

## **ATTACHMENT No: A.1**

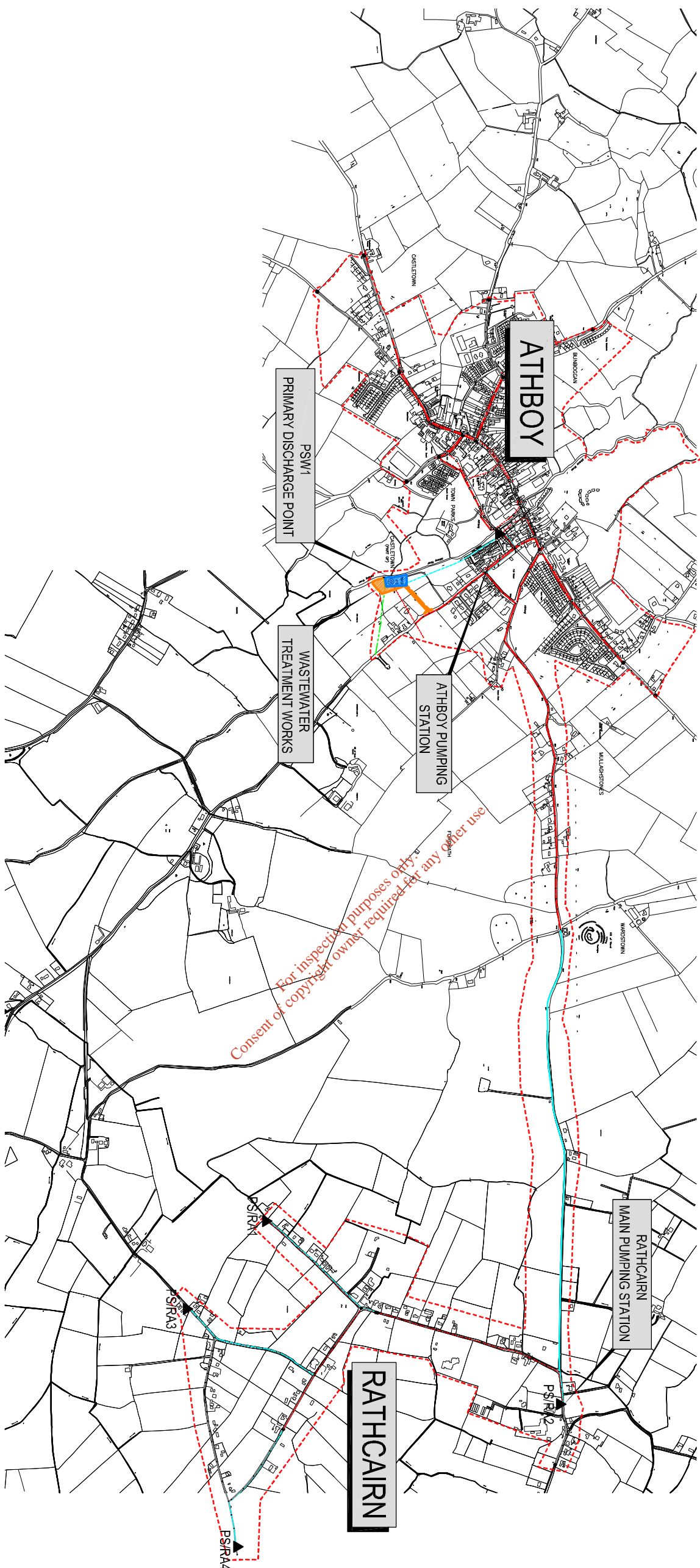
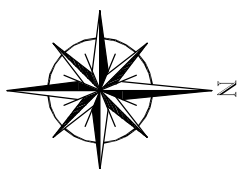
**Not included – information included in non-technical summary**

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## **ATTACHMENT No: B1**

### **Drawing/Map – Agglomeration Served by Wastewater Treatment Works**

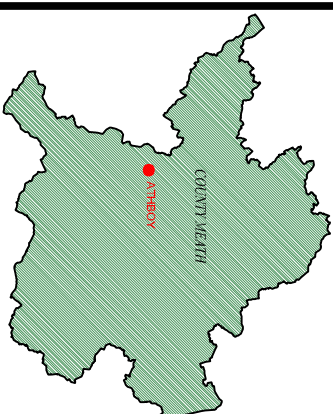
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## NOTES

- | LEGEND |   |
|--------|---|
|        | AGGLOMERATION BOUNDARY                  |
|        | EXISTING FOLL SEWER                     |
|        | EXISTING RISING MAIN                    |
|        | EXISTING OUTFALL                        |
|        | EXISTING SURFACE WATER DRAIN            |
|        | PROPOSED FOLL SEWER                     |
|        | SERVICE LAND INITIATIVE EXTENSIONS      |
|        | PROPOSED RISING MAIN                    |
|        | PROPOSED OUTFALL                        |
|        | EXISTING TREATMENT WORKS SITE           |
|        | TREATMENT WORKS SITE UNDER CONSTRUCTION |
|        | PUMP STATION                            |



**TOWN LOCATION PLAN**

NTS.



REV	DATE	DESCRIPTION	D	C	A

## DISCHARGE LICENCE

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**Nicholas O'Dwyer**  
**CONSULTING ENGINEERS**  
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Tel: 01-296 9900 Fax: 01-296 9901 E-mail: [nodwyer@nicholasdwyer.com](mailto:nodwyer@nicholasdwyer.com)



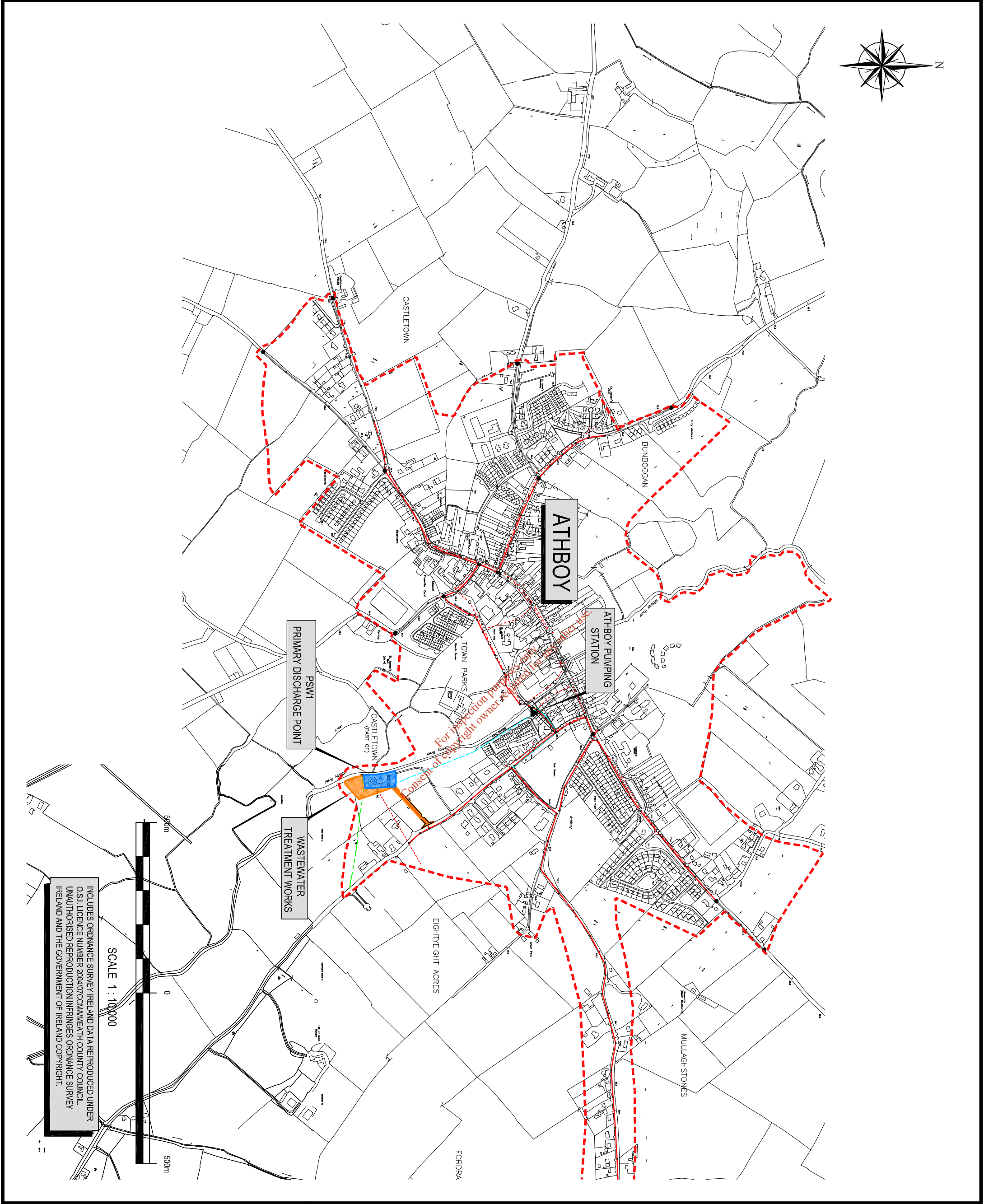
**Meath County Council**  
County Hall,  
Railway St.,  
Navan,  
Tel: (046) 21 581 Fax: (046) 21 465

WASTE WATER LICENCE APPLICATION  
FOR ATHBOY WWTW

**TITLE**  
**B1. ATHBOY, AGGLOMERATION**  
**EXTENT AND BOUNDARY**  
**(SHEET 1 OF 2)**

DRAWING No.	DRAWN		CHECKED		APPROVED	
	D.Rindokus		P.McAree		F.Lane	
	DATE		DATE		DATE	
	19-09-2008		19-09-2008		19-09-2008	

20285-DL-AY-01



NOTES

LEGEND

AS9 OPERATION BOUNDARY

EXISTING FOLL SEWER

EXISTING RISING MAIN

EXISTING W/OUTFALL

EXISTING SURFACE WATER DRAIN

PROPOSED FOLL SEWER

SERVICE LAND INITIATIVE EXTENSIONS

PROPOSED RISING MAIN

PROPOSED OUTFALL

EXISTING TREATMENT WORKS SITE

TREATMENT WORKS SITE UNDER CONSTRUCTION

EXISTING PUMP STATION

TOWN LOCATION PLAN

DISCHARGE LICENCE

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REV	DATE	DESCRIPTION	D	C	A

Meath County Council

County Hall,  
Railway St.,  
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Tel: (046) 21581 Fax: (046) 21463

Nicholas O'Dwyer

CONSULTING ENGINEERS

Maple Office Park, Midway Avenue, Dublin 14  
Tel: 01-296 9000 Fax: 01-296 9001 Email: nodyer@nicholasow.com

PROJECT

WASTE WATER LICENCE APPLICATION  
FOR ATHBOY WWTW

TITLE

B1. ATHBOY, AGGLOMERATION  
EXTENT AND BOUNDARY  
(SHEET 2 OF 2)

SCALES

DRAWING	CHECKED	APPROVED
DRAWN	FLM/DOE	FLM
DATE	DATE	DATE
1:10,000 @ A3	19/09/2008	19/09/2008

DRAWING NO.

20285-DL-AY-02

REV

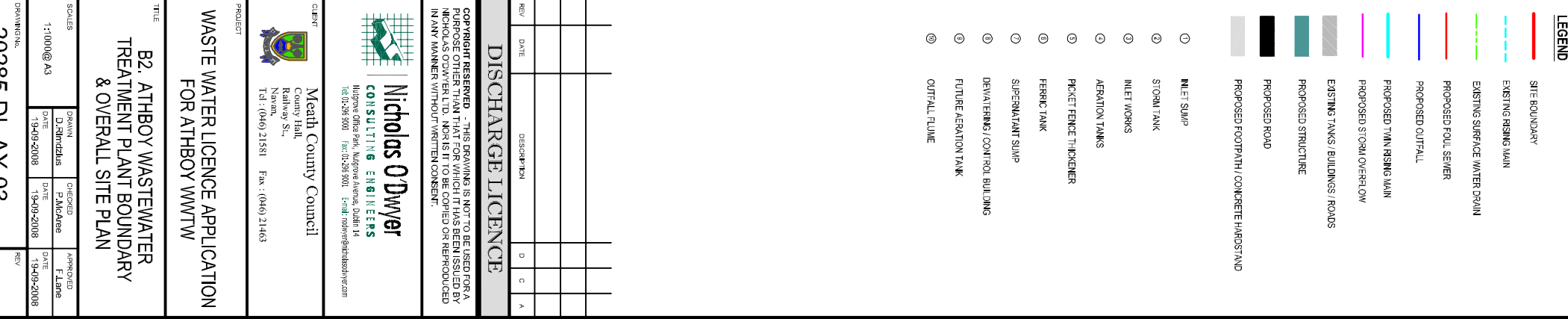
-



## **ATTACHMENT No: B2**

### **Drawing/Map – Site Boundary and Overall site plan of Wastewater Treatment Works**

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## **ATTACHMENT No: B3**

### **Drawing/Map –Wastewater Treatment Works Primary discharge Point**

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## **ATTACHMENT No: B4**

### **Drawing/Map –Wastewater Treatment Works Secondary discharge Point**

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**ATTACHMENT No: B5**

**Drawing/Map –Wastewater Treatment Works  
Stormwater Over flow Point (s)**

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**ATTACHMENT No: B6**

***Planning Permission***

***Part 8 Documents***

***Planners Report***

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## Part VIII Planning Report

**From:** Wendy Moffett, Senior Executive Planner

**File Reference:** P803029

**Description of Development:** construction of a new wastewater treatment works and pumping station to serve Athboy

**Location:** Townparks, Athboy

### Article I. Introduction

#### Article II.

Article III. The existing treatment plant serving Athboy is currently operating in an overloaded state, the purpose of this part viii application is to provide a new wastewater treatment plant on a site adjacent to the existing plant which is currently located to the south of Athboy to cater for flows and loads from the existing and projected population of Athboy. Currently wastewater is pumped from a pumping station to the existing plant. In addition to a new STP and pumping station the town's sewer network is to be upgraded and expanded.

### Description of development

The scheme proposes the following:

- ❑ A new wastewater treatment plant including storm tanks, inlet works, anerobic, anoxic and aeration tanks, sludge pumping station, sludge holding tank, sludge dewatering building, administration building etc. All of which are contained within a land area to the south of the existing plant. The site is to be fenced and landscaped. Discharge will be to the Athboy River as is the case with the existing plant. The plant has been sized appropriately to accommodate flows from Rathcairn. Access is proposed via a new access road from the existing entrance off the Trim road.
- ❑ A new pumping station on the adjacent site to the existing pumping station.

### Article IV. Development Plan Policy

The existing sewerage treatment plant site is located outside the Athboy development boundary as delineated in the current County Development Plan, (CDP). Having regard to the existing established use, the proposed plant is acceptable at this location.

Section 2.1.6 , Vol. 2 of the CDP refers, an upgrade of the STP is envisaged within the life of the plan.

## **Article V. Planning and Development**

The new treatment works will be constructed adjacent to the existing works and the site will be landscaped with the perimeter of the site to be planted with quick growing trees. In terms of visual impact landscaping will lessen this in addition all buildings visible i.e. inlet works building, sludge dewatering building and admin building have a maximum height of 7m above ground. All other structures are fully or partially buried.

Noise emissions will comply with the relevant statutory requirements and any mechanical plant required for the treatment process will be housed in acoustic enclosures.

In terms of odour control, odour reduction facilities will be installed where deemed necessary.

In respect of the pumping station building, its height will be restricted to 6m and tanks and other associated structures will be buried.

## **Article VI. Submissions**

□ Heritage Section of the Dept of Environment, Heritage and Local Government. This submission notes that the development is located partially within and in also in proximity to the zone of archaeological potential of Athboy (ME 029-023) which is subject to statutory protection. The Dept emphasis that the development is located in a very archaeological sensitive location and there is a risk that previously unknown archaeological material may exist at this location. It is with this in mind that it is recommended that an archaeological impact assessment be prepared to assess the potential impact if any on archaeological remains in the area. This should include that an archaeologist be engaged to carry out pre development testing on site subject to license. A report would then be required to be submitted to the Dept. If any material is uncovered the Dept should then be consulted.

### **□ ERFB**

This submission welcomes the proposed development in light of the status of the existing plant. The ERFB express a concern that the pumping station will be designed in such a way that any overflow will be kept to a minimum and that the impact of overflows on the Athboy river would be curtailed by treatment with filters etc.

### **□ Meath County Council Conservation Officer**

The CO states that the buildings will not be intrusive in the landscape. The CO notes that the sewer line runs parallel to the line of the town walls and recommends archaeological monitoring in the absence of comment from Heritage Section of DEHLG.

## **Conclusion and Recommendation**

The proposed development accords with the policies and objectives of the CDP, and with the proper planning and sustainable development of the area, I therefore recommend that the development proceed as outlined subject to the requirements of the Dept of Environment, Heritage and Local Government and ERFB as detailed in their reports.

Wendy Moffett, Senior Executive Planner

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## MEATH COUNTY COUNCIL

### BUNDLED WASTEWATER COLLECTION / TREATMENT SYSTEMS FOR COUNTY MEATH

### ATHBOY SEWERAGE SCHEME

### PUBLIC CONSULTATION PROCESS

### OUTLINE DESCRIPTION OF SCHEME

Nicholas O'Dwyer Ltd.,  
Consulting Engineers,  
Nutgrove Office Park,  
Nutgrove Avenue,  
Dublin 14.

October 2003

PROJECT NO. 20285		Prepared by Project Engineer		Approved by Review Engineer	
		Initials	Date	Initials	Date
Revision	Reason for Revision				
A					
B					
C					
D					

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## **CONTENTS**

<b>1</b>	<b>INTRODUCTION</b>	<b>2</b>
<b>2</b>	<b>EXISTING SYSTEM</b>	<b>2</b>
<b>2.1</b>	SEWERAGE SYSTEM	2
<b>2.2</b>	EXISTING WASTEWATER TREATMENT	2
<b>3</b>	<b>OUTLINE DESCRIPTION OF THE WORKS</b>	<b>3</b>
<b>4</b>	<b>IMPACT OF THE SCHEME</b>	<b>4</b>
<b>5</b>	<b>DRAWINGS</b>	<b>4</b>

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## **Article VII. INTRODUCTION**

**A Sewerage Scheme is proposed for the town of Athboy to upgrade and expand the existing system. Athboy is located in the western part of County Meath. The Athboy River runs through the town.**

At present, there is a wastewater treatment plant to the south of the town which is overloaded. The wastewater treatment works proposed for Athboy proposes to improve the treatment of the town's wastewater by:

- (a) Constructing a new wastewater treatment works at a site adjacent to the existing wastewater treatment plant to cater for flows and loads from the present and projected population of the town.
- (b) Upgrading and expanding the existing sewer network.
- (c) Providing an upgraded level of treatment to improve the quality of the discharge of treated wastewater to the Athboy River in line with current requirements and regulations.

## **Article VIII. EXISTING SYSTEM**

### ***F01 Sewerage System***

The existing wastewater collection and disposal system discharges by gravity to the main pumping in the town. From here it is pumped to the wastewater treatment plant. This collection system and pumping station needs to be upgraded to cater for the projected population in the town.

### ***F02 Existing Wastewater Treatment***

The existing wastewater treatment works was built in 1980. It is an extended aeration process with a design capacity of 2500 p.e. The existing population equivalent is estimated as 2825. The existing wastewater treatment plant is currently overloaded. Over the next five years the population is likely to increase substantially beyond the capacity of the existing wastewater treatment works. The existing plant is providing a reasonable level of treatment during dry weather conditions. During wet conditions, the plant is hydraulically overloaded and unable to provide adequate treatment.

**Article IX. OUTLINE DESCRIPTION OF THE WORKS**

The Athboy Wastewater Treatment Works will be awarded as part of an overall scheme for the design, build and operation of wastewater treatment works in County Meath.

The new works is to be constructed on a site adjacent to the existing wastewater treatment plant, Ref. Drawing No. 20285/1/PC01. The new treatment works will be procured under a design/build/operate method of procurement. The design population equivalent for the plant will be 5800 pe. The sizing of the plant allows for the treatment of wastewater pumped from Rathcairn. An indicative layout is shown on the Drawing No. 20285/1/PC02. Indicative plant elevations and sections are shown on Drawing No. 20285/1/PC03. Provision of this performance based treatment system will improve significantly the quality of the effluent to the adjacent River Athboy. The Treatment Works will be required to meet the effluent quality standards as set out in the Urban Wastewater Treatment Regulations, 2001 and in all current regulations governing discharges to freshwaters.

A new wastewater pumping station is to be constructed adjacent to the existing wastewater pumping station. This will pump the wastewater from the main part of the town to the new wastewater treatment plant.

The sewer network shall be upgraded and expanded under a separate contract. An indicative layout of the proposed collection network and treatment works is shown on Drawing No. 20285/1/PC01.

**It is proposed to discharge the treated effluent from the works to the Athboy River. The following are the effluent standards to be adopted for the treatment works at Athboy:**

- BOD not greater than 20 mg/litre
- SS not greater than 30 mg/litre
- Total phosphorous not greater than 1 mg/litre
- Total nitrogen not greater than 20 mg/litre

**Article X. IMPACT OF THE SCHEME**

At the location of the treatment works, landscaping will be carried out with suitable planting ensuring that the works merge harmoniously with the surrounding area. Small clusters of trees and shrubs will be planted around the site to enhance the overall visual appearance. Fast growing trees and shrubs will be provided around the perimeter of the site. This will have the effect of reducing the visibility of the works from all directions.

All buildings will be restricted to a maximum height of 7.0 metres above the existing ground level. All tanks and other process structures shall be buried or partially buried so that no more than 2.5 metres projects above the finished ground level. An exception to this requirement will be the sludge holding / thickening tanks which may project up to the level of the eaves of the control and administration building. The hardstanding on the site will have a bitumen macadam surface and be kerbed to form roadways and turning areas.

Any additional Mechanical Plant required for the treatment process (e.g. air blowers) will be housed in acoustic enclosures, such that noise emissions will comply with the relevant statutory levels at the boundary of the treatment works site. Odour reduction facilities will also be installed where they are deemed necessary. This will ensure that no public nuisance is caused by the works.

At the pumping station site, all buildings will be restricted to a maximum height of 6.0 metres above the existing ground level. All tanks and other process structures at the pumping station site shall be buried or partially buried so that no more than 1.0 metres projects above the finished ground level.

The main features of the proposed scheme are the provision of reliable collection and treatment facilities for the existing and future residential and commercial developments in Athboy which shall enhance the environmental well-being of the area.

**Article XI. DRAWINGS**

It should be noted that the proposed treatment works layout shown on the Drawings are indicative only and are subject to revision. This is due to the DBO procurement method. However the particular requirements outlined in Section 4 will be maintained.

<b>Drawing No.</b>	<b>Description</b>
20285/1/PC01	Site Location and Indicative Sewer Layout
20285/1/PC02	Proposed Wastewater Treatment Plant - Indicative Site Layout Plan
20285/1/PC03	Proposed Wastewater Treatment Plant - Indicative Sections and Elevations

**ATTACHMENT No: B7**

**Discharges located within the SFADCo area**

**Not Applicable.**

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## **ATTACHMENT No: B8**

### **Site Notice**

(Newspaper Advertisement and Site Photographs)

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**LINEAGE ADVERTISING**  
Contact: 046-9079662

Email: [info@meathchronicle.ie](mailto:info@meathchronicle.ie)  
Deadline: 10.00 am Monday

# CLASSIFIEDS

**BOXED ADVERTISING**  
Contact: 046-9079656

Email: [advertising@meathchronicle.ie](mailto:advertising@meathchronicle.ie)  
Deadline: 1.00 pm Monday



## Meath County Council

### PREPARATION OF A LOCAL AREA PLAN FOR DUNSHAUGHLIN MEATH COUNTY DEVELOPMENT PLAN 2007-2013

#### Consultations under Section 20 of the Planning & Development Acts 2000-2002

Pursuant to Section 20 of the Planning & Development Act 2000 as amended Meath County Council hereby gives notice of its intention to prepare Local Area Plan for Dunshaughlin.

A Consultation Document has been prepared for Dunshaughlin which looks at the significant planning issues that the Local Area Plan will address.

#### Submissions And Observations

Meath County Council hereby invites any interested parties to make submissions in respect of the Consultation documents to the undersigned before 3.30 pm on Tuesday 14th October 2008. Any submissions or observations so made will be taken into consideration by the Council before the making of the Local Area Plan. Submissions or observations in electronic format can be e-mailed to [planningsubmissions@meathcoco.ie](mailto:planningsubmissions@meathcoco.ie) before 3.30pm on Tuesday 14th October 2008.

Please make your submission by one medium only i.e. in hard copy or email. This will avoid the duplication of submission reference numbers and will streamline the process. Your assistance on this issue is appreciated. All submissions to be clearly marked with the name of the settlement to which the submission refers. The deadline for receipt of submissions is Tuesday 14th October 2008.

All submissions or observations received during the above time period will be taken into consideration during the preparation of the Draft Local Area Plan.

The Consultation Document is available for inspection during normal office hours at the following locations from Monday 15th September, 2008:

- Planning Department, Abbey Mall, Abbey Road, Navan.
- Meath County Library / Navan Branch Library, Railway Street, Navan.
- Dunshaughlin Area Office, Dunshaughlin
- Dunshaughlin Library

• [www.meath.ie](http://www.meath.ie)

Copies of the Consultation Documents is available for purchase from the Planning Department, Abbey Mall, Abbey Rd, Navan, Co. Meath.

Please contact Lynda Thornton @ 046-9097566 or [lythornton@meathcoco.ie](mailto:lythornton@meathcoco.ie)

Mr. Michael Griffin, Senior Executive Officer, Planning Department, Abbey Mall, Abbey Road, Navan Co. Meath.

## Meath County Council

### NOTICE OF PUBLIC EVENT REGARDING PREPARATION OF A LOCAL AREA PLAN FOR DUNSHAUGHLIN

'This is YOUR opportunity to have YOUR say about a document that affects YOUR future.'

Meath County Council is proposing to make a Local Area Plan for Dunshaughlin. To ensure the new plan reflects the broad wishes of the local community, the general public is invited to attend an **informal public event** regarding the Local Area Plan.

Venue, dates and times are as follows:

Local Area Plan	Venue	Date	Time
Dunshaughlin	Dunshaughlin Area/Civic Offices	Tuesday 16th of September	6 pm – 8 pm

Notice Pursuant to Section 20(1) of the Planning and Development Acts 2000 – 2007, Public Consultation regarding the Dunshaughlin Local Area Plan.

For Further Information Please Contact: The Forward Planning Section, Planning Department, Abbey Mall, Abbey Rd., Navan, Co. Meath.

Ph. no. 046-9097000 Email address: [planningsubmissions@meathcoco.ie](mailto:planningsubmissions@meathcoco.ie)

## Meath County Council

### PREPARATION OF LOCAL AREA PLANS FOR THE FOLLOWING SETTLEMENTS: DULEEK, SLANE AND KENTSTOWN MEATH COUNTY DEVELOPMENT PLAN 2007 - 2013

#### Consultations under Section 20 of the Planning & Development Acts 2000-2002

Pursuant to Section 20 of the Planning & Development Act 2000 as amended Meath County Council hereby gives notice of its intention to prepare Local Area Plans for Duleek, Slane and Kentstown.

A Consultation Document has been prepared for each settlement which looks at the significant planning issues that each Local Area Plan will address.

#### Submissions And Observations

Meath County Council hereby invites any interested parties to make submissions in respect of the Consultation documents to the undersigned before 3.30 pm on Tuesday 21st October 2008. Any submissions or observations so made will be taken into consideration by the Council before the making of the Local Area Plans. Submissions or observations in electronic format can be e-mailed to [planningsubmissions@meathcoco.ie](mailto:planningsubmissions@meathcoco.ie) before 3.30pm on Tuesday 21st October 2008.

Please make your submission by one medium only i.e. in hard copy or email. This will avoid the duplication of submission reference numbers and will streamline the process. Your assistance on this issue is appreciated. All submissions to be clearly marked with the name of the settlement to which the submission refers. The deadline for receipt of submissions is Tuesday 21st October 2008.

All submissions or observations received during the above time period will be taken into consideration during the preparation of the Draft Local Area Plans.

The Consultation Documents are available for inspection during normal office hours at the following locations from Monday 22nd September, 2008:

- Planning Department, Abbey Mall, Abbey Road, Navan
- Meath County Library / Navan Branch Library, Railway Street, Navan
- Duleek Area Office, Duleek
- Duleek Branch Library, Duleek

• [www.meath.ie](http://www.meath.ie)

Copies of the Consultation Documents are available for purchase from the Planning Department, Abbey Mall, Abbey Rd, Navan, Co. Meath.

Please contact Lynda Thornton @ 046-9097566 or [lythornton@meathcoco.ie](mailto:lythornton@meathcoco.ie)

Mr. Michael Griffin, Senior Executive Officer, Planning Department, Abbey Mall, Abbey Road, Navan Co. Meath.

## Meath County Council

### NOTICE OF THE PREPARATION OF A PROPOSED VARIATION TO THE MEATH COUNTY DEVELOPMENT PLAN 2007-2013 (VARIATION NO. 7), DUNSHAUGHLIN

#### Planning & Development Act 2000 as amended

Notice is hereby given pursuant to Section 13 (2) b of the Planning and Development Act, 2000 as amended that Meath County Council, as Planning Authority has prepared a proposed Variation of the above mentioned Plan.

The proposed variation relates to two parcels of land located in the townlands of Readland and Johnstown, Dunshaughlin. The lands lie between the current development boundary in the Dunshaughlin Development Plan and the M3 motorway link road (Objective D517 in the Dunshaughlin Development Plan). The lands do not currently have a land use zoning objective. The part (a) of this variation seeks to identify lands which would provide local retail facilities to serve those future residents and those existing residents in the vicinity. Part (b) is proposing to zone 2 small parcels of land which adjoin the current development boundary and the M3 link road which are currently unzoned and their zoning will ensure that these lands develop in a comprehensive manner with adjoining lands.

The proposed variation comprises of the following elements:

- The proposed zoning of approx. 2.39 ha to Land Use Zoning Objective B3 "To protect, provide for and improve local shopping facilities in order to create and retain a vibrant and sustainable neighbourhood centre to cater for primarily local needs."
- The proposed zoning of approx. 2.07 ha to Land Use Zoning Objective A2 "To provide for new residential communities and community facilities and to protect existing residential areas."
- Local Objective DS 18: To provide local shopping facilities with convenience retail provision including a supermarket/discount foodstore to range in size from 1,000-1,500 sqm and a childcare facility of adequate size to cater for the adjoining residential population, on the lands identified as B3.

In complying with the SEA Directive (2001/42/EC) and the Planning and Development (Strategic Environmental Assessment) Regulations, 2004 SEA screening was carried out and this decision is available for inspection.

#### Submissions And Observations

Meath County Council hereby invites any interested parties to make submissions in respect of the proposed Variation to the undersigned before 3.30 pm on Tuesday 14th October 2008. Any submissions or observations so made will be taken into consideration by the Council before the making of the Local Area Plan. Submissions or observations in electronic format can be e-mailed to [planningsubmissions@meathcoco.ie](mailto:planningsubmissions@meathcoco.ie) before 3.30pm on Tuesday 14th October 2008.

Please make your submission by one medium only i.e. in hard copy or email. This will avoid the duplication of submission reference numbers and will streamline the process. Your assistance on this issue is appreciated. All submissions to be clearly marked 'Proposed Variation 7 of the Meath County Development Plan 2007-2013'. The deadline for receipt of submissions is Tuesday 14th October 2008.

All submissions or observations received during the above time period will be taken into consideration. The proposed variation and SEA screening decision is available for inspection during normal office hours at the following locations from Monday 15th September, 2008:

- Planning Department, Abbey Mall, Abbey Road, Navan.
- Meath County Library / Navan Branch Library, Railway Street, Navan.
- Dunshaughlin Area Office, Dunshaughlin
- Dunshaughlin Library

• [www.meath.ie](http://www.meath.ie)

A Copy of the proposed variation is available for purchase from the Planning Department, Abbey Mall, Abbey Rd, Navan, Co. Meath.

Please contact Lynda Thornton @ 046-9097566 or [lythornton@meathcoco.ie](mailto:lythornton@meathcoco.ie)

Mr. Michael Griffin, Senior Executive Officer, Planning Department, Abbey Mall, Abbey Road, Navan Co. Meath.



Trim Town Council

## Meath County Council

### NOTICE OF PUBLIC EVENTS REGARDING PREPARATION OF LOCAL AREA PLANS FOR DULEEK, SLANE AND KENTSTOWN

'This is YOUR opportunity to have YOUR say about a document that affects YOUR future.'

Meath County Council is proposing to make Local Area Plans for Duleek, Slane and Kentstown. To ensure the new plans reflect the broad wishes of the local community, the general public is invited to attend **informal public events** regarding the relevant Local Area Plan.

Venues, dates and times are as follows:

Local Area Plan	Venue	Date	Time
Duleek	Duleek Area Office (One Stop Shop)	Tuesday 23rd of September	6 pm – 8 pm
Slane	Cunningham Arms Hotel, Slane	Thursday 25th of September	6 pm – 8 pm
Kentstown	Kentstown National School, Kentstown, Navan	Tuesday 30th of September	6 pm – 8 pm

Notice Pursuant to Section 20(1) of the Planning and Development Acts 2000 – 2007, Public Consultation regarding the Duleek, Slane and Kentstown Local Area Plans.

For Further Information Please Contact: The Forward Planning Section, Planning Department, Abbey Mall, Abbey Rd., Navan, Co. Meath.

Ph. no. 046-9097000 Email address: [planningsubmissions@meathcoco.ie](mailto:planningsubmissions@meathcoco.ie)

## Meath County Council

### M3: CLONEE - NORTH OF KELLS MOTORWAY SCHEME TEMPORARY CLOSURE OF ROAD WOODPARK ROAD, LOCAL ROAD L2225-0

#### Roads Act 1993.

#### Regulations 1994.

Notice is hereby given that Meath County Council intends to close the Woodpark Road, Local Road L2225-0, to through traffic from its junction with R154 Trim Road at Blackbull to its junction with the L22161-0 at Flat House. This closure is required to facilitate the construction of the Blackbull Overbridge and the M3 Motorway Scheme.

The proposed closure will commence on Wednesday 1st October 2008 and will continue until Saturday 1st November 2008.

#### Alternative Routes:

Travelling from Dublin to Woodpark Road take a left for Dunboyne off the new N3 at the EMO garage, continue on the R157 Maynooth Rd for 1.1km approx. and take a right onto the L22161-0 for 1.3km approx to the Flat House on Woodpark Road for 1.7km approx. and take a right onto the L22161-0 for 1.3km approx to the Flat House on Woodpark Road.

Travelling from Navan to Woodpark Road continue straight across at Blackbull Roundabout towards Dublin for 2.2km approx. take a right for Dunboyne off the new N3 at the EMO garage, continue on the R157 Maynooth Rd for 1.1km approx. and take a right onto the L22161-0 for 1.7km approx. and take a right onto the L22161-0 for 1.3km approx to the Flat House on Woodpark Road.

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# Site Notice

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## Meath County Council

### **“APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTE WATER DISCHARGE LICENCE”**

In accordance with the requirements of the Waste Water Discharge (Authorisation) Regulations 2007 (S.I. No. 684 of 2007), Meath County Council, County Hall, Railway Street, Navan, County Meath, intends to apply to the EPA for a Waste Water Discharge Licence for the Athboy Wastewater Treatment Plant and associated sewer network.

Athboy Wastewater Treatment Plant is a biological treatment plant, used for the treatment of municipal wastewater conveyed in the foul sewer network serving the agglomerations of Athboy, Rathcairn and its environs.

Athboy Wastewater Treatment Plant is located at Townparks, Athboy, County Meath, National Grid Reference: E272055, N263675

#### Primary Discharge

PSW1 The associated Primary Discharge location from the wastewater treatment plant is located at Townparks, Athboy, County Meath, National Grid Reference: E272029, N263610

#### Storm Water Discharge

SW2 The associated discharge location from the stormwater overflow is located at Townparks, Athboy, County Meath, National Grid Reference: E272047, N263610

The associated emergency overflow location from the pumping station is located at;  
Athboy Pumping Station, Athboy, County Meath, National Grid Reference: E271833, N264129

A copy of the application for a waste water discharge licence, and any such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the application, shall, as soon as is practicable after receipt by the Agency, be available for inspection or purchase at the headquarters of the Agency and at: Meath County Council, County Hall, Railway Street, Navan, County Meath.

Submissions in relation to this application may be made to the Agency at its headquarters. In this regard any person or body who wishes to make a written submission can do so on or after 22<sup>nd</sup> September 2008 to the EPA Headquarters, PO Box 3000, Johnstown Castle Estate, Co. Wexford in relation to:

- the application
- such plans, maps, reports, documents and other information and particulars, as are submitted by the applicant in accordance with SI 684 of 2007





**ATTACHMENT No: B10**

**Capital Investment Programme**

***(Water Services Investment Programme 2007-2009)***

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**Meath\*****Water Services Investment Programme 2007 - 2009**

Schemes at Construction	W/S	Est. Cost
Navan AC Watermains Network Phases 2 & 3	W	4,250,000
		4,250,000
Schemes to start 2007		
Ashbourne/Ratoath/Kilbidee Sewerage Scheme	S	26,000,000
Dunshaughlin Water Supply Scheme	W	10,000,000
Meath Grouped Towns & Villages Sewerage Scheme (Donore, Duleek, Athboy, Kilmainhamwood, Summerhill, Moynalty, Rathcairn & Rathmdyon)	S	37,000,000
		73,000,000
Schemes to start 2008		
East Meath, Drogheda & South Louth Water Supply Scheme	W	75,000,000
Meath Sludge Management	S	7,500,000
Navan Mid-Meath Water Supply Scheme	W	78,000,000
		160,500,000
Schemes to start 2009		
Oldcastle Sewerage Scheme	S	5,500,000
		5,500,000
Serviced Land Initiative		
Trim Water Improvement Scheme	W	2,000,000
		2,000,000
Rural Towns & Villages Initiative		
Rathcairn Sewerage Scheme <sup>1</sup>	S	-
Rathmdyon Sewerage Scheme <sup>1</sup>	S	-
<sup>1</sup> Included under the Grouped Towns & Villages Scheme		0
Schemes to Advance through Planning		
Dunboyne/Clonee Water Supply Scheme	W	6,000,000
Kells Sewerage Scheme	S	11,000,000
Kells/Oldcastle Water Supply Scheme	W	2,000,000
Navan Sewerage Scheme (Network Rehabilitation)	S	15,000,000
		34,000,000
Water Conservation Allocation		16,522,000
Asset Management Study		100,000
<b>Programme Total</b>		<b>295,872,000</b>

\* All Meath County Council schemes fall within the Greater Dublin Area as described in the National Spatial Strategy



## ATTACHMENT No: B11

### Section 63 Correspondence

**Not Applicable** – There has been no breach of Section 63 at the Athboy Waste Water Treatment Plant.

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**ATTACHMENT No: B12**

**Foreshore Act Licence**

**Not Applicable.**

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## **ATTACHMENT No: C.1**

### **OPERATIONAL INFORMATION REQUIREMENTS**

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## C.1 Operational Information Requirements

### 1. General Plant Description

A new wastewater treatment plant is currently under construction at Athboy to replace the existing wastewater treatment plant which is currently overloaded. The contract for the construction of the wastewater treatment plant was awarded under a Bundled DBO contract to EPS Limited in November 2007. The wastewater treatment plant is due to be completed in December 2009.

The Athboy Wastewater Treatment Works will have an ultimate design flow of 3,915 m<sup>3</sup>/d (3DWF) for a Population Equivalent of 5,800 PE for phase 1 and an ultimate design flow of 7,828 m<sup>3</sup>/d (3DWF) for a Phase 2 Population Equivalent of 11,600 PE. Phase 1 is currently under construction.

The treatment process is based on a Sequential Batch Reactor (SBR) Treatment system with associated equipment. The plant consists of the following;

1. A remote main pumping station complete with 3 No. Pumps (Duty/Assist/Standby).
2. 2 No. automated (6mm) Inlet Fine Screens, including screenings washing/dewatering, 1No. Grit removal unit and 1No grit removal classifier
3. Storm tank including storm return pumps
4. The Biological Treatment includes 3 No. Sequential Batch Reactors
5. Chemical dosing for Phosphorous removal
6. Sludge Picket Fence Thickener
7. Acceptance Tank for imported sludge's complete with 1 No. Liquid sludge's screen
8. The Dewatering System includes 2 No. Centrifuges
9. Final Effluent flow measurement and automatic sampling
10. Odour and noise controls

Summary of Waste Water Treatment Plant Parameters	
Population Estimate (P.E.)	5,800 P.E.
BOD (kg/day)	348 kg/day
Dry Water Flow (m <sup>3</sup> /day)	3,915 m <sup>3</sup> /day
Suspended Solids (mg/l)	435 mg/l

Total nitrogen (mg/l)	52.2 mg/l
Total Phosphorus (mg/l)	13.1 mg/l
Peak flow to full treatment (m <sup>3</sup> /day)	45.3l/s
Storm water storage capacity (m <sup>3</sup> )	1,100m <sup>3</sup>

Summary of Final Effluent Discharge Limits	
BOD (mg/l)	25 mg/l
COD (mg/l)	125 mg/l
Suspended Solids (mg/l)	35 mg/l
Total nitrogen (mg/l)	20 mg/l
Total Phosphorus (mg/l)	1.0 mg/l

## 2. Particular Plant Description

### 2.1. Pumping Stations

Please see section C1.2 for details.

### 2.2. Inlet Works – Preliminary treatment

Once operational, the flows to the treatment works shall be measured, recorded and monitored. This monitored flow shall exclude all returned, recycled or runoff flows which will be monitored separately. Flows of up to 162.5 l/s (6 DWF) shall be transferred to the wastewater treatment plant from the main pumping station in Athboy. Flows of up to 6 DWF shall be transferred to the wastewater treatment plant from the main Rathcairn Pump Station (RA 2).

The influent sewer shall be designed to handle 8 DWF at the Stage 2 Population Equivalent. There will be additional gravity flows from the industrial area to the east of the wastewater treatment plant. The DWF of this area is estimated at 3.66 L/s.

Flows in excess of the plant peak design flow to full treatment shall overflow to the stormwater tank. The plant peak design flow to full treatment shall be 3 DWF.

The maximum incoming flow to the inlet works is 632.74m<sup>3</sup>/hr.

The inlet works comprises of;

- A. 3No. Variable delivery Centrifugal pumps, operating on a Duty/Assist/Standby basis (capable of pumping 316.37m<sup>3</sup>/hr)
- B. 3No. Mechanical Screens each with the capacity to handle 163.1m<sup>3</sup>/hr, (the actual maximum capacity of each screen is 234m<sup>3</sup>/hr)
- C. Grit Removal System - 1 No. Grit Trap with a capacity of 163.1m<sup>3</sup>/hr and 1 No. Grit Classifier.

### A. Inlet Pumps

<b>No. of Pumps Required:</b>	3 No. (Duty/Assist/Standby)
<b>Flow Rate Each:</b>	316.37m <sup>3</sup> /hr

The duty pump runs until the liquid level drops to the Common Stop Level. However, should the liquid level continue to rise whilst the duty pump is running and reaches the assist pump start level the duty pump continues to run and the assist pump is started. The standby pump will replace a particular duty pump should a failure signal be sent to the PLC from one of the duty pumps.

The Duty/Assist/Standby arrangement will be cycled on an hours run basis with each pump being selected for duty, assist and standby in turn. Should the ultrasonic level sensor fail/malfunction the pumping station also contains a level float switch which prevents dry running of the pumps.

If for any reason sufficient sewage cannot be pumped to the inlet works, it backs up from the inlet pump sump to the next upstream manhole from where it exits to the outlet manhole via the storm tank overflow pipe.

### B. Mechanical Screens

<b>No. Required:</b>	2 No. (Duty/Standby) Operating Duty/Duty
<b>Max Flow Rate per Screen:</b>	163.1 m <sup>3</sup> /h
<b>Screen Type:</b>	Automatic
<b>Aperture Size:</b>	6 mm
<b>Screenings Washing and Dewatering</b>	0.51m <sup>3</sup> wet screening 1 hr

From the treatment plant inlet pump sump the inlet channel then splits into three separate channels. Two of these lead to mechanical inlet screens and the third leads to a bypass screen.

All screenings are washed, separated and deposited in skips for removal off site.

An ultrasonic level sensor provides level measurement

Flows up to  $632.73\text{m}^3/\text{hr}$  are screened via a manually raked storm screen. Flows in excess of  $163.1\text{m}^3/\text{hr}$  will overflow a storm weir and flow to the storm water storage tank. The remainder will flow into a Biological Treatment stream based on 3 No. Sequential Batch Reactors after passing through the grit removal system.

### C. Grit Removal System

After the inlet screens the sewage then flows into a grit removal system. The system acts to remove grit down to  $0.2\text{mm}$  diameter from the peak design flow of  $163.1\text{m}^3/\text{hr}$  (3 DWF at stage 1). The geometry of the interior and the shape and placing of the entry channel are such that the flow follows a prescribed path through the system. The liquid is introduced tangentially into the side of the separator cylinder causing the contents to rotate slowly about the vertical axis. This is also helped by the rotation of the paddle in the system. The flow spirals gradually down the perimeter of the vessel allowing the grit and sand particles to settle out by gravity. This process is aided by the drag forces at the boundary layer on the wall and base of the system. A grit pot for the separated grit is located at the bottom of the system and this is where the grit collects. By the time the flow reaches the outlet, it is virtually free of grit and is discharged into the outlet channel.

The grit which collects at the bottom of the Grit separator in the grit pot must be removed. The settled grit is lifted by means of the grit airlift pump. The lifted grit from the grit trap is fed to the Grit classifier. The Grit Classifier is used to separate the grit and most of the remaining organics from the liquid. The classifier is a complete freestanding unit approx.  $4.5\text{m}$  long with an incline of  $25$  degrees and it is capable of processing grit from the peak design flow  $163.1\text{m}^3/\text{hr}$  (3 DWF at stage 1). The grit/organic mixture is pumped from the separator grit pot to the inlet unit of the Grit Classifier. The grit settles in the well of the Grit Classifier and is propelled upwards along an inclined trough by a motor driven screw. The screw feeds the grit into a skip for disposal offsite. The drainage water from the classifier gravitates to the Supernatant draw-off sump.

**No. of Pumps Required:** 1 No. (Duty)

**Max Flow Rate per Unit:**  $163.1\text{ m}^3/\text{hr}$

**Grit Classifier:** 1 No.

**Max Flow Rate**  $163.1\text{ m}^3/\text{hr}$



### **2.3. Phosphorus Removal**

Phosphorous will be removed using chemical dosing of Ferric Sulphate ( $\text{Fe}_2\text{SO}_4$ ). Ferric Sulphate will be dosed into the distribution chamber flow proportionally i.e. simultaneous precipitation, because polyphosphates and organic phosphorous are less easily removed than ortho-phosphorus.

The ferric sulphate is dosed into the process prior to the SBR tanks.

### **2.4. Biological Treatment**

#### Sequential Batch Reactor Process (SBR)

The system is based around three SBR tanks. They act as a balance tank, anoxic tank, aeration tank, and settlement tank. Following preliminary treatment, detailed above, the wastewater enters an SBR cell. Provision is made for a dedicated air blower to serve each SBR, with a common standby.

SBR Sequence of Operation:

1. **Fill/Anoxic** - Incoming screened and de-gritted raw sewage is added to the SBR. During this phase the SBR Cell is in an anoxic condition to promote nitrogen removal.
2. **Fill/Aeration** - During this phase the raw sewage flow ceases and is transferred to an alternative SBR cell. Aeration is supplied by the fine bubble diffuser aeration system. The oxygen brings the biological mass from a latent state to a food-consuming active state.
3. **Settle** – Aeration is inhibited and the biological mass begins to settle. The biological mass continues to use oxygen and goes to a latent state when all the oxygen is consumed.
4. **Draw/Decant** - After settling occurs, a clear liquid is left to be discharged
5. **Sludge Wasting** - At the end of the process cycle a percentage of the biological mass is pumped from the SBR cell. This maintains the correct concentration of biomass within the SBR.

Waste sludge is pumped into the Picket Fence Thickener at 0.8%DS. The sludge is thickened in the PFT by gravity to 2-3%DS and subsequently dewatered to 20% DS using a centrifuge.

The supernatant from the PFT and Dewatering Unit to be returned to the inlet works for recycle through the process.

## **2.5. Sludge Treatment and storage**

Picket Fence Thickener - Waste activated sludge (WAS) is pumped from the SBR cells at a solids concentration of 0.8% DS. This action concentrates the sludge from 0.8% DS up to 3%DS. Scum from the scum sump is also sent to the PFT. The picket fence thickener runs constantly, supernatant gravitates to the supernatant draw off sump

Sludge Dewatering - Thickened sludge's shall be pumped by 2 No. (Duty/Standby) pumps at a flowrate of 4.56m<sup>3</sup>/hr into 2 No. Dewatering units. Using centrifuge technology the sludge's shall be dewatering to 20%DS and disposed into a skip to be taken off site. Poly electrolyte solution shall be made up on site and shall be dosed at a controlled flow rate into the dewatering units. Supernatant from the dewatering process shall be pumped back to the inlet works for recycling through the plant.

## **2.6. Final Effluent**

Treated effluent from the SBR tanks enters the final effluent chamber.

The chamber contains 2 submersible centrifugal pumps operating in a duty/standby configuration. They deliver final effluent as required to the centrifuges, washpactor, tipping buckets, polymer makeup unit and washpoints. All other effluent will then be discharged into the River Athboy via a 600mm diameter pipe with flat valve. The discharge point is approximately 49meters from the treatment plant.

## **2.7. Instrumentation**

Flow Metering – 8No. flowmeters measuring Inlet flow, Outlet flow, Flow to treatment, Storm overflow, Storm return flow, Imported sludge's, Surplus sludge's and Supernatant return flow

Dissolved Oxygen Metering (DO) - 1 No. in each SBR Cell

Mixed Liquor Suspended Solids (MLSS) Meter - 1 no in each SBR cell

COD, pH and turbidity meters - 1 on inlet flow, 1 on outlet flow

Automatic Sampler - 1 on inlet flow, 1 on outlet flow

## **2.8. Standby Generation**

In the event of power failure at the waste water treatment plant and the main pumping station, a permanent standby generator will automatically provide emergency power to allow continued pumping and treatment at all times.

### **C1.1 – Storm Water Over Flows**

**No. Pumps Required:** 2No. (Duty/Standby)

**Flow Rate:** 163.1 m<sup>3</sup>/h

**Tank Volume:** 1,100 m<sup>3</sup>

**Storm Tank Dimensions:** 17m x 15m x 5m side wall

**Storm Tank Cleaning System:** Tipping Buckets

Should flows to the inlet works exceed the capacity of the peak design flow (3 DWF at stage 1) of 163.1m<sup>3</sup>/hr, then excess sewage overflows to the storm tank via a storm overflow wall in the inlet works channel. Flow rate to the storm tank is calculated by the PLC by comparing values from the flowmeter. Should the retention capacity of the storm tank be exceeded then the screened sewage overflows via a bellmouth to the outlet manhole.

When the storm abates wastewater retained in the tank shall be drawn off and will rejoin the main process at the Grit removal stage. There is 2No VSD delivery storm return pumps located in a hopper in the floor of the tank. They operate in a duty/standby configuration.

After the storm tank has been emptied it is washed by two No. Tipping buckets. When the level in the storm tank goes below a predetermined level the tipping bucket inlet valve actuator opens for an amount of time to fill the bucket with effluent pumped from the final effluent chamber. When the volume of effluent in a tipping bucket reaches a certain level, the liquids weight causes the bucket to tilt and its contents are spilled to the storm tank's floor. A counter weight at the rear of the bucket causes it to return to its original position post spill. The floor of the storm tank is contoured such that the spilled effluent is directed to the trench at the end where the storm pumps are located. The sudden rush of liquid causes residual remains to be washed to the storm water tanks pump hoppers for removal.

#### Outlet Manhole

Under prolonged storm conditions where the storm tank capacity is exceeded, storm water will overflow to the outlet manhole. Here it combines with flow from the final effluent chamber and continues to the river Athboy via an outfall.

## **C1.2 – Pumping Stations**

### ***Athboy Pumping Station***

The Main pumping station receives gravity flows from an inlet sewer; from here sewage is transferred to the treatment plant proper by means of a twin rising main. This twin rising main finishes at Manhole R, as per the P&ID in attachment C1A. From here a gravity sewer continues to the inlet works.

The pumping station has 3 No. VSD foul pumps. They are operated on a Duty/Assist/Standby basis; each pump is capable of delivering 292.5 m<sup>3</sup>/hr.

**No. required:** 3 No. (Duty/Assist/Standby)

**Combined Flow Rate:** 585 m<sup>3</sup>/hr

**Flow Rate per Pump:** 292.5 m<sup>3</sup>/hr

An ultrasonic level sensor controls cut in/cut out points and provides high-level alarm and low low-level protection.

When the level in the wet well rises to the primary Start Level, the duty pump is started. The pump runs until the liquid level drops to the Common Stop Level. However, should the liquid level continue to rise whilst the duty pump is running and reaches the assist pump start level, the duty pump continues to run and the assist pump is started. The standby pump will replace a particular Duty/Assist pump should a failure signal be sent to the PLC from one of the pumps.

The Duty/Assist/Standby arrangement will be cycled on an hours run basis with each pump being selected for duty, assist and standby in turn.

Should the ultrasonic level sensor fail/malfunction the pumping station also contains a level float switch, will prevent dry running of the pumps.

In the event that sufficient flow cannot be pumped to the inlet works for treatment, power cut or pump failure, sewage overflows through a mechanical storm screen and into an outfall to the river Athboy. The *emergency outfall* has a capacity of 162.5l/s. It is a manually cleaned 6mm mesh storm screen which prevents large pieces of debris entering the river from the overflow.

The exit point of the outfall into the river has a flap valve to ensure there is no return of water from the river during flood conditions. The overflow pipe shall discharge below the average water level of the river.

### ***Rathcairn Pumping Station***

#### **1. Pumping Station RA 2 (Rathcairn main Pumping Station)**

The Rathcairn main pumping station (RA 2) receives gravity flows from three neighbouring secondary pumping stations RA1, RA3 & RA4. These flows are transferred via a rising main and subsequently a foul sewer to the inlet works in Athboy. The pumping station has 3 No. Variable delivery foul pumps. They are operated on a Duty/Assist/Standby basis, each pump is capable of delivering 17.28 m<sup>3</sup>/hr. Flow rates from the pumping station to Athboy inlet works are monitored by a flowmeter. An ultrasonic level sensor mounted in the wet well sump controls cut in/cut out points and provides high-level alarm and low low-level protection.

When the level in the wet well rises to the primary Start Level, the duty pump is started. The pump runs until the liquid level drops to the Common Stop Level. However, should the liquid level continue to rise whilst the duty pump is running and reaches the assist pump start level the duty pump continues to run and the assist pump is started. The standby pump will replace a particular Duty/Assist pump should a failure signal be sent to the PLC from one of the pumps.

The Duty/Assist/Standby arrangement will be cycled on an hours run basis with each pump being selected for duty, assist and standby in turn.

Should the ultrasonic level sensor fail/malfunction the pumping station also contains a level float switch, which inhibits operation of the pumps when a low-low level is reached; this prevents dry running of the pumps. The pumping station will communicate conditions to the SCADA system in Athboy WWTP.

Odour control will be provided by means of an odour control system.

### 2. Pumping Station RA 1

The Pumping Station RA 1 receives gravity flows from an adjoining sewer network, these flows are transferred by means of a rising main and subsequently a foul sewer to the main pumping station RA 2. The pumping station RA 1 has 2 No. Variable delivery foul. They are operated on a Duty/Standby basis, each pump is capable of delivering 12.6 m<sup>3</sup>/hr. An ultrasonic level sensor mounted in the wet well sump controls cut in/cut out points and provides high-level alarm and low low-level protection.

When the level in the wet well rises to the Start Level, the duty pump is started. The pump runs until the liquid level drops to the Common Stop Level. The duty/standby arrangement will be cycled on an hours run basis with each pump being selected as duty and standby in turn. The standby pump will replace the duty pump should a failure signal be sent to the PLC from the duty pump. Flow rates to the main pumping station RA 2 are monitored by a flowmeter.

The Duty/Assist/Standby arrangement will be cycled on an hours run basis with each pump being selected for duty, assist and standby in turn.

Should the ultrasonic level sensor fail/malfunction the pumping station also contains a level float switch, which inhibits operation of the pumps when a low-low level is reached; this prevents dry running of the pumps. The pumping station will communicate conditions to the SCADA system in Athboy WWTP. Odour control will be provided by means of an odour control system.

### 3. Pumping Station RA 3

This is a package type pump station manufactured by HOMA Pump Technology. Wastewater enters the pump station via a gravity sewer. The package includes 2No. foul pumps in a duty/standby arrangement. The pumps have a capacity to pump 0.8l/sec. There is no overflow from this pump station.

The pumps are automatically controlled and have level sensors in the pump sump. From here the sewage is pumped to the sewer network connecting RA2 and RA1, ultimately being sent to the inlet works in Athboy via pump station RA2.

### 4. Pumping Station RA 4

This is a package type pump station manufactured by HOMA Pump Technology. Wastewater enters the pump station via a gravity sewer. The package includes 2No. foul pumps in a duty/standby arrangement. The pumps have a capacity to pump 0.8l/sec. There is no overflow from this pump station.

The pumps are automatically controlled and have level sensors in the pump sump. From here the sewage is pumped to the sewer network connecting RA2 and RA1, ultimately being sent to the inlet works in Athboy via pump station RA2.

## **C1.3 Evaluation of Stormwater Tanks Capacity in relation to Department of the Environment Procedures and Criteria in Relation to Storm Water Overflows**

Storm tanks are provided at the wastewater treatment plant at Athboy to reduce the potential for overflow from the wastewater treatment plant.

Formula A as detailed in Department of the Environment Procedures and Criteria in Relation to Storm Water Overflows relates to storm overflows within the sewerage network rather than at wastewater treatment plants. There are no storm overflows within the sewerage network. All flows are transferred to the wastewater treatment plant in Athboy. The storage volumes stated in Department of the Environment Procedures and Criteria in Relation to Storm Water Overflows have

been used to provide an evaluation of the adequacy of the storm tanks provided for Athboy.

Formula A = DWF + 1.36P + 2E

The design domestic population for Athboy is approximately 4,350 PE and the non-domestic population equivalent is 1,450. The flows are based on a flow of 225 litres per PE per day. The daily domestic and non-domestic flows are 978.75m<sup>3</sup>/day and 326.75m<sup>3</sup>/day respectively.

The flowrate in the Athboy River at the discharge point of the overflow from the storm tanks is: 0.17m<sup>3</sup>/s

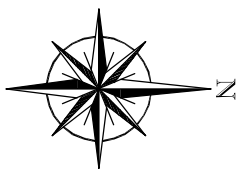
The Dry Weather Flow to the wastewater treatment plant is 15.10l/s = 0.0151m<sup>3</sup>/s. The dilution factor in the Athboy River is: 0.17 / 0.0151 = 11.25

There is no required storage volume based on a dilution rate of >8.

The volume of the stormwater tanks as detailed in Section 3.2 (Attachment C1) is 1100m<sup>3</sup>. The size of the stormwater tanks is deemed to be adequate.

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LEGEND	
	SITE BOUNDARY
	EXISTING RISING MAIN
	EXISTING SURFACE WATER DRAIN
	PROPOSED FOLL SEWER
	PROPOSED OUTFALL
	PROPOSED TOWN RISING MAIN
	PROPOSED STORM OVERFLOW
	EXISTING TANKS / BUILDINGS / POUNDS
	PROPOSED STRUCTURE
	PROPOSED ROAD
	PROPOSED FOOTPATH / CONCRETE HARDSTANDING
	INLET SLUMP
	STORM TANK
	INLET WORKS
	AERATION TANKS
	PICKET FENCE THICKENER
	FERRIC TANK
	SUPERNATANT SLUMP
	DEWATERING / CONTROL BUILDING
	FUTURE AERATION TANK
	OUTFALL FLUME

REV	DATE	DESCRIPTION	D	C	A

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# WASTE WATER LICENCE APPLICATION FOR ATHBOY WWTW

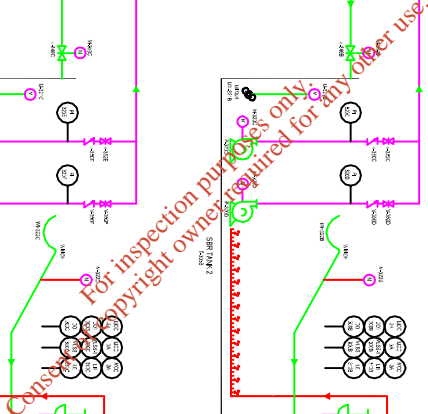
1:0000 @ AS	SOLES	TITLE
C1. ATTHOY WASTEWATER TREATMENT PLANT LAYOUT		
DATE 19/09/2008	DRAWN D. Sathirajulu	CHECKED
DATE 19/09/2008	P. AND/ARE	APPROVED
REV	DATE 19/09/2008	F. Lane

20285-DL-AY-06

**ATTACHMENT No: C.1A**

**Athboy Treatment Plant P&ID**  
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[illegible]

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NAVMU.  
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20285-DL-AY-10

## **ATTACHMENT No: C.2**

# **OUTFALL DESIGN AND CONSTRUCTION**

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## **C.2 Outfall Design and Construction**

*Provide details on the primary discharge point & secondary discharge points and storm overflows to include reference, location, design criteria and construction detail.*

### **Primary discharge Point, Ref: E272030, N263658**

This discharge caters for the disposal of treated final effluent from the Athboy Wastewater treatment plant. It is currently being constructed as part of the Meath WWTP Bundle.

The treated effluent will be conveyed from the treatment facility to the river Athboy via a 600mm diameter outfall pipe. It shall be below the water level of the river at all times of the year and shall include a diffuser on the outlet.

### **Athboy Pumping station, Ref; E272048, N263611**

As part of the Meath Bundled Wastewater treatment project for 8 centres in Co. Meath the pumping station is being upgraded to handle the increased capacity of the treatment plant. It comprises of;

- 3No. submersible fowl pumps (duty/assist/stand-by)
- 1No. manually cleaned 6mm mesh storm screen
- 600mm diameter overflow pipe with flap valve to the Athboy River

The pumping station sump measures 4.2m wide, 6m in length and has a liquid depth from floor to storm overflow screen of 3.8m. The station is equipped with 3No submersible type pumps that are configured to operate in a duty/assist/stand-by mode. There are 2No 300mm diameter discharge pumping mains to the treatment plant that discharge effluent into the inlet works at the treatment plant.

The plant is provided with a 600mm diameter overflow pipe with flap valve that discharges to the river Athboy in the event of prolonged power failure or pump failure. The discharge passes through 6mm mechanical bar screen, preventing any large piece of debris to enter into the river. The flap valve ensures there is no return of water from the river during flood conditions. The overflow pipe shall discharge below the average water level of the river.

1. THERE IS NO SEPARATE STORMWATER OVERFLOW AT ATHBOY SW/2 IS THE POINT WHERE STORM WATER OVERFLOW JOINS THE PRIMARY DISCHARGE LINE PRIOR TO DISCHARGE TO THE RIVER ATHBOY

LEGEND

- SITE BOUNDARY
- EXISTING RISING MAIN
- EXISTING SURFACE WATER DRAIN
- PROPOSED Foul SEWER
- PROPOSED OUTFALL
- PROPOSED TWIN RISING MAIN
- PROPOSED STORM OVERFLOW

- INLET SLUMP
- STORM TANK
- INLET WORKS
- AEATION TANKS
- PICKET FENCE THICKENER
- FERRIC TANK
- SUPERNATANT SLUMP
- DEWATERING / CONTROL BUILDING
- FUTURE AERATION TANK
- OUTFALL FLUME

REV	DATE	DESCRIPTION	D	C	A

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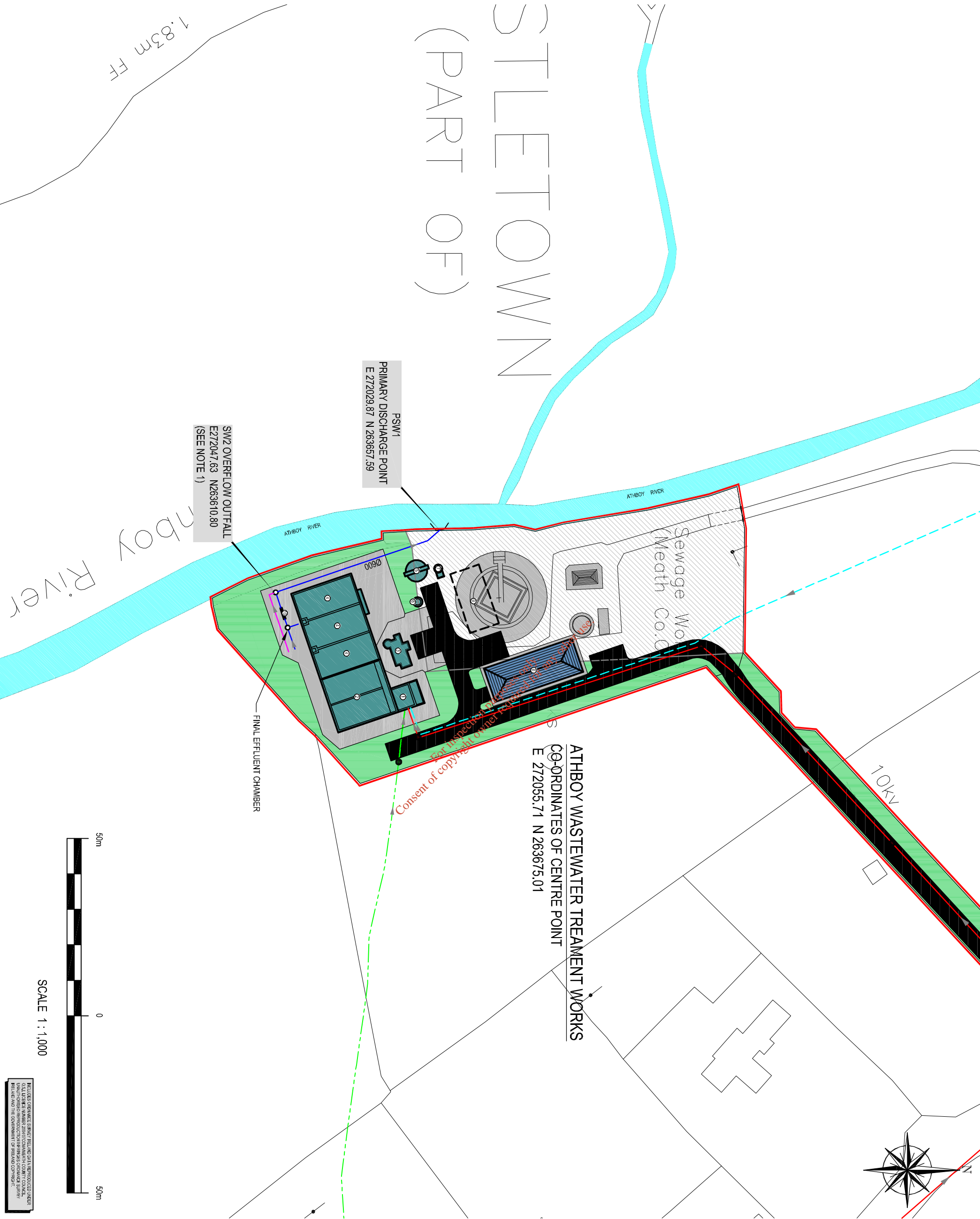
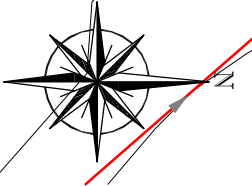
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WASTE WATER LICENCE APPLICATION FOR ATHBOY WWTW

C2. ATHBOY, LOCATION OF DISCHARGE OUTFALL, INVERT LEVELS AND PIPE SIZES

SCALES	DRAWN	CHECKED	APPROVED
1:1000 @ A3	D. Nicholas	F. McDermott	F. Lane
DATE	DATE	DATE	DATE
19/09/2008	19/09/2008	19/09/2008	19/09/2008

DRAWING NO. 20285-DL-AY-07



## **ATTACHMENT No: D1**

### *Discharge(s) to Surface Waters*

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**Meath Co.Co. Results for Athboy WWTP samples (grab samples)**

Date	14-Jun-07	11-Jul-07	10-Aug-07	20-Sep-07	05-Oct-07	07-Nov-07	16-Jan-08	08-Feb-08	04-Mar-08	18-Apr-08	08-May-08	23-Jun-08	24-Jun-08	22-Jul-08
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**INFLUENT**

Parameter	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf
BOD mg/l	-	294.5	291	239	289.5	313.5	186.5	143	161	276.5	367	-	337.5	-
COD mg/l	-	957	692	684	746	1063	516	304	340	596	973	-	691	448
TSS mg/l	-	234	221	269	272	191	111	117	97	210	191	-	198	-
Tot P mg/l	-	9.89	9.44	7.32	8.71	6.47	4.16	3.49	4.68	7.92	12	-	8.3	7.4
Tot N mg/l	-	52.9	49.8	48.2	50.3	54.8	25.5	27.5	32.5	58.9	87.3	-	60	-

**EFFLUENT**

Parameter	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff
BOD mg/l	23.4	14.2	20.65	38.6	14.5	25.6	11.5	7.38	14.05	43.4	72.5	161.5	174	-
COD mg/l	282	67	94.2	117	66.8	107	16	20.6	34.4	115	536	502	390	80.8
TSS mg/l	16	15.6	18	28	2.4	21.1	7.6	11.6	10.8	59.2	57.6	-	11.6	-
Tot P mg/l	7.47	1.42	1.23	2.65	3.03	6.04	1.73	1.17	1.08	4.6	7.74	7.23	6.73	0.799
Tot N mg/l	35.4	24.3	22.7	30.5	33.9	46.7	11.2	12.8	19.9	31.8	41.8	43.4	52	-

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## **ATTACHMENT No: D2**

### **Location of Emission Points**

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### LEGEND

- |    |                             |
|----|-----------------------------|
| 1  | INLET SLUMP                 |
| 2  | STOCK TANK                  |
| 3  | INLET WORKS                 |
| 4  | AERATION TANKS              |
| 5  | POCKET FENCE THICKENER      |
| 6  | FERRIC TANK                 |
| 7  | SUPERNATANT SLUMP           |
| 8  | DEWATERING CONTROL BUILDING |
| 9  | FUTURE AERATION TANK        |
| 10 | OUTFALL FLUME               |

REV	DATE	DESCRIPTION	D
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**TITLE**

SCALES	DRAWN	CHECKED	APPROVED
	D Blomdahl	B McArms	E1 300

19-09-2008	19-09-2008	19-09-2008
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20285-DL-AY-08

Athboy WWTW - Table D2

PT_CD	PT_TYPE	LA_NAME	RWB_TYPE	RWB_NAME	Designation	EASTING	NORTHING
Point Code Provide label ID's	Point Type (e.g., Primary/ Secondary/ Storm Water	Local Authority Name (e.g., Donegal County Council)	Receiving Water Body Type (e.g., River, Lake,	Receiving Water Body Name (e.g., River Suir)	Protected Area Type (e.g., SAC, candidate SAC, NHA, SPA etc.)	6E-digit GPS Irish National Grid Reference	6N-digit GPS Irish National Grid Reference
PSW1	Primary	Meath Conty Council	River	Athboy River	SAC	272029	263610
SW2	Stormwater Overflow	Meath County Council	River	Athboy River	SAC	272047	263610

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## **ATTACHMENT No: E3**

### **Location of Monitoring and Sampling Points**

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Athboy WWTW - Table E3

PT_CD	PT_TYPE	MON_TYPE	Easting	Northing	Verified
Point Code Provide label ID's assigned in section E of application	Point Type (e.g., Primary, Secondary, Storm Water Overflow)	Monitoring Type M = Monitoring S = Sampling	6E-digit GPS Irish National Grid Reference	6N-digit GPS Irish National Grid Reference	Y = GPS used N = GPS not used
PSW1	Primary	Sampling	272029	263610	Y
aSW1u	Primary	Sampling	271818	264149	Y
aSW1d	Primary	Sampling	272512	263247	Y

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## ATTACHMENT No: E4

### Sampling Data

(Details of compliance with applicable monitoring requirements and treatment standards)

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**Meath Co.Co. Results for Athboy WWTP samples (grab samples)**

Date	14-Jun-07	11-Jul-07	10-Aug-07	20-Sep-07	05-Oct-07	07-Nov-07	16-Jan-08	08-Feb-08	04-Mar-08	18-Apr-08	08-May-08	23-Jun-08	24-Jun-08	22-Jul-08
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**INFLUENT**

Parameter	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf
BOD mg/l	-	294.5	291	239	289.5	313.5	186.5	143	161	276.5	367	-	337.5	-
COD mg/l	-	957	692	684	746	1063	516	304	340	596	973	-	691	448
TSS mg/l	-	234	221	269	272	191	111	117	97	210	191	-	198	-
Tot P mg/l	-	9.89	9.44	7.32	8.71	6.47	4.16	3.49	4.68	7.92	12	-	8.3	7.4
Tot N mg/l	-	52.9	49.8	48.2	50.3	54.8	25.5	27.5	32.5	58.9	87.3	-	60	-

**EFFLUENT**

Parameter	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff	Eff
BOD mg/l	23.4	14.2	20.65	38.6	14.5	25.6	11.5	7.38	14.05	43.4	72.5	161.5	174	-
COD mg/l	282	67	94.2	117	66.8	107	16	20.6	34.4	115	536	502	390	80.8
TSS mg/l	16	15.6	18	28	2.4	21.1	7.6	11.6	10.8	59.2	57.6	-	11.6	-
Tot P mg/l	7.47	1.42	1.23	2.65	3.03	6.04	1.73	1.17	1.08	4.6	7.74	7.23	6.73	0.799
Tot N mg/l	35.4	24.3	22.7	30.5	33.9	46.7	11.2	12.8	19.9	31.8	41.8	43.4	52	-

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## **ATTACHMENT No: F1**

### **Assessment of Impact on Receiving Surface or Ground Water**

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## Attachment F.1

### Athboy

- **Give summary details and an assessment of the impacts of any existing or proposed emissions on the environment, including environmental media other than those into which the emissions are to be made.**

The Athboy River is monitored upstream of the wastewater treatment plant at Station No. 0200, just u/s Athboy Bridge and downstream at Station No. 03000 2km SE Athboy. The water quality upstream and downstream of the wastewater treatment plant was classified as Q3 in 2003 showing a deterioration from Q3-4 in 2000. As the rating is the same both upstream and downstream of the wastewater treatment plant this suggests that there are factors other than the outfall causing some pollution. The removal of storm overflows from within the network and a higher level of treatment at the new wastewater treatment plant should contribute to improving the water quality status of the Athboy River.

Monitoring data for the effluent from the primary discharge point is included in Table D1 and monitoring data from monitoring points upstream and downstream of the primary discharge point is included in Table F1.

- **Tables F.1(i)(a) & (b) should be completed for the primary discharge point.**

Tables F.1 (i)(a) & (b) are completed for the primary discharge point

- **For discharges from secondary discharge points Tables F.1(ii)(a) & (b) should be completed. Furthermore, provide summary details and an assessment of the impacts of any existing or proposed emissions on the surface water or ground (aquifers, soils, sub-soils and rock environment), including any impact on environmental media other than those into which the emissions are to be made.**

There are no secondary discharge points. Tables F.1 (ii)(a) & (b) are therefore not completed.

There are no impacts on ground water or other environmental media. The impact of the primary discharge point on the Athboy River is evaluated in the Waste Assimilative Capacity calculations below.

## Waste Assimilative Capacity Calculations

The treated effluent from the Wastewater Treatment Works in Athboy discharges to the Athboy River which is a tributary of the River Boyne. The effluent discharge standards from the upgraded wastewater treatment plant have been reviewed in terms of the design population equivalents of the works taking into account the most recent Biological Water Quality Data published by the EPA for the Athboy River. The primary regulatory guidelines for effluent standards, as outlined in Section 2, are the Urban Wastewater Treatment Regulations, 2001 (S.I. 254 of 2001) and the Water Quality Standards for Phosphorus (S.I. 258 of 1998). The water quality requirements are dependent on the background values and the flow in the river (i.e. assimilation capacity).

The biological quality ratings for the Athboy River upstream and downstream of the existing wastewater treatment plant are detailed in Table 1.

**TABLE 1            BIOLOGICAL QUALITY RATINGS (Q VALUES) FOR ATHBOY RIVER**

Location	Station Number	Station	1997	2000	2003
Upstream	200	Just u/s Athboy Br	3	3-4	3
Downstream	300	Br 2km SE of Athboy	3-4	3-4	3

Chemical data presented in the EPA report for Water Quality in Ireland 2001 to 2000 show a median ortho-phosphate value of 0.04 mg/l (measured by the three rivers project) and 0.03mg/l (measured by Meath County Council) upstream of the existing wastewater treatment plant and 0.06mg/l downstream of the existing wastewater treatment plant. The median BOD levels upstream and downstream of the existing wastewater treatment plant are 1.0mg/L and 1.7mg/L respectively. . The median ammonia levels upstream and downstream of the existing wastewater treatment plant are 0.03mg/L and 0.12mg/L respectively.

The flowrates in the Athboy River at Athboy (from EPA hydrological data 1995) and dilution factors of the effluent from the wastewater treatment plant are detailed below:

**Table 2 Dilution Factors at 95 Percentile River Flow**

	River flow 95 Percentile (m <sup>3</sup> /s)	WWTP Flow (m <sup>3</sup> /s)	Dilution (F <sub>River</sub> /F <sub>WWTP</sub> )
At dry weather flow to the WWTP	0.17	0.0151	11.3
At peak flow to the WWTP (3 DWF)	0.17	0.0453	3.8

**Table 3 Dilution Factors at Average River Flow**

	River flow Average (m <sup>3</sup> /s)	WWTP Flow (m <sup>3</sup> /s)	Dilution (F <sub>River</sub> /F <sub>WWTP</sub> )
At dry weather flow to the WWTP	1.63	0.0151	108
At peak flow to the WWTP (3 DWF)	1.63	0.0453	36

The waste assimilative capacity for BOD<sub>5</sub> is calculated using the 95 percentile flow as the requirement for compliance with the Urban Wastewater Treatment Regulations only one sample in 12 can exceed the maximum value.

Compliance with nitrogen and Ortho-phosphate P requirements is based on an annual average and therefore the average river flowrate has been used for these calculations.

The waste assimilative capacity for BOD, ammonia, orthophosphate and oxidized nitrogen are calculated below. There are no limits of COD or total phosphorous or total nitrogen in terms of water quality in the salmonid regulations or bathing water regulations.

There is a limit of suspended solids at average concentrations of 25mg/l in the salmonid regulations. The level of suspended solids in the effluent from the wastewater treatment plant is 35mg/l. The minimum dilution in the river at 95 percentile flow in the river and peak flows from the wastewater treatment plant is 3.8. The suspended solids will therefore increase by a maximum of  $(35/3.8) = 9.2\text{mg/l}$ . Over a daily flow the increase in suspended solids will be substantially less and therefore the effluent limit of 35mg/l is considered acceptable.

It has been assumed that if the requirements of the Urban Wastewater Treatment Regulations are met and the waste assimilative capacity for the other parameters is sufficient that the effluent COD, suspended solids, total nitrogen and total phosphorus will be acceptable.

It should be noted that the effluent flows have not been included in the WAC calculations below and therefore there will be additional dilution to that calculated below.

The waste assimilative capacity for the river is calculated as follows:

### **Biochemical Oxygen Demand WAC**

$$\text{BOD WAC} = (C_{\text{max}} - C_{\text{back}}) \times F_{95} \times 86.4$$

Where

$C_{\text{max}}$	=	max. allowable BOD concentration (mg/l)	=	4 mg/L
$F_{95}$	=	0.17	=	95 percentile flow in m <sup>3</sup> /sec
$C_{\text{back}}$	=	background BOD concentration (mg/l)	=	1.0mg/L
86.4	=	conversion factor	(to kg/day)	

$$\text{BOD WAC} = (4 - 1.0) \times 0.17 \times 86.4 = 44.1 \text{ kg BOD/day}$$

This formula provides an assimilative capacity for the river of: 44.1 kgBOD/day.

Taking a design P.E. of 5800 the influent BOD load is calculated as 348 kg BOD/day. With an effluent BOD of 25mg/l to be achieved in a secondary treatment process this equates to an effluent BOD load of 32.62 kg/day. This is less than the WAC calculated for the river and therefore acceptable.

### **Ortho-phosphate P**

The Ortho-phosphate P loads permitted in the river are governed by the Phosphorus Regulations (S.I. 258 of 1998). The regulations state that the existing biological quality rating assigned between 1<sup>st</sup> January 1995 and 31<sup>st</sup> December 1997 is the rating upon which the improvements in Water Quality will be judged. In the case of the Athboy River the Q index upstream was determined as Q3 in 1997 and Q3-4 downstream.

The minimum target ratings and concentrations for these stretches of water as defined in the Phosphorus regulations are given in Table 2 below:

**TABLE 4 PHOSPHORUS REGULATIONS TARGET RATINGS AND CONCENTRATIONS**

Existing Biological Quality (Q) Rating / Q Index	Minimum Target Biological Quality (Q) Rating /Q Index	Molybdate Reactive Phosphate Median Concentration (mg P/L)
3 (u/s)	3-4	0.05
3-4 (d/s)	4	0.03

The chemical analysis of the river upstream and downstream of the existing wastewater treatment plant shows the existing median Ortho-phosphate P levels to be 0.03mgP/l and 0.06 mgP/L respectively. The levels of Ortho-phosphate P has been measured by the Three Rivers Project as 0.04mg/l and 0.03mg/l as detailed above. It is assumed that the upstream of the existing wastewater treatment works is likely to be due to diffuse sources such as agriculture. It is assumed that this will be improved to achieve the target quality rating of 4, i.e. 0.03mg.P/L.

The Ortho-phosphate P level from the wastewater treatment plant is calculated as follows:

#### **Ortho-phosphate P WAC**

The design effluent Ortho-phosphate P concentration for the upgraded wastewater treatment plant is 1.0mg/L.. The allowable Ortho-phosphate P from the wastewater treatment plant is calculated as follows:

Effluent MRP Concentration: 1.0 mg/L

Wastewater Treatment Plant Flowrate (Phase 1): 1305 m<sup>3</sup>/day

Effluent MRP = (1305 x 1)/1000 = 1.305 kg/day

The river has a target Water Quality Rating of 3-4, therefore a river Ortho-phosphate P concentration of 0.05mg/l is required. The measured Ortho-phosphate P concentration upstream is 0.03mg/L. The allowable Ortho-phosphate P concentration is 0.05mg/l. It is anticipated that the downstream Ortho-phosphate P concentration will improve when the upgraded wastewater treatment plant with Ortho-phosphate P removal is commissioned.

$$P \text{ WAC} = (C_{\max} - C_{\text{back}}) \times F_{\text{avg}} \times 86.4$$

Where  $C_{\max}$  = max. allowable P concentration (mg/l) = 0.05 mg/L

$F_{\text{avg}}$  = 1.63 = average flow in m<sup>3</sup>/sec

$C_{\text{back}}$  = background P concentration (mg/l) = 0.03mg/L

86.4 = conversion factor (to kg/day)

$$\text{P WAC} = (0.05 - 0.03) \times 1.63 \times 86.4 = 2.8 \text{ kg P/day}$$

The effluent Ortho-phosphate P of 1.305kg/day is less than the calculated waste assimilative capacity of 2.8kg/day and is therefore acceptable.

### Ammonia WAC

The median ammonia levels in the Athboy River upstream and downstream of the existing wastewater treatment plant are 0.03mg/L and 0.12mg/L respectively.

The increase in ammonia levels based on maximum ammonia levels in the wastewater treatment plant is calculated as follows:

Maximum Effluent Ammonia Concentration: 40.0 mg/L  
Wastewater Treatment Plant Flowrate: 1305 m<sup>3</sup>/day  
Effluent N = (1305 x 40)/1000 = 52.2 kg/day

The target ammonia level in the river is taken as 0.5mg/l. It is anticipated that the downstream ammonia concentration will improve when the upgraded wastewater treatment plant with is commissioned as the higher level of BOD<sub>5</sub> removal and the total nitrogen standard will decrease the quantities of ammonia in the effluent.

$$\text{NH}_3 \text{ WAC} = (C_{\text{max}} - C_{\text{back}}) \times F_{\text{avg}} \times 86.4$$

Where  $C_{\text{max}}$  = max. allowable NH<sub>3</sub> concentration (mg/l) = 0.5 mg/L

$F_{\text{avg}}$  = 1.63 = average flow in m<sup>3</sup>/sec

$C_{\text{back}}$  = background NH<sub>3</sub> concentration (mg/l) = 0.03mg/L

86.4 = conversion factor (to kg/day)

$$\text{NH}_3 \text{ WAC} = (0.5 - 0.03) \times 1.63 \times 86.4 = 66.19 \text{ kg /day}$$

The maximum effluent ammonia of 52.2 kg/day is less than the calculated waste assimilative capacity of 66.19 kg/day and is therefore acceptable.



### Oxidised Nitrogen WAC

The median oxidised nitrogen levels in the Athboy River upstream and downstream of the existing wastewater treatment plant are 1.8mg/L in both cases.

The increase in nitrate levels without any nitrification in the wastewater treatment plant is calculated as follows:

Maximum Effluent Nitrate Concentration:	30.0 mg/L
Wastewater Treatment Plant Flowrate:	1305 m <sup>3</sup> /day
Effluent N = (1305 x 30)/1000 =	39.15 kg/day

The maximum allowable nitrate level in the river is taken as 5mg/l. It is anticipated that the downstream nitrate concentration will improve when the upgraded wastewater treatment plant with is commissioned as the higher level of BOD<sub>5</sub> removal and the total nitrogen standard will decrease the quantities of nitrate in the effluent.

$$\text{NO}_3 \text{ WAC} = (C_{\text{max}} - C_{\text{back}}) \times F_{\text{avg}} \times 86.4$$

Where  $C_{\text{max}}$  = max. allowable NO<sub>3</sub> concentration (mg/l) = 5mg/L

$F_{\text{avg}}$  = 1.63 = average flow in m<sup>3</sup>/sec

$C_{\text{back}}$  = background NO<sub>3</sub> concentration (mg/l) = 1.8mg/L

86.4 = conversion factor (to kg/day)

$$\text{NO}_3 \text{ WAC} = (5 - 1.8) \times 1.63 \times 86.4 = 450 \text{ kg/day}$$

The maximum effluent nitrate of 39.1 kg/day is less than the calculated waste assimilative capacity of 450 kg/day and is therefore acceptable.

The effluent loads to the river and the resultant increase in concentration is summarised as follows:

Parameter	BOD	SS	P	NH3	Nitrate
Effluent loads (kg/day)	32.63	45.68	1.31	52.20	39.15
Increase in river concentration (mg/l) at 95 percentile flows	2.22	3.11	0.09	3.55	2.67
Increase in river concentration (mg/l) at average flows	0.232	0.324	0.009	0.371	0.278

It should be noted that these effluent loads and increases in concentration are based on the full design load to the plant. The current effluent loads are less than this as the plant is not at full design capacity.

- **Provide details of the extent and type of ground emissions at the works.**

There are no groundwater emissions at the Works.

- **Describe the existing environment in terms of water quality with particular reference to environmental quality standards or other legislative standards. Submit a copy of the most recent water quality management plan or catchment management plan in place for the receiving water body. Give details of any designation under any Council Directive or Regulations that apply in relation to the receiving water.**

A copy of the water quality management plan is attached.

There is no particular designation of the Athboy River. It is not designated as a sensitive water, fisheries or bathing water. The Athboy River is a tributary of the River Boyne which is designated as sensitive downstream of Navan.

The River Boyne is designated as an SAC. This site comprises the freshwater element of the River Boyne as far as the Boyne Aqueduct, the Blackwater as far as Lough Ramor and the Boyne tributaries. It is designated as a sensitive water 6.5km downstream of the outfall from the Navan WWTP. The main channel of the River Boyne is designated as a salmonid water in SI 293 of 1988. The estuary of the River Boyne is also designated as an SAC. The impact of the discharge from the wastewater treatment works has been discussed with the National Parks and Wildlife Service and the impact was also examined in the Waste Assimilative Capacity calculations. The overall impact is considered to be acceptable (See attached correspondence)

A site synopsis for the two SAC's referred to above is given below:

#### **SITE SYNOPSIS**

**SITE NAME: RIVER BOYNE AND RIVER BLACKWATER**

**SITE CODE: 002299**

This site comprises the freshwater element of the River Boyne as far as the Boyne Aqueduct, the Blackwater as far as Lough Ramor and the Boyne tributaries including the Deel, Stoneyford and Tremblestown Rivers. These riverine stretches drain a considerable area of Meath and Westmeath and smaller areas of Cavan and Louth.

The underlying geology is Carboniferous Limestone for the most part with areas of Upper, Lower and Middle well represented. In the vicinity of Kells Silurian Quartzite is present while close to Trim are Carboniferous Shales and Sandstones. There are many large towns adjacent to but not within the site. Towns both small and large, include Slane, Navan, Kells, Trim, Athboy and Ballivor.

The site is a candidate SAC selected for alkaline fen and alluvial woodlands, both habitats listed on Annex I of the E.U. Habitats Directive. The site is also selected for the following species listed on Annex II of the same directive – Atlantic Salmon, Otter and River Lamprey.

The main areas of alkaline fen are concentrated in the vicinity of Lough Shesk, Freehan Lough and Newtown Lough. The hummocky nature of the local terrain produces frequent springs and seepages which are rich in lime. A series of base-rich marshes have developed in the poorly-drained hollows, generally linked with these three lakes. Open water is usually fringed by Bulrush (*Typha latifolia*), Common Club-rush (*Scirpus lacustris*) or Common Reed (*Phragmites australis*) and this last species also extends shorewards where a dense stand of Great Fen Sedge or Saw Sedge (*Cladium mariscus*) frequently occurs. This in turn grades into a sedge and grass community (*Carex* spp., *Molinia caerulea*) or one dominated by the Black Bogrush (*Schoenus nigricans*). An alternative direction for the aquatic/terrestrial transition to take is through a floating layer of vegetation. This is normally based on Bogbean (*Menyanthes trifoliata*) and Marsh cinquefoil (*Potentilla palustris*). Other species gradually become established on this cover, especially plants tolerant of low nutrient status e.g. bog mosses (*Sphagnum* spp.). Diversity of plant and animal life is high in the fen and the flora, includes many rarities. The plants of interest include Narrow-leaved Marsh Orchid (*Dactylorhiza traunsteineri*), Fen Bedstraw (*Galium uliginosum*), Cowbane (*Cicuta virosa*), Frogbit (*Hydrocharis morsus-ranae*) and Least Bur-reed (*Sparganium minimum*). These species tend to be restricted in their distribution in Ireland. Also notable is the abundance of aquatic Stoneworts (*Chara* spp.) which are characteristic of calcareous wetlands.

The rare plant, Round-leaved Wintergreen (*Pyrola rotundifolia*) occurs around Newtown Lough. This species is listed in the Red Data Book and is protected under the Flora Protection Order, 1999, and this site is its only occurrence in Co. Meath.

Wet woodland fringes many stretches of the Boyne. The Boyne River Islands are a small chain of three islands situated 2.5 km west of Drogheda. The islands were formed by the build up of alluvial sediment in this part of the river where water movement is sluggish. All of the islands are covered by dense thickets of wet, Willow (*Salix* spp.) woodland, with the following species occurring: Osier (*S. viminalis*), Crack Willow (*S. fragilis*), White Willow (*S. alba*), Purple Willow (*Salix purpurea*) and Grey Willow (*S. cinerea*). A small area of Alder (*Alnus glutinosa*) woodland is found on soft ground at the edge of the canal in the north-western section of the islands. Along other stretches of the rivers of the site Grey Willow scrub and pockets of wet woodland dominated by Alder have become established, particularly at the river edge of mature deciduous woodland. Ash (*Fraxinus excelsior*) and Birch (*Betula pubescens*) are common in the latter and the ground flora is typical of wet woodland with Meadowsweet (*Filipendula ulmaria*), Angelica (*Angelica sylvestris*), Yellow Iris, Horsetail (*Equisetum* spp.) and occasional tussocks of Greater Tussocksedge (*Carex paniculata*).

The dominant habitat along the edges of the river is freshwater marsh - the following plant species occur commonly here: Yellow Flag (*Iris pseudacorus*), Creeping Bent (*Agrostis stolonifera*), Canary Reed-grass (*Phalaris arundinacea*), Marsh Bedstraw (*Galium palustre*), Water Mint (*Mentha aquatica*) and Water Forget-me-not (*Myosotis scorpioides*). In the wetter areas of the marsh Common Meadow-rue (*Thalictrum flavum*) is found. In the vicinity of Dowth, Fen Bedstraw (*Galium uliginosum*), a scarce species mainly confined to marshy areas in the midlands, is common in this vegetation. Swamp Meadow-grass (*Poa palustris*) is an introduced plant which has spread into the wild (naturalised) along the Boyne approximately 5 km south-west of Slane. It is a rare species which is listed in the Red Data Book and has been recorded among freshwater marsh vegetation on the banks of the Boyne in this site. The only other record for this species in the Republic is from a site in Co. Monaghan.

The secondary habitat associated with the marsh is wet grassland and species such as Tall Fescue (*Festuca arundinacea*), Silverweed (*Potentilla anserina*), Creeping Buttercup (*Ranunculus repens*), Meadowsweet (*Filipendula ulmaria*) and Meadow Vetchling (*Lathyrus*

*pratensis*) are well represented. Strawberry Clover (*Trifolium fragiferum*), a plant generally restricted to coastal locations in Ireland, has been recorded from wet grassland vegetation at Trim. At Rossnaree river bank on the River Boyne, is Round-Fruited Rush (*Juncus compressus*) found in alluvial pasture, which is generally periodically flooded during the winter months. This rare plant is only found in three counties in Ireland.

Along much of the Boyne and along tributary stretches are areas of mature deciduous woodland on the steeper slopes above the floodplain marsh or wet woodland vegetation. Many of these are planted in origin. However the steeper areas of King Williams Glen and Townley Hall wood have been left unmanaged and now have a more natural character. East of Curley Hole the woodland has a natural appearance with few conifers. Broad-leaved species include Oak (*Quercus* spp.), Ash (*Fraxinus excelsior*), Willows, Hazel (*Corylus avellana*), Sycamore (*Acer pseudoplatanus*), Holly (*Ilex aquifolium*), Horse chestnut (*Aesculus* sp.) and the shrubs Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*) and Elder (*Sambucus nigra*).

South-west of Slane and in Dowth, the addition of some more exotic tree species such as Wych Elm (*Ulmus glabra*), Beech (*Fagus sylvatica*), and occasionally Lime (*Tilia cordata*), are seen. Coniferous trees, Larch (*Larix* sp.) and Scots Pine (*Pinus sylvestris*) also occur. The woodland ground flora includes Barren Strawberry (*Potentilla sterilis*), Enchanter's Nightshade (*Circaea lutetiana*) and Ground-ivy (*Glechoma hederacea*), along with a range of ferns. Variation occurs in the composition of the canopy, for example, in wet patches alongside the river, White Willow and Alder form the canopy.

Other habitats present along the Boyne and Blackwater include lowland dry grassland, improved grassland, reedswamp, weedy wasteground areas, scrub, hedge, drainage ditches and canal. In the vicinity of Lough Shesk, the dry slopes of the morainic hummocks support grassland vegetation which, in some places, is partially colonized by Gorse (*Ulex europaeus*) scrub. Those grasslands which remain unimproved for pasture are species-rich with Common Knapweed (*Centaurea nigra*), Creeping Thistle (*Cirsium arvense*) and Ribwort Plantain (*Plantago lanceolata*) commonly present.

Fringing the canal alongside the Boyne south west of Slane, are Reed Sweet-grass (*Glyceria maxima*), Great Willowherb (*Epilobium hirsutum*) and Meadowsweet.

The Boyne and its tributaries is one of Ireland's premier game fisheries and it offers a wide range of angling from fishing for spring salmon and grilse to seatrout fishing and extensive brown trout fishing. Atlantic Salmon (*Salmo salar*) use the tributaries and headwaters as spawning grounds. Although this species is still fished commercially in Ireland, it is considered to be endangered or locally threatened elsewhere in Europe and is listed on Annex II of the Habitats Directive. Atlantic Salmon run the Boyne almost every month of the year. The Boyne is most important as it represents an eastern river which holds large three-sea-winter fish from 20 –30 lb. These fish generally arrive in February with smaller spring fish (10 lb) arriving in April/May.

The grilse come in July, water permitting. The river gets a further run of fish in late August and this run would appear to last well after the fishing season. The salmon fishing season lasts from 1st March to 30th September.

The Blackwater is a medium sized limestone river which is still recovering from the effects of the arterial drainage scheme of the 70's. Salmon stocks have not recovered to the numbers pre drainage. The Deel, Riverstown, Stoneyford and Tremblestown Rivers are all spring fed with a continuous high volume of water. They are difficult to fish in that some are overgrown while others have been affected by drainage with the resulting high banks.

The site is also important for the populations of two other species listed on Annex II of the E.U. Habitats Directive, namely River Lamprey (*Lampetra fluviatilis*) which is present in the lower reaches of the Boyne River while the Otter (*Lutra lutra*) can be found throughout the site. In addition, the site also supports many more of the mammal species occurring in Ireland. Those which are listed in the Irish Red Data Book include Pine Marten, Badger and Irish Hare. Common Frog, another Red Data Book species, also occurs within the site. All of these animals with the addition of the Stoat and Red Squirrel, which also occur within the site, are protected under the Wildlife Act.

Whooper Swans winter regularly at several locations along the Boyne and Blackwater Rivers. Parts of these areas are within the cSAC site. Known sites are at Newgrange (c. 20 in recent winters), near Slane (20+ in recent winters), Wilkinstown (several records of 100+) and River Blackwater from Kells to Navan (104 at Kells in winter 1996/97, 182 at Headfort in winter 1997/98, 200-300 in winter 1999/00). The available information indicates that there is a regular wintering population of Whooper Swans based along the Boyne and Blackwater River valleys. The birds use a range of feeding sites but roosting sites are not well known. The population is substantial, certainly of national, and at times international, importance. Numbers are probably in the low hundreds.

Intensive agriculture is the main landuse along the site. Much of the grassland is in very large fields and is improved. Silage harvesting is carried out. The spreading of slurry and fertiliser poses a threat to the water quality of this salmonid river and to the lakes. In the more extensive agricultural areas sheep grazing is carried out.

Fishing is a main tourist attraction on the Boyne and Blackwater and there are a number of Angler Associations, some with a number of beats. Fishing stands and styles have been erected in places. The Eastern Regional Fishery Board have erected fencing along selected stretches of the river as part of their salmonid enhancement programme. Parts of the river system have been arterially dredged. In 1969 an arterial dredging scheme commenced and disrupted angling for 18 years. The dredging altered the character of the river completely and resulted in many cases in leaving very high banks. The main channel from Drogheda upstream to Navan was left untouched, as were a few stretches on the Blackwater. Ongoing maintenance dredging is carried out along stretches of the river system where the gradient is low.

This is extremely destructive to salmonid habitat in the area. Drainage of the adjacent river systems also impacts on the many small wetland areas throughout the site. The River Boyne is a designated Salmonid Water under the EU Freshwater Fish Directive.

The site supports populations of several species listed on Annex II of the EU Habitats Directive, and habitats listed on Annex I of this directive, as well as examples of other important habitats. Although the wet woodland areas appear small there are few similar examples of this type of alluvial wet woodland remaining in the country, particularly in the north-east. The semi-natural habitats, particularly the strips of woodland which extend along the river banks and the marsh and wet grasslands, increase the overall habitat diversity and add to the ecological value of the site as does the presence of a range of Red Data Book plant and animal species and the presence of nationally rare plant species.

19.06.2003

## **SITE SYNOPSIS**

### **SITE NAME: BOYNE COAST AND ESTUARY**

### **SITE CODE: 001957**

Boyne Coast and Estuary is a coastal site which includes most of the tidal sections of the River Boyne, intertidal sand and mud flats, salt marshes, marginal grassland, and the stretch of coast from Bettystown to Termonfeckin that includes the Mornington and Baltray sand dune systems.

The Boyne River channel, which is navigable and dredged, is defined by training walls, these being breached in places. Intertidal flats occur on the sides of the channelled river. The sediments vary from fine muds in the sheltered areas to sandy muds or sands towards the river mouth. The linear stretches of intertidal flats to the north and south of the river mouth are mainly composed of sand. One or more species of Eelgrass (*Zostera* spp.) occur in the estuary.



Parts of the intertidal areas are fringed by salt marshes, most of which are of the Atlantic type, and dominated by Sea-purslane (*Halimione portulacoides*). Other species present include Common Saltmarsh-grass (*Puccinellia maritima*), Sea Plantain (*Plantago maritima*), Lax-flowered Sea-lavender (*Limonium humile*) and Glasswort (*Salicornia* spp.). Common Cord-grass (*Spartina anglica*) occurs frequently on the flats and salt marshes.

The two sand dune systems in the site, at Baltray and Mornington, are of conservation value, despite the restricted distribution of the intact areas and the high recreational pressure to which they are subjected. A gradient from embryonic dunes to Marram dunes and then fixed dunes is shown at both systems. The embryonic dunes are particularly well-developed at Baltray where there is active accretion. Species present include Sand Couch (*Elymus farctus*), Lyme-grass (*Leymus arenarius*), Marram, (*Ammophila arenaria*), Sea Sandwort (*Honkenya peploides*) and Prickly Saltwort (*Salsola kali*). The embryonic dunes grade into a narrow band of shifting Marram dunes. Marram is dominant, though there are also such species as Cat's-ear (*Hypochoeris radicata*), Mouse-ear Hawkweed (*Hieracium pilosella*) and Dandelion (*Taraxacum officinale*). The areas of fixed dunes on the site have a typical diversity of species, including Marram, Red Fescue (*Festuca rubra*), Wild Carrot (*Daucus carota*), Common Bird's-foot-trefoil (*Lotus corniculatus*), Common Restharrow (*Ononis repens*), Wild Thyme (*Thymus praecox*), Lady's Bedstraw (*Galium verum*) and Wild Pansy (*Viola tricolor*). Vegetation dominated by bryophytes and lichens is limited, though such species as *Brachythecium albicans*, *Hypnum cupressiforme*, *Peltigera canina* and *Cladonia* spp. occur. Some dune slacks may still occur at the site. A number of scarce plants such as Viper's-bugloss (*Echium vulgare*), Adder's-tongue (*Ophioglossum vulgatum*), Variegated Horsetail (*Equisetum variegatum*) and Wild Sage (*Salvia verbenaca*) have been recorded from the site in the past. The lastnamed species is of particular note as it is a Red Data Book species at its most northerly known Irish station.

The site supports a population of the rare snail, *Helix pisana*, in Ireland known only from the coast between counties Louth and Dublin. The Boyne is the second most important estuary for wintering birds on the Louth-Meath coastline. From a recent wetland survey carried out over 4 seasons (1994/95-97/98), it is known that this site supports nationally important numbers of Shelduck (176 individuals), Golden Plover (5,338), Lapwing (4,755), Knot (1,559), Black-tailed Godwit (414), Redshank (639), Turnstone (104), Oystercatcher (922), Grey Plover (112) and Sanderling (93).

Other species of regional or local importance include Brent Goose (142), Wigeon (485), Teal (185), Mallard (160), Dunlin (627), Curlew (352) and Ringed Plover (c. 100). An area of shingle at Baltray Dunes is also an important breeding site for Little Tern, with 14 pairs recorded in 1995. Little Tern is the rarest Irish tern species, and is listed on Annex I of the E.U. Birds Directive. Part of the estuary is a Wildfowl Sanctuary and has been designated a Special Protection Area under the E.U. Birds Directive.

In general the site has been somewhat modified by human activities. The river is regularly dredged to accommodate cargo ships, which can cause disturbance to the bird, fish and invertebrate communities in the estuary. Several factories operate upstream from the estuary and pollution and disturbance associated with them has had an impact on the ecology of the area. There is a proposal to create a deep water facility at the north end of Mornington Dunes on the mouth of the Boyne estuary. The site is of considerable conservation as a coastal complex that supports good examples of eight habitats that are listed on Annex I of the E.U. Habitats Directive (estuaries, tidal mudflats, *Salicornia* mud, Atlantic salt meadows, Mediterranean salt meadows, embryonic shifting dunes, Marram dunes and fixed dunes) and for the important bird populations that it supports.

- **Provide a statement as to whether or not emissions of main polluting substances (as defined in the *Dangerous Substances Regulations S.I. No. 12 of 2001*) to water are likely to impair the environment.**

The level of dangerous substances both in the effluent and in the Athboy River as detailed in Tables D1 and Tables F1 show a level below that in S.I. No. 12 of 2001 and therefore the emissions are not considered likely to impair the environment.

- **In circumstances where water abstraction points exist downstream of any discharge describe measures to be undertaken to ensure that discharges from the waste water works will not have a significant effect on faecal coliform, salmonella and protozoan pathogen numbers, e.g., Cryptosporidium and Giardia, in the receiving water environment.**

The closest water abstraction point is at Trim in the River Boyne. This is 16km downstream of the confluence with the Athboy River (called Tremblestown River at confluence with the River Boyne).

The provision of secondary biological treatment and the removal of storm overflows within the network reduces the level of faecal coliforms, salmonella and pathogens being discharged into the receiving water environment. The long distance between the primary discharge point and any water abstractions and the high level of dilution means that there will be a negligible impact on the water abstraction. The dilution factor in the Athboy River (at DWF and 95 percentile flow in the river) is 11.25. This is further diluted by a factor of approximately 15 in the River Boyne, i.e. a total dilution factor of greater than 160.

There are three water abstraction points in the River Boyne downstream of the outfall point. Details of these abstraction points are included in Table F2. Due to the distance from the outfall point and the high level of dilution it is not considered that the outfall from Athboy has any significant impact on the water quality at the abstraction points.

- **Indicate whether or not emissions from the agglomeration or any plant, methods, processes, operating procedures or other factors which affect such emissions are likely to have a significant effect on**

- (a) a site (until the adoption, in respect of the site, of a decision by the European Commission under Article 21 of Council Directive 92/43/EEC for the purposes of the third paragraph of Article 4(2) of that Directive) —
- (b) a site adopted by the European Commission as a site of Community importance for the purposes of Article 4(2) of Council Directive 92/43/EEC<sup>1</sup> in accordance with the procedures laid down in Article 21 of that Directive,
- (c) a special area of conservation within the meaning of the Natural Habitats Regulations, or
- (d) an area classified pursuant to Article 4(1) or 4(2) of Council Directive 79/409/EEC<sup>2</sup>;

The River Boyne and River Blackwater (Kells) is designated as an SAC. This site comprises the freshwater element of the River Boyne as far as the Boyne Aqueduct, the Blackwater as far as Lough Ramor and the Boyne tributaries. It is

designated as a sensitive water downstream of Navan. The estuary of the River Boyne is also designated as an SAC. Details of the SAC's are given above. The impact of the discharge from the wastewater treatment works has been discussed with the National Parks and Wildlife Service and the impact was also examined in the waste assimilative capacity of the River Athboy. The overall impact is considered to be acceptable (See attached correspondence from NPWS).

**Fiona Lane**

**From:** Maurice Eakin [maurice\_eakin@environ.ie]

**Sent:** 09 September 2008 16:38

**To:** Fiona Lane

**Cc:** Ciara Flynn; Linda Patton; Padraig Comerford

**Subject:** Re: Wastewater Discharge Licences for County Meath

**Attachments:** ATT00001.c

ATT00001.c (1 KB)

Fiona

I understood from the EU guidelines on AA (section 3.1.1) that the competent authority was the one who issued the licences and that they were required to carry out the screening, in this case that would be the EPA. NPWS would be a statutory consultee. We have not the competency to assess these licence application re Appropriate Assessment. Since the River Boyne and Blackwater are SAC designated for Salmon, Otter and Lamprey then any discharge should be sufficiently 'clean' to ensure no negative impacts on these species, primarily Salmon. The Fisheries Board would be better placed to assess the application re salmonid impacts.

regards

Maurice

Dr. Maurice Eakin

National Parks and Wildlife Service

Department of Environment, Heritage and Local Government, Government Buildings, Kilcarn, Athlumney, Navan, Co. Meath

>>> Fiona Lane <flane@nodwyer.com> 08/21/08 12:18 PM >>>

Maurice,

We are currently preparing Wastewater Discharge Licences for six wastewater treatment plants in County Meath. I was given your

contact details by Meath County Council. We would like to get your input or comments on any impacts on any designated European Sites.

The six wastewater treatment plants are as follows:

Athboy WWTP - discharging to the Athboy River Duleek WWTP - discharging to the River Nanny Enfield-Johnstownbridge WWTP - discharging to the Blackwater (Longwood) Castletown-Tara (Dunshaughlin) WWTP - discharging to the River Boyne Kells WWTP - discharging to the Blackwater (Kells) Trim WWTP - discharging to the River Boyne

We are currently preparing information on waste assimilative capacity, storm overflows etc. for submission with the Wastewater Discharge Licence Application. A summary of the design population equivalents, flows and treatment standards are attached.

There are approved Environmental Impact Statements available for the larger plants at Trim and Castletown Tara.

Would you be able to comment on whether an appropriate assessment is required for any of the above schemes. We are available to meet with you to discuss each of the schemes and provide additional information as required or if you want to contact me I can discuss further.

Regards,

Fiona Lane  
Senior Engineer

Nicholas O'Dwyer Consulting Engineers  
Nutmeg Office Park  
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- **Describe, where appropriate, measures for minimising pollution over long distances or in the territory of other states.**

The impact of the discharge from the wastewater treatment plant in Athboy has been calculated in the Waste Assimilative Capacity calculations above. This shows that the impact of the discharge can be assimilated into the river and will not have a pollution effect over long distances.

- **This section should also contain full details of any modelling of discharges from the agglomeration. Full details of the assessment and any other relevant information on the receiving environment should be submitted as Attachment F.1.**

No modelling of the discharge to the Athboy River has been carried out. However, the impact of the discharge from the wastewater treatment plant in Athboy has been calculated in the Waste Assimilative Capacity calculations above.



## **ATTACHMENT No: F2**

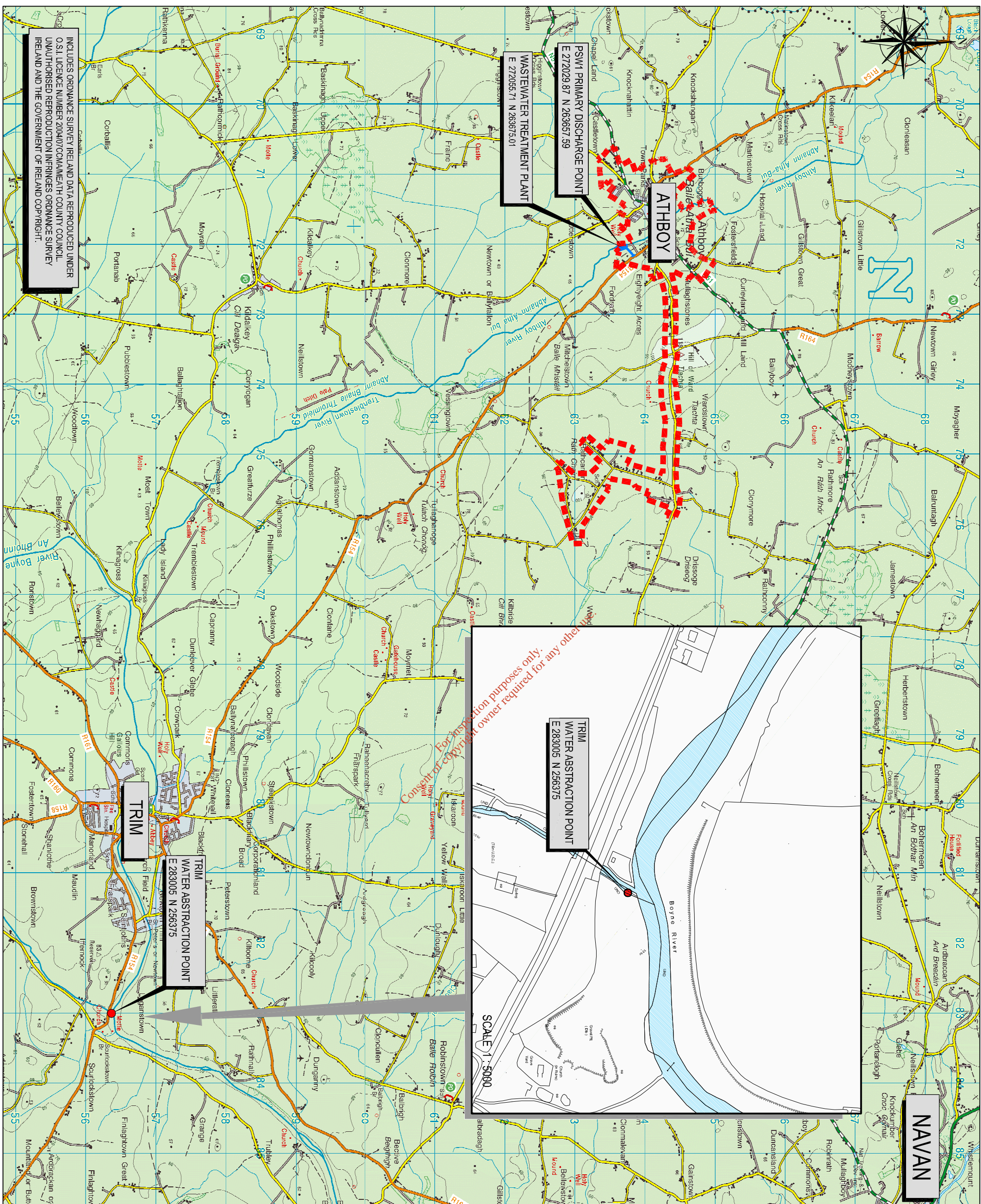
### **Drinking Water Abstraction Point(s)**

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Athboy WWTW - Table D2

ABS_CD	AGG_SERVED	ABS_VOL	PT_CD	DIS_DS	EASTING	NORTHING	VERIFIED
Abstraction Code	Agglomeration served	Abstraction Volume in m3/day	Point Code Provide label ID's	Distance Downstream in meters from Emission Point to Abstraction Point	6E-digit GPS Irish National Grid Reference	6N-digit GPS Irish National Grid	Y = GPS used N = GPS not used
TRIM WTP  Trim Supply code: 2300PUB1009	8140	3200		Athboy WWTP to Trim Abstraction point = 16000m	283005	256375	Y

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REV	DATE	DESCRIPTION	D	C	A

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Railway St.,  
Navan,  
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# WASTE WATER LICENCE APPLICATION FOR ATHBOY WWTW

## F2. ATHBOY, LOCATION OF WATER ABSTRACTION POINTS

SCALES 1:50,000@A3 1:5000	DRAWN	CHECKED	APPROVED
	D. Rinzulus	P. McAtree	F. Lane
	DATE	DATE	DATE
	19-09-2008	19-09-2008	19-09-2008

DRAWING No.

20285-DL-AY-11

## **ATTACHMENT No: G1**

### **Compliance with Council Directives - Programme of Improvement**

(Approved funding and a timeframe for completion)

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## **Summary of Relevant Council Directives**

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

This Directive concerns pollution caused by certain dangerous substances discharged into the aquatic environment of the EU.

Monitoring for dangerous substances in the final effluent was carried out on two occasions. An average of both results was taken and is tabulated in Table D1. Concentrations of Table 1 parameters, Pesticides and Solvents in the receiving water are lower than the prescribed maxima for all parameters.

Calculated concentrations of Table 2 parameters, Metals and Other Substances in the receiving water at DWF, are lower than the prescribed maxima in all cases.

No further works are required to ensure compliance with the Dangerous Substances Directive

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

The WFD sets a framework for comprehensive management of water resources in the European Union, within a common approach and with common objectives, principles and basic measures. It addresses inland surface waters, estuarine and coastal waters and groundwater. The fundamental objective of the Water Framework Directive aims at maintaining "high status" of waters where it exists, preventing any deterioration in the existing status of waters and achieving at least "good status" in relation to all waters by 2015. Member States will have to ensure that a co-ordinated approach is adopted for the achievement of the objectives of the WFD and for the implementation of programmes of measures for this purpose. The improvements made to the treatment works as part of the upgrade works will enable the objectives of this Directive to be met.

- **The Birds Directive 79/409/EEC**

This Directive and amending acts, aim at providing long term protection and conservation of all bird species naturally living in the wild within the European territory of the Member States. These member states must conserve, maintain or restore the biotopes and habitats of birds by creating protection zones such as SPAs.

The River Athboy forms part of the River Boyne and River Blackwater SAC. The upgrade to the wastewater treatment works currently underway will improve the effluent quality being discharged to the SAC.

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

Not Applicable.

- **The Drinking Water Directives 80/778/EEC**

Not Applicable.

- **The Urban Waste Water Treatment Directive 91/271/EEC**

The upgrade works to Athboy WwTP will ensure compliance with this Directive. The effluent standards to be adopted are as per the table below:

Parameter	Concentration (mg/l)
BOD5	25
Total Suspended Solids	35
COD	25
Total Nitrogen	20
Phosphorus (MRP)	1.0

▪ **The Habitats Directive 92/43/EEC**

The main aim of the EC Habitats Directive is to promote the maintenance of biodiversity by requiring Member States to take measures to maintain or restore natural habitats and wild species at a favourable conservation status, introducing robust protection for those habitats and species of European importance. Protection zones for annexed species such as SACs were designated as part of this Directive.

The River Athboy forms part of the River Boyne and River Blackwater SAC. The upgrade to the wastewater treatment works currently underway will improve the effluent quality being discharged to the SAC.

▪ **The Environmental Liabilities Directive 2004/35/EC**

Regard to the EPA Guidance on Environmental Liability Risk Assessment, Residuals Management Plans and Financial Provision was made during completion of this application. The proposed upgrade works planned will serve to enhance compliance with this Directive.

▪ **The Bathing Water Directive 76/160/EEC**

Not Applicable.

▪ **Shellfish Waters Directive (79/923/EEC)**

Not Applicable

**Programme of Improvements**

The Athboy Wastewater Treatment Plant is currently being replaced. The scheme will be complete in December 2009. The existing works is generally in compliance with Council Directives. However, the plant is overloaded and the new plant will provide a higher level of effluent treatment and enhance compliance with Council Directives.



## **ATTACHMENT No: G2**

# **Compliance with Water Quality Standards for Phosphorus Regulations - Programme of Improvement**

(Approved funding and documentation)

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Chemical dosing facilities have been provided on the Athboy WWTP to ensure compliance with the Water Quality standards for Phosphorus Regulations.

Compliance with the final effluent standard of 1 mg/l of Phosphorus (MRP) will ensure compliance with these Regulations.

As stated in Attachment C1, section 2.3, phosphorous will be removed using the chemical dosing of Ferric Sulphate ( $\text{Fe}_2\text{SO}_4$ ). Ferric Sulphate will be dosed into the distribution chamber flow proportionally i.e. simultaneous precipitation, because polyphosphates and organic phosphorous are less easily removed than ortho-phosphorus. The ferric sulphate is dosed into the process prior to the SBR tanks.

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## **ATTACHMENT No: G3**

### **Impact Mitigation - Programme of Improvement**

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### **Programme of Improvements**

The Athboy Wastewater Treatment Plant is currently being replaced. The scheme will be complete in December 2009. The existing works is generally in compliance with Council Directives. However, the plant is overloaded and the new plant will provide a higher level of effluent treatment and enhance compliance with Council Directives. The replacement of the main pumping station in Athboy will reduce the potential for storm overflow directly to the Athboy River.

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## **ATTACHMENT No: G4**

### **Stormwater Overflow - Programme of Improvement**

(Approved funding and a timeframe for completion)

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### **Programme of Improvements**

The Athboy Wastewater Treatment Plant is currently being replaced. The scheme will be complete in December 2009. The existing works is generally in compliance with Council Directives. However, the plant is overloaded and the new plant will provide a higher level of effluent treatment and enhance compliance with Council Directives. The replacement of the main pumping station in Athboy will reduce the potential for storm overflow directly to the Athboy River. Details of the stormwater holding tanks being provided at the wastewater treatment plant are included below.

### **New Stormwater Facilities**

The Athboy Wastewater Plant provides for storm water treatment as described below, thereby complying with Regulation 3 of the Waste Water Discharge (Authorisation) Regulations, 2007.

<b>No. Pumps Required:</b>	2No. (Duty/Standby)
<b>Flow Rate:</b>	163.1 m <sup>3</sup> /h
<b>Tank Volume:</b>	1,100 m <sup>3</sup>
<b>Storm Tank Dimensions:</b>	17m x 15m x 5m side wall
<b>Storm Tank Cleaning System:</b>	Tipping Buckets

Should flows to the inlet works exceed the capacity of the peak design flow of 3 DWF (163.1m<sup>3</sup>/hr), then excess sewage overflows to the storm tank via a storm overflow wall in the inlet works channel. Should the retention capacity of the storm tank be exceeded then the screened sewage overflows via a bellmouth to the outlet manhole.

When the storm abates wastewater retained in the tank shall be drawn off and will rejoin the main process at the Grit removal stage. There is 2No VSD delivery storm return pumps located in a hopper in the floor of the tank. They operate in a duty/standby configuration.

### **Outlet Manhole**

Under prolonged storm conditions where the storm tank capacity is exceeded, storm water will overflow to the outlet manhole. Here it combines with flow from the final effluent chamber and continues to the river Athboy via an outfall.