

7 Water, Drainage and Environmental Services

Aim: To develop, protect, improve and extend water, waste water and flood alleviation and environmental services throughout the county and to prioritise the provision of water services infrastructure to complement the overall strategy for economic and population growth and to achieve improved environmental protection.

7.1 Background

The capacity of the county to accommodate future development is partly dependent on constraints and limits in the provision of adequate supplies of water and drainage facilities. There is a clear need to provide a high quality water supply and drainage infrastructure to ensure the long-term physical, environmental, social and economic development of the county. The Council will seek to ensure that water supply and drainage infrastructure including the upgrading of existing infrastructure, is fully integrated with the planning system to ensure timely and adequate provision.

The county's position within the Greater Dublin Area will inevitably lead to further growth throughout the county during the period of this Plan. The settlement strategy for Kildare identifies a need to accommodate a further c.28,000 housing units (c.51,000 persons) by 2017. This level of growth, (which does not include parallel commercial development) highlights the need for continued investment in infrastructure in the county. The issue of flooding in both the county and at regional level is particularly important and must also be addressed in a comprehensive and sustainable manner.

7.2 Infrastructure Provision

7.2.1 Water

The combined historical impacts of increased population and associated, industrial / commercial development has resulted in water demands increasing by over 50% between 2003 and 2009 from 50,000 cubic metres per day to 80,000 cubic

metres per day (17.6 million gallons).

Approximately 94% of the water supply to the county is sourced from outside Kildare – primarily from regional plants at Ballymore Eustace (Dublin City Council) and Leixlip (Fingal County Council). The Council will therefore strive to provide for key water supply projects to facilitate the future development of the county.

7.2.2 Wastewater

Wastewater collection and treatment capacity has struggled to keep pace with development. Many networks and plants in the county are operating at capacity, with consequential negative impacts on receiving water quality. Wastewater treatment facilities are available at a number of plants and are supported with associated networks. The largest plants are at Leixlip and Osberstown. Both plants have an existing design capacity of 80,000 population equivalent (PE). The Osberstown Plant is currently operating at or close to capacity. The provision of additional treatment and network capacity in the Osberstown catchment is imperative to address current water quality issues, to facilitate development that has been unable to take place due to capacity constraints at the plant and to permit the county to fulfil its strategic economic role identified in the Regional Planning Guidelines.

7.2.3 Strategic Infrastructure

The county is inextricably linked and dependent on strategic national / regional solutions to the provision of future water and wastewater infrastructure. The development of a new regional water supply source and the implementation of the recommendations of the Greater Dublin Strategic Drainage Study are central to the long term sustainable development of the county.

7.2.4 Flooding

Whilst a number of flood alleviation measures have already been put in place in the county, the continued management, minimisation and mitigation of flood risk is essential for the future sustainable development of the county. This is dependent on securing investment to facilitate same. The Council will strive to ensure that flood risk identification, assessment and management avoidance are integrated with the planning system.

7.3 Policy / Legislative Context

The provision of water, drainage and environmental services must have regard to relevant policy and legislative provisions which are outlined in the following sections.

7.3.1 Water Services Act (2007)

The Water Services Act 2007, provides the legislative framework in relation to the planning, management and delivery of water supply and wastewater collection and treatment services. It incorporates a comprehensive review, update and consolidation of all existing water services legislation and facilitates the establishment of a comprehensive supervisory regime to ensure compliance with specified performance standards.

7.3.2 Water Framework Directive (2000)

The EU Water Framework Directive (2000/60/EC), was adopted in 2000 as a single piece of legislation covering rivers, lakes, groundwater, transitional (estuarine) and coastal waters together with heavily modified and artificial waterbodies. It seeks to prevent further deterioration of and the protection, enhancement and restoration of the status of all bodies of water with the aim of achieving at least "good" ecological status by 2015. Management of water quality is to be centred on river basins, through the implementation of River Basin Management Plans (RBMP). In the case of Kildare the relevant plans include the South Eastern (River

Barrow catchment) and Eastern River Basin Districts (River Liffey and River Boyne catchments).

These plans set out a Programme of Measures for implementation to ensure the objectives are achieved within specified timeframes.

The Environmental Protection Agency co-ordinates the activities of the River Basin Districts, Local Authorities and State Agencies in implementing the Directive.

7.3.2.1 Protected Areas in the Eastern and South Eastern River Basin Districts

Within the Eastern and South Eastern River Basin Districts, there are a number of areas that have a special status for environmental reasons. Many of these areas are designated at European level (for example Special Protected Areas under the Birds Directive and Special Areas of Conservation under the Habitats Directive). There are also nationally designated areas such as Natural Heritage Areas. These protected areas come within the remit of the National Parks and Wildlife Service and are listed in the relevant River Basin Management Plans prepared under the Water Framework Directive.

7.3.3 Ground Water Protection Scheme (2004)

Groundwater is protected under EU and National legislation. Local Authorities and the Environmental Protection Agency have responsibility for enforcing this legislation. The Geological Survey of Ireland (GSI), in conjunction with the Department of the Environment, Heritage and Local Government and the EPA have issued guidelines on the preparation of groundwater protection schemes. A Groundwater Protection Scheme for County Kildare was prepared in 2004 by the GSI in partnership with Kildare County Council.

7.3.4 Greater Dublin Area Strategic Drainage Study (2005)

The Greater Dublin Area Strategic Drainage Study completed in 2005 investigated sewerage, drainage and river systems in the GDA to 2031. The study identified new practices, processes and techniques to take advantage of the latest developments in hydraulic monitoring, geographical information systems and database management. Regional and local policies should incorporate up to date and best practice in drainage design, operation and management. A co-ordinated regional approach will be required to deliver on the recommendations.

7.3.5 Sustainable Urban Drainage Systems (SuDS)

Sustainable Urban Drainage Systems (SuDS) are advocated within the Greater Dublin Strategic Drainage Study with an objective to ensure that any future development does not increase flooding or pollution of rivers. The system aims to mimic the natural drainage of a site to minimise the effect of a development on flooding and pollution of waterways.

7.3.6 The Planning System and Flood Risk Management - Guidelines for Planning Authorities (November 2009)

The guidelines, issued by the Department of the Environment, Heritage and Local Government, introduced a comprehensive mechanism for the incorporation of flood risk identification, assessment and management into the planning process at national, regional and local level.

This Plan will seek to:

- (i) Avoid development in areas at risk of flooding, particularly flood plains, unless there are proven sustainability grounds that justify appropriate development and where flood risk can

be reduced or managed to an acceptable level, without increasing flood risk elsewhere;

- (ii) Adopt a sequential approach to flood risk management when assessing the location for new development based on the avoidance, substitution, justification and mitigation of flood risk; and
- (iii) Incorporate flood risk assessment into all stages of the planning process.

At local level there is a requirement that the County Development Plan establishes the flood risk assessment requirements for its functional area to include other planning authorities such as Town Councils and any Local Area Plans.

In addition planning authorities are required to assess planning applications for development in accordance with the provisions of the Guidelines, their own Strategic Flood Risk Assessment or any OPW Strategic Flood Risk Assessment.

7.3.6.1 Legislative Context – Flooding

The following items of legislation which deal with flood risk are currently in existence:

- Arterial Drainage Act, 1945 and in particular Section 50 of said Act which sets out the requirements on all bodies to gain permission from the Office of Public Works for culverting water courses; and bridges across watercourses. Section 47 of the Act states that any person planning to erect or alter a weir must first get consent from the Commissioners or all the affected landowners (ESB is exempt from this requirement). Section 9 of the Arterial Drainage (Amendment) Act 1995 relates to modification or relocation of watercourses, embankments or other works.

- Directive 2007/60/EC of the European Parliament and of the Council of the 23rd of October 2007 on the assessment and management of flood risk. This directive is aimed at reducing and managing risks that flooding poses to human health, the environment, cultural heritage and economic activity. The directive requires Member States to carry out a preliminary assessment by 2011, which will determine the various river basins, flood risk maps by 2013 and flood risk management plans by 2013; and flood risk management plans by 2015. The directive was transposed into law by Statutory Instrument SI No. 122 of 2010 " European Communities (Assessment and Management of Flood Risk) Regulations 2010".
- The Roads Act 1993 which empowers the Local Authority to enter upon private lands to ensure that traffic arteries are kept clear of surface water flooding.

7.3.7 Rural Water Programme (2009)

The 2009 Rural Water Programme is funded under the *Water Services Sub-Programme* of the NDP 2007-2013 and provides for a range of new and improved rural water infrastructure, mainly to improve drinking water quality in community owned group water schemes.

A *Rural Water Strategic Plan* has been prepared to deliver water as efficiently and effectively as possible to rural County Kildare.

7.3.8 EPA – Code of Practice for Wastewater Treatment and Disposal Systems Serving Single Houses (2009).

The code of practice establishes an overall framework of best practice in relation to the

development of wastewater treatment and disposal systems, in unsewered rural areas, for protection of the environment and specifically water quality. It replaces previous guidance and incorporates the requirements of new European Standards (EN 12566 Series) and recent research findings.

Circular PSSP 1/10 issued by the Department of the Environment, Heritage and Local Government advises planning authorities in relation to three key requirements arising from the Code of Practice in the discharge of functions under planning legislation, namely:

- (i) A thorough site assessment in accordance with the Code of Practice in the case of every relevant development proposal;
- (ii) The selection of an on site wastewater disposal system that is suitable to local conditions; and
- (iii) The installation, commissioning and periodic maintenance of on site systems by the developer and the occupants of the permitted development.

7.3.9 Regional Planning Guidelines for the Greater Dublin Area (2010-2022)

Continued investment in waste water treatment is advised during the period of the RPGs (i) to ensure high water quality standards to meet the Water Framework Directive targets, and (ii) to ensure necessary new economic and housing developments can take place in the most optimal locations, particularly the continued consolidation of the Dublin Gateway and major growth towns. Local Authorities are advised to assess existing systems on a catchment basis and identify funding for the renewal, upgrading and replacement of surface water infrastructure where needed to meet existing and future demands.

7.3.10 Habitats Directive

Articles 6 (3) and 6 (4) of the Habitats Directive require an Appropriate Assessment of any plan or project whether within or outside a designated Natura 2000 site, which does not directly relate to the management of the site but may impact upon its conservation objectives.

The assessment is based on best scientific knowledge, by a person with ecological expertise. It addresses the potential impacts of the plan or project on the conservation objectives of any Natura 2000 site. The impact assessed must include the indirect and cumulative impacts of approving the plan or project, together with any current or proposed activities, developments or policies impacting on the site. The potential impacts of policies outside Natura 2000 sites but potentially impacting upon them (known as 'ex situ' impacts) must also be included in the assessment.

Guidelines issued by DoEHLG entitled *Appropriate Assessment of Plans and Projects in Ireland, Guidance for Planning Authorities* (or any amendments to these guidelines) should be referenced in this regard.

A project or plan may only proceed if it can be concluded on the basis of Appropriate Assessment that there will be no adverse effects on the integrity of a Natura 2000 site. If adverse effects are likely, or in cases of doubt, then derogation under Article 6 (4) shall apply, but only in cases of imperative reasons of over-riding public interest.

7.4 Strategy

The development of a sustainable water supply, wastewater and drainage service in the county seeks to provide for high quality water supply, drainage and other infrastructure. In this regard the strategy seeks to preserve the capacity of water and wastewater services primarily for the use of developments within County Kildare and to make provision for improved and additional wastewater

services on a planned basis in accordance with the county's strategy and the Council's Assessment of Needs 2010 – 2012.

The alleviation of flood risk and the consequences of flooding including the provision of Flood Management Systems throughout the county is also a key component of the water services strategy.

7.5 Water Services Investment Programme – Assessment of Needs 2010-2012

Local authorities are required to prepare an "Assessment of Needs" for water services capital works in their areas at regular intervals. This highlights the strategic context within which the county is set and the current constraints facing the county particularly in relation to water supply and wastewater treatment. These assessments provide the basis for scheme approval and scheduling under the Water Services Investment Programme. In 2009 a 'Needs Assessment' was prepared by the Council, which will inform the Water Services Investment Programme for the period 2010 – 2012.

Water Supply Projects

The Council is seeking to advance to construction stage, the following projects:

- (i) Water Treatment Plant at Srowland, Athy.
- (ii) Network improvements to facilitate a revised water distribution regime including a strategic link from Castlewarden to Ballygoran and the augmentation of the Ballygoran reservoir.
- (iii) Continued expansion of the Groundwater Abstraction Programme including proposed Wellfields at Johnstownbridge and Robertstown.

- (iv) Network improvements to optimise use of groundwater.

Wastewater Projects

The Osberstown wastewater treatment plant (WWTP) has an existing design capacity of 80,000 population equivalent (P.E.) and is subject to EPA waste water discharge licence. The Council is seeking to address the capacity constraints at Osberstown WWTP as a priority to facilitate development particularly in the Naas area. It is envisaged that the earliest date for completion of Phase 1 (increase in capacity to cater to 100,000PE) would be 2013 with Phase 2 (increase in capacity to 130,000 PE) by 2014. There are a number of other projects on the priority list including the Kildare Town Sewerage Scheme.

Category of Need

A list of priority projects under four broad categories of need has been drawn up and submitted to the Department of the Environment, Heritage and Local Government for consideration.

- Category 1: Water conservation proposals.
- Category 2: Works required to meet European Court of Justice Judgments.
- Category 3: Environment / public health objectives.
- Category 4: Works to support sustainable development and employment creation.

The Stage 3 upgrade of Osberstown WWTP is top of the Council's priority list in two of the above categories (Category 2 and 4) with the Regional Mains Rehabilitation Project (ongoing) in Category 1 and the Lower Liffey Valley Regional Sewerage Scheme, Leixlip, Network Improvement in Category 3.

7.6 Water and Drainage Policies

7.6.1 Water Supply

Kildare County Council is the Water Services Authority for the county and is responsible for providing and maintaining adequate public water supply infrastructure. It continues to invest in the improvement of existing development of new water services supplies, in accordance with the Water Services Investment Programme.

It is the policy of the Council:

- WS 1: To secure priorities outlined in the Water Services Investment Programme - Assessment of Needs 2010 to 2012, subject to the availability of finance.
- WS 2: To ensure that all villages and settlements are provided with an adequate water supply within the limits of cost effectiveness and the availability of finance.
- WS 3: To upgrade the existing water supply network infrastructure with the aim of improving the supply and quality of drinking water and reducing the level of unaccounted for water.
- WS 4: To promote conservation of water resources and where possible, effect a reduction in the overall demand for treated water.
- WS 5: To promote water conservation measures within the county by requiring, where appropriate, the installation of water meters in all new residential units and commercial development and in units where planning permission is required for an extension.
- WS 6: To protect groundwater resources having regard to the County Kildare Groundwater Protection Scheme.

- WS 7: To promote the proper management of Group Water Schemes in accordance with the Rural Water Strategic Plan.
- WS 8: To have regard to the requirements of the Habitats Directive, in all proposed projects or plans.
- WS 9: To co-operate with adjoining authorities and other public authorities regarding the servicing of towns bordering or in proximity to the county boundary including Enfield, Kilcock and Maynooth.

7.6.2 Water Quality

The maintenance and improvement of water quality is a key objective of the River Basin Management Plans and other legislative provisions. The European Communities (Drinking Water) (No. 2) Regulations 2007 (S.I. No. 278 of 2007) transpose outstanding aspects of the EU Drinking Water Directive into Irish Law by underpinning comprehensive supervision and maintenance regimes for both sanitary authority and group water scheme supplies and by providing for increased penalties for non-compliance. Achieving and improving appropriate water quality standards is of significant importance to the Council.

Drinking water quality in Kildare is monitored on an agency basis, by the Environmental Health Service of the Health Service Executive (HSE) in accordance with the Council's 2007 Drinking Water Monitoring Plan, to ensure compliance with the current Drinking Water Regulations.

It is the policy of the Council:

- WQ 1: To co-operate with the EPA and other authorities, in the continued implementation of the EU Water Framework Directive and assist and co-operate with the lead authorities for the Eastern River Basin District and the South Eastern River Basin District.

- WQ 2: To ensure, through the implementation of the River Basin Management Plans and their associated Programmes of Measures and any other associated legislation, the protection and improvement of all drinking water, surface water and ground waters throughout the county.

- WQ 3: To work, in co-operation with relevant organisations and major stakeholders, to ensure a co-ordinated approach to the protection and improvement of the county's water resources.

- WQ 4 : To continue efforts to improve water quality under the Local Government (Water Pollution) Act 1977, (as amended) and by implementing the measures outlined under the Nitrates Directive (91/676/EEC) and complying with the requirements of the Surface Water Legislation Environmental Objectives (Surface Waters) Regulations 2009 and other relevant Regulations.

- WQ 5: To promote public awareness of water quality issues and the measures required to protect both surface water and groundwater bodies.

7.6.3 Wastewater

The Council provides public wastewater collection, treatment and disposal facilities. The largest wastewater treatment plants are located at Leixlip, (serving Kilcock, Maynooth, Celbridge, Leixlip and Straffan) and Osberstown (serving Naas, Newbridge, Kilcullen, Athgarvan, Prosperous, Sallins, Clane and Kill).

Deficiencies in wastewater services act as a barrier to the economic development of the county. These deficiencies also undermine the ability of the Council to support an increase in population levels. Throughout the county it may also impact on the distribution of growth as identified in the settlement and economic strategy.

The Council will have regard to all relevant waste water legislation particularly sections 43 and 44 of the Waste Water Discharge (Authorisation) Regulations 2007.

It is the policy of the Council:

- WW 1: To secure priorities outlined in the Water Services Investment Programme - Assessment of Needs 2010 to 2012, subject to the availability of finance.
- WW 2: On completion of the upgrade of Osberstown Waste Water Treatment Plant to 130,000 P.E., to reserve and allocate 20,000 P.E. of total capacity to development that yields long term sustainable employment (excluding construction phase).
- WW 3: On completion of the upgrade of Leixlip Waste Water Treatment Plant to 150,000 P.E., to reserve and allocate 30,000 P.E. of total capacity to development that yields long term sustainable employment (excluding construction phase).
- WW 4: To seek to ensure that all towns and villages are provided with an adequate waste water treatment plant within the limits of cost effectiveness and availability of finance.
- WW 5: To ensure that the siting of all waste water systems will have regard to the County Kildare Groundwater Protection Scheme.
- WW 6: To ensure that all wastewater developments will have regard to the policies as expressed in the Greater Dublin Strategic Drainage Study.
- WW 7: To co-operate with adjoining authorities and other public authorities regarding the servicing of towns bordering or in proximity

to the county boundary including Enfield, Kilcock and Maynooth.

- WW 8: To implement the relevant recommendations set out in 'Urban Waste Water Discharges in Ireland for Population Equivalents Greater than 500 Persons – A Report for the Years 2006-2007' (EPA 2009).
- WW 9: To take into account cumulative discharges from other developments within the catchment when assessing developments that discharge to a watercourse.
- WW 10: To provide or facilitate the provision of only one main municipal treatment plant in each settlement.

7.6.4 Surface Water and Flood Alleviation

The control of surface water and appropriate measures for eliminating flood risk is part of the Council's sustainable water services policy.

The Office of Public Works (OPW) is the lead agency for flood risk management in Ireland. The co-ordination of Government Policy in terms of flood risk identification, assessment and management is the responsibility of the OPW and as such it is primarily charged with ensuring Ireland's compliance with its legal obligations in relation to flood risk.

The Council is charged with implementing and complying with the DoEHLG's Planning System and Flood Risk Management Guidelines (2009). The Council is also responsible, in liaison with the OPW, for the implementation of the Water Services Flood Alleviation Capital Programme 2009-2013.

Owners of land along the riparian zones have responsibility to maintain land and drains that flow through private lands and that do not form part of a drainage district. Maintenance of the River Liffey is

also the responsibility of the riparian landowners that bound the river's channel.

7.6.4.1 Flood Alleviation

Flooding presents a risk only when people, their property and/or environmental assets are present in the area which floods. Flooding can occur in a number of ways comprising;

- Overland flow, which occurs when the land upon which precipitation falls is saturated and not capable of further absorption. This excess flow crosses overland and deposits in low lying areas.
- River flooding which occurs when the capacity of a watercourse's channel is exceeded, blocked or restricted. The excess water spills out from the channel onto adjacent low lying areas;
- Flooding from an artificial drainage system, such as a petrol interceptor or an urban storm water drainage system, occurs when waters entering such a system exceeds the outlet capacity and overtops;
- Groundwater flooding, which occurs when the level of water in the ground rises, as a result of prolonged rainfall, to meet the ground surface and flows over it. This overland flow again deposits in the low lying areas.

In general terms, increases in flood risk, due to development, may be caused:

- Upstream by restricting the capacity of a watercourse and its floodplain and
- Downstream by decreasing the capacity of a floodplain system and the available storage. Altering routes and channel sizes which can increase the levels of

flow discharged to downstream areas can also increase the flood risk to a particular area.

The County Development Plan review process commenced in May 2009. The document entitled *'The Planning System and Flood Risk Management Guidelines for Planning Authorities'* was published in November 2009. Kildare County Council has carried out a Strategic Flood Risk Assessment as required by these guidelines. The SFRA is a county-wide assessment of flood risk to inform strategic land-use decisions with the purpose of ensuring that flood risk management is fully integrated into the Development Plan. The SFRA identifies areas of flood risk by reference to data available from the following sources:

- Locations of flood hazard / flood risk as identified on flood maps provided by the Office of Public Works through its website www.floodmaps.ie. This web page displays the Flood Maps and provides tools and options on the page to search for and display information about selected flood events. Additional mapped information, such as the Ordnance Survey of Ireland background maps, rivers, hydrometric gauge stations, drainage districts and land benefiting from drainage schemes are also integrated with these flood maps.
- The Barrow Drainage Board which is tasked with the duty of maintaining the Barrow and its tributaries from its source in the Slieve Bloom mountains in Offaly to the Horse Bridge in Athy. The Barrow Drainage Board was established under the Barrow Drainage Acts 1927 and 1933.
- Flood Study Reports and Flood Relief Schemes which have been or are

being carried out for a number of areas within the County with a history of flooding.

- 6" Ordnance Survey maps include areas which are marked as being "Liable to Floods". The exact areas are not delineated but give an indicative location of areas which have undergone flooding in the past. In addition, the maps indicate areas of wet or hummocky ground, bog, marsh, springs, rises and wells as well as surface water features including rivers, streams, bridges, weirs and dams.
- Local Authority personnel in regard to historical flooding and flood relief works in the areas under consideration.
- The Strategic Flood Risk Assessment is a live document and any updates to it including the identification of flood zones will inform future planning decisions throughout the county.

7.6.4.2 Sequential Approach

A sequential approach to planning is a tool that is key in ensuring that new development is directed towards land that is at a low risk of flooding. The sequential approach makes use of flood risk assessment and of prior identification of flood zones for river flooding. It is also essential that the risk potentially arising from other sources of flooding should also be taken into account in all areas and stages of the planning process.

In summary, the planning implications for each of the flood zones are as follows:

- Zone A – High Probability of Flooding:

Most types of development are considered inappropriate for this zone and development in this zone is to be

avoided in all but exceptional circumstances such as in the case of essential infrastructure that cannot be located elsewhere;

- Zone B – Moderate Probability of Flooding:

Highly vulnerable development will be considered inappropriate for this zone unless the requirements of the justification test, as set out in, *The Planning System and Flood Risk Management – Guidelines for Planning Authorities (2009)* are met. Highly vulnerable developments are those such as care homes, hospitals, dwellings, Garda Stations, etc.

- Zone C – Low Probability of Flooding:

Development in this zone is appropriate from a flood risk perspective but would need to meet the normal range of other proper planning and sustainable development considerations.

The following matrix illustrates those types of development that would be appropriate to each flood zone and those that would be required to meet the Justification Test as set out in *The Planning System and Flood Risk Management – Guidelines for Planning Authorities (2009)*.

Table 7.1 Sequential Approach to Flood Risk

	Zone A	Zone B	Zone C
Highly vulnerable development (including essential infrastructure)	Justification Test	Justification Test	Appropriate
Less vulnerable development	Justification Test	Appropriate	Appropriate
Water compatible development	Appropriate	Appropriate	Appropriate

The Council is currently progressing the Water Services Flood Alleviation Capital Programme 2009-2013. The programme may from time to time be amended or added to, depending on priority.

The Council is mindful of the potential for increased incidences of flooding due to climate change and will seek to incorporate this into strategic land use decisions for the development plan and local area plans and into the assessment of planning applications.

7.7 Flood Risk Management Policies

It is the policy of the Council:

SW1: To have regard to *The Planning System and Flood Risk Management – Guidelines for Planning Authorities (2009)* in carrying out functions during the period of this Plan.

SW 2: To seek to avoid inappropriate development in areas at risk of flooding.

SW 3: To ensure new development does not increase flood risk elsewhere, including that which may arise from surface water run off.

SW 4: To ensure effective management of residual risks for development permitted on floodplains.

SW5: To have regard to the recommendations of the Liffey Catchment Flood Risk Assessment and Management Study, the Barrow Catchment Flood Risk Assessment Management Report, the Eastern River Basin District Catchment Flood Risk Assessment and Management Study and the South Eastern River Basin District Catchment Flood Risk Assessment and Management Study, and to ensure that any development adjacent to these watercourses or their tributaries take cognisance of these reports / studies.

SW 6: To ensure that all developments have regard to the surface water management policies in the Greater Dublin Strategic Drainage Study (GDSDS).

SW7: To liaise with the Office of Public Works (OPW) in delivering on the recommendations and programme of works set out in the Kildare County Council Water Services Flood Alleviation Capital Programme 2009 – 2013.

SW 8: To ensure that all towns, villages and settlements are provided with adequate flood alleviation measures within the limits of cost effectiveness and the availability of finance.

SW 9: To ensure that the flood objectives stated for each village, rural settlement and environs plans are implemented.

SW 10: To ensure that flood risk management is incorporated into the preparation of Local Area Plans in accordance with '*The Planning System and Flood Risk Management - Guidelines for Planning Authorities (2009)*'.

SW 11: To ensure that the Justification Test for Development Management is applied to proposals for development in areas at a high or moderate risk of flooding where the development being proposed is vulnerable to flooding and would generally be inappropriate as set out in Table 3.2 of the '*The Planning System and Flood Risk Management - Guidelines for Planning Authorities (2009)*'.

SW12: To seek to ensure that development will not interfere with or interrupt existing surface water drainage systems.

SW 13: To ensure that development adjacent to watercourses is set back from the edge of the watercourse to allow access for channel clearing/maintenance. A set back of at least 10 metres is generally required depending on the width of the watercourse unless otherwise required.

SW 14: To ensure that development consisting of the construction of embankments, wide bridge piers or similar structures will not normally be permitted in or across flood plains or river channels.

SW 15: To ensure that the reasonable requirements of Inland Fisheries Ireland are adhered to in the construction of flood alleviation measures in County Kildare. This includes, but is not limited to:

- Allowance for dry weather flow conditions to be reflected in channel cross sections.

- Appropriate programming of any "instream works" to comply with the requirements of Inland Fisheries Ireland.
- Flood alleviation measures shall only be implemented where they comply with '*The Planning System and Flood Risk Management Guidelines*' (2009) and the requirements of the Habitats Directive and other environmental considerations.

SW 16: To ensure that all new developments are designed and constructed to meet minimum flood design standards. (Refer Chapter 19, Development Management Standards).

SW17: To comply with (i) the Arterial Drainage Act, 1945 and in particular section 50 which sets out the requirements on all bodies to gain permission from the Office of Public Works for culverting water courses and bridges across watercourses and section 47 of the Act which states that any person planning to erect or alter a weir must first get consent from the Commissioners or all the affected landowners (ESB is exempt from this requirement) and (ii) section 9 of the Arterial Drainage (Amendment) Act 1995 which relates to modification or relocation of watercourse, embankment or other works.

SW18: To recognise the important role of bogland and other wetland areas in flooding patterns. Development in these areas shall therefore be subject of a Flood Risk Assessment in accordance with '*The Planning System and Flood Risk Management Planning Guidelines*' (2009).

SW19: To require development proposals which may affect canals and their associated infrastructure to prepare a Flood Risk Assessment in accordance with '*The Planning System and Flood Risk Management Guidelines*' (2009) and any requirements of Waterways Ireland.

SW20: To ensure development proposals in rural areas (excluding one-off rural housing) demonstrate compliance with the following:

- the ability of a site in an unserved area to accommodate an on-site waste water disposal system in accordance with the County Kildare Groundwater Protection Scheme, and any other relevant documents / legislation as may be introduced during the Plan period.
- the ability of a site in an unserved area to accommodate an appropriate on-site surface water management system in accordance with the policies of the Greater Dublin Strategic Drainage Study (2005), in particular those of Sustainable Urban Drainage Systems (SuDS).
- the need to comply with the requirements of '*The Planning System and Flood Risk Management Guidelines for Planning Authorities*' published by the Minister for the Environment, Heritage and Local Government in November 2009

7.8 Water and Drainage Objectives

It is an objective of the Council:

WD 1: To improve the provision of water and drainage services, having regard to best practice in new developments and in those areas of the county where deficiencies exist at present.

WD 2: To protect, improve and conserve the county's wastewater resources.

WD 3: To facilitate the provision of necessary water infrastructure in a sustainable manner.

WD 4: To improve water quality in the county in accordance with current European and National legislation.

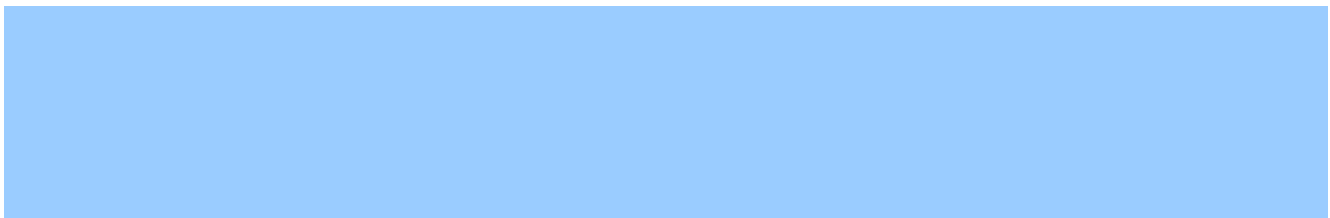
WD 5: To continually monitor and review the water quality standards of Kildare County Council in light of European Communities (Drinking Water) Regulations 2007 (SI 278 of 2007), as may be amended and to ensure continuing compliance.

WD 6: To improve and expand the water supply to all areas in accordance with the Water Strategy and the Water Services Investment Programme for County Kildare.

WD 7: To liaise with the relevant agencies / Government Departments in the identification of a suitable site within the Metropolitan area of the Greater Dublin Area for the provision of a Regional Water Treatment Plant and the development of plant and network connections in accordance with the Regional Planning Guidelines for the Greater Dublin Area 2010-2022.

WD 8: To acknowledge the strategic policy recommendations in relation to flood risk identified in the Regional Planning Guidelines for the Greater Dublin Area 2010-2022.

WD 9: To seek to manage the risks to people and property through the implementation of flood relief schemes as per the Water Services Flood Alleviation Capital Programme 2009-2013 as may be amended during the period of this Plan.



WD 10: To continue to undertake works under the Arterial Drainage Programme, as prioritised and as may be amended over the period of this Plan.

WD 11: To liaise with adjoining Local Authorities, all relevant departments and agencies in the alleviation of flood risk in the county.

WD 12: To promote rain water harvesting in all developments and in particular in larger schemes.

WD 13: To continue to implement the bye-laws for the Management of Water Supplies and the Conservation Of Drinking Water adopted by the Council in 2007.

WD 14: To progress the delivery of projects listed in the Capital Programme 2010 – 2012, subject to the availability of funding including the projects listed in Table 7.2.

Major Water Supply Schemes	Major Sewerage Schemes
N.E. Kildare Regional Water Supply	Upper Liffey Valley Regional Sewerage (Osberstown)
Water Blending Monasterevin to Kildangan	Kildare Town Sewerage
Johnstown/Robertstown Wells	Lower Liffey Valley Regional Sewerage
Castlewarden/Ballygoran Water	Osberstown Sewerage Stage 3
Barrow Abstraction	Newbridge Eastern Interceptor Sewer
Old Kilcullen Reservoir	North Kildare Bundled Sewerage
Ballyna Regional Water Supply Scheme	South Kildare Bundled Sewerage
Second River Crossing Leixlip	
Network Improvements – Wellfield Supply	

Surface Water/ Flood Alleviation Schemes	SLI Sewerage Schemes
Duncarrig	Ballymore Eustace Sewerage Treatment
Ardclough	Athy Sewerage
Kill	
Newbridge (Mooneys, Sexes Streams)	
Newbridge Surface Water	
Morrell	
Minor Works	
Johnstown	
Butterstream	
Maynooth	

Table 7.2 Capital Programme Projects 2010-2012
Note: projects are based on the availability of finance

7.9 Environmental Services

Aim: To conform to European, National and Regional policies in relation to the provision of waste management and to protect and enhance water, air and noise quality.

7.9.1 Context

Protection of the physical environment is of primary importance. The Council seeks to ensure the provision of the highest standards of waste management facilities and collection and to prevent and control water, air and noise pollution.

In 2008, the Environmental Protection Agency published “*Ireland’s Environment 2008*”. The overall conclusion of the report is that the quality of Ireland’s environment is relatively good but there are some key challenges facing Ireland, from the major economic, social and demographic changes that have occurred in recent years. The four priority challenges are:

- (i) Limiting and adapting to climate change;
- (ii) Reversing environmental degradation;
- (iii) Mainstreaming environmental considerations; and
- (iv) Complying with environmental legislation and agreements.

7.9.2 Strategy

The Council’s strategy for sustainable environmental management seeks to conform to European and National Waste Strategies in matters relating to the production, handling, treatment and disposal of waste within the county and to co-operate with and participate in the preparation of Regional Plans for the collection, treatment, handling and disposal of waste.

The strategy also seeks to improve noise impacts and air quality standards of the county and to

control harmful emissions to water and air under the relevant Regulations.

Central to the strategy is a focus on the promotion of environmental protection through education.

7.9.3 Waste Management Plan

The Council is obliged to collect or arrange for the collection of household waste in its jurisdiction. Waste collected is currently transferred to Dublin from the Integrated Waste Management Facility at Silliot Hill, Kilcullen for baling prior to disposal at Arthurstown Landfill Site outside Kill.

The Council contracts its domestic waste collection obligations to private waste collectors. A number of private waste collectors also operate within the county for the collection of households not availing of the local authority waste collection service. Commercial waste is collected by private operators.

The County Waste Management Plan 2005-2010 sets out the overall waste management objectives for a period of five years and includes details on waste production with specific objectives for infrastructure.¹ Policies are outlined for waste prevention, minimisation, recovery / reuse, recovery / recycling, energy recovery, disposal, waste collection, animal slurries, sludge, hazardous waste and litter prevention. This Waste Management Plan is due to be reviewed and will integrate with the County Development Plan.

Section 22 of the Waste Management Act 1996 (as amended by Section 4 of the Waste Management (Amendment) Act 2001) provides the link between a Development Plan under the Planning and Development Act 2000 and the Waste Management Plan.

¹ Note: A national review of waste management plans is currently underway. Until this review is complete the County Waste Management Plan 2005-2010 will remain in place.

7.9.4 Litter

In accordance with the Litter Pollution Act 1997, the Council adopted a Litter Management Plan covering the period 2008-2011. The Plan details the measures proposed by Kildare County Council in relation to litter prevention and control and also sets out areas where joint co-operation is sought. Comprehensive action is to be achieved in five key areas:

1. Education and information.
2. Litter prevention and control.
3. Enforcement.
4. Community involvement.
5. Recycling and recovery.

7.9.5 Pollution Control – Water, Air and Noise

The importance of a clean environment for the economic and social life of the county is well recognised. In this regard, continuous effective monitoring and enforcement in relation to pollution control measures is imperative and will continue over the period of this Plan.

Water /Air

The Council's role in relation to water and air is to monitor and promote a reduction in water pollution, through the implementation of relevant legislation and through the provision of advice and guidance on best practice.

Noise

The Council has prepared a Noise Action Plan (2009) in accordance with the requirements of the Environmental Noise Regulations (SI 140 2006). These Regulations give effect in Ireland to EU Directive 2002/49/EC, relating to the assessment and management of environmental noise.

Environmental noise is defined as unwanted or harmful outdoor sound created by human activities, including noise emitted by means of transport, road traffic, rail traffic, air traffic, and from sites of industrial activity. The Regulations do not address domestic or neighbourhood noise.

The objectives of the Noise Action Plan are to avoid, prevent and reduce, where necessary, on a prioritised basis, the harmful effects of long term exposure to environmental noise. This will be achieved by taking a strategic approach to managing environmental noise. The approach promotes action on environmental noise through four avenues:

- Noise Reduction at source;
- Land use planning;
- Procedures to reduce noise impact;
- Operating restrictions to reduce noise emissions.

7.10 Environmental Services Policies

7.10.1 Waste Management

It is the policy of the Council:

WM 1: To have regard, in the assessment of planning applications for waste management facilities *inter alia*, to the Waste Management Plan for County Kildare then prevailing, Waste Management Act 1996, EU Landfill Directive, EPA Landfill Manuals, EU Packaging and Packaging Waste Directive and DoEHLG policy statements viz. 'Changing Our Ways' and 'Preventing and Recycling Waste- Delivering Change' and 'Taking Stock and Moving Forward.'

WM 2: To require the submission of either a certificate of exemption or a valid planning permission for a Waste Facility Permit application, in accordance with the Waste Management (Facility Permit and Registration) Regulations 2007 as amended.

WM 3: To provide each town, village or settlement, subject to the availability of finance with appropriate recycling facilities in the form of a kerbside collection, civic site and bring bank recycling facilities.

WM 4: To encourage waste prevention, minimisation, reuse, recycling and recovery as methods of managing waste. Where waste management is not being carried out properly, the Waste Management Acts 1996 to 2008, will be used as a means of ensuring specific national policies and regulations are adhered to.

WM 5: To ensure that recycling facilities (i.e. bottle banks, bring centres etc) in close proximity to large scale residential developments are in accordance with the following:

Any bring bank facility shall include receptacles for glass, cans and textiles. All applications for bring bank facilities will be assessed on a case by case basis having regard to the following:

- (i) Proximity to residential areas
- (ii) An area of at least 10m by 4m in size
- (iii) Truck access and clearance heights
- (iv) A hard standing area
- (v) A vehicle set down area only with no permanent parking provision.
- (vi) Suitable lighting, **noise mitigation**, screening and/or landscaping as considered necessary by the council

WM 6: To promote and facilitate communities to become involved in environmental awareness activities and community-based recycling initiatives or environmental management initiatives, which will lead to local sustainable waste management practices.

WM 7: To ensure the provision of residual landfill in County Kildare (either directly by the Council or in co-operation or partnership with other local authorities and the private sector) is subject to the specific requirements of the County Kildare Waste Management Plan.

WM 8: To strictly control the raising of land for the purpose of private housing in the interests of pollution control, drainage, flood alleviation and amenity.

WM 9 To require that all intensive agricultural waste, organic waste, municipal sludge and industrial sludge recovered through landspreading, be carried out under an accepted Nutrient Management Plan which must demonstrate nutrient uptake and capacity in spreadlands, sufficient storage facilities, compliance with relevant legislation including the Nitrates Regulations 2009, Waste Management Act 1996-2008, Sludge Management Plan for Kildare, River Basin Management Plans, the Kildare County Councils Sludge Protocol and any future revisions/replacements of these documents.

WM 10: To prepare an inventory of legacy landfill sites at which waste disposal and recovery took place between 1977 and 1997 and carry out a risk assessment of these sites.

7.10.2 Litter

It is the policy of the Council:

- L 1: To strongly enforce the provisions of the Litter Pollution Act 1997, by prosecuting offenders, where applicable.
- L 2: To implement the strategic actions of the Litter Management Plan 2008-2011.

7.10.3 Pollution Control – Water, Air and Noise


It is the policy of the Council:

- PC 1: To preserve and maintain water, air and noise quality in the county in accordance with good practice and relevant legislation.
- PC 2: To promote and support the ban on the marketing, sale and distribution of bituminous coal in Naas, Celbridge and Leixlip.
- PC 3: To enforce, where applicable, the provisions of the Environmental Noise Regulations 2006.
- PC 4: To ensure that noise levels caused by new and existing developments throughout the county do not exceed normally accepted standards and that new developments shall incorporate measures to ensure compliance with the Environmental Noise Regulations 2006 and any subsequent revision of these Regulations.
- PC 5: To regulate and control activities likely to give rise to excessive noise (other than those activities which require regulation by the Environmental Protection Agency).
- PC 6: To require activities likely to give rise to excessive noise, to install noise mitigation measures and monitors.

7.11 Environmental Services Objectives

It is an objective of the Council:

- EN 1: To promote environmental protection through education.
- EN 2: To facilitate the implementation of the County Kildare Waste Management Plan 2005-2010 and any subsequent revisions thereof during the period of this Plan.
- EN 3: To investigate the possibility of the provision of a recycling facility in the north of the County and to seek new markets for recycling in existing centres.
- EN 4: To facilitate the implementation of the Kildare Noise Action Plan 2009 and Litter Management Plan 2008-2011 and any subsequent amendments during the period of this Plan.
- EN 5: To continue the monitoring of effluent and to include food service establishments in this monitoring.
- EN 6: To continue to monitor air quality at selected locations throughout the County in co-operation with the Health Services Executive and the Environmental Protection Agency.
- EN 7: To ensure that septic tanks and proprietary wastewater treatment systems comply in full with the requirements of the Environmental Protection Agency Code of Practice 2009, Department of Environment, Heritage and Local Government Circular January 2010, and any subsequent revisions thereof during the period of this Plan.
- EN 8: To require new developments to connect to the public foul sewer where feasible for



both trade and domestic effluent and to discourage discharge of treated effluent to groundwater, particularly in areas of high groundwater vulnerability.

- EN 9: To require the submission of Annual Environmental Reports (which require ongoing monitoring of specified environmental parameters) on specified developments through the planning process.
- EN 10: To investigate and develop best practice guidelines in relation to design, location and size of bin storage areas in apartment or higher density housing schemes.