

Waste Water Discharge

Licence Application

for

Malahide Agglomeration.

Attachment G1, G3, G4:

Impact Mitigation.

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WWDL_Application – Malahide:

G1,3 & 4: Impact Mitigation on Receiving Waters:

Attached are the 1) Water Services Investment Programme 2007 -2009 for Fingal; b) Fingal County Council's "Water Services Assessment of Needs 2005 – 2012!"; and c) Fingal County Council's Water Services Operational Plan 2007.

It is felt that the measures included in these items cover the requirements of Attachment G1, G3 and G4, as one improvement scheme will have benefits under all these sub-sections.

The main schemes involving the Malahide agglomeration is 1) the Malahide Sewerage Scheme (Network), 2) the implementation of the FOG Programme, and 3) the expansion of the Malahide WWTP.

- 1) This project is in the planning stage. It includes the laying of an upsized gravity sewer along Strand St which will alleviate the overflows in the town. It will also increase the load on the plant, which leads to the need for the expanded Malahide WWTP. It also includes modelling of the network, and this is expected to pinpoint the location(s) of the high response to rainfall events in the Kinsealy area. This will allow the alleviation of the overflows which are acting as secondary discharges in this area.
- 2) There is a serious constant build-up of fats, oil and greases in the town due to the high number of restaurants. A Contractor is being appointed to police the By-Laws in relation to FOG.
- 3) In the longer term, preliminary planning has commenced on an upgrading to the Malahide WWTP.

None of the above schemes are targeted at Storm Water Overflows specifically, but action within these projects will address the problems in the overflows.

Fingal*

Water Services Investment Programme 2007 - 2009

Schemes at Construction	W/S	Est. Cost
Ballycoolen Water Supply Scheme (Storage Reservoirs)	W	28,000,000
Dublin Bay Sewerage Scheme (Contract 5)	S	16,700,000
		44,700,000
Schemes to start 2007		
Leixlip/ Ballycoolen Water Supply Scheme (3rd Rising Main)	W	17,400,000
		17,400,000
Schemes to start 2008		
Balbriggan Water Supply Scheme	W	14,100,000
Leixlip Water Treatment Plant (Extension)	W	28,000,000
Swords North Water Supply Scheme (Watermain Strengthening)	W	10,200,000
		52,300,000
Schemes to start 2009		
Fingal Sludge Management	S	8,500,000
Portrane/ Donabate/ Rush/ Lusk Sewerage Scheme	S	62,400,000
		70,900,000
Schemes to Advance through Planning		
Blanchardstown Sewerage Scheme (Network)	S	21,000,000
Howth Water Supply Scheme (Network Improvements Phase 2)	W	680,000
Malahide Sewerage Scheme (Network)	S	4,000,000
Malahide Water Supply Storage Feasibility Study	W	1,500,000
Rural Villages Sewerage Scheme	S	3,000,000
Ward Water Supply Scheme	W	9,000,000
		39,180,000
Water Conservation Allocation¹		-
Asset Management Study		100,000
Programme Total		224,580,000

* All Fingal schemes fall within the Greater Dublin Area as described in the National Spatial Strategy

¹ See Dublin City for the Greater Dublin Area Allocation



Fingal County Council

Comhairle Contae Fhine Gall



WATER SERVICES ASSESSMENT OF NEEDS

2005 - 2012

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P. J Howell,

Director of Services

Water Services Department

November 2005

WATER SERVICES ASSESSMENT OF NEEDS

Table of Contents	Page
1. WATER SERVICES ASSESSMENT OF NEEDS	1 - 5
2. GREATER DUBLIN STRATEGIC DRAINAGE STRATEGY	6 - 9
3. WATER SERVICES INVESTMENT PROGRAMME 1999 - 2005	10 - 12
4. WATER SERVICES INVESTMENT PROGRAMME 2005 - 2007	13 - 15
5. WATER SERVICES INVESTMENT PROGRAMME 2007 - 2012	16
6. WATER SERVICES INVESTMENT PROGRAMME 2005 - 2012	17
7. CONCLUSION	18

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1. WATER SERVICES ASSESSMENT OF NEEDS

Introduction

The Department of the Environment Heritage and Local Government (DEHLG) requires local authorities to prepare an updated assessment of needs for water services capital works in their areas every five years. The main purpose of the assessment is to enable a local authority to develop an overall Strategic Investment Plan for the medium to long term and to set out a programme of works to meet the identified water services needs. The Assessment of Needs provides the basis for scheme approval and scheduling for implementation in the Water Services Investment Programmes, which are updated by the DEHLG on an annual basis. In this context water services include:

- drinking water treatment and distribution
- wastewater collection and disposal
- stormwater management, including collection and disposal.

Fingal County Council prepared an Assessment of Needs in November 2003 for the period 2003 – 2012. Two very significant processes have recently been completed which now require the Assessment of Needs to be updated.

- The Greater Dublin Strategic Drainage Study (GSDS) was commissioned in 2001 to develop environmentally sustainable drainage policies and strategies for the region for the 30 year period up to 2031;
- The Fingal Development Plan 2005 – 2011 sets out Fingal County Council's policies and objectives for the development of the County and seeks to develop and improve in a sustainable manner the environmental, social, economic and cultural assets of Fingal. The Development Plan has fully incorporated the policies and strategies identified in the GSDS.

This update of the Assessment of Needs outlines:

- The regional drainage policies and strategy adopted in the GSDS and the programme of works identified for the Fingal area.
- The achievements of the Water Services Investment Programme in Fingal from the 1999 Assessment of Needs to date
- The specific Water Services needs for the period 2005 – 2007
- An examination, from a strategic perspective, of the main requirements for water services for the period 2007 – 2012
- A costed programme of works, in order of priority, of water, wastewater and surface water schemes.

Public Consultation

The process for the adoption of this review of the Water Services Assessment of Needs is:

- Presentation of a draft document to the Environment Strategic Policy Committee
- Public advertisement of the draft document allowing a period of one month for submissions

- Presentation of the draft document together with public submissions, and responses thereto, to a meeting of Fingal County Council.
- Submission of the Assessment of Needs, as approved by the Council, including submissions received on the published draft, and responses thereto, to the DEHLG.

Background

Fingal's Water Services Department is responsible for delivering the full range of water services to the Fingal administrative area. This includes abstraction, treatment and distribution of drinking water; collection, treatment and disposal of wastewater; collection and disposal of surface water in urban areas and monitoring and control of water pollution. In addition, as Fingal lies within the Greater Dublin Area, it shares a number of strategic water services with other local authorities in the Region. e.g.

Water supply - Fingal operates a major water treatment plant at Leixlip, which abstracts water from the River Liffey. Drinking water from Leixlip is distributed to Fingal and the Northeast of Dublin City, via Ballycoolen reservoir, and also to South Dublin, north Kildare and parts of south Meath. The Sutton, Baldoyle and Howth areas of Fingal are supplied from Dublin City.

Wastewater - the southern part of the county from Blanchardstown/Mulhuddart to the Airport and the coastal area from Portmarnock to Howth discharges to Dublin City Council's main drainage system and is treated at Ringsend wastewater treatment plant. In addition, wastewater from the Clonee/Dunboyne and Ratoath/Ashbourne areas of County Meath are discharged to Fingal's collection system for treatment at Ringsend.

Strategic Studies

A number of strategic studies have been carried out in recent years to assist in planning for the Region's development. These studies include:-

The Regional Planning Guidelines (RPG) for the Greater Dublin Area, which set a statutory framework for sustainable development in the Region up to 2011.

The 1996 - 2016 Greater Dublin Water Supply Strategic Study (GDWSSS) Report, published in 1996. This report was revised in part in the year 2000 to ensure compliance with the RPGs and to take into account the rapid growth in the Dublin Region. The report outlines a strategic investment framework over a 20-year period to 2016. The overall investment programme recommended for the Dublin region amounted to €98m. Initial investment has focussed on a Regional Water Conservation Project (WCP) including water management systems, leakage reduction and also on upgrading Leixlip Water Treatment Plant. The WCP has been very successful leading to a reduction in Regional leakage levels from 42.5% to 30%.

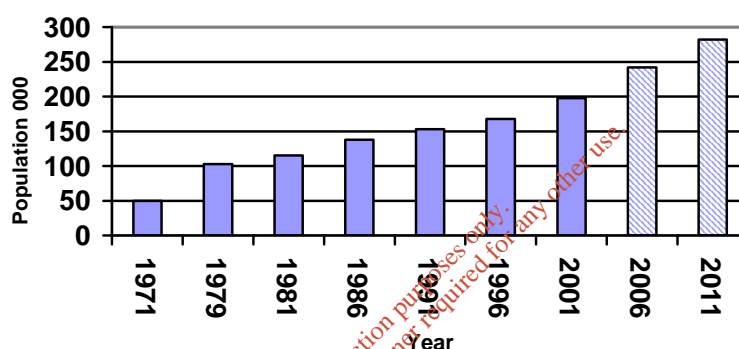
The Greater Dublin Strategic Drainage Study (GSDS) commissioned by the Dublin Region Local Authorities (including Fingal County Council) in year 2001 to provide a sustainable strategy for the investment in and management of the Region's foul sewerage and storm water systems up to 2031. The Study was completed in April 2005.

Rapid Growth

There have been significant changes in the operating environment in which water services are provided since the 1999 Fingal County Development Plan was adopted. The main drivers of change include:

- Rapid population growth in Fingal (See Figure 1.1 Fingal Population 1970-2011)
- Increased environmental standards imposed by European and National Legislation
- Improving levels of service where these are deficient
- The Government's framework for water pricing
- New project management and service procurement approaches.

Figure 1.1 Population Fingal 1971 - 2011



The extent of investment in public infrastructure in Fingal has been very pronounced in recent years. Between 1999 and 2005 over €150 million has been invested in water and drainage infrastructure in Fingal. The availability of a high quality infrastructure, as a result of this investment, and the existence of a high quality environment make Fingal an attractive place in which to invest, reside, work or to enjoy leisure activities.

However, the rapid population and economic growth in Fingal also puts additional pressures on our environment. The Council has adopted a proactive approach to dealing with these pressures by carrying out strategic planning to ensure that water supply and drainage services keep pace with future demand. The long-term economic, social and environmental well being of Fingal is dependent on maintaining the highest possible standards of environmental quality.

This document sets out the achievements of the Council in relation to the previous programme of investment and outlines the plans and needs of the Council in relation to future programmes of investment in new infrastructure for water, wastewater and surface water drainage.

Reference Documents

The documents listed below provided background reference for preparation of the updated Assessment of Needs:

- Circular L11/03 from the Department of the Environment Heritage and Local Government
- The Regional Strategic Planning Guidelines for the Greater Dublin Area
- Fingal County Council Development Plan 2005 - 2011

- Local Area Plans
- Water Framework Directive as applied to the Eastern River Basin District.
- The Greater Dublin Water Supply Strategic Study
- County Sludge Management Plan
- Phosphorus Regulation Measures Report
- The Fingal Water Services Business Plan 2005 – 2009

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2. GREATER DUBLIN STRATEGIC DRAINAGE STUDY

The economic success of the greater Dublin Region since the 1990s has led to very significant growth in Dublin City and the surrounding counties. The foul and storm water drainage infrastructure is stretched to keep pace with the increased demand for new serviced land for housing, commercial developments and industry.

Overloading of the existing systems is evident from marked deterioration in water quality, increased risks of flooding and concerns that the drainage system and wastewater treatment plants have insufficient capacity to cater for future development.

In 2000, the Department of the Environment, Heritage and Local Government supported the proposal by the Dublin Region Local Authorities to proceed with the Greater Dublin Strategic Drainage Study (GSDS) to examine these issues and to identify solutions. The Study was funded under the National Development Plan 2000 – 2006 and Dublin City Council was appointed as the contracting authority for the Study.

The GSDS was commissioned in June 2001 to carry out a strategic analysis of the existing foul and surface water systems in the local authority areas of Dublin City, Fingal, South Dublin, Dun Laoghaire-Rathdown and the adjacent catchments in Counties Meath, Kildare and Wicklow.

The objectives of the Study were to identify policies, strategies and projects for the development of a sustainable drainage system for the Greater Dublin Region.

Study Objectives

The Study objectives were:

- To develop an environmentally sustainable drainage strategy for the Region consistent with the EU Water Framework Directive. This strategy should outline the requirements for foul and stormwater drainage capable of meeting the demands of the Region in the context of current Development Plans, the Regional Planning Guidelines and the longer term development potential of the region;
- To provide a consistent policy framework and standards which will apply throughout the Region, and promote the requirements of environmental legislation and the recommendations of the GSDS itself;
- To develop tools for the effective management of the drainage systems including Geographical Information Systems (GIS), network models and digital mapping;
- To develop the optimum drainage solution from a range of alternative scenarios having regard to whole-life cost and environmental performance, the solution to be broken down into a set of implementation projects which can be prioritised and put in place.

Regional Drainage Policies

The study undertook a review of local authority drainage practices in five key areas:

- New Development
- Environmental Management

- Climate Change
- Inflow/Infiltration and Exfiltration
- Basements

New policies have been drawn up in all of these areas and incorporated into the Development Plans of the local authorities. A set of detailed technical documents has been prepared to support the implementation of these policies. The policies seek to optimise the performance of drainage assets and to mitigate drainage impacts on the environment. Implementation of the policies is vital to ensuring the ongoing sustainable development of the Greater Dublin Region.

Population and Land Use

In defining the existing and future drainage requirements of the Region, the Study used three planning scenarios: years 2002, 2011 and 2031. The 2002 scenario represented the existing situation, incorporating the 2002 Census results. The 2011 scenario corresponds to the planning horizon of the Regional Planning Guidelines, which have been reflected by local authorities in their current Development Plans. The 2031 scenario is a long-term horizon reflecting regional planning policy and drivers. This latter scenario is appropriate for the planning of major long lead-time strategic infrastructure and has regard to likely demands for the foreseeable future. The development intentions for the Region are challenging as demonstrated by Table 2.1 for residential population.

	2002	2011	2031
Population	1,225,545	1,489,962	2,054,401
Compared with 2002		+22%	+68%
Household Size	2.92	2.46	2.18
Compared with 2002		-16%	-25%
Housing Units	420,130	605,667	943,627
Compared with 2002		+44%	+125%

Table 2.1 Residential Population Statistics (GSDSDS Study Area)

Criteria, Standards and Influences on Strategy

The strategy is based on appropriate (best practice) criteria, standards and influences which can be summarised as follows.

- Standards relating to continuous discharges to receiving waters would be based on detailed studies of the receiving waters in the context of all relevant statutory requirements including the Water Framework Directive.

- Load management to reduce non-domestic loads at source would be undertaken in conjunction with the extension of the treatment works at Ringsend to meet the short-term needs.
- Operational standards of intermittent discharges from Combined Sewer Outfalls (CSO's) would be based on best practise environmental standards, retention of "first flush" and controlled spill frequency.
- The wastewater treatment strategy would be based on the optimisation and maximisation of the existing facilities to meet identified needs. Developments beyond those currently zoned will require additional capacity.
- The foul sewer strategy would allow the capacity of the existing systems, principally the Grand Canal system to be consolidated for existing development.
- Stormwater drainage strategy would be developed on a catchment-by-catchment basis taking account of flood risk, the impact of climate change and the systematic use of Sustainable Drainage Systems (SuDs) for new developments.

Recommended Strategy

The recommended strategy for the long-term drainage requirements for the Greater Dublin Region has been determined in the Study:

- New Regional Wastewater Treatment Plant in Fingal
- Orbital sewer to Blanchardstown
- Pumped connection from South Dublin to orbital sewer
- Pumped connection from Leixlip to orbital sewer
- Pumped connection from Meath to orbital sewer
- Redirecting excess flows from Swords and Malahide
- Maintain Ringsend Wastewater Treatment Plant for existing catchments
- Upgrade existing treatment works to their ultimate design capacity
- Upgrade local sewerage networks

The recommended strategy purports to offers:

- The least environmental risk in the context of receiving water standards and community impacts, and
- The most robust and secure operational regime, relying largely on proven technologies and with lower community impact where the bulk of the works can be constructed outside of existing developed areas,
- A future proofing of the strategy for growth beyond the 2031 horizon

The capital costs of the recommended strategy total €2,361 million, which when combined with whole-life operational costs of €224 million, results in an overall total cost of €2,585 million.

Implementation of the Strategic Plan

The timetable for implementation of an agreed strategic plan would be spread over the period 2005 to 2031. However, a significant proportion of the plan needs to be implemented over the period 2006 – 2011 to ensure that capacity is available for planned development.

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3. WATER SERVICES INVESTMENT PROGRAMME 1999-2005

Water Supply

Fingal County Council produces an average of 165 million litres of water daily (ML/d) from its water treatment plants at Leixlip and Bog of the Ring to supply approximately 80,000 households and over 5,500 non-domestic water service customers, in the Fingal area. In addition Leixlip supplies parts of the neighbouring local authorities of Dublin City, South Dublin, Kildare and Meath.

A major upgrading and expansion programme has increased Leixlip's sustainable production capacity to 148 million litres per day (peak 168 ML/d). Fingal has recently commissioned a small groundwater source at the Bog of the Ring in the North of the County, which is producing approximately 4 ML/d.

Further expansion at Leixlip to achieve a sustainable production of 225 ML/d is at the planning stage, as are additional storage capacity at Ballycoolen and additional rising mains between Leixlip and Ballycoolen. A series of extensions and improvements to the water supply network across Fingal have been advanced to provide for new development areas and to improve security of supply.

In addition to the schemes carried out with central government funding, Fingal County Council also carried out works under its minor works programme to facilitate new developments, which have been financed from development contributions. Developers have also carried out major improvements to the drainage and water supply network.

Drainage Services - Wastewater and Surface Water

The Council is responsible for the collection, treatment and disposal of all wastewater originating in urban and village areas and for dealing with surface water collection and disposal in urban areas. With the rapid urban expansion in Fingal, and the various national and E.U. regulations as well as the continuing need to improve our environment Fingal is faced with a growing need to improve foul and surface water infrastructure.

Wastewater

The Malahide and Swords Wastewater treatment plants have been expanded to 20,000 PE and 60,000 PE respectively. Construction is in progress on the Balbriggan/Skerries plant at Barnagheara (30,000 PE) and a new plant is planned at Portrane (65,000 PE) for Portrane, Donabate, Rush and Lusk. Network improvements are in progress in Swords and are planned for Blanchardstown. A sludge hub centre for the county, which will be located at Kilshane, is at planning stage.

The Baldoyle Flood Alleviation scheme, covering an area subject to a combination of surface water and tidal flooding over many years, was completed in 2004. Following the 2002 flooding events, the Tolka Flood Study was commissioned and recommended measures to minimise flood risk in the Tolka catchment in Meath, Fingal and Dublin City which are currently being advanced with financial support from the Office of Public Works. The Dublin Coastal Flooding Protection Project, which will provide an overview of flood protection measures in Fingal together with an early flood warning system and recommendations on flood protection measures needed to minimise the risk of future flooding of property is at draft stage.

Table 3.1 WATER SERVICES INVESTMENT PROGRAMME ACHIEVEMENTS 1999 – 2005

SCHEME	COST M	STATUS
<u>WATER SCHEMES</u>		
1. Cruiserath Road 800mm Rising Main	1.34	Completed
2. Bog of the Ring (Ground Water Development)	3.48	Completed
3. Leixlip Augmentation Scheme (Contract 1-9)	47.70	Completed
4. Swords Trunk Main Augmentation	10.00	Construction in progress Expected completion Dec 2005
5. Ballycoolen Storage Reservoirs	31.8	Construction in progress. Expected completion December 2007
6. Leixlip/Ballycoolen Rising Mains	24.4	Tenders sought. Expected completion December 2007
7. Balbriggan Water Supply	13.5	Scheme in Progress
8. Swords North Watermain Strengthening (Lissenhall to Jordanstown Reservoir)	9.4	Consultants appointed. Planning in progress
9. Leixlip Water Treatment Plant Extension	26.7	Consultants appointed. Planning in progress
10. Howth Water Supply Network Improvements Phase 2	1.2	Consultants appointed. Planning in progress
<u>WASTEWATER SCHEMES</u>		
11. Malahide Wastewater Treatment Plant	11.4	Completed
12. Swords Wastewater Treatment Plant	26.61	Completed
13. Balbriggan/Skerries Sewerage Scheme	23.9	Construction in progress. Expected completion Oct 06
14. Dublin Bay Project Contract 5	15.9	Consultants appointed. Planning in progress
15. Portrane/Donabate/Rush/Lusk Sewerage	59.4	Consultants appointed. Planning in progress
16. Fingal Sludge Management	8.1	Consultants appointed. Planning in progress
17. Swords Main Drainage Network	8.1	Construction in progress

18. Blanchardstown Foul Sewer Network	20.0	Consultants brief being prepared
<u>SURFACE WATER</u>		
19. Clonsilla Surface Water Scheme	4.78	Completed
20. Baldoyle Flood Alleviation Scheme Phase 2	2.35	Completed

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4. WATER SERVICES INVESTMENT PROGRAMME 2005 - 2007

Continued rapid development in Fingal requires that a large number of water services infrastructure schemes be advanced as a matter of priority. The Fingal Development Plan 2005 – 2011 provides for a population growth from 220,000 in 2004 to 260,000 in 2011 and for 42,500 new housing units by 2011.

The GSDSDS has identified key infrastructure necessary to facilitate sustainable development in the Region. The following are the priority schemes to be advanced in the period 2005 to 2007.

Water Supply

Ward/Garristown Water Supply Upgrading

This scheme is required to improve the deficient level of service to the rural areas of Fingal and to provide for new development in the Rural Villages in support of Fingals Development Plan.

Malahide Reservoir Expansion and High Level Water Supply

The reservoir is required to provide security of supply to the Malahide area and provide an adequate level of service to areas experiencing low pressure.

Ballycoolen/Kingston Trunk Main Duplication

This will complete the duplication of the trunk watermain supplying Swords, Balbriggan and the North Fingal area from Ballycoolen and will provide for security of supply.

Swords Water Supply Network Rehabilitation

This will provide for upgrading the existing distribution system in the Swords area, including rehabilitation of the existing 30" trunk main in order to maintain adequate levels of service.

Rush/Lusk/Skerries Water Supply Upgrading (Extension of Swords North Watermain Strengthening Scheme).

This scheme provides for an extension of the Swords scheme to Lusk, Rush and Skerries. The existing mains are required to be upgraded to provide for new development in these areas.

Orthophosphoric Treatment at Leixlip Water Treatment Plant (To be included in Leixlip Expansion, if required)

In order to comply with the lead parametric value of 10 µg/l by 25 Dec 2013 it may be necessary to install orthophosphoric acid dosing to provide a film of almost insoluble orthophosphate in exposed lead pipes thus reducing the pickup of lead. A joint approach needs to be adopted between Dublin City Council and Fingal County Council in conjunction with the DEHLG.

Wastewater

Balbriggan/Skerries Wastewater Treatment Plant Phase 2

Phase 1 of the Balbriggan Wastewater Treatment Plant will be nearing full capacity when it is commissioned in 2006. Therefore, in order to cater for the growing needs of the Balbriggan area, there is an urgent need to proceed with Phase 2 of the scheme.

Malahide Foul Sewer Network

The existing system is required to be upgraded to provide for existing and new developments. Key elements to be upgraded are identified in the GSDS Final Report.

Balrothery Sewer Upgrading

The existing system from Balrothery is required to be upgraded to provide for future development in this area.

Rural Wastewater Treatment Plant and Networks Upgrading

The WWTPs and networks at The Naul, Garristown, Ballyboughal and Oldtown are required to be upgraded to cater for proposed additional housing in accordance with approved Local Area Plans.

Swords Wastewater Treatment Plant Extension

The new Swords Waste Water Treatment Plant is capable of treating a population equivalent of 60,000. In order to cater for the future needs of the Swords area it is necessary to increase the plant size to 90,000 pe.

Foul Sewer Pumping Stations Upgrading (Small Scheme)

A number of pump stations through the system require upgrading or rehabilitation in order to adequately cater for existing and new development.

Toberburr Pumping Station and Rising Main (Small Scheme)

This scheme will see the replacement of the existing Wastewater Treatment Plant with a Pumping Station and Rising Main connecting into the Swords WWTP System.

Strategic Environmental Assessment

Arising from the Greater Dublin Strategic Drainage Study (GSDS) it is recommended that a Strategic Environmental Assessment (S.E.A.) of the GSDS be carried out before finalising proposals on the optimum drainage solution bearing in mind the EU proximity principle.

Surface Water

Donabate Surface Water Scheme

This scheme will provide a surface water drainage strategy, which will address existing problems and cater for future development.

Mayne River Surface Water

Six areas were identified as being at risk of flooding during a 100 yr. ARI critical storm event. This scheme will provide a strategy for reducing flooding risk in these areas.

Broadmeadow River Surface Water

This scheme will aim to provide additional capacity within the catchments to pass forward flows away from flooding locations while taking account of future proposed development.

Tolka Blanchardstown Surface Water

This scheme caters for the areas of increased development draining into the system. The upgrading works comprise upgrading of existing sewers and provision of new sewers to route flows to the River Tolka and its tributaries.

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5. WATER SERVICES INVESTMENT PROGRAMME 2007 - 2012

The growth projections identified in the Fingal Development Plan 2005 – 2011 and the drainage requirements from the GSDS will continue to be the main drivers for water services infrastructure in the period up to 2012. A number of the schemes to be commenced in the 2005 – 2007 investment programme will be under construction up to 2012 and beyond. The further schemes to be advanced in the 2007 – 2012 period are as follows.

Water Supply

- Howth Water Supply Improvements Phase 3
- Lusk/Skerries Watermain
- Donabate Watermain

Wastewater

- Malahide Wastewater Treatment Plant Extension

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6. WATER SERVICES INVESTMENT PROGRAMME 2005 – 2012

SCHEMES IN ORDER OF PRIORITY

SCHEME	COST €M
1. Balbriggan/Skerries Wastewater Treatment Plant, Phase 2	4.0
2. Ward/Garristown Water Supply Upgrading	9.0
3. Malahide Foul Sewer Network	5.0
4. Fingal Optimum Drainage Solution	565.0
5. Malahide Reservoir Expansion and High Level Water Supply	1.5
6. Donabate Surface Water Scheme	1.5
7. Balrothery Sewer Upgrading	1.0
8. Rural Wastewater Treatment Plants and Networks Upgrading	3.0
9. Ballycoolen/Kingstown Trunk Main Duplication	7.4
10. Swords Wastewater Treatment Plant Extension	10.0
11. Mayne River Surface Water	2.9
12. Swords Water Supply Network Rehabilitation	3.5
13. Broadmeadow River Surface Water	27.3
14. Tolka Blanchardstown Surface Water	25.0
15. Howth Water Supply Improvements, Phase 3	0.4
16. Rush/Lusk/Skerries Watermain	4.2
17. Donabate Watermain	0.9
18. Malahide Wastewater Treatment Plant Extension	7.8

* 1-11 excluding 4 are expected to be progressed by the end 2006.

CONCLUSION

The objectives of the proposed investment programme are

- To facilitate the projected increase in population and to support economic development in Fingal
- To facilitate the implementation of Fingal County Council's Development Plan 2005 – 2011
- To remedy deficient services to existing customers
- To provide high standard of environmental protection and to meet statutory environmental objectives as identified in the GSDS

Fingal County Council in common with the other Dublin Local Authorities faces major challenges in relation to water and drainage infrastructure. The proposed investment programme addresses the issues and infrastructure deficits that currently exist, and is required to facilitate continued population and economic growth in Fingal.

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Water Services Operational Plan 2007

Departmental Objectives and Strategies

Objectives

- To provide the necessary water services infrastructure to meet the expanding needs of the county while meeting water quality objectives
- To produce high quality drinking water and implement measures to achieve “Good Ecological Status” for surface, ground and coastal waters by 2015
- To reduce water wastage through appropriate management of the water network and encouraging sustainable water usage by customers

Strategies for Delivery

- Water Services Business Plan 2005-2009
- Water Services Investment Programme
- Regional Water Conservation Programme
- Three Year Capital Programme 2007- 2009
- Annual Budget 2007
- Performance Management Development System (PMDS)

Consultation

Staff Teams in Water Services Department participated in the preparation of the Operational Plan 2007

Implementation and Monitoring

Progress on the implementation of the Operational Plan 2007 will be monitored by:

- All PMDS Team Meetings
- Monthly Meetings of the Water Services Department Management Group
- Monthly Senior Team Meetings with the County Manager
- Quarterly reviews by the Council’s Management Team
- Water Services Department Annual Report

Departmental Action

3.1. Service Delivery 2007

Action	Service Indicator	Target	Budget Code	Team Leader	Review
Provide a high quality Emergency Response by; <ul style="list-style-type: none"> <input type="checkbox"/> Monitoring of our Emergency Response System during periods of major bursts and flooding. <input type="checkbox"/> Update and circulate out of hours contact list after staff changes (every 3 months) 	No. of complaints received	Same day updating of Website, Aertel and pageboy service. Update and circulate list in each Quarter in 2007	38190001 31100001 32100001	Caroline Kelly Pat Brannelly	
Ensure advanced media warnings of planned major interruptions to water supply <ul style="list-style-type: none"> <input type="checkbox"/> frequent updates on water bursts and flooding. – <input type="checkbox"/> Review after each planned shutdown and update communications protocol as appropriate. 	No. of complaints received due to lack of notice	Min 2 weeks notice to all non-domestic customers affected by shutdown. Min 3 days notice to all domestic customers affected by shutdown.	38190001	Caroline Kelly	
Annual Review of Operating Costs to achieve VFM at <ul style="list-style-type: none"> <input type="checkbox"/> Leixlip WTP <input type="checkbox"/> Bog of the Ring <input type="checkbox"/> Swords WWTP <input type="checkbox"/> Malahide WWTP <input type="checkbox"/> Barnageera WWTP <input type="checkbox"/> Small Sewage Treatment Plants 	Operating Costs per cubic metre	Review completed by October 2007 and benchmarked against similar sized facilities in Ireland and abroad.	31430001 31430004 32200002 32200003 32200004 32200001	Lar Spain Mary Daly	
Implementation of Phosphorus Regulations Measures <ul style="list-style-type: none"> ▪ Maintain GIS system showing all point and non-point sources of pollution and pollution incidents in each catchment ▪ Stakeholder consultation with Meath Co Co ▪ Outsource survey of farms and their impact on water pollution. ▪ Outsource survey of Septic Tank on a Catchment Basis. 	National Service Indicator E1 No. of meetings No. of farm surveys No. of Septic Tank Surveys	Maintain water quality standards in the County 3 meetings 2007 200 surveys 2007 100 surveys 2007	31100099	Aoife Lawler	

Action	Service Indicator	Target	Budget Code	Team Leader	Review
Implementation of Dangerous Substances Regulations Measures <ul style="list-style-type: none"> ▪ Maintain GIS system showing all point and non-point sources of pollution and pollution incidents in each catchment ▪ Stakeholder consultation with Meath Co Council 	National Service Indicator E1 No. of meetings	Maintain water quality standards in the County 3 No. meetings 2007	31100099	Aoife Lawler	
Implementation of the Water Pollution Control Acts <ul style="list-style-type: none"> • Process Water Pollution Licences • Monitor Water Pollution Licences ▪ Investigate, serve appropriate notices and carry out required enforcement under the Water Pollution Act ▪ Investigate and reduce all unlicensed discharges 	No .of licences processed within target No. of samples taken National Service Indicator E11 No. of discharges investigated	90% within 8 weeks of receipt 500 samples taken in 2007 Rigorous enforcement of the WP Acts 10 unlicensed discharges	31100099	Aoife Lawler	
Participation in the Dublin Bay Water Quality Management Co-ordinating Group	No. of meetings attended	Attendance and participation in meetings	31100099	Aoife Lawler	
Provide Development Control function for all planning applications, additional information requests and planning compliance requests.	<ul style="list-style-type: none"> • % Planning applications reported on within 4 weeks. • % Additional information requests reported within 2 weeks • % Planning compliance requests reported on within 6 weeks 	<ul style="list-style-type: none"> 97% reported on within 4 weeks 95% reported on within 2 weeks 90% reported on within 6 weeks 	31100001 32100001	Anne McElligott	
Operate and maintain the foul and surface water sewer networks of the County to the highest standards. <ul style="list-style-type: none"> • Respond to reports of sewer blockages • Implement Preventative Maintenance Programme for Swords Area • Prepare and Implement Preventative 	% Compliance <ul style="list-style-type: none"> ▪ No. of Sewer Blockages. ▪ No. of premises flooded by foul and surface water ▪ No. of Sewer Blockages. 	90% within 12 hours 100% within 24 hours Reduction in numbers of sewer blockages. Elimination in the number of premises flooded Reduction in numbers of sewer blockages.	32100001 32100001 32100001	Pat Brannelly Pat Brannelly Pat Brannelly	

Action	Service Indicator	Target	Budget Code	Team Leader	Review
Maintenance Programme for Ballycoolen Area <ul style="list-style-type: none"> Document location and size of all sewer overflows -prepare Management Plan 	<ul style="list-style-type: none"> No. of premises flooded by foul and surface water Document prepared and Management Plan in place 	Elimination in the number of premises flooded Document prepared by February 2007			
Operate and maintain Swords and Malahide wastewater treatment plants to the highest standards. <ul style="list-style-type: none"> Prepare a preventative maintenance programme for Swords WWTP Prepare a preventative maintenance programme for Malahide wastewater treatment plant. 	% Compliance with Urban Wastewater Treatment Regulations. % Compliance with Urban Wastewater Treatment Regulations.	Fully compliant with the Urban Wastewater Treatment Regulations Fully compliant with the Urban Wastewater Treatment Regulations	32200001 32200001	Pat Brannelly Pat Brannelly	
Operate and maintain the rural wastewater treatment plants of the County to the highest standards. <ul style="list-style-type: none"> Implement Preventative Maintenance Programme for Swords Area Prepare and Implement Preventative Maintenance Programme for Ballycoolen Area 	% Compliance with Urban Wastewater Treatment Regulations. % Compliance with Urban Wastewater Treatment Regulations.	Fully compliant with the Urban Wastewater Treatment Regulations. Fully compliant with the Urban Wastewater Treatment Regulations.	32200001 32200001	Pat Brannelly Pat Brannelly	
Operate and maintain the public toilets in the County to the highest standards.	No. of complaints received regarding the condition of toilets.	Providing a high quality public toilet service in the County	32300001	Pat Brannelly	
Operate and maintain the water network in the County to the highest standards by; <ul style="list-style-type: none"> Producing high quality water in the network Responding to reports of watermain bursts Holding regular meetings between Leakage Team and Depot Management Managing leakage repair process 	% Water samples in compliance with Drinking Water Regulations. % Compliance with Standards of Service. No. of meetings held and documented. <ul style="list-style-type: none"> No. of leaks identified. No. of leaks repaired. No. of leaks outstanding. 	Fully compliant with Drinking Water Regulations and Standards of Service. 90% within 12 hours 100% within 24 hours Improved co-ordination in response to leakage repairs. Reduction in the number of leaks and reduce levels of Unaccounted for Water	31110001 31120001	James Walls	

Action	Service Indicator	Target	Budget Code	Team Leader	Review
	<ul style="list-style-type: none"> ▪ 27% Target for UFW 	UFW			
Production of high quality drinking water in compliance with relevant legislation at Leixlip WTP and Bog of the Ring.	% Water samples in compliance with Drinking Water Regulations.	Fully compliant with Drinking Water Regulations	31400001 31400004	Bill O'Brien Bill O'Brien	
<u>Cryptosporidium Risk analysis</u> (Leixlip and Bog of the Ring). <ul style="list-style-type: none"> • Carry out improvements to treatment systems. • Regular liaison meetings to be held with Kildare County Council. 	100% Complete No. of meetings held with Kildare County Council.	Minimise risk to the water supply in the County	31400001 31400004	Bill O'Brien Bill O'Brien	

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3.2. Service Improvements 2007

Action	Service Indicator	Target	Budget Code	Team Leader	Review
Full implementation of Fingal County Council Water Conservation Bye-Laws 2004 <ul style="list-style-type: none"> Implement enforcement procedures when hosepipe ban breaches occur Deliver permitting system to all known commercial operators of hydrant standpipes. Implement enforcement procedures for standpipe permit breaches. 	Number of non-compliance's with Bye – Laws. Permits issued No. of Enforcement actions taken	Compliance with Bye-Laws All commercial operators using standpipes have permit. Rigorous enforcement where breaches occur	38190001	James Walls Paul Smyth	
Hold formal meetings between Operations and Design every two months	No. of Meetings held	6 meetings in the year	31100001	Lar Spain	
Rural Sewage Treatment Plants (7 no.): <ul style="list-style-type: none"> Engage Consultant to prepare an operating manual for each plant and provide training. Liaise with Mechanical Dept. on maintenance and mechanical equipment upgrade for the plants to; <ul style="list-style-type: none"> <input type="checkbox"/> have plants on telemetry system <input type="checkbox"/> Install flowmeters. 	Consultant Engaged, Operating Manuals Prepared, Training Provided Telemetry installed Flowmeters installed	February 2007 April 2007 May 2007 December 2007 December 2007	32200001	Pat Brannelly	
Operate and maintain the Pump stations (40 no.) to the highest standards: <ul style="list-style-type: none"> Liaise with Mechanical Dept. on maintenance and mechanical equipment upgrade issues for the plant. <ul style="list-style-type: none"> ◆ Pump stations to be put on telemetry ◆ Flowmeters to be installed, ◆ Provide isolation of sump overpumping arrangements at pump stations. 	Telemetry installed Flowmeters installed Isolation provided	December 2007 December 2007 December 2007	32100001	Pat Brannelly	
Closer liaison with Human Resources Department in management of Depots <ul style="list-style-type: none"> ◆ Address findings of staffing report on Maintenance Depots ◆ Hold regular meetings between head office (Admin and HR) and depots to deal with outstanding difficulties. 	Specific elements of Report findings addressed. No. of Meetings held	December 2007 4 meeting in the year	32100001 31100001	Pat Brannelly James Walls	

Action	Service Indicator	Target	Budget Code	Team Leader	Review
Digitise and Update Drainage records	Digitising and updating to be completed by June 2007	Improved management of the drainage network.		Brendan Colgan	
Prepare report on the review of plant and equipment levels at maintenance depots	Report completed	May 2007	32100001	Pat Brannelly	
Prepare a plan for dealing with high tides and heavy rain <input type="checkbox"/> Swords depot <input type="checkbox"/> Ballycoolen depot	Policy document completed	March 2007		Pat Brannelly	
Prepare a detailed report on the management and maintenance of the public toilet service	Report completed	May 2007	32300001	Pat Brannelly	
Liaise with Operator on the ongoing management of the Barnageera WWTP	Improved water quality.	Barnageera Plant fully operational in Feb. 2007	32200004	Pat Brannelly	
Develop an integrated approach and response to; <ul style="list-style-type: none"> • Misconnections in the existing network • surface water infiltration • separating out surface water and foul sewers. • overflows 	Pilot Study completed No. of complaints regarding surface water infiltration	June 2007 – Dec. 2008. Continued improvements to the surface water and foul sewer networks by June 2007	C3230000 32200004	Brendan Colgan Pat Brannelly	
Develop Quality Assurance System and/or EMS system for: <input type="checkbox"/> Swords WWTP <input type="checkbox"/> Malahide WWTP	Development of QA System	Consultant engaged by August 2007	32200002 32200003	Pat Brannelly	
Minimise the environmental impact of Swords, Malahide and Barnageera WWTP's by; <ul style="list-style-type: none"> <input type="checkbox"/> Monitoring the impact on the inner Broadmeadow Estuary and publish results on Council website. <input type="checkbox"/> Resolve the problem at the inlet pumps at Swords <input type="checkbox"/> Improve liaison between Plant Manager and Pollution Control regarding test results from IPPC Licences <input type="checkbox"/> Develop a plan for policing and prohibiting illegal discharges to sewers. <input type="checkbox"/> Develop a plan for providing a reception facility for sewage, sludge, septic tank contents etc. 	% Compliance with Urban Wastewater Treatment Regulations.	Fully compliant with the Urban Wastewater Treatment Regulations.	32200002 32200003	Pat Brannelly	
Carry out visual improvements and	2 No. of pump stations	Minimise the visual impact	31110001	James Walls	

Action	Service Indicator	Target	Budget Code	Team Leader	Review
maintenance of pump stations and other water infrastructure in the County.	structures improved in 2007.	of pump stations	31120001		
Carry out improvements where water pressure problems arise <ul style="list-style-type: none"> ➤ Develop programme to install PRVs where high pressure identified ➤ Devise and implement a plan for areas of low pressure (<15m) ➤ Investigate use of GIS to record and manage data for pressure, quality and repairs 	<ul style="list-style-type: none"> ▪ No of areas logged ▪ No of PRVs installed ▪ Water loss reduction ▪ No of properties identified ▪ No of properties improved Report finalised	Sept. 2007 July 2007 Sept. 2007	C3230001	James Walls	
Investigate and develop response to problems with quality of water infrastructure in new developments.	No. of complaints received regarding water quality in new developments.	Report Prepared by June 2007	31110001 31120001	James Walls	
Continued high quality management of the Leixlip and Bog of the Ring Water Treatment Plants <ul style="list-style-type: none"> ▪ Develop Quality Assurance system for Leixlip and Bog of The Ring WTP's. ▪ Replace PLC's at Leixlip WTW 	Appoint Consultant Commission QA System All PLC's replaced in 2007	System commissioned by September 2007 Securing the operation of the facility.	31400001 31400004	Bill O'Brien	
Improved co-ordination in the Regional delivery of the water service by; <ul style="list-style-type: none"> ▪ Concluding legal agreements with other utilities to view their services on the GIS ▪ Water GIS: Increase accessibility options, including stand alone mobile computers and connectivity via the web ▪ Network model: set up a network model maintenance framework agreement for the region. ▪ Rollout of DMS to region ▪ Completing upgrade works for telemetry and GIS interfaces with the DRWDWMP. ▪ Establishing procedures for data collection to update water GIS 	Improvement in the Regional delivery of the water service.	March 2007 March 2007 April 2007 December 2007 June 2007 June 2007	31100007	David Wade	

Action	Service Indicator	Target	Budget Code	Team Leader	Review
<ul style="list-style-type: none"> • Review existing situation ▪ Draft written procedures ▪ Co-operate with Dublin Region Watermains Rehabilitation Project 		Continued co-operation 2007		James Walls	
Increase public awareness of water quality issues through information leaflets,	No. of leaflets developed and made available	2 No. targeted campaigns	31100099	Aoife Lawler.	
Enhance existing complaints database prior to introduction of a Contact Management System to include GIS capacity	Existing Database fully operational with Corporate Contact Management System introduced by the end of 2007 and linked to GIS	Better management of watermain bursts, sewer chokes, flooding & pollution incidents	38190001	Ann Egan	
Management and Conservation of our drinking water – <ul style="list-style-type: none"> ▪ Inform on best practice, including website for reduction in water consumption and encourage customers to use water efficiently. ▪ Expanded Roll out of water barrels campaign 	Monthly Review of Website No. of water barrels purchased by customers during campaign.	Ongoing update of website with further training for Water Services Staff Campaign extended by April 2007	38190001	Caroline Kelly	
“Promote and Conserve Our Water”. <ul style="list-style-type: none"> • Ensure all correspondence, press releases etc. promotes and informs re. water conservation. • Follow up campaign in schools 	100% press releases include water conservation message. No. of schools signed up to Campaign	Envelopes with Water Conservation logo in 2007 2 nd Quarter 2007	38190001 38190001	Caroline Kelly Caroline Kelly	
Register of all Water Services Wayleaves	All current wayleaves registered on Database	Database fully in place by 3 rd Quarter 2007	38190001	Mary Daly	
Prompt payment & invoicing of accounts – Development of a Tracking system to ensure prompt payment of invoices for Bulk Water, Drainage & Fluoridation bills.	Payments received when due.	Reduction in level of uncollected and bad debts	38190001	Caroline Kelly	
Financial Monitoring – Recoupment of all expenditure and DEHLG returns on all Capital Projects <ul style="list-style-type: none"> ▪ Project Office ▪ Design Section 	Amounts outstanding against schemes.	All monies claimed as they become due	31100004 31100005	Karen Murray Caroline Kelly	
Control Accounts in line with	Completed within deadline.	February 2007	38190001	Caroline Kelly	

Action	Service Indicator	Target	Budget Code	Team Leader	Review
recommendations of Local Govt. Auditor					
Implement a Monitoring system on all Capital expenditure in order to prevent any unauthorised payments. <ul style="list-style-type: none"> ▪ Project Office • Design Section 	No unauthorised payments	All payments covered by M.O.	31100004 31100005	Karen Murray Caroline Kelly	
Ensure that an open and transparent recording system is put in place for monies collected under Water Pricing.	No. of complaints from non-domestic customers regarding system.	Fully operational open and transparent system	38190001	Caroline Kelly	
Produce and issue leaflet to notify domestic and non-domestic customers of the costs (capital and operational) associated with the provision of their water services	Information leaflet to all non-domestic customers prior to 1 st quarter bill. Information to domestic customers by end of 2 nd Quarter.	1 st Quarter 2007 2nd Quarter 2007	38190001 38190001	Mary Daly Mary Daly	
Cost efficient Quality Financial Management Continue implementing Govt's Water Pricing Policy to all non-domestic customers	Full financial implementation to all non-domestic customers	Full financial implementation to all non-domestic customers	38190001	Mary Daly	
Effective, efficient and economical monthly budgetary control by all budget holders	Achieving budgetary targets.	Monthly review by Budget Holders	38190001	Ann Egan	
Monitoring of capital expenditure from development levies	Minimum 3 Claims per year	April, August and December 2007	38190001	Ann Egan	
Develop procedures manuals for <ul style="list-style-type: none"> <input type="checkbox"/> Public procurement <input type="checkbox"/> Works Programme Levy Claims <input type="checkbox"/> Protection of Drinking Water Supplies <input type="checkbox"/> Drinking Water Quality <input type="checkbox"/> Quality Assurance System Leixlip and Bog of the Ring WTPs <input type="checkbox"/> Quality Assurance System Swords, Malahide and Rural WWTPs <input type="checkbox"/> Developer Leaks <input type="checkbox"/> Preventative Maintenance Schedule <input type="checkbox"/> Developer Agreements <input type="checkbox"/> Standards of Infrastructure <input type="checkbox"/> Project Control System/ Project Management <input type="checkbox"/> Water pollution Incident Recording 	Procedures Manuals in place by 2 nd Quarter 2007	Clarity of procedures and roles and responsibilities in the Section	38190001	Caroline Kelly/ Anne Egan Anne Egan Lar Spain Bill O'Brien Bill O'Brien Pat Brannelly James Walls James Walls Anne McElligott Anne McElligott Pat Finn/ Brendan Colgan Aoife Lawler	

Action	Service Indicator	Target	Budget Code	Team Leader	Review
<input type="checkbox"/> Trade Effluent Discharge Licence <input type="checkbox"/> Water Quality Data <input type="checkbox"/> Document Control <input type="checkbox"/> Tender Management				Aoife Lawler Aoife Lawler John Mulcahy John Mulcahy	
Tendering – E.Tendering for Annual Plant and Materials Lists <ul style="list-style-type: none"> ▪ Investigate the Regional option for Plant and Materials procurement 	All documents in PDF Format for e-tender site.	Plant & Materials Lists compiled by 4 th Quarter 2007	38190001	Caroline Kelly	
Implement Project Control and establish Project Management Procedures <ul style="list-style-type: none"> ▪ Design Office ▪ Projects Office 	Improved procedure for Department Claims	New system fully operational by March 2007	31100005 31100004	Caroline Kelly Karen Murray	
Implement Framework Agreement for engagement of consultants and contractors.	Increased output on the Revenue Supported Works Programme.	Framework Agreement in use in 2007	C3230001	Brendan Colgan Pat Finn	

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3.3. New Services/Research 2007

Action	Service Indicator	Target	Budget Code	Team Leader	Review
Environment S.P.C. Programme 2007 New Policies <ul style="list-style-type: none"> <input type="checkbox"/> Sustainable procurement options <input type="checkbox"/> Odour Control Policy for Wastewater Treatment Plants. <input type="checkbox"/> Incentivising Water Conservation Measures - Literature Review. <input type="checkbox"/> Development and Promotion of a SuDS Policy Policy Implementation <ul style="list-style-type: none"> <input type="checkbox"/> Leakage Reduction Report <input type="checkbox"/> Pilot Programme Rainwater Harvesting <input type="checkbox"/> Standards of Service Review <input type="checkbox"/> Fats, Oils and Greases Implementation 	Programme delivered by the 4 th Quarter 2006	Policy Papers delivered and considered by the S.P.C. Implementation of policy monitored by SPC.	38190001	Paul Smyth, Peter O'Reilly, Lar Spain and John Mulcahy	
Prepare document establishing clarity of procedures/responsibility for rivers and streams of the County	Improved management of the Streams and Rivers in the County	Document prepared by February 2007	32100001	Pat Brannelly	
FCC to act as lead Authority on Telemetry/GIS and Network Model on behalf of the Region	Telemetry/ GIS and Network model in place	4 th Quarter 2006	31100007	David Wade	
Implement bulk metering and billing of all new developments (from construction to taking in charge)	No. of Bulk Meters Installed	Bulk meters on all residential developments > 40 units.	31110001 31120001	James Walls	
Contribute to the Review of the Development Contribution Scheme	Active engagement in the review process	Jun 07 - Dec 07	C3230001	Anne McElligott	
Extended implementation of the Water Pollution Control Acts <ul style="list-style-type: none"> ▪ Review all licences greater than 3 years old ▪ Review procedure for licensing / supervising construction sites 	No. of licences reviewed New procedure in place	12 No. Licenses in 2007 March 2007	31100099 31100099	Aoife Lawler Aoife Lawler	
Participation in the National Action Programme to implement the Nitrates Directive	Full Implementation	Implement policies as notified to FCC	31100099	Aoife Lawler	
Implement ERBD River Monitoring Programme	Full Implementation	Jan 2007	31100099	Aoife Lawler	

Action	Service Indicator	Target	Budget Code	Team Leader	Review
Implement Fats, Oils and Greases FOG's Programme	Tender for Contract Appoint contractor Householder Awareness Stage 1 of process completed	February 2007 April 2007 June 2007 September 2007	31100099	Aoife Lawler	

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3.4. Revenue Supported Works Programme 2007

Action	Service Indicator	Target	Budget Code	Team Leader	Review
Continue to implement report of November 2004 to address the recurring sewage flooding problems	7 Number resolved by end of 2007	7 no. resolved by December 2007	32100001	Pat Brannelly	
Upgrade 2 public toilets - Loughshinny and Claremont (Howth)	Programme completed	Upgrades completed by December 2007	32300001	Pat Brannelly	
Implement findings of Odour Consultant's report at Swords WWTP.	No. of complaints regarding odours.	January 2007	32200002	Pat Brannelly	
Extend security fence at Swords WWTP	Fence erected	March 2007	32200003	Pat Brannelly	
Administer Interim Sludge Solution	Interim solution in place.	3 rd Quarter 2007	32100001	Pat Brannelly	
Levy funded Water Works Programme for minor system deficiencies in 2007.	Programme completed	4 th Quarter 2007	C3230001	Maire Mellerick.	
Levy funded Drainage Works Programme for minor system deficiencies in 2007.	Programme completed	4 th Quarter 2007	C3230001	Maire Mellerick.	
Levy funded Surface Water Works Programme for minor system deficiencies in 2007.	Programme completed	4 th Quarter 2007.	C3230001	Maire Mellerick.	
Review condition and develop programme for improvements/upgrades to water pump stations	<ul style="list-style-type: none"> ▪ No of Pump Stations investigated ▪ No of Pump Stations improved 	Improve conditions at 5 No. pumping stations	C3230001	James Walls	

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3.5. Capital Supported Works Programme 2007

Action	Service Indicator	Target	Budget Code	Team Leader	Review
Non-domestic metering project: FCC to continue its role as lead authority on behalf of the Dublin LA's <ul style="list-style-type: none"> ▪ Commence installation of meters and AMR systems. ▪ Billing of new customers 	Installation completed Interim billing commenced	Full rollout of the NDMP in the County by September 2007	C3130091	John Keane	
Dublin Region Drainage GIS <ul style="list-style-type: none"> ▪ Liaise with 7 LA's ▪ Set up an interim solution ▪ Procure a client's representative ▪ Prepare contract documents ▪ Advertise for tenders 	Improved management of the Drainage network	Ongoing June 07 April 07 October 07 November 07	C3230000	David Wade	
Leixlip Water Treatment Plant Extension	Contract Documents & Tender Water Abstraction Licence Commence Construction	Q1/07 – Q4/07 Q1/07 Q1/07 Q4/07-Q2/09	C3130064	Corrina Elder	
Ballycoolen Reservoir & Water Tower	Construction	Q1/07 - Q3/07	C3130041	Corrina Elder	
Leixlip Ballycoolen Rising Mains	Construction	Q1/07 - Q4/08	C3130112	Corrina Elder	
Sludge Hub Centre	Detailed Design and Tender	Q1/07 - Q4/07	C3230053	Corrina Elder	
North Fringe N2 Branch Sewer	Construction	Q2/07	C3230053	Corrina Elder	
Blanchardstown Sewer Network	Preliminary Report Drainage Area Plan 9C Route Selection Site Investigation	Q1/07-Q3/07 Q1/07-Q3/07 Q1/07 Q1/07-Q3/07	C3230093	Corrina Elder	
Phase 1 of Balbriggan Skerries Waste Water Treatment Plant	Start of Operational and Maintenance Contract Settlement of Claims Final Account	Q1/07 Q1/07 - Q3/07 Q4/07 - Q2/08	C3230048	Niamh McDonald	
Phase 2 Expansion of Balbriggan Skerries Waste Water Treatment Plant	Construction of 40,000PE Extension	Q1/07 - Q4/07	C3230094	Niamh McDonald	
Phase 3 Balbriggan / Skerries Sewerage Upgrade	Contract Documents Tender Process Construction	Q2/06 - Q4/06 Q1/07 - Q2/07 Q4/07 - Q2/09	C3230048	Niamh McDonald	
Portrane Wastewater Treatment Plant DBO Contract and Main Pumping Stations	Pre Qual / Shortlisting Tender Process Construction	Q1/07 Q1/07 - Q3/07 Q4/07 - Q2/09	C3230054	Niamh McDonald	

Action	Service Indicator	Target	Budget Code	Team Leader	Review
Portrane/ Donabate Sewer Network Upgrade	Detailed Design and tender Construction	Q1/07 - Q4/07 Q1/06 - Q4/09	C3230054	Niamh McDonald	
Rush/Lusk/ Sewerage Network Upgrading	Wayleaves Design & Con Docs Tender Process Construction	Q1/07 Q1-07 Q2/07 - Q3/07 Q4/07 - Q4/09	C3230055	Niamh McDonald	
Expansion of Swords Wastewater Treatment Plant	Planning Detailed Design and Tender	Q1/07 Q1/07 - Q4/07	C3230050	Niamh McDonald	
Strategic Environmental Assessment on G.D.S.D.S.	Scoping Report Draft Environmental Report Public Consultation Finalised Environmental Report SEA Statement	Completed February 2007 April 2007 June 2007 July 2007 August 2007	C3230000	Brendan Colgan	
Dublin Bay Project Contract 5.1A (Transfer Howth Sewage to Sutton Pump)	Construction	Oct 06 – Mar 08	C3230000	Brendan Colgan	
Dublin Bay Project Contract 5.1 B(Transfer Howth Sewage to Sutton Pump)	Planning Detailed Design and Tender Construction	Completed February 2007 Feb 07 – Mar 08 Mar 08 – Mar 09	C3230000	Brendan Colgan	
Dublin Bay Project Contract 5.1C (Mechanical/ Electrical)	Detailed Design and Tender Construction	Completed January 2007 Feb 07 – Mar 08	C3230000	Brendan Colgan	
Dublin Bay Project Contract 5.2 Foul Sewerage Upgrading Baldoyle/ Portmarnock/Howth/ Sutton Catchments	Detailed Design and Tender Construction	Dec 06 – May 08 May 08 – May 09	C3230000	Brendan Colgan	
Tolka Flood Relief Works - Mulhuddart Wall and Pump Station	Construction	Completed April 2007	C3230000	Brendan Colgan	
Tolka Flood Relief Works - Mulhuddart Bridge	Planning Detailed Design and Tender	Completed June 2007 Jun 07 – Jun 08	C3230000	Brendan Colgan	
Strand St. Coast Road and James Terrace Sewer, Malahide	Detailed Design and Tender Construction	Completed July 2007 Sep 07 – May 08	C3230000	Brendan Colgan	
Rolestown Sewerage Scheme	Construction	Jan 07 – Feb 08	C3230000	Brendan Colgan	
Toberburr Foul Pumping Station and Rising Main	Detailed Design and Tender Construction	Completed March 2007 Sep 07 – Mar 08	C3230000	Brendan Colgan	
Cloghran Foul Drainage Scheme	Detailed Design and Tender Construction	Completed Sept. 2007 Sep 07 – Mar 08	C3230000	Brendan Colgan	
Beaverstown Donabate Surface Water Scheme	Construction	Mar 07 – Jul 07	C3230102	Brendan Colgan	
Kinsealy Lane and Connolly Avenue Sewer, Malahide	Planning Detailed Design and Tender	Jan 07 – Jul 07 Aug 07 – Feb 08	C3230000	Brendan Colgan	
Rural Wastewater Treatment Plants Upgrading (Temporary)	Planning	Jan 07 – Dec 07	C3230000	Brendan Colgan	

Action	Service Indicator	Target	Budget Code	Team Leader	Review
Rural Wastewater Treatment Plants Upgrading (Permanent)	Planning	Jan 07 – Dec 07		Brendan Colgan	
North Fringe Sillogue Branch Sewer	Planning Detailed Design and Tender	Mar 07 – Aug 08 Sep 07 – Feb 08	C3230000	Brendan Colgan	
North Fringe Airport Branch Sewer Extension	Planning Detailed Design and Tender	Mar 07 – Aug 08 Sep 07 – Feb 08	C3230000	Brendan Colgan	
Old Portmarnock Foul Sewerage Scheme (Station Road)	Planning Detailed Design and Tender	Completed June 2007 Jun 07 – Jan 08	C3230000	Brendan Colgan	
Coastal Zone Protection Scheme	Planning	Jan 07 – Dec 07	C3230000	Brendan Colgan	
Mayne River Surface Water Scheme	Planning	Feb 07 – Nov 07	C3230123	Brendan Colgan	
Ballyboughil River Study	Study Report	Mar 07 - Dec 07	C3230000	Brendan Colgan	
Sluice River Study	Study Report	Apr 07 – Jan 08	C3230000	Brendan Colgan	
Ward River Study	Study Report	Jun 07 – Mar 08	C3230000	Brendan Colgan	
Rush/Lusk Skerries WSS	Preliminary Report Planning	Q3/07-Q2/08	C3230000	Pat Finn	
Donabate Augmentation	Preliminary Report Planning Design & Tender	Completed by Q2/07 Q2/07 – Q4/07	C3130000	Pat Finn	
Kingstown to Lissenhall – including Rolestown extension	Final Account	Q3/06-Q1/07	C3130076	Pat Finn	
Swords North Strengthening – Lissenhall to J'town including Ballyboghil	Preliminary Report Planning Design & Tender	Q4/06-Q2/07 Q2/07-Q4/08	C3130076	Pat Finn	
Balbriggan Water Supply Scheme	Preliminary Report Planning Design & Tender	Q3/06-Q4/07 Q3/07-Q4/08	C3130000	Pat Finn	
Dublication of 36"- Ballycoolin to Kingstown	Preliminary Report Planning Design & Tender	Q1/07-Q1/08 Q1/07-Q3/08	C3130104	Pat Finn	
Ward Water Supply Scheme	Preliminary Report Planning Design & Tender	Q3/06-Q3/07 Q1/07-Q1/08	C3130000	Pat Finn	
Howth Water Supply Scheme	Preliminary Report Planning Design & Tender Construction	Q3/06-Q1/07 Q1/07-Q4/07 Q1/07-Q1/08	C3130000	Pat Finn	
Malahide Reservoir Expansion and High level Water Supply Scheme	Design & Tender Construction	Q4/06-Q3/07 Q4/07-Q2/09	C3130000	Pat Finn	
Blanchardstown High Level	Preliminary Report Planning	Q2/07-Q1/08	C3130000	Pat Finn	
Blanchardstown Low Level	Preliminary Report Planning	Q4/07-Q3/08	C3130000	Pat Finn	

3.6. Health & Safety Programme 2006

Action	Service Indicator	Target	Budget Code	Team Leader	Review
Prepare Annual Safety Performance Report 2006	Report Completed	Quarter 2 2007	38190001	PJ Howell	
Continue to cooperate with Architects Dept on review of Swords Depot.	Review Completed	2 nd Quarter 2007	31100001 32200002	Pat Brannelly	
<p>Ensure compliance with Health and Safety legislation by;</p> <p><input type="checkbox"/> Reviewing ancillary safety statements at</p> <ul style="list-style-type: none"> • Swords Depot • Ballycoolen Depot. • Swords WWTP • Malahide WWTP • Bog of the Ring • Leixlip WTP. <p><input type="checkbox"/> Carrying out site specific risk assessment at</p> <ul style="list-style-type: none"> • Swords Depot • Ballycoolen Depot. • Swords WWTP • Malahide WWTP • Bog of the Ring • Leixlip WTP. <p><input type="checkbox"/> Carrying out site specific annual review of fire risk at;</p> <ul style="list-style-type: none"> • Swords Depot • Ballycoolen Depot. • Swords WWTP • Malahide WWTP • Bog of the Ring • Leixlip WTP. <p><input type="checkbox"/> Holding regular safety meetings (bi-monthly) in depots and plants</p> <ul style="list-style-type: none"> • Swords Depot • Ballycoolen Depot. • Swords WWTP 	<p>No. of accidents incidents reported in the workplace requiring</p> <ul style="list-style-type: none"> ▪ Sick leave ▪ No sick leave <p>Review Completed</p> <p>Risk Assessment Completed</p> <p>Review Completed</p> <p>No. of meetings held</p>	<p>Fully compliant with Health and Safety legislation</p> <p>Review completed by September 2007</p> <p>Risk Assessment completed by September 2007</p> <p>Review completed by September 2007</p> <p>6 at each location</p>	<p>31100001 31100005 31100004 38190001</p> <p>31100001 31100001 32200001 32200001 31400004 31400001</p> <p>31100001 31100001 32200001 32200001 31400004 31400001</p> <p>31100001 31100001 32200001 32200001 31400004 31400001</p> <p>31100001 31100001 32200001</p>	<p>Lar Spain Peter O'Reilly John Mulcahy Paul Smyth</p> <p>James Walls James Walls Pat Brannelly Pat Brannelly Bill O'Brien Bill O'Brien</p> <p>James Walls James Walls Pat Brannelly Pat Brannelly Bill O'Brien Bill O'Brien</p> <p>James Walls James Walls Pat Brannelly Pat Brannelly Bill O'Brien Bill O'Brien</p> <p>James Walls James Walls Pat Brannelly</p>	

Action	Service Indicator	Target	Budget Code	Team Leader	Review
<ul style="list-style-type: none"> • Malahide WWTP • Bog of the Ring • Leixlip WTP. <input type="checkbox"/> Reviewing Safety procedures for the following Water Pollution Section work practices <ul style="list-style-type: none"> • Lone workers • Methods of placing booms <input type="checkbox"/> Continuing vaccination program commenced in 2006 for Operations Staff. <input type="checkbox"/> Reviewing Health and Safety Procedures in the Design and Project Office prior to implementation of new legislation.	<p>Procedure reviewed Procedure documented</p> <p>Review completed</p> <p>Procedure in place for PSDP Procedure in place for PCS</p>	<p>1st Quarter 2007 4th Quarter 2007</p> <p>March 2007</p> <p>1st Quarter 2007 1st Quarter 2007</p>	<p>32200001 31400004 31400001 31100099</p> <p>31100001 32200001 31400004 C3130001 C3230001</p>	<p>Pat Brannelly Bill O'Brien Bill O'Brien Aoife Lawler</p> <p>James Walls Pat Brannelly Bill O'Brien Brendan Colgan Pat Finn Niamh McDonald Corrina Elder</p>	

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3.7. Staff Training Programme 2006

Action	Service Indicator	Target	Budget Code	Team Leader	Review
Full implementation of PMDS <ul style="list-style-type: none"> • Operation • Design • Project Office • Administration 	PMDS fully implemented in each area in Water Services	Team Plans and Personal Development Plans prepared across all of Water Services by end of February 2007	31100001 31100005 31100004 38190001	Lar Spain Peter O'Reilly John Mulcahy Paul Smyth	
Deliver Leadership Programme for Water Services Staff	Commence Programme by end of Quarter 2 2007	Expand Leadership capacity in Water Services Department	38190001	PJ Howell	
Consult with HR and develop targeted training across all relevant areas	National Indicator for Water Services Staff. (C4)	Maximise staff training and development.	38190001	Paul Smyth	
Continue "Staff Familiarisation Programme" during Summer 2007.	All new staff having attended programme	Summer 2007	31100005 38190001	Pat Brannelly	
Identify and implement Health and Safety training needs for Operations Staff	Health and Safety Training Needs in place for Operations Staff.	H & S training needs identified and implemented 2007	31100001	Lar Spain	
Telemetry Management: Annual training for users in Ballycoolen Training Centre	Training Courses completed	Training completed by 3 rd Quarter 2007	31100007	David Wade	
Telemetry Management: Update training/user manuals <ul style="list-style-type: none"> ▪ Advanced ▪ Systems 	Training Manuals in place	Training and User Manuals completed by 3 rd Quarter 2007	31100007	David Wade	
Water GIS Annual Training for users in Ballycoolen Training centre	Training Courses completed	Training completed by 3 rd Quarter 2007	31100007	David Wade	
Network Model: Develop in-house training programmes and manuals	Training Courses completed	Training completed by 3 rd Quarter 2007	31100007	David Wade	
Network Model: Annual training for users in Ballycoolen Training Centre.	Training Courses completed	Training completed by 3 rd Quarter 2007	31100007	David Wade	

Waste Water Discharge

Licence Application

for

Malahide Agglomeration.

Attachment G2:

Phosphorus Regulations
4th Implementation Report
July 2006

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COMHAIRLE CHONTAE FHINE GALL

Fingal County Council

PHOSPHORUS REGULATIONS

4th Implementation Report

JULY 2006



Fingal County Council

Comhairle Contae Fhine Gall

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WATER SERVICES DEPARTMENT

FINGAL COUNTY COUNCIL

1st Floor,
Grove Rd,
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Dublin 15

PJ HOWELL
DIRECTOR OF SERVICES

EXECUTIVE SUMMARY

This report sets out the current Water Quality Status of the rivers, within the functional area of Fingal County Council (FCC) which are monitored for compliance with the Local Government (Water Pollution) Act, 1977 (Water Quality Standards for Phosphorus) Regulations, 1998.

Section 1 outlines FCC's progress to date in terms of percentage compliance with the Phosphorus Regulations between the baseline survey 1995-97 and the current reporting period. Section 1 also provides an overview of the current water quality status of rivers in Fingal in terms of biotic index (Q value) and Molybdate Reactive Phosphorus (MRP) concentrations. The Q values included in this report were established by the E.P.A during the 2005 biological monitoring programme. The MRP concentrations are a result of Fingal's Phosphorus Monitoring Programme established under S.I No 258/1998 Local Government (Water Pollution) Act, 1977 (Water Quality Standards for Phosphorus) Regulations 1998 in the year 2000.

Currently 44% of monitoring stations in Fingal County Council are in compliance with the standards set out in the Phosphorus Regulations. This report has highlighted that 72% of stations have experienced a reduction in Phosphorus concentrations since the last reporting period, July 2004. It has also been noted that 33% of stations have experienced a deterioration in Q Value suggesting another parameter such as suspended solids may be impacting negatively on water quality.

FCC are currently conducting an agricultural review and are increasing liaison with adjoining Local Authorities and advisory bodies such as the Environmental Protection Agency (E.P.A), Teagasc and the Irish Farmers Association (IFA). FCC have extended monitoring on rivers in the functional area to examine the impact pollution loading from tributaries is having on main river bodies. It is hoped that rigorous review of measures contained in the Phosphorus Regulations Measures Report 2000 will counter the deterioration in water quality in many of Fingal's rivers.

In addition to preventing deterioration in water quality, FCC are committed to maintaining and improving water quality as required by the EU Water Framework Directive . This is being achieved through participation in the Eastern River Basin District (ERBD) Management Project.

FCC are currently upgrading small municipal treatment plants throughout the county and are including Phosphorus removal in the development stages. It is envisaged this measure will have a positive impact on water quality.

FCC have recently installed a Lab Info system which allows for better management and improved review of data. This in conjunction with a 'flagging-system' established between FCC and the Central Laboratory, Dublin City Council, enables the Water Pollution Control Section to respond to elevated P levels effectively.

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TABLE OF CONTENTS

	PAGE
EXECUTIVE SUMMARY	
1.0 CURRENT WATER QUALITY STATUS AND TARGETS	1
1.1 The Delvin River 08/D/01	2
1.2 The Ballough River 08/B/03	4
1.3 The Ballyboghil River 08/B/01	5
1.4 The Broadmeadow River 08/B/02	5
1.5 The Ward River 08/W/01	6
1.6 The Mayne River 09/M/03	7
1.7 The Pinkeen River 09/P/02	8
1.8 The Tolka River 09/T/01	8
1.9 The Hurley River 08/H/01	9
2.0 IDENTIFICATION OF POTENTIAL PRESSURES	10
2.1 Agriculture	10
2.2 Urban Wastewater Discharges	11
2.3 On-site treatment Systems	11
2.4 Stormwater Outlets in Urban Areas	11
3.0 IMPLEMENTATION OF MEASURES	12
Implementation Programme Summary Table	14
4.0 PROGRESS TO DATE	21
4.1- Planning Control and Enforcement Measures	21
4.2- Consultative and Co-operative Measures	23
4.3- Monitoring Measures	25
4.4- Public Education and Advisory Measures	26
4.5- Other National and Miscellaneous Measures	27
4.6 Summary and Conclusions	28

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APPENDIX A DRAWINGS

D63-01B	Delvin River Catchment Map
D63-02B	Ballough River Catchment Map
D63-03B	Ballyboghil River Catchment Map
D63-04B	Broadmeadow River Catchment Map
D63-05B	Ward River Catchment Map
D63-06B	Mayne River Catchment Map
D63-07B	Pinkeen River Catchment Map
D63-08B	Tolka River Catchment Map
D63-09B	Hurley River Catchment Map

APPENDIX B CURRENT WATER QUALITY

Table B.1	Delvin
Table B.2	Ballough
Table B.3	Ballyboghil
Table B.4	Broadmeadow
Table B.5	Ward
Table B.6	Mayne
Table B.7	Pinkeen
Table B.8	Tolka
Table B.9	Hurley

APPENDIX C IMPLEMENTATION PROGRAMME SUMMARY TABLE (Table C)

Table C.1	Implementation Programme Summary Table: Delvin River
Table C.2	Implementation Programme Summary Table: Ballough River
Table C.3	Implementation Programme Summary Table: Ballyboghil River
Table C.4	Implementation Programme Summary Table: Broadmeadow River
Table C.5	Implementation Programme Summary Table: Ward River
Table C.6	Implementation Programme Summary Table: Mayne River
Table C.7	Implementation Programme Summary Table: Pinkeen River
Table C.8	Implementation Programme Summary Table: Tolka River
Table C.9	Implementation Programme Summary Table: Hurley River

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1.0 CURRENT WATER QUALITY STATUS AND TARGETS

In relation to the Phosphorus Regulations, river water quality within the functional area of Fingal County Council (FCC) is measured in terms of the Biotic Index (Q value) and Molybdate Reactive Phosphorus (MRP) concentrations.

The Q Values contained in this report were established during the E.P.A's biological monitoring programme carried out in 2005.

To ascertain the MRP concentrations, Fingal County Council (FCC) established a monitoring programme in 2000 as required by S.I No 258/1998 Local Government (Water Pollution) Act, 1977 (Water Quality Standards for Phosphorus) Regulations 1998. 18 stations on 9 individual rivers are sampled for Phosphorus on a monthly basis in order to meet the statutory requirement of 10 samples minimum for each river station per year.

The Central Laboratory, Dublin City Council (DCC), carry out analysis of the samples.

Currently 44% of monitoring stations in Fingal County Council are in compliance with the standards set out in the Phosphorus Regulations. Of the 18 stations 11% are unpolluted, 6% are slightly polluted, 78% are moderately polluted and 5% are seriously polluted

Fig 1: Below is a summary of stations indicating those improving, deteriorating and remaining static since the Phosphorus Regulations 3rd Implementation Report, July 2004.

	% Stations Improving	% Stations Deteriorating	% Stations Static
Q Value	11%	33%	56%
MRP	72%	17%	11%

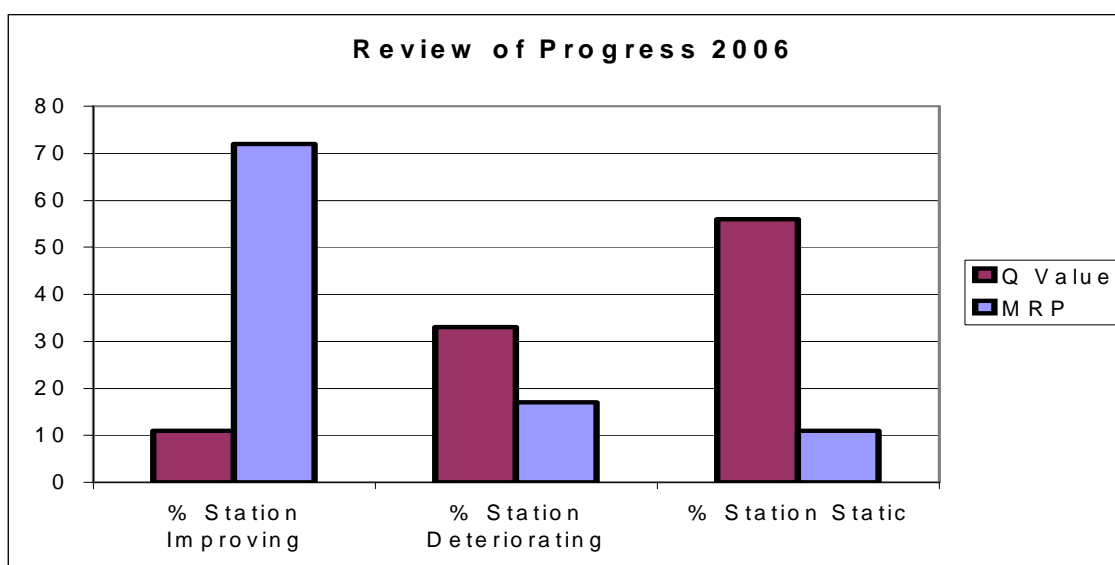
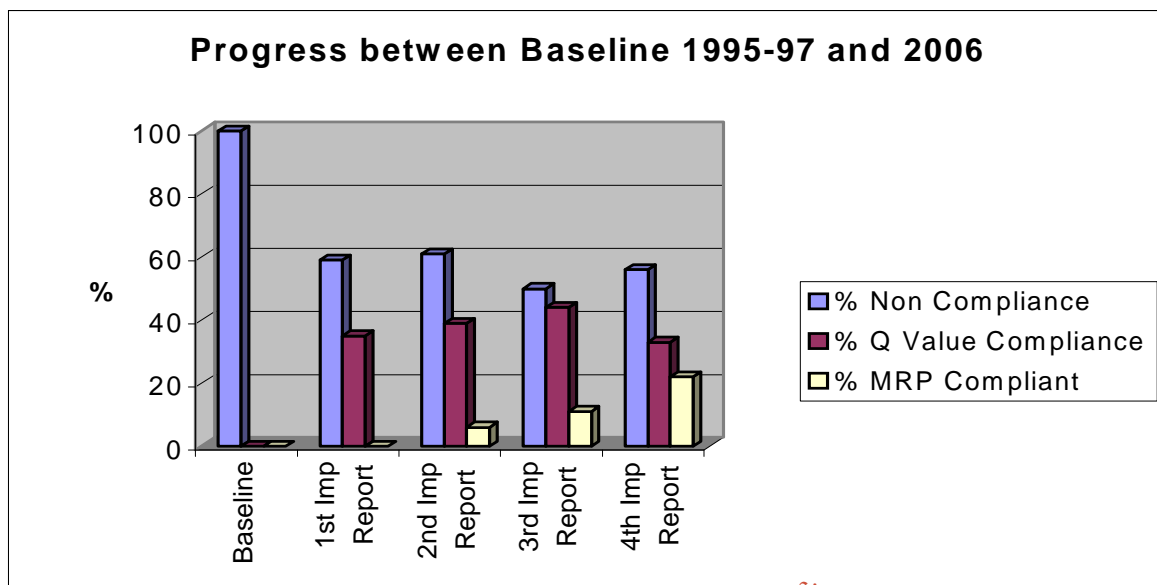


Fig 2: Below is a graph indicating progress FCC have made between the baseline survey 1995-97 and the current reporting period.



Below is an outline of the water quality in each of Fingal's rivers. Detailed results are given in Appendix B.

1.1 The Delvin River 08/D/01

The Delvin River forms part of the border between the Fingal County Council and Meath County Council jurisdictions in the North of Fingal. The catchment area of the Delvin River is divided between Fingal County Council and Meath County Council. The southern catchment is located in Fingal.

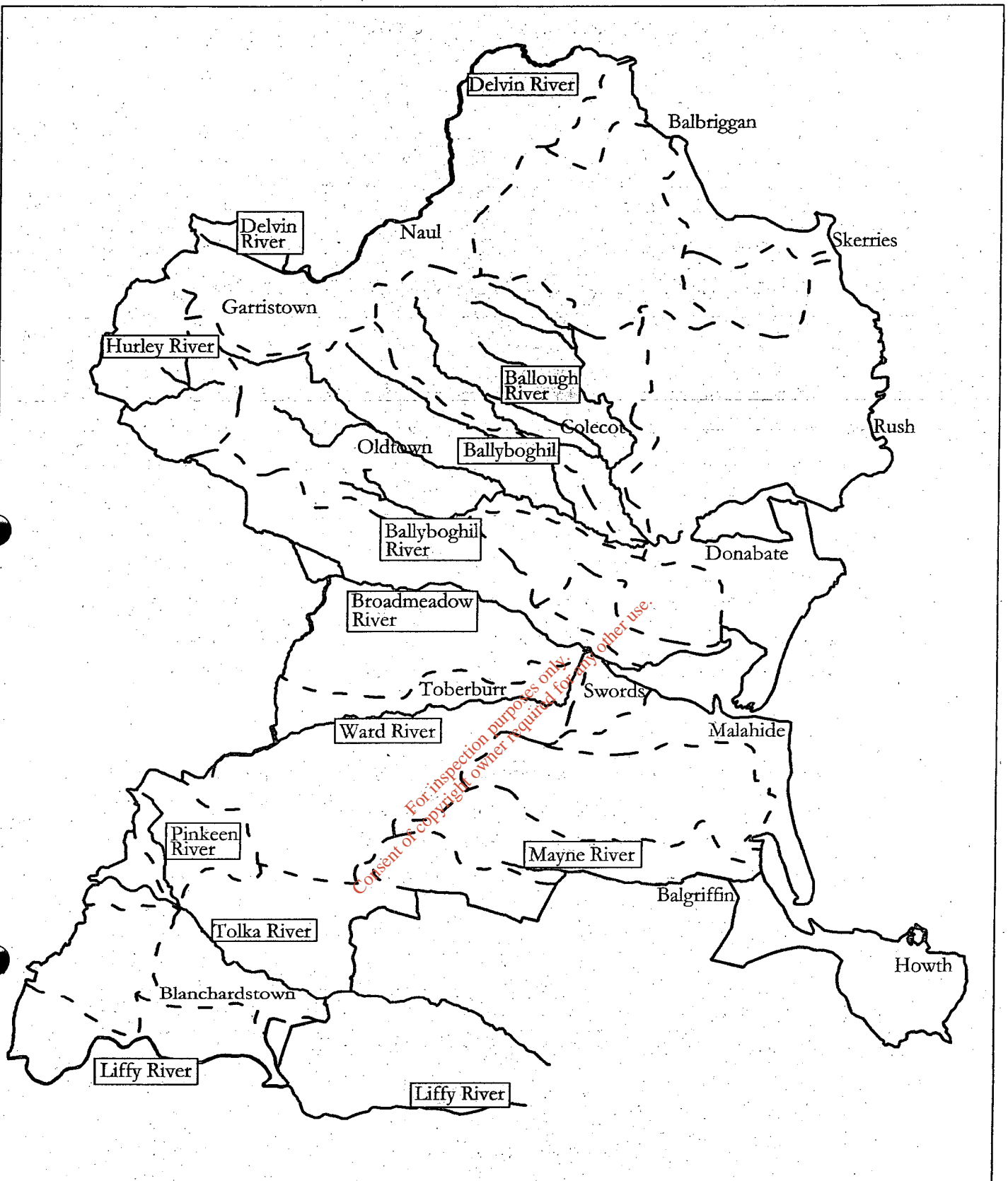
The main pressures on water quality are from agricultural runoff, three municipal treatment works at Garristown, Naul and Stamullen (Meath County Council) and onsite treatment systems.

The Delvin River has three monitoring stations.

Station 0080, Bridge West of Naul, the Q-value has remained static while the MRP concentrations are elevated. It does not comply with the requirements of the Phosphorus Regulations.

Compliance at station 0250, Bridge NW of Forty Acres, has been achieved in relation to the Q-value however the median MRP concentrations are elevated (see Fig 2 and Fig 3).

Compliance with Phosphorus Regulations has been achieved at station 0400, Bridge at Bridgefort House in relation to Q Value status. Median MRP concentrations have also reduced at this station, although they still exceed the target MRP concentrations.



Comhairle Contae Fhine Gall
Fingal County Council



County Hall,
Swords,
Fingal,
Co. Dublin

PJ Howell
Director of Services

P. O'Reilly B.E., C.ENG., M.I.E.I.
Senior Engineer

Aoife Lawler
Acting Senior Executive Engineer

- Legend:
- River
 - Catchment Boundary
 - Fingal County Council Boundary

Table 1. Delvin River - Stations Complying with MRP/Q Value targets

<u>River Name</u>	<u>River Code</u>	<u>Biological Monitoring Station</u>	<u>Stations Complying with MRP/Q Value 2006</u>
Delvin	08/D/01	0080	No
		0250	Yes-Q Value
		0400	Yes-Q Value

Cross border compliance meetings are held quarterly with representatives of Meath County Council (MCC) as the Delvin River forms part of the border between FCC and MCC. Station 0400 is located downstream of Stamullen Treatment Plant (MCC).

In order to maintain the Q4 status and reduce P levels at Stations 0250 and 0400 and in order to improve water quality overall at 0080, FCC propose a survey of the Delvin river in conjunction with MCC to identify any sources of pollution which may be affecting water quality at these locations. A cross border compliance meeting is scheduled for the first week in August '06 and the survey will be carried out soon after.

As diffuse pollution from agriculture is believed to be the major source of phosphorus supply to this river, it is anticipated that the proposed measures directed at the agricultural sector including the continuation of farm surveys and implementation of the Nitrates Regulations will reduce the Phosphorus levels in the Delvin. Liaison with Teagasc is ongoing.

A meeting was held with Teagasc representatives on 20th July '06. On foot of the meeting FCC will request a meeting with DAF representatives in August '06. FCC will then hold a meeting with the IFA and ICMSA in order to progress the public awareness aspect of implementation of the Phosphorus Regulations particularly in relation to farm surveys and on-site treatment system surveys.

1.2 The Ballough River 08/B/03

The Ballough River catchment is located entirely within the FCC area. There are no urban centres within the catchment. The Ballough River discharges to the Irish Sea at the Rogerstown Estuary located in North County Dublin.

The main pressures on water quality in the catchment are from agricultural runoff, a municipal wastewater treatment plant at Colecot, onsite treatment systems and two premises operating with a Trade Effluent Discharge Licence to waters.

Compliance with Phosphorus Regulations has been achieved at station 1400, Bridge W of Five Roads in relation to Q Value status. Median P concentrations at 1400 remain slightly elevated at this station.

There has been a deterioration in Q Value status at station 1600, Corduff Bridge from Q3-4 to Q3 and Median P concentrations at this station remain elevated.

Table 2. Ballough River - Stations Complying with MRP/Q Value targets

<u>River Name</u>	<u>River Code</u>	<u>Biological Monitoring Station</u>	<u>Stations Complying with MRP/Q Value 2006</u>
Ballough	08/B/03	1400	Yes - Q Value
		1600	Yes - Q Value

FCC are in the process of reviewing Trade Effluent Discharge Licences to waters upstream of the station in particular to ensure P is included as a licence condition.

1.3 The Ballyboghil River 08/B/01

The Ballyboghil River catchment is located entirely within the FCC area.

The main pressures on water quality are from agricultural runoff, two municipal wastewater treatment works at Oldtown and Ballyboghil and onsite treatment systems.

There has been a deterioration in Q status at station 1900, Bridge S of Trallie Lodge from Q3-4 to Q3. Q status has remained static at 2200, Bridge in Ballyboghil between the E.P.A's 2001 and 2005 biological survey. Median MRP concentrations have improved at both stations although they remain elevated.

Table 3. Ballyboghil River - Stations Complying with MRP/Q Value targets

<u>River Name</u>	<u>River Code</u>	<u>Biological Monitoring Station</u>	<u>Stations Complying with MRP/Q Value 2006</u>
Ballyboghil	08/B/01	1900	Yes - Q Value
		2200	No

FCC propose a desktop study of the Ballyboghil river followed by an on-site survey as agricultural activities in the area are suspected to be impacting on water quality.

1.4 The Broadmeadow River 08/B/02

The Broadmeadow River crosses the border with MCC and flows in an easterly direction entering the Irish Sea at the Broadmeadow Estuary at Swords, Co. Dublin downstream of the confluence with the Ward River.

The main pressures on water quality are from agricultural runoff, onsite treatment systems, run-off from construction sites and from the municipal wastewater treatment plant at Rolestown, Co. Dublin. In addition the Broadmeadow flows adjacent to the urban centre of Swords, Co. Dublin.

There has been an improvement in MRP concentrations at all stations on the Broadmeadow and target MRP has been achieved at 0800, Newtown Bridge. Q3 status has remained static at 0600 and 0700. However there has been a deterioration in Q Value from Q3 to Q2-3 at station 0800, Newtown Bridge.

Table 4. Broadmeadow River - Stations Complying with MRP/Q Value targets

<u>River Name</u>	<u>River Code</u>	<u>Biological Monitoring Station</u>	<u>Stations Complying with MRP/Q Value 2006</u>
Broadmeadow	08/B/02	0600	No
		0700	No
		0800	Yes - MRP

FCC is aware of a problem with siltation affecting the Broadmeadow River downstream of Swords and upstream of the confluence with the Ward River. There are a number of new developments in the area. FCC has introduced a number of new measures in respect of management of surface water from construction sites. These are detailed in Section 4.0.

Cross border compliance meetings continue to be held quarterly with representatives of MCC in relation to the Broadmeadow River.

The Eastern River Basin District (ERBD) Management Project have agreed to prepare a Water Quality Management Plan for the Broadmeadow River under the ERBD programme.

1.5 The Ward River 08/W/01

The Ward River crosses the FCC and MCC border and flows in an easterly direction entering the Irish Sea at the Broadmeadow Estuary, Swords Co. Dublin downstream of the confluence with the Broadmeadow River.

The main pressures on water quality are from agricultural runoff, onsite treatment systems, urban stormwater overflows and misconnections to the surface water system at Swords.

Q status on the Ward River has deteriorated at the three designated monitoring points. Station 0070, Coolrath Bridge has been designated as Q2, seriously polluted. Stations 0300 and 0610 remain moderately polluted although Q status has reduced from Q3 to Q2-3 at both stations. MRP concentrations remain static but elevated.

Table 5. Ward River - Stations Complying with MRP/Q Value targets

<u>River Name</u>	<u>River Code</u>	<u>Biological Monitoring Station</u>	<u>Stations Complying with MRP/Q Value 2006</u>
Ward	08/W/01	0070	No
		0300	No
		0610	No

FCC are currently carrying out an intensive study of the Ward River at Coolrath Bridge and upstream of Coolrath Bridge. 'River-walks' are being conducted and have so far resulted in a number of diffuse sources of pollution being identified.

Cross border compliance meetings are held quarterly with representatives of MCC. A meeting is scheduled for the first week in August and a simultaneous survey of the Ward in the Meath and Fingal areas will be carried out by both Local Authorities soon after.

1.6 The Mayne River 09/M/03

The Mayne River forms part of the border with DCC and flows in an easterly direction entering the Irish Sea at Moyne Bridge on the Baldoyle Estuary.

The main pressures on water quality are from agricultural runoff, run-off from construction sites, stormwater overflows and misconnections to the surface water system.

The Mayne has achieved compliance with the Phosphorus Regulations in relation to MRP target and target Q Value. Q Value status on the Mayne has remained static between the 2001 and 2005 biological survey periods. A reduction in MRP concentrations has been observed at station 0500, Hole in the Wall Road Bridge.

Table 6. Mayne River - Stations Complying with MRP/Q Value targets

<u>River Name</u>	<u>River Code</u>	<u>Biological Monitoring Station</u>	<u>Stations Complying with MRP/Q Value 2006</u>
Mayne	09/M/03	0500	Yes – Q Value and MRP

FCC representatives participate in the Dublin Airport Pollution Control Committee (DAPCC) meetings on a regular basis. The water quality status of the Cuckoo stream, a tributary of the Mayne River is a subject of these meetings.

In addition FCC are in regular contact with the Water Pollution Control Section and the Drainage Department of Dublin City Council (DCC) as the Mayne River forms part of the border between FCC and DCC.

There have been a number of recent developments within the Mayne River catchment. FCC has introduced a number of new measures relating to the management of surface water on construction sites. This is detailed in Section 4.0.

1.7 The Pinkeen River 09/P/02

The Pinkeen River catchment is located entirely within the FCC area.

The main pressures are from agricultural activities and onsite treatment systems.

The Pinkeen has retained compliance with the target Q Value set out in the Phosphorus Regulations, since the last reporting period at station 0700, Bridge SE of Powerstown House. However, MRP concentrations remain elevated at this station.

Table 7. Pinkeen River - Stations Complying with MRP/Q Value targets

<u>River Name</u>	<u>River Code</u>	<u>Biological Monitoring Station</u>	<u>Stations Complying with MRP/Q Value 2006</u>
Pinkeen	09/P/02	0700	Yes - Q Value

As diffuse pollution from agriculture is believed to be the major source of phosphorus supply to this river, it is anticipated that the proposed measures directed at the agricultural sector including the continuation of farm surveys and implementation of the Nitrates will reduce the Phosphorus levels in the Pinkeen.

1.8 The Tolka River 09/T/01

The Tolka River flows from Meath, through Fingal to Dublin City (entering at Ratoath Rd). It enters Dublin Bay at North Strand, Dublin.

The main pressures on water quality are from agricultural runoff, urban stormwater overflows and misconnections to the surface water system. The river flows through densely populated areas of Mulhuddart, Blanchardstown and Castleknock with input from Clonee and Dunboyne in County Meath.

Station 0800 has retained compliance with the Q Value target set out the Phosphorus Regulations. Median MRP concentrations remain static at station 0800, Mulhuddart Bridge.

Q Value status has improved from Q2-3 to Q3 at station 1000, Abbotstown Bridge. MRP concentrations remain static at Abbotstown Bridge.

Table 8. Tolka River - Stations Complying with MRP/Q Value targets

<u>River Name</u>	<u>River Code</u>	<u>Biological Monitoring Station</u>	<u>Stations Complying with MRP/Q Value 2006</u>
Tolka	09/T/01	0800	Yes -Q Value
		1000	No

The Water Pollution Control Section are liaising with Water Services, Drainage Section regarding a misconnection survey currently being conducted in Mulhuddart.

1.9 The Hurley River 08/H/01

The Hurley is located in the north of the County and flows from the FCC area into MCC's jurisdiction. The Hurley forms part of the Nanny River catchment which enters the Irish Sea at Julianstown, Co. Meath.

Station 0060, Bridge S of Borranstown House remains moderately polluted, Q3 since the last biological surveying period 2002. This station was not surveyed in 2005 due to an extremely low flow in the waterbody.

A reduction in MRP levels has been noted at this station although levels remain elevated.

FCC have completed a survey of 80% of farms and septic tanks in the area. A number of farms and septic tanks posing a risk to water quality were dealt with satisfactorily under the Local Government, Water Pollution Acts 1977&1990.

Table 9. Hurley River - Stations Complying with MRP/Q Value targets

<u>River Name</u>	<u>River Code</u>	<u>Biological Monitoring Station</u>	<u>Stations Complying with MRP/Q Value 2006</u>
Hurley	08/H/01	0060	No

In order to achieve compliance with the Phosphorus Regulations, FCC intend to complete catchment wide farm surveys and septic tank surveys and liase with MCC on achieving targets.

2.0 IDENTIFICATION OF POTENTIAL PRESSURES

The following is a description of the measures proposed in relation to the Phosphorus Regulations. These measures are outlined in the Measures Report submitted by Fingal County Council in January 2000. The measures and the actions taken to complete each measure refer to all rivers in Fingal as a whole. The measures will be dealt with at each station on each river where applicable (See Appendix C).

2.1 Agriculture

The implementation of Nutrient Management Planning (NMP) has been proposed as part of a good farming practice under the Rural Environmental Protection Scheme (REPS). In general NMP is necessary due to the fact that in the region of 25% of the agricultural areas of the country as a whole have soil P levels that would be considered excessive and are increasing. Teagasc estimates soil P levels are increasing by 40,000 tonnes per annum and that 32 million euro a year is spent on unnecessary fertiliser application. Alterations in farming practices such as the use of a lower dose artificial fertiliser containing higher concentrations of nitrate and less phosphate, the use of newly developed application methods and improved storage methods will aid a reduction in P levels in all agricultural effluents.

The long-term objective of NMP on farms is to reduce phosphorus loss to water and to break the link between rainfall and stream/river concentration. NMP takes time to implement and it may be a number of years before measurable reductions in water P levels can be achieved.

With regard to Fingal, the implementation of a NMP scheme involves an assessment of the current water quality at each designated station on each river in the area. This involves establishing current Q Values in conjunction with current P levels at the places of interest (See Appendix C). In addition a Farms Survey has been proposed to identify and map all sources of agricultural effluent. A requirement of this measure is a continual assessment of water quality through implementation of a monitoring programme. The programme is designed such that sampling, delivery and analysis methods are efficient and consistent providing an effective method of gaining an accurate picture of the P levels in the rivers and the effects of these concentrations on Q Values.

The Farm Survey will involve an on-site assessment of all sources of agricultural effluent e.g. manure storage areas, crop storage areas etc. Sources such as these are particularly important as humic acids and organic acids from plant and animal manure's can mobilise the P contained in these by-products or in any soil present in the vicinity of the manure, thus making P more susceptible to the influence of rainfall. Under uncontrolled circumstances P will be constantly present in any agricultural run-off.

Fingal County Council is currently liaising with Teagasc with regard to farming practices in Fingal. The DAF will provide us with information to enable us to map all farmland boundaries in the County to assist us in the Farm Survey. The Survey involves the use of a checklist to assist in the completion of an effective and consistent report. Any areas identified as having high P levels will be paid particular attention and NMP will be applied for at these locations (See Appendix C).

2.2 Urban Wastewater Discharges

This proposed measure involves an investigation into the influence of effluent discharging from treatment plants on the overall P concentrations in Fingal's rivers. FCC carried out a monitoring programme in 2003 to determine the P loading from rural treatment plants. This process will be repeated in 2006. An assessment of P levels emanating from these point sources will be carried out upstream and downstream of each Treatment Plant to establish the impact of effluent containing P.

As the rural treatment plants are being upgraded, nutrient removal has been incorporated into the overall design (see Appendix C). The principle behind this measure is to minimise the effects of point source discharges in order to concentrate on diffuse sources of P pollution.

2.3 Onsite Treatment Systems

It has been proposed to carry out an assessment of on-site treatment systems in conjunction with the Farm Survey. Septic tanks, Biocycle[®] Units and Puraflo[®] Systems will be assessed. P loading emanating from these systems will be determined where they discharge directly to a stream/river.

2.4 Stormwater Outlets in Urban Areas

This measure involves the removal of pollutants from stormwater outlets in urban areas. The measure will be carried out in relation to the Mayne, Ward and Tolka Rivers (See Appendix C). The aim is to reduce the influence of P from pollutants entering rivers and streams via storm water sewers and overflows. A misconnection survey has been suggested as the most effective way of approaching this problem. This point source of P pollution has a local impact so adverse effects will be reduced effectively once the misconnections are removed. The overall aim is to upgrade sewers/surface water drainage schemes displaying P output to reduce polluting potential of same.

3.0 IMPLEMENTATION OF MEASURES

To maintain progress towards the target values in terms of the Biotic Index and the MRP value, a number of measures are being implemented on a either countywide or on a catchment basis. These measures are aimed at countering both the diffuse pollution mainly from the agricultural sector and the point source pollution including trade effluent discharge, UWWTW discharge and storm overflows.

3.1 To counter the diffuse pollution from agricultural land a proposal was made to enact Agricultural Byelaws to regulate the spreading of fertiliser on land and to implement Nutrient Management Plans where appropriate. FCC have decided to delay the introduction of these byelaws on the advice of the Department of Agriculture and Food (DAF). The DAF advised that the introduction of the Nitrates Regulations and subsequent Nitrates Action Programme may provide more stringent criteria for storage times and fertiliser application rates than criteria contained in Agricultural byelaws FCC may introduce. FCC are liaising closely with Teagasc and the DAF in relation to the Nitrates Regulations. A comprehensive farm survey has also commenced which will facilitate inspection of current farm practices and the imposing of conditions on farms with substandard practices. A review of progress in relation to water quality under the Nitrates Action Programme will be carried out and a final decision on whether to introduce byelaws made in due course.

3.2 Other surveys underway include those of on-site treatment units (including septic tanks) and unlicensed discharges. Section 12 notices have been issued where appropriate and additional discharge licences have been issued as a result of these surveys. The surveys are at a relatively early stage and a substantial amount of work is required for completion. Due to a lack of resources FCC are considering outsourcing these farm surveys and are liaising with Wicklow County Council regarding their own experience with outsourcing farm surveys.

3.3 As part of the Eastern River Basin District, Fingal County Council are involved with the ERBD Management Project and regularly attend information meetings held in relation to the ERBD. The Final Characterisation Report was published in September 2005. The ERBD have agreed to prepare a river basin management plan for the Broadmeadow and Ward rivers. FCC are participating in the ERBD Draft Monitoring Programme.

3.4 As the majority of rivers in Fingal traverse the county boundary, continued liaison with the adjoining local authorities is required for the proper management of these rivers. Liaison with the various other stakeholders including Teagasc, IFA, Dublin Airport Authority and the industrial sector is also essential to the proper management of the various waterways within the county.

3.5 Other measures required to improve the quality of rivers under these regulations include the upgrading of Urban Wastewater Treatment Works. A considerable amount of work has been completed to date including the upgrading of Swords and Malahide WWTW and the decommissioning of Balgriffen WWTW. Upgrades of other treatment works are proposed and these will include a provision for P removal.

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Implementation Programme Summary Table: (Fingal as a Whole)

Standard	Measures	Targets	Actions	Timeframe	Responsible for Implementation	Progress to Date	Corrective Actions	Action Completed within Timeframe (Y/N)?	If not, State Revised Timeframe
To maintain water quality where satisfactory and to improve unsatisfactory water quality	Assess Nutrient Management Planning (NMP) requirement at farmyard level.	Assess need for application of NMP countywide	The <i>Sludge Management Plan for Fingal County Council</i> recommends that NMP be implemented throughout Fingal.	Done	Senior Engineer Project Office.	Fingal County Council at their June 2002 meeting adopted the <i>Sludge Management Plan</i>		Y	
	Enact Bylaws to implement NMP as per <i>Sludge Management Plan</i> .	Implement NMP countywide to reduce P losses to rivers	Draft Bylaws in consultation with stakeholders for adoption by the County Council.	31.07.2004	Fingal County Council	<p>Liaison with other Local Authorities who have already implemented Bylaws.</p> <p>It has since been decided to hold off on the drafting of Agricultural Bylaws.</p>	FCC will liaise with Teagasc, the DAF and ERBD in implementing the Nitrates Regulations and Nitrates Action Programme. This measure will be reviewed periodically to check progress in relation to water quality. The need for introducing Agricultural Bylaws will be assessed in relation to the success or otherwise of the Nitrates Regulations.	N	N/A

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Continued - Implementation Programme Summary Table: (Fingal as a Whole)

Standard	Measures	Targets	Actions	Timeframe	Responsible for Implementation	Progress to Date	Corrective Actions	Action Completed within Timeframe (Y/N)?	If not, State Revised Timeframe
To maintain water quality where satisfactory and to improve unsatisfactory water quality .	Farm surveys Unlicensed discharge surveys.	Examine farm management and practices to reduce P inputs to rivers.	Carry out farm surveys on a catchment basis. Where necessary follow up with enforcement action under the Water Pollution Acts.	Ongoing	Senior Exec. Engineer Pollution Control	Farm survey form completed & Farm surveys have commenced Water Pollution Control database set-up. Liaison with DAF, IFA and Teagasc agricultural review currently being carried out. Local media campaign to promote understanding and awareness in relation to Farm Surveys.	Limited resources have hindered progress in relation to completion of farm surveys on a catchment basis. FCC looking into outsourcing farm surveys. Decision due following liaison with Wicklow Coco and Meath Coco.	Ongoing	Ongoing
	Unlicensed discharge surveys.	Ensure discharges to surface waters are licensed to reduce P inputs to rivers.	Carry out surveys on a catchment basis. Where necessary follow up with enforcement action under the Water Pollution Acts.	Ongoing	Senior Exec. Engineer Pollution Control	Surveys have commenced New licences issued on foot of survey FCC proposing to maximise the use of SuDS throughout the county. An official report on the establishment of a SuDS programme will be prepared by December '06.		Ongoing	

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Continued - Implementation Programme Summary Table: (Fingal as a Whole)

Standard	Measures	Targets	Actions	Timeframe	Responsible for Implementation	Progress to Date	Corrective Actions	Action Completed within Timeframe (Y/N)?	If not, State Revised Timeframe
To maintain water quality where satisfactory and to improve unsatisfactory water quality	On site treatment system surveys.	Examine on site treatment systems to reduce P inputs to rivers	Carry out surveys on a catchment basis. Where necessary follow up with enforcement action under the Water Pollution Acts.	Ongoing	Senior Exec. Engineer Pollution Control	Surveys have commenced Water Pollution Control database set up Section 12 notices issued Integration of planning process with responsibilities for protecting water quality -FCC have formally adopted the E.P.A Guidance Document 'Treatment Systems for Single Houses'. Liaison with GSI regarding the preparation of a groundwater vulnerability map relating to septic tank discharges. Public awareness campaign relating to maintenance of septic tanks.	Limited resources have hindered progress in relation to carrying out septic tank surveys on a catchment basis. FCC assessing options.	Ongoing	Ongoing

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Continued - Implementation Programme Summary Table: (Fingal as a Whole)

Standard	Measures	Targets	Actions	Timeframe	Responsible for Implementation	Progress to Date	Corrective Actions	Action Completed within Timeframe (Y/N)?	If not, State Revised Timeframe
To maintain water quality where satisfactory and to improve unsatisfactory water quality	Issuing and enforcing discharge licences under the Water Pollution Acts	Reduce P inputs to rivers.	<p>Include P limit condition in discharge licences.</p> <p>Enforcement monitoring.</p> <p>Review older licences to include P limit where appropriate.</p> <p>Issue temporary discharge licences to construction sites in relation to surface water run-off.</p> <p>Issue temporary discharge licences to developments where connection to the foul sewer maybe delayed and temporary treatment systems are installed.</p>	31.07.2004	Senior Exec. Engineer Pollution Control	<p>P limit has been included in licence conditions.</p> <p>Procedure established whereby exceedences in licence limits are identified soon after sampling and companies issued with warning letters within one week.</p> <p>Schedule of licences to be reviewed has been prepared.</p> <p>Liaison with Planning and Development Control Section, Water Services Department. Water Pollution Control Section to carry out site visit at planning stages so conditions for protection of waters will be included in planning conditions.</p> <p>Liaison with Planning and Development Section, Water Services Department to identify potential discharge licences.</p>	Full time sampler appointed in 2002	Ongoing	Ongoing

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Continued - Implementation Programme Summary Table: (Fingal as a Whole)

Standard	Measures	Targets	Actions	Timeframe	Responsible for Implementation	Progress to Date	Corrective Actions	Action Completed within Timeframe (Y/N)?	If not, State Revised Timeframe
To maintain water quality where satisfactory and to improve unsatisfactory water quality	Use of Geographic Information System	Increase efficiency in storing and interrogating data and so implement P measures more effectively.	Use a GIS system for storing and interrogating data on a catchment basis.	Ongoing	Senior Exec. Engineer Pollution Control	<i>Catchment Envisage</i> installed and staff training completed by LGCSB Envisage has since been withdrawn and has been replaced by alternative GIS system. Liaison ongoing with LGCSB to have new software installed and relevant staff trained.	Ongoing contacts with the Computer Services Board regarding databases. LabInfo has been installed by LGCSB to aid management of data relating to water quality. Water Pollution Control Section and the IT section established a GIS for storage and analysis of water quality data to aid water quality management. Water Pollution Control Section have recently established a database to store detailed information to aid management and protection of waters. The GIS will be used to implement the RMCEI Plan for the Water Pollution Control Section.	Ongoing	
	Implement Code of Good Farming Practice	Co ordinate action with the Department of Agriculture and Food in implementing Code	Investigate notified breaches of the Code of Good Farming Practice Notify the Department of prosecutions.	Ongoing	Senior Exec. Engineer Pollution Control			Ongoing	

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Continued - Implementation Programme Summary Table: (Fingal as a Whole)

Standard	Measures	Targets	Actions	Timeframe	Responsible for Implementation	Progress to Date	Corrective Actions	Action Completed within Timeframe (Y/N)?	If not, State Revised Timeframe
To maintain water quality where satisfactory and to improve unsatisfactory water quality	Public education campaign and other advisory measures	Make general public and sectoral interests aware of their obligations and so reduce P inputs to rivers.	Promotion of measures through local media campaigns. Presentations to the Environmental Services and Parks Strategic Policy Committee (SPC)	31.07.2004	Senior Engineer Design and Planning	Presentations made to the SPC Liaison with Environmental Awareness Officer Water Services web page updated to include section on 'Water Resources Protection and Management'. Article in newsletter 'Fingal News', relating to maintenance of septic tanks, summer 2006. Septic Tank Awareness Campaign in progress. Agriculture to be targeted in September. Public awareness leaflet relating to Farm Surveys and promoting Good Farming Practice to be completed by September. Public awareness leaflet for Service Stations, on preventing water pollution to be completed by September. Information leaflet on management of surface water on construction and demolition sites being finalised.		Ongoing	

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Continued - Implementation Programme Summary Table: (Fingal as a Whole)

Standard	Measures	Targets	Actions	Timeframe	Responsible for Implementation	Progress to Date	Corrective Actions	Action Completed within Timeframe (Y/N)?	If not, State Revised Timeframe
To maintain water quality where satisfactory and to improve unsatisfactory water quality.	Implement Water Framework Directive	Establishment of Catchment Management Groups	Participation in the Eastern River Basin District Management System	Ongoing	Senior Engineer Design and Planning	ERBD Final Characterisation Report published September 2005. Water Pollution Control Section are currently participating in the ERBD draft monitoring programme.		Ongoing	
	Stakeholder consultation and co-operation	Active involvement of stakeholders in implementing measures to reduce P inputs to rivers.	Establish procedures to enable relevant organisations contribute to implementing measures.	Ongoing	Senior Exec. Engineer Pollution Control	Meetings held with Teagasc and the IFA. Teagasc participated in drafting of the farm survey form. On-going consultation with Teagasc regarding implementation of the P Regulations and Nitrates Regulations.		Ongoing	

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4.0 PROGRESS TO DATE

4.1 PLANNING CONTROL AND ENFORCEMENT MEASURES

Fingal County Council issues, monitors and enforces Trade Effluent Discharge Licences under section 4 and section 16 of the Water Pollution Act. A routine monitoring/sampling programme of the effluent from all licensed facilities allows FCC to regulate compliance with the conditions set out in the Trade Effluent Discharge Licences.

Progress During Reporting Period

- Further to a review of licences, all Trade Effluent Discharge Licences to Waters now contain conditions limiting discharges of Phosphorus to 1 mg/l.
- A survey of facilities with unlicensed discharges is underway. As part of this survey, all golf courses/clubhouses have been assessed and the process of setting conditions and issuing licences to these premises has commenced. These licences shall take into account the requirements of the Phosphorus Regulations and in particular refer to the use of fertilisers.
- During the reporting period a number of previously unlicensed premises have, under instruction, applied for Trade Effluent Discharge Licences. It is expected that this number will be increased as the surveys proceed. In particular, all premises within Dublin Airport were instructed to apply for a licence. As a result, 12 premises were licensed while 4 were deemed not to require a licence.
- A “flagging system” to improve the response time to any exceedence on a Trade Effluent Discharge Licence has been implemented. A number of companies that are repeatedly discharging trade effluent in exceedence of their licence limits have been targeted and have brought their process into line with our requirements. This system has resulted in a reduction in the number of exceedences of licence conditions.
- Following the commencement of the on-site treatment system surveys and the farm surveys, a number of Section 12 notices have been issued and the required works commenced/completed. It is anticipated that the number of such notices will increase as the surveys are intensified.
- Fingal County Council respond to all reported pollution incidents and following the appropriate investigation and sourcing of the pollution, FCC take the necessary steps to have the issue resolved or rectified. It has generally been the experience that the polluter takes the appropriate steps to remedy the problem without prosecution being required. However FCC will proceed with prosecution where necessary.

Phosphorus Regulations 4th Implementation Report July 2006

- A Groundwater Protection Plan was prepared, in conjunction with the GSI, for the Bog of the Ring Aquifer. Based on this, the planning requirements for proposed works in this area have been increased depending on the location of the proposed development.
- FCC have established a Water Pollution GIS system and database indicating routine river monitoring points, licenced trade effluent discharge points, the location of pollution incidents, septic tank surveys, farm surveys and catchment boundaries.
- FCC have adopted the E.P.A's Guidance Document 'Treatment Systems for Single Houses'. All on-site treatment systems newly installed in the FCC area must now comply with this document.

Problems Encountered

- While FCC aims to resolve all issues regarding unlicensed discharges, pollution or non-compliance with discharge licenses in a co-operative manner it is not always possible. In 2005 it was necessary to obtain an injunction against a contractor instructing them not to discharge material in exceedence of their licence as the polluting matter was impacting negatively on the Ward River. The contractor then complied with all requirements of the licence and carried out remediation works (in liaison with the Eastern Regional Fisheries Board ERFB), as far as possible on the river.
- Due to lack of resources, Farm Surveys and Septic Tank Surveys have not been carried out in 2006.

Future Plans/New Directions

- Due to the level of development within the county and the resulting increased risk of discharge from the sites that may cause pollution, Fingal County Council has developed *Guidelines for Construction Sites*. Along with regular visits to sites and the subsequent licensing of discharges from sites where necessary, in order to manage surface water run-off, these guidelines propose to reduce the risk of pollution. Liaison with the Planning and Development Control Section, Water Services Department in relation to this matter is ongoing. Three licences of this nature have been issued to date.
- Fingal County Council have adopted the GSDSDS Regional Policy on Stormwater which will improve the quality of stormwater run-off entering our streams.
- Fingal County Council is investigating alternative methods of carrying out Farm Surveys and Septic Tank Surveys and are liasing with other Local Authorities. FCC are carrying out an Agricultural Review and are considering out-sourcing farm surveys and have commenced discussions with Wicklow County Council based on their own experience of out-sourcing, Meath County Council regarding cross border waterbodies, Teagasc, the IFA and other stakeholders.

- The Water Pollution Control Section propose to issue temporary discharge licences to developments where connection to the foul sewer maybe delayed and temporary treatment systems are installed. Liaison with the Planning and Development Control Section, Water Services Department in relation to this matter is ongoing.
- Under the Planning and Development Act 2000, householders proposing to install an on-site treatment system are required to pay a deposit which is returned upon inspection by FCC confirming that it is installed properly.
- FCC is investigating co-ordinating a database of all boreholes with the new GIS system.

4.2 CONSULTATIVE AND COOPERATIVE MEASURES

As most of the rivers within the functional area of Fingal County Council traverse the county boundary, FCC liase with Meath County Council and Dublin City Council on regular basis to ensure proper management of the catchments. It is anticipated that this liaison will increase following the Draft Monitoring Programme of the Eastern River Basin District.

Progress During Reporting Period

- The functional area of Fingal County Council is contained within the Eastern River Basin District (ERBD). This district comprises thirteen local authorities with Dublin City Council as the co-ordinating authority. The draft monitoring programme published by the EPA has detailed 23 monitoring points under Operational Subnet 2 the monitoring being carried out by the local authority from December 2006.
- Further to discussions with Meath County Council regarding developing a Catchment Management Plan for the Broadmeadow and Ward Rivers, it has been decided that this will come under the remit of the ERBD.
- The measures proposed in the Tolka River Basin Management Plan will continue to be implemented by Fingal County Council in association with Meath County Council and Dublin City Council. It is envisaged that this management plan will be incorporated into the Eastern River Basin Management Plan.
- Fingal County Council adopted the Sludge Management Plan in 2002 which recommends a number of measures aimed at protecting water quality. This has gone to the tender stage.
- Prior to commencement of the Farm survey, consultation was held with Teagasc and the Fingal branch of the IFA. This consultation has resulted in the farming community being more receptive to the survey process and the improvements recommended on foot of the findings. The ongoing consultation between FCC,

Phosphorus Regulations 4th Implementation Report July 2006

Teagasc and the IFA is necessary to ensure that best practice is employed on all farms and that proper nutrient management and control of the use of herbicides is in place countywide. The continued liaison with the above authorities will be necessary to maximise the effectiveness of these measures.

- FCC liase with the stakeholders at Dublin Airport and form part of a group that meets on a regular basis to co-ordinate measures to combat water pollution at the airport. This process has been effective in formulating appropriate measures and responses to any potential pollution incidents at the airport.
- Fingal County Council also liase with the Eastern Regional Fisheries Board on various issues in relation to the protection of the various water bodies in the county.
- The issuing, monitoring and enforcement of discharge licences allows the Local Authority to liase with the various industries within the county to control the discharge of Phosphorus.
- Water Services have completed their LAMS Submission.
- Dublin Bay Water Quality Management Co-ordinating Group meet on a regular basis to resolve issues relevant to both Local Authorities.

Problems Encountered

- Obtaining prompt sample results to enable FCC to respond to pollution incidents effectively. This has been resolved with the establishment of a 'flagging system' with DCC to notify FCC or problems as close to the time of sampling as possible to enable FCC to carry out a pollution investigation and remedy the problem.

Future Plans/New Directions

- FCC have committed to implementing a Fats, Oils & Grease Control Programme in 2007. A Pilot Study was carried out in Malahide.
- The Water Pollution Control Section are formulating an Environmental Inspection Plan for routine and non-routine monitoring work. FCC are complying with the Environmental Inspection Policy by developing a software package in co-ordination with the Environment Department to satisfy this requirement.
- FCC liase regularly with the Central Laboratory, Dublin City Council to improve the transfer of data generated under FCC's monitoring programmes so FCC can respond more effective to water pollution incidents.

4.3 MONITORING MEASURES

FCC has a well established monitoring programme in place, which covers rivers, UWWTW and licensed discharges. The programme also includes monitoring under the Phosphorus and Dangerous Substances Regulations. Although this programme is quite comprehensive, it is intended that the programme be reviewed and extended as required.

Progress During Reporting Period

- Samples are taken at designated locations along the nine rivers monitored within Fingal, under the Phosphorus Regulations, and then delivered to the Central Laboratory for analysis.
- Regular sampling of all licensed discharges, as recommended on their discharge licences, is carried out by a member of staff with the samples subsequently delivered to the Central Laboratory for analysis.
- A monitoring programme is in place to monitor the discharge from the urban wastewater treatment plants within the county. This programme will be continued under the Senior Executive Engineer, Drainage Maintenance. Periodic monitoring by the Water Pollution Section will continue to determine P loading to rivers from the treatment plants.
- FCC has also employed additional staff to investigate misconnections in the sewerage network and to arrange for these problems to be rectified. Progress of this procedure will undoubtedly reduce the potential for sewage pollution.
- To facilitate monitoring and the proper recording of the results of all monitoring, LabInfo software has been installed and historical data input to the system. All information will then be input into a comprehensive GIS system, which will facilitate the proper management of the various catchments. This is in the developmental stage.
- A survey of all on-site treatment works has commenced to assess the condition of all systems thus reducing the potential for pollution from these sources. Section 12 notices have been served on those premises found to be causing or have the potential to cause pollution. Due to the number of such units in the county, completion of the survey will take a considerable time. Where appropriate, discharge licences shall be required by the local authority. In 2006, these surveys have not taken place due to lack of resources.
- It is intended that the current programme be reviewed and extended accordingly to include additional sampling locations within the catchments or sub-catchments if required.

Problems Encountered

- Sampling results were received a number of months after samples were taken thus leaving it very difficult to identify and solve the problem. FCC met with the Central Laboratory to set up a procedure, a 'flagging-system', where we are notified on a weekly basis of any exceedences, which then go through the certification procedure.
- As discussed previously, due to lack of resources, Farm Surveys and Septic Tank Surveys have not been carried out in 2006.
- The Health & Safety Aspects of this work is increasingly becoming a problem.

Future Plans/New Directions

- As discussed previously, Fingal County Council is investigating other methods of carrying out Farm Surveys and Septic Tank Surveys and are talking to other Local Authorities
- A comprehensive catchment survey has been carried out in the Santry Catchment highlighting the existing and potential problems, which have been dealt with. Currently, a catchment management survey of The Ward catchment is being undertaken.
- A programme to establish baseline P loading to rivers from FCC's small municipal treatment plants was carried out in 2003/2004. This programme is to resume in the near future to establish current P loading from the plants. This is of particular importance as many of the small plants are being upgraded.

4.4 PUBLIC EDUCATION AND ADVISORY MEASURES

Public information can have a significant effect in reducing pollution or the potential for pollution. With this in mind, Fingal County Council are endeavouring to make this information more accessible through a number of media.

Progress During Reporting Period

- Presentations have been made to relevant bodies such as the IFA, Teagasc and the Environmental Services and Parks SPC.

- An Environmental Awareness Officer is employed by FCC to raise public awareness of all environmental issues including those relating to water.
- A web page has been developed for inclusion on Fingal County Council's website. This web page provides appropriate information for the general public regarding the quality of our water bodies and the measures which individuals may take to maintain these waters.

Future Plans/New Directions

- Individual campaigns targeting areas of particular concern including on-site treatment systems, misconnections and agriculture have commenced using various media where relevant. These include local papers, the FCC website, FCC newsletter and leaflet drops.
- FCC has joined with the Environment Section to take part in the Green Schools Campaign.

4.5 OTHER NATIONAL AND MISCELLANEOUS MEASURES RELEVANT TO THE PHOSPHORUS REGULATIONS

Progress During Reporting Period

- Additional works have been carried out to existing foul sewerage systems to improve capacity and reduce the frequency of discharge from Combined Storm Overflows. The Greater Dublin Strategic Drainage Study has modelled a number of the sewerage systems within the county and highlighted sections of sewer and overflows which require upgrading. Some of these improvements have taken place with others to be programmed for completion.
- The Rural Village Schemes are being upgraded in 2006 / 2007 period. These will include nutrient removal mechanisms.
- Various assessments of the existing networks are underway such as the Greater Dublin Strategic Drainage Study (GDSDS). This study highlights various capacity constraints within the system and recommends measures to alleviate these constraints. Of primary concern to this report is the reduction of spills from combined system overflows. In this regard, some of the recommended works have been completed with further recommendations due to be implemented in due course.
- Fingal County Council are currently undertaking a major water conservation project aimed at reducing the volume of unaccounted for water which includes that going to leakage. As this is a continual process, the level of leakage will fluctuate however FCC is committed to reducing this leakage as far as is reasonable.
- A regular monitoring programme is in place to monitor the discharge from all urban wastewater treatment works to ensure that all discharges comply with the Urban Wastewater Regulations. There have also been a number of improvements to the existing treatment works with further improvements planned as detailed in section 3 of this report. These improvements include the decommissioning of Balgriffen WWTW and the upgrading of Swords and Malahide WWTW.

Problems Encountered

- An on-going problem within the Water Pollution Control Section is the increasing workload putting pressure on existing resources.
- Health and Safety Concerns.

Lone working has been highlighted as a health and safety concern within the Water Pollution Control Section. Farm surveys and 'river-walks' among other duties are carried out by staff. It is preferable to have two staff members on-site on these occasions. Limited resources have hindered progress in these areas. The Water Pollution Control Section has purchased a number of automatic samplers over the last number of years. These are used at rural municipal treatment works to calculate Phosphorus loading on rivers. As these samplers are portable, transportation i.e. lifting the equipment in and out of vehicles is a concern. In addition, in order to monitor and control licensed trade effluent discharges it is necessary to lift manhole covers to gain access to manhole chambers. FCC staff have completed manual handling courses in this respect Health and Safety Policy is being prepared specifically for the Water Pollution Control Section.

Future Plans/New Directions

- FCC proposes to implement their monitoring requirements under the Draft ERBD Monitoring Programme. Liaison with the ERBD and the E.P.A is ongoing in relation to this matter. FCC recently submitted comments on E.P.A's draft document – National Surface and Groundwater Monitoring Programmes and are awaiting the publication of a final document.
- A Pilot Quality Management Scheme is proposed for the Water Pollution Section of Water Services. This will establish written procedures for issues such as; review of monitoring data under established monitoring programmes, responding to water pollution incidents, reporting on water pollution incidents and following up exceedences under Trade Effluent Discharge Licences.

4.6 SUMMARY AND CONCLUSIONS

Progress During Reporting Period

- FCC has examined all aspects of Trade Effluent Discharge licensing and have made a number of improvements. These include licensing additional facilities, developing a 'flagging-system' for exceedences and responding appropriately.

- The Water Pollution Control Section has set up a GIS system to co-ordinate all the data from the section with other data such as aerial photography, mapping and drainage infrastructure.
- FCC is currently upgrading small municipal treatment works within the county to include nutrient removal.

Problems Encountered

- Sampling results were received a number of months after samples were taken thus leaving it very difficult to identify and solve the problem. The establishment of a 'flagging-system' with the Central Laboratory, DCC has increased the turn around time on sample results enabling FCC to respond to pollution incidents more effectively and liaise promptly with Licensed Companies where exceedences in licence limits are identified.
- The formulation of a Health and Safety policy for the Water Pollution Control Section has helped identify problem areas such as lone working and gaining access to trade effluent discharge points. FCC have addressed these issues so duties are carried out more efficiently.
- As outlined FCC are considering the possibility of outsourcing farm surveys and septic tank surveys. Limited resources have hindered progress with this measure. Outsourcing would enable FCC to determine problem areas while retaining control of statutory elements under the Water Pollution Acts 1977&1990.

Future Plans/New Directions

- A programme to control discharges of FOG's from food service outlets is being established by FCC. Currently the Water Pollution Control Section issue Trade Effluent Discharge Licences in respect of FOG's to establishments where problems are encountered. It is envisioned that a contracting company will be enlisted to carry out a survey of all food service outlets. FCC will retain the statutory rights over the issue of Trade Effluent Discharge Licences in respect of FOG's to establishments. However the contractor will monitor the establishments performance and report back to FCC in case of exceedences where FCC will respond appropriately.
- The GIS will be expanded to include information relating to farmland boundaries under the Farms Survey scheme in liaison with the DAF. The Water Pollution Control Section have recently established a database to store detailed information relating to pollution incidents, trade effluent discharge licence exceedences, farm surveys and septic tank surveys. This will be linked to the GIS to aid management and protection of waters. The GIS will be used to implement the RMCEI Plan for the Water Pollution Control Section.
- A public awareness campaign is ongoing in liaison with the Environmental Awareness Officer. An Agricultural review is being carried out and agriculture will be targeted in September. A public awareness leaflet detailing Farm Survey procedures and promoting Good Farming Practice will be completed by September in

- A public awareness campaign is ongoing in liaison with the Environmental Awareness Officer. An Agricultural review is being carried out and agriculture will be targeted in September. A public awareness leaflet detailing Farm Survey procedures and promoting Good Farming Practice will be completed by September in liaison with Teagasc and the IFA. Public awareness leaflet for Service Stations, detailing maintenance of interceptors and preventing water pollution will be completed by September. An information leaflet on management of surface water on construction and demolition sites being finalised
- Outsourcing farm surveys and septic tank surveys is being considered as an option to overcome limited resources within the Section. Liaison with Wicklow County Council regarding their own outsourcing programme is proving beneficial. Teagasc have also been consulted on the matter.
- The Central Laboratory, DCC are setting up a new LIMS system. FCC has installed LabInfo and the two systems are compatible. The systems will allow for transfer of data between DCC and FCC allowing FCC to respond effectively to water pollution incidents and exceedences in Trade Effluent Discharge Licences.
- The smaller TW's in rural Fingal are being upgraded to include nutrient removal and reduce Phosphorus loading on riverbodies. A number of these contracts have already gone to tender for the Ballyboghil and Garristown plants. The Naul and Oldtown Treatment Plants are in the planning stages.

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APPENDIX A

Drawings

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Legend:

Treatment works with outfall discharging to river.

River

Catchment Boundary

Fingal County Council Boundary

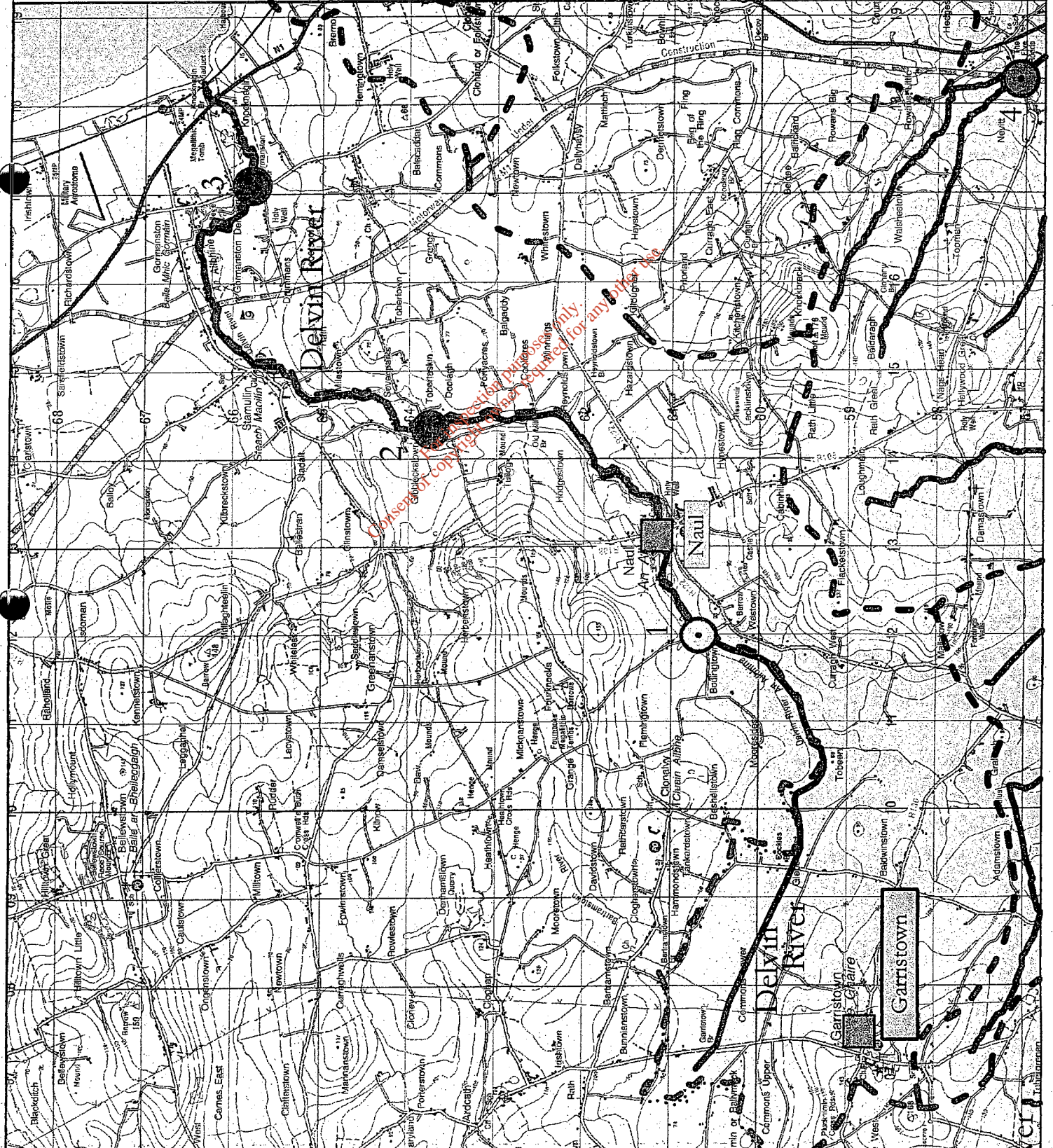
Unpolluted Sample Point

Slightly Polluted Sample Point

Moderately Polluted Sample Point

Seriously Polluted Sample Point

River	River Code	Stat. Code	Station No.
Delvin	08/D/01	0080	1
		0250	2
		0400	3



Comhairle Contae Fhine Gall
Fingal County Council



Fingal County Council
Comhairle Contae Fhine Gall

County Hall,
Swords,
Fingal,
Co. Dublin

PJ Howell

Director of Services

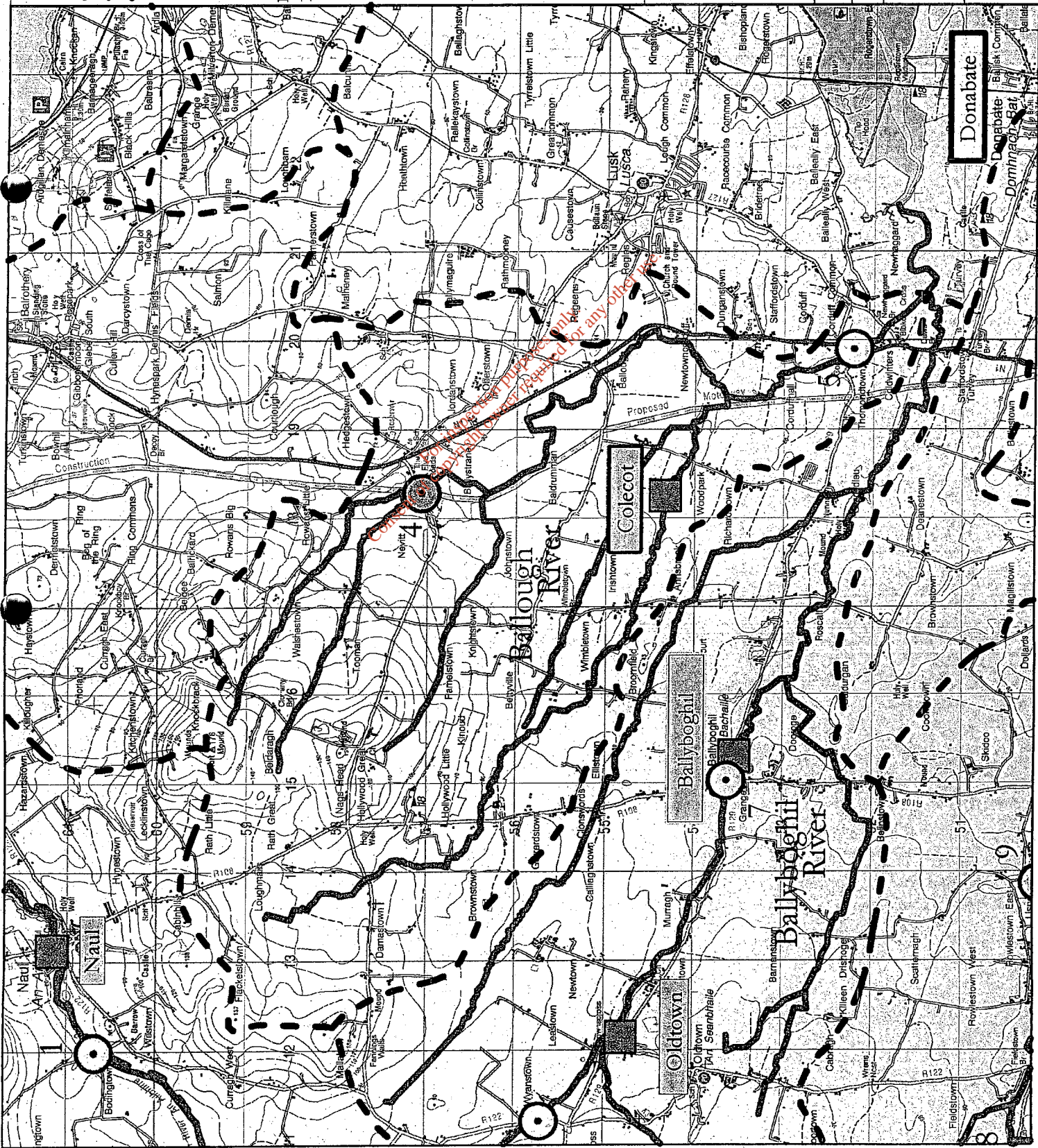
P. O'Rally B.E., C.ENG., M.I.E.I.
Senior Engineer

Aoife Lavelle
Acting Senior Executive Engineer

**PHOSPHORUS REGULATIONS
FOURTH IMPLEMENTATION
REPORT, JULY 2006**

**DELVIN RIVER
CATCHMENT**

D63-01A



Comhairle Contae Fhine Gall
Fingal County Council



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P.J. Howell

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P. O'Reilly B.E., C.ENG., M.I.E.I.
Senior Engineer

Anife Lemlor
Acting Senior Executive Engineer

PHOSPHORUS REGULATIONS
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REPORT, JULY 2006

BALLOUGH RIVER
CATCHMENT

D63-02A

Legend:

- Treatment works with outfall discharging to river.
- River
- Catchment Boundary
- Fingal County Council Boundary
- Unpolluted Sample Point
- Slightly Polluted Sample Point
- Moderately Polluted Sample Point
- Seriously Polluted Sample Point

River Code Stat. Code Station No.
 Ballyboghill 08/B/01 1900 6
 2200 7

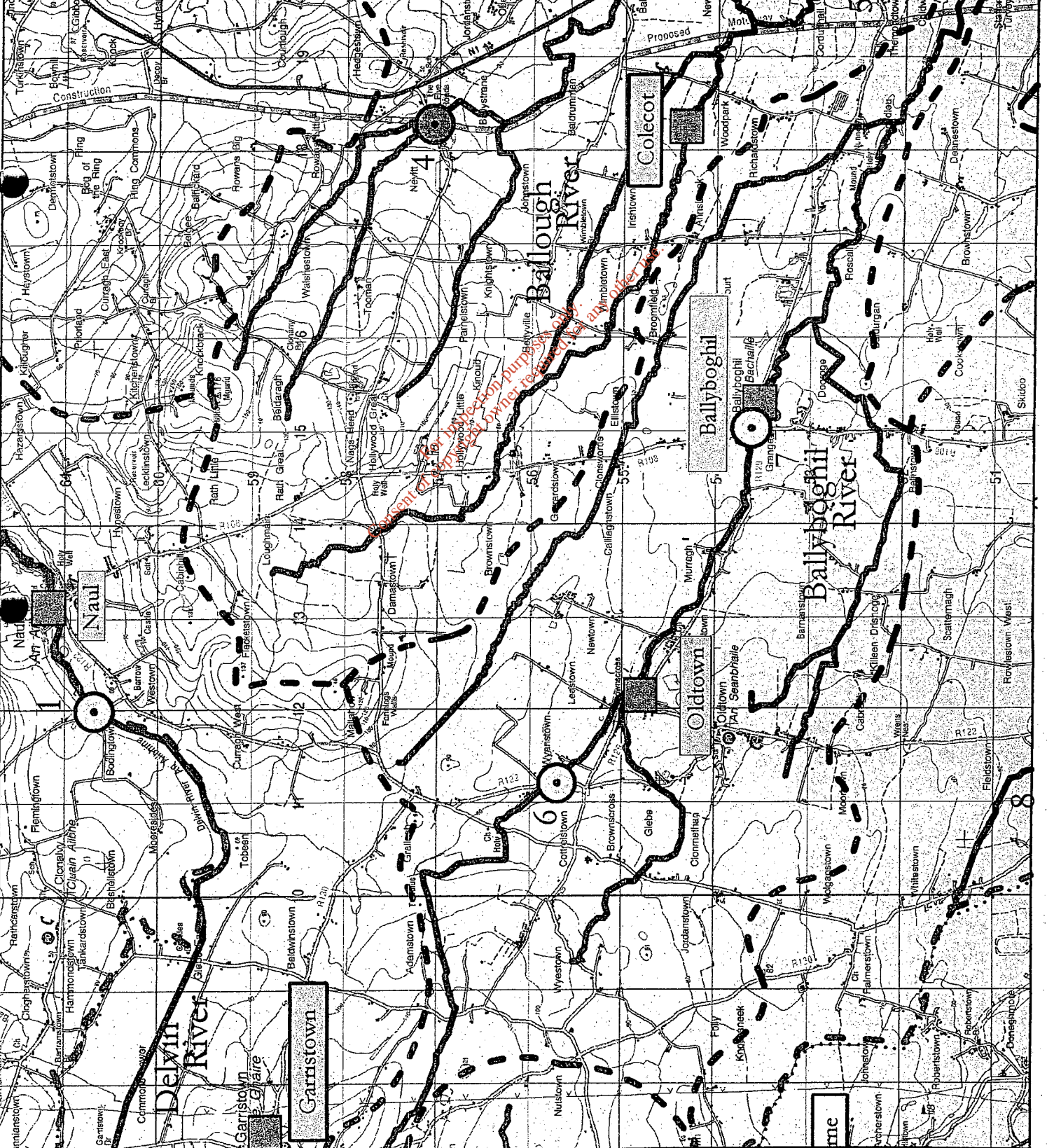
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 Fingal County Council
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 Swords,
 Fingal,
 Co. Dublin

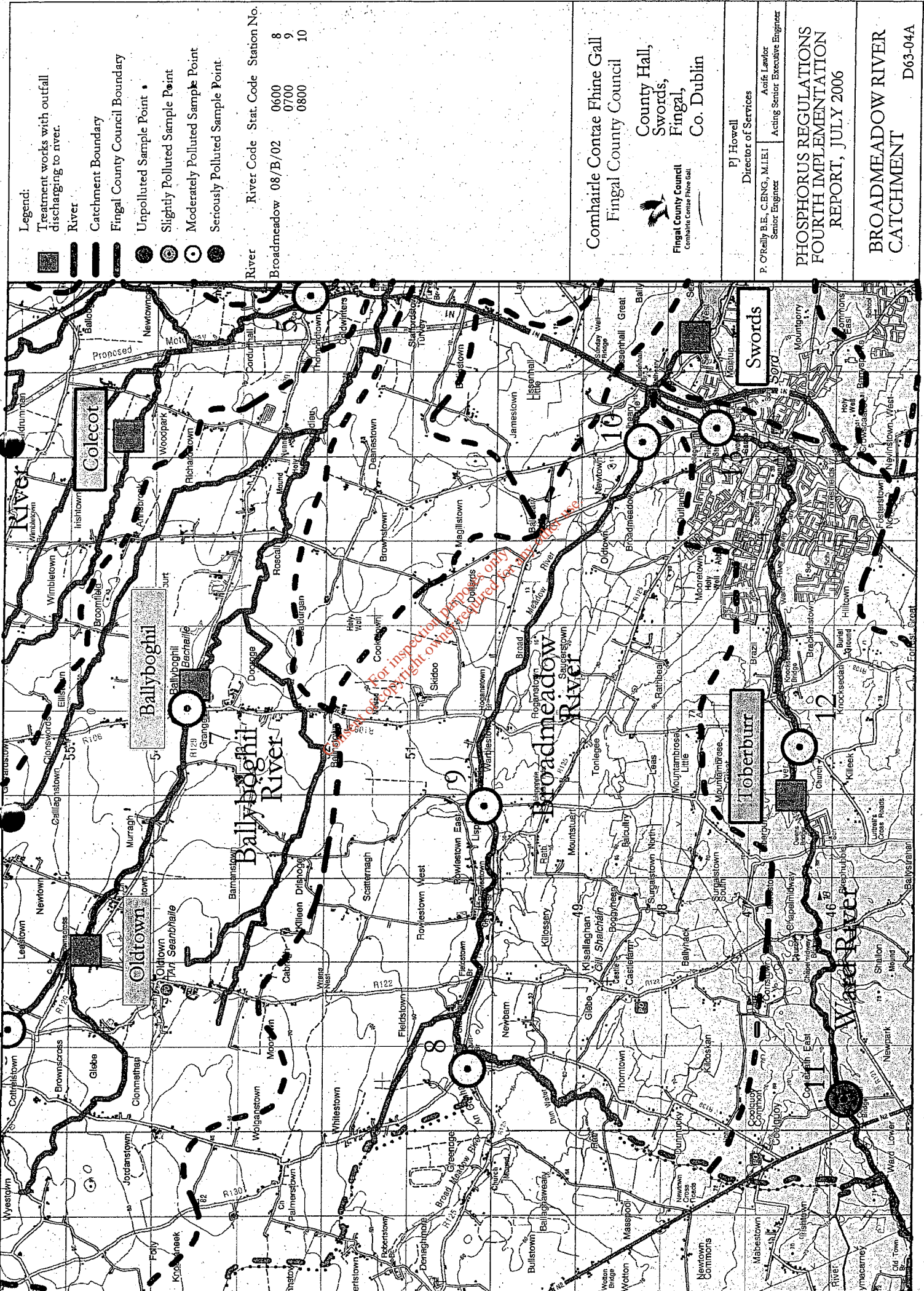
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 Comhairle Contae Fhine Gall

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 P. O'Leary B.E., C.ENG., M.I.E.I.
 Senior Engineer
 Aolif Lavelor
 Acting Senior Executive Engineer

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 FOURTH IMPLEMENTATION
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BALLYBOGHIL RIVER
 CATCHMENT D63-03A





Legend:

- Treatment works with outfall discharging to river.
- River
- Catchment Boundary
- Fingal County Council Boundary
- Unpolluted Sample Point
- Slightly Polluted Sample Point
- Moderately Polluted Sample Point
- Seriously Polluted Sample Point.

River	River Code	Stat. Code	Station No.
Broadmeadow	08/B/02	0600	8
		0700	9
		0800	10

Comhairle Contae Fhine Gall
Fingal County Council



Fingal County Council
Comhairle Contae Fhine Gall

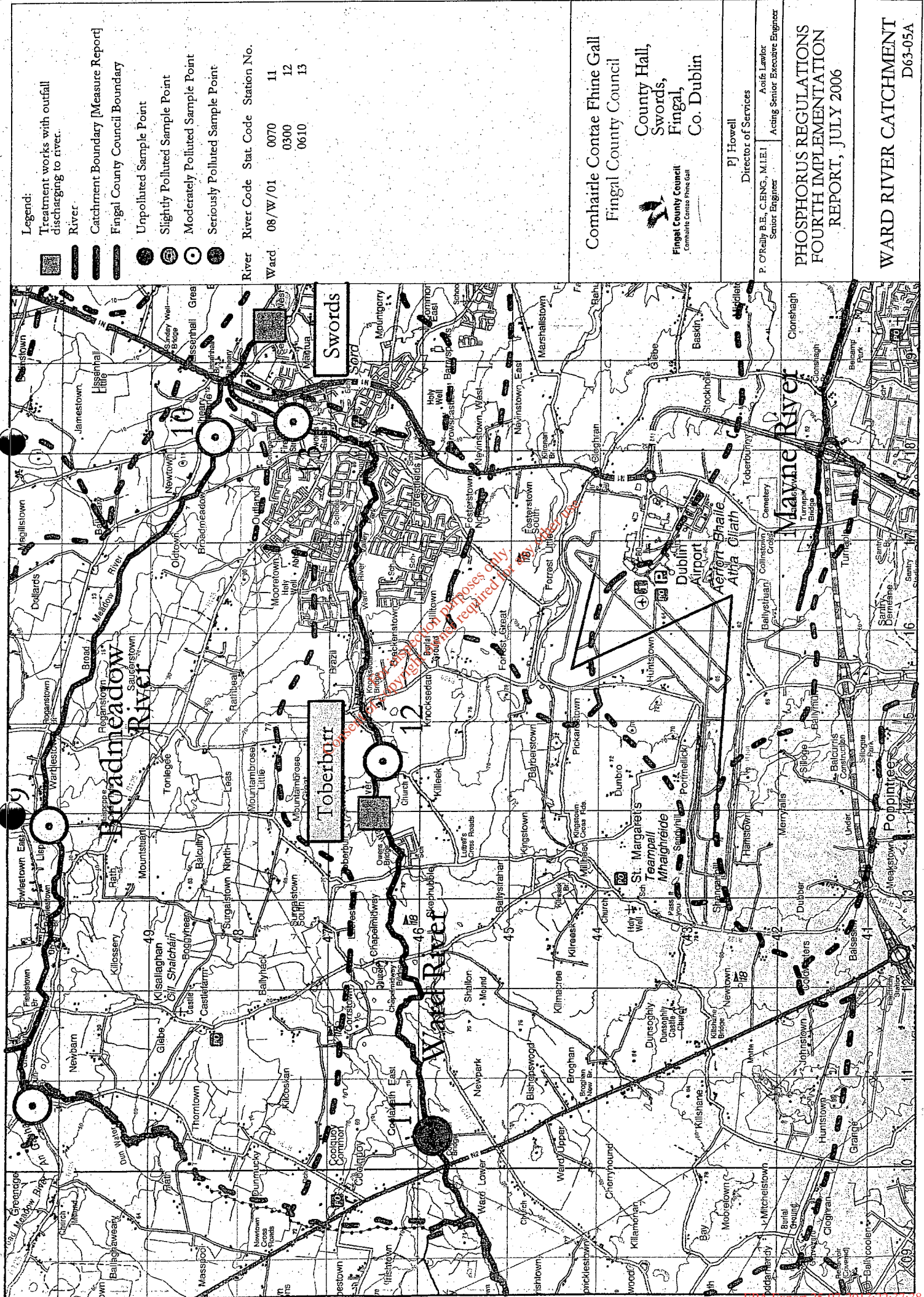
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Senior Engineer
Acting Senior Executive Engineer

**PHOSPHORUS REGULATIONS
FOURTH IMPLEMENTATION
REPORT, JULY 2006**

**BROADMEADOW RIVER
CATCHMENT** D63-04A



- Legend:**
- Treatment works with outfall discharging to river.
 - River.
 - Catchment Boundary [Measure Report]
 - Fingal County Council Boundary
 - Unpolluted Sample Point
 - Slightly Polluted Sample Point
 - Moderately Polluted Sample Point
 - Seriously Polluted Sample Point

River	River Code	Stat Code	Station No.
Ward	08/W/01	0070	11
		0300	12
		0610	13

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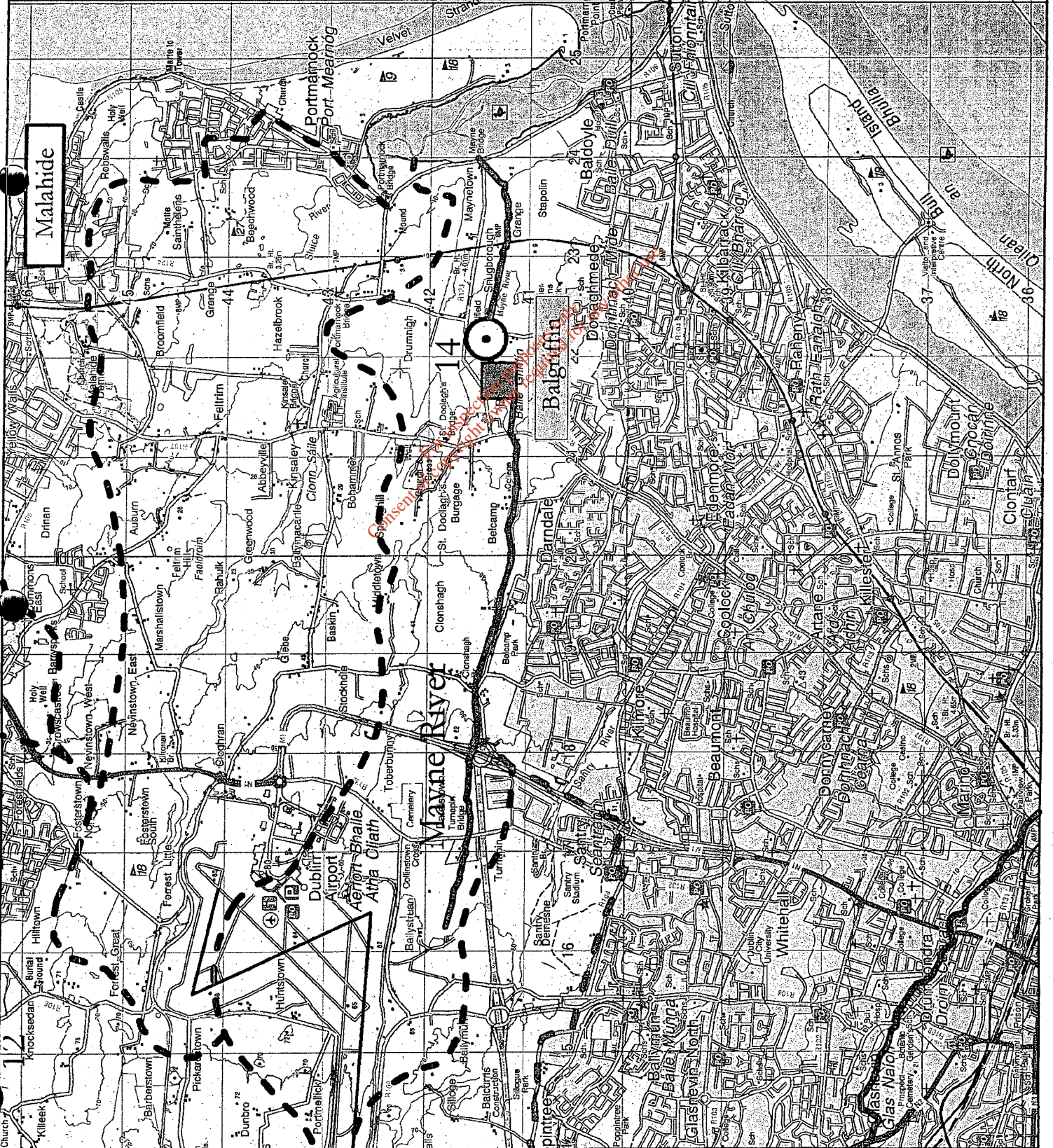
P.J. Howell
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P. O'Riailly B.E., C.ENG., M.I.E.I.
Senior Engineer









Aoife Lawlor
Acting Senior Executive Engineer

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FOURTH IMPLEMENTATION
REPORT, JULY 2006**

WARD RIVER CATCHMENT
D63-05A



Legend:

-  Treatment works with outfall discharging to river.
-  River
-  Catchment Boundary
-  Fingal County Council Boundary
-  Unpolluted Sample Point
-  Slightly Polluted Sample Point
-  Moderately Polluted Sample Point
-  Seriously Polluted Sample Point

River: Mayne
 River Code: 09/M/03
 Stat. Code: 0500
 Station No.: 14

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 Fingal County Council

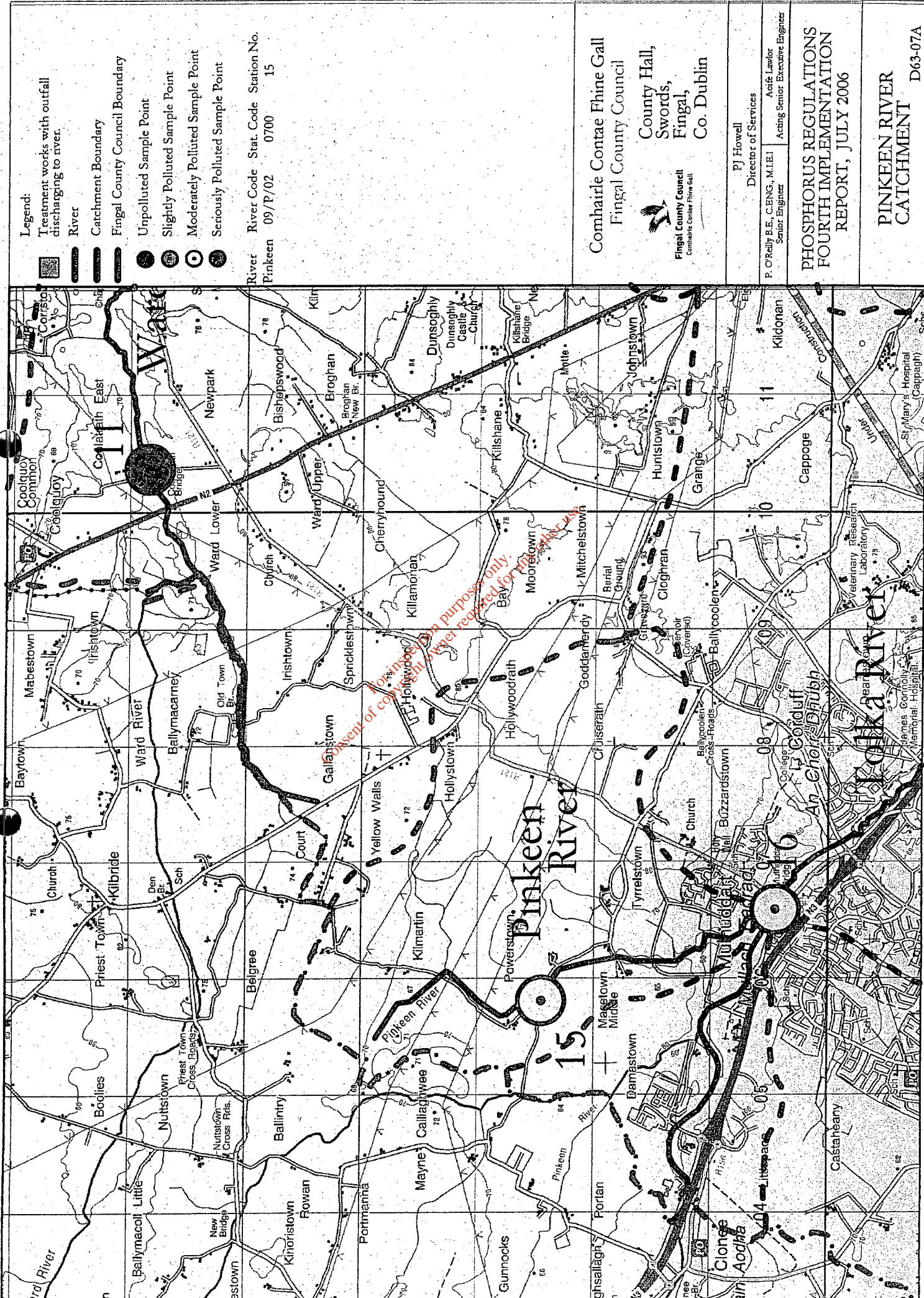


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 Aoife Lawlor
 Acting Senior Executive Engineer

**PHOSPHORUS REGULATIONS
 FOURTH IMPLEMENTATION
 REPORT, JULY 2006**

**MAYNE RIVER
 CATCHMENT** D63-06A



Legend:

Treatment works with outfall discharging to river.

River

Catchment Boundary

Fingal County Council Boundary

Unpolluted Sample Point

Slightly Polluted Sample Point

Moderately Polluted Sample Point

Seriously Polluted Sample Point

River Stat. Code 0700

Pinkeen 09/P/02 Station No. 15

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Fingal County Council



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Comhairle Contrae Fine Gall

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PJ Howell
Director of Services

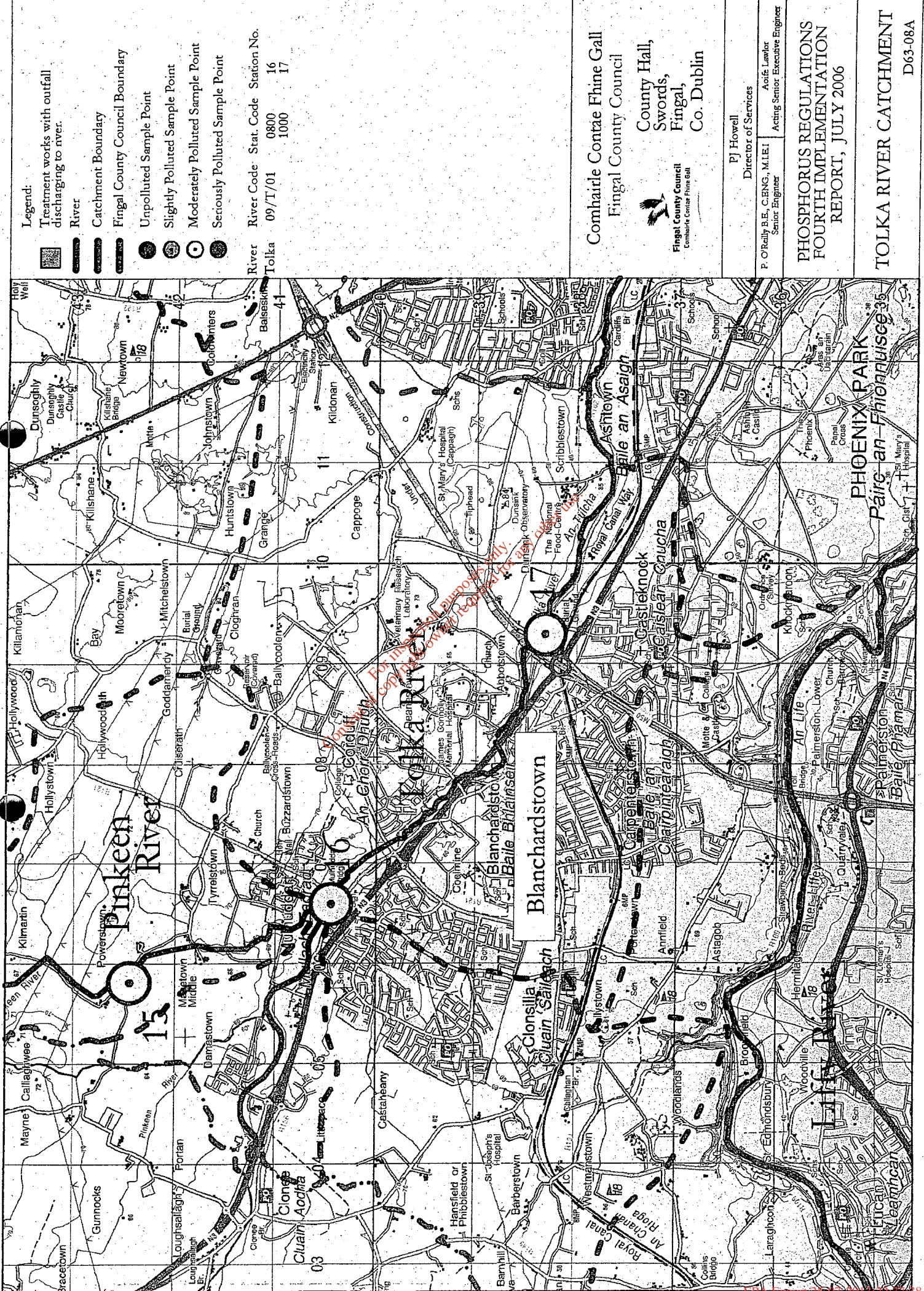
P. O'Reilly B.E., C.ENG., M.I.E.I.
Senior Engineer

Aoife Lawlor
Acting Senior Executive Engineer

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**PINKEEN RIVER
CATCHMENT** D63-07A

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Legend:

- Treatment works with outfall discharging to river.
- River
- Catchment Boundary
- Fingal County Council Boundary
- Unpolluted Sample Point
- Slightly Polluted Sample Point
- Moderately Polluted Sample Point
- Seriously Polluted Sample Point

River	River Code	Stat. Code	Station No.
Tolka	09/T/01	0800	16
		1000	17

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 Fingal County Council

 Fingal County Council
 Comhairle Contae Fhine Gall
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 P. O'Rally B.E., C.ENG., M.I.E.I.
 Senior Engineer
 Acting Senior Executive Engineer

**PHOSPHORUS REGULATIONS
 FOURTH IMPLEMENTATION
 REPORT, JULY 2006**

TOLKA RIVER CATCHMENT
 D63-08A

Legend:

Treatment works with outfall discharging to river.

River

Catchment Boundary

Fingal County Council Boundary

Unpolluted Sample Point

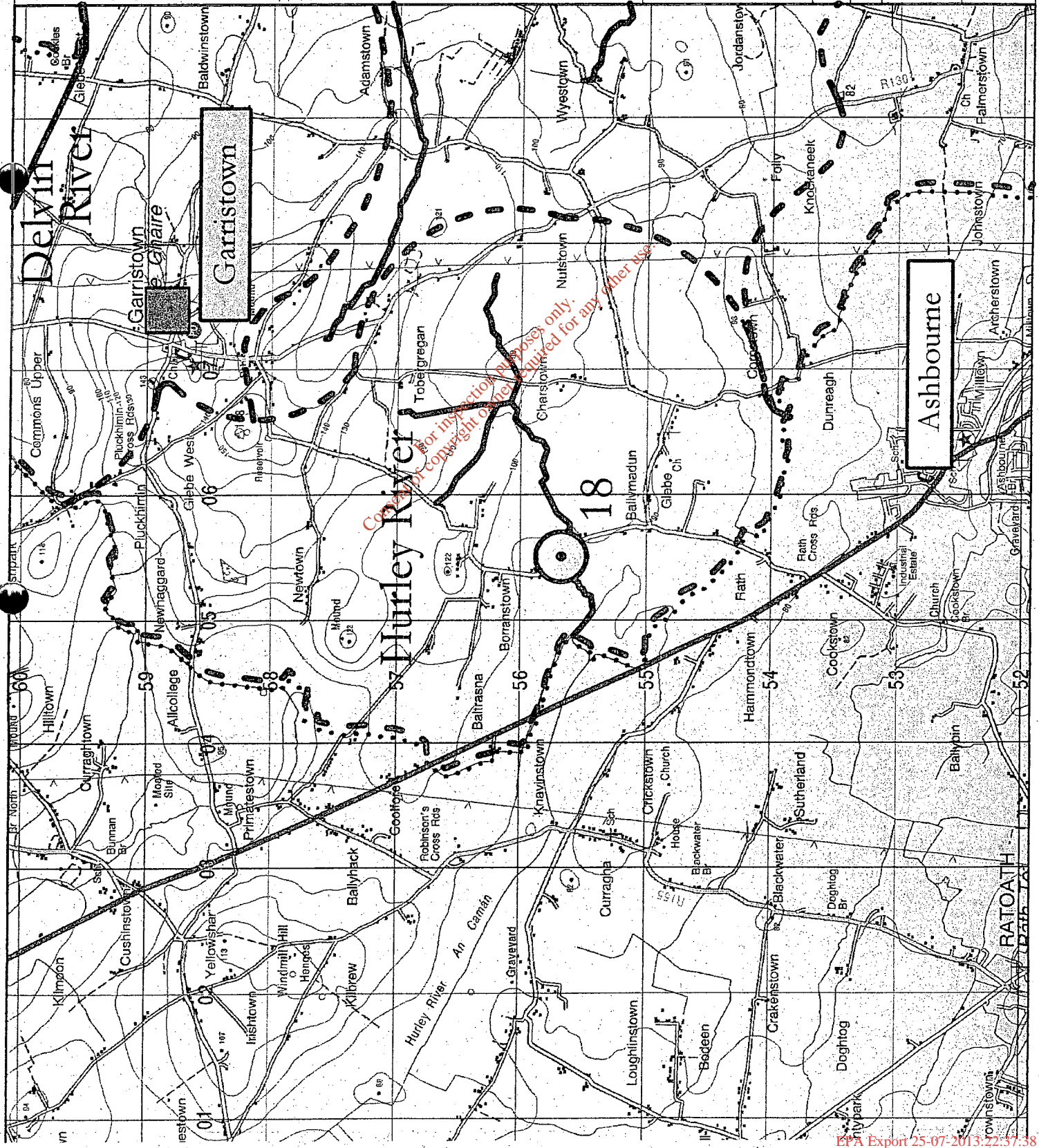
Slightly Polluted Sample Point

Moderately Polluted Sample Point

Seriously Polluted Sample Point

River Code Stat. Code Station No.

Hurley 08/H/01 0060 18



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Fingal County Council



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FOURTH IMPLEMENTATION
REPORT, JULY 2006**

**HURLEY RIVER
CATCHMENT**

D63-09A

APPENDIX B

Current Water Quality

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Table B.1: River Water Quality Standards to be achieved by 2007 DELVIN (08/D/01)

Local Authority Name		FINGAL CO. COUNCIL				Implementation Report Year		JULY 2006	
River Name	River Code	Biological Monitoring Station	Station Location Name	Baseline Q-Value	Baseline MRP Value $\mu\text{g/l}$ (P (median value))	Is Baseline Quality Satisfactory Yes/No?	Current Q-Value	Current MRP Value $\mu\text{g/l}$ (median)	
Delvin	08/D/01	0080	Bridge W of Naul	Q3-4	120	No	Q3	100	
		0250	Br NW of Forty Acres	Q3	130	No	Q4	100	
		0400	Bridge near Bridgefort Hse	Q3	240	No	Q4	130	

(Continued)

Standard to be Achieved by 2007 Q-Value	Standard to be Achieved by 2007 MRP Value	Has Either Standard been Achieved?	Does Article 3(9) Extension Apply?	If Yes, What is the Revised Compliance Date?	Where Quality is Unsatisfactory, What is the Principle source of Pollution?	If there is an identifiable Source, please enter details
Q4	30	No	No		Agriculture/Municipal	Not as Yet
Q3-4	50	Yes Q-Value	No		Agriculture/Municipal	Not as Yet
Q3-4	50	Yes Q-Value	No		Agriculture/Municipal	Point located d/s of Stamullen Treatment Works

Table B.2: River Water Quality Standards to be achieved by 2007 **BALLOUGH (08/B/03)**

Local Authority Name		FINGAL CO. COUNCIL		Implementation Report Year		JULY 2006		
River Name	River Code	Biological Monitoring Station	Station Location Name	Baseline Q-Value	Baseline MRP Value µg/l (median value)	Is Baseline Quality Satisfactory Yes/No?	Current Q-Value	Current MRP Value µg/l (median)
Ballough	08/B/03	1400	Bridge W of Five Roads	Q3	No Result	No	Q3-4	40
		1600	Corduff Bridge	Q3	No Result	No	Q3	150

(Continued)

Standard to be Achieved by 2007 Q-Value	Standard to be Achieved by 2007 MRP µg/l Value	Has Either Standard been Achieved?	Does Article 3(9) Extension Apply?	If Yes, What is the Revised Compliance Date?	Where Quality is Unsatisfactory, What is the Principle source of Pollution?	If there is an Identifiable Source, please enter details
Q3-4	50	Yes-Q	No		Agriculture	Not as Yet
Q3-4	50	No	No		Agriculture	Not as Yet

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Table B.3: River Water Quality Standards to be achieved by 2007 BALLYBOGHIL (08/B/01)

Local Authority Name		FINGAL CO. COUNCIL		Implementation Report Year		JULY 2006		
River Name	River Code	Biological Monitoring Station	Station Location Name	Baseline Q-Value	Baseline MRP Value $\mu\text{g/l P}$ (median value)	Is Baseline Quality Satisfactory Yes/No?	Current Q-Value	Current MRP Value $\mu\text{g/l}$
Ballyboghil	08/B/01	1900	Bridge S of Trallie lodge	Q2	No Result	No	Q3	70
		2200	Bridge in Ballyboghil	Q3	No Result	No	Q3	90

(Continued)

Standard to be Achieved by 2007 Q-Value	Standard to be Achieved by 2007 MRP Value $\mu\text{g/l}$	Has Either Standard been Achieved?	Does Article 3(9) Extension Apply?	If Yes, What is the Revised Compliance Date?	Where Quality is Unsatisfactory, What is the Principle source of Pollution?	If there is an Identifiable Source, please enter details
Q3	70	Yes - Q Value	No		Agriculture	Not as Yet
Q3-4	50	No	No		Not Yet Identified	Not as Yet

Table B.4: River Water Quality Standards to be achieved by 2007 Broadmeadow (08/B/02)

Local Authority Name		Fingal Co. Council		Implementation Report Year		JULY 2006		
River Name	River Code	Biological Monitoring Station	Station Location Name	Baseline Q-Value	Baseline MRP Value µg/l P (median value)	Is Baseline Quality Satisfactory Yes/No?	Current Q-Value	Current MRP Value µg/l (median)
Broadmeadow	08/B/02	0600	WSW of Fieldstown House	Q3	448	No	Q3	80
		0700	Lispopple Bridge	Q3-4	384	No	Q3	80
		0800	Br. Near Waterworks	Q3	267	No	Q2-3	30

(Continued)

Standard to be Achieved by 2007 Q-Value	Standard to be Achieved by 2007 MRP Value	Has Either Standard been Achieved?	Does Article 3(9) Extension Apply?	If Yes, What is the Revised Compliance Date?	Where Quality is Unsatisfactory, What is the Principle Source of Pollution?	If there is an Identifiable Source, please enter details
Q3-4	50	No	No		Municipal /Agriculture	_____
Q4	30	No	No		Municipal/Agriculture	_____
Q3-4	50	Yes-MRP	No		Municipal/Agriculture	_____

Table B.5: River Water Quality Standards to be Achieved by 2007 Ward (08/W/01)

Local Authority Name		FINGAL CO. COUNCIL		Implementation Report Year		JULY 2006		
River Name	River Code	Biological Monitoring Station	Station Location Name	Baseline Q-Value	Baseline MRP Value µg/l P (median value)	Is Baseline Quality Satisfactory Yes/No?	Current Q-Value	Current MRP Value µg/l (median)
Ward	08/W/01	0070	Coolrath Bridge	Q2-3	138	No	Q2	120
		0300	Bridge N of Killeek	Q3	No Result	No	Q2-3	120
		0610	Bridge d/s Scotchstone Bridge	Q3	263	No	Q2-3	100

(Continued)

Standard to be Achieved by 2007 Q-Value	Standard to be Achieved by 2007 MRP Value	Has Either Standard been Achieved?	Does Article 3(9) Extension Apply?	If Yes, What is the Revised Compliance Date?	Where Quality is Unsatisfactory, What is the Principle source of Pollution?	If there is an Identifiable Source, please enter details
Q3	70	No	No		Agriculture	Not as Yet
Q3-4	50	No	No		Agriculture	Not as Yet
Q3-4	50	No	No		Agriculture/Industry	Not as Yet

Table B.6: River Water Quality Standards to be achieved by 2007 Mayne (09/M/03)

Local Authority Name		FINGAL CO. COUNCIL		Implementation Report Year		JULY 2006			
River Name	River Code	Biological Monitoring Station	Station Location Name	Baseline Q-Value	Baseline MRP Value $\mu\text{g/l P}$ (median value)	Is Baseline Quality Satisfactory Yes/No?	Current Q-Value	Current MRP Value $\mu\text{g/l}$ (median)	
Mayne	09/M/03	0500	Hole in the Wall Road Bridge	Q2-3	No Result	No	Q3	50	

(Continued)

Standard to be Achieved by 2007 Q-Value	Standard to be Achieved by 2007 MRP Value	Has Either Standard been Achieved?	Does Article 3(9) Extension Apply?	If Yes, What is the Revised Compliance Date?	Where Quality is Unsatisfactory, What is the Principle source of Pollution?	If there is an Identifiable Source, please enter details
Q3	70	Yes – Q Value and MRP	No		Municipal	Balgriffin Treatment Works

Table B.7: River Water Quality Standards to be achieved by 2007 Pinkeen (09/P/02)

Local Authority Name		FINGAL CO. COUNCIL		Implementation Report Year		JULY 2006		
River Name	River Code	Biological Monitoring Station	Station Location Name	Baseline Q-Value	Baseline MRP Value µg/l P (median value)	Is Baseline Quality Satisfactory Yes/No?	Current Q-Value	Current MRP Value µg/l (median)
Pinkeen	09/P/02	0700	Bridge SE of Powerstown House	Q1	No Result	No	Q3	80

(Continued)

Standard to be Achieved by 2007 Q-Value	Standard to be Achieved by 2007 MRP Value	Has Either Standard been Achieved?	Does Article 3(9) Extension Apply?	If Yes, What is the Revised Compliance Date?	Where Quality is Unsatisfactory, What is the Principle source of Pollution?	If there is an Identifiable Source, please enter details
Q3	70	Yes – Q Value	No		Agriculture/Municipal	Not as Yet

Table B.8: River Water Quality Standards to be achieved by 2007 Tolka (09/T/01)

Local Authority Name		FINGAL CO. COUNCIL		Implementation Report Year		JULY 2006		
River Name	River Code	Biological Monitoring Station	Station Location Name	Baseline Q-Value	Baseline MRP Value $\mu\text{g/l P}$ (median value)	Is Baseline Quality Satisfactory Yes/No?	Current Q-Value	Current MRP Value $\mu\text{g/l}$ (median)
Tolka	09/T/01	0800	Mulhuddart Bridge	Q2-3	430	No	Q3	85
		1000	Abbotstown Bridge	Q3	457	No	Q3	90

(Continued)

Standard to be Achieved by 2007 Q-Value	Standard to be Achieved by 2007 MRP Value	Has Either Standard been Achieved?	Does Article 3(9) Extension Apply?	If Yes, What is the Revised Compliance Date?	Where Quality is Unsatisfactory, What is the Principle source of Pollution?	If there is an Identifiable Source, please enter details
Q3	70	Yes – Q Value	No		Undecided, possibly industrial/municipal	Not as Yet
Q3-4	50	No	No		Municipal	Not as Yet

Table B.9: River Water Quality Standards to be achieved by 2007 Hurley (08/H/01)

Local Authority Name		FINGAL CO. COUNCIL		Implementation Report Year		JULY 2006		
River Name	River Code	Biological Monitoring Station	Station Location Name	Baseline Q-Value	Baseline MRP Value $\mu\text{g/l P}$ (median value)	Is Baseline Quality Satisfactory Yes/No?	Current Q-Value	Current MRP Value $\mu\text{g/l}$ (median)
Hurley	08/H/01	0060	Bridge S of Borranstown House	Q3	No Result	No	Q3	80

[Continued]

Standard to be Achieved by 2007 Q-Value	Standard to be Achieved by 2007 MRP Value	Has Either Standard been Achieved?	Does Article 3(9) Extension Apply?	If Yes, What is the Revised Compliance Date?	Where Quality is Unsatisfactory, What is the Principle source of Pollution?	If there is an Identifiable Source, please enter details
Q3-4	50	No	No		Agriculture	Not as Yet

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Table C.1 Implementation Programme Summary Table: DELVIN RIVER (08/D/01)

Standard	Measures	Targets	Actions	Timeframe	Responsible for Implementation	Progress to Date	Corrective Actions	Action Completed within Timeframe (Y/N)?	If not, State Revised Timeframe
To improve Q-rating upstream of Station No. 0080 from Q3-4 to Q4. To maintain Q-rating upstream of Station No. 0250 at Q4 or better. To improve Q-rating upstream of Station No. 0400 from Q3 to Q4.	Provide P removal as part of upgrade of Garristown WWTP	Minimise P losses to the river using the best available technology.	Upgrade wastewater treatment facilities using the best available technology not entailing excessive costs Include P removal requirements in design brief		Senior Engineer Design and Planning.	Due to be commissioned Nov 2006			
	Address surface water infiltration in foul drainage system at Garristown.	Reduce P losses by resolving flooding problem.	Quantify extent of problem and rectify where possible.	31/07/2004	Senior Executive Engineer Drainage Maintenance	Works have been completed		Y	
	Flow proportional sampling of Garristown and the Naul WWTW effluent.	Establish P loading from wastewater treatment works to quantify impact of municipal activity within the catchment.	Carry out regular monitoring.	Ongoing	Senior Executive Engineer Pollution Control	Sampling programme in place.	Full time sampler appointed in 2002 and new equipment purchased to enable more frequent sampling. Responsibility transferred to Senior Executive Engineer Drainage Maintenance	Ongoing	
	Upgrade hydrometric station network.	To monitor river flows to enable P loading be calculated.	Refurbish existing stations at Garristown and the Naul	31/07/2004	Senior Executive Engineer Direct Labour	Provision made in Works Programme	Works included in the 2004 Works Programme. Measure may be amended. Awaiting publication of the E.P.A's – National Surface and Groundwater Monitoring Programme, Republic of Ireland – Final Report. Liaison with the E.P.A regarding proposals for the Hydromorphology element of the Operational Monitoring programme outlined in the report.	N	31-12-2004

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Table C.1 Continued - Implementation Programme Summary Table: DELVIN RIVER (08/D/01)

Standard	Measures	Targets	Actions	Timeframe	Responsible for Implementation	Progress to Date	Corrective Actions	Action Completed within Timeframe (Y/N)?	If not, State Revised Timeframe
			Establish new station at the freshwater boundary near Gormanstown.	31/07/2006	Senior Executive Engineer Direct Labour	Provision made in Works Programme	As above		
	Liaison structures with Meath County Council.	Increased efficiency in implementing measures.	Set up liaison structures and hold regular meetings to co ordinate policy.	Ongoing	Director of Services Senior Engineer Design and Planning	Meetings held on a regular basis		Ongoing	
			Set up liaison structures and hold regular meetings to co ordinate working arrangements and implementing measures on a catchment basis.	31/07/2004	Senior Executive Engineer Pollution Control			Ongoing	
	Provide P removal as part of upgrade of the Naul WWTP	Minimise P losses to the river using the best available technology.	Upgrade wastewater treatment facilities using the best available technology not entailing excessive costs Include P removal requirements in design brief		Senior Engineer Design and Planning		Going to tender July 06		

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Table C.2 Implementation Programme Summary Table: BALLOUGH RIVER (08/B/03)

Standard	Measures	Targets	Actions	Timeframe	Responsible for Implementation	Progress to Date	Corrective Actions	Action Completed within Timeframe (Y/N)?	If not, State Revised Timeframe
<p>To maintain Q-rating upstream of Station No. 1400 at Q3-4 or better.</p> <p>To maintain Q-rating upstream of Station No. 1600 at Q3-4 or better.</p>	Upgrade hydrometric station network.	To monitor river flows to enable P loading and budgets be calculated.	Establish new station at Corduff.	31/07/2006	Senior Executive Engineer Direct Labour	Provision made in Works Programme	Measure may be amended. Awaiting publication of the E.P.A's – National Surface and Groundwater Monitoring Programme, Republic of Ireland – Final Report. Liaison with the E.P.A regarding proposals for the Hydromorphology element of the Operational Monitoring programme outlined in the report.		
	Flow proportional sampling of Colecot WWTW effluent.	Establish P loading from wastewater treatment works to quantify impact of municipal activity within the catchment.	Carry out regular monitoring.	Ongoing	Senior Executive Engineer Pollution Control	Sampling programme in place.	Full time sampler appointed in 2002 and new equipment purchased to enable more frequent sampling.		

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Table C.3 Implementation Programme Summary Table: BALLYBOGHIL (08/B/01)

Standard	Measures	Targets	Actions	Timeframe	Responsible for Implementation	Progress to Date	Corrective Actions	Action Completed within Timeframe (Y/N)?	If not, State Revised Timeframe
<p>To maintain Q-rating upstream of Station No. 1900 at Q3-4 or better</p> <p>To improve Q-rating upstream of Station No. 2200 from Q3 to Q3-4.</p>	Upgrade hydrometric station network.	To monitor river flows to enable P loading and budgets be calculated.	Establish new station at the freshwater boundary at Daws Bridge	31/07/2006	Senior Executive Engineer Direct Labour	Provision made in Works Programme	Measure may be amended. Awaiting publication of the E.P.A's – National Surface and Groundwater Monitoring Programme, Republic of Ireland – Final Report. Liaison with the E.P.A regarding proposals for the Hydromorphology element of the Operational Monitoring programme outlined in the report.		
	Flow proportional sampling of Oldtown and Ballyboghil WWTW effluent.	Establish P loading from wastewater treatment works to quantify impact of municipal activity within the catchment.	Carry out regular monitoring.	Ongoing	Senior Executive Engineer Pollution Control	Sampling programme in place.	Full time sampler appointed in 2002 and new equipment purchased to enable more frequent sampling.	Ongoing	
	Provide P removal as part of upgrade of Oldtown and Ballyboghil WWTP	Minimise P losses to the river using the best available technology.	Upgrade wastewater treatment facilities using the best available technology not entailing excessive costs Include P removal requirements in design brief	Not known	Senior Executive Engineer Drainage Design.	Ballyboghil to be commissioned in Nov 06. Oldtown to go to tender July 06			

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Table C.4 Implementation Programme Summary Table: BROADMEADOW RIVER (08/B/02)

Standard	Measures	Targets	Actions	Timeframe	Responsible for Implementation	Progress to Date	Corrective Actions	Action Completed within Timeframe [Y/N]?	If not, State Revised Timeframe
To improve Q-rating upstream of Station No. 0600 from Q3 to Q3-4.	Water Quality Plan for the Broadmeadow Estuary and Catchment to include the Broadmeadow River.	Implement Plan to reduce nutrient losses to waters	Draft Water Quality Plan in conjunction with Meath County Council for adoption by the County Council.	31/07/2004	Fingal County Council	BWQP to be included within the ERBD		N	Timeframe not known
To improve Q-rating upstream of Station No. 0700 from Q3-4 to Q4. To improve Q-rating upstream of Station No. 0800 from Q3 to Q3-4.	Upgrade hydrometric station network.	To monitor river flows to enable P loading and budgets be calculated.	Refurbish existing stations at Fieldstown and Balheary	31/07/2004	Senior Executive Engineer Direct Labour	Provision made in 2004 Works Programme	Measure may be amended. Awaiting publication of the E.P.A's – National Surface and Groundwater Monitoring Programme, Republic of Ireland – Final Report. Liaison with the E.P.A regarding proposals for the Hydromorphology element of the Operational Monitoring programme outlined in the report.	N	31-12-2004
	Liaison structures with Meath County Council.	Increased efficiency in implementing measures.	Set up liaison structures and hold regular meetings to co ordinate policy.	Ongoing	Director of Services Senior Engineer Design and Planning	Meetings held on a regular basis		Ongoing	
			Set up liaison structures and hold regular meetings to co ordinate working arrangements and implementing measures on a catchment basis.	31/07/2004	Senior Executive Engineer Pollution Control	Contact made with Meath County Council		Ongoing	

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Table C.5 Implementation Programme Summary Table: WARD RIVER (08/W/01)

Standard	Measures	Targets	Actions	Timeframe	Responsible for Implementation	Progress to Date	Corrective Actions	Action Completed within Timeframe [Y/N]?	If not, State Revised Timeframe
To maintain Q-rating upstream of Station No. 0070 at Q3 or better.	Water Quality Plan for the Broadmeadow Estuary and Catchment to include the Ward River.	Implement Plan to reduce nutrient losses to waters	Draft Water Quality Plan in conjunction with Meath County Council for adoption by the County Council.	31/07/2004	Fingal County Council	Water Pollution Control Section formulating a WQP summer 2006 WQP to be included within the ERBD		N	31/12/2005
To improve Q-rating upstream of Station No. 0300 from Q3 to Q3-4.	Liaison structures with Meath County Council.	Increased efficiency in implementing measures.	Set up liaison structures and hold regular meetings to co ordinate policy.	Ongoing	Director of Services Senior Engineer Design and Planning	Meetings held on a regular basis		Ongoing	
To improve Q-rating upstream of Station No. 0610 from Q3 to Q3-4.			Set up liaison structures and hold regular meetings to co ordinate working arrangements and implementing measures on a catchment basis.	31/07/2004	Senior Executive Engineer Pollution Control	Contact made with Meath County Council		Ongoing	
	Flow proportional sampling of Toberburr WWTW effluent.	Establish P loading from wastewater treatment works to quantify impact of municipal activity within the catchment.	Carry out regular monitoring.	Ongoing	Senior Executive Engineer Pollution Control	Health & Safety concerns regarding Flow Proportional Monitoring in the WWTW	Composite sampling over 24hours taken on a monthly basis. Responsibility taken over by Senior Executive Engineer, Drainage Operations	Ongoing	
	Decommission Toberburr WWTW	Reduce P inputs to the river.	Connect drainage network to Swords.	31/07/2004	Senior Executive Engineer Planning Control	Proposal drawn up	The rising main is being constructed at present and it is anticipated that works will be completed early in 2005	N	31/07/2005
	Remedy storm water overflows from combined systems in Swords.	Minimise effect of P losses from overflows to the river.	Model network to identify sub standard sections. Upgrade pipelines and divert surface water from sewers.	31/07/2004	Senior Executive Engineer Drainage Design	Swords has been modelled under the <i>Greater Dublin Strategic Drainage Study</i> to identify substandard overflows. Substantial work has been carried out in Swords upgrading sewers and diverting surface water	Further works have been highlighted in the model for improvements. A timeframe for these additional works is to be decided.	Y	
	Remedy house misconnection	Eliminate P discharges from house misconnections.	Carry out misconnection surveys. Where necessary follow up with enforcement under the Water Pollution Acts.	31/07/2004	Senior Engineer Drainage maintenance		An additional member of staff has been employed to survey house misconnections		31/07/06

Table C.6 Implementation Programme Summary Table: MAYNE (09/M/03)

Standard	Measures	Targets	Actions	Timeframe	Responsible for Implementation	Progress to Date	Corrective Actions	Action Completed within Timeframe (Y/N)?	If not, State Revised Timeframe
To maintain Q-rating upstream of Station No. 0500 at Q3 or better.	Stakeholder consultation and co-operation.	Active involvement of stakeholders in implementing measures to reduce P inputs to rivers.	Participate in Pollution Control Committee for Dublin Airport to enable relevant organisations contribute to implementing measures.	Ongoing	Senior Exec. Engineer Pollution Control	Aer Rianta has re activated pollution Control Meetings for Dublin Airport. Fingal Water Pollution Control is actively participating in process.		Ongoing	
	Liaison structures with Dublin City Council.	Increased efficiency in implementing measures.	Set up liaison structures and hold regular meetings to co ordinate working arrangements and implementing measures on a catchment basis.	31/07/2004	Senior Executive Engineer Pollution Control	Close contact is maintained with Dublin City Council Water Pollution Control section.			
	Flow proportional sampling of Balgriffen WWTW effluent.	Establish P loading from wastewater treatment works to quantify impact of municipal activity within the catchment.	Carry out regular monitoring.	Ongoing	Senior Executive Engineer Pollution Control	Balgriffen WWTW has been decommissioned			
	Decommission Balgriffen WWTW	Reduce P inputs to the river.	Connect drainage network to North Fringe Sewer	31/07/2004	Senior Design and Planning.	Balgriffen WWTW has been decommissioned		Y	
	Upgrade hydrometric station network.	To monitor river flows to enable P loading be calculated.	Refurbish existing stations at the Hole in the Wall	31/07/2004	Senior Executive Engineer Direct Labour	Provision made in Works Programme	Measure may be amended. Awaiting publication of the E.P.A's - National Surface and Groundwater Monitoring Programme, Republic of Ireland - Final Report. Liaison with the E.P.A regarding proposals for the Hydromorphology element of the Operational Monitoring programme outlined in the report.	N	31-12-2004

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Table C.7 Implementation Programme Summary Table: PINKEEN (09/P/02)

Standard	Measures	Targets	Actions	Timeframe	Responsible for Implementation	Progress to Date	Corrective Actions	Action Completed within Timeframe (Y/N)?	If not, State Revised Timeframe
To maintain Q-rating upstream of Station No. 0700 at Q3 or better.	Implement the Water Quality Plan for the Tolka River catchment.	Implement Plan to reduce nutrient losses to waters	Implement Water Quality Plan in conjunction with Meath County Council and Dublin City Council.		Fingal County Council	Reviewed with Meath County Council and Dublin City Council.		Ongoing	
	Liaison structures with Meath County Council.	Increased efficiency in implementing measures.	Set up liaison structures and hold regular meetings to co ordinate policy.	Ongoing	Director of Services Senior Engineer Design and Planning	Meetings held on a regular basis		Ongoing	
			Set up liaison structures and hold regular meetings to co ordinate working arrangements and implementing measures on a catchment basis.	31/07/2004	Senior Executive Engineer Pollution Control			Ongoing	
	Remedy storm water overflows from combined systems.	Minimise effect of P losses from overflows to the river.	Model network to identify sub standard sections. Upgrade pipelines and divert surface water from sewers.	31/07/2004	Senior Executive Engineer Drainage Design	The Drainage network has been modelled under the <i>Greater Dublin Strategic Drainage Study</i> to identify substandard overflows. Certain improvement works have been recommended but a completion date for these works is yet to be decided.			
	Remedy house misconnections	Eliminate P discharges from house misconnections.	Carry out misconnection surveys. Where necessary follow up with enforcement under the Water Pollution Acts.	31/07/2004	Senior Engineer Drainage maintenance		An additional member of staff has been employed to survey house misconnections		

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Table C.8 Implementation Programme Summary Table: TOLKA (09/T/01)

Standard	Measures	Targets	Actions	Timeframe	Responsible for Implementation	Progress to Date	Corrective Actions	Action Completed within Timeframe (Y/N)?	If not, State Revised Timeframe
To maintain Q-rating upstream of Station No. 0800 at Q3 or better. To improve Q-rating upstream of Station No. 1000 from Q2-3 to Q3-4.	Implement the Water Quality Plan for the Tolka River catchment.	Implement Plan to reduce nutrient losses to waters	Implement Water Quality Plan in conjunction with Meath County Council and Dublin City Council.		Fingal County Council	Reviewed with Meath County Council and Dublin City Council.			
	Liaison structures with Meath County Council.	Increased efficiency in implementing measures.	Set up liaison structures and hold regular meetings to co ordinate policy.	Ongoing	Director of Services Senior Engineer Design and Planning	Meetings held on a regular basis		Ongoing	
			Set up liaison structures and hold regular meetings to co ordinate working arrangements and implementing measures on a catchment basis.	31/07/2004	Senior Executive Engineer Pollution Control			Ongoing	
	Remedy storm water overflows from combined systems.	Minimise effect of P losses from overflows to the river.	Model network to identify sub standard sections. Upgrade pipelines and divert surface water from sewers.	31/07/2004	Senior Executive Engineer Drainage Design	The Drainage network has been modelled under the <i>Greater Dublin Strategic Drainage Study</i> to identify substandard overflows. Certain improvement works have been recommended but a completion date for these works is yet to be decided.			
	Remedy house misconnections	Eliminate P discharges from house misconnections.	Carry out misconnection surveys. Where necessary follow up with enforcement under the Water Pollution Acts.	31/07/2004	Senior Engineer Drainage maintenance		An additional member of staff has been employed to survey house misconnections		

Table C.9 Implementation Programme Summary Table: HURLEY RIVER (08/H/01)

Standard	Measures	Targets	Actions	Timeframe	Responsible for Implementation	Progress to Date	Corrective Actions	Action Completed within Timeframe (Y/N)?	If not, State Revised Timeframe
To improve Q-rating upstream of Station No. 0060 from Q3 to Q3-4.	Farm surveys	Examine farm management and practices to reduce P inputs to rivers.	Carry out comprehensive farm survey for entire catchment.	Ongoing	Senior Exec. Engineer Pollution Control	Farm surveys have commenced Farm data base set up Farm survey form completed Liaison with IFA and Teagasc	80% of catchment surveyed with regard to Farm Surveys. Process has been delayed due to shortage of resources. FCC investigating alternatives.	Ongoing	
	Unlicensed discharge surveys.	Ensure discharges to surface waters are licensed to reduce P inputs to rivers.	Carry out comprehensive survey of unlicensed discharges for entire catchment .	Ongoing	Senior Exec. Engineer Pollution Control	Surveys have continued		Ongoing	
	On site treatment system surveys.	Examine on site treatment systems to reduce P inputs to rivers.	Carry out comprehensive on site treatment plant survey for entire catchment .	Ongoing	Senior Exec. Engineer Pollution Control	Surveys have commenced Data base set up	80% of catchment surveyed with regard to septic tanks. Process has been delayed due to shortage of resources. FCC investigation alternatives..	Ongoing	

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