



NORTHORPE LANE, MIRFIELD

FLOOD RISK ASSESSMENT

NOVEMBER 2021

NORTHTHORPE LANE, MIRFIELD

FLOOD RISK ASSESSMENT

Newett Homes

REV B: 21111/01

Project No: 20983

Date: November 2021

Andrew Moseley Associates

51A St Paul's Street
Leeds, LS1 2TE

www.amatp.co.uk

Q U A L I T Y M A N A G E M E N T

ISSUE/REVISION	FIRST ISSUE	REVISION 1	REVISION 2	REVISION 3
Remarks	Draft	Rev A	Rev B	Rev C
Date	11/03/21	01.04.2021	04.11.2021	14.12.2021
Prepared by	BLY	BLY	BLY	AA
Checked by	ADY	ADY	AY	GS
Authorised by	ATM	ATM	GS	GS

P R O D U C T I O N T E A M

AMA

Director	Andrew Moseley
----------	----------------

TABLE OF CONTENTS

1	INTRODUCTION.....	5
1.1	INTRODUCTION.....	5
1.2	SOURCES OF DATA.....	5
1.3	EXISTING SITE.....	5
1.4	PROPOSED DEVELOPMENT.....	6
1.5	FLOOD RISK PLANNING POLICY	6
1.6	OTHER RELEVANT POLICY AND GUIDANCE	8
2	POTENTIAL SOURCES OF FLOOD RISK	9
2.1	POTENTIAL SOURCES OF FLOOD RISK	9
2.2	FLUVIAL FLOOD RISK.....	9
2.3	GROUNDWATER FLOOD RISK	10
2.4	FLOOD RISK FROM RESERVOIRS & LARGE WATERBODIES.....	10
2.5	FLOOD RISK FROM SEWERS.....	10
2.6	PLUVIAL FLOOD RISK.....	11
2.7	EFFECT OF DEVELOPMENT ON WIDER CATCHMENT	12
3	FLOOD RISK MITIGATION.....	13
3.1	FLOOD RISK MITIGATION.....	13
3.2	SITE ARRANGEMENTS	13
4	CONCLUSIONS AND RECOMMENDATIONS.....	14
4.1	CONCLUSIONS AND RECOMMENDATIONS.....	14

APPENDICES

Appendix A PROPOSED SITE LAYOUT

1 INTRODUCTION

1.1 INTRODUCTION

- 1.1.1 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 Newett Homes in respect of a planning application for the proposed residential development at Northorpe Lane.

Site Name	Land off 28 Northorpe Lane
Location	Northorpe Lane, Mirfield, Kirklees, WF14 0QN
NGR (approx.)	421465, 421064
Application Site Area (ha)	0.907 ha
Development Type	Residential
NPPF Vulnerability	Low
EA Flood Zone	Flood Zone 1
EA Office	Yorkshire
Local Planning Authority	Kirklees Council

Table 1.1 - Site Summary

1.2 SOURCES OF DATA

- 1.2.1 The report is based on the following information:
- Proposed Site Layout (Appendix A);
 - Environment Agency information; and
 - Kirklees Council Strategic Flood Risk Assessment.

1.3 EXISTING SITE

- 1.3.1 The site in question is located on the Northern edge of the town of Mirfield, approximately 1.75km from the town centre. The site is approximately 0.907ha in size and is bounded by dense rural housing to the south and greenfield agricultural and farm land to the north.
- 1.3.2 There is only one small water course in the immediate surrounding area of the site. The canker Dyke runs to the north of the site west to east. Apart from this, it can be seen no other water sources can be found anywhere close that could cause a threat to site.

Flood Zones

- 1.5.5 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**.

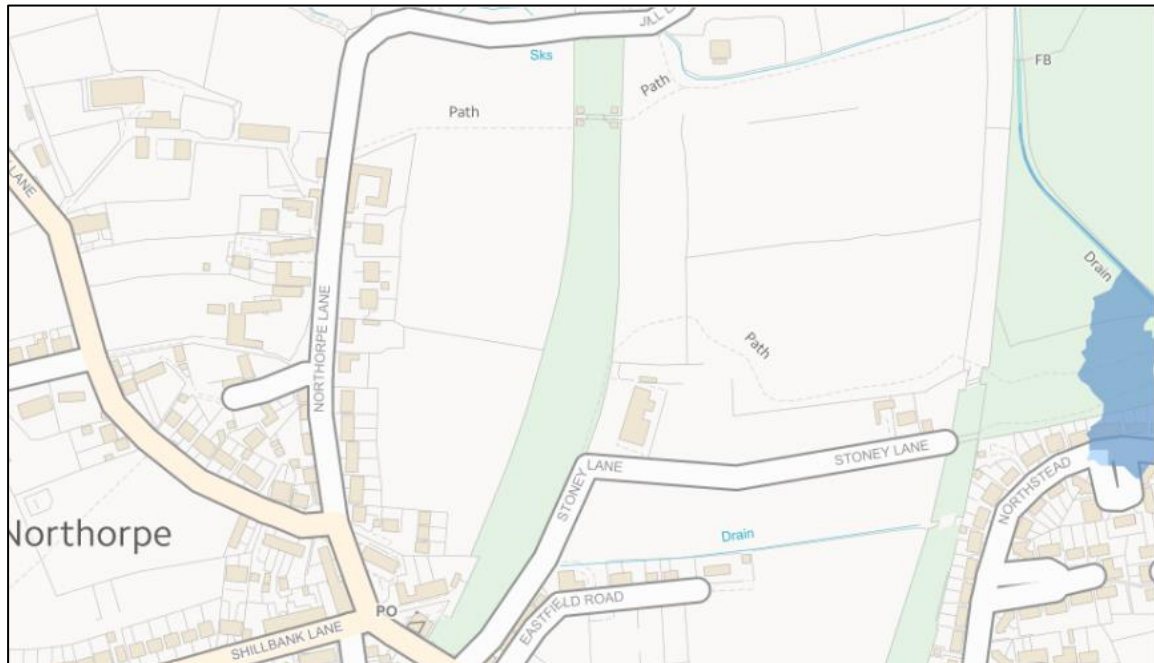


Figure 1.2 - Environment Agency Flood Zone Mapping

- 1.5.6 The site is shown to be located fully 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.
- 1.5.7 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.
- 1.5.8 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

Table 1.1 – Planning Practice Guidance

1.6 OTHER RELEVANT POLICY AND GUIDANCE

Strategic Flood Risk Assessment

- 1.6.1 The Kirklees Council 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.
- 1.6.2 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 POTENTIAL SOURCES OF FLOOD RISK

2.1 POTENTIAL SOURCES OF FLOOD RISK

2.1.1 **Table 2.1** 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			An area of the site is within a medium-risk area of surface water flooding.
Effect of Development on Wider Catchment		X			The impermeable area of the site is being altered.

Table 2.1 - Pre-Mitigation Sources of Flood Risk

2.2 FLUVIAL FLOOD RISK

- 2.2.1 As previously mentioned, the site is shown to be within Flood Zone 1 and therefore poses a low risk to the proposed development.
- 2.2.2 The risk of flooding posed to the proposed development is low. This is because there is only a small number of watercourses near the site that can pose a threat. However, the closest watercourse is 155m away from the site and is at a lower level.
- 2.2.3 Mitigation measures to address the residual risk posed by the watercourses surrounding the site are discussed within **Section 3.0** of this report.

2.3 GROUNDWATER FLOOD RISK

- 2.3.1 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.
- 2.3.2 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.

2.4 FLOOD RISK FROM RESERVOIRS & LARGE WATERBODIES

- 2.4.1 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**.

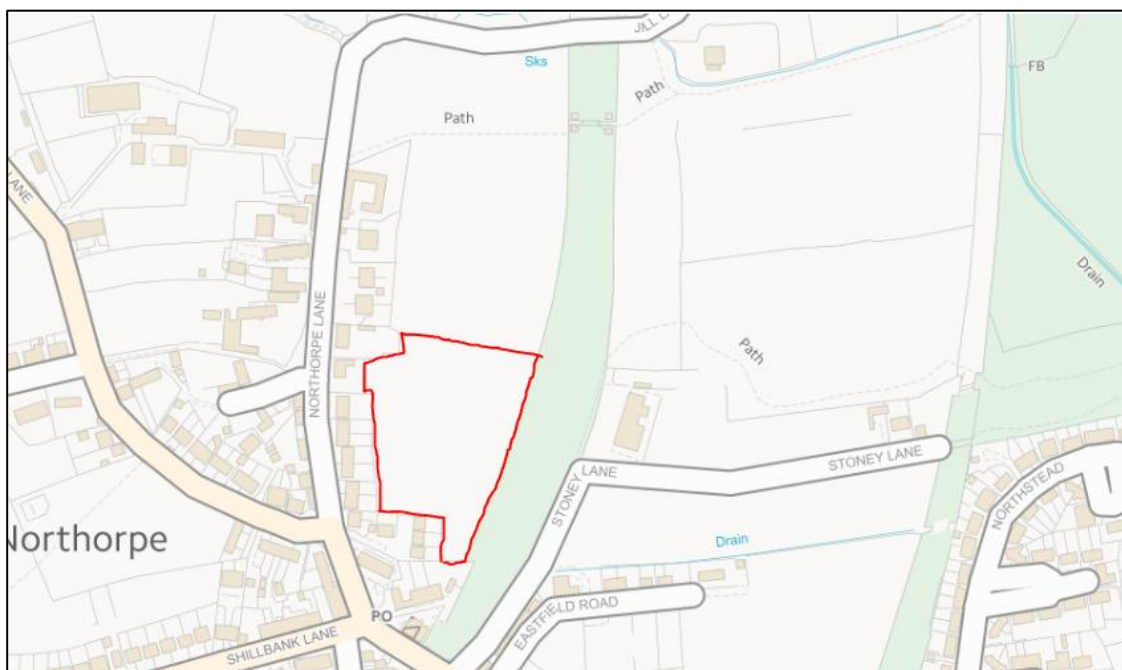


Figure 2.1 - Environment Agency Reservoir Failure Flood Risk Map

- 2.4.2 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.
- 2.4.3 As such, there is considered to be no risk from reservoir flooding.

2.5 FLOOD RISK FROM SEWERS

- 2.5.1 The site in question lies above any main roads which is potentially where any Yorkshire Water sewers will lie.
- 2.5.2 As such, it is considered that there is no risk of flooding from sewers.

2.6 PLUVIAL FLOOD RISK

- 2.6.1 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**.

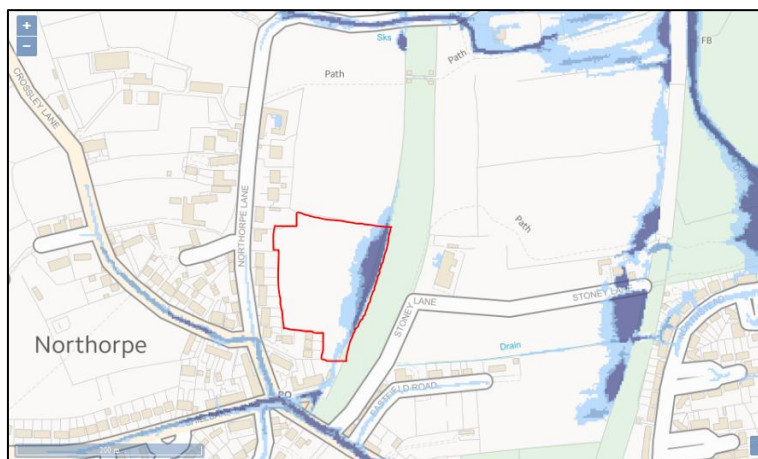


Figure 2.2 - Risk of Flooding from Surface Water Mapping

- 2.6.2 The mapping produced by the Environment Agency shows that there is only a small area to the eastern most side of the site that will suffer from surface water flooding. As it can be seen below, in a high risk storm, the area of surface water flooding on site will not encroach the location of any hard standing property and will only enter a small number of gardens.

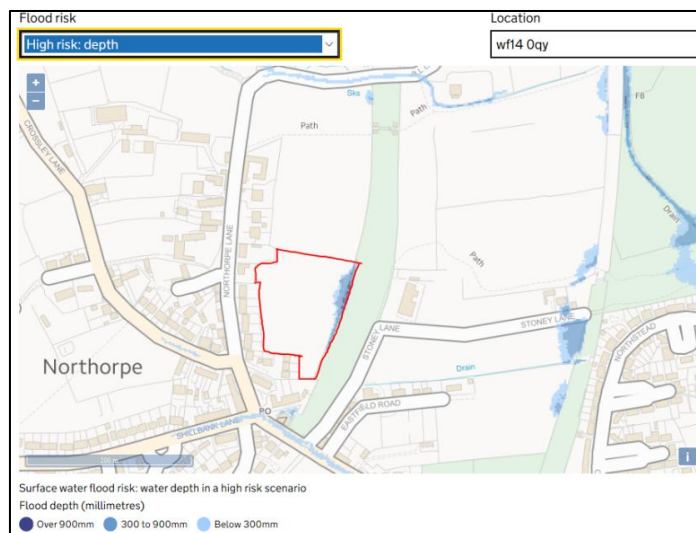


Figure 2.3 – High Risk Flooding on Site

- 2.6.3 Therefore, the risk posed by this threat is considered negligible.

2.7 EFFECT OF DEVELOPMENT ON WIDER CATCHMENT

Development Drainage

- 2.7.1 The current site is considered to be greenfield. The amount of impermeable area will be altered. Therefore, the existing drainage systems will not be suitable to discharge the surface water from the site alongside the additional run off from the proposed development. A sufficient Drainage strategy will be therefore provided by AMA.

3 FLOOD RISK MITIGATION

3.1 FLOOD RISK MITIGATION

- 3.1.1 **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.

3.2 SITE ARRANGEMENTS

Sequential Arrangement

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

Finished Levels

- 3.2.2 Given the site's location within Flood Zone 1, there are no specific requirements for finished floor levels with regard to flood risk. The existing ground level of the building is suitable and will remain.

4 CONCLUSIONS AND RECOMMENDATIONS

4.1 CONCLUSIONS AND RECOMMENDATIONS

4.1.1 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 Newett Homes.

4.1.2 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

4.1.3 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.

APPENDIX A - PROPOSED SITE LAYOUT



Legend

- 1800mm timber gate
- Bin storage area
- Garden shed to provide secure, lockable cycle storage provided to plots without garage
- Pre-cast concrete paving
- Grass to front gardens and open space
- Existing trees retained

Notes

- All unhatched roads, private drives and driveways in tarmac
- Car parking provided at a minimum of 2 spaces per 2 and 3 bed dwelling and 3 spaces per 4 bed dwelling
- For landscape details please see Landscape Plan prepared by landscape architect

Accommodation Schedule					
House Type			Area (sq.m)	NDSS requirement (sq.m)	Quantity
					Total Areas (sq.m)
ELM	Elm	2 bed terraced	70.4	2B3P = 70	4
BUC	Buckthorn	2 bed bungalow	61.5	2B3P = 61	2
BLA	Blackthorn	3 bed detached	90.4	3B4P = 90	3
ASP	Aspen	3 bed semi detached/terraced 2.5 st	94.0	3B4P = 90	13
GUE	Guelder	4 bed detached	109.4	4B6P = 106	1
BEE ALT	Beeches Alt	3 bed semi detached int. garage split level	110.4	3B4P = 90	8
MUL	Mulberry	4 bed detached integral garage	115.8	4B7P = 115	1
HAZ+	Hazel +	4 bed detached integral garage 2.5 st	125.4	4B8P = 124	1
WIL	Willow	4 bed detached	128.6	4B8P = 124	1
BIR	Birch	4 bed detached integral garage	131.7	4B8P = 124	4
SES	Sesille	3 bed detached integral garage split level	132.9	3B6P = 108	4
CED	Cedar	4 bed detached integral garage	142.9	4B8P = 124	1
TOTAL OVERALL			43		4,461.5 sq.m
Total Site Area			13,678 sq.m		

K08.12.21

J01.12.21

H04.11.21

G03.11.21

F01.11.21

E07.10.21

Detail added

Plots 5-21 amended

Plots 32-43 amended

SL03 house type introduced

Split level house type introduced, general amends

House type to Plots 1 & 2 revised, Plot 30 updated to accommodate tracking, Accomodation Schedule Updated & CBPP added for plots 39 - 42.

CR

CR

CR

CR

CR

AH

CR

D30.09.21

C28.05.21

B24.05.21

A04.05.21

Layout revised

Garden shed to replace cycle storage box

Cycle storage shown, FFLs added, schedule updated

Layby shown

AH

CR

CR

CR

Rev

Date

Description

Drawn

Checked

Project

Drawing

Client

Northorpe Lane, Mirfield

Proposed Site Layout

Newett Homes

BIM Suitability Description

SUITABLE FOR INFORMATION

BIM Suitability Code

S2

Status

17.03.21

2 Riverside Way

Whitehall Waterfront

Angel

LEEDS

L10113 819 8041

EC1V 2NZ

1 0203 883 8602

w.edward@edwardarchitecture.co.uk

e.info@edwardarchitecture.co.uk

320 City Road

LONDON

EC1V 2NZ

1 0203 883 8602

Project

0899 - EA - A - P002 - K

Originator

Discipline

Drawing No

Rev

edward

architecture



All rights are reserved. Copyright © 2021

Andrew Moseley Associates, 51A St Paul's Street, Leeds, LS1 2TE

www.amatp.co.uk

info@amatp.co.uk