Chapter 10
Water Services and Environment

10.1 Introduction

This Chapter outlines the policies and objectives of Drogheda Borough Council in relation to water services and the environment. The increase in population in the Plan area in recent years and the predicted further population increase over the Plan period will place greater pressure on the receiving environment as regards environmental and water services. It is vital that the Plan protects the water resources and environmental quality of the Borough and its environs in order to ensure that new development is sustainable and does not jeopardise the quality of life of future generations.

The National Strategy for sustainable development, '*Sustainable Development; a Strategy for Ireland 1997* ', intrinsically links economics, environment, social needs and heritage. The strategy outlines the Government's commitment to ensuring that the economy and society can develop to their full potential within a protected environment, without compromising the quality of that environment and ensuring responsibility towards present and future generations and the wider international community.

Strategic Objective 10 Secure a high quality, clean and healthy environment while facilitating the sustainable development of Drogheda Borough and its Environs through the continued improvement of infrastructure, including water, drainage, and waste management facilities.

10.2 Regulatory Context

The provision and operation of water services' infrastructure is a key element in supporting economic growth and providing a satisfactory quality of life for existing and future residents within the Plan area, through sustaining a high environmental quality. In particular, water infrastructural capacity is a pre-requisite for new development within the Borough.

Whilst universal access to these services is the ideal, the reality is that there are limitations on available resources. This stems from a combination of organisational capacity, environmental, planning and other constraints, coupled with economic reality, all of which dictate that resources must be focused in a manner that will maximise potential benefit to the Borough. Water standards are regulated by national and EU legislation and policy directives, the more important of which are outlined below.

10.2.1 The Water Services Act 2007

The *Water Services Act 2007* provides the legislative context governing functions, standards, obligations and practice in relation to the planning, management and delivery of water services. Legislation broadly covers water and wastewater *"in the pipe"* as distinct from broader water resources and quality issues.

10.2.2 The Drinking Water Regulations 2007

The *Drinking Water Regulations 2007* set out the standards, requirements and procedures relating to the maintenance of a quality supply of water to consumers. The regulations also empower the Environmental Protection Agency (EPA) in a supervisory and monitoring role over Local Authority operations. This has major implications in how the Local Authority operates and manages its facilities and may impact on the resource requirement needed to operate and upgrade existing facilities to comply with these regulations.

10.2.3 The Wastewater Discharge Regulations 2007

The *Wastewater Discharge Regulations 2007* set out requirements relating to the licensing of wastewater treatment plants and other discharges from wastewater infrastructure and empowers the EPA to licence and regulate council facilities. Licences specify both quantum and quality of discharges permissible from plants and may, where environmental constraints exist, limit the Council's scope for expansion of facilities and thus prevent further development in an area. They may then require significant investment to ameliorate the impacts of existing developments.

10.2.4 Nitrates, Habitats, Urban Wastewater and Shellfish Directives

Nitrates, Habitats, Urban Wastewater and Shellfish Directives emanating from the EU directly impact on Drogheda's capacity to both harness existing water resources and the capacity to treat and dispose of wastewater and associated bio-solids. In particular, they will impact on the Council's capacity to increase overall outputs, ability to upgrade the existing plant and limit operational costs.

10.2.5 Assessment of Needs 2007 – 2014

Louth County Council's Assessment of Needs was carried out to cover the period from 2007 - 2014 and sets out a strategic investment programme of some €169.4 million with prioritised projects based on objective assessment criteria. This in turn informs the Department of Environment, Heritage and Local Government in drawing up the Water Services Investment Programme. Prioritisation and advancement of projects therein will depend on Department approvals and resource availability. A key constraint on such projects is the requirement that the Council funds a significant element of project costs in accordance with the implementation of the Water Pricing Policy.

Local Authorities will be required to draw up a Water Services Strategic Plan during the time span of the Development Plan. The adoption of the Water Services Strategic Plan is a reserved function. The Plan will set out a strategy for the provision of water services in the County as a whole, taking cognisance of sustainable development, affordability, environmental constraints, service quality and regulatory criteria.
Louth County Council, acts as the water authority. The Council has a primary role in providing and or facilitating the provision of water services. However other bodies also have a role to play including, developer led schemes.

Policy EN 1

Ensure the provision of a high quality water and wastewater infrastructure to support both existing and future developments within Drogheda Borough consistent with sustainability principles and the availability of financial resources whilst prioritising those areas where serious deficiencies are in evidence or where further sustainable development can be reasonably anticipated.

Require that developers submit water services solutions consistent with sustainable urban drainage systems (S.U.D.S.) designs for the management of surface water from new developments.

Ensure that the provision and operation of water and wastewater treatment facilities is undertaken in accordance with EU policies and directives, relevant national legislation and national / regional policies.

Ensure that satisfactory arrangements with the capacity necessary to service proposed developments are in place prior to any proposals for developments being considered. The Council, where deemed appropriate, may require developers to provide water services or enter into a binding legal agreement to supply them either wholly by themselves or in partnership with other developers and/or the Council, prior to granting of permission and subject to conditions as set down by the Council.

Require developers to provide water services infrastructure in excess of that which they require, in the interests of integrated, long-term development of the area where appropriate.

Implement the Water Services Strategic Plan when completed.

Include the measures identified in the Eastern River Basin Management Plan in so far as they relate to Drogheda to mitigate the impacts of water abstraction and discharges of treated effluent from wastewater plants and storm drains on a prioritised basis, subject to affordability.

10.3 Water Supply

The Council recognises the importance of a high quality and reliable water supply, both in terms of economic development and the health and welfare of the inhabitants of the Borough. They will therefore, seek to ensure that a high quality, well managed water supply is available to domestic users and to support economic and physical development.

The Plan area is largely served by the Staleen Water Treatment Plant which currently has a capacity to produce 32,000m3/day. The supply is supplemented by the smaller Rosehall Water Treatment Plant which has a capacity of 2,400m3/day.

A strategic review of the Drogheda and Environs Water Supply requirements has examined the future water needs of Drogheda and its Environs. This has been completed as part of the East Meath, South Louth and Drogheda Water Improvement Scheme. Remedial works regarding water quality and capacity have been identified at

the Staleen WTP and are being undertaken in two stages. Stage 1 works have been substantially completed. Stage 2 works are ongoing. Advancement of the expansion of the Staleen WTP to meet projected growth in population and industry and compliance with quality standards will be required during the lifetime of this plan. There is an adequate potable water supply capacity to meet the demand from development under this Plan. Table 10.1 outlines the water capital investment programme covering the Plan period.

Table 10.1: Capital Investment Programmes

Project	Service	Status
East Meath South Louth & Drogheda Water Improvement Scheme	▪ 30 year strategic study of water requirement and provision for Drogheda and hinterland.	Preliminary Report completed
Staleen Water Treatment Plant – Emergency Works	▪ Stage 1 substantially completed ▪ Stage 2 - ongoing	Contract Stage
Staleen Water Treatment Plant	▪ Expansion & Upgrade of plant & Abstraction Order	Preliminary Report completed
Staleen – Donore Water main	▪ To install a new trunk water main to improve recharge of service reservoirs	Contract documents prepared

Policy EN 2

Ensure an adequate water supply is provided in a sustainable manner to meet existing and future demands of the Drogheda and Environs area.

Ensure the quality of water supplied complies with Drinking Water Regulations and to address that impact on same in a prompt and appropriate manner.

Implement a policy of effective metering and in the case of non-domestic developments, facilitate charging for services in accordance with Article 9 of EU Water Framework Directive.

Implement incrementally the recommendations set out in East Meath, South Louth & Drogheda Water Improvement Scheme Report, consistent with sustainability principles, taking due cognisance of environmental, financial and technical constraints.

10.3.1 Water Conservation

The Water Conservation Project team was established in August 2005 and within the first 18 months of its operation, action was prioritised on the establishment of District Metered Areas (DMAs). The second phase commenced in November 2008 which consisted of active leak detection in all D.M.A.s. The Council is integrating ongoing active leakage detection into their work programmes and will seek to ensure prudent use of water resources through ongoing implementation of their water conservation policies.

Future developments should have regard to the need to conserve water and as a means of addressing this, may include the following measures:

- Sensor taps
- Pressure and flow regulations on fittings
- Appropriately sized meters
- Prohibition on direct feeds to heating and appliances
- Low flush toilets
- Rainwater harvesting and reuse
- Installation of meters to non domestic premises
- Installation of meters to housing developments
- Replacement of old boundary boxes/stop cocks
- Programme for replacement combined connections

Policy EN 3

Promote the conservation of water through an ongoing active water conservation programme, implementing best practice in the maintenance and operation of distribution networks and developing appropriate public awareness programmes.

10.4 Surface Water Drainage

10.4.1 Surface Water Drainage / Sustainable Urban Drainage (SUDS)

As new developments are constructed, less rainfall is absorbed into the ground and an increased volume of water (up to 10-15 times pre-development volumes) runs to drains at increased rates of flow. This has the potential to cause localised flooding in streams and piped drains, as well as bringing surface contaminants and spillages directly into watercourses, thereby causing pollution. Thus, new developments can often lead to flooding problems for existing upstream and downstream developments as well as impacting on overall water quality, particularly in respect of dangerous substance contamination, habitat deterioration and deterioration of river/stream channels. Furthermore, a number of Drogheda's existing collection networks are partially combined and are operating near or at capacity.

Road Sustainable Drainage Systems (SUDS)

The principles of Sustainable Urban Drainage Systems are increasingly being applied to road design, where appropriate, in Ireland. At present, best international practice is followed with regard to such methods and incorporated at the detailed design stages of individual road schemes where appropriate and feasible. Sustainable Drainage Systems (SUDS) can best be summarised as offering a "total" solution to rainwater management while traditional drainage can be considered as only providing a "collection and disposal" approach. The traditional purpose of providing drainage for roads is to convey water as quickly as possible from the running surface, thus ensuring a clear safe path for road traffic, and to prevent water penetrating the road pavement structure to avoid potential damage to the structure of the road. Traditional road surface water drainage techniques involved collecting runoff in roadside gullies, drainage kerbs or other collection devices which convey runoff to underground closed pipe systems. Historically, many road and

other surface water drainage systems in urban areas such as Drogheda were combined with foul sewage in a single combined sewer. More recent designs have encouraged the use of separate surface and foul water drainage systems to reduce this burden. Unfortunately these design approaches are flawed as, in transferring the surface water downstream, it provides the potential for flooding of other areas subject to the capacity further down the system. In addition the pollution in the wash-off from the urban environment is conveyed into the natural environment.

To provide an alternative method of drainage which does not have these failings therefore requires a completely new approach. Sustainable Drainage Systems (SUDS) can best be summarised as offering a "total" solution to rainwater management while traditional drainage can be considered as only providing a "collection and disposal" approach. The concept is based upon the free surface-flow of water through a series of sequential linked shallow ponds vegetated with a range of emergent plant species. This diversity of plant species facilitates biodiversity and is generally more appealing for recreation and amenity. Due to the slow movement of water through the ponds suspended matter is deposited, and there is adequate time for both aerobic and anaerobic digestion of organic matter.

The introduction of Sustainable Urban Drainage Systems (SUDS) is seen as a means to manage surface water runoff within the urban environment in a fashion that minimises the impacts of development on the quality and quantity of road runoff, whilst maximising amenity and biodiversity opportunities.

Within highly urbanised locations such as Drogheda, the use of SUDS methods in large scale new road schemes will be considered at design stage.

Policy EN 4

Ensure that the incorporation of sustainable drainage measures in all settlements is mandatory. An integrated approach to drainage shall be adopted and all development proposals shall be accompanied by a comprehensive SUDS assessment which shall address runoff quantity/ runoff quality /habitat and water quality impacts. Best practice guidance is available from the Greater Dublin Strategic Drainage Study Surface water issues and submissions will be required to meet with design criteria (adjusted to reflect local conditions) and material designs therein.

Prevent excessive discharges of untreated sewage from overflows and to maximize the utility of piped services, new developments shall preferentially provide / connect to separate surface water drainage systems.

Ensure that when developers are required to Master Plan areas within and adjacent to settlements, sustainable drainage will be adequately addressed. Master Plans shall identify appropriate aerial features e.g. ponds / basins etc. based within the overall Plan area that can provide both amenity and surface water management facilities for the full area rather than a large collection of small, development-based units.

To investigate the feasibility of utilising Sustainable Drainage Systems (SUDS) when progressing new road schemes during the lifetime of the plan.

Ensure that where appropriate the Code of Practice on Wastewater Treatment and Disposal Systems serving Single Houses is applied.

10.4.2 Foul Drainage

The *Urban Wastewater Directive 1991* is the primary EU legislation relating to wastewater. The *Waste Water Discharge (Authorisation) Regulations 2007*, which came into effect in 2007, have placed obligations on the Water Service Authority to license the discharge of treated effluent from waste water treatment plants.

Drogheda and Environs is going through a period of growth that must be sustained by adequate and efficient drainage infrastructural provision. The Plan area is serviced by the Newtown Waste Water Treatment System, Marsh Road which currently has a capacity of close to 101,000 population equivalent (p.e). The treatment system serves a number of industrial users who impose variable loading on it. As such, a surplus capacity buffer will have to be retained in order to accommodate load variations. The WWTP capacity may, if required, be extended further up to 125,000p.e. This increased capacity will primarily be achieved through process optimisation. It is likely that during the course of the plan, measures will have to be taken to decrease nitrate levels in discharges.

The Drogheda Sewerage Feasibility Study (Network Improvements – Stage 1) is currently being undertaken within the Drogheda drainage network. This Study is scheduled for completion in the first half of 2010. In the case of sewer systems, infiltration and exfiltration impact upon the deployable capacity of networks, the surrounding environment and the cost of providing treatment both from an operational and capital investment perspective. Initial findings from the Study in Drogheda suggest that a significant reduction in volumes escaping from / infiltrating to the network and passing forward for treatment can be achieved. Remediation programs will be developed and implemented contingent on the outcomes of the Study and appropriate cost benefit assessments.

Continuing the development of infrastructure within Drogheda and Environs is imperative for its development as a Primary Development Centre. Drogheda Borough Council has undertaken, in conjunction with Louth County Council, an *'Assessment of Needs 2007-2014'* which feed into the National Water Services Investment Programme. The report identified and prioritised water service schemes for inclusion in the Water Services Investment Programme in the period up to 2009 and developed an indicative list of schemes for the period 2010 – 2014. A number of these relate to Drogheda and its Environs. Prioritisation and advancement of projects therein will depend on Department and statutory approvals and resource availability. A key constraint on delivering such projects is the requirement that the Local Authority funds a significant element of project costs and as such, their delivery will be demand driven and incremental where possible. There is adequate wastewater treatment capacity to meet the demand from development under this Plan.

The Council will be required on foot of *Water Services Act 2007* to draw up a Water Services Strategic Plan during the life of this Development Plan. The adoption of the Water Services Strategic Plan is a reserved function. The Plan will set out a 5 year

strategy for the provision of water services in the county, taking cognisance of sustainable development, affordability, environmental constraints, service quality and regulatory criteria. It is likely that this will supersede the Assessment of Needs Study and will differ significantly to it in that specified objective criteria will be used to prioritise schemes and affordability both from a capital and operational perspective must be demonstrated.

Table 10.2: Wastewater and Surface Water Schemes

Project	Service/ comments	Status
Drogheda Sewerage Network Improvements – Stage 1	▪ Study undertaken of existing drainage network. ▪ Remediation program identified.	Study
Drogheda Sewerage Network Improvements – Stage 2	▪ Implementation of Remediation Program	Follow on from Stage 1
Drogheda WWTP – Phosphorous/Nitrate Treatment	▪ Discharge Licence for the WWTP – possible requirement for installation.	Being processed
WWTP Phase 3 Extension to 125,000 p.e.	▪ Primarily achieved through process optimisation	Implement through O&M Contract as required

Policy EN 5

Adopt an incremental approach to provision of additional treatment capacity. This will relate both to the scale of existing developments, and appropriate growth at these locations. Availability of services shall not be a precursor to large scale growth in inappropriate locations.

Minimise the impact of storm overflows on receiving water quality through implementation of programmed upgrade of units and networks.

In accordance with output from Drogheda Sewer Network Improvement - Stage 2, implement a programmed upgrade of networks to minimise the impact of infiltration / exfiltration in sewer system.

To eliminate as far as it is practicable to do so, surface water from waste water sewerage network.

The Council will not generally permit the use of pump stations for conveyance of sewage unless the proposed pump station will cater for a significant catchment of zoned development lands that otherwise cannot be drained. Where deemed appropriate, temporary pumping arrangements may be considered as an interim measure, pending the provision of more permanent arrangements within a reasonable timeframe. In such instances, the full cost of providing, operating and decommissioning interim arrangements shall be paid in advance by developer along with normal development levies.

Ensure that all developments have regard to policies expressed in the Greater Dublin Strategic Drainage Study with particular reference to:

(a) Infiltration and exfiltration
(b) Climate Change
(c) Basements
(d) New developments
(e) Environment
(f) Surface Water

10. 5 Environment

Drogheda Borough Council and Louth County Council are aware of the need to preserve, enhance and protect the quality of the environment whilst facilitating and encouraging development. A good quality environment is not only of intrinsic value in itself, but is also extremely important for economic development and quality of life. Water resources, in particular, are extremely important but have often been neglected in the past, in the name of economic progress and advancement. This has also been the case in relation to air quality. The protection of the water and air quality of Drogheda and Environs is therefore of great concern to both Councils.

10.5.1 European, National and Regional Policy

The environmental policies contained in this Plan have been devised having regard to the large body of European and national legislation, directives and regulations.

The Environmental Protection Agency (EPA) and the Local Authorities are the bodies charged with the responsibility for overseeing environmental protection in the state.

The Environmental Protection Agency in its *State of the Environment Report 2004,* identified five overall environmental priorities for the state. These are:

- Meeting international commitments on air emissions
- Eutrophication prevention and control
- Waste management
- Better integration of environmental and natural resources - considerations into the policies, plans and actions of economic sectors
- Improving enforcement of environmental legislation.

The Council will pursue environmental policies that will seek to safeguard the long-term economic, social and environmental wellbeing of the town and will lead by example in the compliance with EU, national and regional policies. They will also seek to ensure that the highest possible environmental standards are maintained so that a high quality environment can be bequeathed to future generations.

Policy EN 6

Implement European, national and regional policy in relation to the protection of the environment and the pursuance of sustainable development principles in respect of the Council's policies and procedures

Pursue the precautionary and the polluter pays principles in relation to permitted development in the Plan area.

Promote and maintain the highest achievable standards of air, noise and water quality in the Plan area.

10.5.2 Environmental Noise

Environmental noise refers to noise emitted by means of road traffic, rail traffic, air traffic and noise in urban areas over a specified size. It is regulated under the *Environmental Noise Directive (END)* which was transposed into Irish law by the *Environmental Noise Regulations 2006*. The aim of the Directive is to provide for the implementation of a common EU approach to the avoidance, prevention and reduction, on a prioritized basis, of the harmful effects, including annoyance, of exposure to environmental noise.

10.5.3 Noise Action Plan 2008

In accordance with the Environmental Noise Directive, (END), which was transposed into Irish Law by the Environmental Noise Regulations 2006, S.I. No. 140 of 2006 (Regulations), Louth Local Authorities have prepared a Noise Action Plan to address environmental noise from major roads with more than six million vehicles per annum. In the county these routes are the M1, and the R132 Monasterboice to Meath border.
The National Roads Authority (NRA) has prepared noise maps for the sections of the M1 and R132 that have been confirmed by verified vehicle count data to be a major road for the purposes of the Regulations. These maps are included in the noise action plan.
The overall aim of managing environmental noise within the framework of the regulations is to avoid, prevent and reduce the harmful effects due to long term exposure to environmental noise which will in turn promote good health. The Noise Action Plan is therefore designed with the twin aims of:

- Avoiding significant adverse health impacts from noise
- Preserving environmental noise quality where good

The Noise Action plan contains a review of the use of the planning system to help manage the effects of environmental noise. A Guidance document, Advice Note 2, setting out measures and appropriate criteria for dealing with environmental noise for new development is appended to this plan. The Borough Council shall avoid prevent and reduce the harmful effects due to long term exposure to environmental noise which will in turn promote good health.

Policy EN 7
Implement the Louth Local Authorities Noise Action Plan.

Policy EN 8
New developments shall comply with the requirements of the Guidance Document, Advice Note 2, on Environment Noise Exposure Criteria

10.6 Water Quality

The long term economic, social and environmental wellbeing of Drogheda and Environs requires water quality to be of the highest possible standard. This includes surface water, ground water and sea water, all of which are vital to life and therefore must be managed wisely.

The quality of water in Drogheda is monitored on a regular basis against a list of quality measurement criteria. This includes the licensing and monitoring of trade effluent discharges and the assessment of proposed development in order to ensure that water quality is maintained. Increased awareness through educational and other means is essential for informing the public of the need and importance of maintaining the highest possible water quality standards.

10.6.1 Water Framework Directive

The Water Framework Directive 2000 sets an agenda for the protection and improvement of water bodies such as rivers, lakes and streams, groundwater, coastal and estuarine waters, on the basis of river basin districts. The Directive is concerned with all waters and their uses and brings all water-related directives under one framework, including those dealing with bathing water, drinking water wells and supplies, water taken from rivers, sewage disposal and the protection of salmon and shellfish habitats. The Water Framework Directive requires that river basin management plans be prepared for each identified river basin within the European Union's boundaries. Drogheda is located within the Eastern River Basin District. The Plan is currently in draft form and Drogheda Borough Council in conjunction with adjacent Local Authorities will take cognisance of its recommendations when finalised.

10.6.2 River Basin Management Planning Guidance for Public Authorities

In 2008, the Department of the Environment, Heritage and Local Government issued the *River Basin Management Planning Guidance for Public Authorities.* These guidelines explain the relationship that exists between the river basin management plans and other plans and programmes, including statutory development plans. It stipulates that local authority Development Plans will need to, both influence and be influenced by, river basin management plans and that planning authorities should ensure that any relevant objectives of any Water Quality Management Plan be included in the Development Plan. The guidelines also highlight the need for the strategic environmental assessment to take into account the impact that the Development Plan will have on the environmental protection objectives established for waters in the area covered by the plan.

Policy EN 9

Increase awareness through educational and other means in order to inform the public of the need and importance of maintaining the highest possible water quality standards.

Implement the recommendations contained in the Eastern River Basin District Management Plans for the Drogheda Borough Council area and specifically the River Boyne.

10.6.3 Waste Management Plan for the North East 2005 -2010

The *Waste Management Plan for the North East*, including the counties of Louth, Cavan, Meath and Monaghan, covers the period 2005 - 2010 and will be subject to further review during the period of this plan.

The aim of the Waste Management Plan is to decrease the amount of waste generated and disposed of to landfill throughout the region by promoting the principles of reduce, reuse and recycle and to provide sustainable measures of waste disposal. In any area where there is conflict in relation to environmental policies contained in the Development Plan and the waste management plan, the latter will take precedent.

10.6.4 Derelict Sites

Under the *1990 Derelict Sites Act* and the *Litter Pollution Acts, 1997-2003*, the Planning Authority can require improvement of neglected lands, the renewal of structures and the removal of unsightly vehicle parts and general refuse.

Policy EN 10

Implement the provisions of the Derelict Sites Act and the Litter Pollution Acts, 1997-2003 in respect of derelict and obsolete areas.

10.6.5 Litter Prevention and Control

Louth Local Authorities recently adopted the *'Litter Management Plan 2009-2011'* that sets out a range of objectives in relation to the prevention and control of litter. The plan's overall policy is to reduce the problem of litter throughout the County.

At a more localised level, Waste Management initiatives, supported by the above policy and the National Development Plan, within the Plan area include nine individual bring bank facilities. Currently, there are bring banks located at the following sites:

- Bolton Street Car Par,
- King Street Car Park,
- Murdocks Car Park (opposite Garda Station),
- Trinity Street Car Park,
- Wheaton Hall Shops,
- Ballsgrove Shops,
- Platin Road/IDA Road (beside DPL),
- Old Hill Car Park, Millmount
- McMahons Timber Yard, Moneymore.

A new Civic Amenity Facility was opened in 2006 in Drogheda and is located in the vicinity of the former landfill site on the Collon Road. This Civic Amenity Facility facilitates the general public in the disposal of a wide range of large and small items such as green, brown and clear glass, newsprint, magazines, cardboard and cardboard packaging, mixed paper, food and drink cans, plastic bottles and bags, reusable clothing, household batteries, lead acid car batteries, fluorescent tubes and lamps, WEEE (Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on waste electrical and electronic equipment) timber, garden waste and scrap metal.

Furthermore, householders within the Borough have access to the 'Green Bin' kerbside collection system. Householders are able to put their dry recyclables (newspapers, magazines and cans) into a green bin that they have received from their waste service operator, which is collected on a regular basis.

The old landfill site on the Collon Road is closed and a remedial and restoration plan has been completed at the site. However, Drogheda Borough Council will continue with the monitoring requirements in accordance with the EPA Licence.

It is proposed as an objective to identify and develop suitable sites for additional neighbourhood recycling facilities to cater for the increase in and to promote waste recycling.

Policy EN 11

Implement the Louth Local Authorities Litter Management Plan to promote greater awareness of the importance of litter control in terms of both economic development and environmental pollution.

10.6.6 Contaminated Lands

In some situations, the use of land can result in its contamination by chemicals, posing a risk to human health or the environment and precluding later development of a site for particular uses. While development on contaminated lands will not generally be prohibited, the Council will require that a detailed investigation is carried out and appropriate measures are taken to ensure that the land is treated properly before development takes place.

Policy EN 12

Require site specific quantitative risk assessment based on the conceptual site model in relation to contaminated sites. The assessment should define all known aspects of the site that could impinge upon or affect the contaminant/ pathway/ receptor scenario. Risk assessment must be developed by suitably competent persons having regard to international best practice and published EPA guidance documents including the Environmental Liabilities Directive.

10.7 Flood Protection

Flooding is a natural process and can happen at any time in a wide variety of locations. Different types of flooding present different forms and degrees of danger to people, property and the environment. With climate change, the frequency, pattern and severity of flooding are expected to change, becoming more uncertain and more damaging.

The River Boyne is tidal for 14km of its length, with the town of Drogheda located in this tidal reach. Downstream from the town, the river is bounded by stone training walls that extend above normal high water level, but are overtopped by very high tides. In this stretch of the river, there are tidal lagoons that fill and empty with the rise and fall of the tide. The town of Drogheda is built on a bend in the river and in this reach the river has no natural flood plain and is confined by continuous walls. Upstream of the town the river flows through low lying lands that act as a natural flood plain.

Some areas of Drogheda are liable to flood due to a combination of tidal and fluvial flows, i.e. interaction between the river and the sea. The Office of Public Works (OPW) which is the lead agency for implementing flood risk policy in Ireland, is carrying out an assessment of coastal flood risk at a strategic level. Key objectives of the Irish Coastal Protection Strategy Study (ICPSS) include establishing extreme flood outlines around the Irish coastline and deriving flood plain maps for a range of probabilities. Drogheda is

part of Phase 3 of the ICPSS and flood maps are included in the Draft Final Technical Report of this study. It is important to note that the flood mapping undertaken in the ICPSS study is for strategic purposes and furthermore any flooding defence works are not taken into account. This means that areas may be shown to flood even though at present a flood defence is protecting them.

The Minister for the Environment, Heritage and Local Government has issued the document *The Planning System and Flood Risk Management – Guidelines for Planning Authorities – November 2009 (Flooding Guidelines)* under Section 28 of the Planning and Development Act 2000. Planning Authorities and An Bord Pleanala are required to have regard to these Guidelines in carrying out their functions under the Planning Acts.

The key principles of a risk-based sequential approach to managing flood risk in the planning system are set out in the *Flooding Guidelines* document. They are:

- Avoid development in areas at risk of flooding.
- If this is not possible, consider substituting a land use that is less vulnerable to flooding.
- Only when both avoidance and substitution cannot take place should consideration be given to mitigation and management of risks.
- Inappropriate types of development that would create unacceptable risks from flooding should not be planned for or permitted.
- Exceptions to the restriction of development due to potential flood risks are provided for through the use of a *Justification Test,* where the planning need and the sustainable management of flood risk to an acceptable level must be demonstrated.

Where flood vulnerable development is considered in areas that are at moderate or high risk of flooding, the Flooding Guidelines require that the zoning satisfies the Justification Test outlined above. Drogheda is identified in the Border Region Regional Flood Risk Appraisal (RFRA) as a key settlement within the core settlement strategy. The RFRA concludes that it is possible to facilitate the continued growth and expansion of these urban centres based on the consolidation of the urban core. In line with the sequential and justification criteria, it is considered that these locations should be encouraged to consolidate and grow in order to bring about a more compact and sustainable urban development form in parallel with a clear flood risk management policy framework.

In line with the sequential approach the justification test was applied to the Development Plan. The Core area consisting of the Town Centre (Zoning Objective T Cr) and the Town Centre Docklands (Zoning Objective T Cd) currently meets the growth, planning and sustainable development criteria for the justification test as it applies to development plan preparation.

Development that is vulnerable to flooding may be open for consideration in areas at moderate or high risk of flooding within the Core area, subject to a full detailed flood risk assessment being carried out which demonstrates that residual risks can be successfully managed and that there are no unacceptable impacts on adjacent lands. All development proposal must have regard to the Planning System and Flood Risk Management Guideline Lines for Planning Authorities (DoEHLG / OPW 2009). In all cases a precautionary approach shall apply.

Policy EN 13

Have regard to the findings of the Irish Coastal Protection Strategy Study in so far as it relates to Drogheda.

Have regard to the document The Planning System and Flood Risk Management – Minister Guidelines for Planning Authorities – November 2009 (Flooding Guidelines) issued by the of the Environment, Heritage and Local Government.

Require that a site specific flood risk assessment be carried out for development in areas that are at moderate or high risk of flooding.

Development will not normally be permitted in areas at moderate or high risk of flooding unless a flood risk assessment clearly demonstrates that flood risk to the development can be adequately managed and that the development will not cause unacceptable adverse impacts elsewhere.