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Flood Risk Assessment

Proposed development at

Shadwells Road, Lancing
West Sussex

On behalf of

Southern Housing Group

August 2007

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1 Non Technical Summary

1.1 The development site is located between 74 and 76 Shadwells Road, Lancing, West Sussex.

1.2 The development proposals are for six residential units comprising 2 two bedroom houses and 4 three bedroom houses.

1.3 Hardstanding areas in the proposed development will be positively drained and will discharge via soakaways.

1.4 The site is appropriate for development.

2 Introduction

2.1 The Civil Engineering Practice were commissioned by Southern Housing Group to produce a Flood Risk Assessment in support of a Planning Application for the development between 74 and 76 Shadwells Road, Lancing, West Sussex.

2.2 This Flood Risk Assessment has been undertaken in accordance with Planning Policy Statement 25 – Development and Flood Risk (PPS 25).

2.3 The assessment outlines the potential risk of flooding that may result to the development and any necessary measures of mitigation designed to reduce that risk to an acceptable level.

3 Existing Site

3.1 Site Location

3.1.1 The proposed development site is located in Shadwells Road, Lancing, West Sussex between the existing dwellings numbered 74 and 76. The site is approximately 1km northeast of Lancing Town Centre.

3.1.2 The site lies on the edge of a developed area which is predominantly residential but the rear of the site is farmland which adjoins Shoreham Airport.

3.1.3 The site location is shown on Drawing 1 in Appendix 1 at the end of this report.

3.2 Site Description

3.2.1 The proposed development site occupies approximately 0.1 hectares and is undeveloped land.

3.2.2 There is currently vehicular, cycle and pedestrian access to the site from Shadwells Road.

3.2.3 An existing site survey is shown on Drawing 2 which is located in Appendix 2 at the end of this report.

3.3 Site Levels

3.3.1 The site slopes approximately 0.5m from south to north with ground levels in the range of 4.2m AOD to 4.7m AOD.

3.3.2 Existing site levels are detailed on Drawing 2 which is located in Appendix 2 at the end of this report.

4 Potential for Flooding

4.1 Watercourse Flooding Potential

4.1.1 The River Adur lies approximately 2km to the east of the site and is tidal in this location.

4.1.2 The Environment Agency Flood Map indicates that the site is on the limit of the extreme flood event as shown on Drawing 3 in Appendix 3 at the rear of this report.

4.1.3 The Environment Agency have verbally confirmed that the 200 year or 2115 Tidal Event that reaches a predicted level of 5.5m AOD along the coast is the closest currently modelled flood level. Since this flood level was adopted by the Environment Agency, flood defences have been placed along the western bank of the River Adur and at the western side of Shoreham Airport which offer protection to the site.

4.1.4 Adur District Council are currently undertaking a strategic Flood Risk Assessment for the wider area surrounding this development the outcome of which is awaited.

4.1.5 We have verbally agreed with the Environment Agency that as this site is inland and protected from the coastal flood a fluvial flood level of 4.1m AOD is more appropriate.

4.1.6 There is no requirement to provide compensatory storage for this fluvial flooding as the existing site levels are above 4.1m AOD and therefore no storage is lost by raising the site.

4.1.7 The Environment Agency's indicative flood risk map shows the site to be in an area of low risk from flooding. This is equivalent to Flood Zone 2 by reference to Table D1 in PPS 25.

4.1.8 The Environment Agency's indicative flood risk map is shown on Drawing 3 in Appendix 3 at the end of this report.

5 Proposed Development

5.1 Description

5.1.1 The proposals are for 6 dwellings on the 0.1 hectare site. The proposed units comprise 2 two bedroom houses and 4 three bedroom houses with associated parking.

5.1.2 The proposed finished floor levels of the buildings will be set 600mm above the predicted flood level of 4.1m AOD which gives a finished floor level of 4.7m AOD. This level allows the southern part of the site to remain at the existing level but will require the northern end to be raised approximately 0.5m.

5.1.3 A proposed site layout and levels plan is detailed on Drawing 4 which is located in Appendix 4 at the end of this report.

5.2 Drainage Strategy

5.2.1 Surface water in the area is discharged via soakaways.

5.2.2 A sustainable drainage system (SUDS) using soakaways as the means of disposal will be incorporated into the development in order to maximise onsite storage and attenuation of surface runoff. The surface runoff rate will replicate the current situation of greenfield runoff at 7l/s/ha to ensure the risk of local flooding is not increased by the development.

5.2.3 Surface water drainage systems will be designed to accommodate a 1 in 100 year return period flood event plus 20% for climate change in accordance with the Environment Agency's current guidelines.

5.2.4 There is a Public Foul Sewer adjacent to the site in Shadwells Road.

6 Sequential Test

6.1 Introduction

6.1.1 The Sequential Approach is a risk based approach – Development and Flood Risk to be adopted at all levels of Planning.

6.1.2 The Sequential Test as outlined within Planning Policy Statement 25 has been applied to the site to confirm whether development in this location is appropriate and if an Exception Test is required to be passed in order to allow necessary development to occur.

6.2 Application

6.2.1 The Environment Agency has confirmed that the site is within a recognised Flood Zone 2 for the purpose of this Sequential Test.

6.2.2 With reference to PPS25 'Table D.1: Flood Zones' (in correspondence with The Environment Agency's indicative flood risk map) Flood Zone 2 is classified as 'Medium Probability' defined as: *'...land assessed as having between a 1 in 100 and 1 in 1000 annual probability of river flooding (1% - 0.1%) or between 1 in 200 and 1 in 1000 annual probability of sea flooding(0.5% - 0.1%) in any year.'*

6.2.3 With reference to PPS25 'Table D.2: Flood Risk Vulnerability Classification' the proposed development is classified as 'More Vulnerable' defined as *'...Residential institutions such as residential care homes, children's homes, social service homes, prisons and hostels...'*

6.3 Conclusion

6.3.1 With reference to PPS25 'Table D.3: Flood Risk Vulnerability and Flood Zone 'Compatibility'' confirms that development is appropriate.

7 Conclusions

7.1 The site is located in a developed area which is considered to be at low risk from flooding however the development on the site will be constructed 600mm above the agreed 1:200 year flood level.

7.2 The Sequential Test from PPS 25 concludes that development is appropriate.

7.3 It is proposed that the minimum finished floor levels of the new buildings are 4.7m AOD.

7.4 No increase of surface runoff to adjacent sites will be created by the development.

7.5 Sustainable drainage systems (SUDS) will be used to maximise onsite storage and attenuation to assist in sustainable design.

8 List of Appendices

Appendix 1 Drawing 1 Site Location Plan

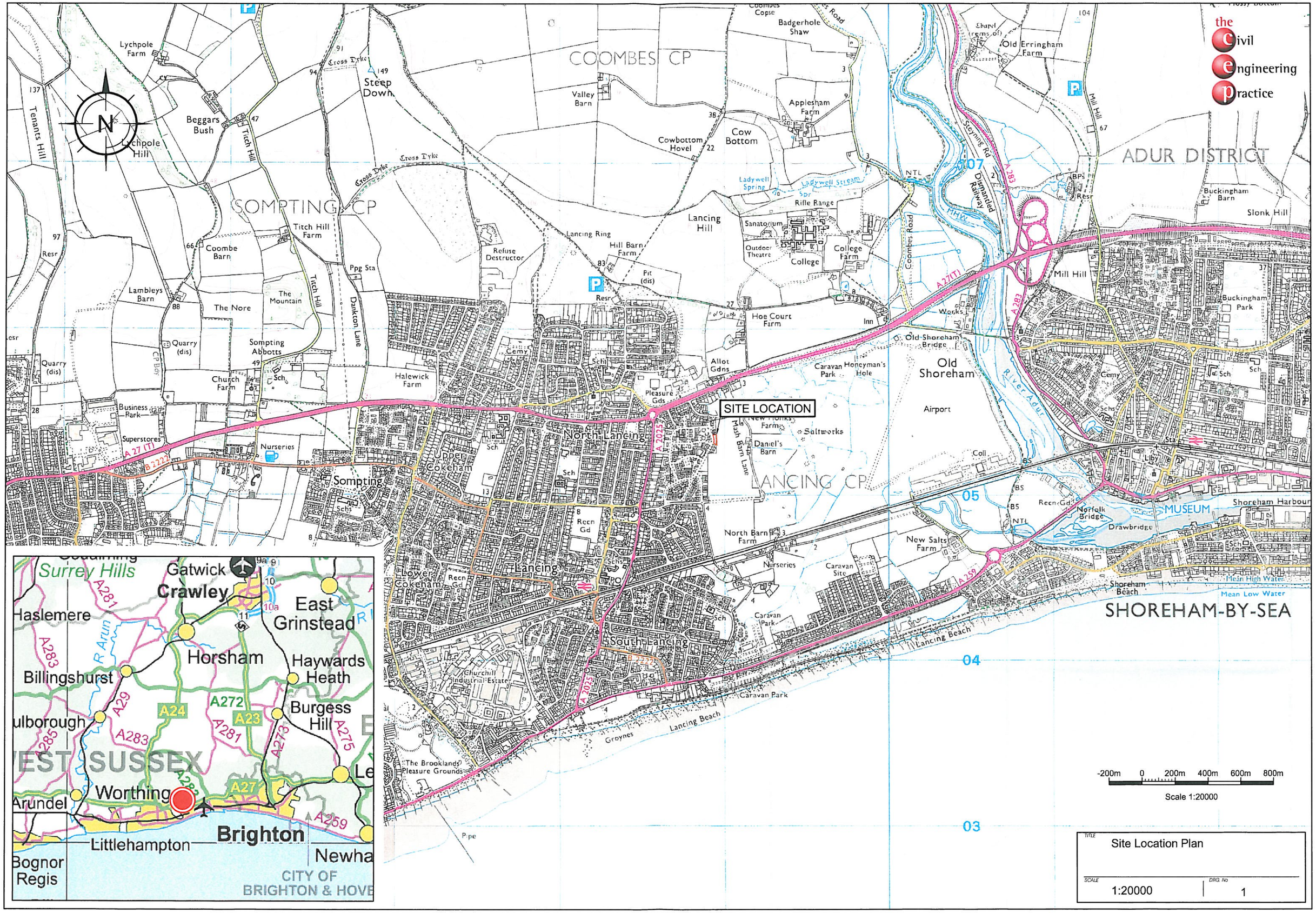
Appendix 2 Drawing 2 Existing Site Survey

Appendix 3 Drawing 3 Environment Agency Indicative Flood Risk Map

Appendix 4 Drawing 4 Proposed Site Layout and Levels Plan

Appendix 1

Site Location Plan



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SITE LOCATION
COOMBES CP
SOMPTING CP
ADUR DISTRICT
LANCING CP
SHOREHAM-BY-SEA
North Lancing
Lancing
South Lancing
Old Shoreham
Airport
Lancing Hill
Lancing Beach
Mill Hill
Shoreham Harbour
MUSEUM
Shoreham Beach
Mean High Water
Mean Low Water
Lychpole Hill
Beggars Bush
Steep Down
Cow Bottom
Applesham Farm
Cowbottom Hovel
Valley Barn
Badgerhole Shaw
Old Erringham Farm
Buckingham Barn
Slonk Hill
Buckingham Park
Titch Hill Farm
Coombe Barn
Lambleys Barn
The Nore
The Mountain
Sompting Abbotts
Church Farm
Halewick Farm
Business Park
Superstores
Nurseries
Sompting
Upper Cokeham
Lower Cokeham
Hill Barn Farm
Refuse Destructor
Hoe Court Farm
Allot Gdns
Pleasure Gds
Caravan Park
Honeyman's Hole
Old Shoreham Bridge
Saltworks
Daniel's Barn
North Barn Farm
New Salts Farm
Caravan Site
Churchill Industrial Estate
The Brooklands Pleasure Grounds
Groynes
Pipe
Dismantled Railway
Steyning Rd
Coombes Road
Mill Hill
River Adur
Norfolk Bridge
Drawbridge
Sanatorium
Outdoor Theatre
College
College Farm
Rifle Range
Ladywell Spring
Ladywell Stream
Lancing Ring
Cross Dyke
Titch Hill
Dankton Lane
Tenants Hill
Quarry (dis)
Surrey Hills
Gatwick
Crawley
Haslemere
East Grinstead
Horsham
Haywards Heath
Billingshurst
Burgess Hill
Worthing
Arundel
Littlehampton
Brighton
Bognor Regis
Newha
CITY OF BRIGHTON & HOVE
WEST SUSSEX
A27
A23
A24
A272
A281
A283
A29
A273
A275
A259
A2025
A27(T)
B2222
-200m 0 200m 400m 600m 800m
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TITLE
Site Location Plan
SCALE
1:20000
DRG. No
1

Appendix 2

Existing Site Survey

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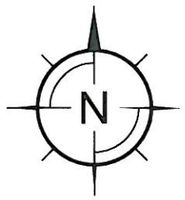

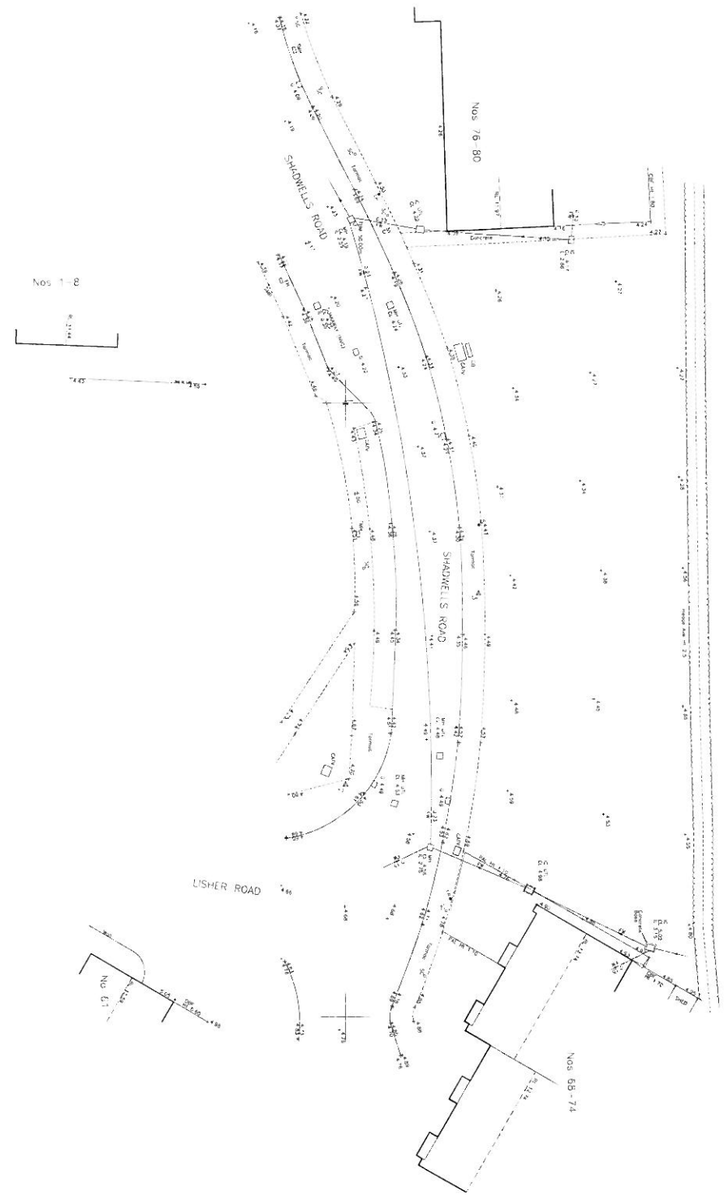

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Scale 1:500

TITLE
Existing Site Survey

SCALE
1:500

DRG No
2

Appendix 3

Environment Agency Indicative Flood Risk Map


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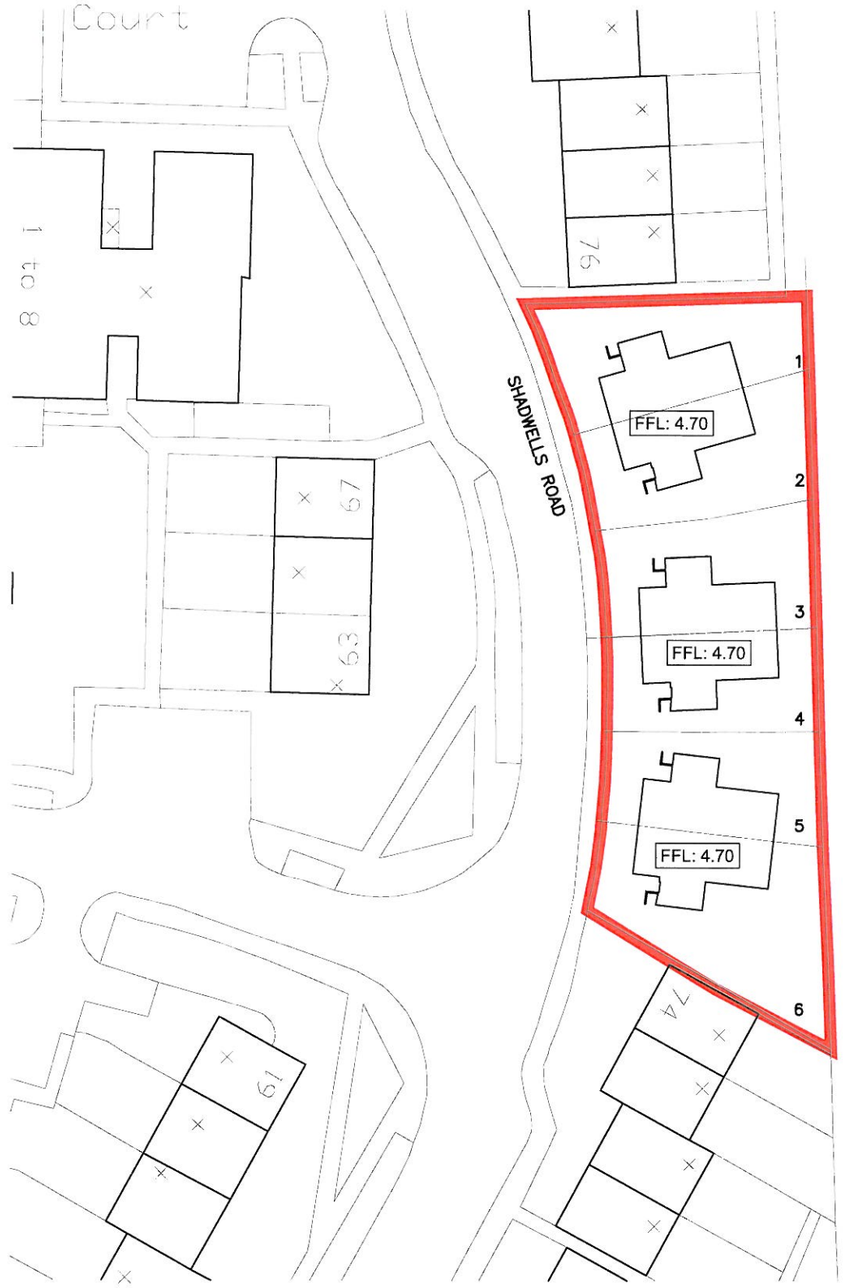
N
105
Hill
College
27
Leisure
Centre
North
Lancing
SITE LOCATION
Lancing
-100m
0
100m
200m
300m
400m
Scale 1:10000
TITLE
Environment Agency
Indicative Flood Risk Map
SCALE
1:10000
DRG No
3

Appendix 4

Proposed Site Layout and Levels Plan



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TITLE
Proposed Site Layout and Levels Plan

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1:500

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4