

## **SECTION G – PROGRAMME OF IMPROVEMENTS**

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### **Attachment G1: Compliance with Council Directives**

- **Compliance with Council Directives**

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**ATTACHMENT G.1**  
**COMPLIANCE WITH COUNCIL DIRECTIVES**

**Dangerous Substances Directive 2006/11/EC**

In the aquatic environment, this Directive sets limits on the concentration of various pesticides, solvents, metals, and some other substances in a water body. These limits themselves result from extensive testing of the toxicity of these compounds to marine life, not just at the adult stage, but at the juvenile or larval stage as well.

The regulations outline annual mean concentrations of the following substances, which must not be exceeded: Pesticides and Solvents – Atrazine; Dichloromethane; Simazine; Toluene, Tributyltin and Xylenes. Metals and other substances – Arsenic; Chromium; Copper; Cyanide; Fluoride; Lead; Nickel and Zinc.

Monitoring for dangerous substances in the final effluent has been carried out and results are recorded in Section D of this application. Based on Effluent (Primary Discharge Point) Analysis presented on Tables D.1(i)(b) & D.1(i)(c) and on the analysis of the receiving water upstream and downstream of the Primary Discharge Point (Tables F.1(i)(a) & F.1(i)(b)), it is concluded that emissions from the waste water treatment plant and quality of the receiving water environment downstream of the discharge from the works were at concentrations below the standards set in the Water Quality (Dangerous Substances) Regulations, 2001 (S.I. 12 of 2001).

**The Water Framework Directive 2000/60/EC**

This Directive came into force on the 22nd of December 2000. The objective of the Directive is to rationalise and update existing water legislation by setting common EU wide objectives for water. The WFD has a broad scope relating to water quality in rivers, lakes, canals, groundwater, transitional (estuarine) waters and coastal waters out a distance of at least one nautical mile.

The fundamental objective of the WFD aims at maintaining "high status" in relation to all waters by 2015 and that status does not deteriorate in any water body. Under this Directive Member States are obliged to ensure that a co-ordinated approach is adopted for the achievement of the WFD and for the implementation of programmes of measures for this purpose. The main activities for the implementation of the WFD have taken place in the context of River Basin Management Plan (RBMP) Projects led by Local Authorities.

The Crossakeel Agglomeration discharges to a stream tributary of the Athboy River, which is situated within the Boyne River Catchment and forms part of the Eastern RBD. Local authorities are working together and with others to prepare a River Basin Management Plan (RBMP) in relation to the Eastern River Basin District (ERBD) by mid-2009. A draft copy of

the Eastern RBD Management Plan as issued on December 2008 is contained in Section F1.(E) of this application.

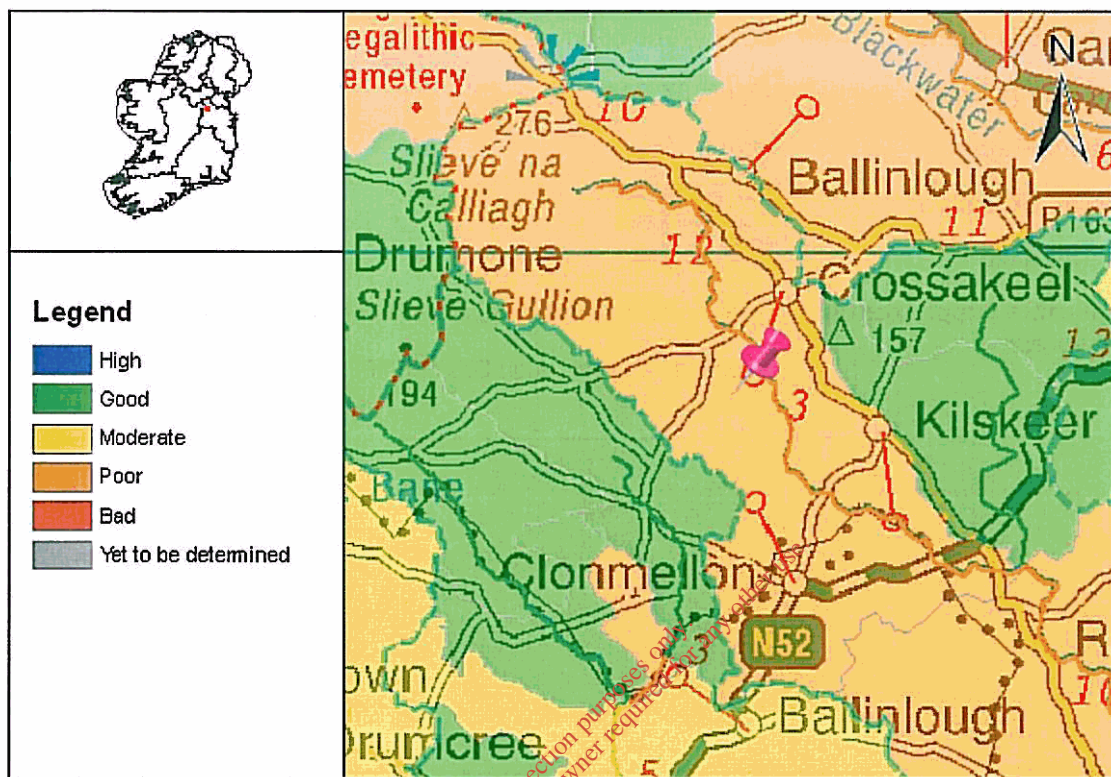
In support of the draft River Basin Management Plan documentation, mapping information have been made available on-line on the [www.watermaps.wfdireland.ie](http://www.watermaps.wfdireland.ie). Water maps present data relating to waterbody status, risks, objectives and measures, and detailed waterbody reports.

The detailed waterbody report for the Athboy River at the location of Crossakeel Village is presented on the following pages.

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## Full Report for Waterbody Athboy, Trib of Boyne



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Date Report Created 04/06/2009





**Summary Information:**

**WaterBody Category:** Subbasin Waterbody

**WaterBody Name:** Athboy, Trib of Boyne

**WaterBody Code:** IE\_EA\_07\_944

**Overall Status:** Poor

**Overall Objective:** Restore

**Overall Risk:** 1a At Risk

**Applicable Supplementary Measures:** Unsewered; Urban & Industrial; Morphology; Forestry;  
 Report data based upon Draft RBMP, 22/12/2008.



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## Status Report

**WaterBody Category:** Subbasin Waterbody  
**WaterBody Name:** Athboy, Trib of Boyne  
**WaterBody Code:** IE\_EA\_07\_944  
**Overall Status Result:** Poor



| Status Element Description       |   | Result |
|----------------------------------|---|--------|
| EX                               | Status from Monitored or Extrapolated Waterbody |        |
| <b>Biological Elements</b>       |   |        |
| Q                                | Macroinvertebrates (Q-Value)                    | Poor   |
| F                                | Fish  | n/a    |
| DI                               | Phytobenthos (Diatoms)                          | n/a    |
| FPM                              | Status value as determined by Margartifera      | n/a    |
| <b>Supporting Elements</b>       |   |        |
| MOR                              | Hydromorphology                                 | n/a    |
| SP                               | Specific Pollutants                             | n/a    |
| PC                               | General Physico-Chemical                        | Pass   |
| <b>Chemical Status</b>           |   |        |
| PAS                              | Chemical Status                                 | n/a    |
| <b>Overall Ecological Status</b> |   |        |
| O                                | Overall Ecological Status                       | Poor   |

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## Risk Report

**WaterBody Category:** Subbasin Waterbody  
**WaterBody Name:** Athboy, Trib of Boyne  
**WaterBody Code:** IE\_EA\_07\_944  
**Overall Risk Result:** **1a** At Risk



| Risk Test Description |   | Risk |                      |
|-----------------------|---|------|----------------------|
| Point Risk Sources    |   |      |                      |
| RP1                   | WWTPs (2008)  | 1a   | At Risk              |
| RP2                   | CSOs  | 2b   | Not At Risk          |
| RP3                   | IPPCs (2008)  | 2b   | Not At Risk          |
| RP4                   | Section 4s (2008)                                   | 2b   | Not At Risk          |
| RPO                   | Overall Risk from Point Sources - Worst Case (2008) | 1a   | At Risk              |
| Diffuse Risk Sources  |   |      |                      |
| RD1                   | EPA diffuse model (2008)                            | 1b   | Probably At Risk     |
| RD2a                  | Road Wash - Soluble Copper                          | 2b   | Not At Risk          |
| RD2b                  | Road Wash - Total Zinc                              | 2b   | Not At Risk          |
| RD2c                  | Road Wash - Total Hydrocarbons                      | 2b   | Not At Risk          |
| RD3                   | Railways  | 2b   | Not At Risk          |
| RD4a                  | Forestry - Acidification (2008)                     | 2b   | Not At Risk          |
| RD4b                  | Forestry - Suspended Solids (2008)                  | 2b   | Not At Risk          |
| RD4c                  | Forestry - Eutrophication (2008)                    | 2a   | Probably Not At Risk |
| RD5a                  | Unsewered Areas - Pathogens (2008)                  | 2a   | Probably Not At Risk |
| RD5b                  | Unsewered Phosphorus (2008)                         | 2b   | Not At Risk          |
| RD5                   | Overall Unsewered (2008)                            | 2b   | Not At Risk          |
| RD6a                  | Arable  | 2b   | Not At Risk          |
| RD6b                  | Sheep Dip   | 2b   | Not At Risk          |
| RD6c                  | Forestry - Dangerous Substances                     | 2b   | Not At Risk          |
| RDO                   | Diffuse Overall -Worst Case (2008)                  | 1b   | Probably At Risk     |

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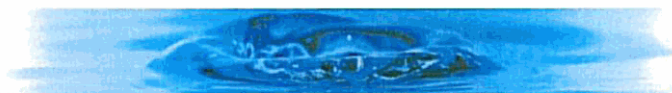
| <b>Morphological Risk Sources</b> |   |                |
|-----------------------------------|---|----------------|
| RM1                               | Channelisation (2008)   | 1a At Risk     |
| RM2                               | Embankments (2008)  | 2b Not At Risk |
| RM3                               | Impoundments  | 2b Not At Risk |
| RM4                               | Water Regulation  | 2b Not At Risk |
| RMO                               | Morphology Overall - Worst Case (2008)                              | 1a At Risk     |
| <b>Q/RDI or Point/Diffuse</b>     |   |                |
| QPD                               | Q class/EPA Diffuse Model or worst case of Point and Diffuse (2008) | 1a At Risk     |
| <b>Hydrology</b>                  |   |                |
| RHY1                              | Water balance - Abstraction   | 2b Not At Risk |
| <b>Overall Risk</b>               |   |                |
| RA                                | Rivers Overall - Worst Case (2008)                                  | 1a At Risk     |

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## Objectives Report

**WaterBody Category:** Subbasin Waterbody  
**WaterBody Name:** Athboy, Trib of Boyne  
**WaterBody Code:** IE\_EA\_07\_944  
**Overall Objective:** Restore



| Objectives Description |   | Result         |
|------------------------|---|----------------|
| <b>Objectives</b>      |   |                |
| OB1                    | Objective 1 - Protected Areas                   | Restore        |
| OB2                    | Objective 2 - Protect High and Good Status      | Not Applicable |
| OB3                    | Objective 3 - Restore Less Than Good Status     | Not Applicable |
| OB4                    | Objective 4 - Reduce Chemical Pollution         | Not Applicable |
| OBO                    | Overall Objective                               | Restore        |
| <b>Deadline</b>        |   |                |
| YR                     | Default Year by which the objective must be met | 2015           |
| EX                     | Revised Objective Deadline                      | 2015           |
| OBO                    | Overall Objective and Deadline                  | Restore - 2015 |

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## Basic Measures Report

**WaterBody Category:** Subbasin Waterbody  
**WaterBody Name:** Athboy, Trib of Boyne  
**WaterBody Code:** IE\_EA\_07\_944



| Basic Measures Description       |   | Applicable |
|----------------------------------|---|------------|
| <b>Key Directives</b>            |   |            |
| BA                               | Bathing Waters Directive  | No         |
| BI                               | Birds Directive   | No         |
| HA                               | Habitats Directive  | Yes        |
| DW                               | Drinking Waters Directive   | Yes        |
| SEV                              | Major Accidents and Emergencies (Seveso) Directive                      | Yes        |
| EIA                              | Environmental Impact Assessment Directive                               | Yes        |
| SE                               | Sewage Sludge Directive   | Yes        |
| UW                               | Urban Waste Water Treatment Directive                                   | Yes        |
| PL                               | Plant Protection Products Directive                                     | Yes        |
| NI                               | Nitrates Directive  | Yes        |
| IP                               | Integrated Pollution Prevention Control Directive                       | Yes        |
| <b>Other Stipulated Measures</b> |   |            |
| CR                               | Cost recovery for water use   | Yes        |
| SU                               | Promotion of efficient and sustainable water use                        | Yes        |
| DWS                              | Protection of drinking water sources                                    | Yes        |
| AB                               | Control of abstraction and impoundments                                 | Yes        |
| PT                               | Control of point source discharges                                      | Yes        |
| DI                               | Control of diffuse source discharges                                    | Yes        |
| GWD                              | Authorisation of discharges to groundwater                              | No         |
| PS                               | Control of priority substances  | Yes        |
| MOR                              | Control of physical modifications to surface waters                     | Yes        |
| OA                               | Controls on other activities impacting on water status                  | Yes        |
| AP                               | Prevention or reduction of the impact of accidental pollution incidents | Yes        |

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## Urban and Industrial Discharges Supplementary Measures Report

**WaterBody Category:** Subbasin Waterbody

**WaterBody Name:** Athboy, Trib of Boyne

**WaterBody Code:** IE\_EA\_07\_944



|          | <b>Point discharges to waters from municipal and industrial sources</b>  | <b>Result</b> |
|----------|--|---------------|
| PINDDIS  | Is there one or more industrial discharge (Section 4 licence issued by the local authority or IPPC licence issued by the EPA) contained within the water body?                                     | No            |
| PINDDISR | Are there industrial discharges (Section 4 licence issued by the local authority or IPPC licence issued by the EPA) that cause the receiving water to be 'At Risk' within the water body?          | No            |
| PB1      | Basic Measure 1 - Measures for improved management.  | Yes           |
| PB2      | Basic Measure 2 - Optimise the performance of the waste water treatment plant by the implementation of a performance management system.  | No            |
| PB3      | Basic Measure 3 - Revise existing Section 4 license conditions and reduce allowable pollution load.  | Yes           |
| PB4      | Basic Measure 4 - Review existing IPPC license conditions and reduce allowable pollution load.   | Yes           |
| PB5      | Basic Measure 5 - Investigate contributions to the collection system from unlicensed discharges.   | Yes           |
| PB6      | Basic Measure 6 - Investigate contributions to the collection system of specific substances known to impact ecological status.   | Yes           |
| PB7      | Basic Measure 7 - Upgrade WWTP to increase capacity.   | No            |
| PB8      | Basic Measure 8 - Upgrade WWTP to provide nutrient removal treatment.  | No            |
| PS1      | Supplementary Measure 1 - Measures intended to reduce loading to the treatment plant.  | No            |
| PS2      | Supplementary Measure 2 - Impose development controls where there is, or is likely to be in the future, insufficient capacity at treatment plants.   | Yes           |
| PS3      | Supplementary Measure 3 - Initiate investigations into characteristics of treated wastewater for parameters not presently required to be monitored under the urban wastewater treatment directive. | No            |
| PS4      | Supplementary Measure 4 - Initiate research to verify risk assessment results and determine the impact of the discharge.   | Yes           |
| PS5      | Supplementary Measure 5 - Use decision making tools in point source discharge management.  | No            |
| PS6      | Supplementary Measure 6 - Install secondary treatment at plants where this level of treatment is not required under the urban wastewater treatment directive.                                      | No            |
| PS7      | Supplementary Measure 7 - Apply a higher standard of treatment (stricter emission controls) where necessary.   | Yes           |

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|      |  |     |
|------|--|-----|
| PS8  | Supplementary Measure 8 - Upgrade the plant to remove specific substances known to impact on water quality status. | No  |
| PS9  | Supplementary Measure 9 - Install ultra-violet or similar type treatment.  | No  |
| PS10 | Supplementary Measure 10 - Relocate the point of discharge.  | Yes |

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## Physical Modifications Supplementary Measures Report

**WaterBody Category:** Subbasin Waterbody  
**WaterBody Name:** Athboy, Trib of Boyne  
**WaterBody Code:** IE\_EA\_07\_944



|     | Physical Modifications Supplementary Measures   | Applicable |
|-----|---|------------|
|     | <b>Reduce</b>   |            |
| SM1 | Codes of Practice   | Yes        |
| SM2 | Support for voluntary initiatives   | Yes        |
|     | <b>Remediate</b>  |            |
| SM3 | Channelisation impact remediation schemes   | No         |
| SM4 | Channelisation investigation  | Yes        |
| SM5 | Overgrazing remediation   | No         |
| SM6 | Impassable barriers, impact confirmed, investigation into feasibility of remediation required | No         |
| SM7 | Impassable barriers investigation   | Yes        |

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## Unsewered Properties Supplementary Measures Report

**WaterBody Category:** Subbasin Waterbody  
**WaterBody Name:** Athboy, Trib of Boyne  
**WaterBody Code:** IE\_EA\_07\_944



| Supplementary Measures for<br>Unsewered Properties |   | Applicable |
|--|---|------------|
| SP1  | Amend building regulations  | Yes        |
| SP2  | Establish certified expert panels for site investigation and certification of installed systems                                 | Yes        |
| SP3  | Assess applications for new unsewered systems by applying risk mapping/decision support systems and codes of practice           | Yes        |
| SP4  | Carry out an inspection programme in prioritised locations for existing systems and record results in an action tracking system | No         |
| SP5  | Enforce requirements for percolation  | No         |
| SP6  | Enforce requirements for de-sludging  | Yes        |
| SP7  | Consider connection to municipal systems  | No         |

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## Forestry Measures Report

**WaterBody Category:** Subbasin Waterbody  
**WaterBody Name:** Athboy, Trib of Boyne  
**WaterBody Code:** IE\_EA\_07\_944



|      | Forestry Measures for   | Applicable |
|------|---|------------|
|      | Forestry  |            |
| SF1  | Management Instruments - Ensure regulations and guidance are cross referenced and revised to incorporate proposed measures  | No         |
| SF2  | Acidification - Avoid or limit afforestation on 1st and 2nd order stream catchments in acid sensitive areas   | No         |
| SF3  | Acidification - Revise the Acidification Protocol to ensure actual minimum alkalinities are detected and revise boundary conditions for afforestation in acid sensitive areas | No         |
| SF10 | Pesticide Use - Pre-dip trees in nurseries prior to planting out  | No         |
| SF11 | Pesticide Use - Maintain registers of pesticide use   | No         |
| SF12 | Acidification - Restructure existing forests to include open space and structural diversity through age classes and species mix, including broadleaves                        | No         |
| SF13 | Acidification - Mitigate acid impacts symptomatically using basic material  | No         |
| SF14 | Acidification - Manage catchment drainage to increase residence times and soil wetting  | No         |
| SF15 | Acidification - Implement measures to increase stream production.   | No         |
| SF16 | Eutrophication - Establish riparian zone management prior to clearfelling   | No         |
| SF17 | Eutrophication and Sedimentation - Enhance sediment control   | No         |
| SF18 | Eutrophication - Manage catchment drainage to increase residence times and soil wetting, including no drainage in some locations  | No         |
| SF19 | Sedimentation - Establish riparian zone management prior to clearfelling  | No         |
| SF20 | Sedimentation - Enhance sediment control  | No         |
| SF21 | Sedimentation - Manage catchment drainage to increase residence times and soil wetting, including no drainage in some locations   | No         |
| SF22 | Hydromorphology - Enhance drainage network management, minimise drainage in peat soils  | No         |
| SF23 | Pesticide Use - Develop biological control methods  | No         |

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## water matters

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|     |  |    |
|-----|--|----|
| SF4 | Eutrophication and Sedimentation - Avoid or limit forest cover on peat sites                 | No |
| SF5 | Eutrophication and Sedimentation - Change the tree species mix on replanting                 | No |
| SF6 | Eutrophication and Sedimentation - Limiting felling coup size                                | No |
| SF7 | Eutrophication and Sedimentation - Establish new forest structures on older plantation sites | No |
| SF8 | Hydromorphology - Audit existing drainage networks in forest catchments                      | No |
| SF9 | Pesticide Use - Reduce pesticide usage   | No |

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As can be seen from the water maps report the Athboy River has an overall status of Poor. This status relates to the Ecological Status of the surface water body and is derived from measurements of biological, hydro-morphological and physio-chemical elements.

The EPA monitor water quality in the Athboy River. The closest EPA station in the Athboy River upstream of the Crossakeel WWTP has been assigned a most recent Q-Value rating of Q4 (= good water quality, unpolluted). A Q3-4 (Slight pollution) rating has been assigned to the station located downstream of the WWTP, indicating a downstream decrease in the ecological quality on the Athboy River. There are however numerous tributaries discharging into the river reach between the above EPA Q sampling stations. Crossakeel is performing well in terms of BOD, Suspended Solids, Total Phosphorus and Total Nitrogen concentrations measured in the treated effluent (see 2007/2008 monitoring results). These results reflect the fact that the plant is currently operating as designed and within capacity.

Hence, it can be reasonably assumed that the deterioration in water quality that appears to occur between the upstream and downstream EPA sampling locations mentioned above is most likely attributable to other more significant catchment pressures.

A risk assessment has been carried out on the Athboy River and it was determined that the overall risk rating is 1a – At Risk. The risk rating relates to the likelihood that the surface water body within the RBD will fail to meet environmental quality objectives set out for the bodies under Article 4 of the WFD.

A breakdown of the overall risk rating is provided in the water maps detailed risk report. The report presents a Risk Test Description together with the individual risk classification. Under Point Risk Sources, WWTPs (2008) were assigned a risk rating of 1a - At Risk. However, monitoring results from the Crossakeel WWTP indicate that this WWTP is performing well and is operating to the design standards in terms of BOD, Suspended Solids, Total Phosphorus and Total Nitrogen concentrations. Hence the discharge from Crossakeel WWTP does not constitute a significant risk to the Eastern RBD's WFD targets of achieving a good status in all waters by 2015.

### **The Birds Directives 79/409/EEC**

In 1979 the European Community adopted Council Directive 79/409/EEC on the conservation of wild birds. (The 'Birds Directive'). The Directive provides a framework for the conservation of, and human interactions with, wild birds in Europe.

Proposed Special Protection Area's (SPA's) are selected at national level in accordance with the criteria set out in the various Annexes contained in the Birds Directive. The Birds Directive gives different levels of protection to different species. The species are grouped according to the level of protection they are given, as shown in the Directive Annexes.

As the primary discharge point from the waste water treatment plant is not located in a SPA, it is not anticipated that the Crossakeel WWTP will have negative environmental impacts, within the scope of the Birds Directive.

#### **The Groundwater Directives 80/68/EEC & 2006/118/EC**

[Council Directive 80/68/EEC is to be repealed with effect from 22/12/2013 in accordance with the WFD.] This directive mainly deals with the protection of groundwater, groundwater dependant ecosystems and the use of groundwater in water supply for human consumption.

There are no emissions to ground/groundwater from the Crossakeel WWTP, therefore negative impacts on soil / groundwater is not anticipated.

#### **The Drinking Water Directives 80/77/EEC**

The Drinking Water Directives 80/77/EEC concerns water intended for human consumption either in its original state or after treatment.

At present there are 3 no. Meath County Council Drinking Water Abstraction Points located downstream of the Crossakeel WWTP Primary Discharge Point. These abstraction points are situated at Trim, Kilcarn & Roughgrange, refer to attachment F.1(G).

The results of water quality analysis presented in Tables F.1(i)(a) & F.1(i)(b) relate to emissions from the Crossakeel WWTP and indicate that there is no appreciable variation in water quality between the sampling location upstream of the emission point and the sampling location downstream of the emission point. This provides an indication that the drinking water abstraction points located at Trim, Kilcarn and Roughgrange will not be negatively impacted upon by the Crossakeel WWTP.

#### **Urban Waste Water Treatment Directive, 91/271/EEC**

The Urban Waste Water Treatment Regulations, 2001 (S.I. No. 254 of 2001) give effect to this Directive and Directive No. 2000/60/EC (WFD). These regulations were amended by the Urban Waste Water Treatment Amendment Regulations, 2004 (S.I. No. 440 of 2004). These regulations specify limits on wastewater treatment discharge of BOD<sub>5</sub>, COD and Total Suspended Solids. The regulations also set discharge limits for Total Phosphorus and Total Nitrogen for discharges to sensitive waters, as listed in the Third Schedule of the regulations. The Urban Waste Water Treatment Regulations also set out deadlines for secondary treatment of wastewaters depending on the size of agglomerations.

Final effluent from Crossakeel WWTP is discharged to a tributary of the Athboy River, which is not classified as nutrient sensitive under the Urban Waste Water Treatment Regulations



2001 (S.I. No. 254 of 2001). The Athboy River however forms part of the Boyne Catchment which is listed in the Urban Waste Water Treatment Regulations, 2001 Part 1 as:

*River Boyne, County Meath – 6.5km section downstream of sewage treatment works outfall at Blackcastle, Navan, County Meath.*

The existing treatment works at Crossakeel provides consistent effluent treatment to the Urban Waste Water Treatment Regulations 2001 (S.I. No. 254 of 2001) standards.

### **The Habitats Directives, 92/43/EEC**

In 1992 the European Community adopted Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora. This directive is the main community instrument, which aims to safeguard biodiversity. Under the Directive, Member States have a responsibility to preserve habitats and species of Community interest and to identify and designate, as Special Areas of Conservation (SAC), sites which are important for the protection of the species and habitats covered by the Directive. The Special Areas of Conservation, and the Special Protection Areas (SPA) designated under the Birds Directive (79/409/EEC), make up the European network of protected sites, known as Natura 2000.

There is single (primary) discharge from the Crossakeel WWTP to a tributary of the Athboy River. The tributary of the Athboy River has no designation of ecological significance, but Athboy River is designated as a SAC. The discharge point has been in existence for some time and as discussed above, ongoing monitoring results of treated effluent indicate compliance with the legislative requirements for the discharge. Considering the foregoing, the discharge from the Crossakeel WWTP is not impacting negatively on the surrounding aquatic ecology.

### **The Environmental Liabilities Directive, 76/160/EEC**

The Directive 2004/35/EC of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage provides a framework of environmental liability based on the "polluter pays" principle.

The Directive applies to certain occupational activities, including the operation of installations under the IPPC Directive, the Waste Framework Directive, the Landfill Directive and the Waste Incineration Directive. The Directive will also apply to activities under the proposed Extractive Industry Waste Directive.

It imposes strict liability on those who cause environmental damage (that is, damage to biodiversity and water resources and land contamination that causes significant risk of harm to human health). It requires such persons to take preventive measure to avoid damage

occurring, remedy damage that occurs and bear the remediation costs of damage that is remedied by the competent authority.

The Crossakeel Sewerage Agglomeration and associated waste water treatment process adheres to this directive.

**The Bathing Water Directives, 76/160/EEC**

The Directive is not applicable to the discharge.

**Shellfish Waters Directive, 79/923/EEC**

The Directive is not applicable to the discharge.

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## **SECTION G – PROGRAMME OF IMPROVEMENTS**

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### **Attachment G2: Compliance with Water Quality Standards for Phosphorus Regulations**

- **Compliance with Water Quality Standards for Phosphorus  
Regulations (S.I. NO. 258 OF 1998)**

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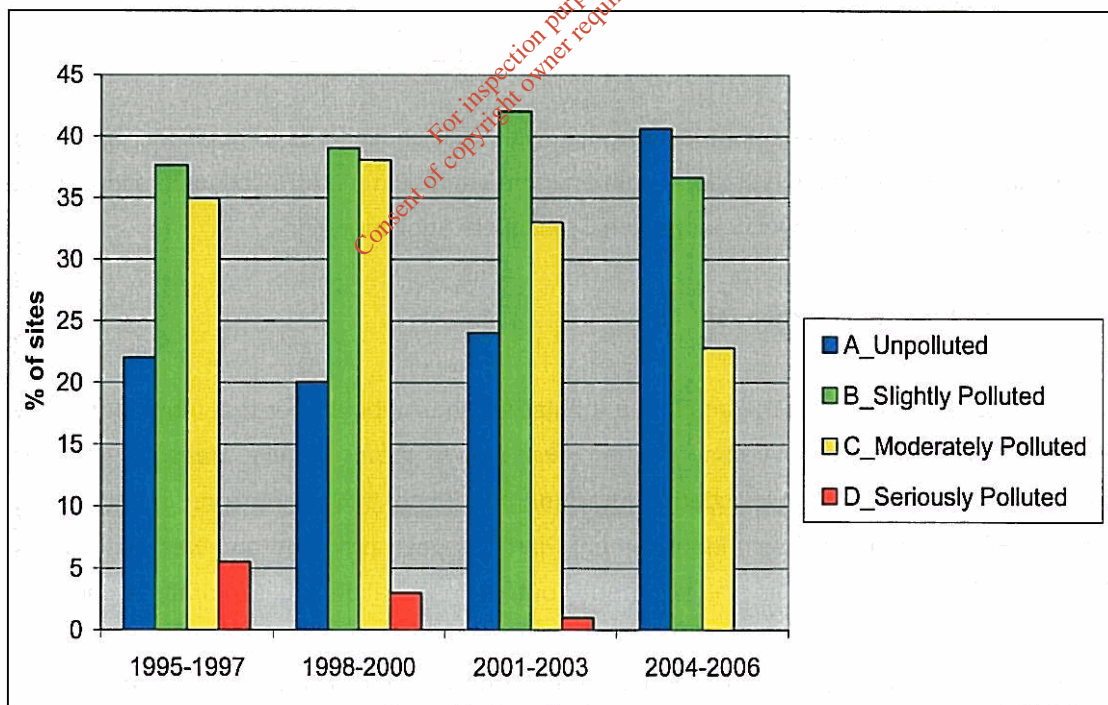
**ATTACHMENT G.2**  
**COMPLIANCE WITH THE WATER QUALITY STANDARDS FOR PHOSPHORUS**  
**REGULATIONS (S.I. NO. 258 OF 1998)**

**1.0 Programme of Improvements**

A 'Phosphorus Regulations Implementation Report 2006' was prepared by Meath County Council in accordance with the requirements of S.I. No. 258 of 1998 – *Local Government (Water Pollution) Act, 1977 (Water Quality Standards for Phosphorus) Regulations, 1998*.

Prior to the report, baseline sites were established for the purposes of determining compliance with the phosphorus regulations, with Q values being assigned to each site during the 1995-1997 period. The above-mentioned report has shown substantial improvements in water quality in County Meath as a whole since the baseline survey was carried out. The percentage of stations classed as unpolluted increased from 22% in 1997 to 40.6% for 2006. Additionally, the report indicated that serious pollution had been eliminated for the baseline sites (5.5% in 1997, 0% for 2006).

Figure 1.1 below has been abstracted from the 'Phosphorus Regulations Implementation Report 2006':



**Figure 1.1 Water Quality Status in Meath – 1995 to 2006,**  
(source: *Phosphorus Regulations Implementation Report 2006*)

The Crossakeel WWTP discharges to a tributary of the Athboy River, which in turn flows into the Athboy River and the Tremblestown River prior joining the River Boyne. Table 1.1 'Water

*Quality in the Functional Area'* provides details with regards to sampling sites on the Athboy River and assigns a baseline MRP and Q value standard to be achieved at the various EPA sampling sites located along the river.

The closest sampling site located on the Athboy River upstream of the Crossakeel WWTP primary discharge is "Br NW of Dogstown Site Code No. 07A010020". The nearest downstream sampling point is "Br W of Kilskeer Site Code 07A010050".

The requirements for the EPA monitoring stations "Br NW of Dogstown (07A010020)" and "Br W of Kilskeer (07A010050)" under the *Local Government (Water Pollution) Act, 1977 (Water Quality Standards for Phosphorus) Regulations, 1998* are as follows:

| Station Ref.                | River  | Baseline MRP Value (ug/l P) | Minimum Target MRP Value (µg/l P) (as reqd. under the Phosphorus Regs.) | Current MRP Value (µg/l P) (taken from Measures Report 2006) |
|-----------------------------|--------|-----------------------------|---|--|
| Br NW of Dogstown 07A010020 | Athboy | Not provided                | 30  | 28   |
| Br W of Kilskeer 07A010050  | Athboy | Not provided                | 30  | 25   |

The above table illustrates that compliance with the phosphorus regulations has been achieved at these monitoring stations, with an improvement in the MRP concentrations in the river both upstream and downstream of the Crossakeel Agglomeration.

## 2.0 Catchment Management Plans

The Crossakeel WWTP discharges into a tributary of the Athboy River that forms part of the Boyne River Catchment. A copy of the '*River Boyne Water Quality Management Plan*' (November 1997) has been included in Attachment F.1(E) of this application. In addition, an Eastern RBD Draft River Basin Management Plan has been prepared and was published in December 2008, however this plan is currently out for consultation and is in draft format.

Under the heading 'Water Quality Management Policies', the '*River Boyne Water Quality Management Plan*' states that:

*"Wastewater treatment to be a minimum of secondary treatment for all significant waste discharges with site specific consideration of the need for higher standards of effluent, nutrient control or the impact of combined sewer overflows to be evaluated, having regard to*

*the nature of the effluent load, low river flow (95 percentile), background water quality and compliance with the stated water quality objectives..."*

With regards to Orthophosphate and Total Phosphorus, the report goes on to state:

*"It should be noted that the Urban Wastewater Treatment Directive (91/271) makes specific provision for nutrient removal from wastes discharged to waters which are eutrophic or are liable to become eutrophic. Accordingly, phosphate removal should be provided for significant effluent discharges (at least those from WWT plants with a design capacity  $\geq$  2000 PE)"*

The existing Crossakeel Wastewater Treatment Plant (WWTP) and associated sewer network was constructed in 1978. The Crossakeel WWTP has been designed to treat effluent to a UWWT 25:35 standard (i.e. BOD/SS). Total phosphorus is generally recorded at quite low concentrations in the treated effluent.

The 'Phosphorus Regulations Implementation Report 2006' with regards to Crossakeel, makes reference to the fact that this sewerage scheme has been included in 2006 Assessment of Needs ("Group of 15 Villages DBO Sewerage Scheme"). Crossakeel Sewerage Scheme is therefore due to be upgraded as part of a DBO bundle, with an anticipated start date post 2009.

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## SECTION G – PROGRAMME OF IMPROVEMENTS

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### Attachment G3: Impact Mitigation

#### – Impact Mitigation

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**ATTACHMENT G.3**  
**IMPACT MITIGATION**

As outlined in Sections D and F of this application, effluent (Primary Discharge Point) analysis presented on Tables D.1(i)(b) & D.1(i)(c) and the analysis of the receiving water upstream and downstream of the Primary Discharge Point (Tables F.1(i)(a) & F.1(i)(b)) concludes that emissions from the waste water treatment plant and quality of the receiving water environment downstream of a discharge from the works were at concentrations below the standards set in the Water Quality (Dangerous Substances) Regulations, 2001 (S.I. 12 of 2001).

Considering the level of treatment achieved at Crossakeel WWTP, the treated waste water discharge from Crossakeel WWTP does not constitute risk of 'significant environmental pollution'.

Thus the Scheme is considered in compliance with Council Directives. With regard to a programme of improvement, Section B10 of this submission refers to the capital investment programme for the Crossakeel agglomeration.

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## SECTION G – PROGRAMME OF IMPROVEMENTS

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### Attachment G4: Stormwater Overflows

- Stormwater Overflow

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**ATTACHMENT G.4**  
**STORMWATER OVERFLOW – CROSSAKEEL SEWERAGE SCHEME**

**1.0 STORMWATER FACILITIES**

There are currently no storm water overflow points on the Crossakeel Sewerage Scheme. Facilities do not exist for storm water diversion past the waste water treatment process as the sewerage network is not a combined system. Furthermore, infiltration is not an issue on this network.

A site visit was undertaken by TOBIN Consulting Engineers in April 2009 during which the existing sewerage scheme was examined, however no storm water discharges were identified.

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