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supplementary planning guidance

West Lothian flood risk and drainage

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West Lothian Council

Supplementary planning guidance

WEST LOTHIAN FLOOD RISK AND DRAINAGE

Introduction

1.1 The purpose of this document is to set out the requirements for the preparation and submission of Drainage Assessments and Flood Risk Assessments for developments in West Lothian as well as some reference to Sustainable Urban Drainage Systems within the West Lothian Council area.

1.2 Scottish Planning Policy 7 'Planning and Flooding' published by the Scottish Executive in February 2004 sets out the national context for planning and flooding. It can be viewed online at the following URL: ***http://www.scotland.gov.uk/Publications/2004/02/18880/32952***

1.3 A Drainage Assessment or Flood Risk Assessment should be provided by a competent consultant and provided by the developer to accompany applications where a potential flood risk is identified and those areas where drainage is already constrained or problematic and/or where there is a requirement as outlined in the council's West Lothian Local Plan 2005 (see sections 4.6 – 4.7 for details).

West Lothian: flood risk and drainage

2.1 Drainage is usually required to make land suitable for development. Sustainable drainage should protect existing and the surrounding local area (including local surface water/combined sewer system or network and the existing surface water flow routes) from flooding and proposed development from the effects of flooding and help mitigate the effects of pollution arising from the interaction of rainfall and development. As an area is developed, the proportion of land covered by impervious surfaces (roads, footways, parking areas, roofs, driveways, and buildings) increases. In such cases surface water run off can increase to 90% of the rainfall volume (reference should also be made to the CIRIA guidance/NE Scotland Flood advisory group *Drainage Impact Assessment*). During the initial period of a storm the infiltration rate is normally moderate to high, therefore the surface water runoff percentage is slow. Once soil water saturation is at capacity the surface water runoff increases to a high value.

2.2 The most critical drainage issues in West Lothian have been caused by the interaction between intense rainfall events, surface water discharges, the constrained nature of both the public sewerage system and of heavily modified watercourses i.e. flooding that has occurred in the past at the Mains and Mill and Bells Burns in Linlithgow.

2.3 West Lothian Council is committed to respond to the consequences of a changing climate through necessary control measures and appropriate planning decisions. Essentially the council is seeking to avoid flooding rather than introduce mitigation measures or engineered solutions. The role of sustainable urban drainage systems, in managing surface water run-off will be a key requirement of virtually all development schemes.

2.4 The Finalised West Lothian Local Plan 2005 identifies that some land may not be suitable for building because there is a risk of flooding. It can be viewed at the following URL:***http://www.westlothian.gov.uk/wlcv2/onlineservices/planning/policyandplans/*** Developers are expected to take a holistic approach to issues of flood risk and sustainable drainage by protecting flood-prone areas from development, mitigating the effects of development on receiving watercourses and creating new, diverse habitats as an integral part of their sustainable drainage strategy.

2.5 The council has put in place strategies to identify the threat and reduce the risk to existing properties and ensure development achieves a moderate to low risk as identified in SPP7 and proposed development. Many sites allocated for development, will require to be subject to a *Flood Risk Assessment* (FRA).

2.6 The council has prioritised its assessment of watercourses and has assessed and is continuing to assess flood risk issues within the district. We produce a biennial report on flooding as is required under the Flood Prevention Act 1961 and the Town and Country Planning Act 1997, a copy of which can be provided on request and is summarised in a separate leaflet – contact the council for details. The council has also produced a leaflet entitled *Flooding – what you need to know* which is principally aimed at homeowners and gives useful advice if they are subject to a flooding event. Again copies can be provided on request and are also available through the council's website.

2.7 Flooding must be considered a potential risk on all sites. Those in closest proximity to watercourses, including culverted watercourses, will however be at greatest potential risk. However, the effects of intense rainfall (including summer months) has always occurred and has caused flooding somewhere in Scotland. Such rainfall is not new and cannot at this time be directly attributed to a changing climate on its own. This shows that development can also be at risk from surface water run-off from higher ground and from limited capacity within the sewerage network.

2.8 It is the responsibility of the council and developers to ensure that future development is not located in areas of significant flood risk, including functional flood plains to accord with Planning Advice Note 69 *Planning and Building Standards Advice on Flooding* (URL: ***http://www.scotland.gov.uk/Publications/2004/08/19805/41594***). Recent flood events have demonstrated that a major threat to the largest number of properties results from high rainfall occurrence putting added pressure on an already constrained infrastructure and natural catchments.

2.9 Reference should be made to guidance provided by SEPA on their website in terms of flood risk assessment report writing guidance.

Regulation

3.1 Approvals

Formal approval for a drainage system is needed from the following authorities:

- Scottish Water as the drainage authority (drainage construction consent)
- West Lothian Council as the local planning authority (i.e. where planning permission is being sought)
- West Lothian Council as the local building standards authority (i.e. building warrant submissions)
- West Lothian Council as the local roads authority (i.e. road construction consent applications); and
- Scottish Environment Protection Agency; authorisation to discharge in the form of compliance with general binding rules, registration or licence, (with the level of authorisation depending on nature of discharge) is required under the Water Environment (Controlled Activities) (Scotland) Regulations 2005.

Each regulatory authority has its own powers. There is no hierarchy in the regulations.

3.2 Drainage authority

Under the Sewerage (Scotland) Act 1968 (as amended), Scottish Water is responsible for the provision of sewerage infrastructure for domestic sewerage, trade effluent and surface water. Surface water runoff, identified as surface water by the 1968 Act, is defined as run-off from roofed areas and paved ground surfaces within the curtilage of the premises; this is often referred to as *statutory surface water*. Scottish Water is not obliged to do anything, which is not practical at reasonable costs.

3.3 Wastewater

Where a development will lead to the production of wastewater, a Drainage Assessment should include a section on wastewater drainage. This should examine the availability, both in terms of location and capacity, of public sewers and their ability to carry wastewater from development. Where a public sewer is not available the developer should first discuss with Scottish Water the possibility of providing a public sewer to carry wastewater to an existing wastewater treatment plant; otherwise the developer will require to consider the provision of infrastructure for adoption by them. If private drainage arrangements are proposed, the developer should consult with SEPA in relation to authorisation of discharge(s) of sewage effluent to land or controlled waters.

3.4 Surface water

3.41 Surface water discharge and the constrained nature of the sewerage systems are critical drainage issues for development in West Lothian. The water authority recognises that during extremely wet weather, the capacity of surface water sewers may be inadequate. Under such conditions sewers may surcharge and surface water may escape from manhole covers which lie below the hydraulic gradient. In certain areas in West Lothian, surface water sewerage problems are exacerbated by the prevalence of the combined sewerage network (see the Drainage section below). Developers should ensure that an adequate level of protection against the flooding of properties is achieved. This *adequate level of protection* will be determined by the council, whom the developer will require to consult with.

3.42 It is also now the case that public SUDs have been brought into the definition of statutory surface water, i.e. SUDs are now part of the surface sewerage system.

3.43 It should also be noted that SEPA does not encourage the connection of surface water to combined sewer. As described in paragraph 47 of Planning Advice Note 79 *Water and Drainage* it is best practice to separate foul from surface water drainage, as this reduces pressure on the foul drainage system and therefore reduces the chances of if flooding or polluting and the council encourages this.

3.5 Drainage infrastructure

3.51 Scottish Water has completed Drainage Area Plan (DAP) investigations for sewerage catchments within West Lothian. The DAPs provide detailed information on the condition of the sewerage network and indicate the extent of the constrained nature of the sewerage system. In response to such constraints, Scottish Water has indicated that it will strongly enforce its preferred practice of preserving natural drainage patterns and that it may refuse to accept surface water drainage into the combined or surface water sewer.

3.52 Whilst the combined sewerage network may be relieved by the discharge of surface water direct to a watercourse, such discharge may result in the three detrimental impacts:

- it may change flow characteristics in the watercourse producing increases in peak flows downstream of the development and increase the potential for flooding;
- it may adversely affect water quality; and
- it may adversely affect the condition of receiving watercourse.

3.53 To help reduce such problems, the impact of surface water run-off to a receiving watercourse should be mitigated by use of sustainable drainage systems, such as SUDs. Developers must take account of guidance provided in the CIRIA publication, The SUDS Manual C697 (Now updated with free download from CIRIA website) at the following URL: ***http://www.ciria.org/acatalog/R168.html*** and where appropriate the publication *Sewers for Scotland 2nd Edition*, which is Scottish Water's guide to design and construction standards of drainage infrastructure.

Planning authority

4.1 The planning authority is responsible for the control of development under the Town and Country Planning (Scotland) Act 1997. The Scottish Executive's planning policy on new development and flooding is set out in Scottish Planning Policy 7 (SPP 7): Planning and Flooding. It emphasises that drainage is a material planning consideration and advises that drainage measures proposed as part of a planning application should have a neutral or better effect on the risk of flooding both on and off the site. It encourages the use of sustainable drainage systems wherever practical. Paragraph 22 of SPP7 states:

"The primary role of sustainable drainage systems (SUDS) is to manage the flow of rain water run-off from a site by treating it on site and so reducing the loading on conventional piped drainage systems. They are not a means of preventing onsite flooding from watercourses, although some SUDS such as detention ponds can slow the rate of run-off by temporarily storing the water."

4.2 However, the overarching theme however of the SPP 7 document is that avoidance of flood risk from all sources is adequately addressed.

Regulation

5.1 Sustainable Urban Drainage Systems

5.11 West Lothian council has a responsibility, duty and powers to carry out flood risk identification and carry out flood prevention works, and consider flood risk in the planning process. The Finalised West Lothian Local Plan 2005 policy IMP 6 requires that development should make satisfactory provision for sustainable urban drainage. The local plan endorses the CIRIA design manual on sustainable drainage. The local plan recognises that sustainable drainage is, primarily, concerned with the quality of water discharges, but should also assist in reducing the risk of off-site flooding by controlling the flow of surface water run-off to watercourses. Sustainable drainage systems are relevant to a wide range of development types (see section entitled sustainability/sustainable drainage systems later in this leaflet for more details).

Flood risk

6.1 It should be noted that under the terms of the Flood Prevention (Scotland) Act 1961, as amended, West Lothian Council has specific responsibilities, powers and duties to reduce the risk of flooding in terms of flood risk identification, flood prevention and consideration of flood risk in planning.

6.2 The local plan highlights specific reasons where flood risk assessment is likely to be necessary and sets out standards of protection that require to be met in any development. For further information, reference should be made to the local plan sections 12.40 –12.51. A Flood Risk Assessment may be required in other circumstances as determined by the planning authority on receipt of a pre-application enquiry or outline or detailed application. The Local Plan is advocating the approach set out in SPP7 which seeks to *avoidance* of flood risk, rather than *management* of it.

6.3 Any developer should also take cognisance of guidance contained within Scottish Planning Policy 7 *Planning and Flooding*.

Building Standards

7.1 The council, as Building Standards Authority, has to be satisfied that adequate provision has been made for drainage. The proposed system should be constructed and designed to meet technical standards for compliance with Regulation 9, Section 3 of the Building (Scotland) Act 2004 (as amended). Sustainable drainage is included in Part M of the Building (Procedure) (Scotland) Regulations 2004 for areas of more than 200sqm of hard surface.

Council as roads authority

8.1 Under the Roads (Scotland) Act 1984, the council, as roads authority, is responsible for the provision of surface water drainage for adopted public roads and for the issue of roads construction consents. Effective road drainage is fundamental for road safety and to the integrity and structural stability of the road. When considering construction consents, the roads authority will need to be satisfied that sustainable drainage systems employed meet road drainage requirements and will not be too onerous to maintain. The use of flood resilient materials and design should be undertaken in accordance with paragraph 32 of SPP 7. Further useful guidance is contained within Planning Advice Note 69 *Planning and Building Standards Advice on Flooding*. There is also advice being developed by the Scottish Governments SUDS Working Party *SUDS for Roads Guide* that is due to be published in 2009.

Scottish Environment Protection Agency

9.1 SEPA is a statutory consultee on matters relating to flood risk for both Development Planning and Development Control. SEPA also provides statutory advice on the design and promotion of *grant aided* flood prevention schemes. SEPA will give advice to Local Authority Planners and Flood Prevention Officers on matters relating to flood risk, based on information it holds, including SEPA's *Indicative River and Coastal Flood Map (Scotland)*, however it is the

council who promotes Flood Prevention Schemes rather than SEPA (when formally consulted by the council as Planning Authority) will also undertake audits of professional Flood Risk Assessment reports submitted in support of planning applications.

9.2 The Water Environment (Controlled Activities) (Scotland) Regulations 2005 are also of relevance. Further details can be found in documents set out in the List of References/ Bibliography at the end of this guidance.

9.3 SUDS provision requirements should generally be in accordance with SUDS best practice guidance, CIRIA Manual C697 *The SUDS Manual*. SEPA provides advice and guidance on SUDS design, although it is the case that this is in respect of water quality as opposed to flood mitigation and alleviation, which are both council remits.

Scottish Natural Heritage

10.1 Scottish Natural Heritage's remit is to protect sensitive areas in terms of their biodiversity as well as protecting important areas of landscape from erosion degradation due to flooding. Of particular importance is the protection of species protected under European Protected species legislation such as otters and great crested newts (check their website for details ***www.snh.org.uk***). Any assessment should ensure such species will not be adversely affected by any development.

Drainage assessment: principles and practice

11.1 Catchment management

11.2 Even without the very real implications of our changing climate, drainage matters within new development or redevelopment can no longer be treated as discrete matters to be dealt with in isolation. A Drainage Assessment should treat drainage matters systematically as an integral part of the sub-catchment and sewer network, surface water flow and routing. The assessment should ensure that surface water run-off and groundwater levels within developments do not unduly affect the sub-catchment drainage system. In effect, discharges to watercourses from new development will have an impact on an existing catchment.

11.3 Staged approach

11.4 The Drainage Assessment should be viewed as a process involving a number of stages.

- Prior to land acquisition, the developer should undertake an assessment of the site in terms of requirements set out in this guidance in order to assist appraisal of site development constraints and land acquisition costs.
- A Drainage Assessment should accompany the submission of an outline or detailed planning application requiring waste or surface water to be drained. The level of detail required will depend on the scale and type of development, site conditions and the sensitivity of the receiving waters as defined in this guidance.

- The Drainage Assessment will be used by roads and building standards authorities, SEPA and the water authority as the basis of their considerations of detailed drainage requirements and development design (i.e. the design appropriate and acceptable given the drainage availability and characteristics).

Sustainability/sustainable drainage systems

12.1 The Drainage Assessment should demonstrate that surface water is drained according to sustainable drainage principles. Surface water drainage methods that take account of water quality, quantity and amenity issues are collectively referred to as Sustainable drainage systems, the most obvious example being that of *Sustainable Urban Drainage Systems*, otherwise known as SUDs.

12.2 Sustainable drainage systems, can make an important contribution to limit off-site flood risk and help protect the water environment, but they are not a flood defence measure for on site flooding.

12.3 Where sustainable drainage solutions are not possible, the assessment should identify the principles behind the chosen approach and demonstrate the method, which gives the best environmental protection available and is shown to prevent pollution and prevent an increase of flood risk both on and off site.

Drainage Assessment and the planning process

13.1 Local Planning Authorities have a responsibility to take account of drainage matters as a material consideration in the determination of planning applications for new developments. They are legally required to consult with Scottish Water, SEPA and the local roads authority, each of whom has individual responsibility for assessment and approval of drainage proposals. The consideration of Drainage Assessments as part of the planning process will assist co-ordination between the regulatory authorities in the resolution of drainage design and, also ensure developers are fully aware of all regulatory requirements and decision making procedures.

13.2 The failure by a developer to demonstrate that a satisfactory means of wastewater or surface water drainage can be provided, may be a reason for refusal of planning consent.

Maintenance

14.1 The maintenance of proposed new drainage infrastructure and SUDS is an important consideration. Inappropriate or deficient maintenance can result in failure of the drainage system or network and result in flooding and unnecessary pollution of to the environment. The drainage assessment must consider and address the issue of ownership and maintenance of the proposed systems, therefore ensuring they function effectively across the lifetime of

the development. It is important to note that Public SUDs are to be maintained by the water authority. If you are unclear of issues of maintenance, you should contact the council's Flood Prevention team, whose contact details are provided at the end of this document.

14.2 The Water Environment & Water Services (Scotland) Act 2003 has amended the 1968 Sewerage (Scotland) Act to allow sustainable drainage systems to be maintained by the water authority, subject to the preparation of regulations to establish construction standards and vesting conditions. Vesting of infrastructure to standards set out by Scottish Water in their latest design manual will however require to be followed.

Exceptions

15.1 The following categories of development will not normally require a Drainage Assessment or FRA, however the best option for waste and surface water drainage is still expected to be demonstrated by applicants. Each case will require to be assessed on its own merits and therefore even within these exception areas if you suspect the area is at risk from flooding, you should contact the council to ascertain if a Drainage Assessment or FRA will be required:

- Householder applications;
- Developments of less than 10 new dwelling houses unless development may affect a sensitive area;
- Non-residential extensions under 100 sqm;
- Non-residential new build, developments with floor space or hardstanding less than 1,000sqm unless development may affect a sensitive area;
- Applications forming part of a larger development for which a Drainage Assessment has already been accepted.

Sensitive areas

16.1 Developers need to be aware that some receiving waters and site conditions are particularly sensitive and special attention will be required. With the exception of householder applications, Drainage Assessment will be required for all developments affecting the following sensitive areas:

- Areas where there is no available sewer – see water authority for details.
- Areas where a Drainage Area Plan indicates the sewer system is constrained – see water authority for details.
- Areas requiring flood risk assessment under flooding policies in the Finalised West Lothian Local Plan 2005 and areas at potential flood risk due to proximity to a watercourse, spring, issue or flood plain – see the council as planning authority for details.
- Areas within or upstream of a Special Protection Area or Site of Special Scientific Interest– see planning authority for details.

- Areas of land contamination – see SEPA and local planning authority for details.
- The presence of protected species (within a development site or receiving water body) that would include areas where otters, great crested newts and water voles are known to be present or are likely to be present. The presence of these protected species will have to be taken into account when designing the drainage systems for any development. The legal protection given to these species can be found at the Scottish Natural Heritage website ***www.snh.org.uk*** at the following URL: ***http://www.snh.org.uk/about/directives/ab-dir08.asp***
- If protected species are known to be present, or there is a strong likelihood of them being present, an up to date survey of the development site and any receiving water body will be required. The results of this survey should then be used to make an assessment of the impact of the proposed development and drainage system on any protected species present. This will help determine the need for any licenses and should identify mitigation measures to minimise any impacts on protected species.
- The initial development and drainage proposals for the site may need to be altered to accommodate mitigation measures for protected species. Any mitigation measures required for protected species should be incorporated into the detailed design of the development and drainage system.

Biodiversity

17.1 SUDS schemes have the potential to contribute to the biodiversity targets for West Lothian by delivering positive biodiversity benefits. SUDS schemes should therefore aim to maximise the amount of biodiversity gain they deliver. With this in mind, chapter 7 of SEPAs *Ponds, Pools and Lochans* good practice guide on *Maximising the Ecological Value of Sustainable Urban Drainage Systems* should be followed when designing all SUDS systems (see list of useful documents at end of this guidance for details). West Lothian Council has a duty under the Nature Conservation (Scotland) Act to conserve and promote biodiversity. With this duty the council will prefer above ground SUDS where possible, subject to appropriate consultation responses with other third parties. This document encourages above grounds SUDS. It should be noted however, that Scottish Water do not have any responsibility for the element of SUDS which encourages biodiversity, habitat improvement and landscape enhancement.

Outline Planning requirements for drainage assessment

18.1 For the purposes of an outline planning application, the Drainage Assessment should establish, in principle, that the site is capable of being drained for the scale and type of development proposed, in accordance with sustainable drainage principles. Development must not create or intensify an unmanageable risk of flooding elsewhere. The council will determine what it considers to be *unmanageable* in terms of this definition in the context of each case. The assessment should include as a minimum the requirements outlined below. These are for general guidance and Drainage Assessments should not necessarily be limited to these requirements. The planning authority may decide given the circumstances of the case that additional information may be required or that it is unable to accept or support an outline application.

- An examination of current and historic drainage patterns, including land drainage systems and culverted watercourses traversing or adjacent to the site;
- Confirmation from the drainage authority of the capacity of the sewer network to accommodate waste water drainage, statutory and non-statutory surface water drainage from the development or a statement of sewerage system constraints;
- Pre and post-development run-off calculations to provide an indication of surface water drainage requirements, treatment and storage solutions;
- An indication of the types of sustainable drainage systems to be used and which measures will be considered in the detailed design;
- Evidence of sub-soil porosity and the suitability of sustainable drainage systems comprising infiltration devices, ground water levels/water table levels influence on the use of infiltration SUDS and the potential limitation;
- Assessment of the requirement for a Flood Risk Assessment and if one is required should not wholly rely on sites identified in the local plan as requiring such an assessment or in terms of the flooding policies in the Finalised West Lothian Local Plan 2005. Some sites will require an assessment because of their location/proximity to watercourse/drainage network capacity. This should include consideration of the flood flow route for events that exceed the capacity of the constructed drainage system;
- The location and proximity to a watercourse/drainage network capacity also requires to be considered;
- Estimates of land take for sustainable drainage systems based on the initial calculations and for necessary storage solutions;
- Consideration should be given to underlying aquifers when proposing infiltration measures, as they may impact on the public/private abstractions for water supply (quantity and quality).

18.2 Consideration of the requirements of the Water Environment (Controlled Activities) (Scotland) Regulations 2005 (as amended) with respect to any of the points stated above will be required.

Detailed planning requirements for drainage

19.1 Any Drainage Assessment submitted previously with an outline application should form the basis for the assessment at the 'reserved matters' stage. However, many applications are applied for in detail to begin with. Under such circumstances, the study for a detailed planning application should set out clearly the criteria adopted for water quantity, quality, velocity and biodiversity and amenity issues related to the development concept and to the site. It should take into account effects on related sites upstream and downstream and on the sewerage network and surface flow routes/sub catchments. It is important drainage assessments do not focus solely on the piped network but consider the overland flow/ extreme rainfall events and existing surface water routes. The study for a detailed planning application should report on the matters outlined below:

- Examination of current and historic drainage patterns including land drainage systems and culverted watercourses traversing the site or adjacent to it and their potential to function as open watercourses and the potential to return culverted watercourses to open channels, as supported by appropriate local policy and SEPA Policy 26, CIRIA guidance (to improve ecological status).
- Confirmation from the drainage authority of the capacity of the sewer network to accommodate waste water drainage, statutory and non statutory surface water drainage from the development or statement on sewerage system constraints and alternative drainage arrangements;
- A detailed drawing of the development proposal;
- Summary statement of how drainage design provides waste and sustainable surface water drainage;

Ensure compliance with Regulation 9, of the Building (Scotland) Act 2004, as amended. Pre and post-development run-off calculations used to determine surface water drainage requirements and flood mitigation through surface water storage/detention/infiltration measures. The normal criteria to be applied for discharge direct to a watercourse will be that of a post-development 100-year run-off associated with the development should be limited to the corresponding pre-development (green field) 2-year run-off value, with the 200-year run-off contained within the site without causing any flood risk to buildings or resulting in an unacceptable depth of inundation emergency accesses:

- Calculation of pollution treatment volume for sustainable drainage systems both individually and combined if necessary. Demonstration that the level of the treatment and available treatment volume for sustainable drainage systems are adequate;

- Plan identifying sustainable drainage devices, land requirements and final discharge points where relevant i.e. existing surface water drainage system/roads drainage network or watercourses;
- sustainable drainage measures in relation to roads drainage design;
- Soil classification of the site and subsoil porosity test including the location of any sustainable drainage and infiltration devices;
- Assessment of flood risk if required in terms of the flooding policies within the Finalised West Lothian Local Plan 2005. This should include the consideration of the flood flow route for the critical 200-year return period showing no detriment to land, property or sustainable drainage systems as a result of overland flow;
- Maintenance arrangements;
- Design of safety measures for sustainable drainage systems accompanied by health and safety risk assessment for areas of open water;
- A method statement dealing with the temporary abatement of contaminated run-off from construction sites;
- Proposals for integrating drainage with habitat creation, landscape and amenity;
- Survey of existing habitat and species;
- Demonstration of good ecological practice including habitat enhancement.

19.2 Consideration of the requirements of the Water Environment (Controlled Activities) (Scotland) Regulations 2005 (as amended) with respect to any of the points stated above will be required.

List of useful contacts

Below is a list of contact telephone numbers for various authorities mentioned in this supplementary planning guidance:

West Lothian Council	Development Management	01506 282456
	Building Standards	01506 282480
	Development Planning	01506 282457
	Flood Prevention	01506 776554
	Transportation	01506 282324
Scottish Environment Protection Agency		0131 449 7296
Scottish Water		0845 601 8855
Scottish Natural Heritage		0131 654 2466

List of references/bibliography and useful weblinks

SEPA homepage: ***www.sepa.org.uk***

SEPA'S WATER FRAMEWORK DIRECTIVE WEBSITE: ***http://www.sepa.org.uk/wfd/index.htm***

SCOTTISH WATER homepage: ***www.scottishwater.co.uk***

WEST LOTHIAN COUNCIL homepage: ***www.westlothian.gov.uk***

WEST LOTHIAN LOCAL PLAN 2009:
http://www.westlothian.gov.uk/1210/161/178/wllp

SCOTTISH NATURAL HERITAGE homepage: ***www.snh.org.uk***

PRIMARY LEGISLATION:

FLOOD PREVENTION (SCOTLAND) ACT 1961
http://www.opsi.gov.uk/acts/acts1994/Ukpga_19940039_en_25.htm

ROADS SCOTLAND ACT 1984 (AS AMENDED):
http://www.scotland.gov.uk/Publications/roadsscotlandact1984

TOWN AND COUNTRY PLANNING (SCOTLAND) ACT 1997:
http://www.opsi.gov.uk/acts/acts1997/1997008.htm

WATER ENVIRONMENT AND WATER SERVICES ACT 2003 (© Crown Copyright 2003)
http://www.opsi.gov.uk/legislation/scotland/acts2003/20030003.htm

THE WATER ENVIRONMENT (CONTROLLED ACTIVITIES) (SCOTLAND) REGULATIONS 2005:
http://www.sepa.org.uk/pdf/wfd/regimes/car_practical_guide.pdf

PLANNING GUIDANCE:

SCOTTISH PLANNING POLICY 1: THE PLANNING SYSTEM
http://www.scotland.gov.uk/Publications/2002/11/15751/12817

SCOTTISH PLANNING POLICY 3: LAND FOR HOUSING
http://www.scotland.gov.uk/Publications/2003/02/16499/18894

SCOTTISH PLANNING POLICY 7: "PLANNING AND FLOODING"
http://www.scotland.gov.uk/Publications/2004/02/18880/32952

PLANNING ADVICE NOTE 61: "PLANNING AND SUSTAINABLE URBAN DRAINAGE SYSTEMS"
http://www.scotland.gov.uk/Publications/2005/08/pan61/NoChildPagesFound

PLANNING ADVICE NOTE 69: "PLANNING AND BUILDING STANDARDS ADVICE ON FLOODING": ***http://www.scotland.gov.uk/Publications/2004/08/19805/41594***

PLANNING ADVICE NOTE 79: "WATER AND DRAINAGE"
http://www.scotland.gov.uk/Publications/2006/09/26152857/15

SEPA/CIRIA TECHNICAL PUBLICATIONS:

THE WATER ENVIRONMENT (CONTROLLED ACTIVITIES) (SCOTLAND) REGULATIONS 2005, PRACTICAL GUIDE: ***http://www.sepa.org.uk/pdf/wfd/regimes/car practical guide.pdf***

THE WATER FRAMEWORK DIRECTIVE; GUIDANCE, REPORTS AND PUBLICATIONS: PINT SOURCE: ***http://www.sepa.org.uk/wfd/guidance/point source.htm***

PONDS, POLLS AND LOCHANS – GOOD PRACTICE GUIDANCE ON MAXIMISING THE ECOLOGIVAL VALUE OF SUSTAINABLE URBAN DRAINAGE SYSTEMS.
http://www.sepa.org.uk/pdf/guidance/hei/ponds.pdf

THE WATER FRAMEWORK DIRECTIVE; GUIDANCE REPORTS AND PUBLICATIONS: POINT SOURCE: ***http://www.sepa.org.uk/wfd/guidance/engineering/index.htm***

SEPA's POSITION STATEMENT ON CULVERTING: ***http://www.sepa.org.uk/pdf/wfd/guidance/engineering/positionstate culvertingwatercourses.pdf***

A SEPA PLANNING AUTHORITY PROTOCOL, POLICY 41, "DEVELOPMENT AT RISK OF FLOODING: ADVICE AND CONSULTATION: ***http://www.sepa.org.uk/pdf/policies/41.pdf***

CIRIA (CULVERT DESIGN MANUAL CIRIA REPORT 168):
http://www.ciria.org/acatalog/R168.html

THE SUDS MANUAL, PUBLISHED BY CIRIA, MARCH 2007:
http://www.ciria.org/acatalog/C697.html

SEPA FLOODLINE LEAFLET
http://www.sepa.org.uk/pdf/publications/leaflets/flood/floodline_leaflet_05.pdf

FLOOD ALLEVIATION PRODUCTS
http://www.sepa.org.uk/pdf/publications/leaflets/flood/alleviation.pdf

PROTECTING YOUR PROPERTY FROM FLOODING
http://www.sepa.org.uk/pdf/publications/leaflets/flood/protecting_your_property.pdf

FLOODLINE BROCHURE
http://www.sepa.org.uk/pdf/publications/leaflets/flood/brochure_2005.pdf

GROUNDWATER PROTECTION POLICY FOR SCOTLAND
http://www.sepa.org.uk/pdf/policies/19.pdf

SEPA POLICY 22 – FLOOD RISK ASSESSMENT STRATEGY
http://www.sepa.org.uk/pdf/policies/22.pdf

SEPA POLICY NO .26 "CULVERTING OF WATERCOURSES" SEPA, 1998:
http://www.sepa.org.uk/pdf/policies/26.pdf

SEPA POLICY 34 – POLICY ON FLOOD WARNING STRATEGY
http://www.sepa.org.uk/pdf/policies/34v1_1.pdf

SEPA POLICY 41 – A SEPA/PLANNING AUTHORITY PROTOCOL – DEVELOPMENT AT RISK OF FLOODING – ADVICE AND CONSULTATION: ***http://www.sepa.org.uk/pdf/policies/41.pdf***

SEPA FLOOD MAPS: ***http://www.sepa.org.uk/flooding/index.htm***

DRAINAGE ASSESSMENT – A GUIDE FOR SCOTLAND – PUBLISHED THE SUSTAINABLE DRAINAGE SYSTEMS PUBLISHED IN 2005
http://www.sepa.org.uk/pdf/publications/leaflets/suds/drainage_assessment.pdf

WEST LOTHIAN COUNCIL LEAFLETS:

FLOOD PREVENTION REPORT 2007
No web link available
Contact West Lothian Council, Flood Prevention 01506 776554

FLOODING – WHAT YOU NEED TO KNOW (PUBLISHED 2007)
No web link available
Contact West Lothian Council, Flood Prevention 01506 776554

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