

STATEMENT OF COMMON GROUND - FLOOD RISK AND SURFACE WATER DRAINAGE

(as at 25 March 2009)

Date of Inquiry:- 20 January 2009

APPEAL REFERENCES: APP/M9570/A/08/2083327/NWF,
APP/Y2810/A/08/2083322/NWF.

APPEAL SITE LOCATION: Land at Church Fields, Long Buckby Road, Daventry.

APPELLANT: Croudace Homes Limited, House Trustees Limited and Lower Thrupp Limited.

LOCAL PLANNING AUTHORITIES: West Northamptonshire Development Corporation and Daventry District Council.

This statement addresses the areas of common ground in relation to flood risk and surface water drainage between the Environment Agency, West Northamptonshire Development Corporation (as the Local Planning Authority for the larger part of the site), Daventry District Council (local Planning Authority for the remainder of the site) and the Appellant.

Introduction and Policy Approach

1. This document considers the flood risk and surface water drainage issues relevant to the Church Fields site and outlines areas of common ground between the Environment Agency, the Appellant, West Northamptonshire Development Corporation and Daventry District Council. All of the identified flood risk and surface water drainage matters are agreed, and any further details and necessary mitigation can be secured via appropriate conditions or a Section 106 Agreement. This supersedes the Interim Statement of Common Ground-Flood Risk and Surface Water Drainage, dated 16 February 2009, referenced CD11.14B.
2. For the avoidance of doubt it does not deal with issues relating to sewage infrastructure or associated water quality matters in respect of which there are unresolved issues.

3. Article 10 of The Town and Country Planning (General Development Procedure) Order 1995 (as amended on 1 October 2006) requires Local Authorities to consult the Environment Agency (the Agency), as a statutory consultee, on all applications for development in flood risk areas (except minor development), including those in areas with critical drainage problems, for any development on land exceeding 1 hectare outside flood risk areas and for any development that involves works within 20m of Main River or the culverting or control of flow of any river or stream.
4. The Government's policy with regard to flood risk in the context of planning is set out in Planning Policy Statement 25; Development and Flood Risk (PPS25), which was published on 7 December 2006. The stated aims of PPS25 are:

"to ensure that flood risk is taken into account at all stages in the planning process to avoid inappropriate development in areas at risk of flooding, and to direct development away from areas at highest risk. Where new development is exceptionally necessary in such areas, policy aims to make it safe without increasing flood risk elsewhere and where possible reducing flood risk overall." (Paragraph 5, PPS25).
5. Paragraphs 9 and 14 of PPS25 set out a sequential and risk based approach to be adopted at all levels of planning, and paragraph 10 the requirement to consider flood risk from all sources.
6. The Agency's role as statutory consultee is to ensure that the requirements of PPS25 are adequately considered in any planning application. This is generally done through providing comments to the Local Planning Authority (LPA) on the Flood Risk Assessment (FRA) submitted with the planning application. A FRA must be provided for all sites within Flood Zones (FZ) 2 and 3 or where the site area is greater than 1ha. If the FRA is appropriate, the Environment Agency will often recommend conditions to the LPA to ensure that any schemes proposed within the FRA are properly implemented.

7. PPS25 is supported by the Practice Guide which was published in June 2008 and superseded a living draft which had been simultaneously available for use and as a consultation document since February 2007.
8. Early discussions are recommended in PPS25 and this is endorsed by the Agency. This is particularly important on large development sites but is relevant to all sites. Where possible, agreeing the FRA prior to its submission in support of a planning application will avoid drawn out negotiations within the planning process and its associated time constraints.
9. Sources of flood risk and the information required to be submitted in an FRA to satisfy the Agency that the requirements of PPS25 are met in relation to these flood risks are set out in the following section.

Flood risk issues

Surface water drainage and associated flood risk.

10. PPS25 states that: *“The effect of development is generally to reduce the permeability of at least part of the site. This markedly changes the site’s response to rainfall. Without specific measures, the volume of water that runs off the site and the peak run-off flow rate is likely to increase. Inadequate surface water drainage arrangements in new development can threaten the development itself and increase the risk of flooding to others.”* (Paragraph F3, PPS25).
11. *“Those proposing development are responsible for... designs which reduce flood risk to the development and elsewhere, by incorporating sustainable drainage systems....”* (paragraph 22, PPS25). Surface water drainage should be considered at the earliest stage in development. It is therefore important that adequate surface water drainage proposals are presented in the FRA accompanying any planning application (whether outline or full) to ensure that sufficient land is available on site to accommodate the necessary drainage infrastructure. These proposals

need to be supported by appropriate calculations to demonstrate that they are viable.

12. Sustainable Drainage Systems (SUDS) provide the means to mimic the natural surface water drainage arrangements from the site prior to development and reduce flood risk to the site and elsewhere. Climate change, discussed further in paragraph 30 must be taken in to account. Further details on the different types of SUDS available can be found in paragraph F7 of PPS25 and Chapter 5 of the PPS25 Practice Guide.
13. Annex F of PPS25 covers the need to consider the management of surface water drainage in more detail than described above, including a statement in paragraph F5 that this matter is a material planning consideration. However, it does not provide specific guidance on the level of detail in relation to surface water required within a FRA except at paragraph F12 which deals with maintenance issues. The PPS25 Practice Guide goes further and states that “*Surface water management issues should be covered in a site specific FRA to accompany a planning application...*”and is “*...a key component of design and will need to be considered at the earliest possible stage in the planning and design process*” (paragraph 5.43). It also states that the “*FRA accompanying the planning application should show how surface water management is functioning on the site at present and how it is to be undertaken in the new development*” (paragraph 5.45, emphasis added). Appendix C of the Practice guide provides a FRA proforma which guides the consideration of all sources of flooding.
14. It is, however, agreed that the level of detail in relation to the surface water drainage system that can reasonably be provided in support of an outline planning application is limited by the outline nature of the proposals, in particular details of development layouts and exact road and infrastructure locations may not always be available. At this stage the role of the FRA is to provide a strategy, based on acceptable and agreed design criteria, within which the detailed surface water design and surface water infrastructure can later be delivered.

15. Outline planning applications should be supported by a surface water drainage strategy detailing how balancing ponds or other SUDS features may be implemented and indicating their possible location within land available for the development, and including the volumes of storage and rates of discharge with supporting calculations, drawings and ground investigation reports where necessary. There should also be details relating to the long term maintenance and adoption of the drainage system. There is little purpose in agreeing a strategy which will not be maintained as proposed and given the limited numbers of bodies willing to adopt SUDS it is possible that their requirements could have limitations on what types of SUDS can be used on the site.
16. Upstream of Northampton, the Agency requires that all surface water discharges are restricted to the greenfield runoff rate. Storage should be provided up to the 1 in 200 year rainfall event plus climate change. Within 24 hours of the top water level in this event, the storage should be capable of containing 80% of the runoff arising from a 1 in 10 year event. These requirements have been put in place to protect the integrity of the flood defences through Northampton. These defences were constructed to a 1 in 200 year standard of protection following the 1998 flood event in which two lives were lost. The full justification for this requirement can be found in the Strategic Review of Development and Flood Risk, Nene catchment, Northampton and Upstream (Core Document CD2.9). However as this is not a statutory planning policy document and these requirements exceed those of PPS25, the Agency has sought to include the requirement within the Final Level 1 report of the West Northamptonshire Strategic Flood Risk Assessment (SFRA), produced in February 2009. It has therefore been agreed with West Northamptonshire Joint Planning Unit (JPU) that this requirement will be taken forward in the Local Development Framework.
17. Balancing ponds and other SUDS features should be located outside of the fluvial floodplain. This is to ensure that storage is available when required, i.e. that a pond is not full of flood water when the next rainfall event occurs, and to avoid the loss of floodplain storage by the

construction of bunds around ponds. In this instance, the Agency has expressed a preference for balancing ponds to be located outside the 1 in 200 year fluvial floodplain for consistency with the requirements outlined in paragraph 16.

Fluvial flood risk

18. The Agency is required to map fluvial and tidal flood risk, that is flooding from watercourses and/or the sea. This requirement originally came from the Department of the Environment's (DoE) Circular 30/92 'Development and Flood Risk'. The Agency now maps flood risk for all watercourses with a catchment greater than 3km² based on the flood zones set out in Table D.1 of PPS25. Flood Zone 3 is land that may flood up to the 1 in 100 year (or 1% probability of occurring in any given year) flood event and Flood Zone 2 is up to the 1 in 1000 year (or 0.1% probability) flood event. These maps are indicative and because of the variety of techniques used to derive a flood extent, they may not be an accurate representation of the flood envelope in any given event. Where watercourses have a catchment less than 3km² and no flood risk has been mapped this does not mean that a flood risk does not exist. Hydraulic modelling is usually required in these circumstances to form part of the FRA to establish the extent of flood risk.

19. In order to meet the requirements of PPS25 it is necessary to demonstrate that development is not at risk of flooding or, where this is not possible, that the appropriate compensation/mitigation is put in place to ensure that the site is safe and that flood risk is not increased elsewhere. For an outline planning application it is important to determine the extent of fluvial flood risk on the site as this may have implications on the land available for development and may influence the master plan for the site.

20. Fluvial flood risk is present for this site. The Monksmoor proposed development and Church Fields share a boundary with the upstream reach of the River Nene (Welton Arm of Kislingbury Branch) (See Fig. A1 Flood Risk and Surface Water Drainage Proof of Evidence, Rhiannon Swindale, Environment Agency, January 2009, Core Document EA/6). It

can be seen from Fig. A1 that the Agency's flood mapping includes the River Nene (Welton Arm of Kislingbury Branch) between Monksmoor and Church Fields but all other watercourses present in the vicinity have too small a catchment to have been mapped. As stated in paragraph 18 this does not mean that a flood risk does not exist.

Flooding from artificial sources (Daventry and Drayton Reservoirs and Grand Union Canal)

21. PPS25 (paragraph 10) requires that all sources of flood risk are considered within the FRA for any site. In this area, flood risks also exist as a result of the presence of artificial water bodies, specifically the Daventry and Drayton Reservoirs and the Grand Union Canal. These features are marked on Fig. A1 of Core Document EA/6.

22. The Daventry Reservoir is formed by a dam which retains approximately 933,000m³ of water. It is owned and operated by British Waterways to feed the Grand Union Canal. This presents a significant flood risk to any site downstream of the dam. The reservoir is adjacent to the site and the dam is on the watercourse that forms the boundary between the Church Fields site and Monksmoor.

23. The Drayton Reservoir is also owned and operated by British Waterways to feed the Grand Union Canal. It is smaller than Daventry Reservoir but is also formed by a dam and has a capacity of approximately 324,000m³. Whilst this reservoir is not adjacent to the site it still presents a flood risk as water could travel via the route of the Grand Union Canal in the event of a failure.

24. Risk is a product of the probability or likelihood of an event occurring and the consequences of that occurrence. Whilst the probability of the dam failing (breaching) is very low, the consequences, because of the depths and velocities associated with the flooding, pose a significant flood risk to any development situated within the area at risk downstream of the dam. It is therefore essential that the extent of this flood risk is mapped at the

outline planning stage to ensure the development remains safe in such an event.

25. The Grand Union Canal forms the northern boundary of both Monksmoor and Church Fields. Water is retained within this pound between locks at Little Braunston and Buckby Top Lock and supplied by the Daventry and Drayton Reservoirs. For the majority of this pound the canal is in cutting or a tunnel however it is on a raised embankment as it passes over the watercourse (which flows through an inverted syphon at this point) between the sites. For the reasons outlined in paragraph 24, failure of the canal embankment presents a flood risk to both Monksmoor and Church Fields. Blockage of the syphon also presents a flood risk.

Flooding from increased discharge from sewage treatment works.

26. Development has the potential to contribute to flood risk indirectly in an area as well as by impeding fluvial flood flows or generating increased surface water runoff. Where there is insufficient capacity within existing Sewage Treatment Works (STW) to accommodate the proposed development, there may be a need to increase the volume of the consented discharge to the receiving watercourse which can be expected to increase flows and, depending on the individual circumstances, has the potential to increase flood risk. This receiving watercourse may be some distance from the development site and may or may not be in the same catchment.

27. It is known that there is insufficient capacity within Whilton STW to accommodate the appeal sites (Anglian Water Position Statement, Core Document ANG1). The potential increase in flows discharging to the watercourse, and the effect this could have on existing development and land downstream of the STW should be addressed in the FRA for the proposed development. Consideration should also be given to the cumulative development of this site alongside the Danetree and Monksmoor developments which would result in the largest potential increase in discharge from the STW.

28. Whilst this matter should be dealt with in the site specific FRAs it is often difficult to achieve the necessary mitigation/compensation on a site by site basis. It is agreed that a strategic solution (e.g. through a Water Cycle Strategy) should be further investigated and implemented as appropriate. However, in the absence of a strategic solution a site-specific solution should be proposed within the FRA with sufficient flexibility to adapt should a strategic solution become available.

29. It is now considered that, given the ongoing Water Cycle Strategy for West Northamptonshire, a solution to this issue can be found. A condition could be used to secure further investigation into this issue and compliance with the findings where appropriate.

Climate Change

30. Climate change should also be considered alongside flood risk and for the lifetime of the development (in accordance with PPS 1 Supplement on Planning and Climate Change (CD 1.13) particularly paragraphs 24 and 42). The current climate change allowances are set out in PPS25 in Annex B. Of relevance to this area are the figures for peak rainfall intensity and peak river flow. For residential development (which the Agency considers to have a lifetime of 100 years) a 30% increase in peak rainfall intensities is required and a 20% increase in peak river flow.

Planning History

31. The Environment Agency objected, with regard to flood risk and surface water drainage, to the proposed development in the letter dated 6 July 2007. It is agreed that flood risk exists to the site in terms of surface water drainage, fluvial flood risk from the watercourse forming the Daventry Reservoir overflow and canal feed, potential breach of the Daventry and Drayton Reservoirs and the Grand Union Canal. It is agreed that increased discharge from the Sewage Treatment works could increase flood risk downstream of the development site. It is also agreed that climate change needs to be considered with regard to increased flood risk for the lifetime of the development.

Matters resolved

Surface Water Drainage

32. Revised surface water drainage details, including consideration of climate change, have been submitted and are included in a draft revised FRA dated January 2009. It is considered that drawings 2994.401 Revision B, 2994.402 Revision A and 2994.403 Revision B, when supported by calculations received under cover of the letter 8 December 2008 from Stuart Michael Associates, form a suitable strategy for surface water drainage. It is agreed therefore that detailed design of the surface water drainage system in line with the strategy can be secured by way of condition. WNDG note however that the location of some of the proposed detention ponds appears to encroach on the proposed location of sports pitches. Whilst, it is agreed therefore that detailed design of the surface water drainage system in line with the strategy can be secured by way of condition, any such condition will need to ensure that the overall provision of sports pitches is maintained. (These documents can be found as Core Documents 11.15C/1 to 4 and 11.15C/6).

33. It is agreed that the provision of key elements of the new surface water facilities will be required prior to an increase in the impermeable area on the site. As such, surface water storage areas will be required to reduce the risk of any increased flooding during the construction phase, as well as for the completed development. It is recognised that the detailed requirements for this will be influenced by the phasing of the development, and so it is proposed that the detailed surface water drainage strategy will address this issue. It is agreed that the phasing of the construction of the surface water drainage facilities is implemented in conjunction with the phasing of the development. This can be secured by way of a condition.

34. It is detailed in paragraph 7.37 of the draft revised FRA dated January 2009 (Core Document 11.15C/1) that surface water drainage facilities should be included within a suitable legal agreement in order to secure the long term adoption of and maintenance of the proposed scheme. Heads of Terms for a Section 106 (Town and Country Planning Act 1990) Agreement will need to be agreed.

35. Subject to conditions relating to detailed design, location, phasing and implementation of the approved scheme and a Section 106 Agreement to secure the future maintenance and management of the scheme, surface water drainage for the site is agreed.

Fluvial flood risk

36. This matter has been addressed in the draft revised FRA dated January 2009 including the provision of hydraulic modelling. This has been assessed and found to be fit for purpose. Drawing 2994.405 Revision B (Core Document 11.15C/5) demonstrates that the developed portion of the site is outside this extent.

37. Subject to a condition securing the exclusion of this area from built development, the consideration of fluvial flood risk on the site is agreed to be acceptable.

38. It is agreed that in the event that the Church Fields and Monksmoor developments both go ahead, there is the potential to provide a new bridge link for pedestrian and cycle access (with possible bus provision should the need be demonstrated) between the sites. .

39. It is agreed that it is unnecessary for any structures across the channel to provide dry access during a 1,000 year or 200 year flood event. As such, there is no need to raise the structures on embankments above the valley floor. Any flood effects during very extreme events, or if the structures were to become blocked, will be local in nature and will not present an increased flood risk beyond the immediate area.

40. A new bridge will also require consent from the Environment Agency under Section 109 of the Water Resources Act 1991. It is therefore agreed that the final design of a new bridge will be assessed through this consenting process on flood risk grounds.

Daventry and Drayton Reservoirs

41. The draft revised FRA dated January 2009 refers to the independent verification on behalf of British Waterways by Ian Carter of Reservoir Safety Services Ltd supplied by HR Wallingford (on behalf of the

Monksmoor development). It is agreed that this provides sufficient detail to define the extent of flood risk on the site from the Daventry Reservoir and that the Drayton Reservoir does not pose any additional flood risk. Drawing 2994.405 Revision B (Core Document 11.15C/5) demonstrates that the developed portion of the site is outside this extent. It is also agreed that the presence of the proposed development does not have any implications on the categories of the two dams, and as such will not require any works to be carried out on the dams.

42. Subject to a condition securing the exclusion of this area from built development, the consideration of flood risk from the reservoirs is agreed as acceptable.

Grand Union Canal

43. Failure of the embankment and blockage of the syphon structure has now been considered and is detailed within the draft revised FRA dated January 2009 and the email from Stuart Michael Associates (Jerry Muscroft) dated 20 January 2009. It is agreed that these documents (Core Document 11.15C/1 and Appendix A) demonstrate that this matter is resolved.

Sewage Treatment Works

44. The email of 17 February 2009 from Stuart Michael Associates (Jerry Muscroft) (attached within Appendix A) provides an undertaking to oversize storage ponds if necessary to mitigate for increased discharge from the Sewage Treatment Works. There is significant capacity available in the ponds based on the current preliminary design. It is however also agreed that all parties would wish to see a strategic solution implemented where possible.

45. Subject to a condition to obtain the final detail and to ensure that any adjacent areas of the development are safeguarded, whether that be a standalone or strategic solution, this matter is now resolved.

Other issues

46. It is agreed that as part of the outline development proposals a consolidated, comprehensive FRA is to be produced. This document will

incorporate all of the flood risk material that has been provided to overcome the Environment Agency's concerns. This requirement is to be secured by condition.

47. It is also agreed that there may be the potential to improve the watercourse (running from the Daventry Reservoir to the Grand Union Canal) which may provide additional surface water storage capacity and provide additional ecological and amenity benefits. It is agreed that this matter will be negotiated further, with all relevant parties using reasonable endeavours to investigate the potential for and the provision of such improvements. It is noted that British Waterways has a direct interest in the watercourse and so will be an integral part of any investigations into possible improvements.

ENVIRONMENT

AGENCY.....

CROUDACE HOMES LIMITED.....

WEST NORTHAMPTONSHIRE DEVELOPMENT
CORPORATION.....

DAVENTRY DISTRICT COUNCIL.....

Appendix A

- email from Stuart Michael Associates (Jerry Muscroft) dated 20 January 2009 (ref. Grand Union Canal)
- email from Stuart Michael Associates (Jerry Muscroft) dated 17 February 2009 (ref. storage ponds)