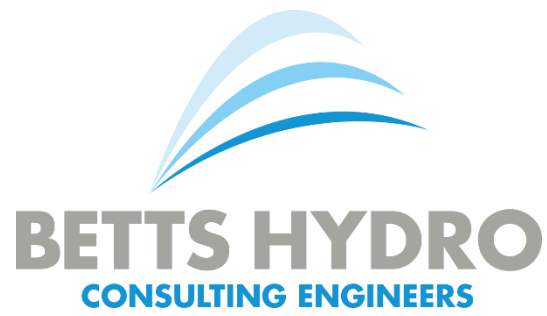




**HANSON SPRINGS
GORRELS WAY
ROCHDALE**

FLOOD RISK ASSESSMENT



For

Hanson Springs Ltd
Gorrells Way
Rochdale
OL11 2PX



NOVEMBER 2024

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**HANSON SPRINGS
GORRELLS WAY
ROCHDALE**

FLOOD RISK ASSESSMENT

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EXECUTIVE SUMMARY

This Flood Risk Assessment was commissioned by Hanson Springs, referred to hereafter as 'the client'. This report has been prepared to support an application for the construction of a new industrial building and a building extension (with car park reconfiguration) for the existing site off Gorrell's Way in Rochdale.

The proposals are classified as 'Less Vulnerable' in Annex 3: Flood Risk Vulnerability Classification, within the National Planning Practice Framework. The Planning Practice Guidance confirms that 'Less Vulnerable' development is appropriate when located within Flood Zone 1 providing there is no increase in flood risk elsewhere. Consultation with the Environment Agency, United Utilities, Canal and River Trust, and Rochdale Metropolitan Borough Council has not identified any historical flooding to the site at this stage.

This report has reviewed all sources of flood risk both to and resulting from the proposed development site. The nearest Main River to the site is Sudden Brook, which is a culverted watercourse located around 100m to the north. The fluvial flood risk to the site from Sudden Brook is 'low' given the topographical characteristics, its proximity to the site and that it is a culverted stretch where it runs nearest to the site.

In terms of other sources of flood risk, the site is at predominantly 'very low' and 'low' risk of surface water flooding. There are isolated areas at higher risk, but these correspond with existing flat areas of hardstanding where ponding could naturally occur during extreme and prolonged rainfall events. Potential residual flood risk from surface water will be managed, post-development through the implementation of a sustainable surface water management regime, to manage surface water run-off generated by the new proposed buildings. A separate Drainage Management Strategy will be prepared by others to support the planning application which details the drainage strategy proposed.

The nearest canal to the site is Rochdale Canal, which is located immediately south-east of the site. Review of the Strategic Flood Risk Assessment mapping has identified that the site is located in the 'Direct Canal Hazard Zone', which indicates indicatively areas that may be at risk of flooding if a canal were to overtop, or in the event of an embankment failure.

Canals do not pose a direct flood risk as these are controlled water bodies, and the residual risk is limited by continued maintenance by British Waterways, along with the controlled volume of water within an impounded length. Irrespective, this residual risk has been considered further as part of this assessment.

Review of the topographic survey has identified that should exceedance or a failure of the embankment occur south-east of the site, flows would likely route toward the site given the falls. The new proposals have been located on the western half of the site, approximately 120m from the canal top of bank. The levels in the locations of the proposed extension and new build are elevated slightly relative to the levels of the car parking to the east.

It is advised that external levels fall away from the proposed building and extension, to minimise the flood risk from a variety of sources. By keeping the Finished Floor Levels elevated relative to the externals, this should help create a safe overland flood flow route externally in the event of a flooding associated with a variety of sources, including residual canal and surface water flooding.

To summarise, the proposals are at 'low' flood risk from the key flood sources reviewed as part of this assessment and appropriate mitigation will be put in place to ensure that there is no increase in flood risk because of the proposals. This assessment has been prepared in consultation with the relevant interested parties. The report is commensurate with the scale and nature of the proposals and appropriate in accordance with the Planning Practice Guidance.

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Specialist Software

-  MicroDrainage WinDES (v.2020.1.3) – Calculation of Greenfield run-off volumes, rates of rainfall and stormwater storage estimates.

Abbreviations & Acronyms

AEP	Annual Exceedance Probability
CC	Climate Change
CRT	Canal and Rivers Trust
EA	Environment Agency
FRA	Flood Risk Assessment
GM	Greater Manchester
LLFA	Lead Local Flood Authority
LPA	Local Planning Authority
mAOD	Metres Above Ordnance Datum
NPPF	National Planning Policy Framework
PFRA	Preliminary Flood Risk Assessment

PPG	Planning Practice Guidance
RMBC	Rochdale Metropolitan Borough Council
SFRA	Strategic Flood Risk Assessment
TWL	Top Water Level
UU	United Utilities

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1.0 INTRODUCTION

1.1 Planning Policy Context

- 1.1.1 All forms of flooding and their impact on the natural and built environment are material planning considerations. The revised National Planning Policy Framework (NPPF) sets out the Government's objectives for the planning system, and how planning should facilitate and promote sustainable patterns of development, avoiding flood risk and accommodating the impacts of climate change.
- 1.1.2 Government policy with respect to development in flood risk areas is contained within the revised NPPF and the supporting Planning Practice Guidance (PPG) (refer to extracts in **Appendix A**). A Flood Risk Assessment (FRA) has been completed in accordance with the revised NPPF and the PPG to review all sources of flood risk both to and from the proposed development.
- 1.1.3 The proposals are 'commercial' in nature and are classified as 'Less Vulnerable' in Annex 3: Flood Risk Vulnerability Classification, within the National Planning Practice Framework. The PPG confirms that this type of land-use is appropriate for Flood Zone 1, providing there is no increase in flood risk elsewhere due to the proposals.

1.2 Site Context

- 1.2.1 This Flood Risk Assessment has been prepared to support a planning application for the extension of the existing Hanson Springs Ltd depot in Rochdale. The proposals include construction a new industrial building, the extension of an existing building onsite and minor reconfiguration of the existing car park to accommodate the above. This will include associated external works, hard and soft landscaping, and boundary fencing where required.

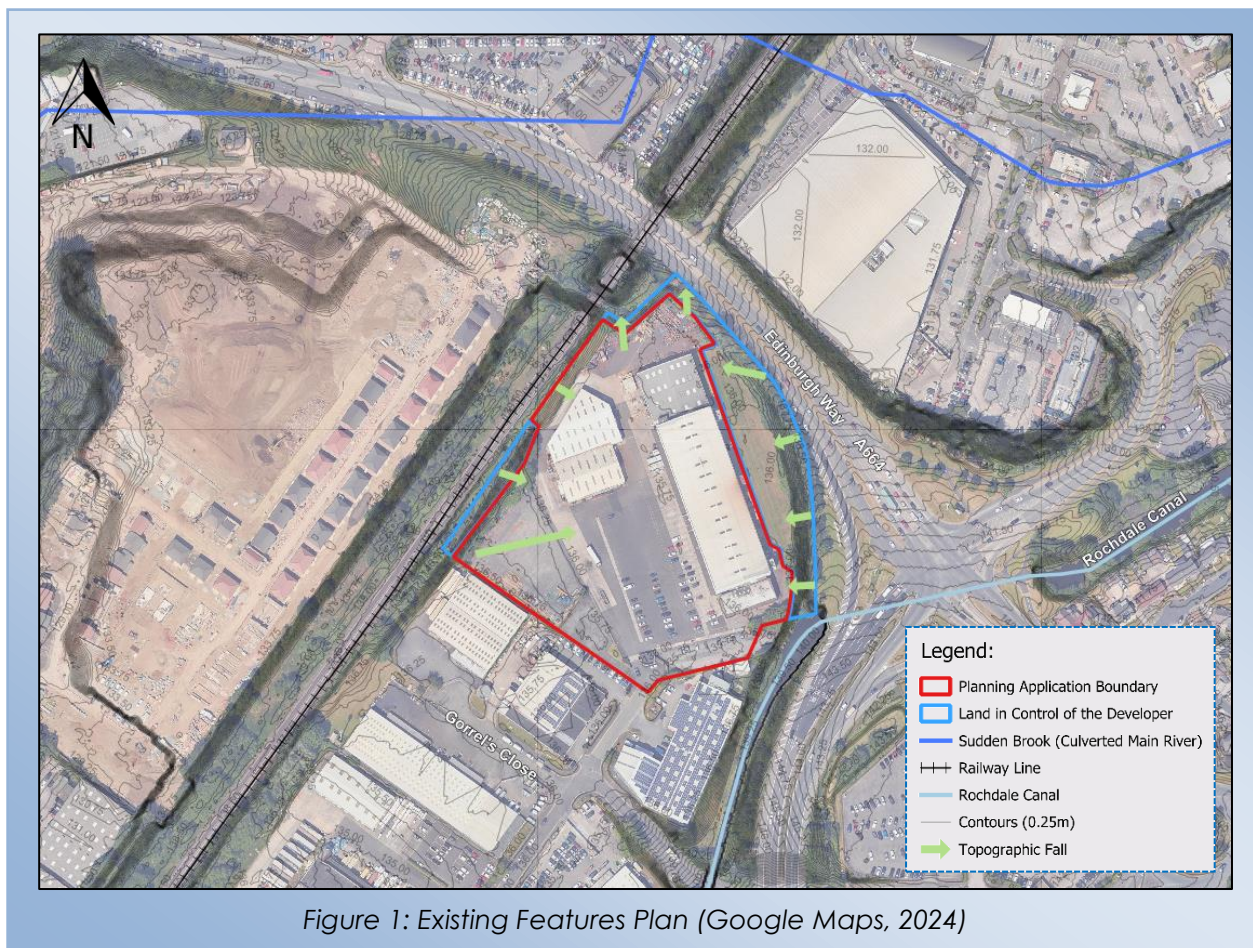
1.3 Consultation

- 1.3.1 The NPPF advises that Rochdale Metropolitan Borough Council (RMBC) as the Local Planning Authority (LPA) should consult with the EA who will provide advice and guidance on flood issues at a strategic level and in relation to planning applications.
- 1.3.2 The preparation of this report has been undertaken in consultation with the Environment Agency (EA), United Utilities (UU), Canal and River Trust (CRT), and Rochdale Metropolitan Borough Council (RMBC). The consultation responses can be seen in **Appendix B, C, D** and **E** respectively.

2.0 EXISTING SITE LOCATION

2.1 Location

- 2.1.1 The site is located off Gorrells Way in Rochdale. The nearest Ordnance Survey National Grid Reference is E: 388982, N: 411539 and the nearest postcode is OL11 2PX (see the Location Plan in **Appendix F**). The whole site covers 2.781ha and is edged in red in **Figure 1**, the proposals themselves will occupy a much smaller area though within the wider planning application boundary.
- 2.1.2 In terms of the surrounding land-use, the site is bound to the east/north-east by Edinburgh Way (A664), to the north-west by a railway line, and to the south-west by several industrial buildings off Gorrell's Close and Gorrells Way. The site is surrounded by industrial and commercial development.
- 2.1.3 In terms of existing water features, the Rochdale Canal bounds the south-eastern corner of the site, and a culverted section of Sudden Brook (a Main River) is located around 100m to the north (as illustrated in **Figure 1**).



2.2 Existing and Historical Land Use

- 2.2.1 The development site is developed at present, and currently comprises hardstanding and industrial/commercial buildings. No other former land uses have been identified during the preparation of this report.

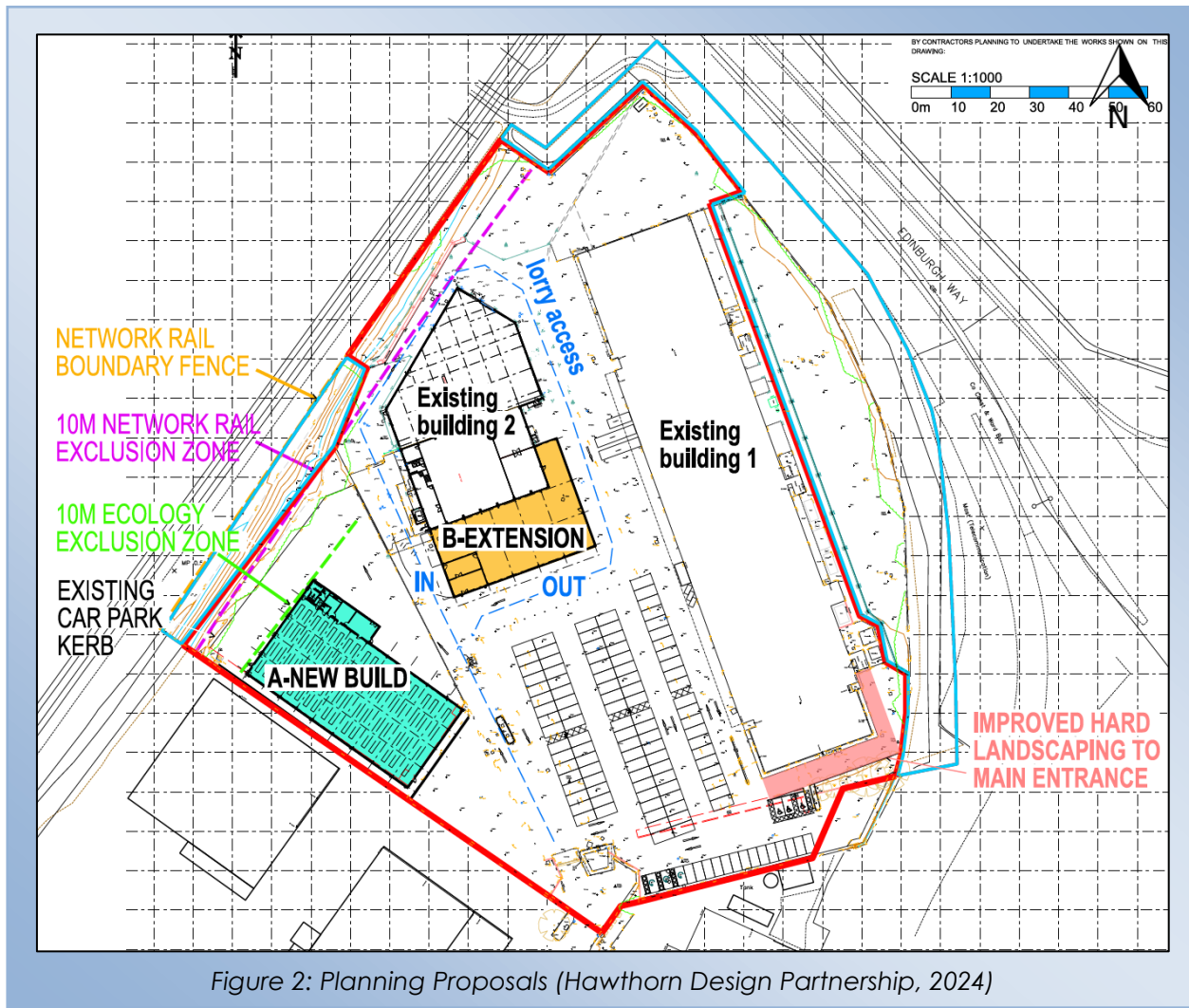
2.3 Topography

- 2.3.1 Much of the site is comprised of flat hardstanding, with little topographical change. A full topographic survey has been provided and included in **Appendix G**. There is however steep topography on the western and north-eastern sides of the site, falling from around 140mAOD to 136mAOD over just 10 – 15m in both areas (**Figure 1**). The north of the site sees levels drop outwards from the site towards Edinburgh Way, from 136mAOD to 134.5mAOD over around 10m (**Figure 1**).

3.0 DEVELOPMENT PROPOSALS

3.1 Nature of the Development

3.1.1 This FRA has been prepared to support a planning application for the extension of the existing Hanson Springs Ltd depot in Rochdale. The proposals include construction a new industrial building, the extension of an existing building onsite and minor reconfiguration of the existing car park to accommodate the above. The block masterplan is included within **Figure 2** (see full proposed site plan, block masterplan, and elevations within **Appendix H**).



3.1.2 The proposals across the site are shown within the extract in **Figure 2**. The full description is as follows:

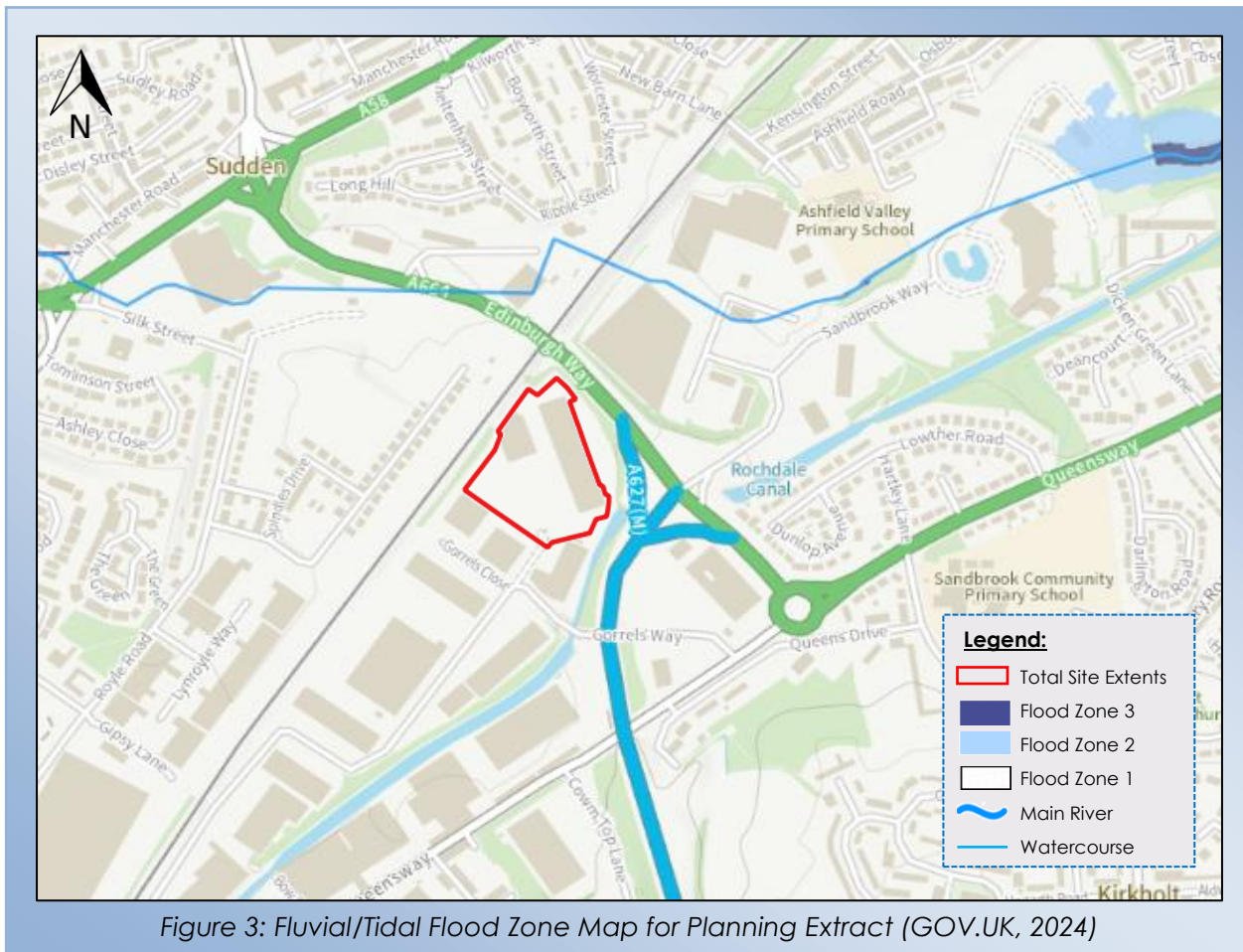
- The construction of a new industrial building
- The extension of an existing industrial building
- The reorganisation and linking of parking in front of the new building
- Improved hard landscaping to the main entrance of the eastern existing building
- Removal of kerb and paving to link car parking towards the south of the site
- New tree planting and BNG (Biodiversity net gain) area
- Erection of boundary fencing

- 3.1.3 There is a requirement to provide maintenance offsets from the public sewers, where they are located onsite. The specific offset needs to be discussed with UU as they vary depending on the size of the infrastructure and the depth at which it is laid. Where any required offset cannot be achieved then diversion works may be required and early discussion with UU is advised for any proposed works.
- 3.1.4 The total site covers 2.781ha, of which is less than 20% permeable at present. The proposed development areas however will cover a much smaller area of the wider site. Considering the proposals above, the new proposed building and extension area will occupy existing hardstanding areas and the car-park re-configuration works proposed will essentially alter existing hardstanding areas only. Thus, meaning no alteration in the existing impermeable nature of the wider site.
- 3.1.5 Opportunities to provide soft landscaping on the site would provide added benefits to water quality and ecology. And as is proposed a new area of tree planting and BNG area is proposed to be provided as part of these works. Betterment to the current drainage regime can be considered in the form of permeable surfaces opposed to external hardstanding should also be considered to reduce the surface water run-off.
- 3.1.6 Although the existing site is already developed and fed by formal drainage systems, national and local policy identifies that SUDS should be incorporated into new development where feasible to manage surface water run-off generated. Retrofitting SuDS can be considered in due course where practical.
- 3.1.7 A separate Drainage Management Strategy will be prepared by others to support the planning application which details the drainage strategy proposed.

4.0 SOURCES OF FLOOD RISK

4.1 Fluvial Flood Risk

- 4.1.1 Information relating to flood risk at the site has been obtained from the Environment Agency and the Gov.uk website. An extract of the EA's Flood Zone Map for Planning is shown in **Figure 3**, which illustrates that the site is located solely within Flood Zone 1. Flood Zone 1 is an area considered to be at little or no flood risk from rivers and/or the sea (as defined by the EA).



Main Rivers

- 4.1.2 The nearest Main River to the site is Sudden Brook, a culverted watercourse located around 100m north of the site. The fluvial flood risk to the site from Sudden Brook is considered to be 'low'. This is supported by the Flood Map for Planning, as shown within **Figure 3** (see **Appendix B**). This is not only based on ground levels differences between the site itself and the Main River route, but also adjoining development.
- 4.1.3 To elaborate the adjacent Main River is culverted meaning the potential flooding associated is likely to be attributed to a failure or blockage in the culvert itself. This would likely limit exceedance routes to inlets, outlets, access chambers and manholes predominantly.
- 4.1.4 Looking at the route of the culvert to the north-west, and aerial imagery there doesn't appear to be any key points of failure as noted above within the Rochdale

Bypass/Edinburgh Way. Irrespective, if exceedance was to occur along the route of the culvert just north-west/north-east of the site, then ground levels are currently set such that exceedance routing would likely flow in a westerly direction (using the adjacent highways). Ultimately towards the open channel length of Sudden Brook to the west of Manchester Road over 500m from the site.

4.2 Tidal Flood Risk

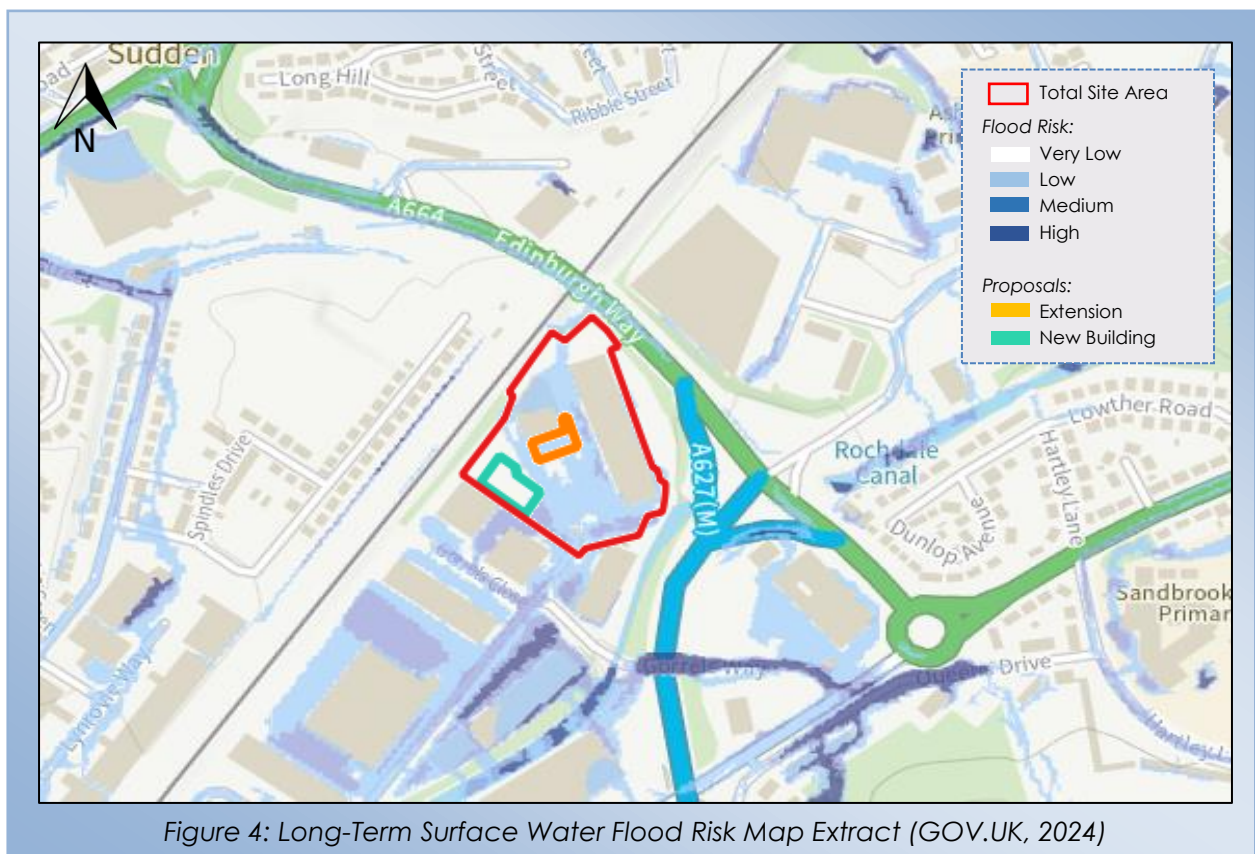
- 4.2.1 The Northwest Coastline is located more than 50km west of the site. The tidal flood risks associated are therefore 'very low'. This is supported by the EA's Flood Map for Planning, which shows the site in Flood Zone 1 and at little/no risk from tidal sources.

4.3 Flood Risk Vulnerability Classification and Flood Zone Compatibility

- 4.3.1 The proposals are 'commercial' in nature and are classified as 'less vulnerable' in Annex 3 (Flood Risk Vulnerability Classification) within the National Planning Policy Framework (NPPF). The Planning Practice Guidance confirms that this type of land-use is appropriate for Flood Zone 1, providing there is no increase in flood risk elsewhere due to the proposals.

4.4 Surface Water Flood Risk

- 4.4.1 Surface water flooding occurs when rainwater is unable to drain away through the normal drainage systems or soak into the ground but lies on or flows over the ground instead. The risk associated with surface water run-off is indicated by the long-term flood mapping (extract shown in **Figure 4**).



- 4.4.2 As indicated in **Figure 4**, the wider site is at predominantly 'low' and 'very low' risk of surface water flooding. The areas indicated to be at higher risk onsite correspond with flat impermeable areas of hardstanding where ponding is most likely to occur during extreme and prolonged rainfall events at present.
- 4.4.3 It should be noted that the nature of the mapping and modelling behind the surface water flood risk extents shown above, means that it is not an accurate representation of flood risk especially where there is existing formal surface water drainage infrastructure in place. This mapping uses a combination of direct rainfall and generalised ground levels to understand how run-off would convey across the topography. This mapping does not consider formal drainage infrastructure or below ground systems which in turn assist in managing and conveying flows safely away from developed areas, providing they are fully functional.
- 4.4.4 The locations more susceptible to surface water flooding within the wider site are mainly external car parking areas which would be formally drained meaning the risk portrayed in **Figure 4** is not accurate. It should be noted that post-development the current surface water drainage infrastructure presently serving the carpark will likely remain and continue to serve this area.
- 4.4.5 Those parts of the wider site where new buildings will be located are shown in orange and green in **Figure 4**, and these areas are currently shown to be at very low to low risk. Ground levels will likely alter to accommodate the new buildings, furthermore the new buildings will be served by formal drainage infrastructure sized appropriately to cater for the run-off generated. This will ensure that flood risk associated with surface water is minimised within the site boundary itself.
- 4.4.6 In terms of residual risks onsite post-development, It is advised that external levels fall away from the proposed building and extension, to minimise the flood risk from a variety of sources. By keeping the Finished Floor Levels elevated relative to the externals, this should help create a safe overland flood flow route externally in the event of a flooding associated with a variety of sources, including residual canal and surface water flooding.
- 4.4.7 Any overland flows generated must be carefully controlled, safe avenues directing overland flow away from any existing/proposed buildings is advised. Potential residual flood risk from surface water will be managed, post-development through the implementation of a sustainable surface water management regime, to manage surface water run-off generated by the new proposed buildings. A separate Drainage Management Strategy will be prepared by others to support the planning application which details the drainage strategy proposed.

Pluvial (Overland run-off) Flood Risk

- 4.4.8 Intense rainfall that is unable to soak into the ground or enter drainage systems can run-off land and result in flooding. Local topography and the land-use can have a strong influence on the direction and depth of flow. The topography of the site and the existing land-use mean it is unlikely the site will be impacted by significant pluvial flows. Any overland flows generated by the proposed development must be carefully controlled; safe avenues directing overland flow away from the proposed or existing adjacent buildings is advised.

- 4.4.9 Considering that the site is located within Rochdale, surrounding by transport infrastructure, commercial, industrial and residential development, it can be noted that there are very little neighboring areas of undeveloped land that would contribute to significant pluvial flows. When we consider the wider areas, if we assume any developed areas will be served by their own formal drainage systems the risk of pluvial flows from the south, west and north.
- 4.4.10 There is a small sliver of undeveloped land directly north-east of the site before the adjacent highway, although due to the levels, any pluvial flows generated here would generally fall towards the adjacent highway and away from the development proposals themselves. Overall, the pluvial flood risk to the proposals is therefore considered to be very low.

Sewer Flood Risk

- 4.4.11 In urban areas, rainwater is frequently drained into surface water sewers or sewers containing both surface and wastewater known as 'combined sewers'. Foul water flooding often occurs in areas prone to overland flow and can result when the sewer is overwhelmed by heavy rainfall and will continue until the water drains away.
- 4.4.12 Consultation with United Utilities has been undertaken and has confirmed that there are no current records of sewer flooding within the vicinity of the proposed development (see **Appendix C** for correspondence and sewer records).
- 4.4.13 United Utilities (UU) records identify public surface water and foul water sewers within the wider site, along the eastern and western boundaries. There is also a public combined sewer routing offsite from the northern corner of the site (see sewer records in **Appendix C**).
- 4.4.14 There is a requirement to provide maintenance offsets from the public sewers, where they are located onsite. The specific offset needs to be discussed with UU as they vary depending on the size of the infrastructure and the depth at which it is laid. Where any required offset cannot be achieved then diversion works may be required and early discussion with UU is advised for any proposed works.

4.5 Groundwater Flood Risk

- 4.5.1 High groundwater levels are usually the key source of groundwater flooding, which occurs when excess water emerges at the grounds surface (or within manmade underground structures such as basements). Groundwater flooding is often more insistent than surface water flooding and would typically last for weeks/months rather than days meaning the result to property is often more severe.
- 4.5.2 In general terms groundwater flooding can occur from three main sources:
- If groundwater levels are naturally close to the surface, then this can present a flood risk during times of intense rainfall.
 - Seepage and percolation occur where embankments above ground level hold water. In these cases, water travels through the embankment material and emerges on the opposite side of the embankment.
 - Groundwater recovery/rebound occurs where the water table has been artificially depressed by abstraction. When the abstraction stops the water table makes a

recovery to its original level. There is the potential for groundwater flooding in low lying areas where groundwater levels have been depressed below their pre-pumping conditions, where these were at or close to ground level.

- 4.5.3 The mapping data for groundwater shows that the site is underlain by a Secondary A bedrock aquifer, meaning that the rock layers in this area will support water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. The BGS mapping goes on to state that the site is also underlain with Secondary A superficial deposits (again referring to rock deposits which support water supplies at a local rather than strategic scale).
- 4.5.4 The online BGS mapping also provides information on Groundwater Vulnerability, this mapping illustrates the vulnerability of the groundwater to a pollutant discharged at ground level. The mapping uses hydrological, geological, hydrogeological and soil properties within a one-kilometre square grid. In this case the site area is shown to be located within a medium-high risk area, which means that it is in an area with a higher likelihood of a pollutant reaching the groundwater (i.e., the vulnerability).
- 4.5.5 No historical flooding at or within proximity of the site due to groundwater related sources has however been identified as part of this assessment, including review of the Rochdale Metropolitan Borough Council Strategic Flood Risk Assessment, and the Greater Manchester Strategic Flood Risk Assessment (see mapping extracts in **Appendix I**).
- 4.5.6 Irrespective, it is advised that external levels fall away from the proposed dwellings to minimise the flood risk from a variety of sources. By keeping the Finished Floor Levels elevated relative to the externals, this should help create an overland flood flow route in the event of a breach or any other source of overland flooding.

Groundwater Source Protection Zones

- 4.5.7 In addition to the aquifer bedrock designations, mapping is available that shows the extent of groundwater Source Protection Zones (SPZs). The SPZs show the risk of contamination from any activities that might cause pollution in the area. Sources include wells, boreholes, and springs. Review of the mapping has identified that the site is not located within a SPZ.
- 4.5.8 In terms of sites located within Groundwater Source Protection Zones a key consideration is water quality and ensuring any run-off discharging from the site into the ground (either directly or via surface water bodies), is to the highest possible standard. Using Sustainable Drainage Systems (SuDS) that provide water quality improvements for areas of development that potentially act as a source of contamination, can help control any adverse impact on water quality. Refer to the separate Drainage Management Strategy to see the proposals for surface water management at the site.

4.6 Artificial Sources of Flood Risk

- 4.6.1 National policy states that an FRA should consider the potential risks from a variety of other flood sources including artificial sources (such as risks from reservoirs and canals).

Reservoirs

- 4.6.2 The Environment Agency recognises reservoirs as bodies of water over 25,000cu.m and the long-term flood mapping is included in **Appendix B**. The mapping shows that the site is not susceptible to flooding should a failure occur in a nearby reservoir.
- 4.6.3 Irrespective, it is advised that external levels fall away from the proposed buildings, to minimise the flood risk from a variety of sources. By keeping the Finished Floor Levels elevated relative to the externals, this should help create an overland flood flow route in the event of a breach or any other source of reservoir flooding.

Canals

- 4.6.4 The nearest canal to the site is Rochdale Canal, which is located immediately south-east of the site. The canal is raised relative to the site by approximately 2m at a level of 139.25mAOD. There is therefore a risk of overtopping from the canal exceeding onto the site, and the potential for flooding of the site as a result of a breach of the embankment.
- 4.6.5 Given the proximity of the canal, and the associated levels, consultations have been undertaken with CRT to obtain any information they may hold regarding the flood risk from Rochdale Canal. At this stage, a response is currently outstanding (see correspondence in **Appendix D**). Consultations have also been undertaken with the EA, UU, and RMBC, and no historic canal flooding has been identified (see responses in **Appendix B, C, and E**).
- 4.6.6 Review of the Bury, Rochdale and Oldham Level 2 Strategic Flood Risk Assessment (SFRA) has identified that the site is located in the 'Direct Canal Hazard Zone', which indicates indicatively areas that may be at risk of flooding if a canal were to overtop, or in the event of an embankment failure. The mapping is included in **Appendix I** for review.
- 4.6.7 The SFRA notes that this zone should only be used to identify development sites which should take into consideration the risk of flooding from the canal system during a site specific flood risk assessment (FRA). The SFRA goes on to note that canals do not pose a direct flood risk as these are controlled water bodies, and the residual risk is limited by continued maintenance by British Waterways, along with the controlled volume of water within an impounded length. Irrespective, this residual risk has been considered further as part of this assessment.
- 4.6.8 Review of the topographic survey has identified that should exceedance or a failure of the embankment occur south-east of the site, flows would likely route toward the site given the falls. The new proposals have been located on the western half of the site, approximately 120m from the canal top of bank. The levels in the locations of the proposed extension and new build are elevated slightly relative to the levels of the car parking to the east.
- 4.6.9 It is advised that external levels fall away from the proposed building and extension, to minimise the flood risk from a variety of sources. By keeping the Finished Floor Levels elevated relative to the externals, this should help create a safe overland flood flow route externally in the event of a flooding associated with a variety of sources, including residual canal and surface water flooding.

4.7 Historical and Anecdotal Flooding Information

- 4.7.1 Review of the Greater Manchester Level 1 Strategic Flood Risk Assessment has identified potential historic surface water within proximity of the site (see general mapping extracts in **Appendix I**).
- 4.7.2 Consultation with RMBC has confirmed that they do not hold any record of historic flooding on the site specifically (see correspondence in **Appendix E**). Consultation with the Environment Agency, United Utilities, and Canal and River Trust has also been carried out for this application and has not identified any historic flooding at or near the site (correspondence in **Appendix B, C, and D** where received).

4.8 Flood Risk Mitigation Measures & Residual Risks

- 4.8.1 The development parcels are located wholly within Flood Zone 1 and are at little risk of fluvial/tidal flooding. To observe a conservative approach however, mitigation measures have been proposed below to safeguard against other potential residual sources of flood risk. The mitigation measures also consider the uncertainties of climate change in accordance with the revised NPPF and PPG.

Mitigation Measures

- 4.8.2 It is advised that external levels fall away from the proposed building, to minimise the flood risk from a variety of sources. By keeping the Finished Floor Levels elevated relative to the externals (typically 150mm where practical), should help create a safe overland flood flow route externally in the event of a flooding associated with a variety of sources including surface water and canal exceedance. It is acknowledged that the nature of the proposals in this case are for less vulnerable natured buildings therefore if level access is required then other resilience measures could look to be incorporated internally to provide property level flood resilience.
- 4.8.3 Any run-off conveying through the site at present should be catered for through continued routing in an appropriate manner, this will ensure no increased run-off elsewhere because of the proposals. Safe avenues directing overland flow away from any existing/proposed buildings is advised.
- 4.8.4 There is a requirement to provide maintenance offsets from the public sewers, where they are located onsite. The specific offset needs to be discussed with UU as they vary depending on the size of the infrastructure and the depth at which it is laid. Where any required offset cannot be achieved then diversion works may be required and early discussion with UU is advised for any proposed works.
- 4.8.5 To minimise the flood risk to the neighbouring properties it is recommended that the surface water run-off generated by the proposals be managed effectively with the peak rates of run-off being restricted to the equivalent of the pre-development situation (with betterment where required).
- 4.8.6 A separate Drainage Management Strategy is being prepared by others to support the application, which details the drainage strategy. The proposed onsite surface water drainage system will need to be sized to contain the 1 in 30yr return period event with exceedance from storm events up to and including the 1 in 100yr return period storm event with a 45% allowance for climate change being contained onsite.

Residual Risks

- 4.8.7 As with any drainage system blockages, within either the foul or surface water system have the potential to cause flooding or disruption. It is important that should any drainage systems not be offered for adoption then an appropriate maintenance regime should be scheduled with a suitably qualified management company for these private drainage systems.
- 4.8.8 If an extreme rainfall event exceeds the design criteria for the drainage system it is likely that there will be some overland flows that are unable to enter the system, it is important that these potential overland flows are catered for within the development site if the capacity of the drainage system is exceeded, or in the event of a system failure.

5.0 SUMMARY AND CONCLUSIONS

- 5.1 The site lies solely within Flood Zone 1 and the Planning Practice Guidance confirms that 'less vulnerable' development is appropriate within Flood Zone 1, providing there is no increase in flood risk elsewhere due to the proposals. Consultation with the Environment Agency, United Utilities, and Rochdale Metropolitan Borough Council has not identified any historical flooding to the site or the wider area.
- 5.2 This report has reviewed all sources of flood risk both to and resulting from the proposed development site. The nearest Main River to the site is Sudden Brook, which is a culverted watercourse located around 100m to the north. The fluvial flood risk to the site from Sudden Brook is 'low' given the topographical characteristics, its proximity to the site and that it is a culverted stretch where it runs nearest to the site.
- 5.3 In terms of other sources of flood risk, the site is at predominantly 'very low' and 'low' risk of surface water flooding. There are isolated areas at higher risk, but these correspond with existing flat areas of hardstanding where ponding could naturally occur during extreme and prolonged rainfall events.
- 5.4 Potential residual flood risk from surface water will be managed, post-development through the implementation of a sustainable surface water management regime, to manage surface water run-off generated by the new proposed buildings. A separate Drainage Management Strategy will be prepared by others to support the planning application which details the drainage strategy proposed.
- 5.5 The nearest canal to the site is Rochdale Canal, which is located immediately south-east of the site. The canal is raised relative to the site by approximately 2m at a level of 139.25mAOD. There is therefore a risk of overtopping from the canal exceeding onto the site, and the potential for flooding of the site as a result of a breach of the embankment.
- 5.6 Review of the Bury, Rochdale and Oldham Level 2 SFRA has identified that the site is located in the 'Direct Canal Hazard Zone', which indicates indicatively areas that may be at risk of flooding if a canal were to overtop, or in the event of an embankment failure. Canals do not pose a direct flood risk as these are controlled water bodies, and the residual risk is limited by continued maintenance. This residual risk has been considered further as part of this assessment.
- 5.7 Review of the topographic survey has identified that should exceedance or a failure of the embankment occur south-east of the site, flows would likely route toward the site given the falls. The new proposals have been located on the western half of the site, approximately 120m from the canal top of bank. The levels in the locations of the proposed extension and new build are elevated slightly relative to the levels of the car parking to the east.
- 5.8 To mitigate flood risks identified, It is advised that external levels fall away from the proposed building and extension, to minimise the flood risk from a variety of sources. By keeping the Finished Floor Levels elevated relative to the externals, this should help create a safe overland flood flow route externally in the event of a flooding associated with a variety of sources, including residual canal and surface water flooding.

- 5.9 To summarise, the proposals are at 'low' flood risk from the flood sources reviewed as part of this assessment. This assessment has been prepared in consultation with the relevant interested parties. The report is commensurate with the scale and nature of the development proposals and appropriate in accordance with the Planning Practice Guidance.

6.0 RECOMMENDATIONS

- 6.1 It is advised that external levels fall away from the proposed building and extension, to minimise the flood risk from a variety of sources. By keeping the Finished Floor Levels elevated relative to the externals, this should help create a safe overland flood flow route externally in the event of a flooding associated with a variety of sources, including residual canal and surface water flooding.
- 6.2 Safe avenues directing overland flow away from any existing/proposed buildings is advised. Any run-off conveying through the site at present should be catered for through continued routing in an appropriate manner, this will ensure no increased run-off elsewhere because of the proposals.
- 6.3 There is also a requirement to provide maintenance offsets from the public sewers, where they are located onsite. The specific offset needs to be discussed with UU as they vary depending on the size of the infrastructure and the depth at which it is laid. Where any required offset cannot be achieved then diversion works may be required and early discussion with UU is advised for any proposed works.
- 6.4 To minimise the flood risk to the neighbouring properties it is recommended that the surface water run-off generated by the proposals be managed effectively with the peak rates of run-off being restricted to the equivalent of the pre-development situation (with betterment where required). A separate Drainage Management Strategy is being prepared by others to support the planning application which will detail the preliminary drainage strategy.
- 6.5 The proposed onsite surface water drainage system will need to be sized to contain the 1 in 30yr return period event with exceedance from storm events up to and including the 1 in 100yr return period storm event with a 45% allowance for climate change being contained onsite.
- 6.6 It is important that should any drainage systems not be offered for adoption then an appropriate maintenance regime should be scheduled with a suitably qualified management company for these private drainage systems.

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Flood London – <http://www.floodlondon.com/>
Google Maps – <http://maps.google.co.uk/>
Streetmap – <http://www.streetmap.co.uk/>
United Utilities – <https://www.unitedutilities.com/>

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APPENDIX A: NPPF & PPG EXTRACTS

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14. Meeting the challenge of climate change, flooding and coastal change

157. The planning system should support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change. It should help to: shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure.

Planning for climate change

158. Plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures⁵⁶. Policies should support appropriate measures to ensure the future resilience of communities and infrastructure to climate change impacts, such as providing space for physical protection measures, or making provision for the possible future relocation of vulnerable development and infrastructure.
159. New development should be planned for in ways that:
- a) avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the planning of green infrastructure; and
 - b) can help to reduce greenhouse gas emissions, such as through its location, orientation and design. Any local requirements for the sustainability of buildings should reflect the Government's policy for national technical standards.
160. To help increase the use and supply of renewable and low carbon energy and heat, plans should:
- a) provide a positive strategy for energy from these sources, that maximises the potential for suitable development, and their future re-powering and life extension, while ensuring that adverse impacts are addressed appropriately (including cumulative landscape and visual impacts);
 - b) consider identifying suitable areas for renewable and low carbon energy sources, and supporting infrastructure, where this would help secure their development; and

⁵⁶ In line with the objectives and provisions of the Climate Change Act 2008.

- c) identify opportunities for development to draw its energy supply from decentralised, renewable or low carbon energy supply systems and for co-locating potential heat customers and suppliers.
161. Local planning authorities should support community-led initiatives for renewable and low carbon energy, including developments outside areas identified in local plans or other strategic policies that are being taken forward through neighbourhood planning.
162. In determining planning applications, local planning authorities should expect new development to:
- a) comply with any development plan policies on local requirements for decentralised energy supply unless it can be demonstrated by the applicant, having regard to the type of development involved and its design, that this is not feasible or viable; and
 - b) take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption.
163. When determining planning applications⁵⁷ for renewable and low carbon development, local planning authorities should:
- a) not require applicants to demonstrate the overall need for renewable or low carbon energy, and recognise that even small-scale projects provide a valuable contribution to significant cutting greenhouse gas emissions;
 - b) approve the application if its impacts are (or can be made) acceptable⁵⁸. Once suitable areas for renewable and low carbon energy have been identified in plans, local planning authorities should expect subsequent applications for commercial scale projects outside these areas to demonstrate that the proposed location meets the criteria used in identifying suitable areas; and
 - c) in the case of applications for the repowering and life-extension of existing renewable sites, give significant weight to the benefits of utilising an established site, and approve the proposal if its impacts are or can be made acceptable.
164. In determining planning applications, local planning authorities should give significant weight to the need to support energy efficiency and low carbon heating improvements to existing buildings, both domestic and non-domestic (including

⁵⁷ Wind energy development involving one or more turbines can also be permitted through Local Development Orders, Neighbourhood Development Orders and Community Right to Build Orders. In the case of Local Development Orders, it should be demonstrated that the planning impacts identified by the affected local community have been appropriately addressed and the proposal has community support.

⁵⁸ Except for applications for the repowering and life-extension of existing wind turbines, a planning application for wind energy development involving one or more turbines should not be considered acceptable unless it is in an area identified as suitable for wind energy development in the development plan or a supplementary planning document; and, following consultation, it can be demonstrated that the planning impacts identified by the affected local community have been appropriately addressed and the proposal has community support.

through installation of heat pumps and solar panels where these do not already benefit from permitted development rights). Where the proposals would affect conservation areas, listed buildings or other relevant designated heritage assets, local planning authorities should also apply the policies set out in chapter 16 of this Framework.

Planning and flood risk

165. Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere.
166. Strategic policies should be informed by a strategic flood risk assessment, and should manage flood risk from all sources. They should consider cumulative impacts in, or affecting, local areas susceptible to flooding, and take account of advice from the Environment Agency and other relevant flood risk management authorities, such as lead local flood authorities and internal drainage boards.
167. All plans should apply a sequential, risk-based approach to the location of development – taking into account all sources of flood risk and the current and future impacts of climate change – so as to avoid, where possible, flood risk to people and property. They should do this, and manage any residual risk, by:
 - a) applying the sequential test and then, if necessary, the exception test as set out below;
 - b) safeguarding land from development that is required, or likely to be required, for current or future flood management;
 - c) using opportunities provided by new development and improvements in green and other infrastructure to reduce the causes and impacts of flooding, (making as much use as possible of natural flood management techniques as part of an integrated approach to flood risk management); and
 - d) where climate change is expected to increase flood risk so that some existing development may not be sustainable in the long-term, seeking opportunities to relocate development, including housing, to more sustainable locations.
168. The aim of the sequential test is to steer new development to areas with the lowest risk of flooding from any source. Development should not be allocated or permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower risk of flooding. The strategic flood risk assessment will provide the basis for applying this test. The sequential approach should be used in areas known to be at risk now or in the future from any form of flooding.
169. If it is not possible for development to be located in areas with a lower risk of flooding (taking into account wider sustainable development objectives), the exception test may have to be applied. The need for the exception test will depend on the potential vulnerability of the site and of the development proposed, in line with the Flood Risk Vulnerability Classification set out in Annex 3.

170. The application of the exception test should be informed by a strategic or site-specific flood risk assessment, depending on whether it is being applied during plan production or at the application stage. To pass the exception test it should be demonstrated that:
- a) the development would provide wider sustainability benefits to the community that outweigh the flood risk; and
 - b) the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.
171. Both elements of the exception test should be satisfied for development to be allocated or permitted.
172. Where planning applications come forward on sites allocated in the development plan through the sequential test, applicants need not apply the sequential test again. However, the exception test may need to be reapplied if relevant aspects of the proposal had not been considered when the test was applied at the plan-making stage, or if more recent information about existing or potential flood risk should be taken into account.
173. When determining any planning applications, local planning authorities should ensure that flood risk is not increased elsewhere. Where appropriate, applications should be supported by a site-specific flood-risk assessment⁵⁹. Development should only be allowed in areas at risk of flooding where, in the light of this assessment (and the sequential and exception tests, as applicable) it can be demonstrated that:
- a) within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;
 - b) the development is appropriately flood resistant and resilient such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment;
 - c) it incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate;
 - d) any residual risk can be safely managed; and
 - e) safe access and escape routes are included where appropriate, as part of an agreed emergency plan.

⁵⁹ A site-specific flood risk assessment should be provided for all development in Flood Zones 2 and 3. In Flood Zone 1, an assessment should accompany all proposals involving: sites of 1 hectare or more; land which has been identified by the Environment Agency as having critical drainage problems; land identified in a strategic flood risk assessment as being at increased flood risk in future; or land that may be subject to other sources of flooding, where its development would introduce a more vulnerable use.

174. Applications for some minor development and changes of use⁶⁰ should not be subject to the sequential or exception tests but should still meet the requirements for site-specific flood risk assessments set out in footnote 59.
175. Major developments should incorporate sustainable drainage systems unless there is clear evidence that this would be inappropriate. The systems used should:
- a) take account of advice from the lead local flood authority;
 - b) have appropriate proposed minimum operational standards;
 - c) have maintenance arrangements in place to ensure an acceptable standard of operation for the lifetime of the development; and
 - d) where possible, provide multifunctional benefits.

Coastal change

176. In coastal areas, planning policies and decisions should take account of the UK Marine Policy Statement and marine plans. Integrated Coastal Zone Management should be pursued across local authority and land/sea boundaries, to ensure effective alignment of the terrestrial and marine planning regimes.
177. Plans should reduce risk from coastal change by avoiding inappropriate development in vulnerable areas and not exacerbating the impacts of physical changes to the coast. They should identify as a Coastal Change Management Area any area likely to be affected by physical changes to the coast, and:
- a) be clear as to what development will be appropriate in such areas and in what circumstances; and
 - b) make provision for development and infrastructure that needs to be relocated away from Coastal Change Management Areas.
178. Development in a Coastal Change Management Area will be appropriate only where it is demonstrated that:
- a) it will be safe over its planned lifetime and not have an unacceptable impact on coastal change;
 - b) the character of the coast including designations is not compromised;
 - c) the development provides wider sustainability benefits; and
 - d) the development does not hinder the creation and maintenance of a continuous signed and managed route around the coast⁶¹.

⁶⁰ This includes householder development, small non-residential extensions (with a footprint of less than 250m²) and changes of use; except for changes of use to a caravan, camping or chalet site, or to a mobile home or park home site, where the sequential and exception tests should be applied as appropriate.

⁶¹ As required by the Marine and Coastal Access Act 2009.

179. Local planning authorities should limit the planned lifetime of development in a Coastal Change Management Area through temporary permission and restoration conditions, where this is necessary to reduce a potentially unacceptable level of future risk to people and the development.

(<http://www.legislation.gov.uk/ukxi/2015/596/article/4/made>) to require planning permission to be sought in each case.

Paragraph: 075 Reference ID: 7-075-20220825

Revision date: 25 08 2022

How can neighbourhood plans and neighbourhood development/community right to build orders take account of coastal change?

In any instance where a Neighbourhood Area is proposed in a Coastal Change Management Area, careful attention should be paid to the guidance on [what development would be appropriate in such an area](#), including whether [time-limiting planning permissions](#) are needed. The local planning authority will need to be consulted about existing and anticipated levels of risk, and the types of development that may or may not be appropriate.

See related policy in [paragraphs 170 to 173 of the National Planning Policy Framework](#) (<https://www.gov.uk/guidance/national-planning-policy-framework/14-meeting-the-challenge-of-climate-change-flooding-and-coastal-change>).

Paragraph: 076 Reference ID: 7-076-20220825

Revision date: 25 08 2022

Flood Zone and flood risk tables

- Table 1: Flood Zones
- [National Planning Policy Framework Annex 3 - Flood risk vulnerability classification](#) (<https://www.gov.uk/guidance/national-planning-policy-framework/annex-3-flood-risk-vulnerability-classification>)
- [Table 2: Flood risk vulnerability and flood zone 'incompatibility'](#)

Paragraph: 077 Reference ID: 7-077-20220825

Revision date: 25 08 2022

Table 1: Flood Zones

Flood Zone	Definition
Zone 1 Low Probability	Land having a less than 0.1% annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map for Planning – all land outside Zones 2, 3a and 3b)
Zone 2 Medium Probability	Land having between a 1% and 0.1% annual probability of river flooding; or land having between a 0.5% and 0.1% annual

Flood Zone	Definition
	probability of sea flooding. (Land shown in light blue on the Flood Map)
Zone 3a High Probability	Land having a 1% or greater annual probability of river flooding; or Land having a 0.5% or greater annual probability of sea. (Land shown in dark blue on the Flood Map)
Zone 3b The Functional Floodplain	This zone comprises land where water from rivers or the sea has to flow or be stored in times of flood. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. Functional floodplain will normally comprise: • land having a 3.3% or greater annual probability of flooding, with any existing flood risk management infrastructure operating effectively; or • land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 0.1% annual probability of flooding). Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map)

Note: The Flood Zones shown on the Environment Agency's Flood Map for Planning (Rivers and Sea) do not take account of the possible impacts of climate change and consequent changes in the future probability of flooding. Reference should therefore also be made to the [Strategic Flood Risk Assessment](https://www.gov.uk/guidance/local-planning-authorities-strategic-flood-risk-assessment) (<https://www.gov.uk/guidance/local-planning-authorities-strategic-flood-risk-assessment>) when considering location and potential future flood risks to developments and land uses.

Paragraph: 078 Reference ID: 7-078-20220825

Revision date: 25 08 2022

Table 2: Flood risk vulnerability and flood zone 'incompatibility'

Flood Zones	Flood Risk Vulnerability Classification				
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a †	Exception Test required †	X	Exception Test required	✓	✓
Zone 3b *	Exception Test required *	X	X	X	✓ *

Key:

✓ Exception test is not required

X Development should not be permitted

Notes to table 2:

- This table does not show the application of the [Sequential Test](#) which should be applied first to guide development to the lowest flood risk areas; nor does it reflect the need to avoid flood risk from sources other than rivers and the sea;
- The Sequential and [Exception Tests](#) do not need to be applied to those developments set out in [National Planning Policy Framework footnote 56](#) (<https://www.gov.uk/guidance/national-planning-policy-framework/14-meeting-the-challenge-of-climate-change-flooding-and-coastal-change>). The Sequential and Exception Tests should be applied to 'major' and 'non major' development;
- Some developments may contain different elements of vulnerability and the highest vulnerability category should be used, unless the development is considered in its component parts.

“†” In Flood Zone 3a essential infrastructure should be designed and constructed to remain operational and safe in times of flood.

“*” In Flood Zone 3b (functional floodplain) essential infrastructure that has passed the Exception Test, and water-compatible uses, should be designed and constructed to:

- remain operational and safe for users in times of flood;

- result in no net loss of floodplain storage;
- not impede water flows and not increase flood risk elsewhere.

Paragraph: 079 Reference ID: 7-079-20220825

Revision date: 25 08 2022

Site-specific flood risk assessment: Checklist

1 - Development site and location

You can use this section to describe the site you are proposing to develop. It would be helpful to include, or make reference to, a location map which clearly indicates the development site.

- a. Where is the development site located? (e.g. postal address or national grid reference)
- b. What is the current use of the site? (e.g. undeveloped land, housing, shops, offices)
- c. Which Flood Zone (for river or sea flooding) is the site within? (i.e. Flood Zone 1, Flood Zone 2, Flood Zone 3). As a first step, you should check the [Flood Map for Planning \(https://flood-map-for-planning.service.gov.uk/\)](https://flood-map-for-planning.service.gov.uk/). Check the Strategic Flood Risk Assessment for the area available from the local planning authority to identify if the site is within Flood Zone 1 but at increased risk of flooding in future due to climate change
- d. Also check the Strategic Flood Risk Assessment to identify if there are any other sources of flooding that may affect the site now or in the future.

2 - Development proposals

You can use this section to provide a general summary of the development proposals. It would be helpful to include, or make reference to, an existing block plan and a proposed block plan, where appropriate.

- a. What are the development proposal(s) for this site? Will this involve a change of use of the site and, if so, what will that change be?
- b. In terms of vulnerability to flooding, what is the vulnerability classification of the proposed development? See [National Planning Policy Framework Annex 3 \(https://www.gov.uk/guidance/national-planning-policy-framework/annex-3-flood-risk-vulnerability-classification\)](https://www.gov.uk/guidance/national-planning-policy-framework/annex-3-flood-risk-vulnerability-classification) for an explanation of the vulnerability classifications.
- c. What is the expected or estimated lifetime of the proposed development likely to be (e.g. 100 years or 75 years)? See [paragraph 006](#) of this guidance for further advice on how to assess the lifetime of developments for flood risk and coastal

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APPENDIX B: EA INFORMATION & CORRESPONDENCE

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Jabez Thomas

From: GMMC Info Requests <InfoRequests.GMMC@environment-agency.gov.uk>
Sent: 22 October 2024 13:02
To: Jabez Thomas
Subject: GMMC380621SW Response attached from the Environment Agency
Attachments: GMMC380621SW DFM.pdf; GMMC380621SW Table.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Jabez,

Thank you for your enquiry which was received on 16/10/24.

We respond to requests under the Freedom of Information Act 2000 and Environmental Information Regulations 2004.

I enclose the data requested, please see supporting comments from my colleague.
Please refer to the [Open Government Licence](#) which explains the permitted use of this information.

We hold no record of flooding in this area. However, this does not mean flooding has not occurred in the past or that it will not flood in future.

We recommend that you also contact United Utilities and Rochdale Council who may hold additional information (the former especially in relation to sewer flooding).

There are no flood defences in the vicinity of the site.

There are no 2D levels available for this site.

Rochdale Council is responsible for issues relating to surface water and hold information on surface water flooding.

Please be aware you can check your risk of flooding on our external website <https://flood-warning-information.service.gov.uk/long-term-flood-risk/>

Here are some useful links below:

<https://www.gov.uk/guidance/flood-risk-assessment-local-planning-authorities>

<https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>

Here are some useful links below:

<https://ea.sharefile.com/public/share/web-s399eccad272a4f66b85b03ab66d9298f>

The ShareFile links contains the following data:

Rochdale and Littleborough 2013 Report (P5) Outputs (P6) Mapedit (P6) Model (P7)

Please can you advise that the link will expire in 30 days from 22/10/2024. It is therefore advisable that the client saves this data to their own system.

Product 6

1. You may use the Information for your internal or personal purposes and may only sublicense others to use it if you do so under a written licence which includes the terms of these conditions and the agreement and in particular may not allow any period of use longer than the period licensed to you.

2. Notwithstanding the fact that the standard wording of the Environment Agency Conditional Licence indicates that it is perpetual, this Licence has a limited duration of 5 years at the end of which it will terminate automatically without notice.
3. We have restricted use of the Information as a result of legal restrictions placed upon us to protect the rights or confidentiality of others. In this instance it is because of third party data. If you contact us in writing (this includes email) we will, as far as confidentiality rules allow, provide you with details including, if available, how you might seek permission from a third party to extend your use rights.
 - 4.1 The Information may contain some data that we believe is within the definition of "personal data" under the Data Protection Act 1998 but we consider that we will not be in breach of the Act if we disclose it to you with conditions set out in this condition and the conditions above. This personal data comprises names of individuals or commentary relating to property that may be owned by an individual or commentary relating to the activities of an individual.
 - 4.2 Under the Act a person who holds and uses or passes to others personal data is responsible for any compliance with the Act and so we have no option but to warn you that this means you have responsibility to check that you are compliant with the Act in respect of this personal data.
- 5 The location of public water supply abstraction sources must not be published to a resolution more detailed than 1km². Information about the operation of flood assets should not be published.
- 6 .1 Where we have supplied model data which may include model inputs or outputs you agree to supply to the Environment Agency copies of any assessments/studies and related outputs, modifications or derivatives created pursuant to the supply to you of the Information, all of which are hereinafter referred to as "the Data".
 - 6.2 You agree, in the public interest to grant to the Environment Agency a perpetual royalty free non-exclusive licence to use the Data or any part thereof for its internal purposes or to use it in any way as part of Environment Agency derivative products which it supplies free of charge to others such as incorporation into the Environment Agency's Open Data mapping products.

We are supplying this information to you under the Environment Agency Conditional Licence Please check the special conditions above to determine If the conditions on the use are suitable for your purposes. If they are not, this information is not provided with a licence for use, and the data is provided for read right only.

Please get in touch if you have any further queries or contact us within two months if you'd like us to review the information we have sent.

Kind regards,

Sarah Walters

Customer and Engagement Officer

Greater Manchester, Merseyside and Cheshire

Email: InfoRequests.gmmc@environment-agency.gov.uk

From: Jabez Thomas <jabezthomas@betts-associates.co.uk>

Sent: 16 October 2024 12:14

To: GMMC Info Requests <InfoRequests.GMMC@environment-agency.gov.uk>

Subject: Flood Risk Information Request – Products 4, 5, 6, & 7

You don't often get email from jabezthomas@betts-associates.co.uk. [Learn why this is important](#)

To whom it may concern,

Hanson Springs, Gorrells Way, Rochdale

Please could you confirm whether you have any information (where available, Products 4, 5, 6, & 7) that you feel would be valuable to a Flood Risk Assessment and Drainage Management Strategy for

the above site (location plan attached), including details of historical flooding and specific drainage requirements; this would be greatly appreciated. If there are any other specific requirements that you require in a scope of works for this site, please can you advise at this stage so that it can be fully incorporated into the proposals at an early stage.

Please do not hesitate to contact me on the details below to discuss further should you require additional information or clarification.

Kind Regards,

Jabez Thomas BSc(Hons)
Graduate Flood Risk Analyst

BETTS HYDRO

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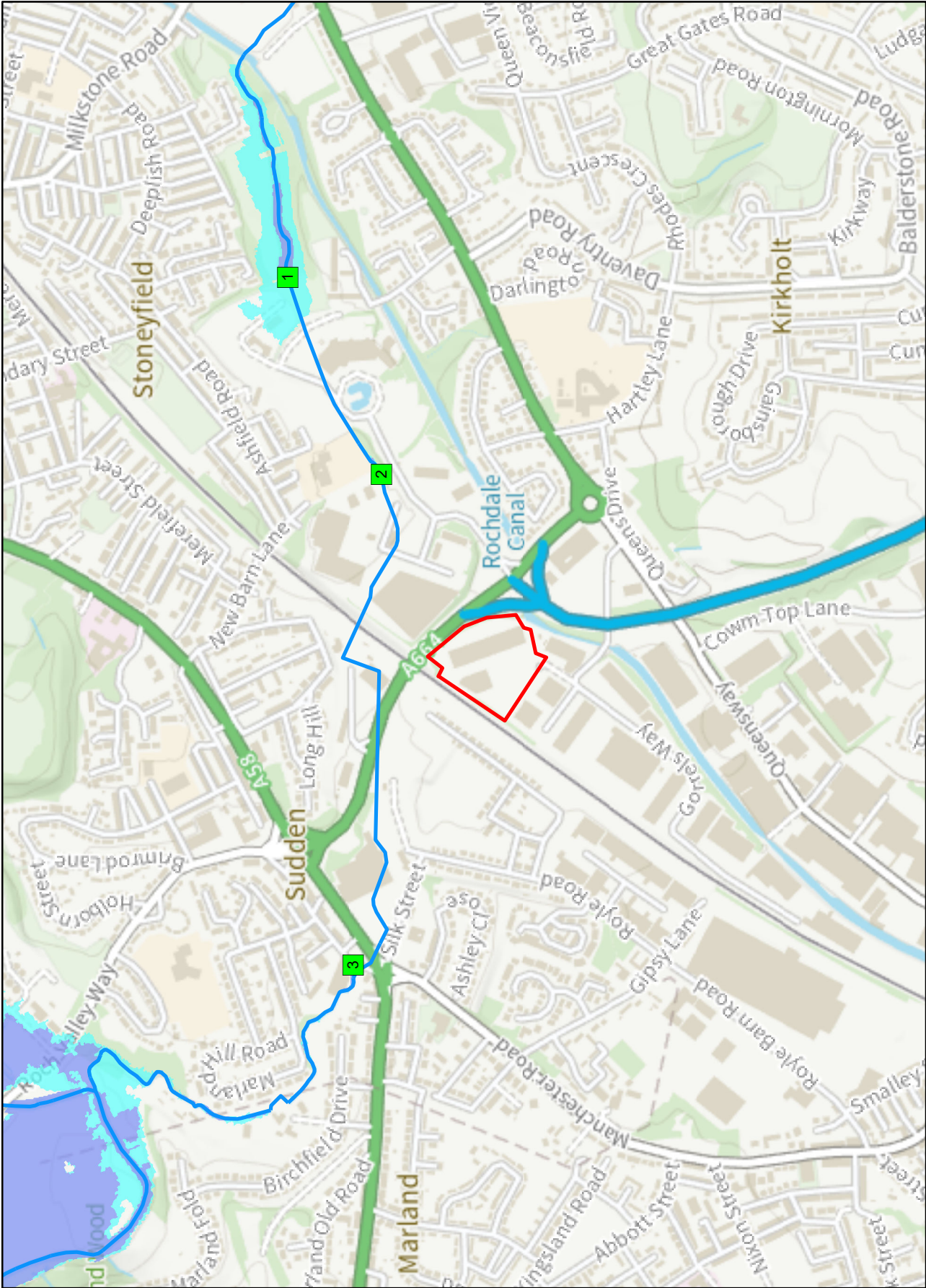
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Detailed Flood Map Centred on Gorrells Way, Rochdale, OL11 2PX.
Created 22/10/2024 [GMMC380621SW]



1:10,001

N

- Legend**
- Site Location
 - Model Measurements
 - Main River
 - Flood Zone 2
 - Flood Zone 3

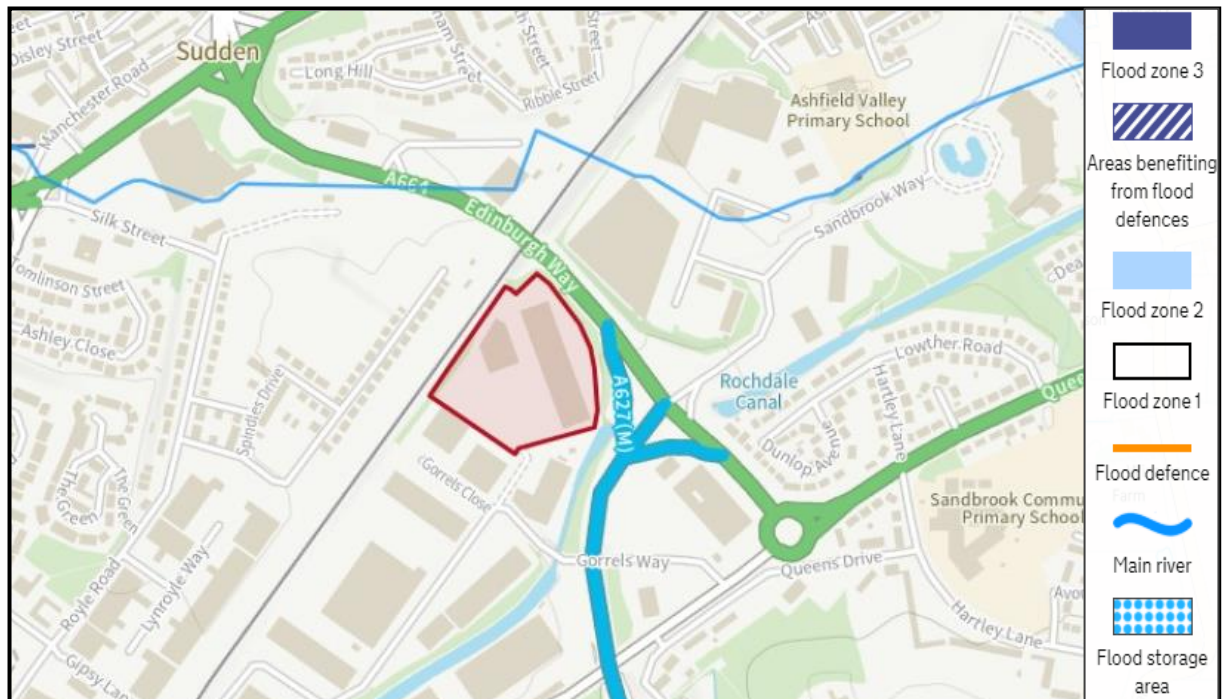
Map Reference	Model Node Reference	Easting	Northing	Data	5 % AEP (A in 20 year)	1.33 % AEP (A in 75 year)	1 % AEP (A in 100 year)	1 % AEP (A in 100 year) + 35% increase in flow	0.5 % AEP (A in 200 year)	0.1 % AEP (A in 1000 year)	5 % AEP (A in 20 year)	1.33 % AEP (A in 75 year)	1 % AEP (A in 100 year)	1 % AEP (A in 100 year) + 35% increase in flow	1 % AEP (A in 100 year) + 70% increase in flow	0.5 % AEP (A in 200 year)	0.1 % AEP (A in 1000 year)
1	ew013_0190_S40D01_1881	389652	411711	Modelled Water Level (m aodN) Modelled Flow (cumecs)	126.02 3.60	129.12 5.96	126.60 6.34	130.88 7.46	130.69 7.29	133.76 9.51	126.02 3.60	128.12 5.96	126.60 6.34	130.88 7.46	131.94 8.27	130.69 7.29	133.76 9.52
2	ew013_0190_S40D01_1579	389320	411747	Modelled Water Level (m aodN) Modelled Flow (cumecs)	124.60 3.70	126.04 6.02	125.12 6.53	126.32 7.68	125.30 7.52	126.68 9.02	124.60 3.70	126.04 6.02	125.12 6.53	126.32 7.68	126.46 8.52	125.30 7.52	126.70 9.93
3	ew013_0190_S40D01_0564	388420	411796	Modelled Water Level (m aodN) Modelled Flow (cumecs)	114.35 3.70	114.55 6.02	114.59 6.53	114.67 7.68	114.66 7.52	114.80 9.02	114.35 3.70	114.55 6.02	114.59 6.53	114.67 7.68	114.72 8.52	114.66 7.52	114.80 9.93

Model data taken from Recklaide and Lutterborough 2013
AEP - Annual Exceedence Probability
in aodN - metres above ordnance datum Newlyn
cumecs - cubic metres per second

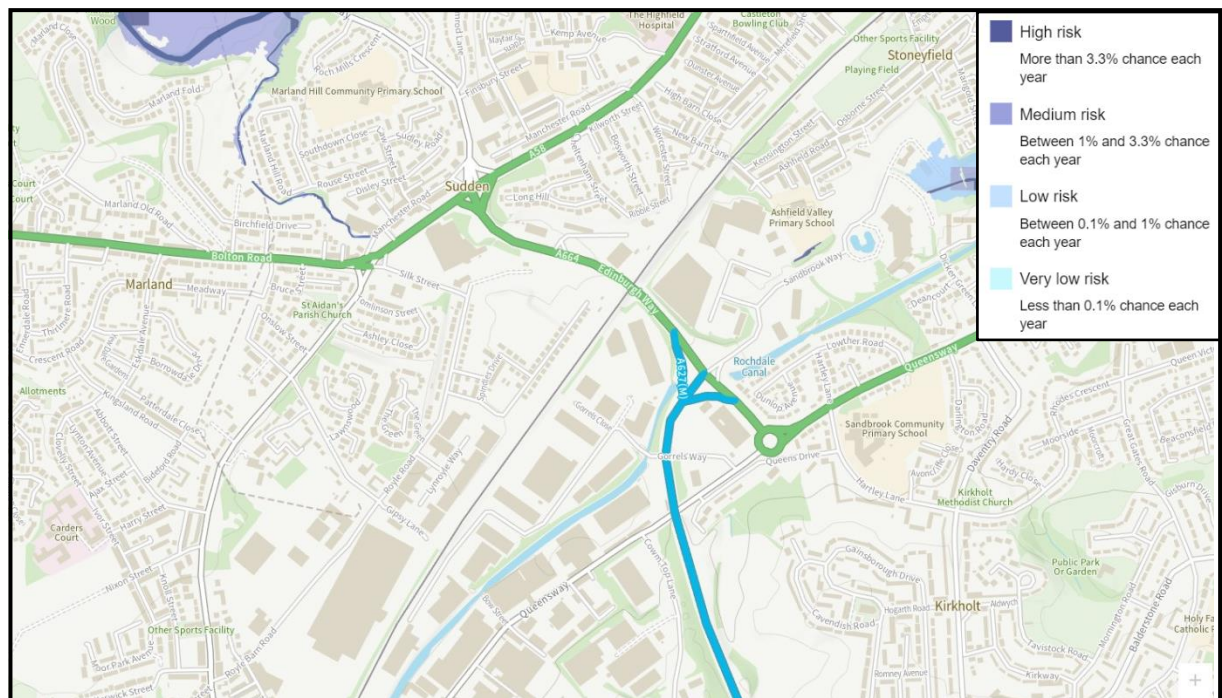
Notes: *Climate Change Scenario - 50% and 70% increases in flow calculated for the 2080s (2070 - 2115). Please see <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances> for more information regarding the new climate change guidance. The location of the site and the type (vulnerability) of development determine the climate change allowances to consider in any flood risk assessment.

NATIONAL FLOOD MAPPING

Flood Map for Planning

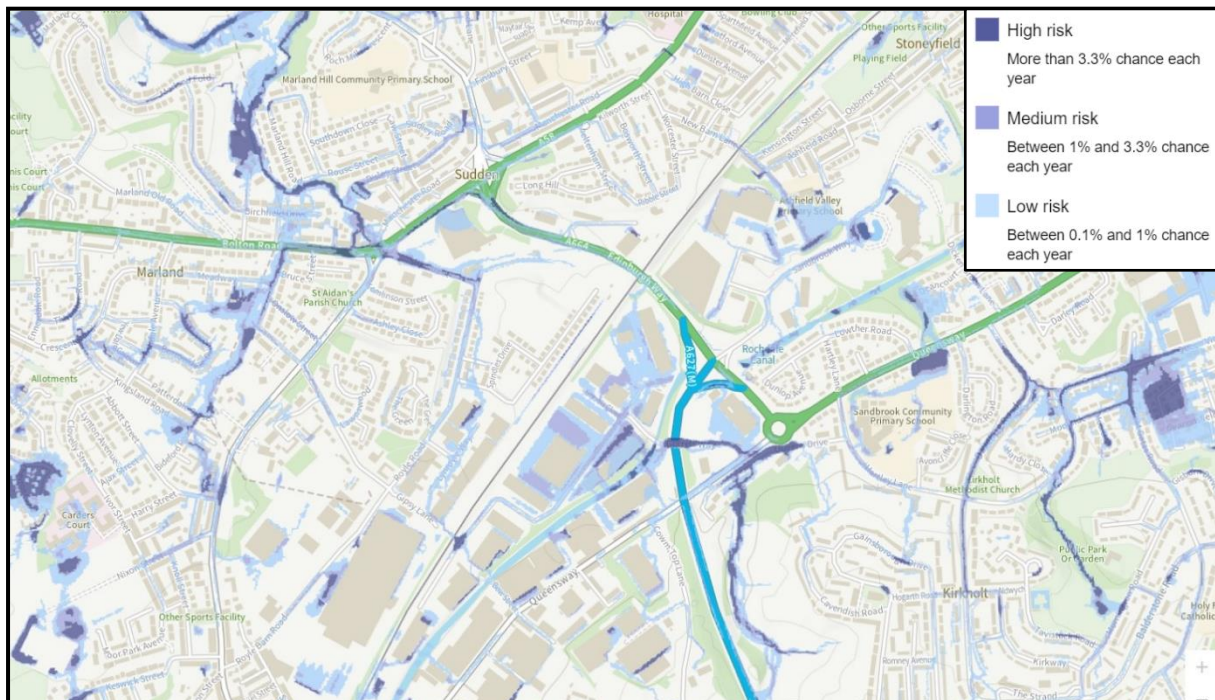


Long Term Flood Risk – Rivers or Sea

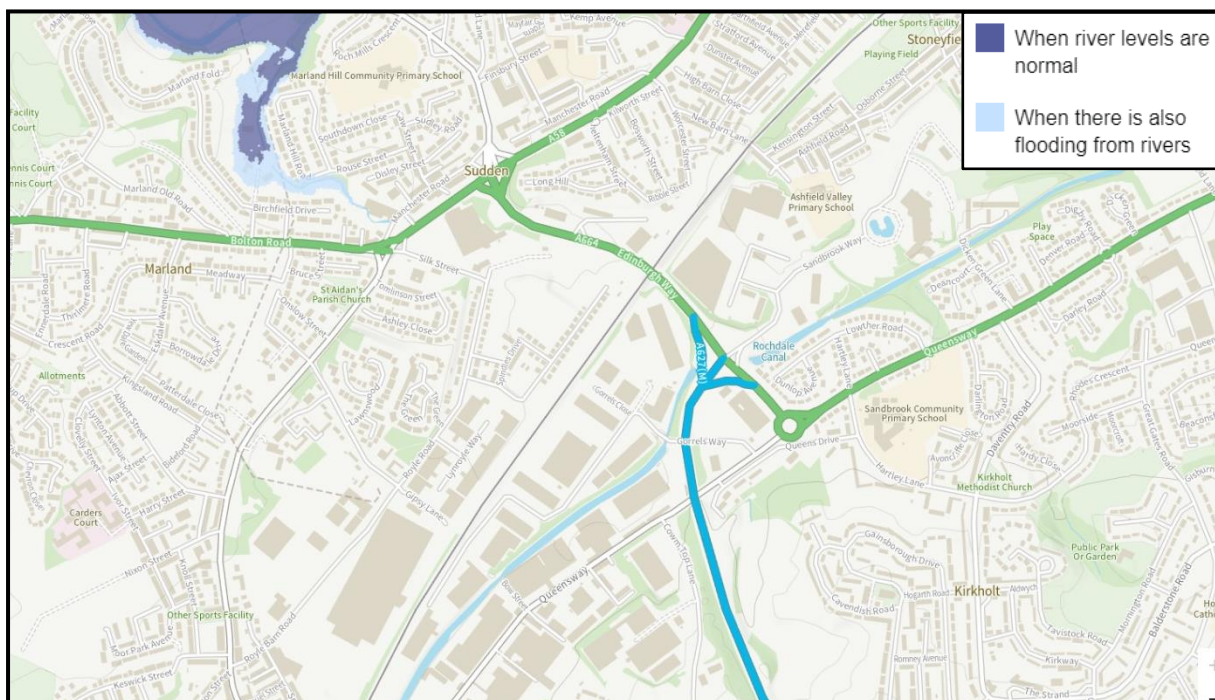


NATIONAL FLOOD MAPPING

Long Term Flood Risk – Surface Water



Long Term Flood Risk - Reservoirs



APPENDIX C: UU CORRESPONDENCE

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Jabez Thomas

From: wastewaterdeveloperservices@uuplc.co.uk
Sent: 23 October 2024 10:57
To: Jabez Thomas
Subject: RE: Our ref 06481742 - Sewer Flood Risk Information Request

Good Morning Jabez,

Thank you for your sewer modelling email, please see below response:

UU REF 06481742 – Sewer Model – Rochdale

I can confirm that we do not have modelled flood risk within the vicinity of the proposed development.

Please note that United Utilities Water Limited (UW) can only record and check flooding events which are reported to us and we have to comply with our Regulators instructions on the qualification of flooding events.

Our response does not include:

any sewer flooding events caused by blockages or collapses which are the result of third party actions, natural events or other actions over which UW has no control and not a facet of sewer capacity; or

any historical sewer flooding events that have been resolved as a result of investment in our infrastructure.

As with all development sites, we recommend you liaise with our water and wastewater engineers by contacting our Developer Services team so the details of your development proposal can be considered further. Details can be found at the following link.

<https://www.unitedutilities.com/services/builders-developers/>

Should you require any further information please do not hesitate to contact me.

Regards

Anthony



Anthony Laithwaite
Ww Engineer
Developer Services & Metering
Customer Services

T: 01925 429090
[unitedutilities.com](https://www.unitedutilities.com)

----- Original Message -----

From: wastewaterdeveloperservices@uuplc.co.uk [wastewaterdeveloperservices@uuplc.co.uk]
Sent: 21/10/2024 13:33

To: jabezthomas@betts-associates.co.uk

Subject: Our ref 06481742 - Sewer Flood Risk Information Request



Good Afternoon Jabez

Thank you for your email.

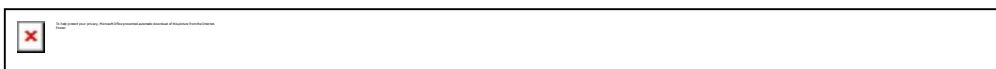
I have passed your email onto the engineer to respond.

Kind Regards

 United Utilities Water for the North West	Yvonne Manboard Customer Advisor Advanced Developer Services & Metering Customer Services unitedutilities.com Tel: 0345 072 6067 (Option 2 for Wastewater Services)
---	--

If you believe you have received a good service today, you can report this on the link below. This only takes a minute, and I would really appreciate it.

<https://unitedutilities.thewowawards.co.uk/nominate>



----- Original Message -----

From: Jabez Thomas [jabezthomas@betts-associates.co.uk]

Sent: 16/10/2024 12:07

To: wastewaterdeveloperservices@uuplc.co.uk

Subject: Sewer Flood Risk Information Request

To whom it may concern,

Hanson Springs, Gorrells Way, Rochdale

Please could you confirm whether you have any information that you feel would be valuable to a Flood Risk Assessment and Drainage Management Strategy for the above site (location plan attached), including details of historical flooding and specific drainage requirements; this would be greatly appreciated. If there are any other specific requirements that you require in a scope of works

for this site, please can you advise at this stage so that it can be fully incorporated into the proposals at an early stage.

Please do not hesitate to contact me on the details below to discuss further should you require additional information or clarification.

Kind Regards,

Jabez Thomas BSc(Hons)

Graduate Flood Risk Analyst

BETTS HYDRO

Consulting Engineers

Old Marsh Farm Barns, Welsh Road, Sealand, Flintshire, CH5 2LY

Chester +44 (0)1244 289041

jabezthomas@betts-associates.co.uk

www.betts-associates.co.uk

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SWF Consulting

Unit 4 Millbank House
Riverside Business Park,
Wilmslow, Cheshire
SK9 1BJ

FAO:

How to contact us:

United Utilities Water Limited
Property Searches
Haweswater House
Lingley Mere Business Park
Great Sankey
Warrington
WA5 3LP

Telephone: 0370 7510101

E-mail: propertysearches@uuplc.co.uk

Your Ref: 9475 Hanson Springs
Our Ref: UUPS-ORD-607461
Date: 21/10/2024

Dear Sirs

Location: Hanson Springs

I acknowledge with thanks your request dated 16/10/2024 for information on the location of our services.

Please find enclosed plans showing the approximate position of United Utilities' apparatus known to be in the vicinity of this site.

The enclosed plans are being provided to you subject to the United Utilities terms and conditions for both the wastewater and water distribution plans which are shown attached.

If you are planning works anywhere in the North West, please read United Utilities' access statement before you start work to check how it will affect our network. <http://www.unitedutilities.com/work-near-asset.aspx>.

I trust the above meets with your requirements and look forward to hearing from you should you need anything further.

If you have any queries regarding this matter please [contact us](#).

Yours Faithfully,



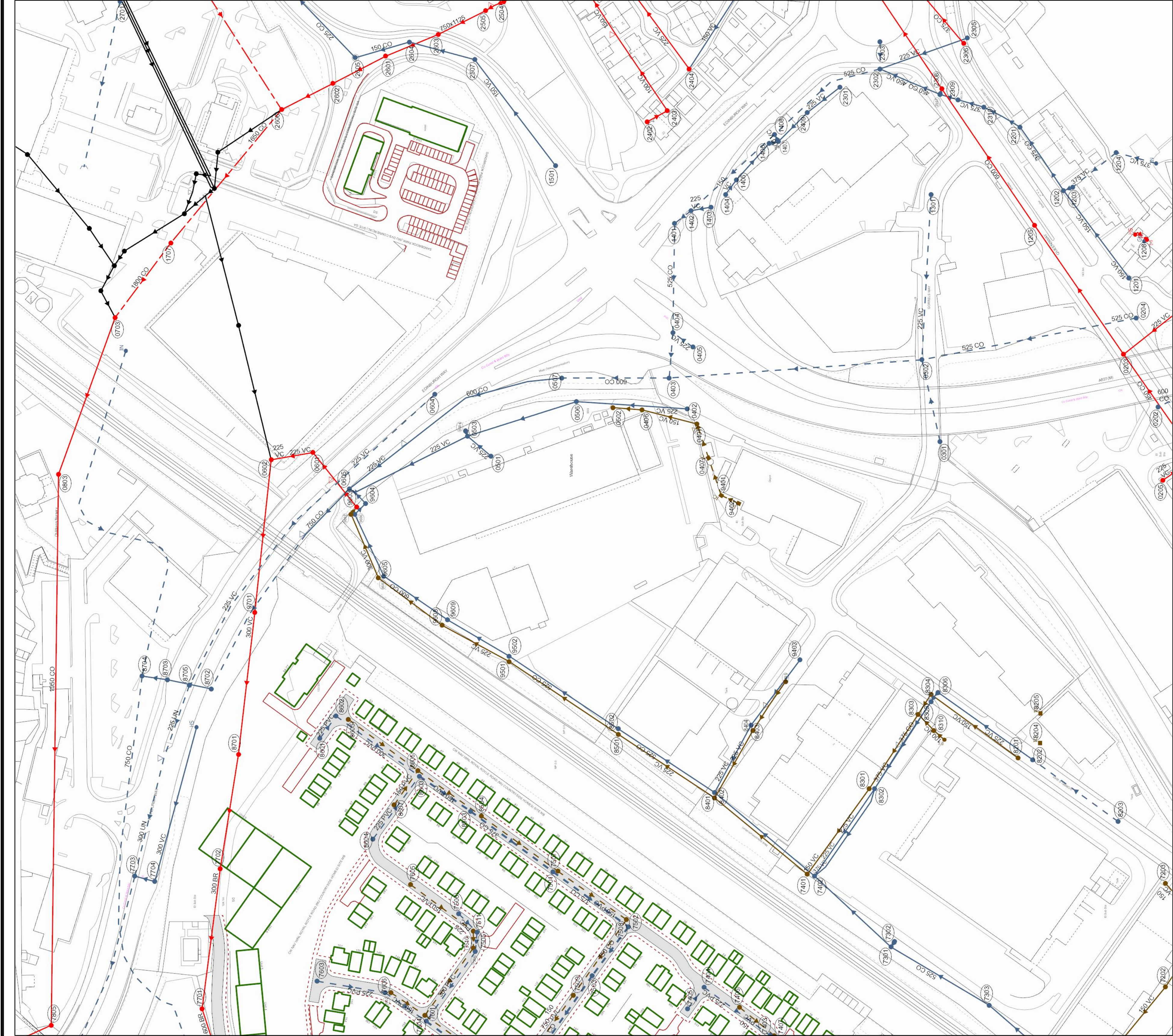
Karen McCormack
Property Searches Manager

TERMS AND CONDITIONS - WASTEWATER AND WATER DISTRIBUTION PLANS

These provisions apply to the public sewerage, water distribution and telemetry systems (including sewers which are the subject of an agreement under Section 104 of the Water Industry Act 1991 and mains installed in accordance with the agreement for the self construction of water mains) (UUWL apparatus) of United Utilities Water Limited "(UUWL)".

TERMS AND CONDITIONS:

- This Map and any information supplied with it is issued subject to the provisions contained below, to the exclusion of all others and no party relies upon any representation, warranty, collateral contract or other assurance of any person (whether party to this agreement or not) that is not set out in this agreement or the documents referred to in it.
- This Map and any information supplied with it is provided for general guidance only and no representation, undertaking or warranty as to its accuracy, completeness or being up to date is given or implied.
- In particular, the position and depth of any UUWL apparatus shown on the Map are approximate only. UUWL strongly recommends that a comprehensive survey is undertaken in addition to reviewing this Map to determine and ensure the precise location of any UUWL apparatus. The exact location, positions and depths should be obtained by excavation trial holes.
- The location and position of private drains, private sewers and service pipes to properties are not normally shown on this Map but their presence must be anticipated and accounted for and you are strongly advised to carry out your own further enquiries and investigations in order to locate the same.
- The position and depth of UUWL apparatus is subject to change and therefore this Map is issued subject to any removal or change in location of the same. The onus is entirely upon you to confirm whether any changes to the Map have been made subsequent to issue and prior to any works being carried out.
- This Map and any information shown on it or provided with it must not be relied upon in the event of any development, construction or other works (including but not limited to any excavations) in the vicinity of UUWL apparatus or for the purpose of determining the suitability of a point of connection to the sewerage or other distribution systems.
- No person or legal entity, including any company shall be relieved from any liability howsoever and whensoever arising for any damage caused to UUWL apparatus by reason of the actual position and/or depths of UUWL apparatus being different from those shown on the Map and any information supplied with it.
- If any provision contained herein is or becomes legally invalid or unenforceable, it will be taken to be severed from the remaining provisions which shall be unaffected and continue in full force and affect.
- This agreement shall be governed by English law and all parties submit to the exclusive jurisdiction of the English courts, save that nothing will prevent UUWL from bringing proceedings in any other competent jurisdiction, whether concurrently or otherwise.



APPENDIX D: CRT CORRESPONDENCE

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Jabez Thomas

From: Alex Ross <enquiries.northwest@canalrivertrust.org.uk>
Sent: 17 October 2024 12:24
To: Jabez Thomas
Subject: [CASE:1367934] Historic Flood Risk and Drainage Information Request - Near Bridge 62B - Rochdale Canal

Good morning,

Thank you for your email concerning the information request.

I have forwarded on your query to the local engineer who covers that patch of canal and am waiting on his response.

Kind regards,

Alex Ross

Customer Support Admin

E enquiries.northwest@canalrivertrust.org.uk

Canal & River Trust

North West, National Waterways Museum South Pier Road,
Ellesmore Port, Cheshire, CH654FW, , ,

APPENDIX E: RMBC CORRESPONDENCE

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Jabez Thomas

From: Calum Mountifield <Calum.Mountifield@Rochdale.Gov.UK>
Sent: 24 October 2024 14:31
To: Jabez Thomas
Subject: RE: Historic Flood Risk and Drainage Information Request

Hi Jabez,

In response to your query, firstly we don't have any records of historic flooding on the site.

I have also included the below comments from our Drainage Officer:

- A Drainage Strategy would be required incorporating assessment of the SuDS hierarchy.
- If infiltration is found not to be viable then I would expect discharge to the adjacent UU SW sewer.
- This may need to be attenuated to greenfield (min 5l/s) of 50% brownfield depending on what the existing regime is.
- The proposals / Full application should incorporate green surface based SuDS source control components such as detention basins, swale, tree pits, raingardens etc.

Kind regards,

Calum Mountifield

Principal Planning Officer (Climate Resilience)
Economy



☎ 01706 924317

✉ calum.mountifield@rochdale.gov.uk

Rochdale Borough Council
Floor 3, Number One Riverside
Smith Street, Rochdale, OL16 1XU

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From: Jabez Thomas <jabezthomas@betts-associates.co.uk>
Sent: 16 October 2024 12:02
To: Strategic Planning <Strategic.Planning@Rochdale.Gov.UK>
Subject: Historic Flood Risk and Drainage Information Request

You don't often get email from jabezthomas@betts-associates.co.uk. [Learn why this is important](#)

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To whom it may concern,

Hanson Springs, Gorrells Way, Rochdale

Please could you confirm whether you have any information that you feel would be valuable to a Flood Risk Assessment and Drainage Management Strategy for the above site (location plan attached), including details of historical flooding and specific drainage requirements; this would be greatly appreciated. If there are any other specific requirements that you require in a scope of works for this site, please can you advise at this stage so that it can be fully incorporated into the proposals at an early stage.

Please do not hesitate to contact me on the details below to discuss further should you require additional information or clarification.

Kind Regards,

Jabez Thomas BSc(Hons)
Graduate Flood Risk Analyst

BETTS HYDRO
Consulting Engineers

Old Marsh Farm Barns, Welsh Road, Sealand, Flintshire, CH5 2LY
Chester +44 (0)1244 289041

jabezthomas@betts-associates.co.uk
www.betts-associates.co.uk

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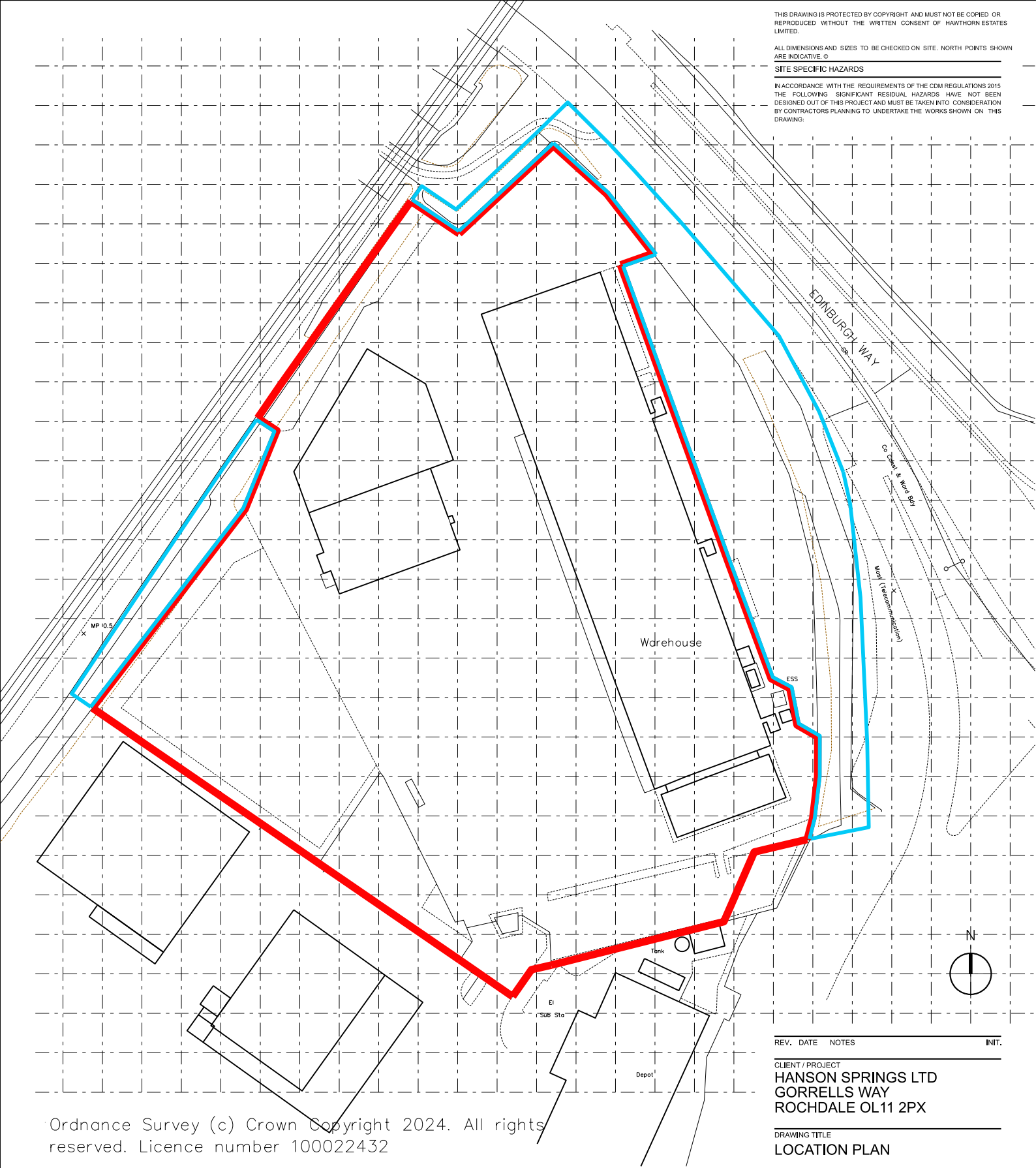
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APPENDIX F: LOCATION PLAN

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SITE SPECIFIC HAZARDS

IN ACCORDANCE WITH THE REQUIREMENTS OF THE CDM REGULATIONS 2015 THE FOLLOWING SIGNIFICANT RESIDUAL HAZARDS HAVE NOT BEEN DESIGNED OUT OF THIS PROJECT AND MUST BE TAKEN INTO CONSIDERATION BY CONTRACTORS PLANNING TO UNDERTAKE THE WORKS SHOWN ON THIS DRAWING:



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- SITE BOUNDARY 22360 SQM
- OTHER LAND IN THE CLIENTS OWNERSHIP

REV. DATE NOTES INIT.

CLIENT / PROJECT
HANSON SPRINGS LTD
GORRELLS WAY
ROCHDALE OL11 2PX

DRAWING TITLE
LOCATION PLAN

STATUS **PLANNING**

DATE **SEPT 24** DRAWN **RSL** SCALE @ A4 **1:1250**

PROJECT NUMBER	PLAN / BUILD	TYPE	NUMBER	REVISION LETTER
188	PLN	L	16	A

DRAWING NO. **188** **PLN** **L** **16** **A**

Site Location Plans	L	GA Plans	P	Elevations
Sections	S	Details	D	Prefix: Colour C

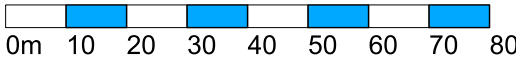
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SCALE 1:1250



APPENDIX G: TOPOGRAPHICAL SURVEY

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