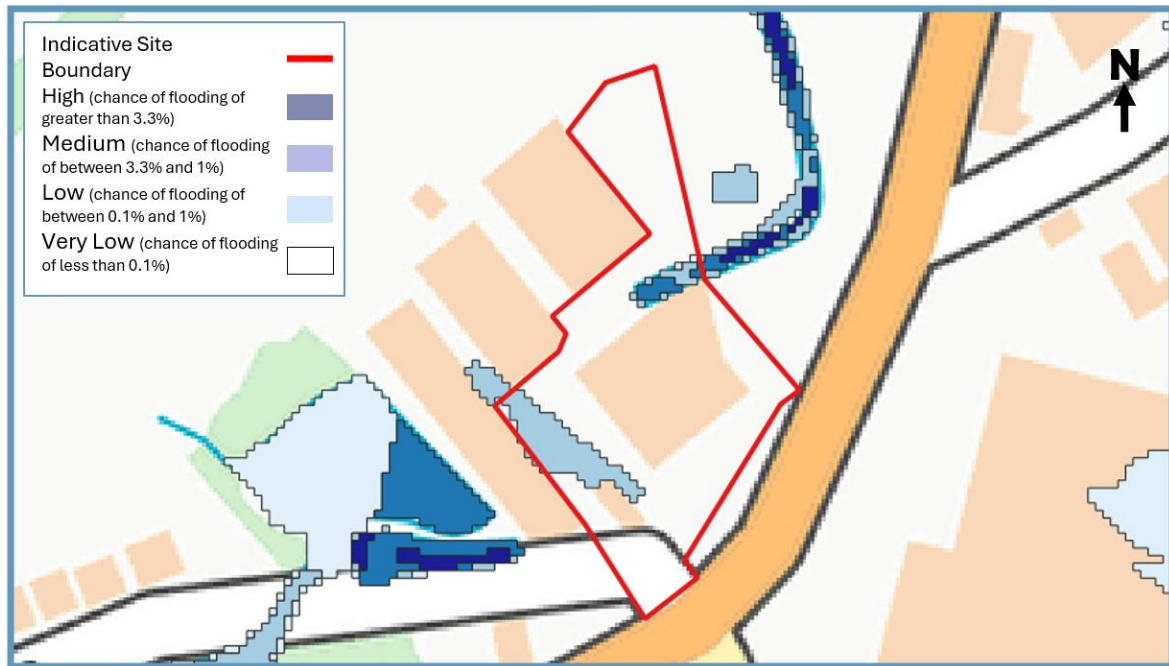


- 4.3.11 As three culverts are within the culvert and under the existing building, there is no level information available on the topographic survey to be able infer depths using the node data. The only node point with corresponding topographic levels is EA12312468_MELT01_4492d.
- 4.3.12 When comparing the flood levels to the topographic information for node EA12312468_MELT01_4492d, for a 1in100year + 30% climate change undefended fluvial scenario the depth is 1.32m within the watercourse.

NaFRA2

- 4.3.13 The NaFRA2 models include both local detailed modelling and the improvements to the new national model. Using the information from the NaFRA2 model provided by the EA, the majority of the site is at low risk of flood depths reaching 0.3m. There is a small area associated with the Meltham Dike that is at high risk of flood depths reaching 0.3m, which is located approximately along the northern of the proposed replacement building. These areas are at very low to medium risk of flood depths reaching 1.2m, as shown in [Figure 4-4](#).
- 4.3.14 When comparing the maximum depth of 1.2m against the topographic survey, the maximum flood level is 141.61 mAOD.

Figure 4-4 Risk of Flooding from Rivers and Sea – Climate Change – Risk of Depths Reaching 1.2m



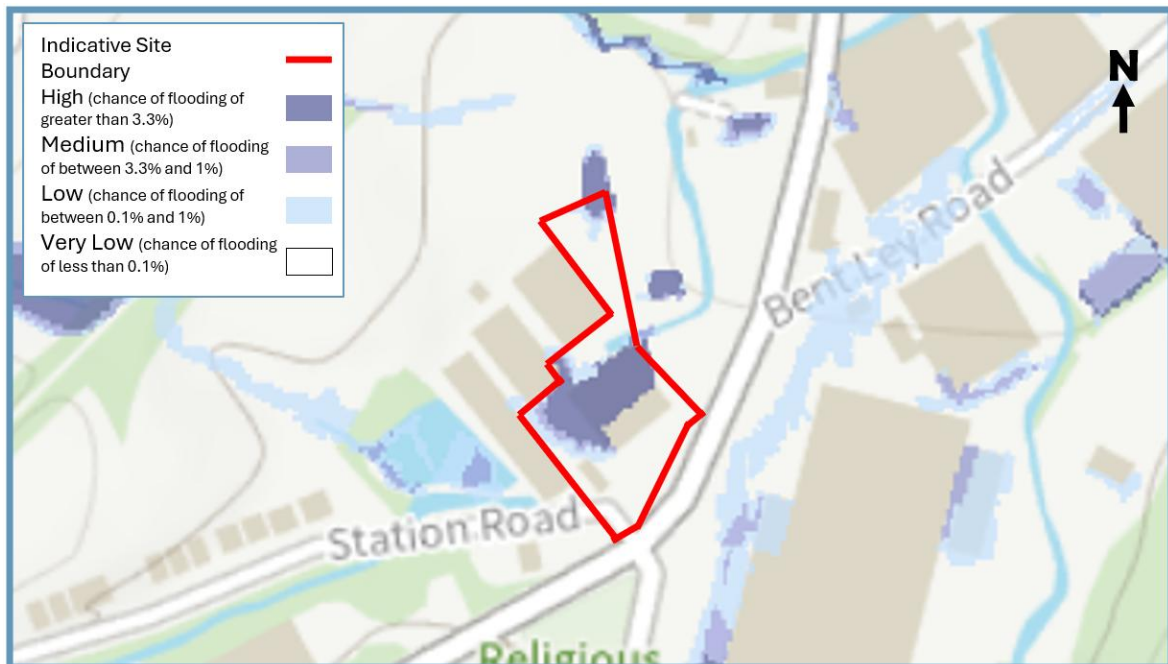
Conclusion

- 4.3.15 The EA data from the 2020 Colne, Holme and Tribs model shows that for a 1in100year + 30% climate change scenario, the maximum flood depth expected on site is 1.32m. The flood level is 139.98 mAOD.
- 4.3.16 Using the NaFRA2 model, the maximum flood depth expected on site is 1.2m. The flood level is 141.61 mAOD.
- 4.3.17 Though the depths are greater in the 2020 Colne, Holme and Tribs model, the flood level is lower than the NaFRA2 model due to the node being located in-channel of the Meltham Dike. As such, the site will be assessed and mitigated against the worst-case scenario of a flood level of 141.61 mAOD, as described in the NaFRA2 model.

4.4 PLUVIAL (SURFACE WATER) FLOODING

- 4.4.1 Similarly to that discussed in [Section 4.3](#), the impacts of climate change on the potential for surface water flooding should be considered within the assessment of the flood risk at the site. The EA Long Term Flood Risk Map for surface water flooding between the years 2040 and 2060 is shown below in [Figure 4-5](#). This figure shows that the majority of the site is located in an area at very low risk of surface water flooding, with the remainder being located in an area at low to high risk of surface water flooding.
- 4.4.2 The areas at very low risk have less than 0.1% chance of flooding annually. The areas at low risk have between 0.1% and 1% chance of flooding annually. The areas at medium risk have between 1% and 3.3% chance of flooding annually. The areas at high risk have more than 3.3% chance of flooding annually.
- 4.4.3 The majority of the site is at very low to low risk of pluvial flood depths reaching 0.3m. There are some small areas that are at medium risk of pluvial depths reaching 0.3m
- 4.4.4 As the proposed development of the site may potentially reduce the overall site permeability and potentially increase surface water run-off rates and volumes, the surface water discharge controls must ensure that any proposal for drainage, or discharge, does not adversely impact upon downstream drainage infrastructure or offsite receptors.
- 4.4.5 The site is therefore considered to have medium potential risk of flooding from pluvial sources.

Figure 4-5 Environment Agency Long Term Flood Risk Map – Pluvial (Surface Water) Flooding – Yearly Chance of Flooding between 2040 and 2060



4.5 GROUNDWATER FLOODING

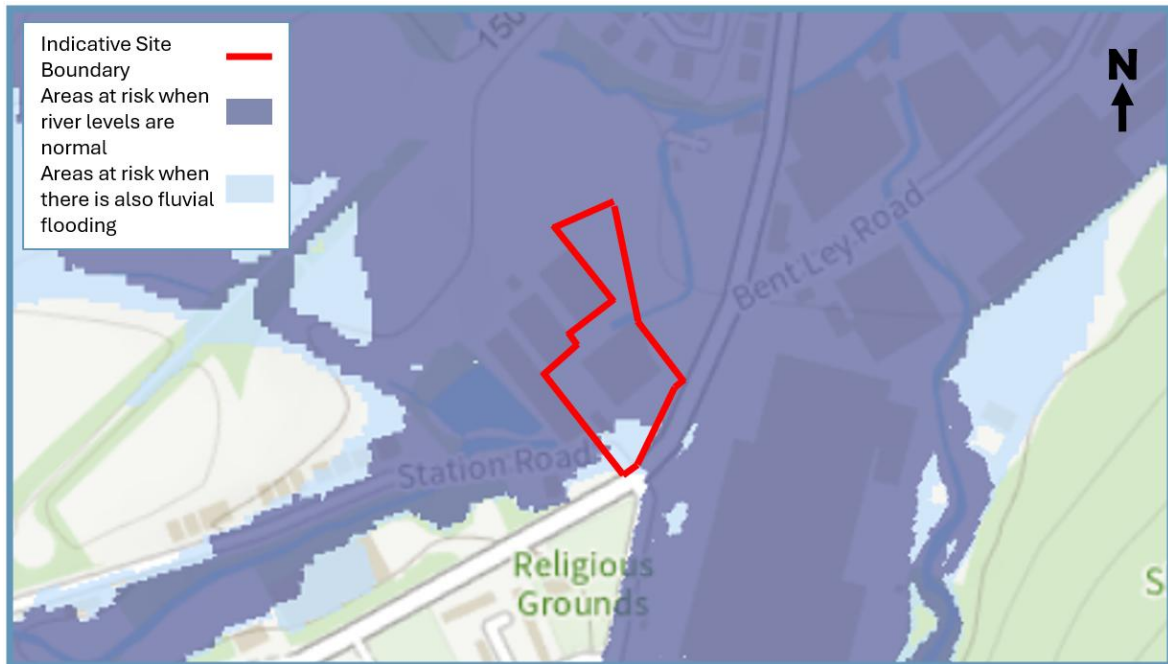
- 4.5.1 Ground conditions at the site consist of freely draining slightly acid loamy soils, therefore the propensity for groundwater emergence at the site is considered to be medium, and the potential risk of groundwater emergence affecting the site development is considered to be low.
- 4.5.2 However, given the impermeable nature of the proposed site's hardstanding areas subsequent to development, potential elevation of groundwater or groundwater emergence within the superficial geology causing flooding within the site post-development will be largely eliminated. Likewise, noting the fall in gradient towards the watercourse, any emerging ground water would be directed away from the proposed development area and discharge into the Meltham Dike.
- 4.5.3 According to the Calder Catchment Level 2 SFRA groundwater flooding map presented in [Appendix C](#), the site is between 50% and 75% susceptible to groundwater flooding.
- 4.5.4 During long periods of heavy rainfall, the water table within an area can rise above the natural ground level, resulting in groundwater flooding. The site is located above a principal bedrock aquifer. This signifies permeable layers which would allow infiltration of water up through the soil.
- 4.5.5 Site specific investigations should be able to prove the presence of ground water and propose remedial mitigation where required. Flood risk to the proposed development due to groundwater emergence is therefore considered to be low.
- 4.5.6 Flood risk to the proposed development due to groundwater emergence is considered to be low provided that all reasonable and practicable mitigation measures for any subsurface construction associated with the development are adhered to.

4.6 FLOODING FROM ARTIFICIAL SOURCES

- 4.6.1 In accordance with information taken from the EA Long Term Flood Risk information, the site and its surroundings are at risk of flooding from reservoir failure, as shown below in [Figure 4-6](#). This is a result of the failure of one of the following reservoirs; Deerhill and Blackmoorfoot. Flows will be slowed by intervening greenfield and agricultural land, as well as existing infrastructure and developments.

- 4.6.2 In addition, reservoirs and canals are regularly maintained by relevant local authorities and failure is extremely unlikely. Therefore, the potential risk of flooding from reservoir failure is considered to be low.

Figure 4-6 Environment Agency Long Term Flood Risk Map – Artificial Sources



4.7 FLOODING FROM SEWERS

- 4.7.1 As the site is an existing industrial development, it is assumed that there are existing sewers within the site. The client has not informed AMA of any instances of historic flooding within the site, so it can be assumed that there is low risk of sewer flooding.
- 4.7.2 The Kirklees SFRA does not state if any sewer flooding has occurred in proximity to the site.

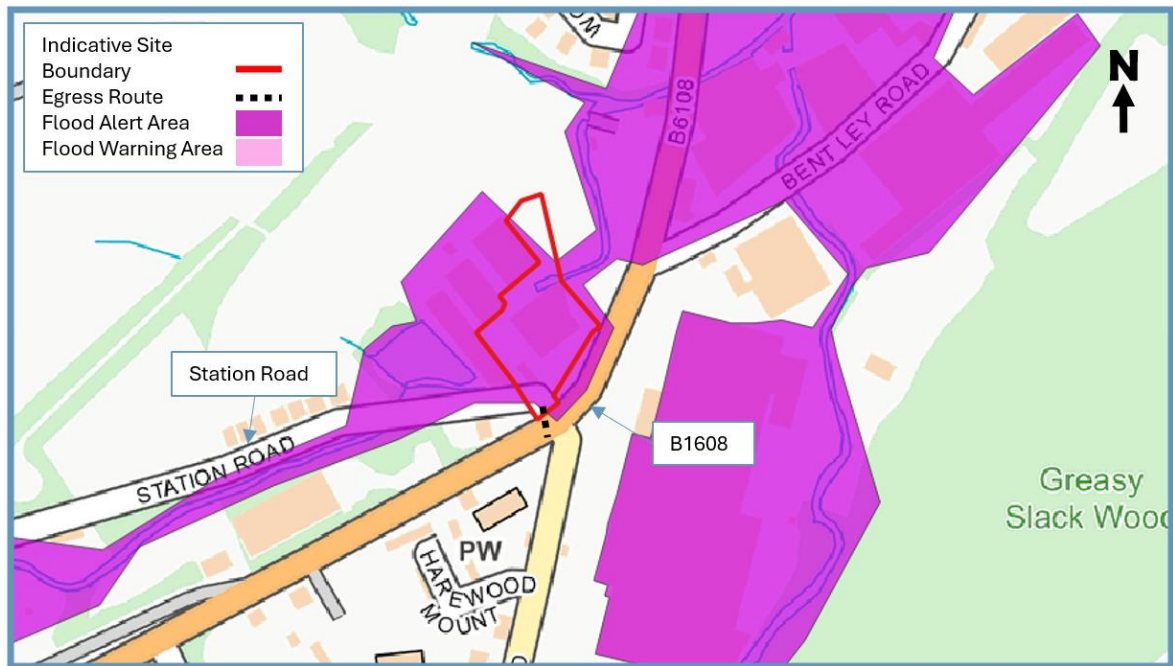
4.8 HISTORIC FLOODING

- 4.8.1 The EA historic flood map shows the site to not have experienced historic flooding.
- 4.8.2 A review of the Kirklees SFRA confirms the EA historic flood mapping and indicates that the site has not experienced any historic flooding.

4.9 FLOOD WARNING AND ALERT AREAS

- 4.9.1 The site is located in an EA Flood Alert area (**Figure 4-7**). Flood warning areas are defined as areas where flooding can be expected to occur from rivers or the sea and in some areas or from groundwater during a predicted scenario. Flood Alert areas are defined as areas where it is possible for flooding to occur from rivers, sea, and in some locations groundwater during a predicted scenario.
- 4.9.2 Properties and businesses within this area can sign up to receive free flood alerts via email and text to inform them upon the risk of flooding prior to flood events (Available: <https://www.gov.uk/sign-up-for-flood-warnings>). It is recommended that client does so as part of the future site flood risk management for this area.
- 4.9.3 In the scenario where a Flood Warning or Flood Alert is issued, the closest accessible land not located within a Flood Warning and Flood Alert area is approximately 10m south of the site. Emergency access and egress can be provided to this point via Station Road.
- 4.9.4 A Flood Emergency and Evacuation Plan has been provided by AMA for the proposed development in **Appendix D**.

Figure 4-7 Environment Agency Flood Warning and Alert Areas



5 FLOOD RISK ASSESSMENT

5.1 FLOOD RISK PLANNING POLICY

National Planning Policy Framework

- 5.1.1 The National Planning Policy Framework (NPPF) sets out the Government's national policies on different aspects of land use planning in England in relation to flood risk. Planning Practice Guidance is also available online.
- 5.1.2 The Planning Practice Guidance sets out the vulnerability to flooding of different land uses. It encourages development to be located in areas of lower flood risk where possible and stresses the importance of preventing increases in flood risk off site to the wider catchment area.
- 5.1.3 The Planning Practice Guidance also states that alternative sources of flooding, other than fluvial (river flooding), should also be considered when preparing a Flood Risk Assessment.
- 5.1.4 This Flood Risk Assessment is written in accordance with the NPPF and the Planning Practice Guidance.
- 5.1.5 The EA Flood Map for Planning locates the site within Flood Zones 1, 2 and 3. Flood Zone 1 is land assessed as having less than 1 in 1,000 annual probability (<0.1%) of river or sea flooding in any one year. Flood Zone 2 is land assessed as having between a 1 in 100 and 1 in 1,000 annual probability (1% - 0.1%) of river flooding, or between a 1 in 200 and 1 in 1,000 annual probability (0.5% - 0.1%) of sea flooding in any one year. Flood Zone 3 is land assessed as having a 1 in 100 greater annual probability (>1%) of river flooding, or a 1 in 200 or greater annual probability (>0.5%) of sea flooding in any one year.
- 5.1.6 The flood map extents indicated on this map show the potential for flooding from fluvial and coastal sources, and although they are indicative, they are a key tool in defining the appropriateness of a development type or the requirement for further assessment.
- 5.1.7 Under the NPPF (2024), Flood Zone 1, 2, and 3 is defined as having a low to high probability flood risk. The proposed development includes a replacement industrial building, which are defined within Table 2 of the NPPF technical guidance as being 'Less Vulnerable'. Therefore, according to the criteria in Table 3 of the NPPF Technical Guidance (Flood Risk Vulnerability and Flood Zone 'Compatibility'), the proposed development may be deemed as 'Appropriate'.

5.2 SEQUENTIAL AND EXCEPTION TEST

- 5.2.1 Both the NPPG and the SFRA require the 'Sequential Test' to be applied to ensure that proposed developments are carried out in area that are at the least risk of flooding, before considering development in areas that are at risk of flooding. The entirety of the proposed building falls within Flood Zones 2 and 3 and is considered to come under the 'Less Vulnerable' category as an industrial development.
- 5.2.2 Based on Table 3 in the National Planning Practice Guidance for Flood Risk and Coastal Change, the proposed replacement building is acceptable due to it being located in Flood Zone 2 and 3 and an Exception Test is not required.

Table 5-1 Development Appropriateness Based on Vulnerability and Flood Zone

Flood Risk Vulnerability Classification	Essential Infrastructure	Water Compatible	Highly Vulnerable	More Vulnerable	Less Vulnerable
Flood Zone 1	✓	✓	✓	✓	✓
Flood Zone 2	✓	✓	Exception test required	✓	✓
Flood Zone 3a	Exception test required	✓	x	Exception test required	✓
Flood Zone 3b	Exception test required	✓	x	x	x

5.3 CONCLUSION

- 5.3.1 In light of this assessment against the sites applicable flood zone (Flood Zones 2 and 3), further assessment against the sequential or exception test is not required due to the proposals being to replace the existing industrial building. This should be confirmed with the LPA prior to development of the site.
- 5.3.2 **Table 5-2** summarises the pre mitigation flood risk associated with the site as well as the impacts of the flood risk on the wider catchment prior to mitigation. The mitigation measures proposed to address flood risk issues and ensure the development is appropriate for its location are discussed within **Section 6**.

Table 5-2 Pre-Mitigation Flood Risk Summary

Sources	Probability of Flood Risk	Impacts	Description
Tidal	N/A	N/A	The site is located inland and therefore, is not tidally influenced.
Fluvial	Medium	Medium	The proposed development is located in Flood Zones 2 and 3, with a maximum flood level of 141.61 mAOD.
Surface Water (Pluvial)	High	Medium	Review of information from multiple sources (EA, LLFA) reveals evidence of surface water flooding along the centre of the site. These areas are at medium risk of flood depths of 0.3m
Groundwater	Medium	Low	The site is shown to be at risk of ground water flooding; however, given the hard standing nature of the site following development, ground water emergence at the site will be limited.
Artificial Sources	Very Low	Low	While the site is shown to experience flooding in the event of reservoir / canal failure, these occurrences are very unlikely as these structures are regularly maintained by relevant local authorities.
Sewers	Very Low	Very Low	The risk of flooding from the surcharging of sewers is considered to be low.
Effect of development on wider catchment	Very Low	Very Low	The impermeable area of the site is being altered.

- 5.3.3 Based on the assessable information presented, the site is considered to meet the requirements of the NPPF, given the assessed potential flood risk posed from all applicable sources, the means of adopting suitable mitigation measures to prevent increase in the potential for flood risk and based on the

vulnerability of the development type. Further consideration of necessary surface water run-off mitigation measures will be provided, so as to address the potential for increase of surface water arising from the proposed development of the site.

6 FLOOD RISK MITIGATION

6.1 INTRODUCTION

- 6.1.1 **Section 4** has identified the sources of flooding which could potentially pose a risk to the site and the proposed development. This section of the FRA sets out the mitigation measures which are to be considered within the proposed development detail design to address and reduce the risk of flooding to within acceptable levels.
- 6.1.2 In accordance with the worst-case scenario from both the EA national model and the local model provided by the EA, the site is at risk of experiencing fluvial flood depths of 1.2m during a 1in100year plus climate change event. Although the local model shows there to be a larger depth, the node data is located within the Meltham Dike, so produces a lower flood level. As such, mitigation measures will be based on the worst-case flood level of 141.61 mAOD.
- 6.1.3 Under these conditions, a development in an area with this level of flood risk needs to be further assessed (and approved) through either:
- ▶ Raising land to create high ground, without adversely affecting existing flood management.
 - ▶ Setting the flood level, where practicable/feasible, sufficiently high as to not be affected by the flood.
 - ▶ Providing details on building construction to further protect the development through the Water Entry Strategy.
- 6.1.4 With regard to the possibility of raising the land, the worst-case flood depth for the site is 1.2m along the northern boundary of the proposed development, meaning that it would not be practicable to raise ground levels high enough to avoid this flood risk. Therefore, alternative mitigation methods should be considered.
- 6.1.5 It is recommended that the finished floor levels of the building are set at 0.15m above adjacent ground level, in order to reduce the flood depths within the building, and protect the building against smaller flood events. However, during a worst-case flooding scenario, there will still be a flood depth of 1.05m within the development, based on the levels available in the topographic survey.
- 6.1.6 Therefore, further mitigation measures must be provided through construction methods and materials. Flood mitigation measures will only be used against the building as the rest of the site will be allowed to flood during a flood event. This would create a more flood resilient site over its lifetime, as the occupants will be safer without having to rely on the deployment of full flood management measures.
- 6.1.7 According to the EA document 'Improvement the Flood Performance of New Buildings', for flood depths greater than 0.60m, as predicted at the site, it is likely that structural damage could occur in traditional masonry construction due to excessive water pressures (differential head outside and inside of the unit).
- 6.1.8 In these circumstances, the strategy should be to allow water into the building (The Water Entry Strategy). This should apply irrespective of the flood duration or frequency. The key consideration here is the use of materials that retain their structural integrity but allow the passage of water. Materials should also have good drying and cleaning properties.
- 6.1.9 As the maximum flood depth is predicted to be 1.2m, electrical fittings would be sacrificial with them being wired top down with waterproof sockets. In addition, place fittings such as heating units and ovens will be as high as practical above the floor to minimize the risk of being affected by flood water a smaller flood event. Furthermore, to allow for effective drainage and cleaning, gaps at the back of individual units will be allowed to facilitate drainage and will allow access for forced drying.
- 6.1.10 Non-return valves will be placed within the drainage system to prevent back-flow of diluted sewerage along with all water, electricity and gas meters located as high as possible with the boiler unit and

ancillary devices. Any wiring for heaters, ovens, lighting, and other services will be protected by suitable insulation in the distribution ducts to prevent damage.

- 6.1.11 During the detail design, materials that can dry quickly whilst retaining their integrity should be specified. Soft hand-made bricks would not be appropriate but standard cavity masonry wall construction ('brick - concrete block – gypsum plasterboard') is likely to be adequate provided closed cell insulation is used. The gypsum plasterboard up to 1.2m above flood level, if fixed horizontally, could be removed after the flood to aid in the drying process.
- 6.1.12 It is further considered that specific materials and design of applicable mitigation measures may be based on the proposals within this Flood Risk Assessment however, these will be further developed and appraised as part of the future detailed design. Site specific provisions and plans which illustrate the proposed flood resilience and mitigation measures to be adopted may be conditioned as part of any approval, and subsequently provided at the detailed design stage.

6.2 EFFECT OF DEVELOPMENT ON WIDER CATCHMENT

- 6.2.1 The current site is considered to be brownfield due to the existing industrial development on site. As the proposals are for a replacement industrial building, the risk to the proposed development is no higher than is currently faced by the existing building.

7 SUMMARY

- 7.1.1 The proposals for the site are for industrial use, consisting of a replacement industrial building.
- 7.1.2 The site is in an area identified as having a low to high probability of flooding on the EA Flood Map and is located in Flood Zones 1, 2 and 3.
- 7.1.3 The 2020 Colne, Holme and Tribs model shows that a 1in100year + 30% climate change fluvial scenario has a maximum flood level of 139.98 mAOD, with a depth a 1.32m. The NaFRA2 model shows that for a 1in100year plus climate change has a maximum flood level of 141.61 mAOD, with a depth of 1.2m.
- 7.1.4 The site is also at risk of pluvial flooding, with small areas at medium risk of reaching depths of 0.3m. The site is at medium risk of groundwater flooding.
- 7.1.5 The site is not at risk of flooding from artificial sources, sewers and tidal flooding.
- 7.1.6 The site is located with a Flood Warning and Alert Area. A Flood Emergency and Evacuation Plan has been provided within the appendices of this report.
- 7.1.7 In light of this assessment against the sites applicable flood zone (Flood Zone 1, 2 and 3), further assessment against the sequential or exception test is not required due to the proposals being to replace the existing industrial building. This should be confirmed with (LPA) prior to development of the site.
- 7.1.8 In the event of a flood, the Water Entry Strategy will be adopted within the proposed building. As such, it is recommended that finished flood levels are set at a minimum of 0.15m above adjacent ground level. Further construction details can be found in [Section 6](#) of this report.

8 LIMITATIONS

- 8.1.1 This report has been prepared for exclusive use by Alistair Flatman for the purpose of assisting them in evaluating the potential constraints imposed by flood risk and drainage in making a Planning Application.
- 8.1.2 AMA accepts no liability for any use of this document other than by its client and only for the purposes, stated in the document, for which it was prepared and provided. No person other than the client may copy (in whole or in part) use or rely on the contents of this document, without the prior written permission of AMA. Any advice, opinions or recommendations within this document should be read and relied upon only in the context of the document as a whole.
- 8.1.3 AMA has endeavoured to assess all information provided to them during this appraisal. The report summarises from several external sources and cannot offer any guarantees or warranties for the completeness or accuracy of information relied upon.
- 8.1.4 This report has been undertaken with the assumption that the site will be developed in accordance with the above proposals without significant change. The conclusions resulting from this study are not necessarily indicative of future conditions or operating practices at or adjacent to the site.
- 8.1.5 A topographic survey has been completed for the site and was supplied to AMA by the client. AMA accepts no liability for the accuracy of this survey, and it is recommended that it is verified on-site prior to the commencement of any construction work.
- 8.1.6 Existing drainage information is based on third party survey data and record information which is considered to be incomplete. It is therefore recommended that a FULL drainage investigation survey is commissioned to establish the precise alignment, level, and condition of ALL existing drainage within the development site to inform the masterplan and future detailed design proposals.

APPENDICES

Appendix A Proposed Site Layout

Appendix B Topographic Survey

Appendix C Calder Catchment SFRA Groundwater Flooding Map

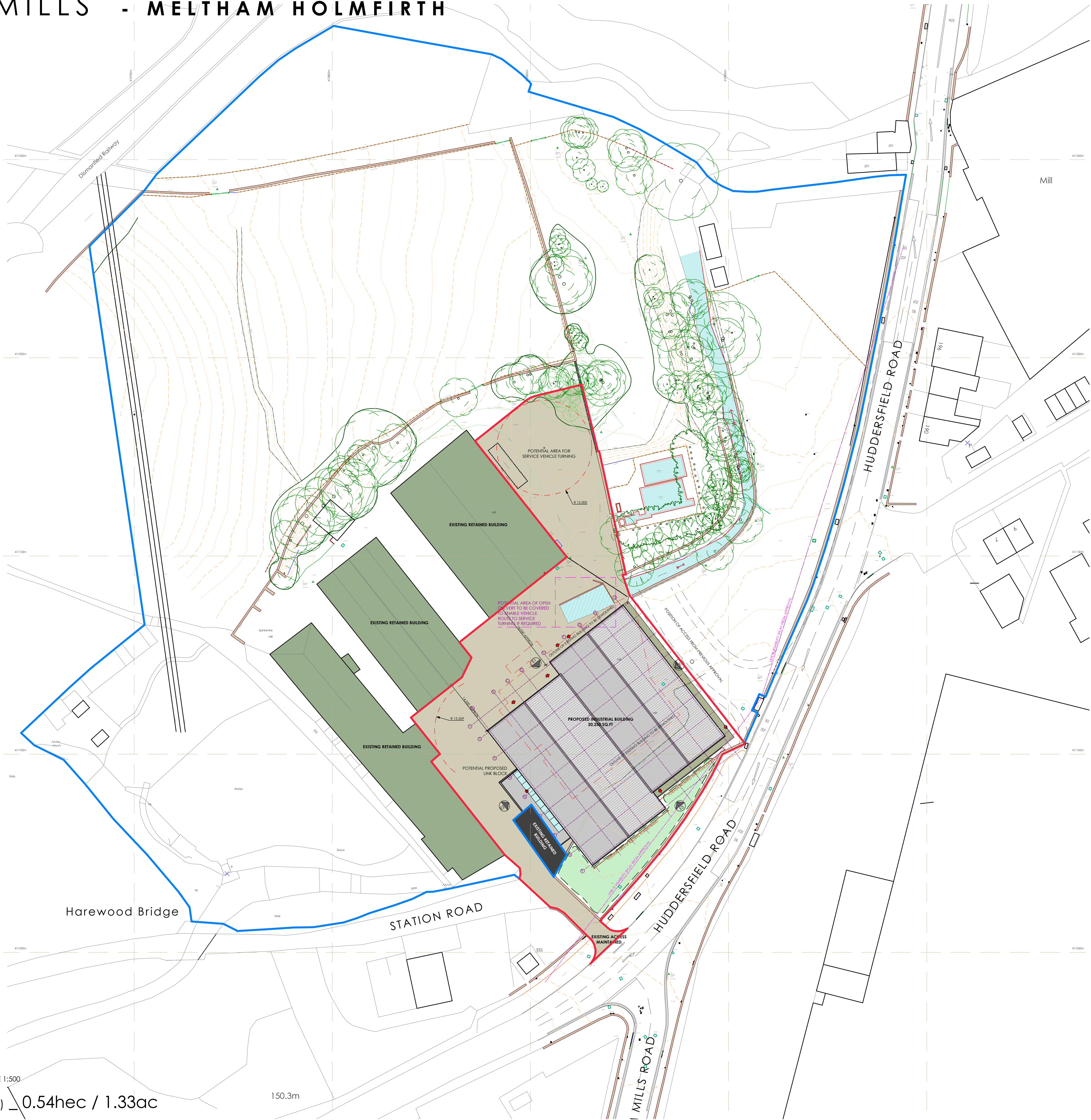
Appendix D AMA Flood Emergency and Evacuation Plan



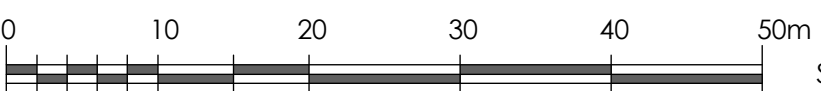
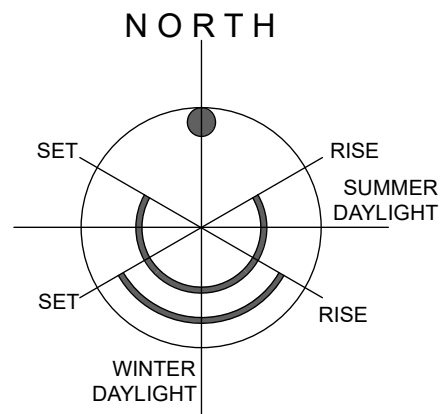
Appendix A
Proposed Site Layout

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Survey Control Co-ordinates				
Reference	East	North	Elevation	Description
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GPS02	410912.091	411120.373	142.04	Survey Station
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R02	410906.867	411158.882	139.82	Survey Station
R03	410907.387	411173.204	139.15	Survey Station



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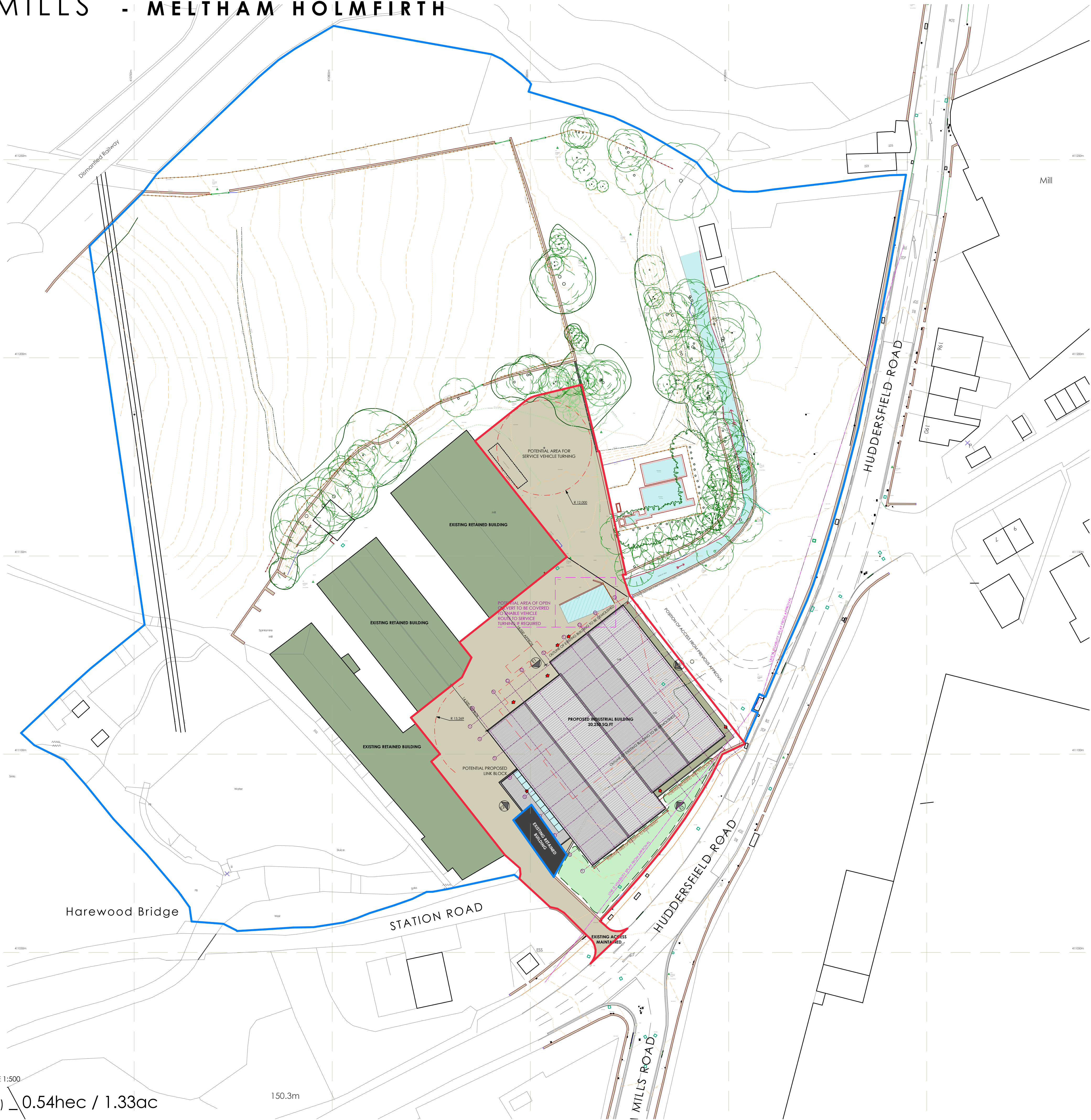
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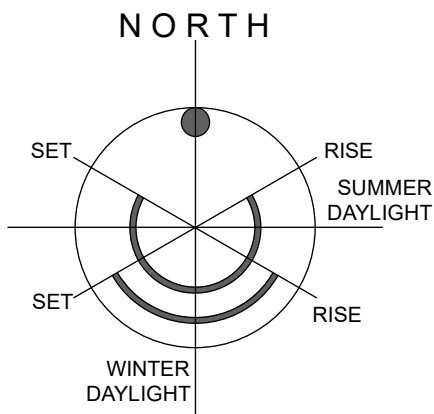


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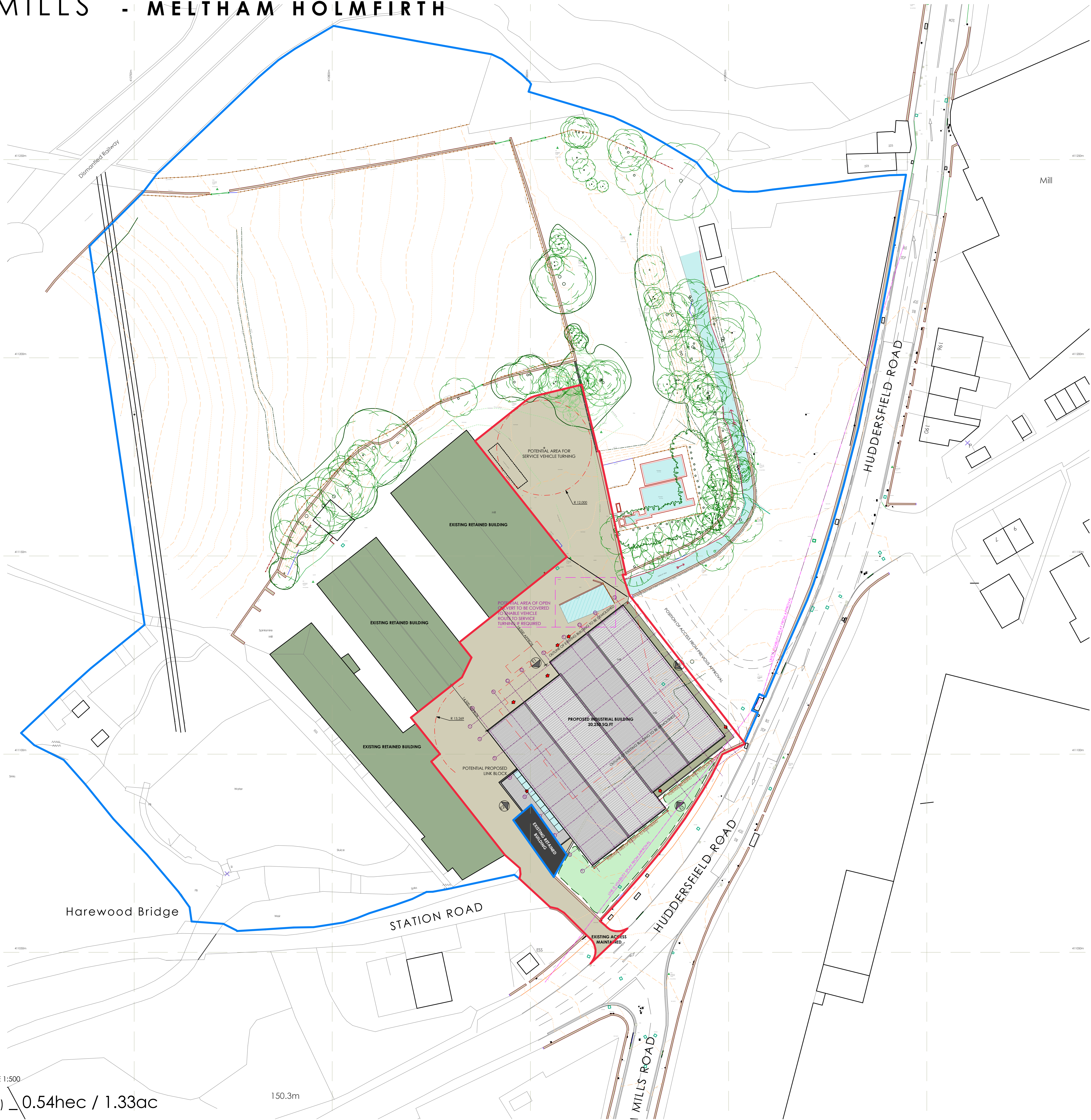
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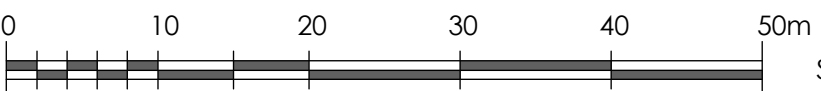
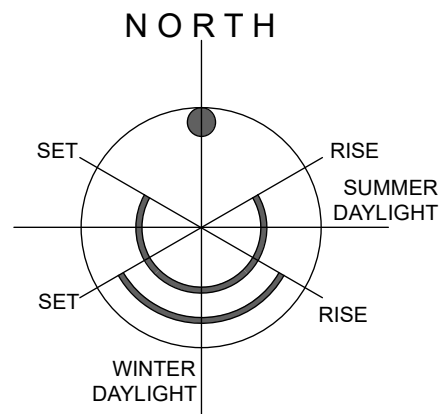
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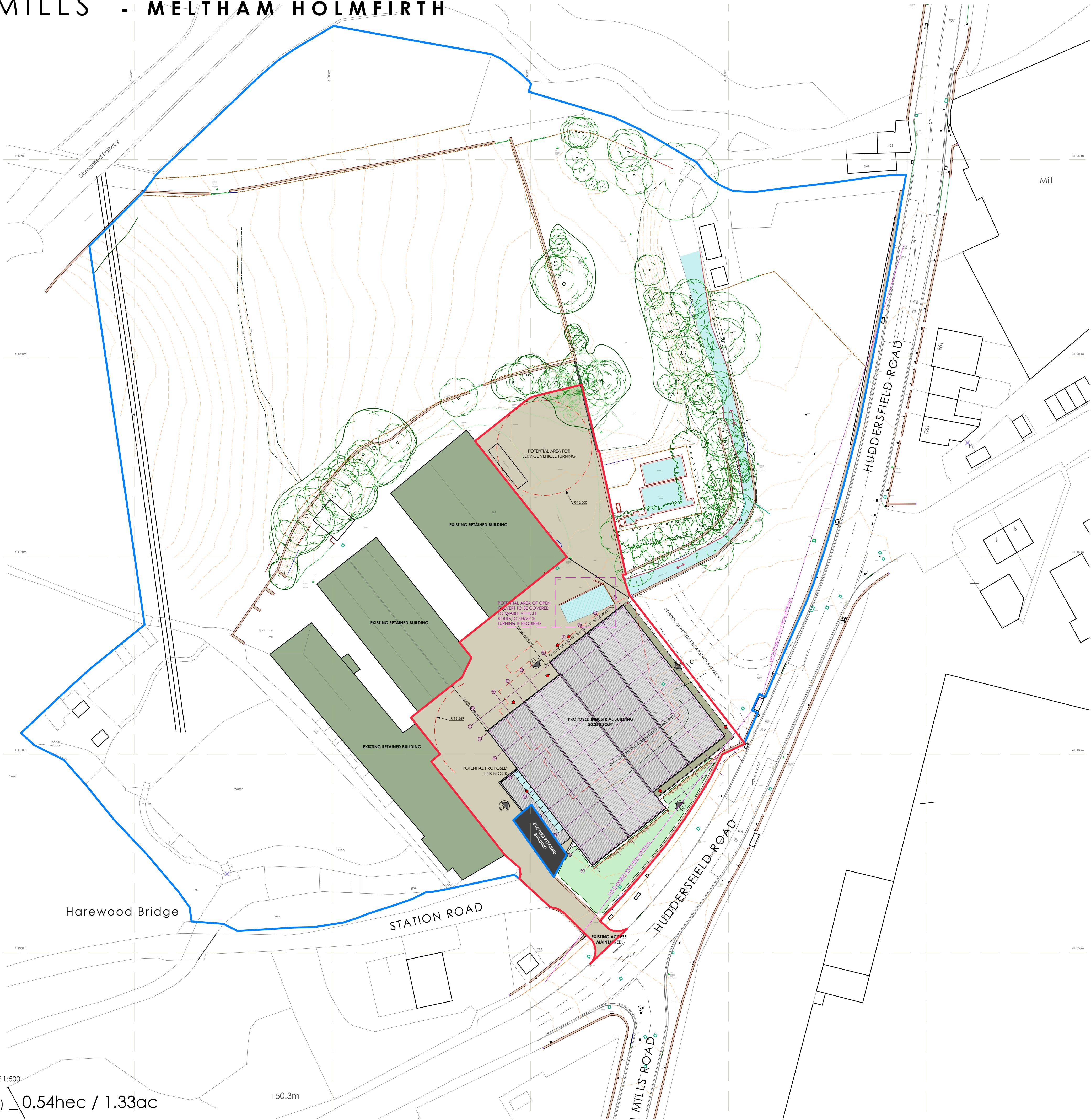
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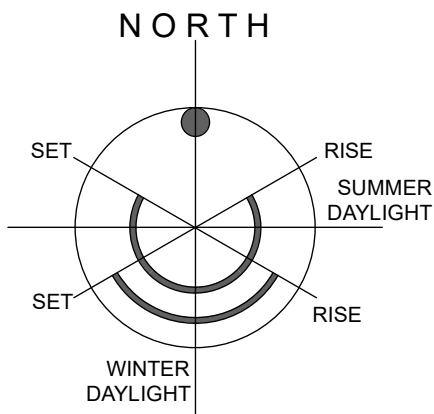


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SCALE 1:500

SITE AREA (AS DEFINED BY THE RED LINE) 0.54hec / 1.33ac

150.3m



Appendix B
Topographic Survey

- Survey instruction was to locate drainage routes and culvert location only within the survey boundary. This drawing is not a utility survey.
- All located GPR targets have been shown. GPR cannot identify utility type, some shown targets are likely not drainage routes.

The location of the six ground services shown on the drawing had been determined using electronic-navigational and GPS-related techniques and visual observations. No guarantee can be given that all services have been shown on the drawing. The relevant service drawings should be obtained from the applicable service providers company and used in conjunction with this drawing. No guarantee can be given to the accuracy and completeness of any losses that arise due to record inaccuracies shown in this drawing and no liability will be accepted for any losses that arise due to record inaccuracies in any service providers' drawings or documents. The responsibility for the correctness of the information contained in the drawings of the service providers lies with the respective service provider. In the case of any disputes, reference should be made to the latest version of Discovery Surveys Ltd the procedures document for utility location surveys.

The location of the six ground services shown on the drawing had been determined using electronic-navigational and GPS-related techniques and visual observations. No guarantee can be given that all services have been shown on the drawing. The relevant service drawings should be obtained from the applicable service providers company and used in conjunction with this drawing. No guarantee can be given to the accuracy and completeness of any losses that arise due to record inaccuracies shown in this drawing and no liability will be accepted for any losses that arise due to record inaccuracies in any service providers' drawings or documents. The responsibility for the correctness of the information contained in the drawings of the ground services shown on the drawing is determined by referring to manufacturers guidelines for the systems depicted. References should be made to the latest version of Discovery Surveys Ltd site procedures document for utility location surveys.

[illegible][illegible]

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SDC Enterprises

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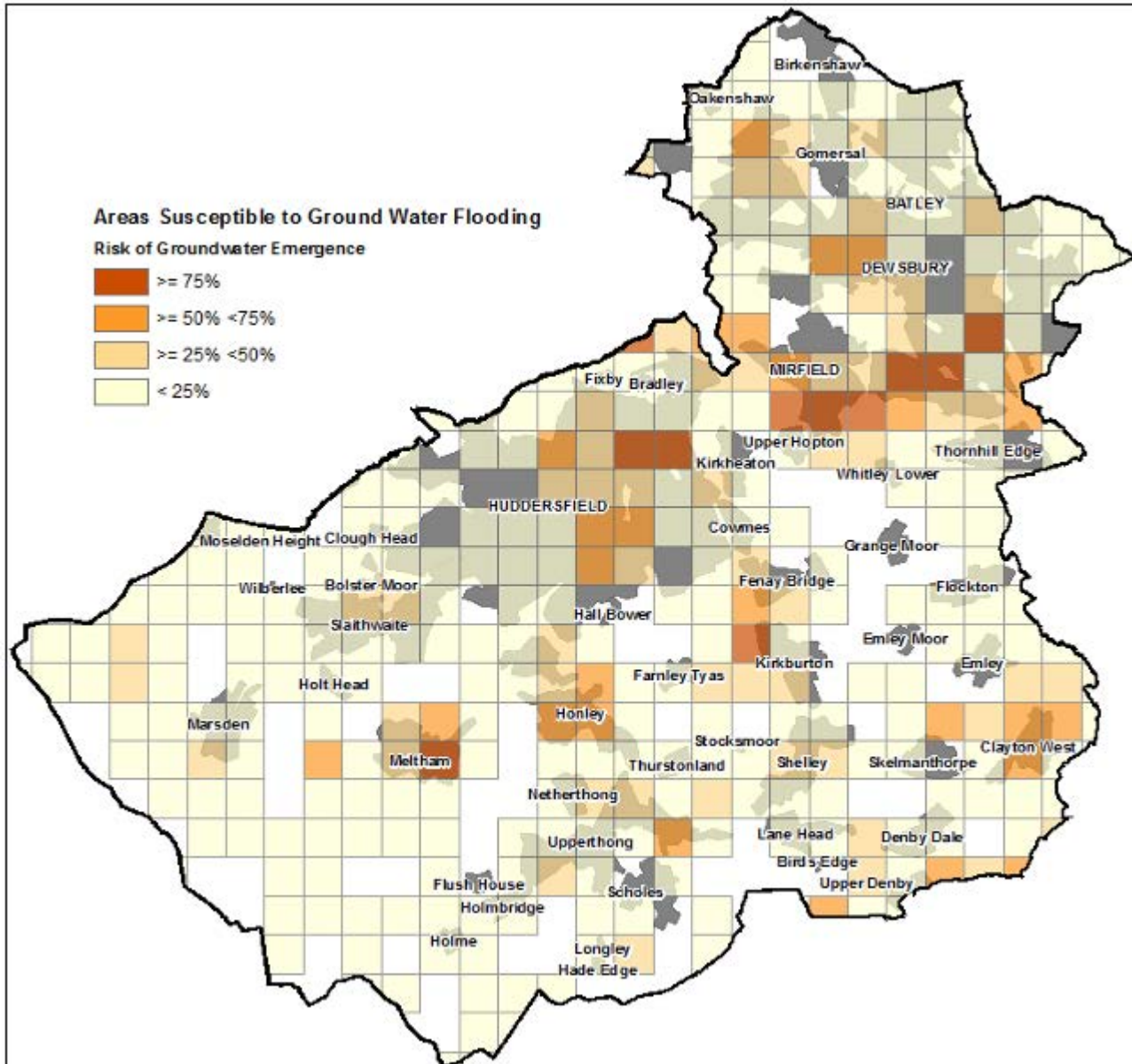
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Appendix C
Calder Catchment SFRA Groundwater
Flooding Map

Areas Susceptible to Ground Water Flooding

Risk of Groundwater Emergence





Appendix D
AMA Flood Emergency and Evacuation
Plan

Spinksmire Mills, Meltham

Flood Evacuation and Emergency Plan

January 2026

Alistair Flatman

AMA Project Number: 300606

Andrew Moseley Associates

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Leeds

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REPORT QUALITY MANAGEMENT

	First Issue	Revision 1	Revision 2	Revision 3
Remarks	Planning			
Date	January 2026			
Prepared	CS			
Checked	JE			
Authorised	GS			

REPORT PRODUCTION TEAM

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Appendix A	Proposed Site Layout
Appendix B	Topographic Survey

1 INTRODUCTION

- 1.1.1 This Flood Evacuation and Emergency Plan (FEP) has been provided at the request of Alistair Flatman, hereafter referred to as “the client”, to provide an emergency and evacuation plan in the event of a flood associated with the proposed development of Spinksmire Mills, Meltham, hereafter referred to as “the site”.
- 1.1.2 The purpose of this FEP is to:
- ▶ Identify the possible hazards posed from all major sources of flooding (fluvial, surface water, groundwater, infrastructural and coastal sources);
 - ▶ Provide a qualitative assessment of the probability of each potential flood hazard representing a constraint on the proposed development, based on the proposed land use type for the development and likelihood of flood occurrence;
 - ▶ Recommend appropriate and necessary emergency measures and additional assessments that may be required to progress the sustainable development of the site.
- 1.1.3 The FEP comprises the following:
- ▶ A desktop review of publicly available information, including information from the Environment Agency (EA) and Kirklees Council who are the Lead Local Flood Authority (LLFA) for the proposed development area; and
 - ▶ Measures to be used to keep both occupants and developments safe during a flood event.
- 1.1.4 This report further details the methodologies employed within this study and provides recommendations as to any further work or investigations required to support the development of the site through the planning application process.

1.2 REGULATORY POLICY AND LEGISLATION

- 1.2.1 This assessment has been carried out in line with the current Government legislation, the National Planning Policy Framework (NPPF) 2024.
- 1.2.2 It has been assessed with reference to the following documents and legislative guidelines:
- ▶ CIRIA 753 The SUDS Manual V8 (2018);
 - ▶ DEFRA “Flood Risk Assessment Guidance for New Developments” (2006);
 - ▶ DEFRA “Surface Water Management Plan Technical Guidance” (2010);
 - ▶ BS 8533 2017 Assessing & Managing Flood Risk in Development Code of Practice (2017);
 - ▶ BS 8582:2013 Code of practice for surface water management for development Sites (2013);
 - ▶ National Planning Practice Guidance (2012 – updated 2012);
 - ▶ C624 Development and Flood Risk – Guidance for the Construction Industry’ (2004);
 - ▶ Sewage Sector Guidance (2022);
 - ▶ Planning Policy Guidance – Flood Risk and Climate Change (2014 – updated 2022).
- 1.2.3 In addition to the above, this report has also been informed by the following documents:
- ▶ Kirklees Local Plan Strategy and Policies 2019

1.3 SCOPE OF FLOOD EVACUATION AND EMERGENCY PLAN

- 1.3.1 The objective of this analysis and report is to provide an FEP in accordance with local and national guidance.
- 1.3.2 The detail and complexity of the FEP will reflect the level of risk to the site and consider the appropriateness of the proposed development type. This will also include assessment of potential risk to property and livelihoods, consideration of climate change, and the definition of appropriate flood risk mitigations required to satisfy the planning process.
- 1.3.3 Based on the assessment of requirements for a site-specific FRA as defined within NPPF 2024 technical guidance, the site is indicated as being located within Flood Zones 1, 2 and 3, therefore it is necessary to provide a site-specific FRA. Flood Zone 1 refers to an area assessed as having less than 1 in 1,000 annual probability (<0.1%) of river or sea flooding in any one year. Flood Zone 2 refers to an area assessed as having between a 1 in 100 and 1 in 1,000 annual probability (1% - 0.1%) of river flooding, or between a 1 in 200 and 1 in 1,000 annual probability (0.5% - 0.1%) of sea flooding in any one year. Flood Zone 3 refers to an area assessed as having a 1 in 100 greater annual probability (>1%) of river flooding, or a 1 in 200 or greater annual probability (>0.5%) of sea flooding in any one year.
- 1.3.4 Similarly, as the site is indicatively located in an area that may be subject to other assessable sources of flooding, such as pluvial (surface water) flooding, it is necessary to undertake a further site-specific assessment to verify the proposals for development.
- 1.3.5 Flood evacuation and emergency procedure has been assessed against the site plan, which has been provided as [Appendix A](#) to this report. Significant changes to the site's developable area may necessitate a further review of this document to ensure that risk of flooding is not exacerbated and has been satisfactorily addressed within the development proposal.

2 METHODOLOGY

2.1 INTRODUCTION

- 2.1.1 This report aims to demonstrate that the proposed development is sustainable and provide an emergency evacuation plan in the event of the site flooding. This assessment will account for the effects of the worst-case flooding scenario, as well as identifying further opportunities to reduce the consequences of flooding within the site locality.
- 2.1.2 This report aims to identify constraints and opportunities for the site based on the development proposals provided by the client ([Appendix A](#)) and provide recommendations for the evacuation and emergency plan upon flooding of the site.
- 2.1.3 The assessment methodology is as follows:
 - ▶ Desktop review of the topography, hydrology, and other pertinent environmental characteristics of the site, and how these affect flood risk of the proposed development and site drainage.
 - ▶ Obtain and review existing baseline flood risk and drainage guidance information from relevant environmental authorities (EA, LLFA, etc.) as to site specific flood risk from all applicable sources.
 - ▶ Review the findings from the above and advise on the actions to be taken regarding evacuation and refuge following the receipt of a flood alert from the EA.

3 PROJECT BACKGROUND

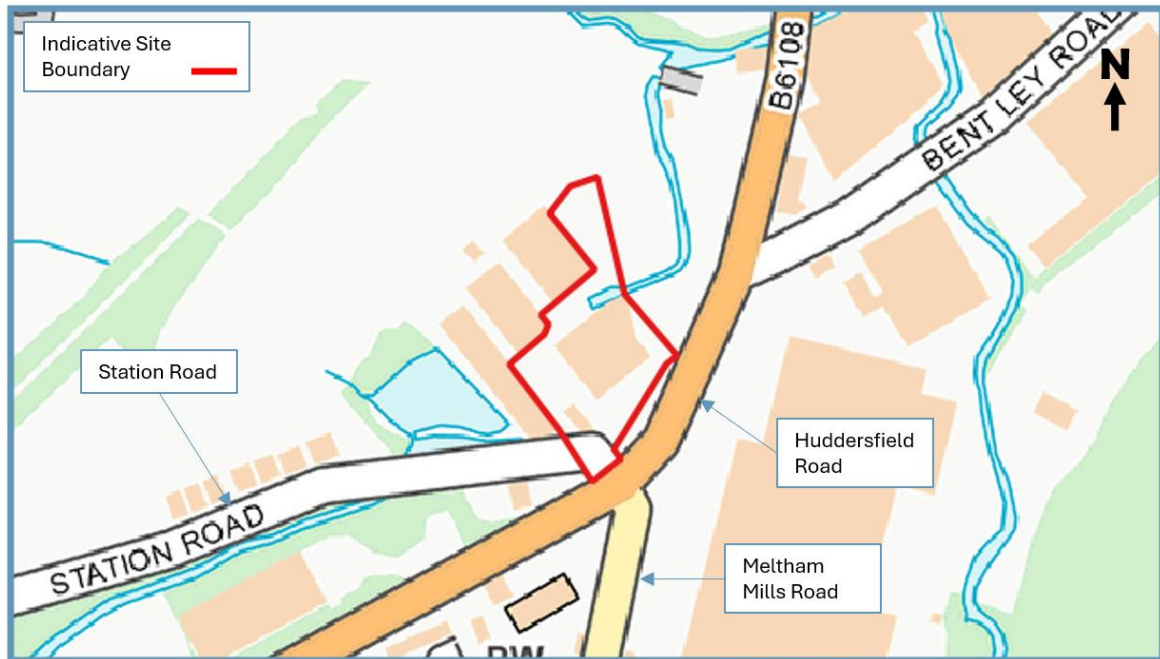
3.1 DEVELOPMENT DESCRIPTION AND LOCATION

- 3.1.1 Andrew Moseley Associates (AMA) was appointed by Alistair Flatman to provide a Flood Risk Assessment in support of an industrial development, located at Spinksmire Mill, Meltham, Holmfirth, Huddersfield, West Yorkshire, HD9 4AN.
- 3.1.2 The proposed development is located in the area of Meltham, approximately 4.1 miles from Huddersfield city centre. Proposals for the site are for industrial use, consisting of a replacement industrial building with associated infrastructure. A site layout can be found in [Appendix A](#).
- 3.1.3 The Local Planning Authority for this development is Kirklees Council who are also the Lead Local Flood Authority for the area.
- 3.1.4 This report has been prepared in accordance with the National Planning Policy Framework (NPPF) and the accompanying technical guidance to assess all forms of flooding including the management of surface water on-site.
- 3.1.5 The site is referenced in [Table 3-1](#) and [Figure 3-1](#) below.

Table 3-1 Site Context

Site Name	Spinksmire Mills
Location	Meltham
NGR (approx..)	SE 10868 11120
General Locality	The site is located on previously developed brownfield land and borders undeveloped land to its east, industrial development to its north, west and south. Pedestrian and vehicular access to the site is provided via Huddersfield Road which is located along the southern boundary of the site
Development Type	Industrial
EA Flood Zone	Flood Zones 1, 2 and 3

Figure 3-1 Site Location Plan



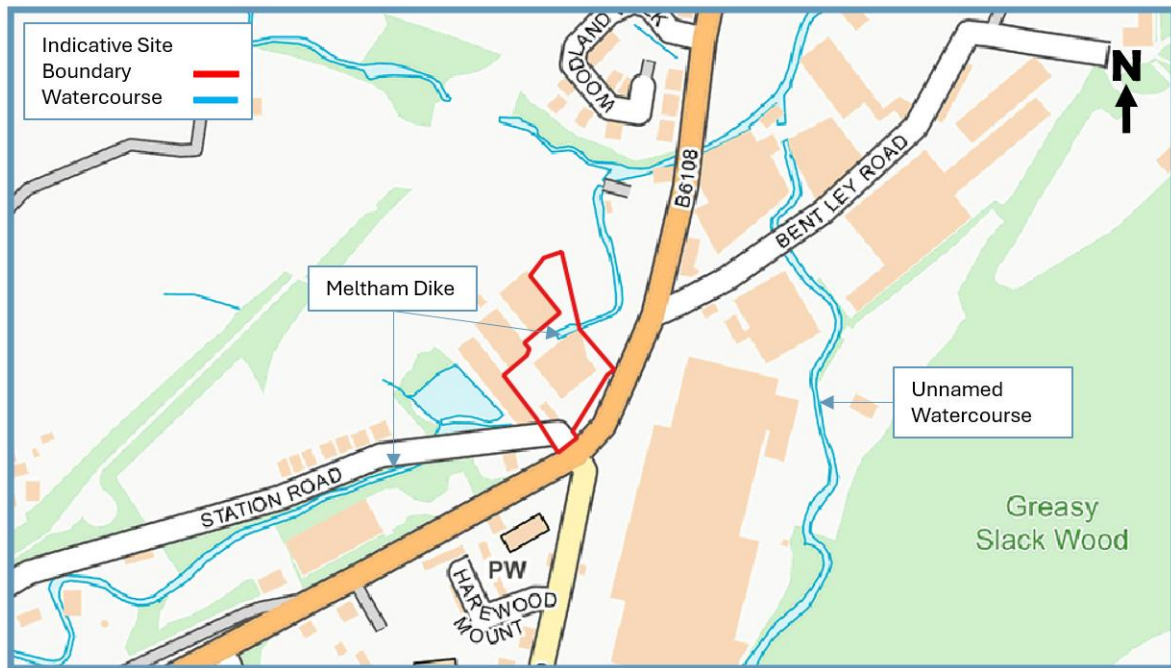
3.2 TOPOGRAPHY

- 3.2.1 A topographic survey provided by client and undertaken by CT Surveys and Discovery Surveys Ltd (Ref: 5237CT/1; 6376CTS 160525 362) shows ground levels at the site to be in the region of 140.41 to 144.84 m Above Ordnance Datum (m AOD). The topographic survey can be seen in [Appendix B](#).
- 3.2.2 Further review of topographical shows site levels to be lowest at the east of the site near the Meltham Dike, while greatest levels are located at the south of the site. A general fall in gradient towards the east of the site is observed across the site.

3.3 HYDROLOGY

- 3.3.1 The Meltham Dike is culverted through the site and flows in a northwestern direction, before opening up at a point in the east of the site. There is an unnamed watercourse located approximately 150m to the east of the site at its closest point.
- 3.3.2 The EA's Catchment Data Explorer website indicates that the site resides within the Colne and Holme operational catchment and the Mag Brook from Source to River Holme sub catchment.

Figure 3-2 Watercourse Location



4 FLOOD EVACUATION PLAN AND EMERGENCY PROCEDURES

4.1 SCOPE OBJECTIVES AND BACKGROUND

- 4.1.1 A flood evacuation plan is critical in protecting the workers, and the property from flooding events. This Flood Emergency and Evacuation Plan produced for the site at Spinksmire Mills, Meltham will ensure the safety of both people and the property.
- 4.1.2 This Flood Emergency and Evacuation Plan will support the Flood Risk Assessment produced by AMA in January 2026, which discusses the flood risk associated with the site at Spinksmire Mills, Meltham, along with mitigation measures recommended for the worst-case flood scenario.

4.2 FLOOD WARNINGS

- 4.2.1 The Environment Agency issues warnings to the public, the media, and partner agencies of impending flooding. The Flood Alert and Flood Warning areas are based on the likelihood and timing of different levels of flood threat within a specific community or catchment. Severe Flood Warnings are based on the likelihood and/or impact of flooding. The client should sign up to these warnings to best protect against damage to property and life.
- 4.2.2 The main source of flooding for the site is fluvial flooding. The EA's flood warnings are only in relation to fluvial and tidal flooding, and do not cover other sources of flooding, such as surface water or groundwater flooding.
- 4.2.3 There are three sources where you are able to get different types of warnings for fluvial flood events and the EA provides a number of methods for receiving flood warnings. These include:
 - ▶ EA Three Day Flood Risk Forecast: <http://www.environment-agency.gov.uk/homeandleisure/floods/125305.aspx>
 - ▶ ¾ EA Flood Warnings in Force by Region (updated every 15 minutes): <http://www.environment-agency.gov.uk/homeandleisure/floods/31618.aspx>
 - ▶ EA Floodline Warnings Direct (phone, text, or email): <https://fwd.environment-agency.gov.uk/app/olr/home>

Table 4-1. Environment Agency Codes

Flood Alert	Key Flooding is possible. Be prepared Message: 2 hours to 2 days in advance of flooding Timing: Be prepared for flooding Actions: Prepare a flood kit of essential items Monitor local water levels and flood forecasts
	
<i>Flood Alerts are to warn people of the possibility of flooding and encourage them to be alert, stay vigilant and to make early preparations for flooding.</i>	

<u>Flood Warning</u> 	Key Flooding is expected. Immediate Action Required Message: Half an hour to 1 day in advance of flooding Timing: Act now to protect your property Actions: Block doors with flood boards or sandbags and cover airbricks and other ventilation holes Move family, pets and valuables to a safe place Turn off gas, electricity and water supplies if safe to do so Keep a flood kit ready Move cars, pets, food, valuables and important documents to safety <i>Flood Warnings are to warn people flooding is expected and encourage them to take immediate action to protect themselves and their property.</i>
<u>Severe Flood Warning</u> 	Key Severe flooding. Danger to life Message: When flooding poses a significant threat to life and Timing: different actions are required Stay in a safe place with a means of escape Actions: Be ready should you need to evacuate from your home Co-operate with the emergency services Call 999 if you are in immediate danger <i>Severe Flood Warnings are to warn people of a significant risk to life or significant disruption to communities caused by widespread or prolonged flooding and encourage them to take immediate action to protect themselves and follow the advice of the emergency services.</i>
<u>Warnings no longer in force</u> (no icon)	Key No further flooding is currently expected for your area Message: When river or sea conditions begin to return to normal Timing: Be Careful. Flood water may still be around for several Actions: days and could be contaminated If you've been flooded, ring your insurance company as soon as possible <i>Warnings are removed to inform people that the threat has now passed.</i>

- 4.2.4 Other sources of warning include flood wardens, sirens, and the media. Call the EA Floodline for advice on what is available for the proposed development site.
- 4.2.5 Furthermore, you should contact the EA to understand the lead time for flood warnings. This is the time between the issuing of a warning to when flooding will occur. The EA aim to produce a Flood Alert between 2 and 12 hours prior to a flood occurring.
- 4.2.6 The organisation that will operate within Spinksmire Mills, Meltham should sign up to the EA Flood Alert and Warning system to ensure safety of staff is ensured.

4.3 FLOOD ALERT NOTICE

- 4.3.1 The occupiers of the site should display a notice in a prominent, clearly visible place, or places, on the premises and/or site to indicate to everyone the current flood alert status issued by the Environment Agency. Below is an example of a Flood Alert Notice.

Figure 4-1 Flood Alert Notice

FLOOD ALERT NOTICE

This building is located in an area at risk of fluvial flooding. Flooding may occur when a combination of weather conditions, such as heavy rainfall and high river levels coincide.

The current flood warning status issued by the Environment Agency is:

(INSERT THE APPROPRIATE CODE HERE)

Up-to-date flood warning information and advice can be obtained from:

Floodline on 0845 988 1188 (24 hours a day)

Or alternatively visit the Environment Agency's website:

www.environment-agency.gov.uk/floodline

4.4 ACTIONS UPON RECEIVING ALERTS AND WARNINGS

- 4.4.1 Once a flood alert or warning has been made, the occupiers of the site must take action based upon the alert given. Provided in Table 4-1 are the types of alerts which can be given by the EA along with the action the occupiers must undertake to reduce the risk to life and the property.
- 4.4.2 The proposed development is an industrial unit consisting of a replacement industrial building. Flood data from the national NaFRA2 model, and provided by the EA, indicated a worst-case flood depth at the site of 1.2m for a 1in100 year plus climate change undefended flood event, which produces a flood level of 141.61 mAOD.
- 4.4.3 The recommended finished floor level for this development is 0.15m above ground level, meaning that upon the occurrence of the 1in100 year plus climate change flood event, the premises will flood, and a water entry strategy is adopted.
- 4.4.4 As the development will be industrial, the business and events should be closed down in an orderly fashion so that people and assets can be safeguarded, and that the site can be made safe and secure, and the premises evacuated well within the time afforded by the warning.
- 4.4.5 In addition, as a business will be operating within the proposed development, the future occupiers should develop a business continuity plan (BCP) in the event of a flood, or in the event of any emergency or disruption to activities. A BCP anticipates disruptions to normal activities and identifies critical activities that need to be maintained to deliver services, run the business, and survive the crisis. The building occupiers should also create a unique plan on what will be done to protect the development and its contents, based on how easily items (i.e., furniture, other equipment, etc.) can be relocated or flood barriers across doors deployed.

4.5 SAFE EGRESS PROCEDURE & EVACUATION ROUTES

- 4.5.1 There should be safe access to and from the development. Planning a safe route of egress is important to ensure that people are safe in the event of a flood. Minimising the risk to life is the most important goal of flood management.
- 4.5.2 Once a flood warning has been implemented by the EA, the evacuation procedures must follow – this can be implemented by an alarm system, or a text message sent out by the owner of the site. If the client or manager of the site feels the site is becoming at risk, they should make the decision to evacuate the site as well. This could include 'if water is entering the unit', which means flooding of over 0.15m.

- 4.5.3 The organisation occupying the building must have a flood warden who will organise each business response and evacuation of the site, following the egress route shown in **Figure 4-2**. A flood evacuation point should be created outside of the flood alert and warning area, preferably to the south of the site, on the B1608. The occupiers of the building should follow the route given in **Figure 4-2** as it follows a main road, which will increase safety and visibility. A map of the route to take should be provided to the organisation occupying the site once trading has begun in the new development.
- 4.5.4 If the evacuation procedure is followed, there should be no need for a rescue by emergency services however, as the site is located along a main road, accessing the site by emergency services should not be difficult.
- 4.5.5 It is important to identify, in advance of flooding, where individuals can go instead of a local Emergency Rest Centre, if safe to do so. Time should be allowed for this to occur before any routes become affected by the flooding. Consideration should be given to the road network around the site, especially if these are more likely to flood first and therefore affect evacuation time.
- 4.5.6 The evacuation procedures should include options for the evacuation of ALL people on site, including those with restricted mobility. It should be assumed that visitors will not have local knowledge and will need to be guided to a safe route/location.

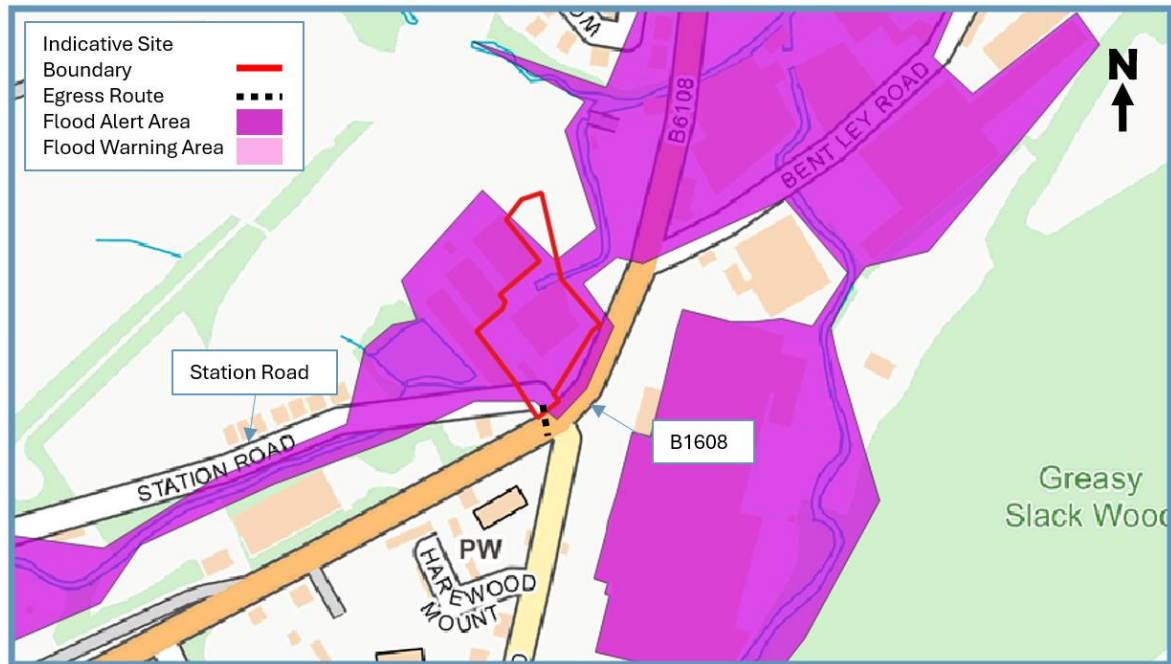
4.6 ON SITE AND/OR TEMPORARY REFUGE

- 4.6.1 Any place of refuge within the development should be clearly identified within the building. All staff should be made aware of this location. It is further suggested that Flood Kits are stored and kept at the on-site refuge to support a short-term stay. The EA has a suggested Flood Kit list; depending on the location of the development and the needs of the occupants, additional items other than suggested in the EA's list may also be required.

4.7 ACTIONS POST-EVACUATION

- 4.7.1 This section should offer site specific guidance on post-evacuation procedures. The Floodline (0845 988 1188) will be an important resource.
- 4.7.2 The EA have published advice on how to react when a flood event occurs: <http://www.environment-agency.gov.uk/homeandleisure/floods/31632.aspx>.
- 4.7.3 In the event of flooding, it is the duty of the Council to coordinate authority responses. An important task that the Council undertakes is to set up Rest Centres. A Rest Centre is a temporary, short-term emergency accommodation (up to 48 hours) where evacuated people can rest and obtain refreshments and information about the flood.
- 4.7.4 Returning to site should only be permitted when advised by emergency services or local authority officials that is safe to do so.
- 4.7.5 Guidance on how to clean up after a flood can be aided using Environment Agency instructions: http://www.direct.gov.uk/en/HomeAndCommunity/WhereYouLive/FloodingInYourArea/DG_180028.

Figure 4-2 Safe Access and Egress Route from the Site



5 SUMMARY

- 5.1.1 The site is in an area identified as having a low to high probability of flooding on the EA Flood Map and is located in Flood Zones 1, 2 and 3.
- 5.1.2 There is a risk of up to 1.2m of flooding at the site in accordance with a 1in100year plus climate change fluvial flooding event. The proposed finished floor levels for the site are set at 0.15m.
- 5.1.3 The proposed development is located within a Flood Alert and Warning Area, and as such the organisation occupying the site should sign up to receive EA flood warnings in order to protect against damage to property and life.
- 5.1.4 As the proposed development is located within a Flood Warning and Alert area, planning for the evacuation of the staff is required.
- 5.1.5 The organisation within the proposed development should develop a BCP in the event of a flood.
- 5.1.6 Flood wardens should be allocated within the organisation to aid in the evacuation of ALL people on site, including those with restricted mobility.
- 5.1.7 In the event of flooding, it is the duty of the Council to coordinate authority responses. An important task that the Council undertakes is to set up Rest Centres. A Rest Centre is a temporary, short-term emergency accommodation (up to 48 hours) where evacuated people can rest and obtain refreshments and information about the flood. Returning to the site should only be permitted when advised by emergency services or local authority officials that it is safe to do so.
- 5.1.8 A safe egress route has been proposed within Section 4.5, leading to a flood evacuation point on the B1608, to the south of the site.

6 LIMITATIONS

- 6.1.1 This report has been prepared for exclusive use by Alistair Flatman for the purpose of assisting them in evaluating the potential constraints imposed by flood risk and drainage in making a Planning Application.
- 6.1.2 AMA accepts no liability for any use of this document other than by its client and only for the purposes, stated in the document, for which it was prepared and provided. No person other than the client may copy (in whole or in part) use or rely on the contents of this document, without the prior written permission of AMA. Any advice, opinions or recommendations within this document should be read and relied upon only in the context of the document as a whole.
- 6.1.3 AMA has endeavoured to assess all information provided to them during this appraisal. The report summarises from several external sources and cannot offer any guarantees or warranties for the completeness or accuracy of information relied upon.
- 6.1.4 This report has been undertaken with the assumption that the site will be developed in accordance with the above proposals without significant change. The conclusions resulting from this study are not necessarily indicative of future conditions or operating practices at or adjacent to the site.
- 6.1.5 A topographic survey has been completed for the site and was supplied to AMA by the client. AMA accepts no liability for the accuracy of this survey, and it is recommended that it is verified on-site prior to the commencement of any construction work.
- 6.1.6 Existing drainage information is based on third party survey data and record information which is considered to be incomplete. It is therefore recommended that a FULL drainage investigation survey is commissioned to establish the precise alignment, level, and condition of ALL existing drainage within the development site to inform the masterplan and future detailed design proposals.

APPENDICES

Appendix A Proposed Site Layout

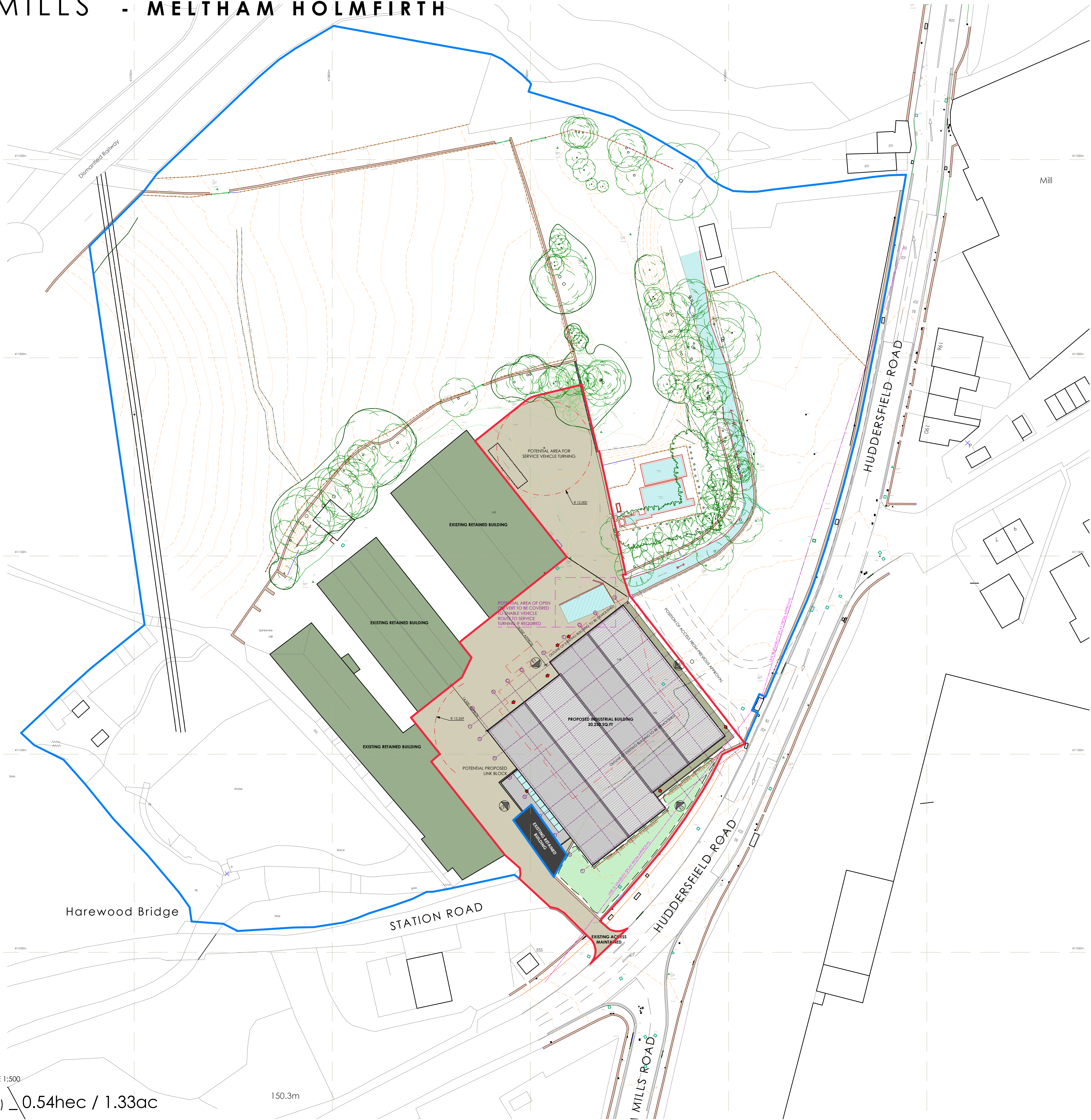
Appendix B Topographic Survey



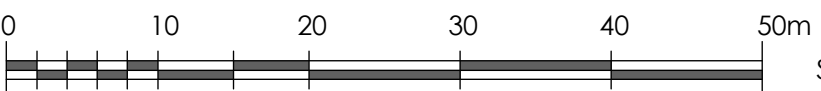
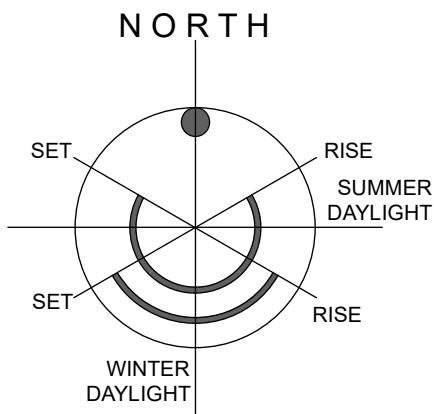
Appendix A
Proposed Site Layout

SPINKSMIRE MILLS - MELTHAM HOLMFIRTH

Survey Control Co-ordinates				
Reference	East	North	Elevation	Description
GPS01	410884.904	411044.486	145.00	Survey Station
GPS02	410912.091	411120.373	142.04	Survey Station
H02	410912.106	411120.413	142.07	Survey Station
H03	410941.268	411172.432	140.77	Survey Station
H04	410950.157	411289.294	139.27	Survey Station
H05	410860.056	411149.505	141.50	Survey Station
H05A	410874.192	411140.955	140.54	Survey Station
H5B	410867.195	411167.669	141.82	Survey Station
H06	410844.715	411188.986	142.53	Survey Station
H07	410867.858	411181.244	142.46	Survey Station
H7A	410884.222	411191.875	142.64	Survey Station
H7B	410879.605	411213.417	142.47	Survey Station
H7C	410863.899	411225.150	142.84	Survey Station
H7D	410875.245	411231.157	141.93	Survey Station
H7E	410856.825	411252.971	142.03	Survey Station
H08	410817.290	411173.979	143.04	Survey Station
H09	410795.153	411143.443	144.63	Survey Station
H07A1	410895.855	411175.672	139.38	Survey Station
H07A2	410895.433	411160.612	139.62	Survey Station
H07A3	410897.989	411176.729	139.33	Survey Station
R01	410894.267	411147.580	139.92	Survey Station
R02	410906.867	411158.882	139.82	Survey Station
R03	410907.387	411173.204	139.15	Survey Station



NOTES
ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE BUILDING REGULATIONS AND THE REQUIREMENTS OF THE LOCAL AUTHORITY.



SITE AREA (AS DEFINED BY THE RED LINE) 0.54hec / 1.33ac

REV	DESCRIPTION	BY	CHKD	DATE
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LOROC
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PROJECT
SPINKSMIRE MILL
MELTHAM, HOLMFIRTH

TITLE
PLANNING INFORMATION
General Arrangement
PROPOSED SITE PLAN

DRAWING NO. 1564-LRC-ZZ-XX-ORA_1002

REVISION

SCALE 1:300 @ A1 DATE MAR 2024

DRAWN BY IR CHECKED BY

PURPOSE OF ISSUE

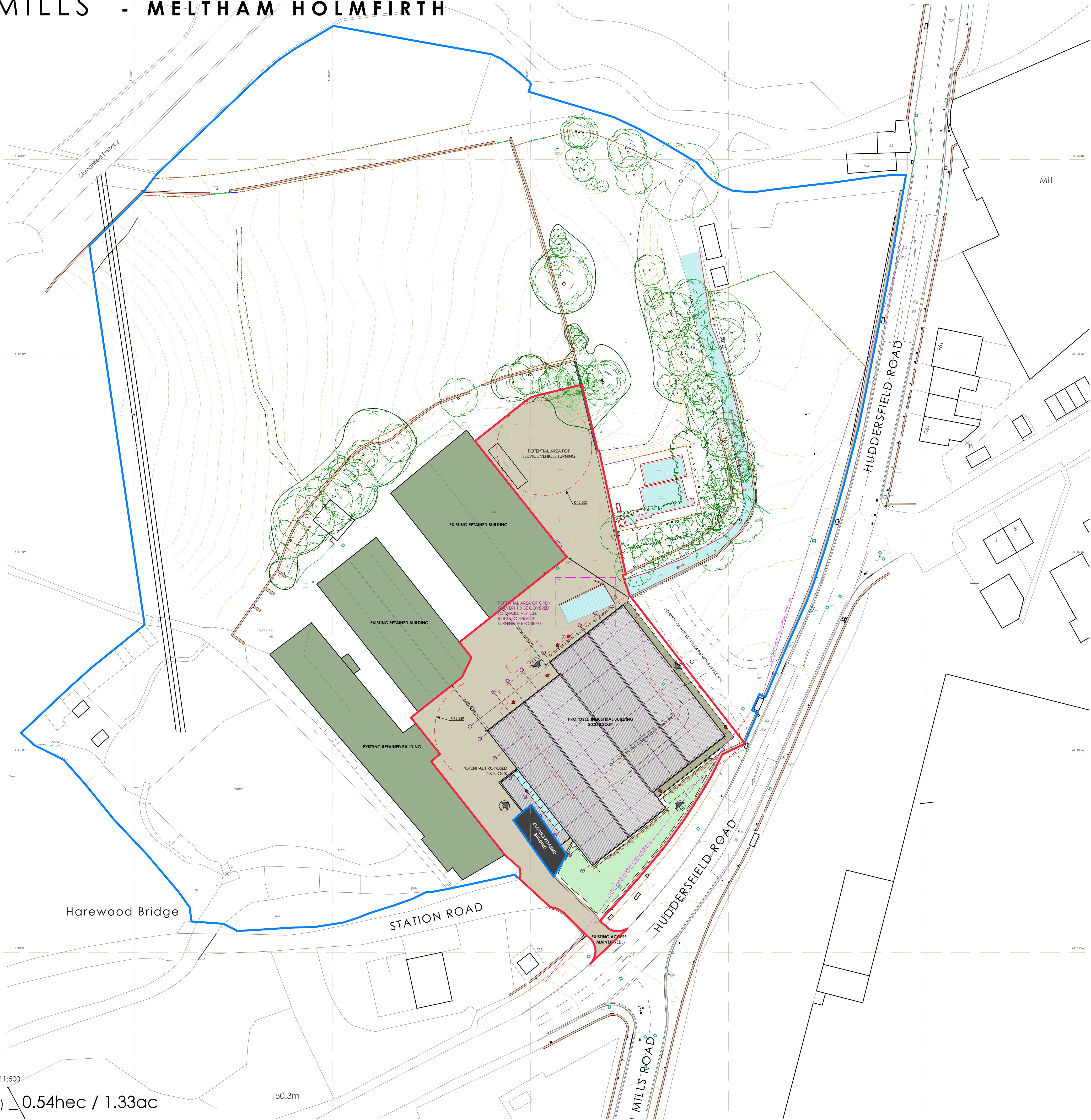
- ☐ PLANNING
- ☐ COMMENT
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- ☐ TENDER CONSTRUCTION

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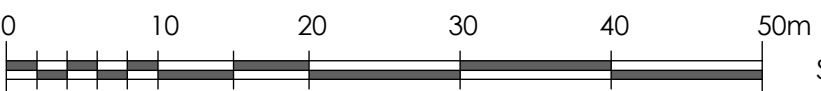
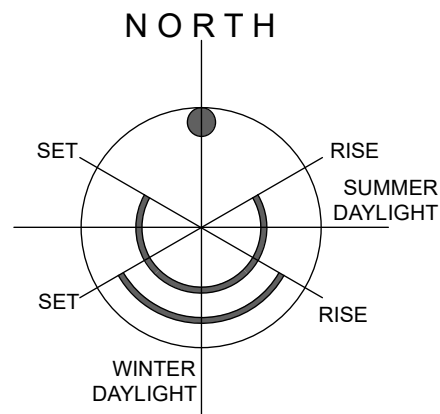


SPINKSMIRE MILLS - MELTHAM HOLMFIRTH

Survey Control Co-ordinates				
Reference	East	North	Elevation	Description
GPS01	410884.904	411044.486	145.00	Survey Station
GPS02	410912.091	411120.373	142.04	Survey Station
H02	410912.106	411120.413	142.07	Survey Station
H03	410941.268	411172.432	140.77	Survey Station
H04	410950.157	411289.294	139.27	Survey Station
H05	410860.056	411149.505	141.50	Survey Station
H05A	410874.192	411140.955	140.54	Survey Station
H5B	410867.195	411167.669	141.82	Survey Station
H06	410844.715	411188.986	142.53	Survey Station
H07	410867.858	411181.244	142.46	Survey Station
H7A	410884.222	411191.875	142.64	Survey Station
H7B	410879.605	411213.417	142.47	Survey Station
H7C	410863.899	411225.150	142.84	Survey Station
H7D	410875.245	411231.157	141.93	Survey Station
H7E	410856.825	411252.971	142.03	Survey Station
H08	410817.290	411173.979	143.04	Survey Station
H09	410795.153	411143.443	144.63	Survey Station
H07A1	410895.855	411175.672	139.38	Survey Station
H07A2	410895.433	411160.612	139.62	Survey Station
H07A3	410897.989	411176.729	139.33	Survey Station
R01	410894.267	411147.580	139.92	Survey Station
R02	410906.867	411158.882	139.82	Survey Station
R03	410907.387	411173.204	139.15	Survey Station



NOTES
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SCALE 1:500

SITE AREA (AS DEFINED BY THE RED LINE) 0.54hec / 1.33ac

150.3m

REV DESCRIPTION BY CHKD DATE

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W: WWW.LOROC.CO.UK

3RD FLOOR, 86 - 90 PAUL STREET, LONDON, EC2A 4NE
T: 0203 875 5333

PROJECT
SPINKSMIRE MILL
MELTHAM, HOLMFIRTH

TITLE
PLANNING INFORMATION
General Arrangement
PROPOSED SITE PLAN

DRAWING NO. 1564-LRC-ZZ-XX-OR-A_1002 REVISION

SCALE 1:500 @ A1 DATE MAR 2024

DRAWN BY IR CHECKED BY

PURPOSE OF ISSUE

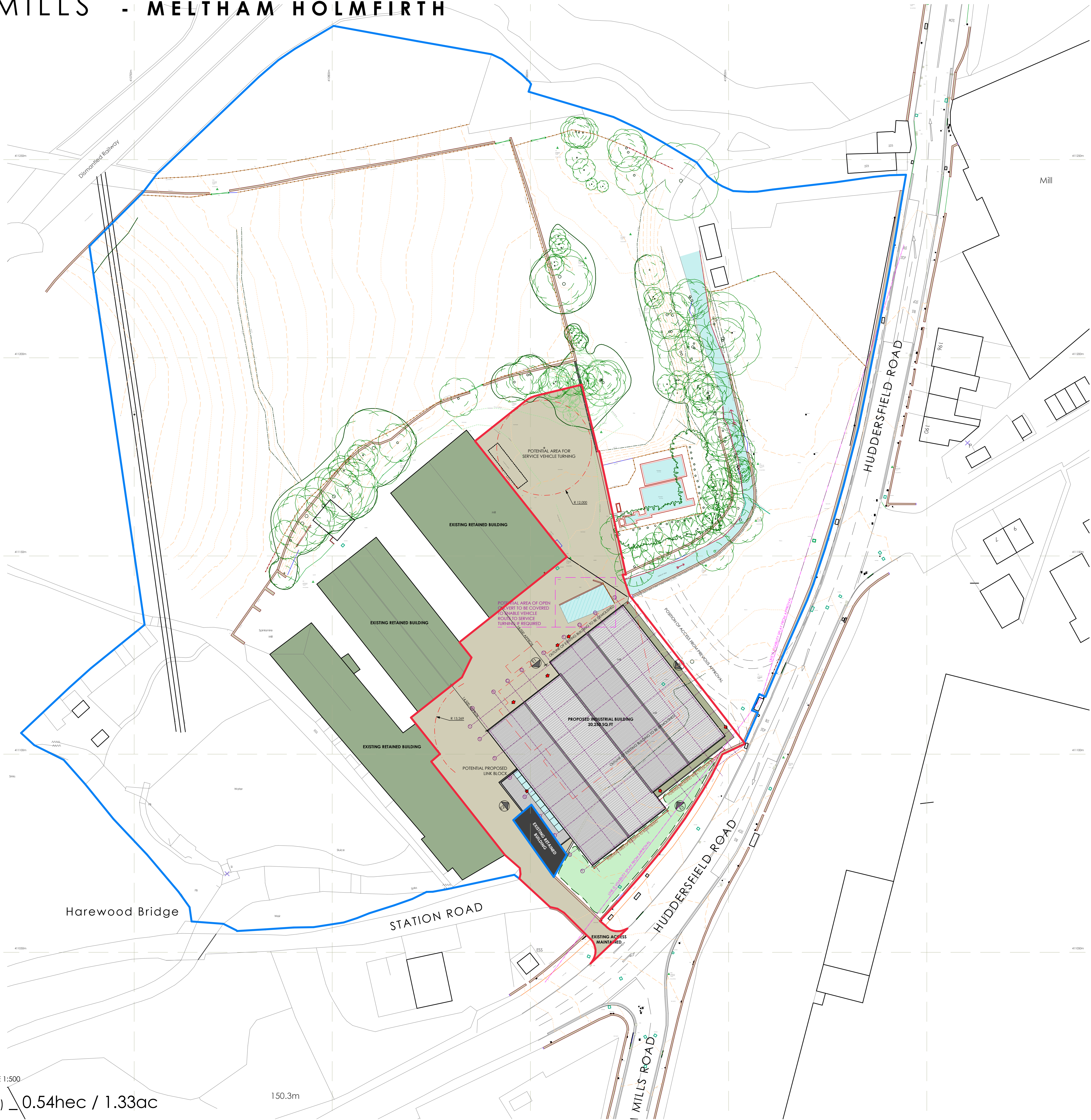
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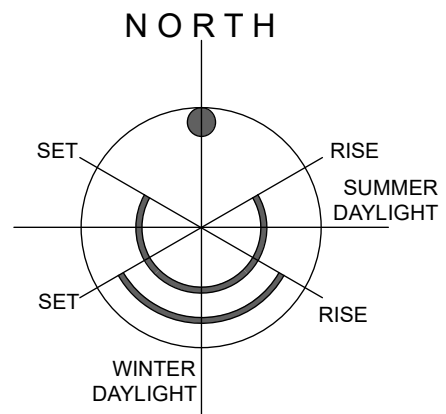


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0 10 20 30 40 50m

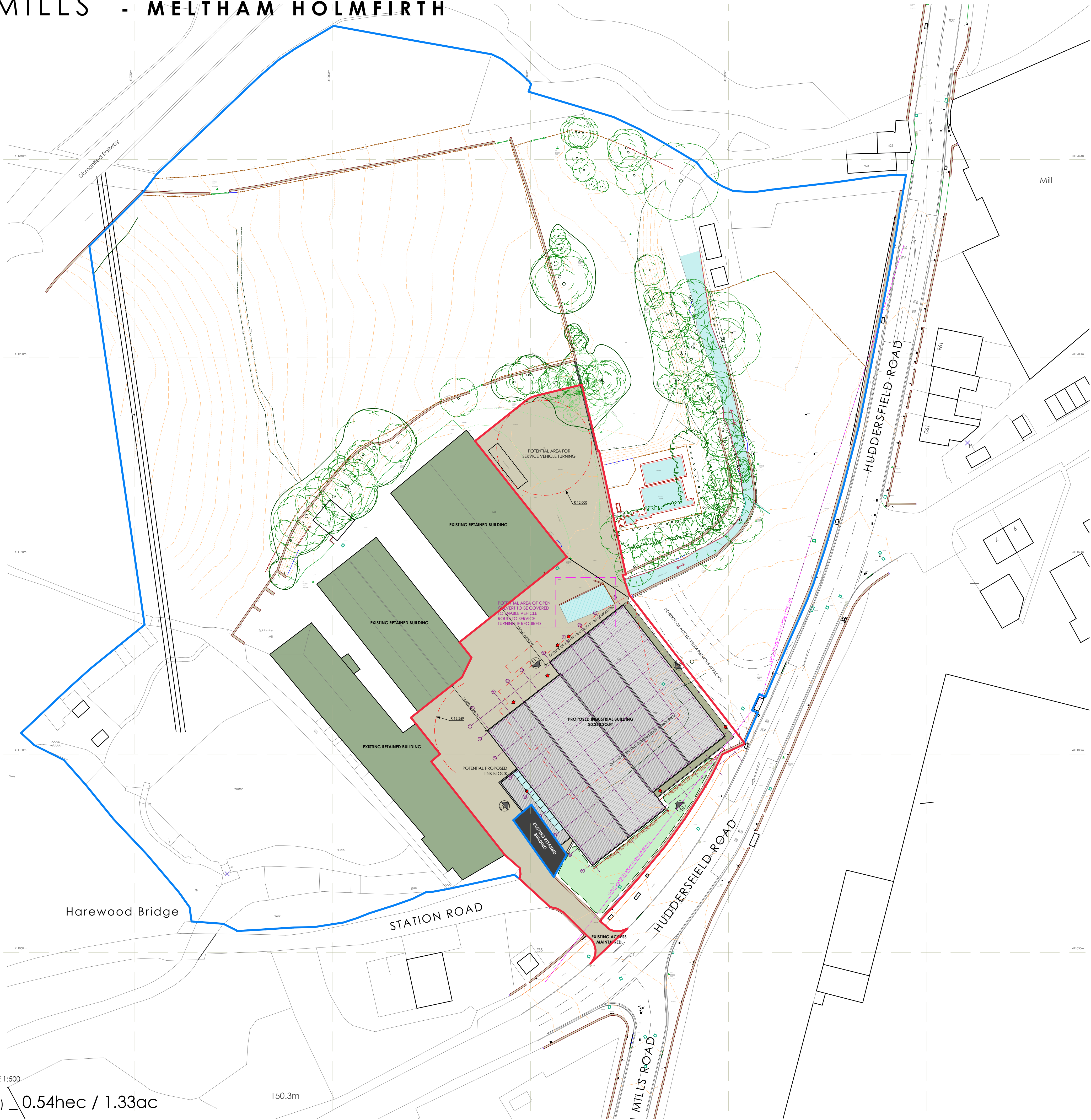
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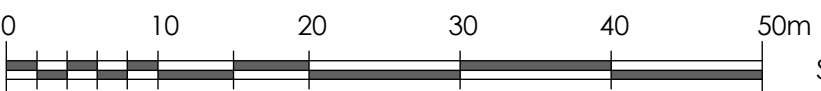
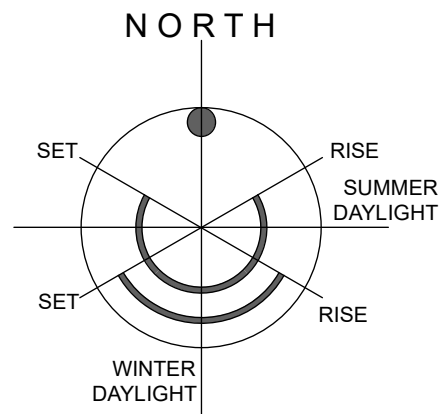
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Appendix B
Topographic Survey

- Survey instruction was to locate drainage routes and culvert location only within the survey boundary. This drawing is not a utility survey.
- All located GPR targets have been shown. GPR cannot identify utility type, some shown targets are likely not drainage routes.

The location of the six ground services shown on the drawing had been determined using electronic-navigational and GPS-related techniques and visual observations. No guarantee can be given that all services have been shown on the drawing. The relevant service drawings should be obtained from the applicable service providers company and used in conjunction with this drawing. No guarantee can be given to the accuracy and completeness of any losses that arise due to record inaccuracies shown in this drawing and no liability will be accepted for any losses that arise due to record inaccuracies in any service providers' drawings or documents. The responsibility for the correctness of the information contained in the drawings of the service providers lies with the respective service provider. In the case of any disputes, reference should be made to the latest version of Discovery Surveys Ltd the procedures document for utility location surveys.

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WEBSITE : WWW.CT-SURVEYS.COM



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