

Appendix B

EA data and Correspondence



RE: Silkstone STW Access track bank stabilisation

Slaney, Lesley to: neill.malone@amec.com

13/10/2011 11:22

History: This message has been replied to and forwarded.

Hi Neil

I have looked at the FRA and from our perspective everything is fine. As discussed before any works can proceed to stop further erosion to the river bank you will need to apply for a works in rivers consent. I have attached an application form and notes for convenience. If you need to discuss it further please don't hesitate to contact me at the number below.

Kind regards

Lesley Slaney
Development and Flood Risk Officer

Tel: 0113 213 4779 (Internal 728 4779)

Email: lesley.slaney@environment-agency.gov.uk

Environment Agency
Phoenix House
Global Avenue
Leeds LS11 8PG

Part of the Environment Agency's Yorkshire and North East Region

Our flood warnings are changing. Be prepared. Find out more by calling Floodline on 0845 988 1188 or by visiting [our website](#).

From: neill.malone@amec.com [mailto:neill.malone@amec.com]

Sent: 13 October 2011 08:54

To: Slaney, Lesley

Subject: Silkstone STW Access track bank stabilisation

Click [here](#) to report this email as spam.

Hi Lesley,

Thanks for going through the details on Silkstone STW access track with me this morning. I've attached the FRA for you to have a look through, let me know if there are any details that you would like changed.

Thanks

Neill Malone
Senior Consultant - Surface Water Management
Tel. 0131 448 1166 (DD)
Fax. 0131 448 1183
Mob. 07803 974 250

----- Forwarded by Neill Malone/GLA/ENTEC/NWG on 13/10/2011 08:54 -----

From: Neill Malone/GLA/ENTEC/NWG
To: lesley.slaney@environment-agency.gov.uk
Date: 12/10/2011 09:47
Subject: Silkstone STW Access track bank stabilisation

Hi Lesley,

We've been asked by Yorkshire Water to prepare a flood risk assessment for proposed bank stabilisation works on an access track to Silkstone Sewage Treatment Works. The access track passes a meander on the Banks Bottom Dike which is classed as an ordinary watercourse, erosion is occurring on the river bank which is starting to undermine the access track. To stop this it is proposed that gabions will be placed into the river bank to prevent any further erosion. I've attached drawings showing the site location, details of the proposed works, and a plan showing the flood risk in this area from the flood maps. If it helps the site location is (NGR) 429461 406440. There is an abandoned mine with buildings approximately 250m upstream which is in flood zone 2, there are no other buildings upstream. The gabions originally protruded into the watercourse, I've asked them to move these back so that flood plain storage will not be impacted. As the works have been designed to minimise the impact on the watercourse and the flood plain storage and will not impact on any properties upstream we don't propose to undertake any hydraulic modelling but I'd like to discuss this with you before we complete the FRA. The FRA makes it clear that a consent for works affecting will be required and i have stipulated that all works should be undertaken from the access track, no machinery will be placed in the watercourse (construction method statement will be prepared to accompany the consent). I'm on site this afternoon but will be in all morning, if possible once you've had a look through the attached drawings would you be able to give me a ring or drop me an e-mail to discuss if you have any concerns.

Thanks for your help

Neill Malone
Senior Consultant - Surface Water Management
Tel. 0131 448 1166 (DD)
Fax. 0131 448 1183
Mob. 07803 974 250

[attachment "2010_D0023_10_3009_A.pdf" deleted by Neill Malone/GLA/ENTEC/NWG] [attachment "2010_D0023_10_1011_B DRAFT1.pdf" deleted by Neill Malone/GLA/ENTEC/NWG] [attachment "RFI 17352 - Flood Map.pdf" deleted by Neill Malone/GLA/ENTEC/NWG]

This email contains confidential information. The contents must not be disclosed to anyone else except with the authority of the sender. Unauthorised recipients are requested to maintain this confidentiality and immediately advise the sender of any error or misdirection in transmission.

The following notice applies to emails originating in the UK.

E-mails sent on behalf of AMEC are sent on behalf of the relevant AMEC company below. These are registered in England and Wales with registered office at Booths Park, Chelford Road, Knutsford, Cheshire WA16 8QZ and number as shown: AMEC plc 01675285, AMEC Group Limited 04612748, AMEC Capital Projects Limited 02804109, AMEC Earth and Environmental UK Limited 04987981, AMEC Environment & Infrastructure UK Limited 2190074, AMEC Nuclear Holdings Limited 03725076, AMEC Nuclear M & O Limited 05664844, AMEC Nuclear UK Limited 01120437, AMEC Nuclear International Limited 03260477, AMEC Nuclear Projects Limited 05664962 and National Nuclear Corporation Limited 02290928

Information in this message may be confidential and may be legally privileged. If you have received this message by mistake, please notify the sender immediately, delete it and do not copy it to anyone else.

We have checked this email and its attachments for viruses. But you should still check any attachment before opening it.

We may have to make this message and any reply to it public if asked to under the Freedom of Information Act, Data Protection Act or for litigation. Email messages and attachments sent to or from any Environment Agency address may also be accessed by someone other than the sender or recipient, for business purposes.

If we have sent you information and you wish to use it please read our terms and conditions which you can get by calling us on 08708 506 506. Find out more about the Environment Agency

at www.environment-agency.gov.uk  Fisheries Wildlife Advice to Applicants 2010 version.pdf  What Needs Consent.pdf
 New Guidance Notes 2011.pdf  Pollution Prevention Advice.pdf  PPG05 09.08.pdf  Temporary Works Method Statement.doc
 Ways of Working Notes.pdf  New FD1 Form 2011.doc

Annex B: Climate Change

- B1. There is an increasing body of scientific evidence that the global climate is changing as a result of human activity. Past, present and future emissions of greenhouse gases are expected to cause significant global climate change during this century. The nature of climate change at a regional level will vary: for the UK, projections of future climate change indicate that more frequent short-duration, high-intensity rainfall and more frequent periods of long-duration rainfall of the type responsible for the 2000 floods could be expected. Sea levels will continue to rise. These kinds of changes will have implications for river flooding and also for local flash flooding. There are several indications that the climate in the UK is already changing. Central England's temperature rose by almost 1°C during the twentieth century. Heat waves have become more frequent in summer and there are now fewer frosts and winter cold spells. Winters over the last 200 years have become wetter relative to summers; a larger proportion of winter precipitation in all regions now falls on heavy rainfall days than was the case 50 years ago.
- B2. To help organisations (including local authorities and regional planning bodies) to assess their vulnerability to climate change and plan appropriate adaptation strategies, the Government established the UK Climate Impacts Programme (UKCIP).¹³ Scenarios of future climate change in the UK¹⁴ were produced for the UKCIP in 2002 and published by the Department for Environment, Food and Rural Affairs (Defra). Over the next 2-3 years, this climate change scenario information will be revised, expanded and developed to better meet stakeholder needs.
- B3. The companion guide supporting the PPS *Planning and Climate Change*¹⁵ will provide guidance on how planning should secure new development and shape places resilient to the effects of climate change.
- B4. The Foresight project on future flood risk reported in April 2004.¹⁶ The project found that, using the UKCIP02 climate change projections, together with scenarios of potential economic and social changes, annual damage from flooding may rise from around £100 million to between £460 million (under the community orientated *Local Stewardship scenario*) and £2,500 million (under the more consumerist *World Markets scenario*) by 2080.
- B5. Global sea level will continue to rise, depending on greenhouse gas emissions and the sensitivity of the climate system. The relative sea level rise in England also depends on the local vertical movement of the land, which is generally falling in the south-east and rising in the north and west. Allowances for the regional rates of relative sea level rise shown in Table B.1 should be used as a starting point for considering flooding from the sea, along with the sensitivity ranges for wave height and wind speed in Table B.2, in preparing flood risk assessments.

¹³ www.ukcip.org.uk

¹⁴ Defra, 2002. *Scenarios of future climate change in the UK*
http://www.ukcip.org.uk/scenarios/ukcip02/documentation/ukcip02_scientific_report.asp

¹⁵ see footnote 1

¹⁶ DTI, 2004. *The Foresight Future Flooding project*
www.foresight.gov.uk/Previous_Projects/Flood_and_Coastal_Defence/Reports_and_Publications/Project_Outputs/Outputs.htm

Table B.1 Recommended contingency allowances for net sea level rise

Administrative Region	Net Sea Level Rise (mm/yr) Relative to 1990			
	1990 to 2025	2025 to 2055	2055 to 2085	2085 to 2115
East of England, East Midlands, London, SE England (south of Flamborough Head)	4.0	8.5	12.0	15.0
South West	3.5	8.0	11.5	14.5
NW England, NE England (north of Flamborough Head)	2.5	7.0	10.0	13.0

Notes:

1. For deriving sea levels up to 2025, the 4mm/yr, 3mm/yr and 2.5mm/yr rates (covering the three groups of administrative Regions respectively), should be applied back to the 1990 base sea level year. From 2026 to 2055, the increase in sea level in this period is derived by adding the number of years on from 2025 (to 2055), multiplied by the respective rate shown in the table. Subsequent time periods 2056-2085 and 2086-2115 are treated similarly.
 2. Refer to Defra FCDPAG3 *Economic Appraisal Supplementary Note to Operating Authorities – Climate Change Impacts*, October 2006, for details of the derivation of this table. In particular, Annex A1 of this Note shows examples of how to calculate sea level rise.
 3. Vertical movement of the land is incorporated in the table and does not need to be calculated separately.
- B6. The rise in sea level will change the frequency of occurrence of high water levels relative to today's sea levels, assuming no change in storminess. There may also be secondary impacts such as changes in wave heights due to increased water depths, as well as possible changes in the frequency, duration and severity of storm events. A 10 per cent sensitivity allowance should be added to offshore wind speeds and wave heights by the 2080s.
- B7. Extensive, low-lying coastal lands around most British estuaries are particularly susceptible to flooding. Changes to the drivers associated with coastal erosion (surges, waves, coastal sediment supply and morphology, and relative sea level rise) will affect the probability of flooding to new developments.
- B8. The climate changes already seen in the UK are consistent with the UKCIP02 scenarios. This suggests that winters will become wetter over the whole of the UK, by as much as 20 per cent by the 2050s. A shift in the seasonal pattern of rainfall is also expected, with summers and autumn becoming much drier than at present. Snowfall amounts will

decrease significantly throughout the UK, but the number of rain-days and the average intensity of rainfall are expected to increase. Although average seasonal wind speeds could increase over most of the country, there is currently much less certainty regarding the potential for greater storminess and the consequences for sea surges or extreme wave activity on coasts.

- B9. In making an assessment of the impacts of climate change on flooding from the land, rivers and sea as part of a flood risk assessment, the sensitivity ranges in Table B.2 may provide an appropriate precautionary response to the uncertainty about climate change impacts on rainfall intensities, river flow, wave height and wind speed.

Table B.2 Recommended national precautionary sensitivity ranges for peak rainfall intensities, peak river flows, offshore wind speeds and wave heights.

Parameter	1990 to 2025	2025 to 2055	2055 to 2085	2085 to 2115
Peak rainfall intensity	+5%	+10%	+20%	+30%
Peak river flow	+10%	+20%		
Offshore wind speed	+5%		+10%	
Extreme wave height	+5%		+10%	

Notes:

1. Refer to *Defra FCDPAG3 Economic Appraisal Supplementary Note to Operating Authorities – Climate Change Impacts, October 2006*, for details of the derivation of this table.
 2. For deriving peak rainfall, for example, between 2025-2055 multiply the rainfall measurement (in mm/hour) by 10 per cent and between 2055-2085 multiply the rainfall measurement by 20 per cent. So, if there is a 10mm/hour event, for the 2025-2055 period this would equate to 11mm/hour; and for the 2055/2085 period, this would equate to 12mm/hour. Other parameters in Table B.2 are treated similarly.
- B10. Sensitivity testing of the Flood Map produced by the Environment Agency, using the 20 per cent from 2025 to 2115 allowance for peak flows, suggests that changes in the extent of inundation are negligible in well-defined floodplains, but can be dramatic in very flat areas. However, changes in the depth of flooding under the same allowance will reduce the return period of a given flood. This means that a site currently located within a lower risk zone (eg Zone 2 in Table D.1, Annex D) could in future be re-classified as lying within a higher risk zone (eg Zone 3). This in turn could have implications for the type of development that is appropriate according to its vulnerability to flooding (see Table D.2, Annex D). It will therefore be important that developers, their advisors and local authorities refer to the current Flood Map and the SFRA when preparing and considering proposals.

- B11. Flooding in estuaries may result from the combined effects of high river flows and high sea surges. When taking account of impacts of climate change in flood risk assessments covering tidal estuaries, it will be necessary for the allowances for sea level rise in Table B.1 (see para. B5) and the allowances for peak flow, wave height and wind speed in Table B.2 (see para. B9) should be combined.¹⁷
- B12. Indirect impacts of climate change on land use and land management may change future flood risk. For example, changes in crop type, methods of cultivation and harvesting could affect the porosity and surface of the ground and hence the volume, speed and direction of storm run-off.
- B13. Adaptation to climate change requires an integrated approach across different sectors including land use, water resources, transport, biodiversity and recreation. This integrated approach should be reflected in flood risk assessment.
- B14. Knowledge and understanding of climate change is continuing to grow. The next UKCIP scenarios, due in 2008, are expected to provide more detail on regional climate changes and to express this information in probabilistic terms. Other areas where further research is in progress include climate-driven risks from groundwater and sewer flooding. The most up-to-date guidance on climate change and flooding from the Environment Agency, Defra, Communities and Local Government and the UKCIP should be considered in the preparation of Regional Flood Risk Appraisals, Strategic Flood Risk Assessments and site specific Flood Risk Assessments.

¹⁷ Refer to Defra *FCDPAG3 Economic Appraisal Supplementary Note to Operating Authorities – Climate Change Impacts*, October 2006. Annex A2 gives details of joint probability analysis.
www.defra.gov.uk/enviro/fcd/pubs/pagn/climatechangeupdate.pdf

Location	Label	Chainage (km)	5 yr		10 yr		25 yr		50 yr		75 yr		100 yr		1000 yr		100 yr + CC	
			Max Stage (mAOD)	Max Flow (m ³ s ⁻¹)	Max Stage (mAOD)	Max Flow (m ³ s ⁻¹)	Max Stage (mAOD)	Max Flow (m ³ s ⁻¹)	Max Stage (mAOD)	Max Flow (m ³ s ⁻¹)	Max Stage (mAOD)	Max Flow (m ³ s ⁻¹)	Max Stage (mAOD)	Max Flow (m ³ s ⁻¹)	Max Stage (mAOD)	Max Flow (m ³ s ⁻¹)	Max Stage (mAOD)	Max Flow (m ³ s ⁻¹)
	SIL04098U	4.10	91.33	2.35	91.40	2.78	91.50	3.35	91.58	3.88	91.63	4.24	91.67	4.53	92.12	8.15	91.79	5.44
	SIL04098D	4.10	90.90	2.35	90.92	2.78	90.95	3.35	90.98	3.88	91.00	4.24	91.02	4.53	91.26	8.15	91.07	5.44
	SIL04050	4.05	90.39	2.41	90.41	2.85	90.45	3.43	90.49	3.97	90.51	4.35	90.54	4.64	90.74	8.34	90.60	5.57
	SIL03926	3.93	88.82	2.56	88.85	3.02	88.90	3.64	88.94	4.21	88.97	4.61	88.99	4.92	89.24	8.83	89.05	5.90
	SIL03808	3.81	87.76	2.70	87.80	3.19	87.87	3.84	87.94	4.44	87.97	4.86	87.99	5.19	88.20	9.29	88.06	6.22
	SIL03680	3.69	86.45	2.85	86.51	3.37	86.58	4.05	86.65	4.69	86.69	5.13	86.73	5.47	87.04	9.80	86.83	6.57
	SIL03522	3.53	85.41	3.04	85.47	3.59	85.55	4.32	85.63	5.00	85.67	5.46	85.70	5.83	86.00	10.42	85.78	7.00
	SIL03407	3.41	84.53	3.18	84.60	3.75	84.70	4.51	84.78	5.22	84.84	5.71	84.87	6.09	85.22	10.88	84.96	7.31
	SIL03264	3.27	83.94	3.35	83.99	3.96	84.06	4.76	84.12	5.50	84.15	6.01	84.18	6.42	84.48	11.45	84.26	7.70
	SIL03164	3.17	82.87	3.47	82.92	4.10	82.98	4.93	83.04	5.70	83.07	6.23	83.10	6.64	83.42	11.85	83.19	7.97
	SIL03059	3.06	81.55	3.60	81.64	4.25	81.74	5.11	81.83	5.90	81.89	6.45	81.93	6.88	82.42	12.26	82.07	8.26
	SIL03049U	3.05	81.55	3.61	81.64	4.26	81.74	5.12	81.83	5.92	81.89	6.47	81.94	6.90	82.44	12.31	82.08	8.28
	SIL03049D	3.05	81.27	3.61	81.34	4.26	81.42	5.12	81.49	5.92	81.53	6.47	81.57	6.90	81.98	12.31	81.69	8.28
	SIL02937U	2.94	80.62	3.75	80.72	4.42	80.84	5.31	80.95	6.14	81.02	6.71	81.07	7.16	81.60	12.75	81.22	8.59
	SIL02937D	2.94	80.22	3.75	80.28	4.42	80.36	5.31	80.42	6.14	80.46	6.71	80.49	7.16	80.83	12.75	80.59	8.59
	SIL02799	2.80	79.14	3.91	79.23	4.62	79.34	5.55	79.44	6.41	79.50	7.00	79.54	7.47	80.05	13.30	79.68	8.96
	SIL02690	2.70	78.69	4.04	78.81	4.77	78.95	5.73	79.07	6.63	79.14	7.24	79.20	7.72	79.78	13.73	79.36	9.26
	SIL02583U	2.59	78.39	4.17	78.50	4.92	78.63	5.91	78.75	6.83	78.82	7.46	78.87	7.96	79.51	14.16	79.03	9.55
	SIL02583D	2.59	77.76	4.17	77.81	4.92	77.89	5.91	77.95	6.83	78.00	7.46	78.03	7.96	78.36	14.16	78.12	9.55
	SIL02527	2.53	76.78	4.24	76.84	5.00	76.93	6.01	77.00	6.94	77.04	7.58	77.08	8.09	77.42	14.38	77.18	9.70
	SIL02377	2.38	76.01	4.42	76.10	5.22	76.20	6.26	76.32	7.24	76.37	7.90	76.40	8.43	76.68	14.98	76.49	10.11
	SIL02305	2.31	75.64	4.51	75.71	5.32	75.82	6.39	75.97	7.38	76.01	8.06	76.04	8.59	76.30	15.26	76.14	10.31
	SIL02124	2.13	74.42	4.73	74.53	5.57	74.66	6.69	74.75	7.73	74.81	8.44	74.85	9.00	75.28	15.98	74.99	10.80
	SIL01954U	1.96	73.69	4.93	73.82	5.82	73.97	6.98	74.10	8.07	74.18	8.80	74.24	9.39	74.90	16.66	74.43	11.26
	SIL01954D	1.96	73.47	4.93	73.58	5.82	73.70	6.98	73.81	8.07	73.88	8.80	73.93	9.39	74.51	16.66	74.09	11.26
	SIL01867U	1.87	73.30	5.04	73.41	5.94	73.53	7.13	73.64	8.24	73.71	8.99	73.76	9.58	74.32	17.01	73.92	11.50
	SIL01867D	1.87	73.01	5.04	73.10	5.94	73.20	7.13	73.29	8.24	73.34	8.99	73.39	9.58	73.86	17.01	73.52	11.50
	SIL01749	1.75	72.44	5.18	72.55	6.11	72.69	7.33	72.80	8.47	72.87	9.24	72.93	9.85	73.50	17.48	73.10	11.82
	SIL01638	1.64	72.16	5.31	72.29	6.27	72.44	7.52	72.56	8.68	72.65	9.48	72.71	10.10	73.35	17.92	72.89	12.12
	SIL01551U	1.56	72.02	5.42	72.15	6.39	72.30	7.67	72.43	8.85	72.51	9.66	72.57	10.30	73.21	18.27	72.76	12.36
	SIL01551D	1.56	71.71	5.42	71.83	6.39	71.96	7.67	72.08	8.85	72.15	9.66	72.20	10.30	72.76	18.27	72.36	12.36
	SIL01486U	1.49	71.62	5.50	71.75	6.48	71.89	7.78	72.01	8.98	72.08	9.80	72.13	10.45	72.70	18.52	72.30	12.54
Furnace Bridge	SIL01486D	1.49	71.32	5.50	71.42	6.48	71.52	7.78	71.60	8.98	71.65	9.80	71.69	10.45	72.07	18.52	71.80	12.54
	SIL01466	1.47	71.20	5.52	71.30	6.51	71.40	7.81	71.47	9.02	71.51	9.85	71.55	10.50	71.88	18.60	71.64	12.59
	SIL01393	1.40	71.01	5.61	71.12	6.61	71.21	7.94	71.28	9.16	71.33	10.00	71.36	10.66	71.68	18.90	71.45	12.79
	SIL01393D	1.40	68.87	5.61	68.95	6.61	69.04	7.94	69.13	9.16	69.18	10.00	69.22	10.66	69.65	18.90	69.34	12.79
	SIL01313	1.32	68.51	5.71	68.57	6.73	68.64	8.07	68.71	9.32	68.75	10.17	68.79	10.84	69.15	19.22	68.89	13.01
	SIL01190	1.20	67.45	5.85	67.54	6.90	67.65	8.28	67.75	9.56	67.80	10.43	67.84	11.12	68.25	19.71	67.96	13.35
	SIL01066	1.07	66.75	6.00	66.84	7.08	66.95	8.49	67.04	9.80	67.09	10.70	67.13	11.40	67.65	20.20	67.26	13.68
	SIL00953	0.96	66.19	6.14	66.29	7.24	66.40	8.68	66.50	10.02	66.57	10.94	66.62	11.66	67.45	20.63	66.78	13.99
	SIL00829U	0.83	65.90	6.29	66.01	7.41	66.13	8.89	66.24	10.27	66.32	11.20	66.37	11.94	67.35	21.09	66.55	14.33
	SIL00829D	0.83	65.42	6.29	65.49	7.41	65.55	8.89	65.63	10.27	65.67	11.20	65.71	11.94	66.71	21.09	65.85	14.33
	SIL00804	0.81	65.14	6.32	65.19	7.45	65.26	8.94	65.32	10.32	65.37	11.26	65.41	12.00	66.67	21.19	65.54	14.40
	SIL00712	0.72	64.18	6.43	64.30	7.58	64.49	9.09	64.67	10.50	64.80	11.45	64.89	12.21	66.68	21.52	65.19	14.65
	SIL00626U	0.63	64.04	6.54	64.18	7.71	64.40	9.24	64.61	10.67	64.74	11.64	64.84	12.41	66.66	21.86	65.15	14.89
	SIL00626D	0.63	63.12	6.54	63.16	7.71	63.21	9.24	63.26	10.67	63.30	11.64	63.33	12.41	63.62	21.86	63.41	14.89
	SIL00608	0.61	62.97	6.56	63.01	7.73	63.07	9.27	63.11	10.71	63.15	11.68	63.17	12.45	63.46	21.93	63.26	14.94
	SIL00524	0.52	62.19	6.66	62.27	7.85	62.35	9.42	62.41	10.87	62.45	11.86	62.48	12.64	62.83	22.26	62.59	15.17
	SIL00347	0.35	61.10	6.87	61.23	8.10	61.38	9.72	61.49	11.21	61.55	12.23	61.61	13.04	61.94	22.96	61.72	15.64
	SIL00249	0.25	60.85	6.99	61.00	8.24	61.20	9.87	61.32	11.40	61.40	12.43	61.48	13.25	61.88	23.34	61.62	15.88
	SIL00112	0.11	60.55	7.16	60.73	8.43	60.93	10.10	61.05	11.65	61.14	12.72	61.24	13.55	61.68	21.71	61.35	16.23
	SIL00009	0.01	60.46	7.27	60.65	8.63	60.87	10.47	60.99	12.10	61.09	13.20	61.19	14.11	61.61	22.13	61.29	16.92
	SIL00000	0.00	60.48	7.29	60.67	8.66	60.88	10.48	61.00	12.08	61.10	13.13	61.20	13.96	61.62	21.48	61.31	16.69
Tanyard Beck cross-sections																		
	TAN01200	1.19	93.05	0.52	93.05	0.62	93.06	0.76	93.05	0.89	93.07	0.98	93.27	1.88	93.51	3.52	93.36	2.26
	TAN01062	1.06	90.91	0.54	90.92	0.64	90.95	0.79	90.99	0.92	91.03	1.01	91.51	2.10	91.89	3.93	91.62	2.52

Detailed FRA Map Centred on Silkstone - Date Created 27/06/2011 [Ref: 17352]



www.environment-agency.gov.uk

Scale: 1:10,000

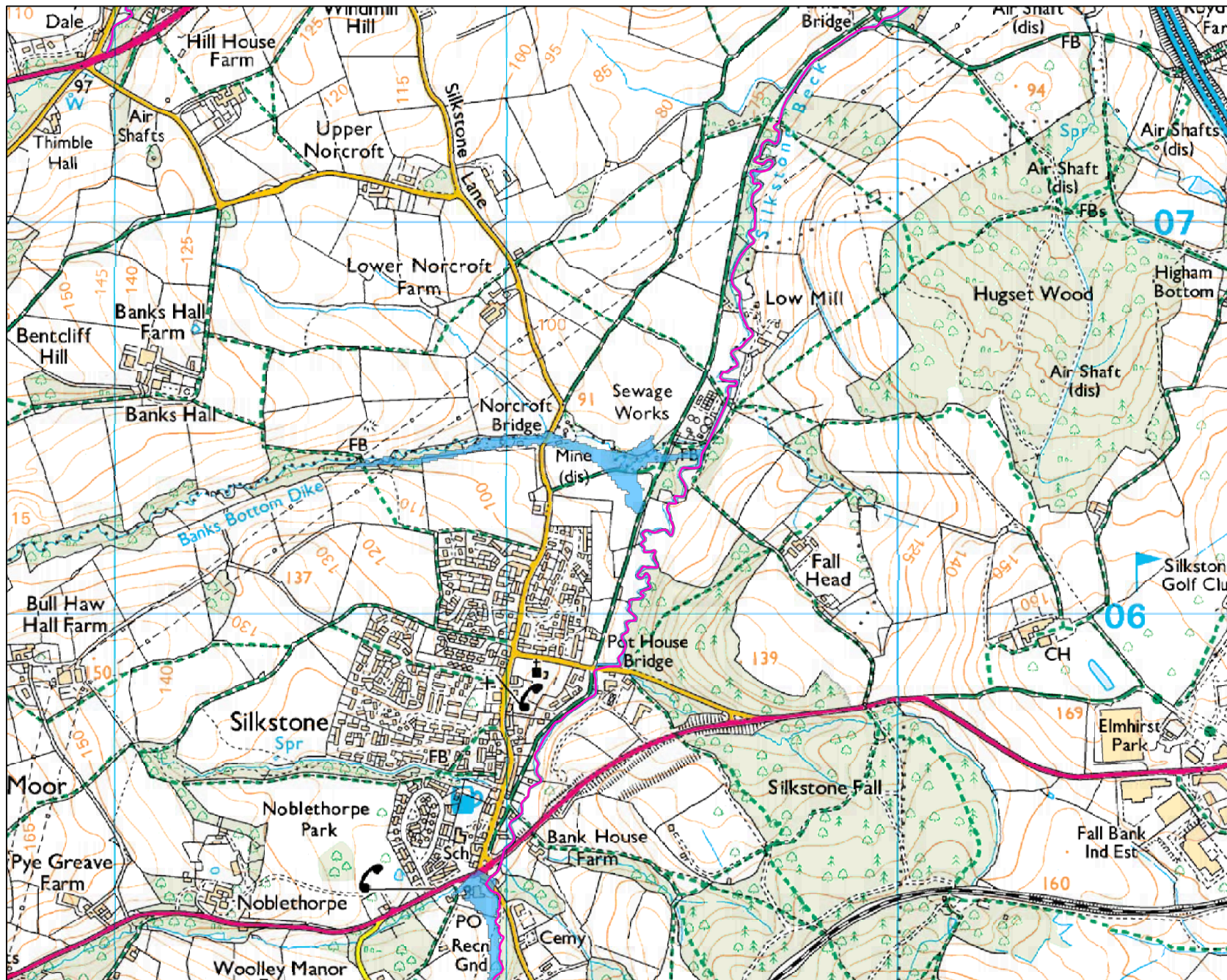


when reproduced @ A3

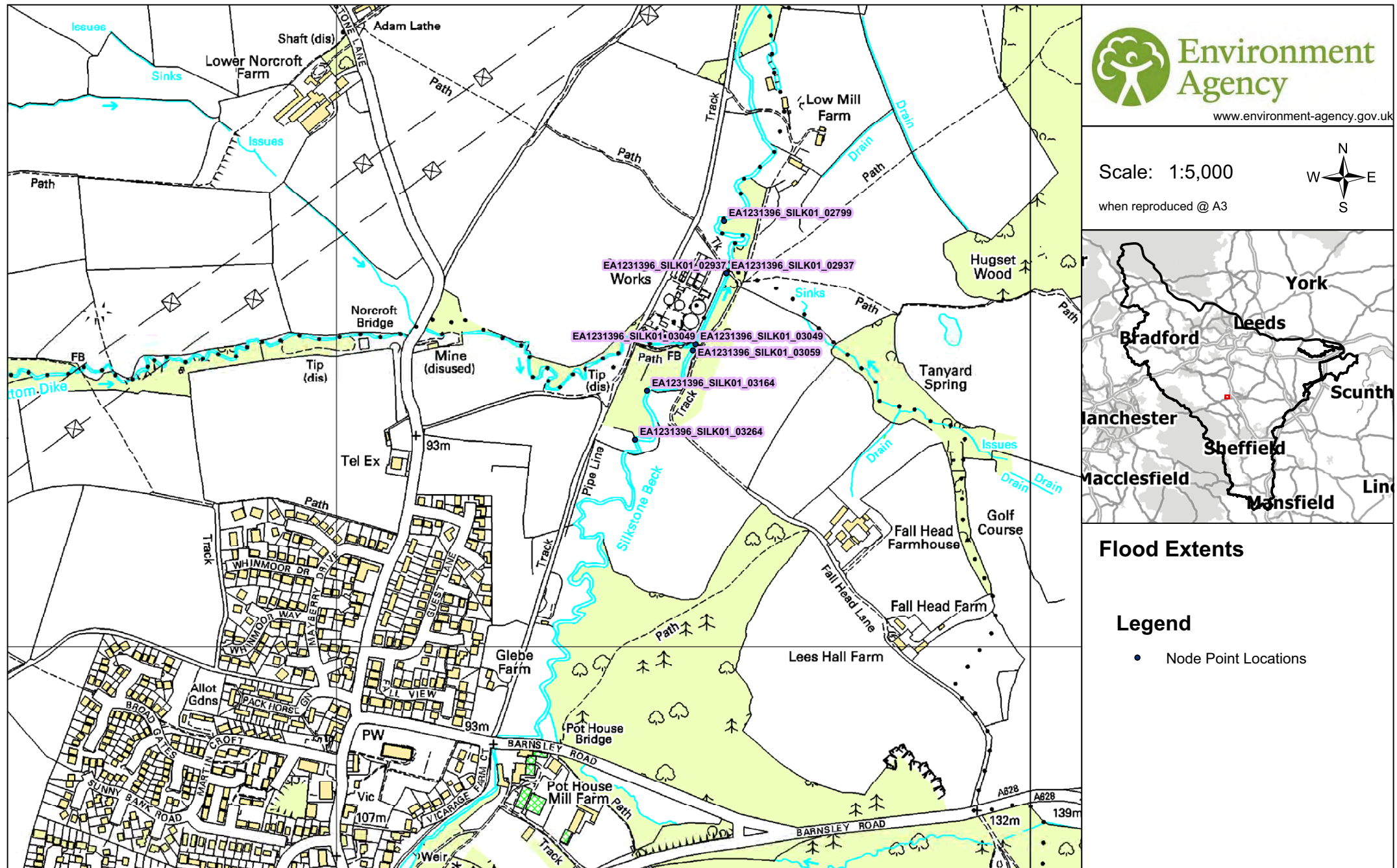


LEGEND

— Main River



Upper Dearne Model (2009) Node Point Locations - dated 27/06/2011 [Ref: 17352]





Our Ref: RFI/2011/17352

Your Ref:

Dear Lianne

Provision of Product 4 for Silkstone STW

Thank you for your request of 27 May 2011 to use Environment Agency data, Product 4, in the development of the above site. The information is attached.

If you have requested this information to help inform a development proposal, then you should note the detail in the attached advisory text on the use of Environment Agency Information for Flood Risk Assessments / Flood Consequence Assessments.

Supporting Information

Please see the enclosed extract from the Flood Map.

The Flood Map provides information on flooding from rivers and the sea for England and Wales. The Flood Map also has information on flood defences and the areas benefiting from those flood defences.

The Flood Map shows the following:

1. Flood Zone 3 (dark blue area on the enclosed map): natural flood plain area that could be affected by flooding from rivers and/or the sea – not taking into account the presence of any flood defences

- For flooding from rivers the map indicates the extent of a flood with a 1% (1 in 100) chance of happening each year;
- For flooding from the sea the map shows the extent of a flood with a 0.5% (1 in 200) chance of happening each year.

2. Flood Zone 2 (light blue area): natural flood plain area that could be affected by flooding from rivers and/or the sea – not taking into account the presence of any flood defences.

- Indicates the extent of a flood with a 0.1% (1 in 1000) chance of happening each year.

3. Flood defences built in the last five years to protect against river floods with a 1% (1 in 100) chance of happening each year, together with some natural or constructed entities which retain, store or channel water and which may protect against smaller floods.

4. Areas benefiting from flood defences - areas that benefit from the flood defences shown, in the event of a river flood with a 1% (1 in 100) chance of happening each year, or a flood from the sea with a 0.5% (1 in 200) chance of happening each year. If the defences were not there, these areas would flood.

Flood History

To the best of our knowledge there is no known flood history for this site. For local drainage information please contact your water utility company and your local council.

Water causing flooding can come from different places, for example from rivers or the sea; surface water (i.e. rainwater flowing over or accumulating on the ground before it is able to enter rivers or the drainage system); overflowing or backing up of sewers or drainage systems which have been overwhelmed or from groundwater rising up from underground aquifers.

Currently the Environment Agency can only supply flood risk data relating to the risk of flooding from rivers or the sea. However you should be aware that in recent years, there has been an increase in flood damage caused by surface water flooding or drainage systems that have been overwhelmed. Local Authorities and/or Water Companies may be able to provide some knowledge on the risk of flooding from sources other than rivers and the sea and we are working with these organisations to improve knowledge and understanding of surface water flooding.

Assets

We do not have any flood defence information for this location.

Modelling - Upper Dearne Flood Risk Mapping Study

See enclosed extracts from the Upper Dearne Flood Risk Mapping study produced by Halcrow in 2009:

- Location map of model nodes for Silkstone Beck.
- Table showing modelled levels for 7 return periods and with climate change taken into account for the 1 in 100 year return period.

We do not hold any level data for Banks Bottom Dike.

Climate Change

See attached appendix B, from the department for Communities and Local Government's PPS 25 (Planning Policy Statement), for Development and Flood Risk.

River - Non Main River

The watercourse at this location is not designated as Main River. It is classed as an Ordinary Watercourse. The local authority holds responsibility for the maintenance of this river. The Environment Agency does not have any more information available in regard to past flooding issues or current flood risk. For any information on any

past flooding and for any record of the impact of local drainage on that watercourse we suggest you speak to your City Council Drainage Section and to Yorkshire Water.

We have no groundwater flooding or level information for this site.

This information is provided subject to the enclosed notice, which you should read.

If you have any queries or would like to discuss the content of this letter further please do not hesitate to contact us on the number below.

Yours sincerely

Cheryl Beech
External Relations Team
Direct Dial 0113 2134732
Email neyorkshire@environment-agency.gov.uk

Days of work - Mon to Thurs

Environment Agency
Phoenix House
Global Avenue
Leeds LS11 8PG

Part of the Environment Agency's Yorkshire and North East Region

Encs Detailed FRA/FCA Map
Standard Notice

We would be really grateful if you could spare five minutes to help us improve our service. Please click on the link below and fill in our survey – we use every piece of feedback we receive.

<https://web.questback.com/isa/qbv.dll/SQ?q=8w2Qkfx%2BivseokDpT0B1XBiMdadcYMuJJ8OUhDng6Hc%2Fbg%3D%3D>

Information in this message may be confidential and may be legally privileged. If you have received this message by mistake, please notify the sender immediately, delete it and do not copy it to anyone else.

We have checked this email and its attachments for viruses. But you should still check any attachment before opening it.
We may have to make this message and any reply to it public if asked to under the Freedom of Information Act, Data Protection Act or for litigation. Email messages and attachments sent to or from any Environment Agency address may also be accessed by someone other than the sender or recipient, for business purposes.

If we have sent you information and you wish to use it please read our terms and conditions which you can get by calling us on 08708 506 506. Find out more about the Environment Agency

at www.environment-agency.gov.uk  Standard Notice.pdf  VAT Receipt.pdf  Model Node Point Locations.pdf
 RFI 17352 - Flood Map.pdf  RFI 17352 - Modelled Levels.pdf  RFI 17352 - PPS25 Climate Change.pdf  Advisory Text.pdf

Use of Environment Agency Information for Flood Risk Assessments / Flood Consequence Assessments

Important

If you have requested this information to help inform a development proposal, then you should note the following:

In **England**, you should refer to the Environment Agency's Flood Risk Standing Advice and PPS25 and its associated Practice Guide for information about what flood risk assessment is needed for new development in the different flood zones. These documents can be accessed via:

<http://www.environment-agency.gov.uk/research/planning/82587.aspx>

<http://www.communities.gov.uk/publications/planningandbuilding/pps25floodrisk>

<http://www.communities.gov.uk/publications/planningandbuilding/pps25practiceguide>

You should also consult the Strategic Flood Risk Assessment produced by your local planning authority.

In **Wales**, you should refer to TAN15 for information about what flood consequence assessment is needed for new development in the different flood zones

<http://new.wales.gov.uk/topics/planning/policy/tans/tan15?lang=en>

You should also refer to any Strategic Flood Consequence Assessment produced by your local planning authority.

In **both England and Wales** you should note that:

1. Information supplied by the Environment Agency may be used to assist in producing a flood risk or flood consequence assessment (FRA/FCA) where one is required, but does not constitute such an assessment on its own.
2. This information covers flood risk from main rivers and the sea, and you will need to consider other potential sources of flooding, such as groundwater or overland runoff. The information produced by the local planning authority referred to above may assist here.
3. Where a planning application requires a FRA/FCA and this is not submitted or deficient, the Environment Agency may well raise an objection.
4. For more significant proposals in higher flood risk areas, we would be pleased to discuss details with you ahead of making any planning application, and you should also discuss the matter with the local planning authority.

Standard Notice [not for use with Special Data, Personal Data or unlicensed 3rd party rights]



Information warning

We (The Environment Agency) do not promise that the Information supplied to You will always be accurate, free from viruses and other malicious or damaging code (if electronic), complete or up to date or that the Information will provide any particular facilities or functions or be suitable for any particular purpose. You must ensure that the Information meets your needs and are entirely responsible for the consequences of using the Information. Please also note any specific information warning or guidance supplied to you.

Permitted use

- The Information is protected by intellectual property rights and whilst you have certain statutory rights which include the right to read the Information, you are granted no additional use rights whatsoever unless you agree to the licence set out below.
- Commercial use is subject to payment of a £50 licence fee (+VAT) for each person seeking the benefit of the licence, except for use as an Environment Agency contractor or for approved media use.
- To activate this licence you do not need to contact us (unless you need to pay us a Commercial licence fee) but if you make any use in excess of your statutory rights you are deemed to accept the terms below.

Licence

We grant you a worldwide, royalty-free, perpetual, non-exclusive licence to use the Information subject to the conditions below.

You are free to:



copy, publish, distribute and transmit the Information



adapt the Information



exploit the Information commercially, for example, by combining it with other Information, or by including it in your own product or application

You must (where you do any of the above):



acknowledge the source of the Information by including the following attribution statement:
"Contains Environment Agency information © Environment Agency and database right"



ensure that you do not use the Information in a way that suggests any official status or that We endorse you or your use of the Information



ensure that you do not mislead others or misrepresent the Information or its source or use the Information in a way that is detrimental to the environment, including the risk of reduced future enhancement



ensure that your use of the Information does not breach the Data Protection Act 1998 or the Privacy and Electronic Communications (EC Directive) Regulations 2003

These are important conditions and if you fail to comply with them the rights granted to you under this licence, or any similar licence granted by us will end automatically.

No warranty

The Information is licensed 'as is' and We exclude all representations, warranties, obligations and liabilities in relation to the Information to the maximum extent permitted by law. We are not liable for any errors or omissions in the Information and shall not be liable for any loss, injury or damage of any kind caused by its use. We do not guarantee the continued supply of the Information.

Governing Law

This licence is governed by the laws of England and Wales.

Definitions

"Information" means the information that is protected by copyright or by database right (for example, literary and artistic works, content, data and source code) offered for use under the terms of this licence.

"Commercial" means:

- offering a product or service containing the Information, or any adaptation of it, for a charge, or
- Internal Use for any purpose, or offering a product or service based on the Information for indirect commercial advantage, by an organisation that is primarily engaged in trade, commerce or a profession.