

Oxford City Strategic
Flood Risk Assessment
Groundwater Register –
Addendum 1

July 2009

Oxford City Strategic Flood Risk Assessment

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Glossary of Terms

Term	Meaning / Definition
FRA	Flood Risk Assessment
SFRA	Strategic Flood Risk Assessment

1. Introduction

1.1 General

This addendum to the Oxford City Strategic Flood Risk Assessment (SFRA), issued June 2008, has been prepared to supplement the information within the SFRA with further information on the groundwater register which contains records of groundwater flooding incidents in the City of Oxford.

The groundwater register was provided by the Environment Agency for the purpose of the SFRA and reflects recorded groundwater incidents as held at the time the SFRA was undertaken.

1.2 Groundwater Register

The groundwater register contains 14 records of suspected ground water flooding which occurred between 2000 and 2003 inclusive. The locations of the incidents are spread throughout, and beyond in the case of 4 incidents, the extents of the Oxford City Boundary.

The type of incident reported is typically associated with cellar and sub floorboard flooding of property and the emergence of groundwater in gardens and garages. Further details are provided in Table 1.

The map coordinates within the register have been used to map the groundwater register and is shown within Appendix A. The Strategic Development Sites and sites identified within the West End are also shown to demonstrate that there are no recorded incidents of groundwater flooding at any of the site locations put forward by Oxford City Council for development.

The 3 groundwater incidents located within New Hinksey are all located within Flood Zone 3b and the 2 incidents in the vicinity of Grandpont are located within Flood Zone 3a. The register reports that these 5 locations have underlying gravels, associated with the Thames floodplain, and therefore, the groundwater incidents reported are likely associated with fluvial flooding.

The 4 incidents reported immediately to the west of the Cherwell Thames confluence are within Flood Zone 1. Table 1 suggests that they are located on gravels, normally associated with floodplain areas, and although these are within Flood Zone 1, the proximity to the Cherwell and Thames floodplains suggests that groundwater emergence at these sites are likely to be associated with periods of high water in the two rivers.

Of the remaining 5 incidents, only 1 is located with Oxford District and this is an isolated incident in Headington and is within Flood Zone 1. The geology at this location indicates underlying clay and therefore the potential for substantial emergence is limited. The remaining 4 sites are located outside the City boundary.

1.3 Conclusions

The map shows that there are no identifiable 'clusters' or trends of reported groundwater incidents within Oxford and it can be seen that there are no reported incidents in the immediate vicinity of the development sites identified within the West End or the Strategic Development Sites.

It is therefore concluded that, from the information available, the risk of groundwater flooding in Oxford is limited and does not directly affect any of the proposed developments sites. It is noted, however, that more detailed investigation of groundwater flood risk may have to be undertaken as part of any site specific Flood Risk Assessments (FRA) that may be required in the future.

Table 1 The Groundwater Register

Call No	Date	NGR	Geology	Problem	Action
12	18/12/2000	SP5202804302	Flood plain terrace gravels on Oxford Clay	Water under floorboard	I indicated that since river levels are dropping, gw levels should drop. List of companies will be posted.
53	10/04/2001	SP480050	Corallian	New spring in garden - no further action reqd	
70	05/08/2001	SP5250105410	Gravel Drift over Oxford Clay	Damp problem in cellar - occurred since last Autumn.	Promised contractor list + soggy cellar leaflet
74	25/10/2001	SP525054		Flooding of ground level of split level properties.	
82	05/06/2002	SP5570906288	Whitchurch Sand	Dirty oily water in garden. Owner is concerned as there are septic tanks up the hill.	told to phone the emergency no Left a message to that effect.
83	12/06/2002	SP4621504135	Corallian	No springs indicated in area. Flooding tends to happen after high rainfall - doesn't sound like groundwater then. Problem started in January after road resurfacing - water used to bubble through road	Agreed to send letter outlining there was little we could do + list of contractors + leaflet
85	18/07/2002	SP4916805407	Corallian / Oxford Clay Boundary	Water in back garden, building up for about 18 months. Pipes were installed 6 years but don't seem to have improved things. No springs marked but will tend to occur here due to geology.	Promised to send information sheet through and told her to call back if she didn't get anyway as I felt sorry for her. May go and see her if need be.
89	07/01/2003	SP5167004644	Gravels close to river	Water coming up under kitchen floor. Owner would like to prevent this from occurring again	Spoke to her - explained that I didn't know much about how to resolve the problem. Sent her leaflets.
90	09/01/2003	SP5131205164	Gravels close to river	Water under floor of property	promised contractor list and information sheet
102	23/01/2003	SP5129105397	River gravels	Flooded cellar related to high river levels	Came through Customer Contact. Wrote a few lines for them on the cause of the problem etc.
106	28/03/2003	SP 524 059	Gravels on clay	Flooding started on 15th October 2002 - tanking failed. Owner wants to prove it is from a student block quite close to the property - thinks it displaced groundwater. I said I couldn't comment too closely on this.	I will need to investigate planning file

Call No	Date	NGR	Geology	Problem	Action
110	26/06/2003	SP5263605697	Oxford clay and adjacent to a small patch of glacial drift gravel	Flooding of cellar	Advised on geology and to contact the local council. Leaflets sent through
113	19/08/2003	SP5396708200	Oxford Clay	Seepage in garden. TWUL have tested and said it is groundwater. Problem arose after stop tap on mains was moved.	Advised on impermeable geology and said to call council drainage department. Need to get back onto Thames Water as I don't believe it is groundwater. TWUL revisited & found the leak
117	02/12/2003	SP5174804521	Gravel over Oxford Clay	Groundwater flooding under the floorboards during both the winter 2000/01 and New Year 2003 floods. He would like to buy a pump to stop the water rising during such events.	I advised of the difficulty of pumping large quantities of groundwater during flood events. I emphasised that the two flood events mentioned were extreme. He still wants to buy a pump. He had measured maximum rates of rise.

Appendix A – Map of Groundwater Register