

**Report on Flooding in Brize Norton, and Failure by Oxfordshire County Council, West Oxfordshire District Council, The Environment Agency and Thames Water in “care of duty” to protect property in Brize Norton and Bampton**

See Distribution

13 August 2007

References

- A. The Brett Report - Flooding and Drainage report for Brize Norton and NE Carterton Dated June 2003 Project Ref 13673.
- B. West Oxfordshire Local Plan 2011
1. The aim of this paper is to detail the occurrences of flooding and to highlight failures in planning and in the maintenance of roads and watercourses.
  2. An important point to bear in mind throughout this report is that in the latest flooding the first reported instances of flooding occurred in the village at 9 AM on Friday 20 July. By this time property and roads were already flooding. At this time there was still a further 10 hours of heavy rainfall which resulted in roads becoming impassable and further flooding to properties.
    - A total of 56 (fifty six) properties suffered from flood damage within the village of Brize Norton. ***This figure represents 16.4% of the housing stock.*** Flooded properties are detailed at Annex A.
    - The New Link Road to Carterton was impassable in two places.
    - The Carterton Road and Station Road became impassable.
    - Royal Air Force Brize Norton suffered very severe flooding
    - The Town of Bampton suffered severe flooding
    - This paper will contain recommendations to lessen or prevent further flooding to Brize Norton Village; it is considered the recommendations will also be of benefit to Royal Air Force Brize Norton and Bampton.
  3. Although the rain on the 20 July 2007 was excessive it served to highlight, again, those areas where drainage regularly fails. The areas of failure have caused roads and properties to become flooded on numerous occasions. The drainage system in the area has failed on the following dates:-
    - January 2003 First major flooding Event properties in Brize Norton and RAF Brize Norton flooded.
    - July 2006
    - August 2006
    - October 2006
    - November 2006
    - January 2007
    - May 2007 Major Flooding as January 2003
    - July 2007 Major event Drainage system failed by 0900 20 July

**4. It should be noted that the intensity and frequency of flooding has increased in line with the continuing development in the Carterton North East Development (Shilton Park)**

**5. The Brett Report**

Following the extensive flooding in the area West Oxford District Council (WODC) instructed Peter Brett Associates, Consulting Engineers, to look at flooding and drainage issues in the Brize Norton and North East Carterton area. Reference A refers. There are many very relevant statements in the report where action was required to prevent flooding; Work has been carried out following the publication of this report, with little success, and no notable improvement to reduce the effect and extent of flooding. Although couched in polite terms the report was explicit in condemning the calculations for green field run-off rates and the effectiveness of the major balancing pond that was installed as a major part of the drainage for the new development (Shilton Park). The green field run-off via an existing water course has been a major factor in the cause of flooding in both the Country Park/Kilkenny Lane and Carterton Road area.

The statement that the major balancing pond which has been designed for a 1 in a 100 year event would not be as effective for lesser events, this has now been proven to not be effective for major or lesser events, this area needs revisiting.

WODC as the local planning authority have not grasped the fact that the building of a housing complex as large in area and with the abnormally high density of the housing in Shilton Park will create a drainage problem. The major fact that they have not grasped is that the water from this estate and the total catchments area will all eventually end up in a very small drainage ditch which does not have the capacity and was never intended to carry the amount of water experienced with even moderate to heavy rainfall.

**6. Royal Air Force Brize Norton**

a. In common with the village of Brize Norton the RAF have suffered on 3 notable occasions when buildings on the airfield have been flooded. The water from the catchments area mentioned in Para 5 is piped underground in two areas of the base. In both cases the system is through a twin 90cm pipe system. These piped areas, or the failure of, have caused flooding both on the airfield and also to the village of Brize Norton. It is suggested that the capacity of these pipes is insufficient for the amount of water that is now passed through the base from the catchments area. The Brett Report Ref A details figures of a long standing agreement between the EA and the Ministry of Defence of the maximum rate of flow that is to pass through the base. Is this figure now being exceeded?

b. Plans are well advanced for large scale developments on the airfield. An Aircraft Servicing Pan is to be constructed which will involve the laying of a very large area of concrete. Also planned is the building of an aircraft servicing hangar and associated buildings. The RAF has provided briefings on ongoing work on the station, at these meetings it has been stated that work is going ahead after consultation with the EA. An engineering solution will be incorporated to cater for up to a 1 in a 100 year event. Brize Norton Parish Council, after the experience of the Shilton Park fiasco, understandably have no confidence in an EA provided solution. In the planning for the hangar the water will be discharged to the same undersized ditch above the twin 90cm pipes that cannot cope with the present volume of water.

## **8. Thames Water**

There are two areas of concern under this heading.

(a) The large balancing pond at the junction of Carterton Road and Norton Way. Ref A states that the balancing pond is designed for a 1 in a 100 year event, it may not be as effective for lesser events. Can improvements be made in this area, as it does not appear to give any protection?

(b) Mains sewerage overflowing in moderate to heavy rainfall. It is understood that Thames Water are near to completing an engineering study to resolve this ongoing problem of an overloaded system.

## **9. Environment Agency**

The role of the EA, apart from advising WODC during initial planning projects is unclear. In an EA letter (EA Ref C44/4(13)&C44/4(14)/5499/5259/5445 Dated 24 June 1997) to the Chief Planning & Leisure Services Officer WODC. The following statement was made concerning land drainage Quote:- *The outline surface water drainage arrangements have been discussed and accepted in broad terms. Of major concern on this development are the maximum discharge quantities and the distribution of flows. A certain amount of culverting is also being considered which will be subject to consent under the Land Drainage Act 1991.* Unquote.

It would appear that run-off problems were notified to WODC at least as early as 1997.

The EA are requested to examine the suggestion of creating a “dyke” as outlined in Para 11 sub Para vii.

## **10. Failures by Local Government OCC AND WODC**

### **OCC.**

a. OCC Have failed to carry out sufficient cleansing of the road drainage systems/gulleys throughout the village.

b. Collapsed drains at the junction of Kilkenny Lane/Burford Road have not been repaired. Investigation is required to the drainage ditch that currently runs adjacent to Kilkenny Lane. There are several “passing places” for cars in this narrow lane. These have small pipes to carry the water under and become blocked. It is suggested that these “passing places” are moved to the Country Park side of the road and the culvert areas removed allowing a free flowing ditch to function more efficiently.

c. The new link road built for the development in NE Carterton was designed for a 1 in a 100 year event. It failed the test of 20 July 2007 in 2 locations, mainly due to run-off from other roads and natural run-off from ground. Drainage in this area needs a re-appraisal as these problems manifest in less major events.

### **WODC**

It is considered by Brize Norton Parish Council that WODC have failed in their duty of care to the Parishioners of Brize Norton

(a). As the local planning authority WODC have many responsibilities to the population of West Oxfordshire. In the planning for the large housing complex and industrial site collectively known as the North East Carterton development have failed according to their own West Oxfordshire Local Plan. (Ref B) Under this plan Policy NE8 – Flood Risk.

Quote.

New development or intensification of existing development will not be permitted within areas at risk from flooding which is likely to;

- i. impede the flow of water
- ii. Result in the net loss of flood plain storage; or
- iii. *Increase the flood risk elsewhere.*

Within areas at risk of flooding an appropriate Flood Risk Assessment must be undertaken when preparing development proposals.

Unquote.

If a comprehensive flood risk assessment was undertaken it would appear that it was flawed. It became necessary for WODC to have an independent report prepared in 2003 to further investigate failing drainage systems in the area. The drainage failed and caused severe flooding in January 2003 to Brize Norton Village and RAF Brize Norton.

The independent report (Ref A) comprehensively detailed many weak areas in the drainage system. Some work has been undertaken since the publication of this report. WODC have failed to take responsibility for the green field run-off from the Country Park and the area adjacent to the large balancing pond serving the new Carterton enclave. Problems directly related to these areas have caused the flooding of properties at the Rocky Banks and Carterton Road areas.

#### (b) Drainage Ditches

It must be highlighted again drainage that has 4 major sources all eventually funnels through a small ditch before going underground at RAF Brize Norton. The small drainage ditches do not have the capacity to carry the additional flow now being experienced from the Shilton Park and Industrial area. Ditches throughout Brize Norton are as they were when used for purely agricultural purposes; some are just spring fed streams. WODC are empowered to ensure these ditches are correctly maintained and indeed issued a letter to riparian owners during 2004 reminding riparian owners of their responsibilities, no follow up action was taken and the ditches remain unkempt and by the proliferation of growth in the ditches obviously silted up. It must be emphasised that the current ditches are too small to cope with the volumes of water in even minor events. The East Brize ditch now renamed Highmoor Brook (and now the responsibility of the EA) also a problem since the building of Chichester Place and Chestnut Close. Roads from these developments drain directly to the ditch. This ditch now regularly over flows and contributes to the flooding on Station Road at the southern end of the village.

### **11. Recommendations**

(a) A further thorough survey is required to study the problems of drainage in the Brize Norton and North East Carterton development.

(b) A radical plan is required to move the water quickly away from the areas prone to flooding. .

(i) Area of Kilkenny Lane/Burford Road. It is suggested a large balancing pond is required in this area.

(ii) Area of Large balancing pond and smaller balancing ponds at the head of the Carterton Road. A system is required to cope with the green field run-off from this area. See Ref B.

(iii) Lower end of Carterton Road. This area floods regularly with greenfield run-off being the primary cause. Para ii refers.

(iv) Inadequate sized ditch from lower end of Carterton Road to point where water runs into a culvert under RAF Brize Norton.

(v) A thorough investigation required is required into the areas where water runs through culverts within RAF Brize Norton, The capacity of the twin 90cm pipes definitely appears inadequate for the flow. In addition a new build will discharge water above the inlet to the

twin pipes. Overspill in this area already floods into fields and eventually to the back of houses and onto Station Road and contributes to the flooding in the Southern end of the village.

(vi) Culvert stream under RAF Brize Norton runway and Security Fence line. These areas also need investigation and are the primary cause of flooding on Station Road in the vicinity of the airfield. This area becomes impassable to normal cars.

(vii) Carry out a feasibility study to move water across/under Station Road to the Highmoor Brook in fields to the East of Station Road. It is suggested that a section of the Highmoor Brook could be turned into a dyke; it would be possible to move water quickly to this area. This could then serve two purposes allow water to be diverted from the section of piped stream under the runway at Brize Norton and also act as a balancing pond to slow down the flow of water to Bampton. A study was carried out several years ago by the predecessors of the EA who stated there was a significant drop in land levels to the Brook. Indeed water flows naturally in the direction to achieve the aims of this suggestion.

(viii) Thorough investigation of drainage from 93 to 113 Station Road. The current system inadequate.

### **Conclusions**

Poor initial planning for the North East Carterton development and a failure of the multi agency approach to create and maintain a sustainable drainage system has adversely affected the quality of life for the Parishioners of Brize Norton and Bampton and caused considerable damage to Private and Ministry of Defence property.

Flooding in the area is now an ongoing problem. Urgent action is required to prevent further occurrences of damage to property.

All addressees are requested to examine closely their respective areas of responsibility and forward their comments and solutions to the problems as outlined in this report.

Will all addressees please also note that Brize Norton Parish Council do not accept “Global Warming” or “Climate change” as an excuse for the regular flooding that is now occurring in this area.

Distribution:-

Rt Hon David Cameron

Clllr Jim Couchman OCC

Richard Dudding Director Environment/Planning OCC

Chief Executive WODC

Cath James WODC

RAF Brize Norton The Commanding Officer Gp Capt M Brecht

RAF Brize Norton OC Station Services Squadron Sqn Ldr B Gleave

Environment Agency (Thames Region) Planning and Liaison (West Area), Isis House,  
Howbery Park, Wallingford OX10 8Bbd

Thames Water The Directors Office PO Box 436, Swindon SN38 1TU

The Chair Bampton Parish Council

Area	Properties/Roads Flooded	Responsibility
Rocky Banks Area	<b>6 properties flooded</b> Junction of Burford Road and new relief road flooded and impassable to all vehicles.	1. Kilkenny Lane and Burford Road flooded. Excessive run-off from Country Park responsibility of <b>WODC. See ref:-A.</b> 2. Flooded roads due to run off from adjacent land/Country Park and collapsed /insufficient road gulleys/drains. This is a Regular and ongoing occurrence in the area. Responsibility Oxfordshire County Council ( <b>OCC</b> )
Masons Arms Area	<b>2 properties and road flooded</b>	1. Some works were carried out in this area. Only a small improvement noted. This area should be subject of a further study by <b>OCC/WODC</b>
Manor Rd	<b>3 Properties Flooded.</b> Road flooded	Manor Road flooded due to blocked gulleys
Carterton Road	<b>6 Properties Flooded</b> (Including Church) Carterton Road flooded. N.B.for TW. One of these properties was flooded by sewerage backing-up through downstairs shower unit.	This area is an ongoing problem which was highlighted in Ref A. There appears to be a conflict of interest between all agencies into the drainage from the Shilton Park housing and the industrial estate. The Carterton Road floods in times of moderate to heavy rain and some properties have been flooded now for the third time. It would appear that the calculations for green field run-off have been under-estimated resulting in over loading the existing drainage system. <b>Action required by WODC, OCC, Thames Water (TW) the Environment Agency (EA) and the developers of the industrial units.</b> The small balancing ponds are completely inadequate for the volume of water transiting this area.
Station Road	<b>9 Properties Flooded</b>	Properties affected ranged from number 7 to number 113 Station Road. Problems from three areas. A. <b>RAF Brize Norton</b> Twin 90 cm pipes where stream goes underground onto RAF Brize Norton could not cope with volume of water. Water from this area overflowed into fields to east of airfield and affected properties and also flowed through gardens then onto Station Road this frequently occurs during moderate to heavy rainfall. B. The Highmoor Brook over flowed into Station Road. C. The Sewerage pipelines throughout Station Road and to the east of the village overflowed. <b>TW</b>

Daubigney Meade	5 Properties Flooded	Highmoor Brook overflowed. <u>EA</u> .
Squires Close	4 Properties Flooded	Highmoor Brook overflowed <u>EA</u> 1 property flooded by overflowing from manhole cover (grey water) <u>TW</u>
Fosse Way	2 Properties Flooded	Flooded by water flowing down road. Insufficient gulleys built into road, regular occurrence. Investigation required. <u>OCC</u>
Chichester Place	14 Properties Flooded	Properties flooded by overflowing Highmoor Brook. <u>EA</u>
Chestnut Close	4 Properties Flooded	Properties flooded by overflowing Highmoor Brook. EA
Leys Court	1 Property Flooded	

