Report No: 17/034.01
Revision: 01
Dated: 13th December 2017

Development of land off Hill Street, Elsecar Barnsley

Flood Risk Assessment

Client:

Monfredi Builders Ltd
28 Millmount Road
Hoyland
Barnsley
S74 9LE

Prepared by:

joc consultants ltd

Park Farm House
Leathley Lane
Leathley
Otley
LS21 2JU

REVISION HISTORY

Revision	Date	Details
00	12th December 2017	First issue
01	13th December 2017	Minor amendment

SITE	Land off Hill Street, Elsecar, Barnsley, S74 8EN (approx).
PURPOSE OF THIS REPORT	This site-specific flood risk assessment is required in connection with a planning application to Barnsley Council for a residential development.
PLANNING APPLICATION NUMBER	Not yet issued
ANNEXES TO THIS REPORT	
Annex A	Figure 1: Location Plan
Annex B	Site Layout Plan
Annex C	Flood Map for Planning (extract)
SITE LOCATION AND DESCRIPTION	See Figure 1 at Annex A.
National Grid Reference	438107E, 400359N
Gross Site Area	0.6ha
Ground surface	100% impervious surface comprising hard standing area.
Topography	Relatively flat surface.
Geology	Superficial: None recorded Bedrock: Pennine Middle Coal Measures Formation – Sandstone. Source: BGS Geology of Britain database.
History	Railway depot/station
Watercourses	Ordinary watercourse approximately 13m beyond SE boundary.

Reservoirs and Canals	Elsecar Canal (Disused) approximately 0.67km to the east.
Existing site drainage	Not known.
THE DEVELOPMENT	14 dwellings. The development will not result in any increase in impervious area.
VULNERABILITY CLASSIFICATION	The development is classified as **'More Vulnerable'**, in accordance with Table 2 of the Technical Guidance to the National Planning Policy Framework (NPPF).
FLOOD ZONE	Flood zone 1. See Flood Map extract at Annex C.
REQUIREMENT TO CONSULT THE ENVIRONMENT AGENCY	Not required when the development is in flood zone 1 and not within 20m of a main river or in a critical drainage area.
REQUIREMENT FOR THE SEQUENTIAL TEST	Not required as the development is in Flood Zone 1.
REQUIREMENT FOR THE EXCEPTION TEST	In accordance with Table 3 of the NPPF Technical Guidance, there is no requirement for the Exception Test.
HISTORY OF FLOODING	No known incidents.
FLUVIAL FLOODING	
Functional floodplain	The site is not in the functional floodplain.
Annual probability of fluvial flooding	0.1% or less.
Flood defences	None
Fluvial flood hazard	None

Loss of floodplain storage	None
Obstruction to overland flow routes	None
Flood warning area	The site is not in a flood warning area.
SURFACE WATER FLOODING	
Risk of surface water flooding	The Updated Surface Water Flood Map indicates a very low risk of flooding.
Critical Drainage Areas	The site is not in a critical drainage area.
GROUNDWATER FLOODING	Groundwater flooding occurs when the water table rises above the ground surface or enters basements. It is typically associated with highly permeable rock such as chalk and highly fissured limestone. These conditions are not present at the site and so this risk is assessed to be low (less than 0.1%).
SEWER FLOODING	Sewer flooding can occur when the capacity of the sewerage system is exceeded by exceptional rainfall. There is no evidence that the site has been affected by this type of flooding. The risk of this type of flooding affecting the site is therefore assessed to be low.
FLOODING FROM RESERVOIRS AND CANALS	No risk.
EFFECT OF THE DEVELOPMENT ON FLOOD RISK	
Fluvial and tidal flood risk	No effect
Surface water flood risk	The development will not increase the impermeable area and, will not therefore lead to any increase in flood risk.
Groundwater flood risk	No effect

Sewer flooding risk	No effect

EFFECT OF CLIMATE CHANGE

Climate change must be considered over the expected lifetime of the development which, for residential development is 100 years. Climate change must therefore be considered up to 2117.

Current guidance on the application of climate change allowances was issued in February 2016 and updated on 3rd February 2017. The guidance provides the anticipated changes to peak river flow and rainfall intensity for different scenarios of carbon dioxide emissions over future epochs up to 2115.

The effects of climate change on peak river flow are not relevant to this FRA as the site is not at risk from fluvial flooding.

The current guidance requires the Central and Upper End allowances to be used when assessing the effects of increases to peak rainfall intensities. The allowances apply across the whole of England and in the period 2070 to 2115 are:

- Central allowance: 20%
- Upper end allowance: 40%

The detailed drainage design for the development should therefore take into account this range of climate change effects on rainfall intensity.

FLOOD RISK MANAGEMENT

Fluvial flood risk	No recommendations
Surface water flood risk	
Surface water discharge control and attenuation	It is recommended that a sustainable surface water drainage scheme is prepared for the development and submitted to Barnsley Council and Yorkshire Water for approval.
Groundwater flood risk	No recommendations.

Sewer flooding risk	No recommendations.
Reservoir flood risk	No recommendations.

CONCLUSIONS

1. The development classification is **More Vulnerable.**

2. The site is in flood zone 1 where the annual probability of fluvial flooding is less than 0.1%.

3. There is no requirement for the Environment Agency to be consulted on this development.

4. There is no requirement for the development to be subjected to the Sequential Test or the Exception Test.

5. There is no evidence of the site having been affected by flooding in the past.

6. There is a very low risk of surface water flooding at the site.

7. The risk of groundwater flooding is assessed to be low.

8. The risk of sewer flooding is assessed to be low.

9. The site is not in an area at risk of flooding from reservoir failure.

10. The site is not in a flood warning area.

11. The development will not increase the existing impervious area and will not, subject to the flood risk management recommendations in this report, increase flood risk elsewhere.

RECOMMENDATIONS

1. Detailed drainage proposals for the development should be prepared and submitted to Barnsley Council and Yorkshire Water for approval, prior to construction of the development.

2. The flood risk management measures recommended in this report should be implemented in the design and construction of the development.

USE OF REPORT

This report is prepared specifically for Monfredi Builders Ltd for the purpose of the aforementioned planning application and the report may not be used for any other purpose and it may not be assigned to any third party without our written permission.

DISCLAIMER

This flood risk assessment is based on data available at the time of its preparation and JOC Consultants Ltd accepts no liability for the consequences of any changes to or re-assessment of this data in the future.

ANNEX A

Figures 1: Location Plan

Land off Hill Street, Elsecar, Barnsley

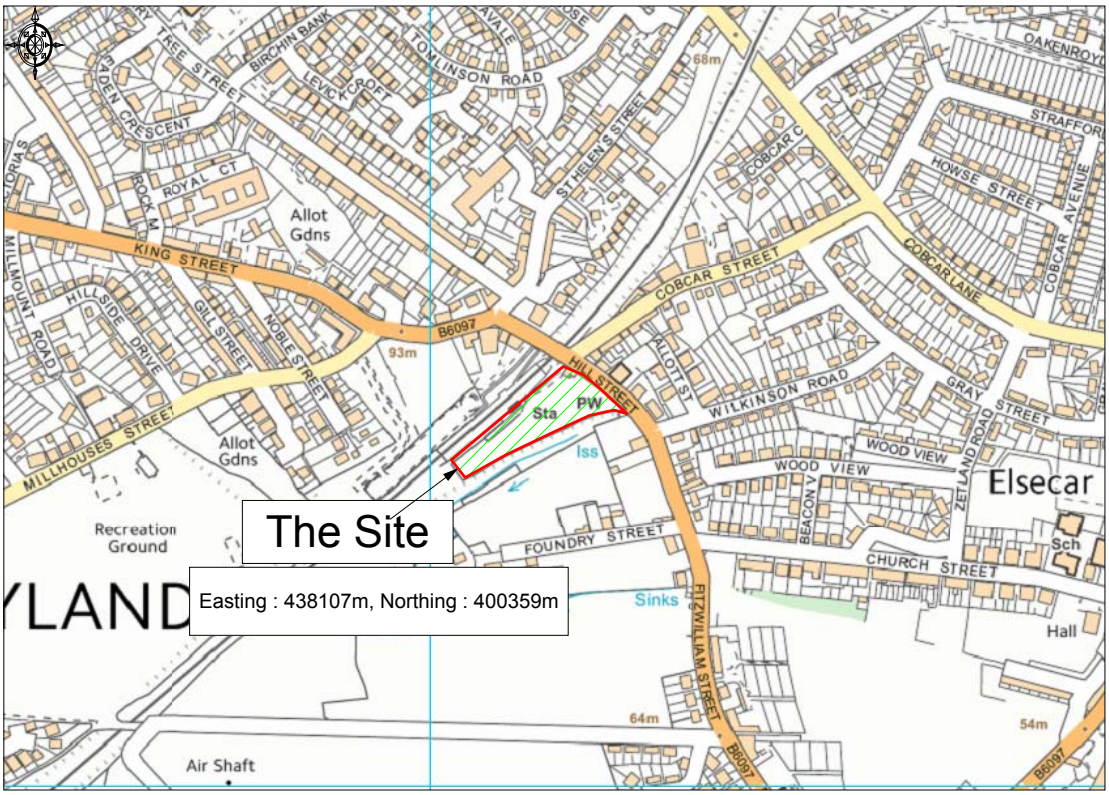
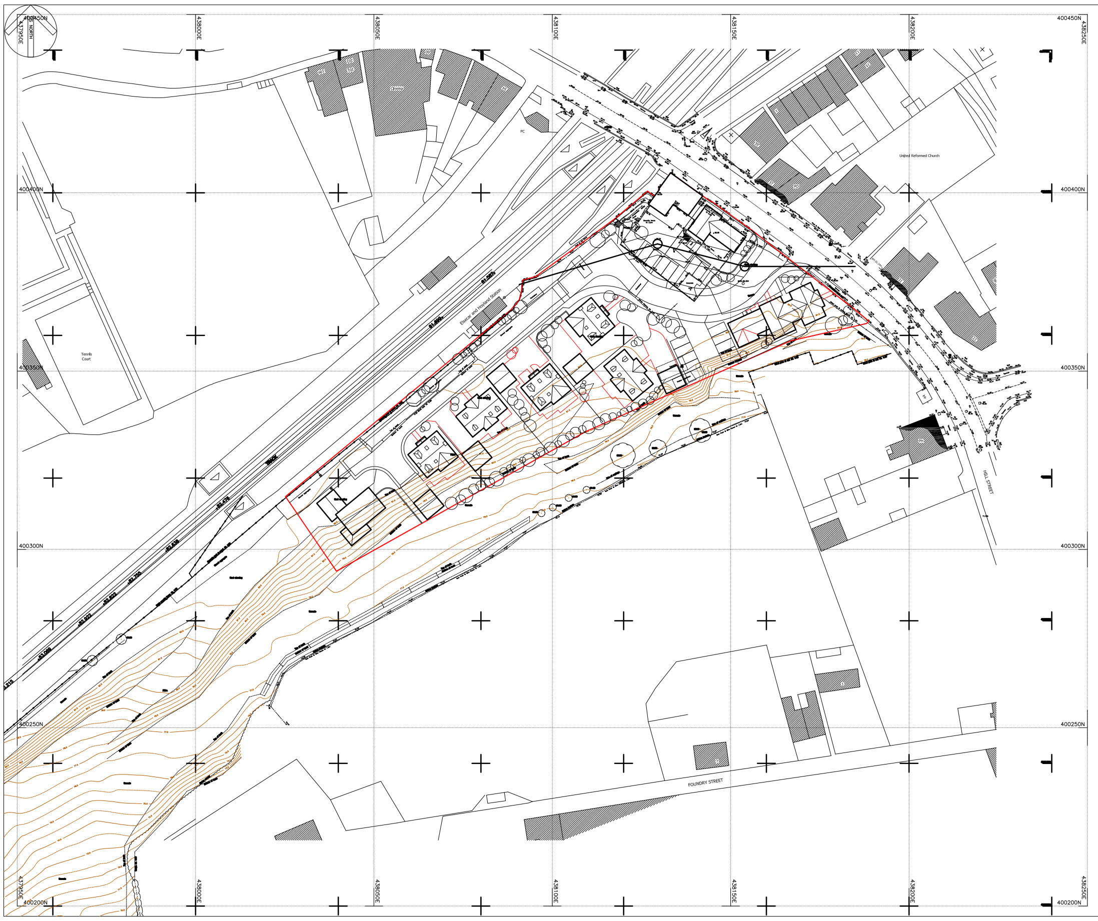


Figure 1: Location Plan

ANNEX B

Site Layout Plan



Rev.

Client:

MR M MONFREDI

Project:

HILL STREET
ELSECAR
NR BARNSLEY

Drawing Title:

SITE PLAN

Scales: 1:500 @ A1		Cad ref : GODRIVE/DEAWEX/HILLSST	
Drawn: MJN	Checked:		Date: NOV 17
Project no.	Drawing no. 01		Rev.

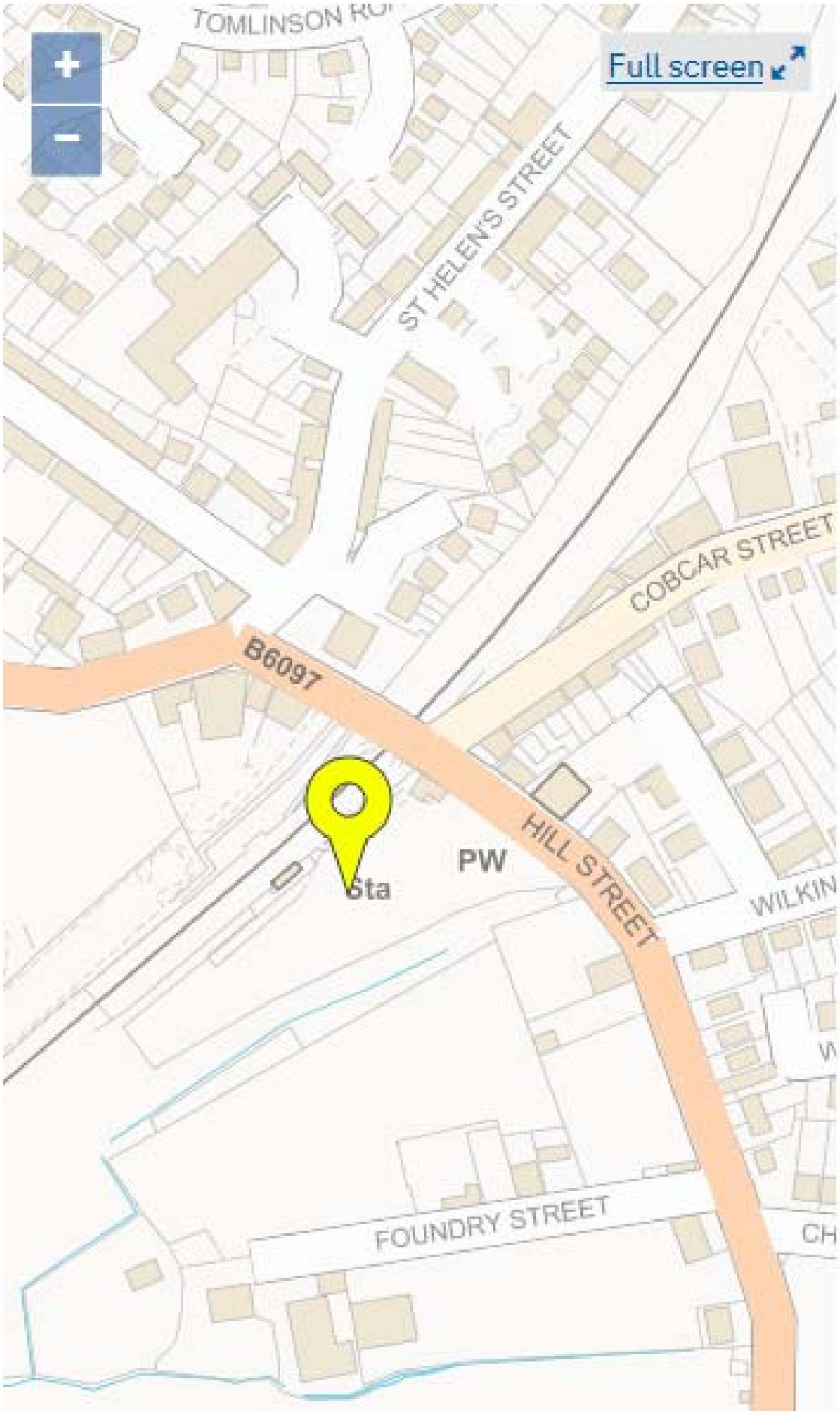
JENKINS • VEITCH • NOLAN ARCHITECTURE LTD

Jenkins Veitch Nolan Architecture Ltd
The Architectural Design Studio
Unit 19 Ravenshorn Way
Renishaw, Sheffield S21 3WY
T: 01246 432 338
F: 01246 437 351

E: mail@architecturaldesignstudio.com

ANNEX C

Flood Map for Planning (extract)



Development location

Flood zone 3

Areas benefiting from flood defences

Flood zone 2

Flood zone 1

Flood defence

Main river

Flood storage area

End of Report