

**Proposed Conversion
of Existing Activity Centre
at Court Farm, Hole-in-the-Wall,
Foy, Herefordshire**



FLOOD RISK ASSESSMENT

Proposed Redevelopment
of an Existing Activity Centre
into Residential Accommodation
at
Court Farm
Pole-in-the-Wall, Foy
Herefordshire, HR9 7LH

FLOOD RISK ASSESSMENT

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1.0 INTRODUCTION

- 1.1 This Flood Risk Assessment (FRA) has been prepared by *RSL Highways and Transportation* for **PGL Travel Limited** to accompany a planning application for the redevelopment of 'Court Farm' at Hole-in-the-Wall, Foy, Herefordshire.
- 1.2 Appendix 1 contains a Locality Plan which illustrates each part of the development and the building to be converted, which currently makes up the site operated by PGL Travel Limited.
- 1.3 The Environment Agency has been consulted in the preparation of this document and confirmed the scope of this Flood Risk Assessment.
- 1.4 The aim of this Flood Risk Assessment is to:-
 - Summarise the historical use of the site and context,
 - Review the sources of flood risk,
 - Describe the development proposals,
 - Summarise the proposed Drainage Strategy, and
 - Summarise the flood risk management measures to be implemented.
 - Address the requirements of the National Planning Policy Framework (NPPF)

2.0 BACKGROUND

2.1 The site known historically as 'Court Farm' lies adjacent to the southern bank of the River Wye approximately 500m east (upstream) of Foy Bridge in a hamlet known as Hole-in-the-Wall.

2.2 Figure 1 below identifies the site in relation to the town of Ross-on-Wye and the river:-



2.3 'Court Farm' has until recently been used as an activity holiday centre for children operated by PGL Travel Limited. Approximately 300 children and staff could be accommodated at any one time.

2.4 Prior to the site being used as an activity centre, Hole-in-the Wall was a community with a school and public house. The latter was known as the 'Can and Anchor' which is clearly marked on the locality plan and is included in the proposed redevelopment.

- 2.5 Some of the other buildings were previously used for residential. A historical search does reveal 'Abrahall' and 'Wayside' being occupied for residential purposes.
- 2.6 The 'Can and Anchor' appears to date before the early 16th century. The Listed Building records show the building dating probably during the 17th Century or early 18th Century.
- 2.7 The River Wye has provided some extreme floods. One is noted as far back as 1795, others more recently as 1960 which according to the Herefordshire Strategic Flood Risk Assessment (SFRA) list it as a 1 in 400 probability flood.
- 2.8 According to records Foy Bridge was destroyed by a flood in 1918 and rebuilt in 1919. In contrast, the properties nearest the riverbank remain intact and unaffected by floodwater.
- 2.9 Two floods, that of 1998 and 2008, are recorded on a telegraph pole adjacent to the post box on a little common area between 'Abrahalls' and the 'Can and Anchor' and can be seen on a photograph in appendix 5. In addition, the exact location of the buildings to be redeveloped under this application are highlighted along with the extent of flooding according to the 1998 mark described above on the drawing attached to appendix 2.

3.0 PROPOSED DEVELOPMENT AND LOCATION

Summary Information

Site Name	Court Farm
OS Grid Reference	SO 61000 28600
Development Type	Residential (C3)
Site Area	2.00ha/5acres (approx)
EA Development Control Area	Midlands Region – West Area
Local Planning Authority	Herefordshire County Council

Location

- 3.1 The site is located on the southern bank of the River Wye approximately 500m north of Foy Bridge, which is almost equidistant between Ross-on-Wye and How Caple on the C1273.
- 3.2 'Court Farm' is in a rural area. Hole-in the-Wall comprises of a cluster of dwellings including those of Court Farm.

Proposed Development

- 3.3 PGL Travel Limited are proposing to convert the existing buildings back into residential including improvements to the access where necessary, and improvements/extension of the existing foul drainage system to accommodate the domestic use.
- 3.4 The drawings attached to appendix 2 clearly identifies the buildings to be converted. In summary they are as follows:-

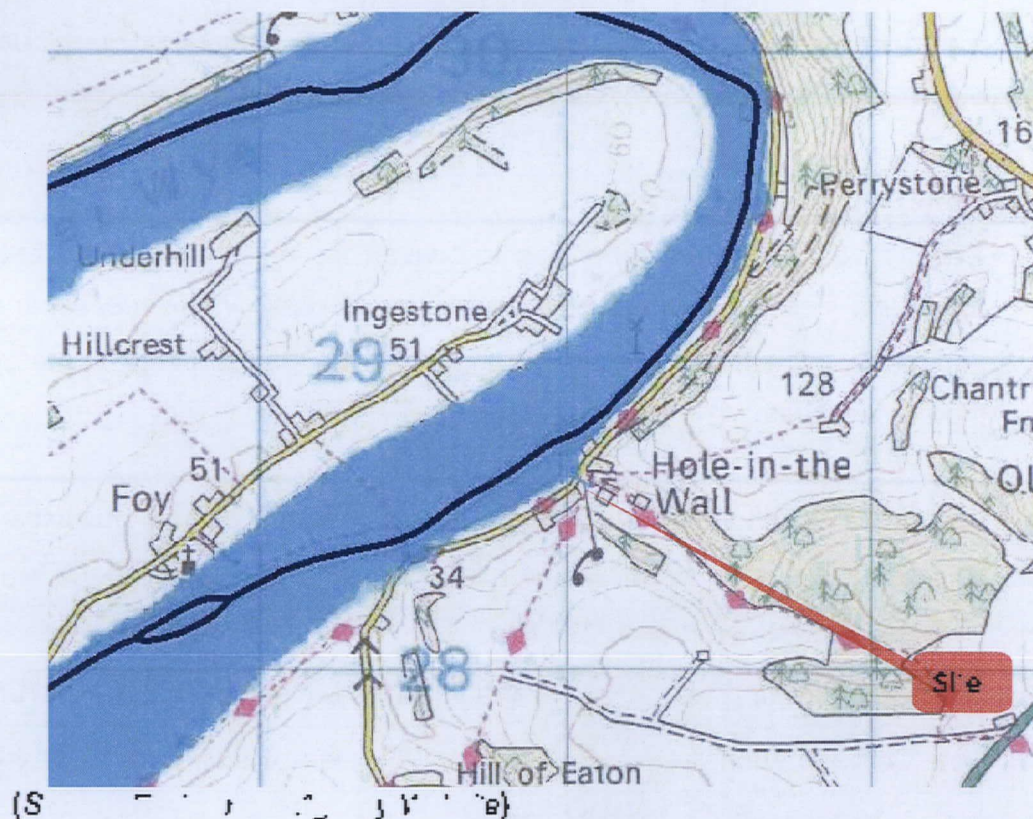
Building Name	Ex. FFL	Notes
The Gate House	37.490m	Road Level adjacent is 40.370m
The Can and Anchor	36.700m	FFL extrapolated from Survey - TBC
Abrahall Cottage	34.970m	
Wayside Cottage	35.530m	

The Farmhouse	38.190m	
The Drying Room/Office	37.200m	The Office FFL is 36.880m
Unit 1 (Kitchen)	36.620m	
Unit 2 (Dining Room)	36.620m	
The Barn	37.660m	

Flood Zone Classification

- 3.5 According to the latest Environment Agency Flood Maps, the site lies outside Flood Zone 2/3a. A small section of road between 'Abrahall Cottage' and the 'Can and Anchor' is within the flood zone. This is due to a low area that exists on the road at this point. The classification correlates with Strategic Flood Risk Assessment (SFRA) prepared by Herefordshire County Council.

- 3.6 Below is an extract of the Environment Agency's *online* flood map:



- 3.7 Photograph 8 attached to appendix 5 contains a picture showing flood levels for 1998 and 2008 marked on the telegraph pole adjacent to the post box with 'Abrahall Cottage' in the background. The drawing in appendix 3 illustrates the full extent of the 1998 flood on the development.
- 3.8 Whilst the site appears to lie outside the Flood Zone 2/3a, it does lie within the Flood Warning Area.

4.0 SOURCES OF FLOOD RISK

4.1 This section identifies the potential sources of flood risk to the site.

4.2 Current Sources of Flood Risk

Flood Source	Presence	Description
Fluvial	Y	The site is located adjacent to the River Wye. The EA map shows the site lying outside, however, evidence exists that flooding has occurred adjacent to 'Abrahall Cottage'.
Tidal	N	The site is outside the tidal reach of the River Wye.
Canals	N	There are no Canals adjacent to the site.
Groundwater	N	No evidence that groundwater is or has been an issue on the site.
Sewers	N	The site and adjacent buildings are all connected to a private foul and surface water drainage system.
Reservoirs	N	According to the EA records flooding from this source is not forecast to extend beyond the flood zone 2 boundary.
Pluvial Runoff (Ponding)	N	The site has good falls towards the river. Ponding will occur as a result of rising water levels in the River Wye.

4.3 In summary, the primary source of Flood Risk is Fluvial originating from the River Wye.

4.4 Appendix 3 contains a drawing illustrating the flood depth isopachytes for the 1998 flood adjacent to the site which was a 1 in 40 year event according to the Herefordshire SFRA.

Sequential Test and Exception Test

- 4.5 The site is adjacent to Flood Zone 2/3a, an area affected by fluvial flooding from the River Wye. According to table 2 of NPPF Technical Guidance (Flood Risk Vulnerability Classification) the development is categorised as 'More Vulnerable' (dwelling houses).
- 4.6 According to the Technical Guidance, dwellings can be located in Flood Zone 2 and 1.
- 4.7 As the development is made up of a series of buildings, the sequential test will be applied individually to each and reflect the forecast 1in100 flood level. This is presented in the table below:

Building Name	Floor Level	EA Flood Level	Flood Zone	Development Acceptable
The Gate House	37.490m	Forecast Flood Level = 35.610m AOD (1:100 year - TBC) The 1:100 year with Climate change = 36.080m AOD	1	Y
The Anchor and Can	36.700m		1	Y
Abrahall Cottage	34.970m		3a	TBD
Wayside Cottage	35.530m		3a	TBD
The Farmhouse	38.190m		1	Y
The Drying Room/Office	37.200m		1	Y
Unit 1 (Kitchen)	36.620m		1	Y
Unit 2 (Dining Room)	36.620m		1	Y
The Barn	37.660m		1	Y

TBD=To be Discussed

- 4.8 From the table above two buildings, 'Abrahall Cottage' and 'Wayside Cottage', fall into a flood zone not appropriate for dwellings when using actual topographical data to define the extent of the flood zone. It must be noted that the Environment Agency have not, at the time of publishing the report, verified the correct flood level for the area.

5.0 DEVELOPMENT FLOOD RISK AND MITIGATION

- 5.1 From the table above listing which properties are susceptible to flood risk, two properties are at risk from flooding, 'Abrahall Cottage' and 'Wayside Cottage'. The magnitude of inundation has yet to be confirmed by the Environment Agency.
- 5.2 'Abrahall Cottage' was close to being flooded in 1998 and this is confirmed by the drawing attached to the appendix 3 and the sections attached to appendix 4. There is scope to alter the proposal for this property so that living accommodation is kept above any extreme event.
- 5.3 'Wayside Cottage' was above the 1998 event but close to the forecast 1:100 event. There is scope to make alterations to this building to increase its resilience to flooding in accordance with the guidelines.
- 5.4 All the other buildings would not be affected by an extreme event. In respect of the 'Gate House', which is situated adjacent to River Wye, there is every possibility that the curtilage of the property may become susceptible to erosion during an extreme event. There is a proposal to landscape the area around the dwelling to provide usable space. The edge of this should be constructed of a suitably resilient material extending into appropriate foundation. Any terracing should reflect levels of the forecast events for the River Wye and not obstruct the flood channel.

6.0 DRAINAGE STRATEGY

6.1 'Court Farm' currently utilises a combination of septic tanks and package treatment plants for foul drainage. For surface water, there appears to be some soakaways and a system of historical connections to the River Wye. No pollution violations have been recorded.

6.2 In terms of foul drainage, the site has been host to approximately 200 children and associated staff at any one time with activities running all year round. A reduction to residential occupancy will result in a reduction in impact to the environment from foul drainage.

Surface Water Drainage Strategy

6.3 As the building footprints will not change and there is no intention to alter the drainage system, the existing network will be reused. Where necessary, drains will be checked and cleared and if required, replaced.

6.4 In addition, a suitable rainwater recycling system in the way of water butts will be adopted around the buildings to reduce the impact on water supply.

Foul Water Drainage Strategy

6.5 Septic tanks that are currently used on some of the buildings will be assessed to ensure they comply with current standards. Where they need to be replaced or new units installed the tanks shall be sized and installed in accordance with current regulations.

6.6 There is a sewage treatment plant adjacent to the Barn to the eastern elevation which has supported the Barn, Farmhouse, kitchen and shower block for some time. It is intended to retain the treatment plant, however, this has to be assessed against the reduced level of effluent this will process under the new development and the complexity of the residential development.

7.0 Flood Risk Management Measures

Operation and Maintenance

- 7.1 Appropriate operation and maintenance instructions that define the drainage management strategy for the site will need to be produced. Manufacturers guidelines should be followed and care should be taken during construction not to damage or reduce the future serviceability of the system(s) installed.
- 7.2 The Operation and Maintenance Manual should include, and this is by no means a definitive list, the following:
- Regular checking and clearing of pollution control devices such as Silt Traps and Grease Traps.
 - Routine gully maintenance
 - Periodical inspection and jetting of drain runs.
 - Seasonal inspections of above ground and roof drainage.
 - After severe storm events or where surcharging has been noticed on the carpark or surrounding roadway, check the key components of the drainage system.
 - Regular maintenance and emptying of either septic tanks or treatment plants.

Flood Warning and Evacuation

- 7.3 During severe events the development will see floodwaters adjacent to its boundary. In order to safeguard the interests of the occupiers it is beneficial for residents to enrol in the Environment Agency's 'Floodline' warning system. In addition, suitable information and instruction should be included in any handover documents at the time of sale.

- 7.4 In times of flood, when access onto the lane is prohibited due to the depth of water, the most suitable pedestrian route to high ground should be over the existing public footpaths to the side and rear of the properties. All these footpaths will lead to larger urban areas nearby.
- 7.5 The contact details of the local emergency services and authorities should be made available in a public place(s).

8.0 SUMMARY & CONCLUSIONS

- 8.1 This Flood Risk Assessment (FRA) has been prepared by *RSL Highways and Transportation* for **PGL Travel Limited** to accompany a planning application for the redevelopment of 'Court Farm' at Hole-in-the-Wall, Foy, Herefordshire.
- 8.2 Each building to be converted has been assessed individually to derive its suitability in respect of domestic occupation and the risk of flooding from the River Wye.
- 8.3 Two buildings, 'Abrahall Cottage' and 'Wayside Cottage', appear to be at risk. At the time this report was published information requested from the Environment Agency to confirm the vulnerability had not been received. Irrespective of when the information is received, specialist work will be required to ensure the building becomes flood resilient.
- 8.4 It is the developers intention to reuse the existing foul and surface water drainage system. The former has accommodated in excess of 200 children and staff at any one time. The reduction in people living in the buildings will reduce the impact the private drainage system will have on the environment.
- 8.5 Purchasers of the properties should be made aware of what they are likely to see during a flood event, be provided with details on safe routes to higher ground, and made aware of all the emergency contact numbers required.
- 8.6 Finally, it appears that the development meets the current technical guidance in the NPPF for Flood Mitigation.

9.0 APPENDICES

9.1 APPENDIX 1

Locality Plan (drg. RSLHT-PGL-8010-P/1000)

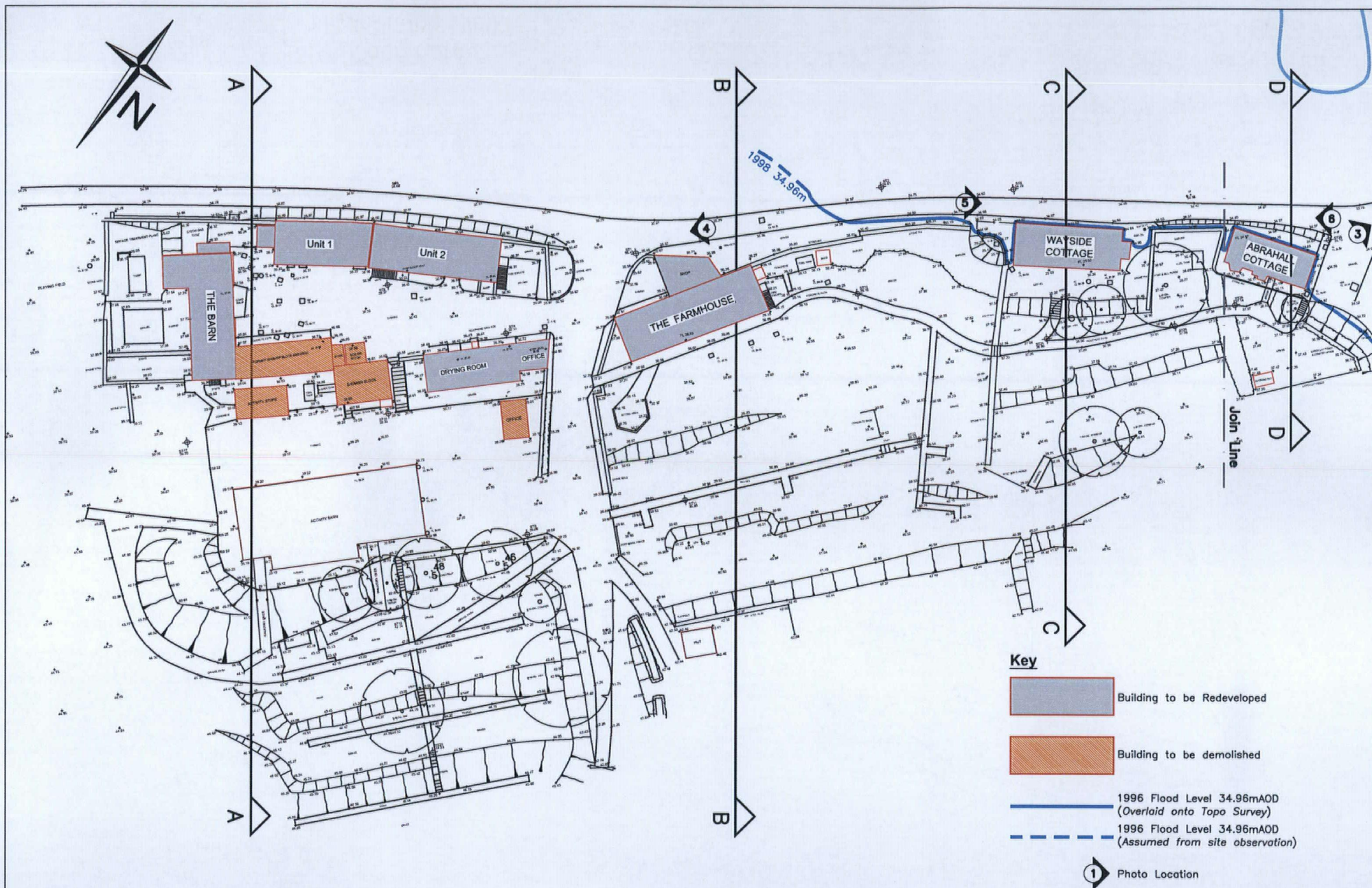


Client PGL Travel Ltd	Project Court Farm Hole-in-the-Wall	Title Locality Plan	Notes 1. Do Not Scale 2. This drawing is based on Ordnance Survey Licence 100048957.	Drg. no. RSLHT-PGL-8010-P/1000 Revision Notes (31/07/12) Rev. 02 - Minor Amendments <small>© 2012 RSL Highways and Transportation</small>	Rev. 02 Scale 1:2000 @ A3 <small>RSL Highways and Transportation 3rd Floor St Peters House 2 College Street Gloucester, GL1 2NE</small>
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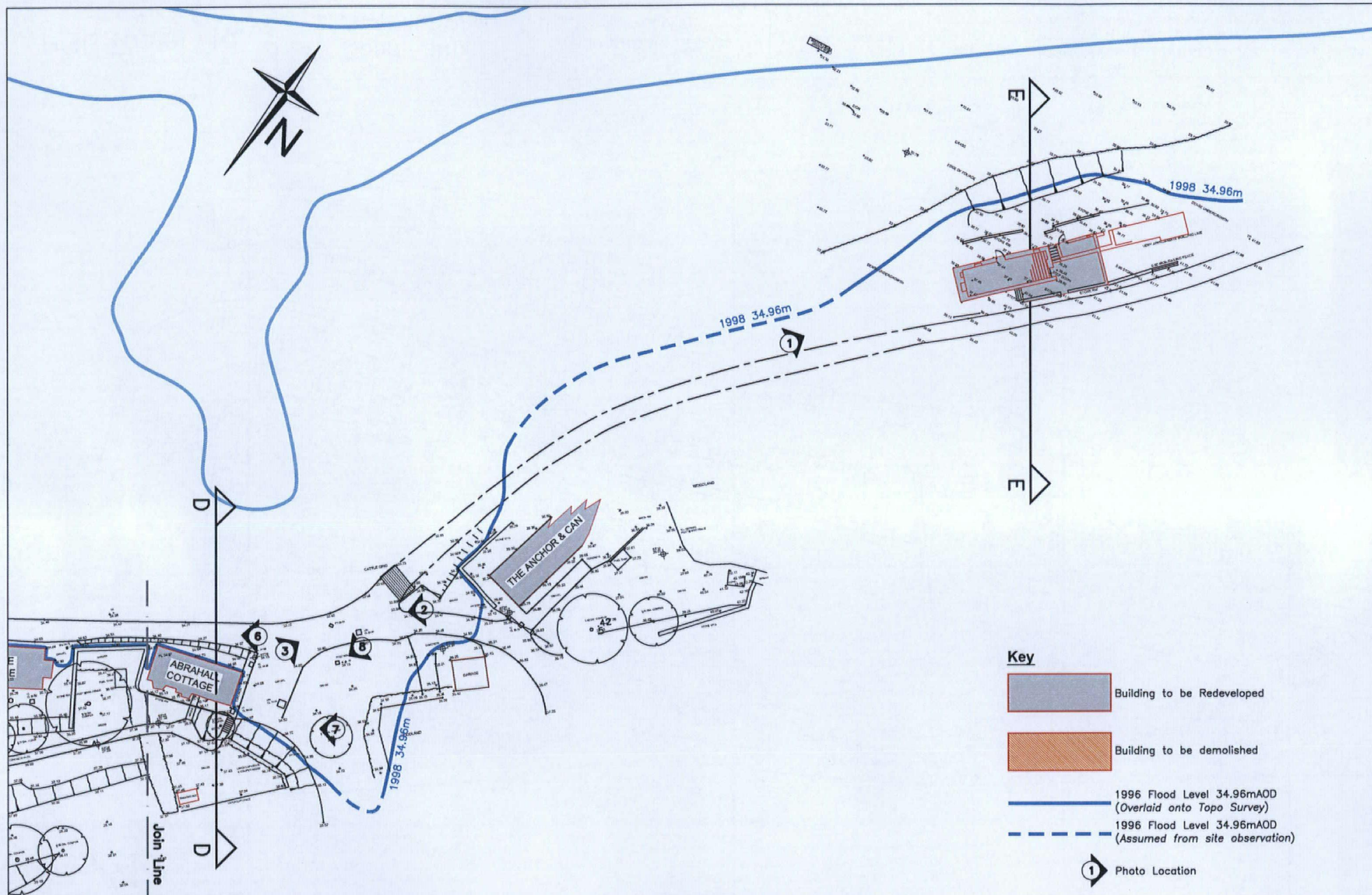
9.2 APPENDIX 2

Topographic survey

(drg. RSLHT-PGL-8010-P/1001 and P/1002)



Client PGL Travel Ltd	Project Court Farm Hole-in-the-Wall	Title Topographic Survey (Sheet 1 of 2)	Notes 1. Do Not Scale 2. This drawing is based on Ordnance Survey Licence 100048957.	Drg. no. RSLHT-PGL-8010-P/1001 Revision Notes (31/07/12) Rev. 03 - Key and Flood Plain added. © 2012 RSL Highways and Transportation	Rev. 03 Scale 1:500 @ A3 RSL Highways and Transportation 3rd Floor St Peters House 2 College Street Gloucester, GL1 2NE
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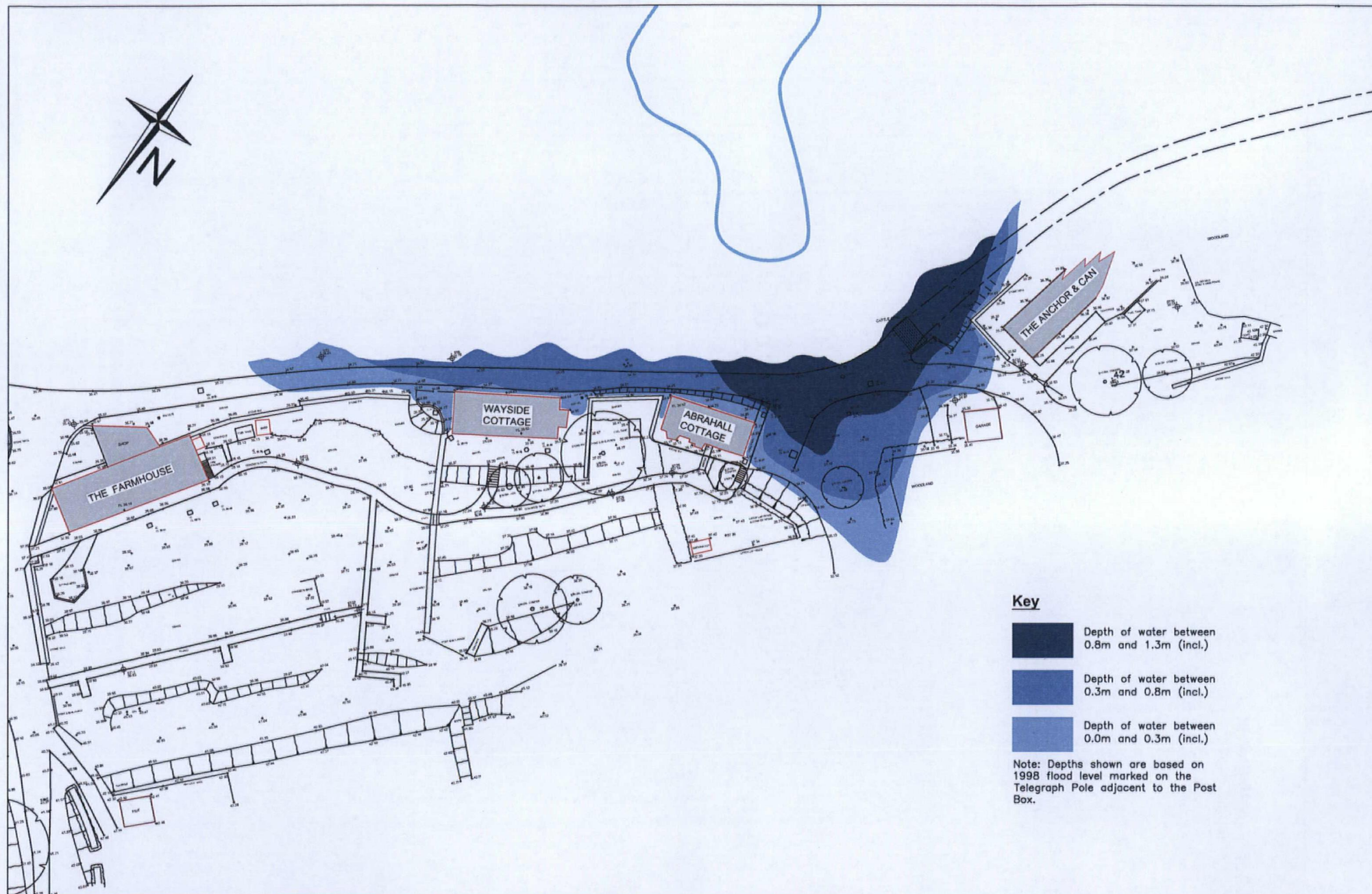


Client	Project	Title	Notes	Drg. no.	Rev.	Scale
PGL Travel Ltd	Court Farm Hole-in-the-Wall	Topographic Survey (Sheet 2 of 2)	1. Do Not Scale 2. This drawing is based on Ordnance Survey Licence 100048957.	RSLHT-PGL-8010-P/1002	03	1:500 @ A3
				Revision Notes (31/07/12) Rev. 03 - Key and Flood Plain added. © 2012 RSL Highways and Transportation		
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9.3 APPENDIX 3

Appendix 3

(drg. RSLHT-PGL-8010-P/1019)

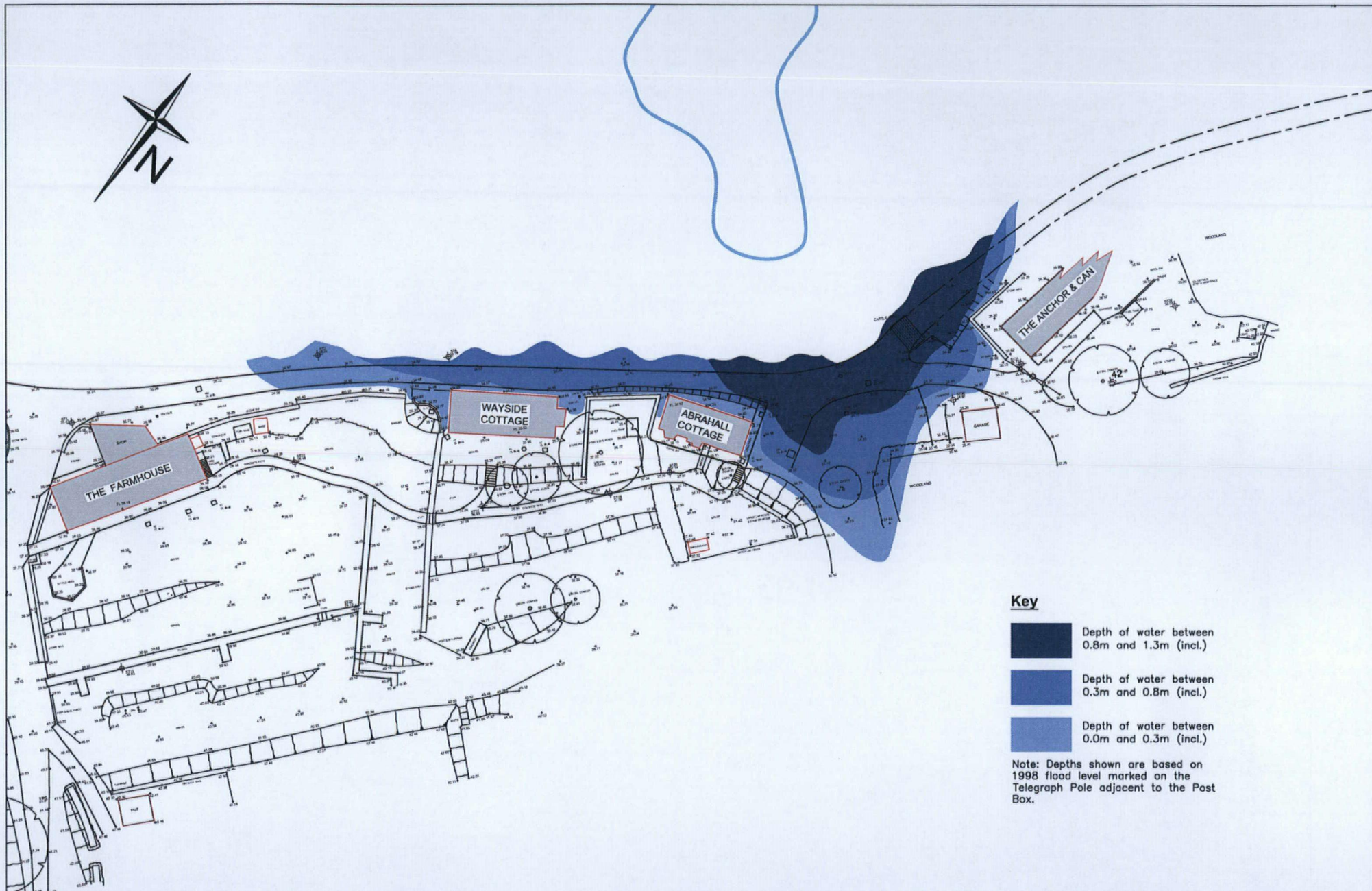


Key

- Depth of water between 0.8m and 1.3m (incl.)
- Depth of water between 0.3m and 0.8m (incl.)
- Depth of water between 0.0m and 0.3m (incl.)

Note: Depths shown are based on 1998 flood level marked on the Telegraph Pole adjacent to the Post Box.

Client	Project	Title	Notes	Drg. no.	Rev.	Scale
PGL Travel Ltd	Court Farm Hole-in-the-Wall	ISOPACHYTES 1998 Flood	1. Do Not Scale 2. This drawing is based on Ordnance Survey Licence 100048957.	RSLHT-PGL-8010-P/1019	01	1:500 @ A3
				Revision Notes (31/07/12) Rev. 01 - First Issue.		
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Key

- Depth of water between 0.8m and 1.3m (incl.)
- Depth of water between 0.3m and 0.8m (incl.)
- Depth of water between 0.0m and 0.3m (incl.)

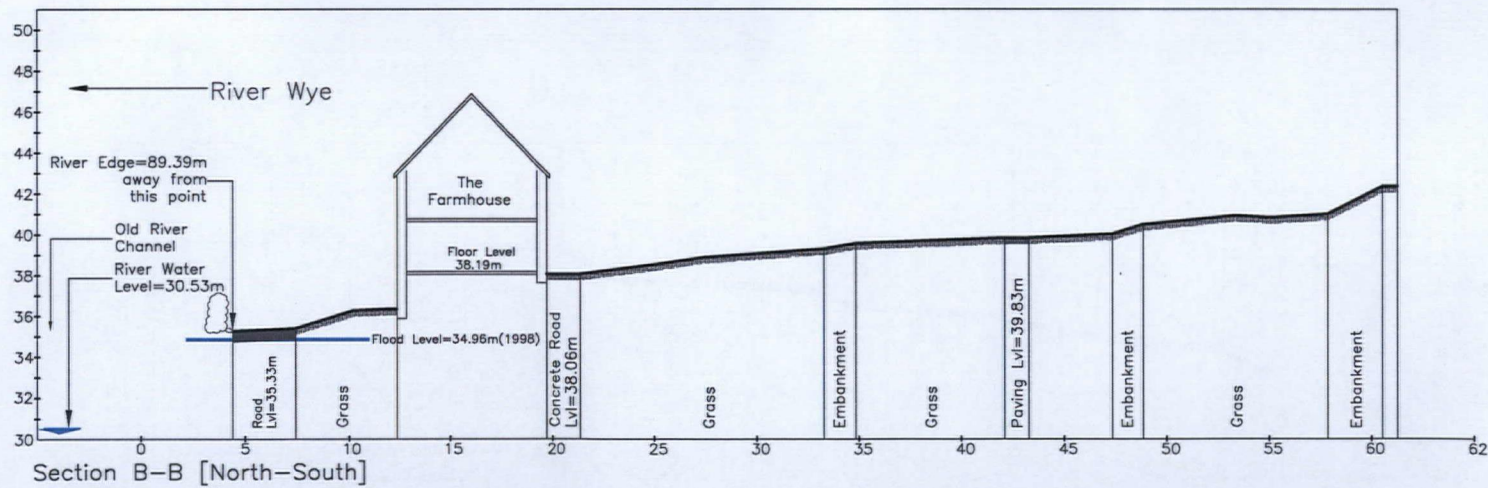
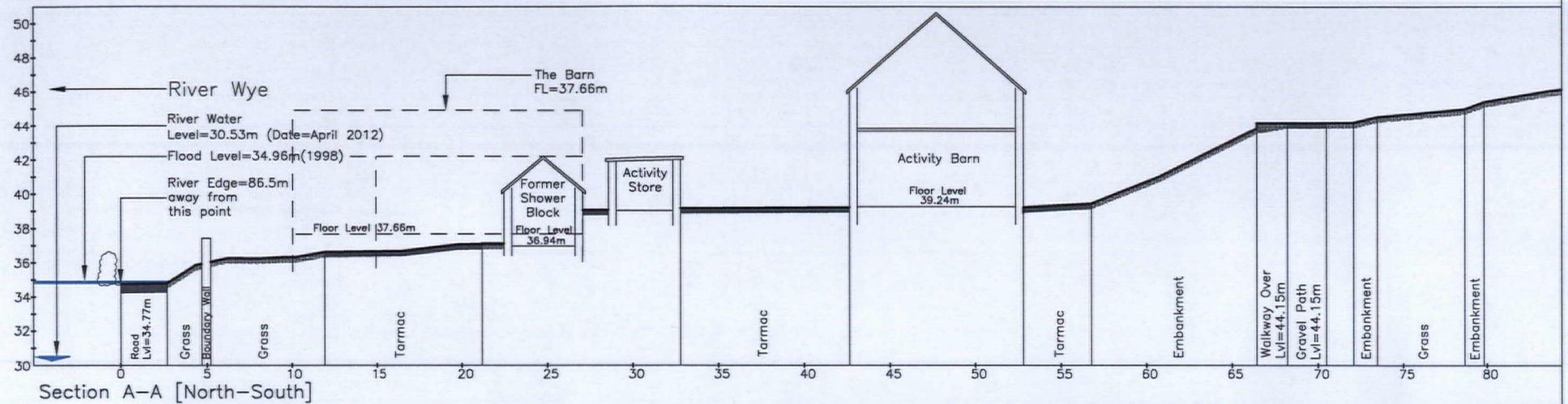
Note: Depths shown are based on 1998 flood level marked on the Telegraph Pole adjacent to the Post Box.

Client	Project	Title	Notes	Drg. no.	Rev.	Scale
PGL Travel Ltd	Court Farm Hole-in-the-Wall	ISOPACHYTES 1998 Flood	1. Do Not Scale 2. This drawing is based on Ordnance Survey Licence 100048957.	RSLHT-PGL-8010-P/1019	01	1:500 @ A3
				Revision Notes (31/07/12) Rev. 01 - First Issue.		RSL Highways and Transportation 3rd Floor St Peters House 2 College Street Gloucester, GL1 2NE
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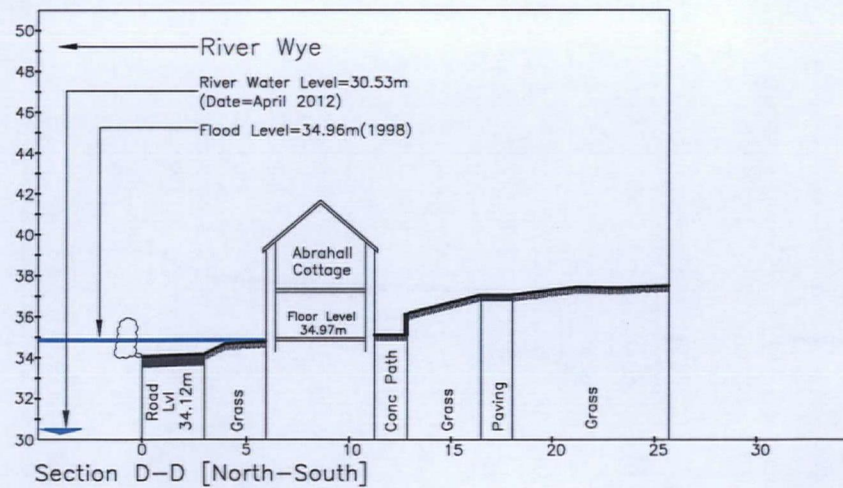
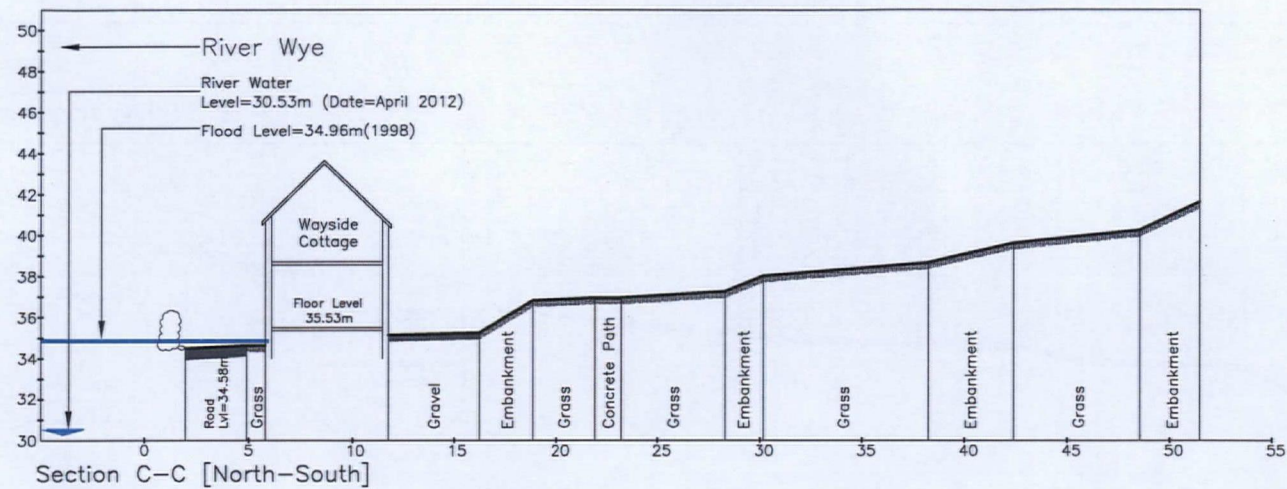
9.4 APPENDIX 4

Cross Sections

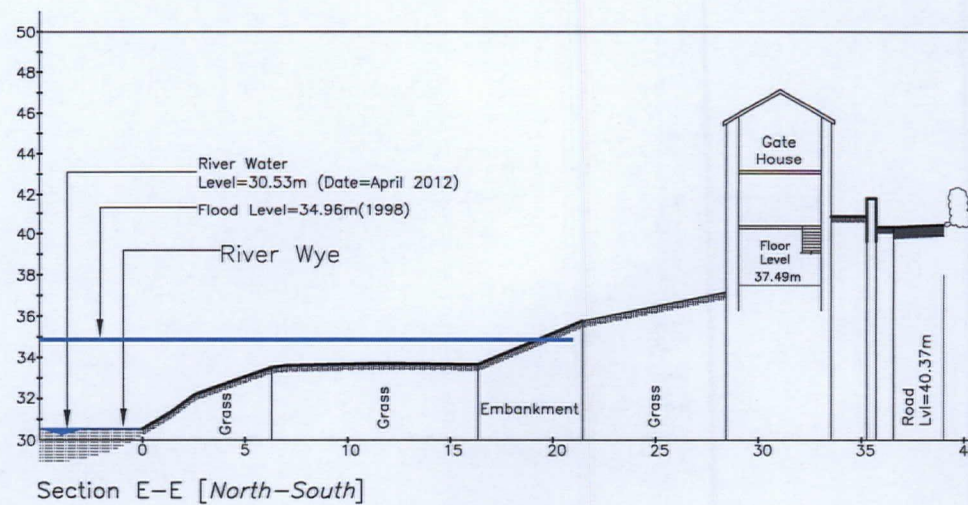
(drg. RSLHT-PGL-8010-P/1011 to P/1013)



Client PGL Travel Ltd	Project Court Farm Hole-in-the-Wall	Title Cross Sections (Sheet 1 of 3)	Notes 1. Do Not Scale 2. This drawing is based on Ordnance Survey Licence 100048957.	Drg. no. RSLHT-PGL-8010-P/1011 Revision Notes (31/07/12) Rev. 03 - Minor Amendments.	Rev. 03 Scale 1:250 @ A3 RSL Highways and Transportation 3rd Floor St Peters House 2 College Street Gloucester, GL1 2NE
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Client	Project	Title	Notes	Drg. no.	Rev.	Scale
PGL Travel Ltd	Court Farm Hole-in-the-Wall	Cross Sections (Sheet 2 of 3)	1. Do Not Scale 2. This drawing is based on Ordnance Survey Licence 100048957.	RSLHT-PGL-8010-P/1012	03	1:250 @ A3
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PGL Travel Ltd	Court Farm Hole-in-the-Wall	Cross Sections (Sheet 3 of 3)	1. Do Not Scale 2. This drawing is based on Ordnance Survey Licence 100048957.	RSLHT-PGL-8010-P/1013	03	1:250 @ A3
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9.5 APPENDIX 5

Photographs



Photograph 1: The Lodge looking North



Photograph 2: Hole in the Wall to Abrahall House

A photograph of a stone building with a gabled roof, possibly a barn or workshop, situated behind a gravel driveway. The building is surrounded by lush green grass and dense foliage. A person's arm is visible on the right side of the frame.

Appendix 5

A photograph of a two-story stone building with a gravel driveway leading away from it, surrounded by trees and greenery. The building is constructed of rough-hewn stone and features several windows, including a large multi-paned window on the ground floor and smaller windows on the upper floor. A small American flag is visible on the wall. The driveway is made of light-colored gravel and leads into a wooded area. The scene is captured in bright daylight, with shadows cast by the trees and building.

Appendix 5

Appendix 5



Photograph 8: Telegraph pole showing flood levels 1998 and 2008