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# Addendum to Flood Risk Assessment

Land South of Kings Head PH, Lower Horsebridge, Hailsham BN27 4DH

## Client

**Abtec Limited**  
c/o Decimus Ltd  
1 Lonsdale Gardens  
Tunbridge Wells  
Kent TN1 1NU  
**Ref:** 10273  
**Date:** January 2021

## Consulting Engineers

**GTA Civils Ltd**  
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Issue	Issue date	Compiled	Checked
First Issue	8 January 2021	PH	MR

## 1 Introduction

GTA Civils & Transport Ltd prepared a Flood Risk Assessment (FRA – Second Issue, May 2020) which accompanied a planning application to Wealden District Council (WDC) for development on land to the south of Kings Head Public House, Lower Horsebridge, Hailsham BN27 4DH. WDC's application reference is WD/2017/2419/MAJ.

Comments have been raised by the WDC planning officer based on the proximity to the flood zones shown on the Wealden Strategic Flood Risk Assessment (SFRA) mapping. The publicly available SFRA maps are not at a suitable scale to show the flood zones at the site and the FRA was prepared using the flood level data obtained from the Environment Agency (EA).

An extract plan from the SFRA at site-specific scale has been provided by WDC but without any flood level data. This Addendum has been prepared to comment on the flood risk shown on this SFRA extract and address any impacts for the development.

The surface water drainage strategy included in the FRA has been approved by East Sussex County Council as Lead Local Flood Authority. This Addendum deals solely with the issue raised on the SFRA flood zones.

## 2 SFRA Flood Zones

A fresh enquiry has been made to the EA who provided flood level data for the site from the JFLOW + (SWE) Kent and East Sussex Fluvial Flood Zone Improvements model from 2011. The 0.1% (1 in 1,000) annual exceedance probability (AEP) flood level adjacent to the site is 16.89m AOD, which would not affect the proposed development. However, the EA advised that the 2017 Wealden SFRA flood data would take precedence over the 2011 JFLOW data.

Other than the plan extract, the SFRA model data has not been made available to the applicant. Although it may be possible for a developer to undertake site-specific detailed flood modelling of the Cuckmere, it is considered that this would be unreasonably disproportionate for the scale of this development and its position above the flood levels at the periphery of Zone 2.

An assessment has instead been made by overlaying the SFRA plan extract against topographic survey data at the site. The Zone 2 outline has been taken to represent the Zone 3 plus climate change scenario which is a conservative approach. A plan is appended to this report showing the results. The SFRA Zone 2 outline closely corresponds with the 17.5m AOD ground level contour.

### 3 Impacts for Proposed Development

A flood level of 17.5m AOD would affect the A271 and the eastern boundary of the site, but not the development plots. Proposed FFLs are set to 18.45m AOD. The minor impacts at the eastern boundary are dealt with as follows:

- The proposed footpath alignments at the eastern boundary have been moved slightly west to keep clear of the flood outline. Dry access / egress will thus remain available during an extreme flood event.
- The existing level at the proposed road access is 17.25m AOD. The flood depth during an extreme event could therefore be 0.25m. Velocity information is not available but is unlikely to be high at this location at the outlying periphery of the flood zone. According to Table 4 of FD2321/TR2 (EA/HR Wallingford), a velocity of 0.3 m/s would give a hazard rating of "very low hazard" at this depth. Even with higher velocities vehicular access / egress would not be impeded and emergency services vehicles will still be able to access the development.
- The rear garden of Plot 1 has been adjusted to stay clear of the flood outline excepting a strip of land at the south-east corner. The back garden is to be raised above the flood level to remain safe during an extreme flood event.

The new access road needs to be ramped into the site at 1:12 to meet proposed levels. The new junction construction and the Plot 1 garden raising would result in a modest loss of floodplain volume. This has been assessed using 3D modelling software.

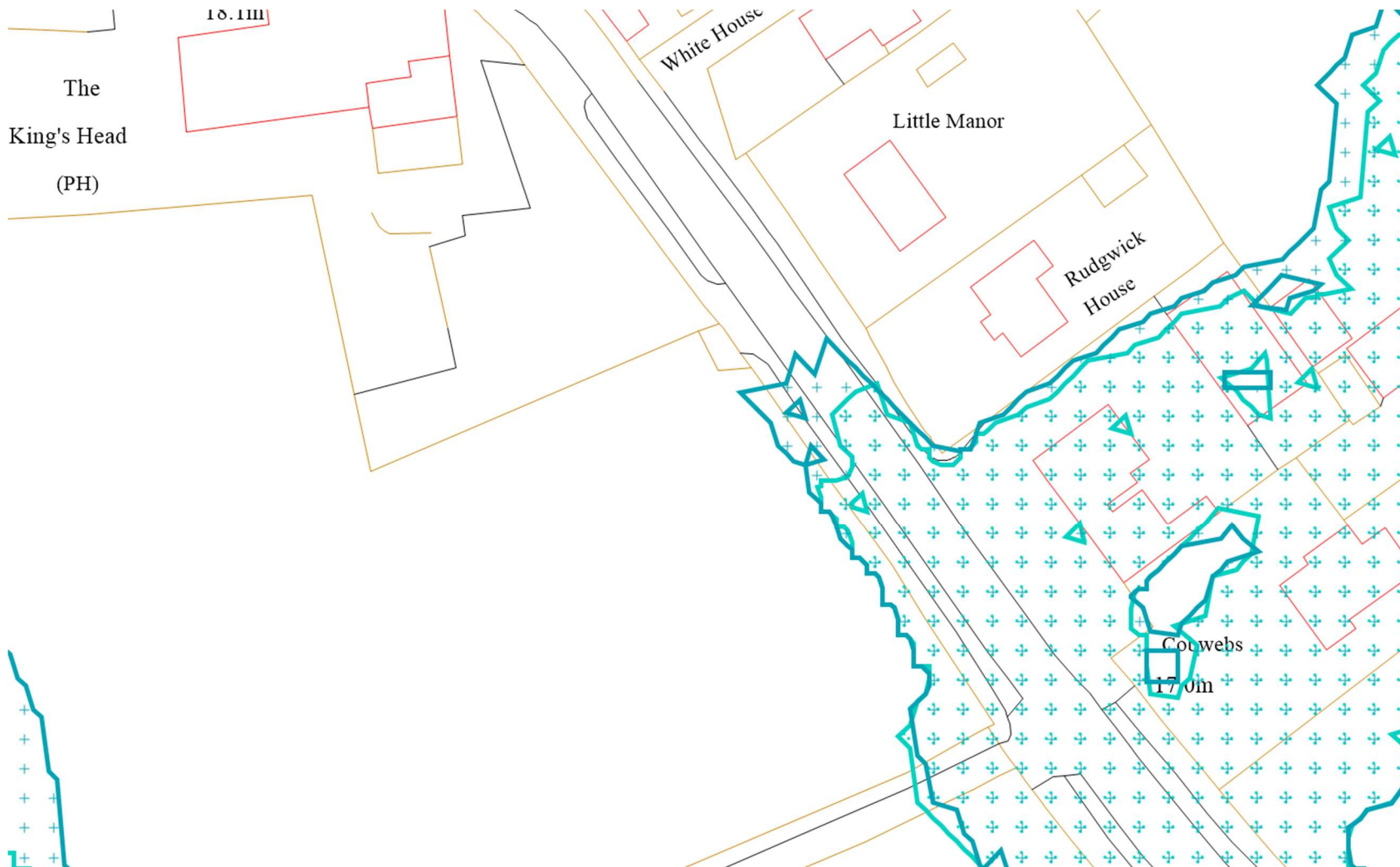
Measured from the back of the existing footway, a flood level of 17.5m AOD would result in a flood volume at the site of 79m<sup>3</sup> in the existing undeveloped scenario.

The impact of the access road and garden raising will be compensated by lowering the strip of land between the existing swale and the new footpaths by around 0.2m. This is illustrated on the appended plan. A flood level of 17.5m AOD in the developed scenario would result in a flood volume of 83m<sup>3</sup>. This is an additional 4m<sup>3</sup> of capacity and represents a modest betterment locally in terms of flood risk.

In conclusion, based on the assessment of the SFRA plan extract and the floodplain volume, the development will be safe and will not increase the flood risk to neighbouring properties.

### Appended Documents

- SFRA extract plan received from WDC
- Drawing 10273-1103 rev. P01 – Existing and Proposed Flood Volumes
- EA correspondence

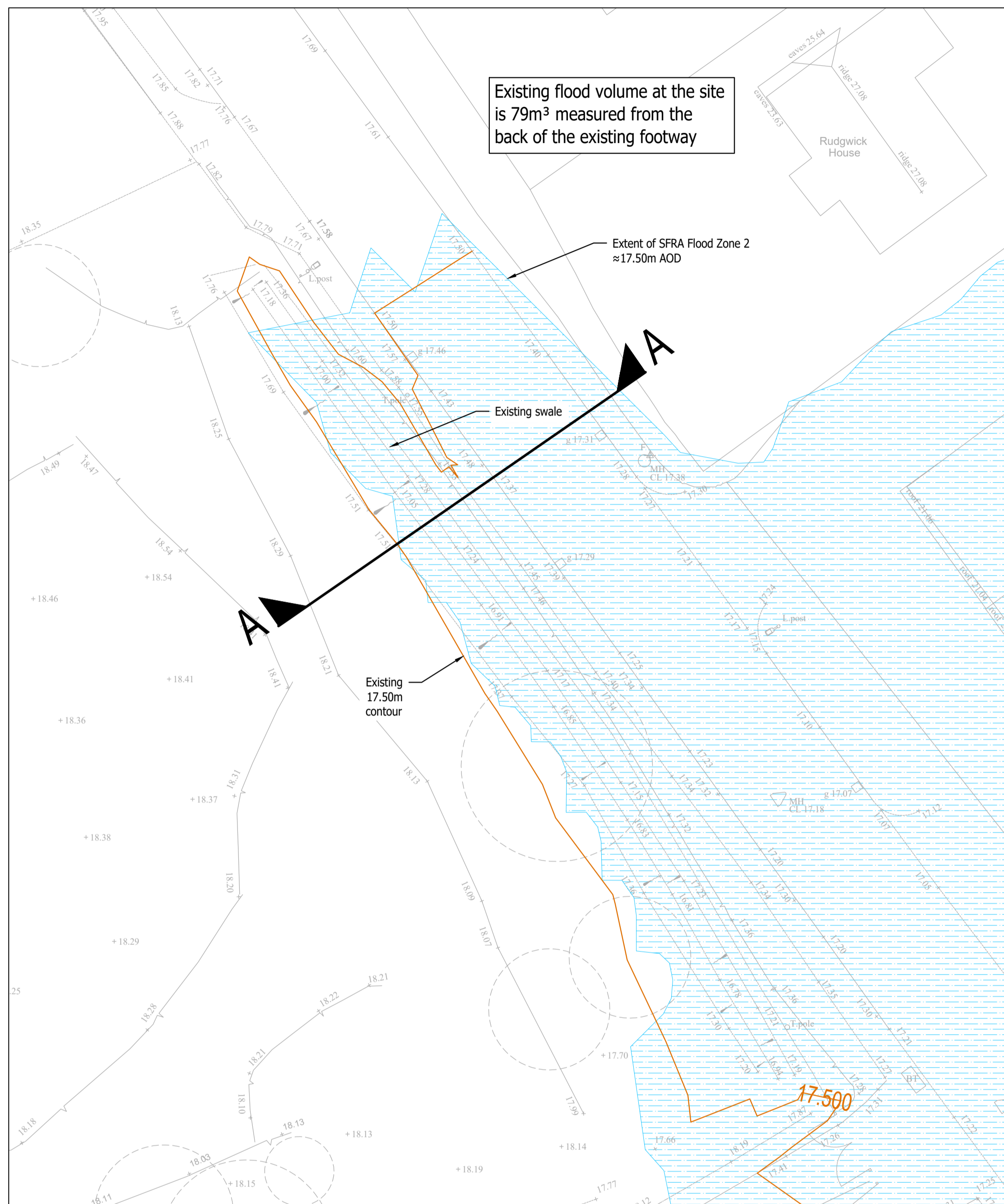
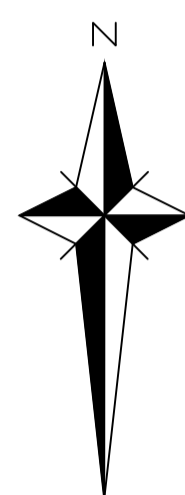


**GENERAL NOTES**

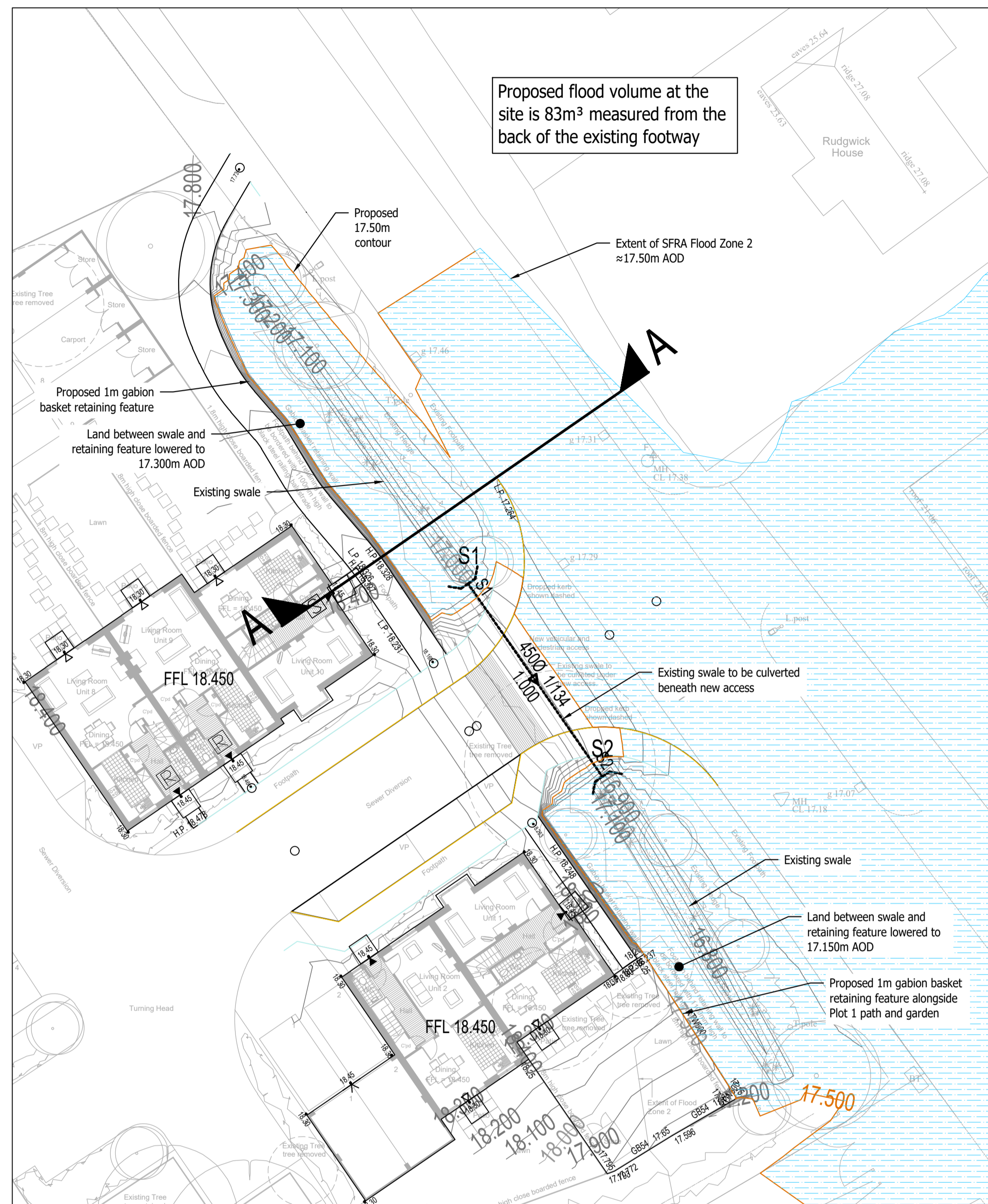
1. The location, size, depth and identification of existing services that may be shown or referred to on this drawing have been assessed from non intrusive observations, record drawings or the like. The contractor shall safely carry out intrusive investigations, trial holes or soundings prior to commencing work to satisfy himself that it is safe to proceed and that the assessments are accurate. Any discrepancies shall be notified to gta prior to works commencing.
2. Tender or billing drawings shall not be used for construction or the ordering of materials.
3. Do not scale. All dimensions and levels to be site confirmed.
4. This drawing shall be read in conjunction with all relevant architects, consultants drawings and specifications, together with H&S plan requirements.
5. Copyright: This drawing must not be copied, amended nor reproduced without the prior written agreement of gta.
6. All drawings specifications and recommendations made by gta are subject to Local Authority and other relevant Statutory Authorities approval. Any works or services made abortive due to the client proceeding prior to these approvals is considered wholly at the Clients risk. gta hold no responsibility for resulting abortive works or costs.

**FLOOD VOLUME NOTES**

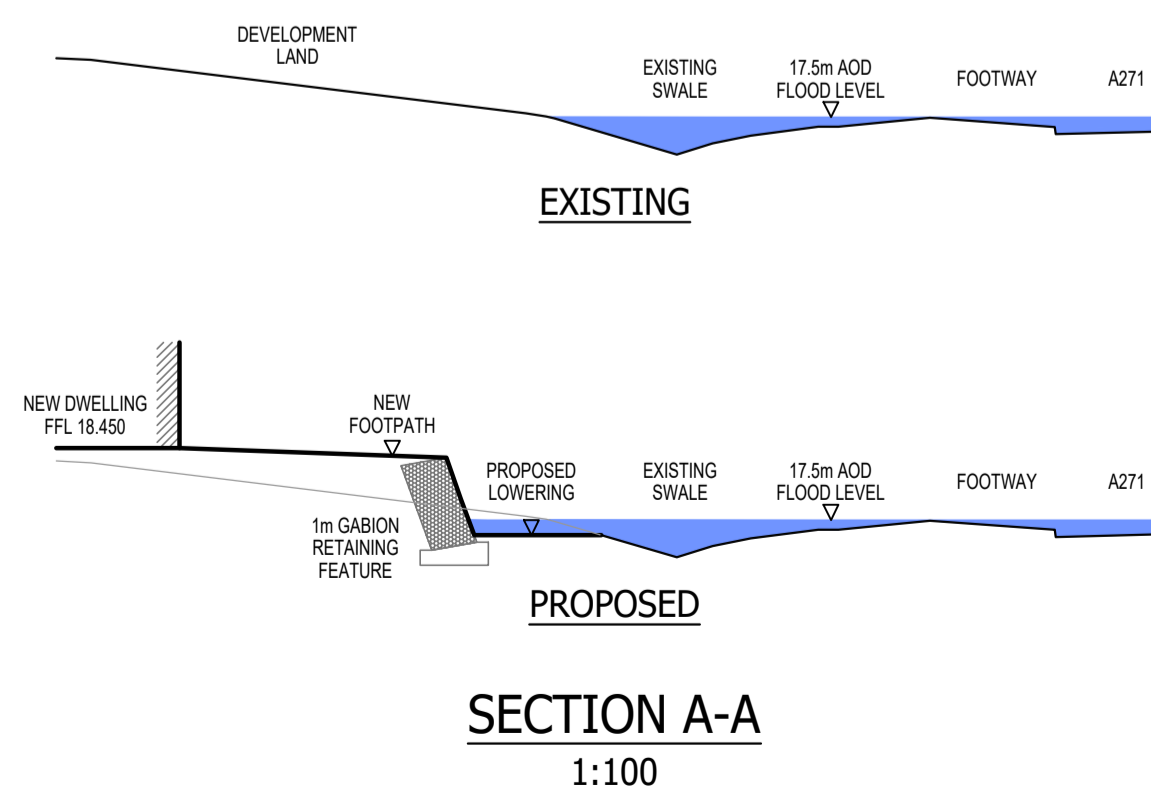
1. SFRA FLOOD ZONE 2 OUTLINE PROVIDED IN PDF FORMAT BY WEALDEN DC. FLOOD LEVEL INTERPRETED AS 17.5m AOD BASED ON COMPARISON WITH SITE SURVEY DATA.
2. FLOOD VOLUMES CALCULATED USING SITE3D SOFTWARE.



**EXISTING FLOOD VOLUME**  
1:200



**PROPOSED FLOOD VOLUME**  
1:200



PO1	INITIAL ISSUE	08.01.21	PH	MR
Rev	Amendments	Date	Dsn	Chk
Status	PRELIMINARY			
Client	DECIMUS			
Architect	ON ARCHITECTURE			
Project	LAND AT LOWER HORSEBRIDGE HAILSHAM			
Title	EXISTING AND PROPOSED FLOOD VOLUMES			
Date	JANUARY 2021	Scale @ A1	AS SHOWN	
Clients Ref	Project Ref. 10273			
 Gloucester House, 66a Church Walk, Burgess Hill, West Sussex, RH15 9AS Tel: 01444 871444 Web: www.gtacivils.co.uk				
Drawing Number	10273/1103	Rev.	P01	

[Redacted]

**From:** [Redacted]  
**Sent:** 09 December 2020 16:06  
**To:** [Redacted]  
**Subject:** RE: SSD195758 - Land to south of the Kings Head PH, A271, Lower Horsebridge, nr Hailsham, BN27 4DH

**Follow Up Flag:** Follow up  
**Flag Status:** Completed

Hi [Redacted]

Hope all is well.

Thanks for your email. The 2017 Wealden SFRA included modelled data which would take precedent over our JFLOW data, which is not suitable for any site-specific FRA. In places within the district, the mapping from the SFRA matches our Flood Map for Planning but that the data has not yet been added to our modelled flood outlines, hence why, with the Product 4 request, the 2011 JFLOW map was provided. The EA would've likely commented on the accuracy of the modelling within the SFRA so we could probably consider it to be sound.

Whether the SFRA modelling is suitable for the development likely depends on its scale; we would usually recommend that developers undertake their own modelling for larger scale site proposals. This is because it's also important to consider the fluvial and new tidal climate change allowances when preparing a site-specific FRA, you should refer to 'Flood risk assessments: climate change allowances' for the most up to date allowances. You will need to undertake further assessment of future flood risk using different allowances to ensure your assessment of future flood risk is based on best available evidence; depending on the scale of the development this may require you to undertake your own modelling as stated before.

All the best,

[Redacted]

[Redacted]  
Flood & Coastal Risk Management Officer, Partnerships & Strategic Overview Team (East Sussex)  
**Environment Agency** | Guildbourne House, Chatsworth Road, Worthing, West Sussex, BN11 1LD

[Redacted]

[Redacted]

# SSD195758 - Flood Map for Planning (Rivers and Sea)



1: 10,000

0 Metres 250



## Flood Map for Planning (Rivers & Sea)

- Defences
- Flood Storage Areas
- Areas benefiting from flood defences
- Flood Zone 3
- Flood Zone 2

### Flood Map Areas (assuming no defences)

**Flood Zone 3** shows the area that could be affected by flooding:

- from the sea with a 1 in 200 or greater chance of happening each year
- or from a river with a 1 in 100 or greater chance of happening each year.




**Flood Zone 2** shows the extent of an extreme flood from rivers or the sea with up to a 1 in 1000 chance of occurring each year.



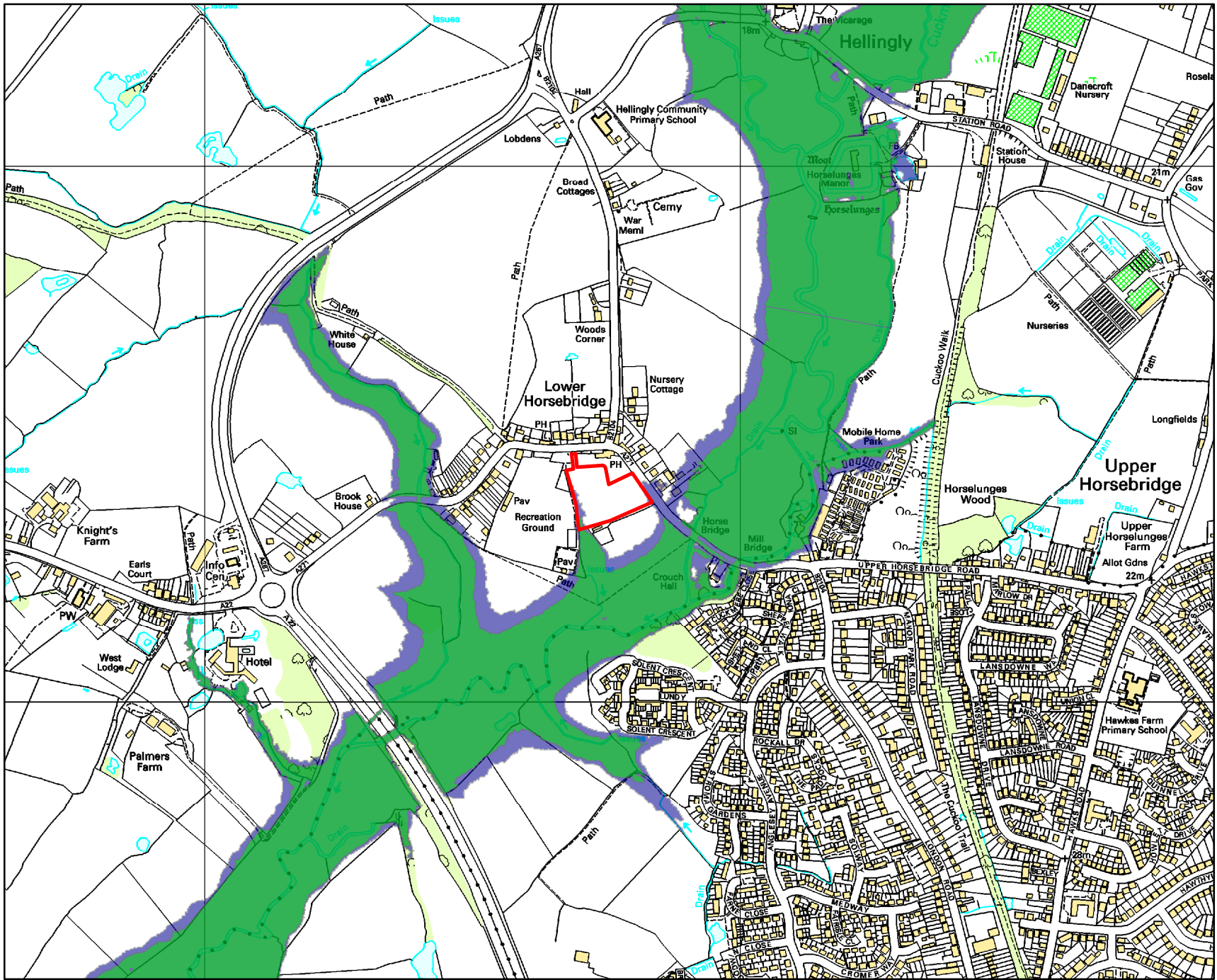
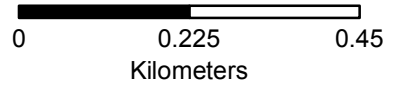
# SSD195758 - Modelled Flood Outlines (undefended fluvial)



## Legend

-  Site Boundary
-  1% AEP (Undefended Fluvial)
-  0.1% AEP (Undefended Fluvial)



Scale: 1:10,000



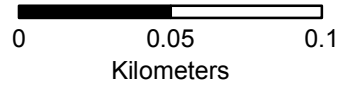
# SSD195758 - Site Boundary and Node Points



## Legend

-  FZI 2011 (1D Levels)
-  Site Boundary

Scale: 1:2,500



**Product 4 Flood Risk Data Requested by:** [REDACTED], GTA Civils Ltd

**Site:** Land South of Kings Head, Lower Horsebridge

**Table 1:** Water Levels: Fluvial undefended

Node Reference	NGR		Modelled Flood Levels in Metres (AOD)	
	Eastings	Northings	Undefended Annual Exceedance Probability	
			1%	0.1%
C0368	557832	111148	15.27	15.81
C0545	557882	111170	16.2	16.7
C0374	557905	111295	16.21	16.71
C0376	557923	111347	16.38	16.89

All levels taken from Jflow + (SWE) Kent and East Sussex Fluvial Flood Zone Improvements, completed in 2011 by JBA Consulting.

Please note that this model is an improvement from our old Jflow model and only provides level data at specific points on the channel. We are unable to provide depths. However, these levels should provide a good understanding of the flood risk of the area.

**There is no additional information or health warnings for these levels/depths or the model from which they have been produced.**

**Produced on 04/12/2020**

#### *JFLOW Outputs Caveat*

Environment Agency Solent & South Downs  
Office Address: Guildbourne House, Chatsworth Road, Worthing, West Sussex, BN11 1LD  
Email: [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk)  
customer service line 03708 506 506  
[gov.uk/environment-agency](http://gov.uk/environment-agency)

