FLOOD RISK ASSESSMENT

LOCATION:
Long Lane, Earlsheaton, Dewsbury

CLIENT:
Wordsworth Properties

DOCUMENT REF:
23590-FRA-001

DATE:
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CONTENTS & AMENDMENT HISTORY

Revision	Description	Date	Author	Checked
A	First Issue	January 2024	E Craig	R Thacker

1.0 INTRODUCTION

This Flood Risk Assessment (FRA) is compliant with the requirements set out in the National Planning Policy Framework (NPPF) and the associated Planning Practice Guidance. The FRA has been produced on behalf of Wordsworth Properties in respect of a planning application for the Residential Development at Long Lane, Earlsheaton.

Site Name	Long Lane
Location	Long Lane, Earlsheaton, Dewsbury WF12 8LJ
NGR (approx.)	425745 , 420427
Application Site Area (ha)	0.58 ha
Development Type	Residential Development
NPPF Vulnerability	Low
EA Flood Zone	Flood Zone 1
EA Office	Yorkshire
Local Planning Authority	Kirklees Metropolitan Council

Table 1.1 - Site Summary

1.1 SOURCES OF DATA

The report is based on the following information:

i. Site Plan (Appendix A)
ii. Topographical Survey (Appendix B)
iii. Environment Agency information
iv. Kirklees Council Strategic Flood Risk Assessment

1.2 EXISTING SITE

The site in question is located to the south west of Dewsbury, approximately 1.7km away. The site is approximately 0.58 ha in size. To the north of the site there is a residential development. To the west and to the south lies agricultural land. Over long lane to the east of the site is the River Calder. The site is accessed by Long Lane.

Figure 1.1 - Site Location

1.3 PROPOSED DEVELOPMENT

The proposed development is set to consist of a new residential development, to provide 26 new residential units with associated access and parking. A site plan is continued in Appendix A.

1.4 FLOOD RISK PLANNING POLICY

National Planning Policy Framework

The 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.

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.

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.

This Flood Risk Assessment is written in accordance with the NPPF and the Planning Practice Guidance.

Flood Zones

The Flood Zone Map for Planning has been prepared by the Environment Agency. This identifies areas potentially at risk of flooding from fluvial or tidal sources. An extract from the mapping is included as Figure 1.2.

Figure 1.1 - Environment Agency Flood Zone Mapping

The site is shown to be located entirely within Flood Zone 1 (Low Probability) therefore the site is considered to be low risk of flooding. Flood Zone 1 is defined as land assessed as having less than a 0.1% annual probability of flooding from fluvial and tidal sources.

Table 2 of the Planning Practice Guidance classifies land use. Under these classifications the proposed residential development is considered to be 'More Vulnerable' to the potential impacts of flooding.

Table 3 of the Planning Practice Guidance identifies that any development is considered appropriate within Flood Zone 1.

Flood Risk Vulnerability Classification	Essential Infrastructure	Water Compatible	Highly Vulnerable	More 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

1.5 OTHER RELEVANT POLICY AND GUIDANCE

Strategic Flood Risk Assessment

The Kirklees Flood Risk Assessment (SFRA) was prepared to review flood risks on a much wider scale to assess the potential for new development within the study area. The SFRA was used as an evidence base for Local Development Frameworks for each Local Planning Authority.

The SFRA therefore aims to bring together all available flood risk information for a variety of sources to provide a robust assessment. The SFRA therefore is useful for this site-specific FRA by highlighting available data and instances of known flooding in the area. Although written under the guidance of Planning Policy Statement 25, the SFRA is still considered to include relevant information.

2.0 POTENTIAL SOURCES OF FLOOD RISK

The table below identifies the potential sources of flood risk to the site, and the impacts which the development could have in the wider catchment prior to mitigation. These are discussed in greater detail in the forthcoming section. The mitigation measures proposed to address flood risk issues and ensure the development is appropriate for its location are discussed within Section 3.0.

Flood Source	Potential Risk				Description
	High	Medium	Low	None	
Fluvial			X		The site is located in flood zone 1.
Tidal				X	There are no tidal influences effecting the site.
Canals				X	None present.
Groundwater			X		Ground conditions are not conducive to fluctuating groundwater levels.
Reservoirs and waterbodies				X	The site is shown to fall outside of the catchment for reservoir and waterbodies flooding.
Sewers			X		The site in question is higher than the surrounding sewers therefore there is a very low risk.
Pluvial runoff			X		The site is at a very low risk of surface water flooding.
Effect of Development on Wider Catchment	X				The impermeable area of the site is being increased but measures will be taken to mitigate this.

Table 2.1 - Pre-Mitigation Sources of Flood Risk

2.1 FLUVIAL FLOOD RISK

As previously mentioned, the site is shown to be within Flood Zone 1 and therefore poses a low risk to the proposed development.

Mitigation measures to address the residual risk posed by the watercourses surrounding the site are discussed within Section 3.0 of this report.

2.2 GROUNDWATER FLOOD RISK

Subject to completion of site investigation to confirm we would assume that natural ground water level is located well below the site surface and the nature of the strata means it is unlikely that there will be perched water above this level.

We therefore do not consider there is a risk of groundwater flooding affecting the development subject to final confirmation upon completion of suitable site investigation.

2.3 FLOOD RISK FROM RESERVOIRS & LARGE WATERBODIES

Reservoir failure flood risk mapping has been prepared by the Environment Agency, this shows the largest area that might be flooded if a reservoir were to fail and release the water it holds. The map displays a worst-case scenario and is only intended as a guide. An extract from the mapping is included as Figure 2.1.

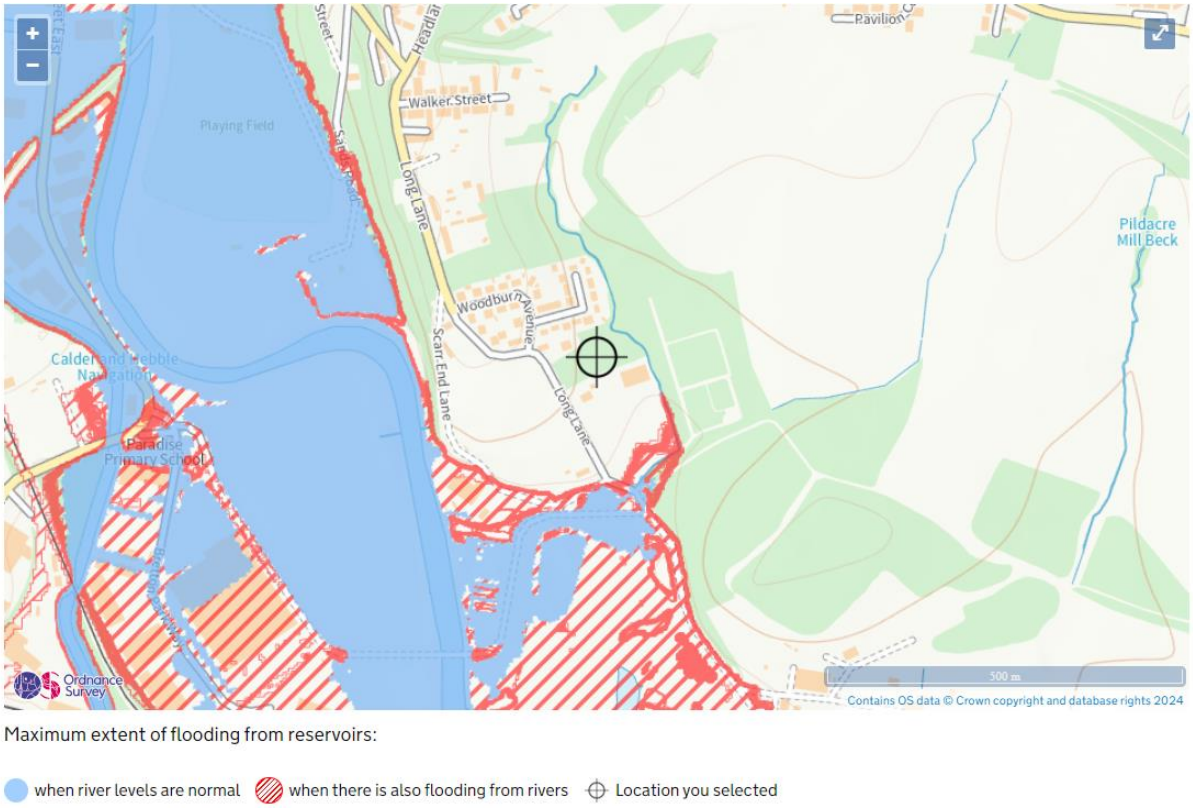

Figure 2.1 - Environment Agency Reservoir Failure Flood Risk Map

Mapping demonstrates the site and possible access routes are far removed from the flood extent associated with flooding from large reservoirs. A review of Ordnance Survey mapping shows that no areas or reservoir flooding encroach the site.

As such, there is considered to be no risk from reservoir flooding.

2.4 FLOOD RISK FROM SEWERS

The site in question doesn't lie above any main roads which is potentially where any Yorkshire Water sewers may lie.

As such, it is considered that there is no risk of flooding from sewers.

2.5 PLUVIAL FLOOD RISK

Risk of flooding from surface water mapping has been prepared by the Environment Agency, this shows the potential flooding which could occur when rainwater does not drain away through the normal drainage systems or soak into the ground but lies on or flows over the ground instead. An extract from the mapping is included as Figure 2.2

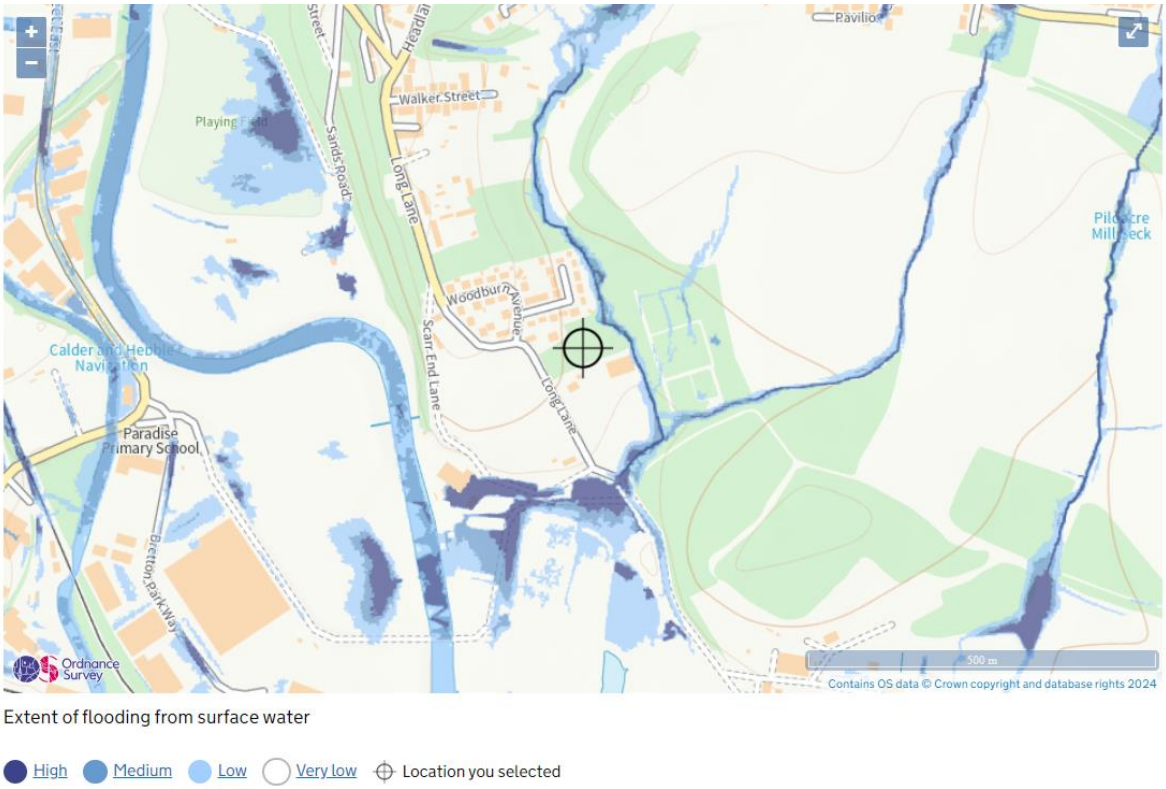

Figure 2.2 - Risk of Flooding from Surface Water Mapping

The mapping produced by the Environment Agency shows that there is a small area of the site that are at risk of surface water flooding. While the site is shown to be vulnerable to pluvial flooding on the mapping a scan of the site has been undertaken and proven that the site is not vulnerable due to the fact it lies around 6m higher than the watercourse.

There is a risk posed to the development therefore, measures will be taken to ensure any flooding is mitigated. These are noted in Flood Risk Mitigation Section.

2.6 EFFECT OF DEVELOPMENT ON WIDER CATCHMENT

2.6.1 Development Drainage

The current site is mixture of greenfield. The amount of impermeable area will be increasing. Therefore measures will need to be taken to ensure the development is not at an increased risk of downstream flooding.

The proposed flows from the site will need to be attenuated to greenfield run off rates and a suitable surface water drainage strategy would need to be developed.

3.0 FLOOD RISK MITIGATION

Section 2.0 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.

3.1 SITE ARRANGEMENTS

3.1.1 Sequential Arrangement

The Flood Zone mapping shows the site to be located within flood zone 1.

3.1.2 Finished Levels

To help mitigate any risk of pluvial flooding measures will need to be taken to ensure the development doesn't negatively affect the surrounding area.

- Building levels will be lifted 150mm to help mitigate the chance of flooding.

- There will be no flat spots around the any of the buildings to allow the runoff to pass by.

4.0 CONCLUSIONS AND RECOMMENDATIONS

This Flood Risk Assessment (FRA) is compliant with the requirements set out in the National Planning Policy Framework (NPPF) and the associated Planning Practice Guidance. The FRA has been produced on behalf of Wordsworth Properties.

This report demonstrates that the proposed development is not at significant flood risk, and simple mitigation measures have been recommended to address any residual risks that may remain. The identified risks and mitigation measures are summarised within Table 4.1.

Flood Source	Proposed Mitigation Measure
Fluvial	Site is shown to be in Flood Zone 1.
Impact of the Development	Strategic surface water drainage strategy prepared for wider development will ensure a sustainable approach to surface water management.

Table 4.1 - Summary of Flood Risk Assessment

In compliance with the requirements of National Planning Policy Framework, and subject to the mitigation measures proposed, the development could proceed without being subject to significant flood risk. Moreover, the development will not increase flood risk to the wider catchment area as a result of suitable management of surface water runoff discharging from the site and as such it is not required to do a sequential test.

5.0 APPENDICES

Appendix A – Site Plan

Appendix B – Topographical Survey

Appendix A

Site Plan

Chickenley Beck

Clough Farm

LONG LANE

ramp

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Appendix B

Topographical Survey

Chickenley Beck

Clough House

Clough Farm

LONG LANE

Mitchell Laithes Farm

NATES	
th	Elevation
07.477	55.83
55.178	59.25
72.683	51.63
28.893	44.83