



**NEWARK &
SHERWOOD**
DISTRICT COUNCIL

**Newark & Sherwood
Local Development Framework**

Strategic Flood Risk Assessment

Brief for Consultants

September 2006

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1. Introduction

Newark & Sherwood District Council and the Environment Agency are looking to work in partnership to prepare a Strategic Flood Risk Assessment (SFRA) for Newark and Sherwood District. A plan showing the boundaries of the District can be found in Appendix 1.

The consultant will need to prepare all necessary contractual documentation, and include this with your quote.

Both partners share an equal interest in the delivery and intellectual property rights of the SFRA.

1.1. Requirement for a SFRA

The Planning and Compulsory Purchase Act 2004 reformed the planning system and replaced the local plans system with a Local Development Framework (LDF) which is a 'portfolio' of documents (known as Development Plan Documents (DPDs)). Newark & Sherwood District Council requires a SFRA for its District to inform the preparation of these documents and the overall Local Development Framework process.

The Core Strategy is a DPD and it sets out the long term spatial vision for the area and details strategic policies that deliver that vision. Preparation of the Core Strategy began in the summer of 2005 and the findings of the SFRA will influence the decisions taken in the Core Strategy about location of development and core policies.

The Site Specific Allocations DPD, due to begin in June 2007, sets out allocations for development and constraint, and the policies which are the foundations of such allocations. The SFRA will have a direct bearing on the consideration of suitable sites for development.

The Planning and Compulsory Purchase Act 2004 requires Newark & Sherwood District Council to prepare a Sustainability Appraisal (SA) to test the applicable DPDs, including the Core Strategy and Site Allocations DPD against the principles of sustainable development to assess social, economic and environmental impacts. Work on the SA commenced in summer 2005 and will be ongoing throughout the preparation of the LDF. The findings of the SFRA will assist in the assessment of development sites against sustainability criteria, as the sustainability appraisal progresses.

The Environment Agency is a statutory consultee on the Sustainability Appraisal Scoping Report and Sustainability Appraisal Report, the Core Strategy Issues and Options Report, the Preferred Options Document and Submission Document. These documents will require Newark & Sherwood District Council to demonstrate that the risk-based sequential approach to the allocation of development has been implemented, as advised in the draft Planning Policy Statement 25 (PPS 25) and Planning Policy Guidance 25 (PPG 25).

This risk-based sequential approach states that development should take place in areas of lowest flood risk. Where there are no reasonable lower risk sites available, land allocations need to take into account the vulnerability of land uses.

Newark & Sherwood District Council require a district-wide SFRA to demonstrate that the risk-based sequential approach has been adopted and to provide evidence to the Environment Agency that flood risk can be mitigated where development land is allocated within areas of higher flood risk. In the absence of such a body of work, the Environment Agency are minded to object to the Council's DPDs.

1.2 Aim

The aim of the Newark & Sherwood SFRA is to provide a planning tool that can be used by the Planning Services Department of the District Council to help inform the Local Development Framework process, steer future land use in a sequential, strategic, and holistic manner, and maximise development on brownfield land in accordance with planning policy. Also the Council's Risk Services Team would like to use the information collected to help inform their emergency planning role.

1.3 Scope of Works

The District of Newark & Sherwood is a large and geographically diverse district covering much of central Nottinghamshire. The eastern and southern portion of the district is dominated by the River Trent and the various watercourses which flow into it. An Internal Drainage Board is also in operation in the Newark Area carrying out flood defence work under the powers of the 1991 Land Drainage Act. The largest settlement in the district, Newark, lies within this area on the River Trent, as do a number of 'Trent side villages'

The large central area of the district is described as the Mid-Nottinghamshire farmlands. This area is characterised by generally undulating landscape and small villages and hamlets. A particular feature to the south of this area, around the Minster town of Southwell, are small meandering valleys known as dumbles.

The western area of the District lies within Sherwood Forest and contains a number of watercourses including the River Maun which flows through the Rural Centres of Edwinstowe and Ollerton and Boughton. This area of the district contains a number of former mining communities.

The SFRA will appraise the following taking account of climate change:

- An appraisal of all potential causes of flooding both from published Environment Agency flooding and other sources identified by local study. This should include reference to any historic incidences of flooding and the circumstances that gave rise to them.
- An appraisal of the standard of protection provided by existing flood risk management infrastructure together with an appraisal of any features, either natural or man made, which may act as a barrier to flood flow and reduce flood risk.

- An appraisal of any physical features, either natural or man made, such as canals, which may convey flood flow to other areas not considered to be directly at risk from the cause or origin of the flooding.
- A plan identifying extent, depth and sequence of flooding for various scenarios of different probabilities. Such a detailed appraisal would normally be limited to developed areas where there is development allocation or development pressure.
- An appraisal of the effect of any failure of flood risk management infrastructure in order to establish areas of residual and increased risk, in particular rapid inundation and low-lying areas.
- The impact of development on flood likelihood and hence flood risk both within the plan area and outside the plan area and particularly downstream.
- How surface water runoff will be managed with regard to the reduction in permeability and increased run off often associated with development.
- An appraisal of the capacity for Sustainable Drainage Systems (SuDS) across all allocation sites. This will allow the Local Planning Authority to work out design principles in advance and also have a strategic overview possibly linking SuDS schemes together.
- The extent of flooding from extreme events including the 0.1% annual probability event.
- An indication of the location and extent of the functional floodplain is located in order to establish Zone 3b (Table D.1, PPS25).
- Existing flood warning and emergency planning procedures and facilities.
- The extent and budget cost of any works required to provide or raise the flood defence to an appropriate standard.
- Those areas where the extent of flooding from wave action would influence site layout or mitigation measures.

It is expected that the SFRA will examine the issues detailed above in a number of major settlements utilising base data provided through the River Trent Strategies, and will identify tested and pragmatic recommendations to mitigate against flood risk within the settlements, and policy approaches to be followed in areas where a lesser scale of development is proposed. Recommended mitigation measures need to be supported by indicative costs to implement each solution.

In addition, Newark & Sherwood District Council require detailed assessment of flood risk to specific sites in and around Newark on Trent and accompanying detailed

mitigation measures, which do not need to be confined to the boundaries of the specific sites. These specific sites are detailed in a separate section.

It is expected that the SFRA will be best suited to a map-based format with concise supporting technical and non-technical texts. These maps will need to be supplied to Newark & Sherwood District Council in an ESRI Arcview electronic format used by the Council so that planning constraint maps may be readily updated.

The mapping needs to be based on robust ground level data and the choice of mapping technique needs to balance the accuracy/tolerance of the particular mapping technique against the cost of gathering this information. Arcview data should be captured against Ordnance Survey Mastermap. If you require any OS data please list your needs and the appropriate arrangements will be made.

We require a dedicated paragraph within your quote for you to propose your preferred approach to obtaining ground level information (e.g. LIDAR, utilising existing site specific survey to refine the interpolated sewer cover level data etc.) and to explain the reasons and cost associated with the choice of survey technique. We accept that a combination of techniques may be suitable.

Newark & Sherwood District Council and the Environment Agency expect all previously collected ground level data to be included in the production of the floodplain maps, subject to relevant permissions.

2. Proposed Outcomes

Newark & Sherwood District Council and the Environment Agency have common interests in the preparation of a SFRA, and its outcomes, which has led to working in partnership to reduce flood risk in the Newark and Sherwood area. The SFRA will provide the necessary information to allow a sequential assessment of potential development sites to be made.

2.1 Floodplain Maps Required by Newark & Sherwood District Council

- A map to identify the area of land modelled to flood during a 1:100 (return period) event on the River Trent based upon the current standard of protection offered by flood defences for Newark-on-Trent and using robust ground level information.
- A map of 1:100 year event with current standard of protection offered by flood defences for the River Trent within Newark-on-Trent and additional detail e.g. depth of predicted flooding and range of return periods for which land starts to flood (e.g. 1:5, 1:10, 1:25, 1:50, 1:75, 1:100). This map needs to effectively communicate the cause, direction and depth of flooding for the River Trent in Newark (e.g. undersized bridge, section of low flood wall etc.).
- A map showing the impact of implementing successful mitigation measures that have been tested by the model e.g. revised 1:100 year outline post implementation of mitigation measures. This map needs to effectively communicate the benefits of each mitigation measures when considered in isolation and also the benefit of mitigation measures when considered working together.

- A map of the 1 in 100 year plus 20% for climate change floodplain outline for River Trent based upon current standard of protection offered by the flood defences

Please note that it is important that the format of electronic copies of the flood maps is compatible with Arc View GIS captured against Ordnance Survey Mastermap so that Newark & Sherwood District Council's planning constraint maps may be readily updated, and the information is compatible with the Environment Agency's NFCDD database.

2.2 Flood Mitigation and Solutions

Newark & Sherwood District Council require the SFRA to identify and test the model for realistic and practical solutions to the flooding problems identified for the Newark-on-Trent area and for the specific brownfield sites outlined in Section 2.3. and the future areas of growth identified in Section 2.4.

We anticipate that solutions exist at different geographical scales e.g. catchment wide and site specific, and this opportunity should be taken to investigate area wide solutions to localised flooding problems. The following information is intended only as guidance for you to understand our expectations. However, there may be innovative solutions that we have not thought of and we do not want to prejudice your assessment of possible solutions.

2.3 Site Specific Assessment of identified brownfield sites in Newark Urban Area

We do not want to pay for an individual flood risk assessment for the following sites. However, it is important for Newark & Sherwood District Council to gain a more detailed understanding of the risk of flooding to these sites, evaluate the appropriateness of development, and to assess mitigation measures available within the area:

- 1) Land North of Maltkin Lane** – This site is in between the River Trent and the east coast main line. The site is made up of a variety of industrial uses and is an important brownfield site within the town. Newark & Sherwood District Council need to understand the risk of flooding to this site and possible solutions to prevent flooding to the site.
- 2) Land West of Northgate** – This is a prominent brownfield site fronting the River Trent and Northgate including the Grade II listed Northgate Brewery. This is Newark's most important development site and the Council needs to understand the risk of flooding to this site and possible solutions to prevent flooding to the site.
- 3) Cow Lane** – The site is presently a scrap yard accessed off Cow Lane with a riverside frontage. The site is known to be significantly contaminated but the Council wishes to see the existing use removed to a more appropriate location. The Council therefore needs to understand the risk of flooding on this site.
- 4) Millgate Wharf** – The site is the location of a former British Waterways Wharf, which fronts on to the River Trent.

- 5) **Kelham Road Depot** – Nottinghamshire County Council's Highways Depot is on a large site bounded by Kelham Road, Great North Road and the A46. The County Council has requested that the site be included in the District Council's Urban Capacity study. Due to the site proximity to the River Trent and existing Kelham island flood defences the District Council needs to understand the risk of flooding on the site, the appropriateness of development on the site, and mitigation measures required to address the risk.
- 6) **Newark Lorry Park and Cattle Market** – The District Council's Lorry Park and Cattle Market is a large site bounded by the Lincoln to Newark railway line, The A46 Newark bypass and the Great North Road. Due to the site proximity to the River Trent and existing Kelham island flood defences the District Council needs to understand the risk of flooding on the site and mitigation measures to resolve the risk.

We anticipate that it will be beneficial to commission site specific topographical survey data for each of these specific sites to provide a greater level of detail than for the SFRA. Please note that it is unacceptable for mitigation measures to increase flooding elsewhere.

2.4 Sites for future expansion of Newark

Above and beyond the various brownfield development sites within Newark-On-Trent the District Council must consider future areas for expansion around the boundaries of the town. The District Council has submitted a New Growth Point Bid which could result in the town having to accommodate a greater level of housing provision than could be provided on brownfield land. Therefore, in order to get an early understanding of potential flood risk issues the District Council would like two sites investigated. However, as with the in-town sites, the Council would expect the potential developer to fund individual flood risk assessments. The two sites are:

- 1) **Land South of Newark** – This area refers to land south of Riverside Road, Grange Road and Hawton Lane which has been identified by the District Council as potential site for a growth point bid and potential Newark Southern Relief Road. Two major water courses are within the area namely the River Devon and the Middle Beck. It is anticipated that the promoters of the site will fund elements of this part of the process.
- 2) **Land South of Beacon Hill Road** – This area refers to land bounded by the East Coat Main Line to the south and west, the A1(T) to the east, and developments of Beacon Hill Road to the North. This land is the only other area adjacent to the Newark Urban area where a strategic housing allocation could be made. Therefore within the context of the production of the LDF the District Council must seriously consider the flood risk issues of this site.

2.5 Policies for un-identified brownfield sites in Newark and Rural Centres

Whilst the above sites identified in and around Newark may take major elements of the district's growth, unidentified brownfield sites in the town and the remaining rural centres (namely Ollerton and Boughton, Rainworth, Southwell, Edwinstowe, Blidworth, Clipstone, Bilsthorpe, Lowdham, Collingham, Farnsfield, Farndon and Sutton on Trent) are to varying degrees likely to accommodate some levels of housing. Therefore, the Council would like appropriate policy directions to be identified for brownfield sites in Newark and the Rural Centres to enable it to provide suitable advice to developers and make informed decisions regarding the flood risk potential of such sites.

2.6 Policies for Trent-side Villages

The proposed settlement hierarchy for Newark & Sherwood LDF anticipates that beyond Newark and Rural Centres will be a category entitled Villages (see Appendix 4), which will continue to have envelopes and could potentially accommodate limited rural housing. However, some of these villages are in proximity to the River Trent and are known to be at significant flood risk. Therefore, the Council would like appropriate policy directions to be identified for such villages to enable it to provide suitable advice to developers and make informed decisions regarding flood risk potential in such villages.

2.7 Policies for rural areas within the Trent valley

The proposed Newark and Sherwood LDF focuses future development within Newark, the rural centres and to a lesser extent the District's Villages, however the Council must be equipped with the necessary policy directions to be able to deal with development proposals within small rural communities and the open countryside within the Trent valley. It is not anticipated that acceptable development in small rural communities will constitute anything over and above that which is allowed in normal circumstances within the open countryside i.e. conversion of existing rural buildings and 'one-for-one' replacement of dwellings. Therefore, the Council would like appropriate policy directions to be identified for the Trent valley to enable it to provide suitable advice to developers and make informed decisions regarding flood risk potential in the Trent valley.

3. Timetable for Proposed Outcomes

Newark & Sherwood District Council request a quote no later than **October 2006** and are committed to formally instructing the commencement of this project no later than **November 2006**, subject to agreement of a satisfactory quote and programme. You should build into your quote a start-up meeting with the partners to discuss the scope of the work, following formal instruction.

Newark & Sherwood District Council request feedback of initial findings, opportunities and general comments by the end of **December 2006** to enable any 'show stoppers' to be discovered in order to feed into work on the Core Strategy. It is also desirable for the Environment Agency to receive draft flood maps at this stage.

You should aim to complete and send the draft report for consultation by **January 2007** and it is highly desirable for the draft findings to be formally presented in person to the partners at this stage to allow questions to be asked and to aid understanding of the findings. This should be built into the cost of your quote and the programme of delivery.

You should aim to complete the project and issue the final report by the end of **February 2007** and again it is highly desirable for the partners to receive a formal presentation in person. Please build this into the cost of your quote and the programme of delivery.

We request seven copies of the draft report and seven copies of the final report (including paper copies of all plans to a reasonable scale) and electronic copies of the final report. It is essential that any copyright issues are overcome to enable the completed maps to be reproduced on our websites.

4. List of Appendices

1. Map of Newark & Sherwood District Council's Boundary
2. Map of Newark on Trent Study Area
3. Map of identified brownfield development sites in Newark urban area.
4. Map of Rural Centres and Trent-side Villages