



The Department of Local Government
and the Environment

Development and Flood Risk - Guidance for the Isle of Man

THE TOWN AND COUNTRY PLANNING ACT
1999

DRAFT PLANNING POLICY STATEMENT PPS
1/09

October 2009

Consultation Details

Anyone wishing to make comments on this Draft Planning Policy Statement is asked to do so in writing making clear reference to paragraph numbers. These should be submitted to the Planning Policy Team by **Friday 29th January 2010**.

Comments can be either sent electronically to

planningpolicy@dlge.gov.im

or by post to

Planning Policy Team
Planning and Building Control Directorate
Department of Local Government and the Environment
Murray House
Mount Havelock
Douglas
Isle of Man
IM1 2SF

It should be noted that all comments and information will be made available for public viewing.

CONTENTS

1.	Foreword	3
2.	Introduction	4
3.	Sources of Flooding	5
3.1	Introduction.....	5
3.2	Sources of Flood-Water	5
3.2.1	Flooding from Rivers (Fluvial Flooding).....	5
3.2.2	Flooding from the Sea (Coastal Flooding).....	5
3.2.3	Flooding from Ground-Water.....	5
3.2.4	Flooding from Surface-Water (Pluvial Flooding).....	5
3.2.5	Flooding from Sewers and Ditches.....	6
3.2.6	Flooding from Dams and Flood Defences.....	6
3.3	Climate Change.....	6
4.	Management of Development and Flood Risk	6
4.1	Introduction	6
4.2	A Sequential Approach	6
4.3	Flood Risk Maps	7
4.4	Consultation	7
5.	Flood Risk Assessment and the Planning Process	7
5.1	What is a Flood Risk Assessment?	7
5.2	When is a Flood Risk Assessment Required?	8
5.3	When is a Floor Risk Assessment not Required?	8
5.4	Agreements Regulating Development	8
5.5	Development in Settlements within Flood Zones	8
5.6	Development having Low Vulnerability	9
5.7	Sewers for Adoption	9
5.8	Flood Risk and Sustainability	9
5.9	The Consideration of Flooding and Area Plans	10
6.	Monitoring and Review	11
7.	Glossary	12
	Annex A: Strategic Plan Policies	14

1. FOREWORD

Flooding is not a new phenomenon. It is a natural process which has shaped the Isle of Man throughout history. Fortunately, we now have a better understanding of where and when flooding may occur and how it may be affected by climate change. We know that some places may be at greater risk from flooding than others, and that this risk may increase in the future with more damaging effects. We need to use and develop this knowledge and understanding to the best of our ability and be ready to meet the challenges posed by flood risk. The guidance set out in this Planning Policy Statement, together with the associated Technical Guide and Flood Risk Maps prepared by the Department of Transport, is intended both to reassure the public that flood risk is being taken seriously at all stages of the planning process, and to assist the Department when planning for new developments across the Island.

Mr John Shimmin

Minister for Local Government and the Environment

2. INTRODUCTION

- 2.1 This Planning Policy Statement (PPS) is issued by the Department of Local Government and the Environment under section 3 of the Town and Country Planning Act 1999, and specifies the manner in which the Department intends to deal with planning applications for development which may be subject to flood risk, or which may increase the risk of flooding on other land.
- 2.2 Flooding can threaten life and cause damage to property and public infrastructure. The effects of weather events can be increased by decisions about the location, design, and nature of development, and may be affected by future climate change. Consideration of flood risk will therefore form an integral part of both the process of allocating land for development in Area Plans and the determination of planning applications.
- 2.3 This Planning Policy Statement has been formulated jointly by the Planning and Building Control Directorate of the Department of Local Government and the Environment and the Drainage Division of the Department of Transport. It should be read in conjunction with the following documents:
- (a) **The Isle of Man Strategic Plan:** General policy guidance is included in sections 6.2 and 7.12; for ease of reference, these policies are set out in Annex A to this Statement.
 - (b) **Development and Flood Risk – Guidance for the Isle of Man – A Technical Guide:** This has been prepared by the Drainage Division, and provides advice on the implementation of the guidance in this Statement, including the need for, and the preparation of, a Flood Risk Assessment.
 - (c) **Flood Risk Maps:** These too have been prepared by the Drainage Division; the implications of the Flood Zones which are marked on these Maps are explained in paragraph 4.3 of this Statement.

The Technical Guide and the Flood Risk Maps may be accessed on www.gov.im/dot/ ; they will from time to time be updated in response to a process of monitoring and review.

3. SOURCES OF FLOODING

3.1 Introduction

Flooding from rivers and coastal waters is a natural process that continues to influence the shaping of the Island's natural environment. The effects of weather events can be exacerbated by decisions about the location, design, and nature of human settlements and land uses. Although flooding cannot be wholly prevented or be predicted with complete confidence, its impacts can be reduced by good planning and management.

3.2 Sources of Flood-water

The inundation of generally dry land can occur as a result of both natural processes and human interventions. Sources of flood-water include rivers (fluvial), the sea (coastal), ground-water, direct rainfall (pluvial), sewers, drainage systems, reservoirs, ponds and lakes. All forms of flooding and their impact on the natural and built environment are material planning considerations.

3.2.1 Flooding from Rivers (Fluvial Flooding)

Fluvial flooding occurs when the amount of water in a water-course exceeds the capacity of its channel. Typically, for "natural" rivers in the British Isles, there is a slightly greater than 50% annual probability that the channel capacity will be exceeded in any given year. The area from which rainfall flows into a river is called the catchment. The catchment characteristics, such as area, shape, gradient, soils, and land-use affect the speed at which flooding can occur and thus, the impact that a flood can have.

3.2.2 Flooding from the Sea (Coastal Flooding)

Low-lying land near to the sea is vulnerable to coastal flooding from high tides and storm surges. This can be severe due to the speed at which it can occur, particularly if sea defences are breached or overtopped.

3.2.3 Flooding from Ground-water

High ground-water levels, caused by prolonged periods of rainfall, can result in flooding. Areas underlain by permeable soils or rocks, known as aquifers, are particularly vulnerable. High ground-water levels can cause the flooding of basements and low-lying areas, and can result in the establishment of ground-water springs.

3.2.4 Flooding from Surface-water (Pluvial Flooding)

Urban areas are particularly prone to pluvial flooding which results from intense rainfall. Non-porous surfaces increase run-off which can overwhelm urban drainage systems and result in flooding. Pluvial flooding can also occur in non-urban areas where rainfall is unable to soak into the ground due to the steep gradient of the land or to underlying geology.

3.2.5 Flooding from Sewers and Ditches

Man-made drainage systems generally comprise networks of sewers and ditches that eventually discharge to rivers and the sea. Flooding from sewers and ditches can occur when they become overwhelmed by catchment run-off, become blocked, or are subject to tide-blocked conditions which prevent free discharge.

3.2.6 Flooding from Dams and Flood Defences

Flooding can also be caused by failure of structures that retain water, such as dams and flood defences. Owing to the likely speed at which structural failure can occur, the flooding can be severe.

3.3 Climate Change

There is a growing body of evidence that climate change is having an effect on global weather systems, and is likely to cause more extreme and variable weather conditions. With progressive climate change, it is predicted that the Island may experience increasing climatic variability, including changes in seasonal rainfall patterns, sea-level rise, increased frequency and severity of sea storm surges, and increased storm intensity and frequency. These kinds of changes would have major implications for fluvial, coastal, groundwater, pluvial, and sewer flooding on the Island.

4. MANAGEMENT OF DEVELOPMENT AND FLOOD RISK

4.1 Introduction

The Planning Process can be used to reduce flood risk in two separate ways – by Development Control, and through the Area Plans. Whilst this Planning Policy Statement is primarily concerned with Development Control, it is nevertheless appropriate to include as background information an indication of how flood risk is being considered in the preparation of the Area Plans.

4.2 A Sequential Approach

The Department is adopting a sequential approach to the identification, allocation, and development of land, whereby land with a low probability of flooding is developed before that which has a higher probability of flooding. This approach is being adopted for fluvial and coastal flooding, for which there is a sound evidence-base for assessing the risk, and a general acceptance that flooding from these sources is not only more likely, but also more severe. This approach is derived from the “precautionary principle”, which holds that, when there is a risk of serious or irreversible damage, the lack of full scientific certainty should not be used as a reason for postponing cost-effective measures to avoid or manage the risk.

4.3 Flood Risk Maps

The extent of areas at risk from flooding cannot be defined precisely. This is due to the complexity of the conditions that combine to cause flooding, such as the severity of the weather, the local topography, and the effects of existing infrastructure and development. However, in the case of fluvial flooding associated with those rivers designated under the Land Drainage Act 1934 as “Main Rivers”, and in the case of our coastal towns, there are sufficient data and evidence to produce maps on which it has been possible to mark “Flood Zones”. Land outside of these Zones is considered to be at low risk of flooding from Main Rivers and the sea, although it may be at risk from other sources. Main Rivers are, typically, our larger streams and rivers, but also included are smaller water-courses of strategic drainage importance. The Flood Zones indicate the extent of river-flooding with a 1% chance of happening in a year, and the extent of sea-flooding with a 0.5% chance of happening in a year. Flood Zones include an allowance for climate change, and ignore the presence of any existing flood defences.

4.4 Consultation

Whilst the Flood Risk Maps are available for viewing on or downloading from the Department of Transport’s web-site (Drainage Division), it is essential that, if a sequential, risk-based approach to flooding is to succeed, there should be collaboration between the Department, the Drainage Division of the Department of Transport, applicants for planning permission, land-owners, and developers. This will involve consultation. In particular, prior to land acquisition or the submission of a planning application for development which may be susceptible to flooding, it is recommended that there should be consultation with the Department and, if so recommended, the Drainage Division also. This process should help to identify the nature, probability, and extent of flooding likely to affect the site, and to formulate a site-specific Flood Risk Assessment.

5. FLOOD RISK ASSESSMENT AND THE PLANNING PROCESS

5.1 What is a Flood Risk Assessment?

A Flood Risk Assessment (FRA) is defined in Appendix 1 to the Strategic Plan as follows:

“A document which assesses the likelihood of flooding in a particular area, so that judgements can be made about the feasibility of flood mitigation measures and whether development should be allowed or not.”

Appendix 4 to the Strategic Plan sets out general guidance for the undertaking of a Flood Risk Assessment, and more detailed information is given in the Technical Guide.

5.2 When is a Flood Risk Assessment Required?

Flood risk needs to be assessed both as part of the preparation of Area Plans and as part of the Development Control process. If a proposed development is likely to be at risk from flooding, or likely to contribute to off-site flooding, a FRA will be required to support the planning application. In terms of content, the FRA should be proportionate to the scale and nature of the development and the anticipated level of flood risk. The objectives of each FRA should be researched and defined, in consultation with the Department of Local Government and the Environment or the Drainage Division of the Department of Transport if necessary. The application, even if only in principle, must show full details of all drainage works, including soakaways.

5.3 When is a Flood Risk Assessment not Required?

If a proposed development is not likely to be at risk from flooding, and is not likely to contribute to off-site flooding, the reasoning which has led to this conclusion should be set out in the planning application, but there is no requirement to submit a FRA as such. If development constitutes Permitted Development, there is no requirement to make a planning application, but it is nevertheless recommended that, where a site lies within an identified Flood Zone or is close to a water-course, there should be consultation with the Drainage Division to discuss what, if any, precautions should be taken.

5.4 Agreements Regulating Development

Where flood defence measures are needed to protect a development, the developer may be required to bear the cost of not only all necessary construction works but also long-term maintenance of those works. Legal agreements may need to be formulated, either with the Department of Local Government and the Environment or with the Department of Transport, particularly in respect of future maintenance (where a commuted sum and an adoption agreement may be appropriate) or off-site works. Where flood defence measures would have benefits beyond the site, there may arise the possibility of a scheme which is jointly funded by the developer and the Government. All flood defence measures, including surface-water drainage systems, should be sustainable, and applications should include evidence to demonstrate that this is so.

5.5 Development in Settlements within Flood Zones

Development is often proposed in those parts of our existing settlements which are designated as Flood Zones on the Flood Risk Maps. These sites may comprise previously developed land, unused land, or infill plots. Decisions on the suitability of development in Flood Zones will be subject to the application of the Sequential Approach (see 4.2). Development may be permitted, provided it can be demonstrated that the site has the appropriate level of flood protection, and that the development will not increase the probability of flooding to the surrounding environment. Generally, the risk of flooding will be reduced by allowing new development only in suitable locations, and

through the design of Sustainable Drainage Systems (SUDS), surface-water management plans, and flood-storage solutions. In some cases, such as quaysides and sea-fronts, redevelopment may be proposed, but flood defences may be impossible or impractical. Here, “Resilience Measures” may be appropriate. These might include locating flood-vulnerable elements above the predicted high risk flood level, and ensuring that the building is able to accommodate flood water safely (e.g. by locating the electrical services above flood level).

5.6 Development having Low Vulnerability

Recreational open spaces, gardens, public toilets and changing-rooms, and agricultural land are classed as “low vulnerability development”, and will therefore be permitted within Flood Zones, subject to a satisfactory FRA being produced. Occasionally, it may be necessary to site public infrastructure and buildings within Flood Zones.

5.7 Sewers for Adoption

Proposed sewerage systems must be designed in accordance with Manx Sewers for Adoption (Department of Transport, 2008) if it is intended to link to the public sewerage system.

5.8 Flood Risk and Sustainability

Central to the Strategic Aim set out in the Strategic Plan is the concept of “Sustainable Development”. This can be defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. Appraising, managing, and reducing flood risk are key considerations in achieving sustainable development on the Island. Key sustainable development objectives relating to flood risk include:

- Ensuring that sensitive, critical, or vulnerable development is not located in Flood Zones without strong justification, full awareness of the risks, and acceptability of the consequences.
- Limiting the need for public funds to sustain long-term flood defences and to protect other assets associated with new developments.
- Anticipating future climate-change impacts on the probability of flooding, and ensuring that new development is designed to accommodate future flood events.

Meeting these objectives will prevent inappropriate development in areas at high risk of flooding, and direct vulnerable development away from areas at highest risk. Where development is necessary in areas of high flood risk, the aim is to ensure that it is safe and sustainable, and, where possible, reduces the impact of flooding to the surrounding environment.

5.9 The Consideration of Flooding in Area Plans

Flood risk will be managed not only through development control, but also through the Area Plans, which will identify suitable areas for development which avoid areas at risk from flooding and sea-level rise, with the aims of protecting people and property, and managing any residual risk. However, the need and desire to live close to water have led, historically, to extensive development in floodplains. It is therefore necessary to accept that, although the Area Plans will be formulated in accordance with the overall aims of the Strategic Plan Policies to deter development on land where there is a high probability of flooding, some development is likely to be required within existing settlements for economic and social reasons. In these cases, appropriate development will be permitted, but policy will still require that the development is sustainable in terms of flood risk. The focus in these circumstances will be on using redevelopment and new development to reduce flood risk to existing communities.

Generally, before allocating sites for development on Area Plans, the Department will take into account the following:

- Evidence provided on the Flood Risk Maps.
- Any other current advice from the Drainage Division of the Department of Transport.
- The results of the Site Selection process using the Site Assessment Framework.
- The Strategic Plan and any other current relevant guidance.

It should be noted, however, that a detailed, site-specific Flood Risk Assessment will still be required before an allocated site is considered for development.

Consideration of flooding in the early stages of the formulation of Area Plans should also ensure that opportunities to provide sustainable benefits for the wider community are maximised. There may, for instance, be opportunities to reduce and manage flood risk by providing for flood storage on a catchment-wide basis. The cost effectiveness of such solutions can be assessed, and appropriate schemes can be promoted.

6. MONITORING AND REVIEW

Effective monitoring and review are essential to reducing and managing flood risk. The Department of Local Government and the Environment and the Drainage Division of the Department of Transport will work together to improve knowledge about flooding on the Island. This will be valuable when preparing Area Plans, when assisting those preparing Flood Risk Assessments, and when considering planning applications. There is not only an ever-increasing fund of information relating to flood risk from all sources on the Island, but also an improving range of methods for using this information to reduce flood risk. The Technical Guide will therefore be updated from time to time to accommodate the most up-to-date information available.

In order to assess the effectiveness of the policy framework on flooding, the two Departments propose to:

- Monitor the standard of Flood Risk Assessments being submitted and the circumstances in which they have been deemed necessary.
- Monitor the complexity of the FRAs required and any problems associated therewith.
- Measure how effective the FRAs are at helping decision-making.
- Record the circumstances and nature of requirements for mitigation measures.
- Ensure that there is a system of recording the incidence and severity of floods, linked with the evidence-gathering process which forms part of Area Plan preparation.
- Monitor how the Flood Risk Maps influence the allocation of land for development in Area Plans.

7. GLOSSARY

Area Plan

A plan as described in section 2(3) of the Town and Country Planning Act 1999, forming part of the Island Development Plan.

Flood Risk Assessment (FRA)

A document which assesses the likelihood of flooding in a particular area, so that judgements can be made about the feasibility of flood mitigation measures and whether development should be allowed or not.

Flood Risk Maps

Maps prepared by the Drainage Division of the Department of Transport which identify areas which are at higher risk than others of flooding from Main Rivers and the sea.

Flood Zones

Flood Zones are marked on the Flood Risk Maps, and indicate the extent of river-flooding with a 1% chance of happening in a year, and the extent of sea-flooding with a 0.5% chance of happening in a year.

Main Rivers

Rivers designated as Main Rivers by the Department of Transport under the Land Drainage Act 1934.

Permitted Development

Development which is for the time being the subject of an Order made under section 8 of the Town and Country Planning Act 1999, whereby planning approval is granted for that development or for development within a class specified in the Order.

Planning Policy Statement (PPS)

A statement of policy issued by the Department of Local Government and the Environment under section 3 of the Town and County Planning Act 1999.

Resilience Measures

Measures which improve the convenience and safety of a building where flood prevention is not possible.

Sequential Approach

A risk-based approach whereby land with a low probability of flooding is developed before land which has a higher probability of flooding.

Site Assessment Framework

A framework used by the Department of Local Government and the Environment for assessing sites which have potential for development for residential and employment purposes when preparing Area Plans.

Site Selection Process

The process by which the Department of Local Government and the Environment identifies sites to be allocated in Area Plans for development.

Strategic Plan

The Isle of Man Strategic Plan, Government Report 023/07, adopted by the Department of Local Government and the Environment in June 2007 and approved by Tynwald in July 2007. The Strategic Plan forms the first part of the Island Development Plan.

Sustainable Drainage Systems (SUDS)

The range of sustainable approaches to surface water drainage management, including source control measures, infiltration devices, filter strips and swales, porous pavements, and ponds to hold excess water after rain and allow controlled discharge.

Technical Guide

A document providing advice on the implementation of the guidance set out in this Planning Policy Statement, including the preparation of Flood Risk Assessments. The Guide has been prepared, and is from time to time updated, by the Drainage Division of The Department of Transport.

ANNEX A: STRATEGIC PLAN POLICIES

The Strategic Plan includes general policy guidance on flooding in sections 6.2 and 7.12. For ease of reference, these policies are set out below:

- General Policy 2:** *Development which is in accordance with the land-use zoning and proposals in the appropriate Area Plan and with other policies of this Strategic Plan will normally be permitted, provided that the development:*
- (k) does not prejudice the use or development of adjoining land in accordance with the appropriate Area Plan; and*
 - (l) is not on contaminated land or subject to unreasonable risk of erosion or flooding.*
- Environment Policy 10:** *Where development is proposed on any site where in the opinion of the Department of Local Government and the Environment there is a potential risk of flooding, a flood risk assessment and details of proposed mitigation measures must accompany any application for planning permission. The requirements for a flood risk assessment are set out in Appendix 4.*
- Environment Policy 11:** *Coastal development will only be permitted where it would not:*
- (i) increase or transfer the risk of flooding or coastal erosion through its impact on natural coastal processes;*
 - (ii) prejudice the capacity of the coast to form a natural sea defence; and*
 - (iii) increase the need for additional coast protection works except where necessary to protect existing investment or development.*
- Environment Policy 12:** *New coastal defence works must not have an unacceptable impact on the character, appearance, ecology, archaeology or natural processes of the coastal environment.*
- Environment Policy 13:** *Development which would result in an unacceptable risk from flooding, either on or off-site, will not be permitted.*