Monaghan
COUNTY COUNCIL
COMHAIRLE CONTAE
MHUINEACHÁIN

Arts
047 71114

Community &
Enterprise
047 30500

County Library
047 51143

County Museum
047 82928

Environment
047 30593

Finance
047 30589

Fire/Building Control
047 30521

Higher Education
Grants
047 30550

Housing Estate
Management
047 30529

Housing Loans/Grants
047 30527

Human Resource
Management
047 30586

Motor Tax
047 81175

Planning
047 30532

Register of Electors
047 30547

Roads
047 30597

Water Services
047 30504

10th April 2010

Administration,
Environmental Licensing Programme,
Office of Climate, Licensing & Resource Use,
Environmental Protection Agency,
Headquarters,
PO Box 3000,
Johnston Castle Estate,
Co. Wexford.

Re: Notice in Accordance with Regulation 25(c) (ii) of the Waste Water Discharge (Authorisation) Regulations 2007

A Chara,

Further to your correspondence of the 7th April 2010, please find enclosed the following documentation and accompanying CD-ROMs relating to our application for nine Waste Water Discharge Certificates of Authorisations (A0020-01, A0029-01, A0031-01, A0032-01, A0033-01, A0034 -01, A0035-01, A0036-01 and A0037-01):

- Appropriate Assessment for each agglomeration - Original + 1 copy
- Amended Non-Technical Summary for each agglomeration - Original + 1 copy
- CD-ROM of each Appropriate Assessment & Amended Non-Technical Summary

I trust you will find everything in order, however should you require any further information, please do not hesitate to contact me.

Mise le Meas,

Mark Johnston

Senior Executive Engineer.

Monaghan County Council, Council Offices, The Glen, Monaghan, Ireland
Tel 00353 47 30500 | Fax 00353 47 82739 | Email info@monaghancoco.ie

ORAM WASTE WATER TREATMENT WORKS

WASTE WATER DISCHARGE CERTIFICATE OF AUTHORISATION

Revised Non Technical Summary

Monaghan County Council
County Offices
The Glen
Co. Monaghan

May 2010

Oram - Revised Non Technical Summary

Monaghan County Council is making an application to the Environmental Protection Agency (EPA) for a Waste Water Discharge Certificate of Authorisation for the Oram Waste Water Treatment Plant (WWTP) and agglomeration in compliance with the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007).

Under Schedule 2 of the above regulations, the prescribed date for submission of Waste Water Discharge Licence Applications for agglomerations (with discharges with a population equivalent of less than 500 PE) is 22nd December 2009. The WWTP at Oram falls under this category, having an agglomeration with a design PE of 150 and a current estimated PE of 93.

The primary discharge of the Waste Water Works is to the Oram Stream (at National Grid Reference 285597E, 322911N) in the townland of Formil (Ed Church Hill), Oram, County Monaghan, Co Monaghan. The associated Waste Water Treatment Plant is located at 285614E 322877N also in the townland of Formil (Ed Church Hill), Oram Co. Monaghan.

The waste water treatment plant comprises of settlement, followed by a rotating biological contactor and clarification by reed beds. Sludge from the Oram Waste Water Treatment plant is tankered to Castleblayney WWTP for treatment. The plant is supervised/manned for 2 hours Monday to Friday giving a total of 10 hours a week.

The Oram stream is situated within the Neagh Bann IRBD and Fane River catchment. The Oram Stream flows into the Gentle Owen Lake Stream approximately 350m upstream of Muckno Mill Lough. The Oram Stream or the Gentle Owen Lake Stream are not identified as a "sensitive" waterway under the Urban Waste Water Treatment Regulations S.I. 254 2001 nor are they classified as a "salmonid river" under S.I. 293 of 1988.

Muckno Mill Lough is not designated under the Urban Waste Water Treatment Regulations S.I. 254 of 2001. The EPA has classified as being highly eutrophic. Under the WFD its overall status is moderate and overall objective is to restore. It is classified as 1b, hence it is at risk of not achieving good status by 2015. The EPA has described the lough as having heavy siltation and the effects of watering cattle which have combined to reduce biological quality upstream of Muckno Mill Lough but quality had improved considerably below this lake since 2000.

Downstream (approximately 2km) of the discharge point is Lough Muckno which is designated as nutrient sensitive under the Urban Waste Water Treatment Regulations S.I. 254 2001.

The Oram WWTW is not in or on the boundary of an NHA, SAC or SPA. The discharge is not immediately downstream of a nature conservation sites with water dependent habitats or species. The nearest conservation site downstream is Muckno Lake NHA which is approximately 4km downstream of the discharge point. Drumakill Lough NHA is approximately 2.8km south of the discharge point (as the crow flies) and Lough Smiley NHA is located approximately 4km southwest of the discharge location.

Taking cognisance of the DoEHLG Circular L8/08 "Water Services Investment and Rural Water Programmes - Protection of Natural Heritage and National Monuments", a pre-screening and Appropriate Assessment Screening was carried out to determine the likely impacts on the Muckno Lake NHA, Drumakill Lough NHA and Lough Smiley NHA of the Oram waste water discharge and to consider whether these effects are likely to be significant.

It was concluded that the discharge from the Oram WWTW will not have any significant adverse impacts on the conservation objectives or integrity of the Muckno Lake NHA, Drumakill Lough NHA and Lough Smiley NHA and therefore, Stage 2 of the Appropriate Assessment process was not required.

The treated effluent from the WwTW has an average BOD concentration of 4.2mg/l and average suspended solids concentration of 19.1mg/l and COD concentration of 45.6mg/l. Average concentrations of nutrients are as follows; orthophosphate 8.9mg/l (P), average Total Phosphorus 2.9mg/l (P) and Total Nitrogen 1.8mg/l (N).

The nearest biological monitoring station downstream of the discharge is the Br 1.5km d/s Muckno Mill L (Station No: 0100) on the Gentle Owens Lake Stream (Biological Station Number: 0100). The baseline Q value at this station was 3. The current MRP value is 30ug/l and the current Q Value (2003-2005) is 4 (good status).

The nearest biological monitoring station upstream of the discharge is the Br in Creaghanroe on the Gentle Owens Lake Stream (River Code 06G04). The baseline Q value at this station was 4-5. The current MRP value is 40ug/l and the current Q Value (2003-2005) is 3-4. The standard to be achieved by 2007 was 4-5 or 30ug/l. Neither standard was achieved. This was due to suspected commercial pollution. However, 2006 and 2009 data at this monitoring location gave a river water quality of 4.

EPA physiochemical water quality monitoring data is available for the EPA monitoring station Br 1.5km d/s Muckno Mill L (Station No: 0100) on the Gentle Owens Lake Stream (Biological Station Number: 0100) for 2001 to 2003. The results from this monitoring would indicate that this body of water is meeting the objectives for good status as outlined of European Communities Environmental Objectives (Surface Waters) Regulations 2009.

Monaghan Co. Co. monitored the river both upstream and downstream of the discharge from the Waste Water Works on 6/10/09 (see Table below).

	Upstream	**Downstream**
BOD (mg/l)	<2	<2
TSS (mg/l)	20	5
Total N (mg/l N)	8.46	1.65
Ammonia (mg/l NH_3-N	0.54	0.01
Total P (mg/l)	0.02	0.08
Ortho Phosphate (mg/l)	0.017	0.02

With regard to dangerous substances (October 2009), downstream concentrations were below the detection level for 15 of the 19 parameters and upstream concentration were below the level of detection for 14 of the 19 parameters. No levels upstream and downstream exceeded the standards as outlined in the Water Quality (Dangerous Substances) Regulations 2001.

Due to lack of flow data on the receiving water, the assimilative capacity was unable to be calculated. However, at present the waste water treatment plant is meeting the required standards as set out in the Urban Waste Water Regulations 2001(S.I 254 of 2001) for the limits set on BOD, COD and suspended solids and the water quality monitoring results (EPA and Monaghan County Council Data) indicate that the Environmental Objective contained within the Surface Water Regulations 2009 (S.I. No. 272 of 2009) are being met.

Monaghan County Council

Oram Waste Water Discharge Certificate of Authorisation (A0033-01)

Appropriate Assessment for the purposes of the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No 684 of 2007)

Date: May 2010

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1 Introduction

1.1 Background

As required under the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No 684 of 2007), Monaghan County Council submitted nine Certificates of Authorisation applications to the EPA on 22nd December 2009. The WwTW's concerned are Threemilehouse, Tydavnet, Clontibret, Knockatallon, Oram, Carrickroe, Drum, Magheracloone and Tyholland.

This report has been produced to support the Waste Water Certificate of Authorisation application for the Oram agglomerations (EPA Application Register Numbers A0033-01) and to form a response to the EPA correspondence of 7th April 2010 (in line with Regulation 25 c (ii) of the Waste Water Discharge (Authorisation) Regulations 2007) which requested Monaghan County Council to:

"*Assess the likelihood of significant effects of the waste water discharges from the above agglomerations on the relevant European sites by referring to Circular L8/08 "Water Services Investment and Rural Water Programmes - Protection of Natural Heritage and National Monuments" issued by the Department of Environment Heritage and Local Government. In particular, the flow diagram in Appendix 1 should be completed within one month of the date of this notice. If significant effects are likely then an appropriate assessment must be carried out and a report of this assessment forwarded to the Agency within one month of the date of this notice*".

1.2 Appropriate Assessment Legislation

Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora - the "Habitats Directive" - provide legal protection for habitats and species of European importance. The Directives requires the maintenance or restoration of habitats and species of European Community interest, at a favourable conversation status and provides the legislation to protect habitats and species of community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000 sites.

Natura 2000 sites are Special Areas of Conservation (SAC) designated under the Habitats Directive and Special Protection Areas (SPA) designated under the Conservation of Wild Birds Directive (79/409/EEC). Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans or projects affecting Natura 2000 sites.

Article 6(3) establishes the requirement for Appropriate Assessment:

Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.

Article 6(4) of the Directive deals with alternative solutions, the test of "imperative reasons of overriding public interest" (IROPI) and compensatory measures:

If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

1.3 Waste Water Discharge (Authorisation) Regulations, 2007

All discharges to the aquatic environment from sewerage systems owned, managed and operated by water service authorities will require a waste water discharge licence or certificate of authorisation from the EPA. The authorities are required to apply to the Agency for a licence or certificate of authorisation by set dates depending on the population equivalent of the area served by the sewer network.

The authorisation process provides for the Agency to place stringent conditions on the operation of such discharges to ensure that potential effects on the receiving water bodies are strictly limited and controlled. In overall terms the aim is to achieve good surface water and ground water status in addition to complying with standards and objectives established for associated protected areas by 2015 at the latest.

1.4 Methodology

1.4.1 Initial Screening of Projects

In order to identify potential ecological constraints, all water services projects (in this case the Oram Waste Water Treatment Plants and associated discharges), should be subjected to initial screening in accordance with the initial screening checklist in the *Circular L8/08 Water Services Investment and Rural Water Programmes – Protection of Natural Heritage and National Monuments (September 2008)* (see **Table 1** below). This process will confirm if the project is required to be screened for impacts (as per Appendix 1 Circular L8/08 DoEHLG Sept 2008).

Table 1: Initial Screening for Waste Water Services Infrastructure Projects

Initial Screening (as per DoEHLG Circular L8/08 September 2008)
1. Is the development in or on the boundary of a nature conservation site NHA/SAC/SPA?
2. Will nationally protected species be directly impacted? Wildlife Acts (1976 and 2000), Flora Protection order (S.I. 94 of 1999)?
3. Is the development a surface water discharge or abstraction in the surface water catchment, or immediately downstream of a nature conservation site with water dependant qualifying habitats/ species?
4. Is the development a groundwater discharge or abstraction in the ground water catchment or within 5km of a nature conservation site with water-dependant qualifying habitats/species?
5. Is the development in the surface water or groundwater catchment of salmonid waters?
6. Is the treatment plant in an active or former floodplain or flood zone of a river, lake, etc?
7. Is the development a surface discharge or abstraction to or from marine waters and within 3km of a marine nature conservation site?
8. Will the project in combination with other projects (existing and proposed) or changes to such projects affect the hydrology or water levels of sites of nature conservation interest or the habitats of protected species?

1.4.2 Appropriate Assessment Screening (Stage 1)

Where initial screening reveals that a project is required to be screened for impacts, an Appropriate Assessment Screening must be carried out in accordance with the Appendix 1 Flow Diagram of the DoEHLG Circular 08/08 (see **Figure 1** below).

The flow diagram in the DoEHLG Circular 08/08 will be used to screen for impacts. If the conclusion of the screening outlined in this Natura 2000 Screening Protocol is to "Assess Impacts", then Stage 2 Appropriate Assessment will be required to be carried out.

This screening methodology is designed to assist those planning and designing water services solutions when determining whether Appropriate Assessment for Natura 2000/European sites or habitats & species listed in the annexes of the EU Birds and Habitats Directives is necessary or not. It also should also be applied to Natural Heritage Areas (NHAs).

1.4.3 Appropriate Assessment (Stage 2)

In Stage 2 of this process, the impact(s) of the project or plan on the integrity of the European Site is considered with respect to the Conservation Objectives of the site.

The impact of the discharges from the WwTW on the integrity of the European Designated Site(s) will be considered with respect to the Conservation Objectives of the site. This involves acquiring adequate information on the project, in this case the WWTWs, predicting the likely effects (direct, indirect, short and long term, isolated, interactive and cumulative) and their impacts on the conservation objectives and status of the European Designated Site. Finally, mitigation measures will need to be identified and assessed against the adverse effects the project is likely to cause.

This Appropriate Assessment process has been prepared in accordance with EPA guidance notes and Department of Environment Heritage and Local Government Circular Letter L8/08 (September 2008) with data from the NPWS, EPA and Water Matters web site, in combination with Monaghan County Council data.

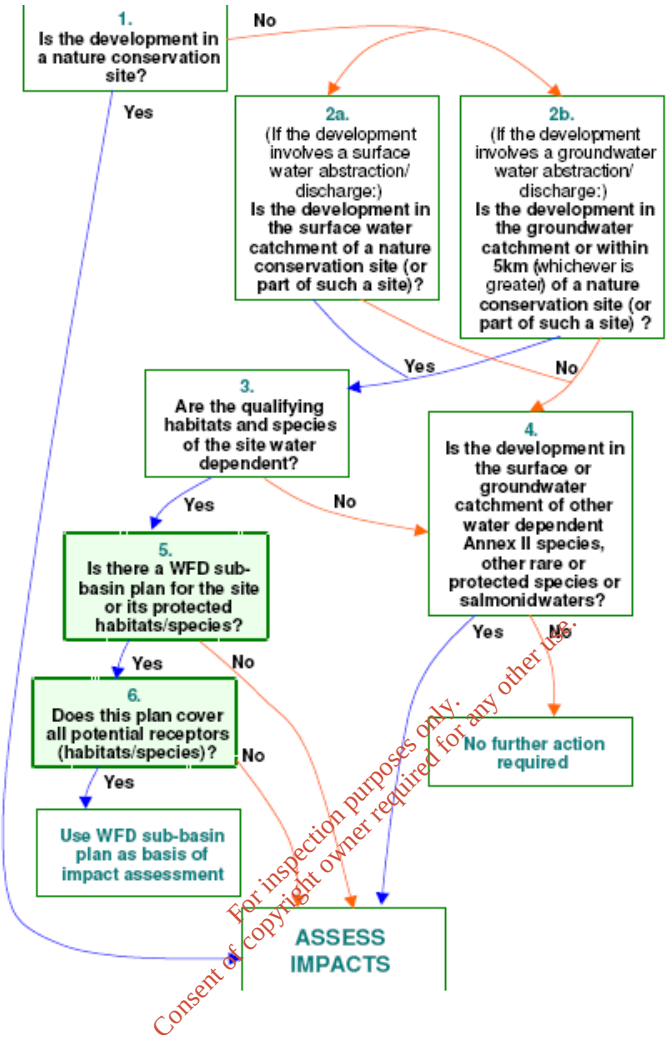

Figure 1. Flow Diagram for Screening Water Services Infrastructure Projects (Source: DoEHLG Circular L08/08 Sept 2008)

2 Pre Screening

As per the DoEHLG Circular 08/08, pre-screening is required to determine whether water services projects (in this case, Oram Waste Water Treatment Plant Discharge) must be screened for impacts. If the answer is "yes" to any of the pre-screening questions, Stage 1 Appropriate Assessment Screening, must be carried out. If the conclusion of the screening outlined in the Natura 2000 Screening Protocol is to "Assess Impacts", then an Appropriate Assessment must be prepared.

The requirement to screen for impacts will be determined in the sub section below.

2.1 Oram WWTW

2.1.1 Background

The Waste Water Works serving the Oram comprises a network of gravity sewers, and associated rising main and a Waste Water Treatment Works with a design capacity of 150 PE. The current capacity of the plant is approximately 93 PE.

The primary discharge of the Waste Water Works is to the Oram Stream (at National Grid Reference 285597E, 322911N) in the townland of Formil (Ed Church Hill), Oram, County Monaghan, Co Monaghan. The associated Waste Water Treatment Plant is located at 285614E 322877N also in the townland of Formil (Ed Church Hill), Oram Co. Monaghan.

A programme of works / improvements is planned for Oram WwTW (potential timescale within next 3 years). This potential programme will lead to the addition of parallel treatment units, i.e. primary settlement, secondary biological treatment (likely RBC), final settlement, to provide an additional plant capacity of 300PE. Tertiary treatment will be in the form of the existing reed beds. This programme is dependent on funding available.

The Oram Stream or the Gentle Owen Lake Stream are not identified as a "sensitive" waterway under the Urban Waste Water Treatment Regulations S.I. 254 of 2001 nor are they classified as a "salmonid river" under S.I. 293 of 1988. The receiving water is not designated under the Habitats Directive.

Muckno Mill Lough is not designated under the Urban Waste Water Treatment Regulations S.I. 254 2001. The EPA has classified as being highly eutrophic. Under the WFD its overall status is moderate and overall

objective is to restore. It is classified as 1b, hence it is at risk of not achieving good status by 2015. EPA has described the lough as having heavy siltation and the effects of watering cattle which have combined to reduce biological quality upstream of Muckno Mill Lough but quality had improved considerably below this lake since 2000.

Further information on the Oram Waste Water agglomeration is contained in Monaghan County Council's Waste Water Certificate of Authorisation application (Ref: A0033-01).

2.1.2 Oram Pre-Screening

Table 2. The Requirement to Screen the Tyholland WwTW for Impacts

Oram WwTW	Answer
1. Is the development in or on the boundary of a nature conservation site NHA/SAC/SPA?	No
2. Will nationally protected species be directly impacted? Wildlife Acts (1976 and 2000), Flora Protection order (S.I. 94 of 1999)?	No
3. Is the development a surface water discharge or abstraction in the surface water catchment or immediately downstream of a nature conservation site with water dependant qualifying habitats/ species?	Yes
4. Is the development a groundwater discharge or abstraction in the ground water catchment or within 5km of a nature conservation site with water-dependant qualifying habitats/species?	No
5. Is the development in the surface water or groundwater catchment of salmonid waters?	No
6. Is the treatment plant in an active or former floodplain or flood zone of a river, lake, etc.?	No
7. Is the development a surface discharge or abstraction to or from marine waters and within 3km of a marine nature conservation site?	No
8. Will the project in combination with other projects (existing and proposed) or changes to such projects affect the hydrology or water levels of sites of nature conservation interest or the habitats of protected species?	No

The Oram WWTW is not in or on the boundary of an NHA, SAC or SPA. The discharge is not immediately downstream of a nature conservation sites with water dependent habitats or species. The nearest conservation site downstream is Muckno Lake NHA (Site Code 000563) which is approximately 4km downstream of the discharge point (see **Figure 3** below).

Muckno Lake NHA (Site Code 000563) is the largest lake in County Monaghan and is approximately 4km downstream of the discharge point. Pastoral farmland slopes steeply down to the lake edge and frequent areas of wet woodland are growing at or near the shore. Species include Willow (*Salix* spp) and Birch (*Betula pubescens*). The common reed occupies the water margin (*Phragmites australis*). The area supports a number of species of waterfoul including Swans, Mallards and Teals together with a diverse range of invertebrate fauna. Muckno Lake occurs as the largest lake within the Ballybay / Castleblaney Lakelands. It is considered as important for water flea and breeding birds and provides wintering ground for wild fowl.

Drumakill Lough NHA (Site Code 001600) is located in an area of undulating lowland approximately 2.8km south of the discharge point (as the crow flies). Drumlin hills are located close to the lake margin. The most ecologically valued part of this site is the vegetation that surrounds the lake. Wet grasslands, reedswamps and some wetland scrub are the principal vegetation groups. The fresh water margin vegetation is also ecologically important.

Lough Smiley NHA (Site Code 001607) is located approximately 4km southwest of the discharge location. It contains a good diversity of habitats dispersed over a large area. The lough contains an area of floating marsh fringed by Willow (*Salix spp*). Bulrush (*Schoenoplectus lacustris*), Reeds (*Phragmites australis*), Reed Canary grass (*Phalaris arundinaceae*), Meadowsweet (*Filipendula ulmaria*) and Water Horsetail (*Equisetum fluviatile*) are the dominant species in this wetland vegetation. Small pockets of raised bog are located in this area and overall the habitat diversity is good.

As the answer to one of the questions is 'yes', the Screening Stage 1 of the Appropriate Assessment process (see Appendix 1 Flow Diagram) must be completed for this project.

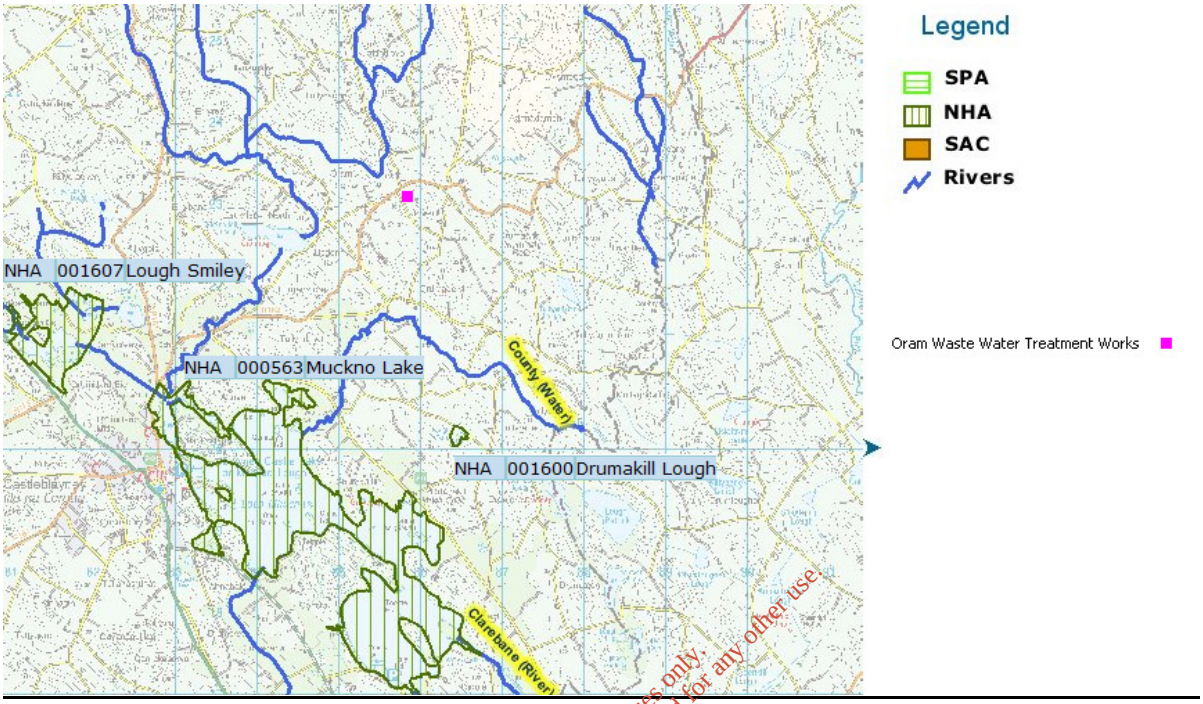

Figure 3. Nearest Designated Site to Oram WWTW **(Source: EPA ENVision)**

3 Stage 1-Screening

3.1 Introduction

As noted in Section 1.3.2, where initial screening reveals that a project is required to be screened for impacts, an Appropriate Assessment Screening must be carried out in accordance with the Appendix 1 Flow Diagram of the DoEHLG Circular 08/08. However, as noted in Section 2.1.2, Screening Stage 1 is not required as a result of the pre-screening stage, but is has been completed in this instance, in order to comply with the EPA letter dated 7th April 2010.

This Screening exercise will identify the likely impacts (if any) from the Oram waste water discharge effluent on the **Muckno Lake NHA**, **Lough Smiley NHA** and **Drumakill Lough NHA** will consider whether these effects are likely to be significant.

3.2 Step 1 Management of the Site

The Oram agglomeration and its discharge are neither directly connected to nor necessary to the management of the Muckno Lake NHA, Lough Smiley NHA and Drumakill Lough NHA.

3.3 Step 2 Description of the Project

3.3.1 General

A brief description of the WwTW and associated discharge is given in this section. Further information is contained within the Waste Water Discharge Certificate of Authorisation application File Ref A0033-01.

The Waste Water Works serving the Oram comprises a network of gravity sewers, and associated rising main and a Waste Water Treatment Works with a design capacity of 150 PE. The current capacity of the plant is approximately 93 PE.

The primary discharge of the Waste Water Works is to the Oram Stream (at National Grid Reference 285597E, 322911N) in the townland of Formil (Ed Church Hill), Oram, County Monaghan, Co Monaghan. The associated Waste Water Treatment Plant is located at 285614E 322877N also in the townland of Formil (Ed Church Hill), Oram Co. Monaghan.

The treated effluent has an average BOD concentration of 4.2mg/l and average suspended solids concentration of 19.1mg/l and COD concentration of 45.6mg/l. Average concentrations of nutrients are as follows; orthophosphate 8.9mg/l (P), average Total Phosphorus 2.9mg/l (P) and Total Nitrogen 1.8mg/l (N). At present the waste water treatment plant is meeting the required standards as set out in the Urban Waste Water Regulations 2001(S.I 254 of 2001) for the limits set on BOD, COD and suspended solids.

This water course is situated within the Neagh Bann IRBD and Fane River catchment. The Oram stream flows into the Gentle Owen Lake Stream approximately 350m upstream of Muckno Mill Lough.

The Oram Stream or the Gentle Owen Lake Stream are not identified as a "sensitive" waterway under the Urban Waste Water Treatment Regulations S.I. 254 2001 nor are they classified as a "salmonid river" under S.I. 293 of 1988. The receiving water is not designated under the Habitats Directive.

The Oram Stream, which discharges into the Gentle Owen Lake stream, is part of the Crossborder River Waterbody Sub Basin The overall River Water Framework Directive status for the this Sub Basin is 1a, hence at risk of failing to meet good status in 2015.

Muckno Mill Lough is not designated under the Urban Waste Water Treatment Regulations S.I. 254 2001. The EPA has classified as being highly eutrophic. Under the WFD its overall status is moderate and overall objective is to restore. It is classified as 1b, hence it is at risk of not achieving good status by 2015. EPA has described the Lough as having heavy siltation and the effects of watering cattle which have combined to reduce biological quality upstream of Muckno Mill Lough but quality had improved considerably below this lake since 2000.

Further downstream (approximately 4km) of the discharge point is Muckno Lake which is designated as nutrient sensitive under the Urban Waste Water Treatment Regulations S.I. 254 2001. This is not a Natura 2000 site (SPA and SAC). Lough Muckno is designated as a NHA and is described as being highly eutrophic.

The nearest biological monitoring station upstream of the discharge is the Br in Creaghanroe on the Gentle Owens Lake Stream (River Code 06G04). The baseline Q value at this station was 4-5. The current MRP value is 40ug/l and the current Q Value (2003-2005) is 3-4. The standard to be achieved by 2007 was 4-5 or 30ug/l. Neither standard was achieved. This was due to suspected commercial pollution. However, 2006 and 2009 data at this monitoring location gave a river water quality of 4.

The nearest biological monitoring station downstream of the discharge is the Br 1.5km d/s Muckno Mill L (Station No: 0100) on the Gentle Owens Lake Stream (Biological Station Number: 0100). The baseline Q value at this station was 3. The current MRP value is 30ug/l and the current Q Value (2003-2005) is 4 (good status). The standard to be achieved by 2007 was 3-4 or 30ug/l. Both standards were achieved. Current water quality at this location is Q3-4. Further downstream, at Derrycreevy Br the current river water quality is Q3-4 (2009 and 2006), showing an improvement from the Q3 recorded in 2003 and 2000.

Monaghan County Council carried out sampling directly upstream and downstream of the discharge point (Oram Stream) on 6/10/09. Monaghan County Councils upstream and downstream results are outlined below:

	Upstream	**Downstream**
BOD (mg/l)	<2	<2
TSS (mg/l)	20	5
Total N (mg/l N)	8.46	1.65
Ammonia (mg/l NH_3-N	0.54	0.01
Total P (mg/l)	0.02	0.08
Ortho Phosphate (mg/l)	0.017	0.02

The results above would indicate that there is no significant difference in the quality of water immediately upstream upstream and downstream of the discharge point, with reduced concentration of TSS and Total N downstream of the discharge point. There is a slight increase in Total P (0.07mg/l) and Ortho Phosphate 0.001mg/l), but this is not significant.

3.3.2 Oram Waste Water Treatment Plant

The waste water treatment plant which provides treatment for a design load of 150 population equivalent comprises settlement, followed by a rotating biological contactor and clarification by reed beds. Sludge from the Oram Waste Water Treatment plant is tankered to Castleblayney WWTP for treatment.

Inlet Works

Flow through the works is by gravity and is unscreened. The inlet works comprises of a flume and grit trap. Level measurement is available but not operational. A second inlet works has been recently installed and commissioned.

Photograph 1 Inlet Works

Treatment

Two inline settlement tanks are provided, with capacity of approximately 20m^3. Flow passes from the settlement tanks to a rotating biological contactor. The rotating biological contactor (RBC) is rotated slowly by a small electric motor and is arranged so that a proportion of the media is submerged in the effluent at any time. As the RBC rotates, the media is subjected alternately to wastewater and air, encouraging an aerobic, biologically active film of biomass to establish on the media sheets, oxidising the pollutants in the sewage. The effluent flows to a final settlement tank before flowing to reed beds which operate as a polishing filter to reduce nutrient contents further after the primary and secondary treatment and prior to the effluent discharging to surface water.

Photograph 2 Treatment Plant

Sludge

The settling tanks are de-sludged by tankers every month. The sludge is transported to Castleblayney WWTP for further treatment.

Future plans for Oram WWTP

A second inlet to the works has recently been commissioned and there are further plans at Oram to provide parallel treatment units *(i.e.* primary settlement, secondary biological treatment (likely RBC), final settlement) to provide an additional plant capacity of 300 PE. Tertiary treatment will be provided by the existing reed beds. This is subject to funding availability.

3.3.3 In Combination Impacts

This Appropriate Assessment screening process only relates to the Oram WWTW discharge. The discharge has the potential to only have an effect on the aquatic environment, hence it can be inferred that in combination effects need only apply to other plans and projects that have an impact on the aquatic environment. Based on the above, a review of industrial and municipal discharges to surface water in the vicinity was undertaken. The only surface water discharge upstream or downsteam of the waste water discharge is from the IPPC licence P0868-01. The licensable activity involves the rearing of chicks from day old through to slaughter weight. There are no process emissions to water. All surface water arising from roofs and yards is directed to the surface water drains at the boundary of the site. The boundary drains

discharge into the Gentle Owens Lake Stream. Muckno Mill Lough is located approximately 300m upstream of the site and the Gentle Owens Lake Stream discharges into Muckno Lough 2.5km downstream of the site.

Surface water run-off should be uncontaminated and therefore should have no impact on surface water quality off-site. As part of the licence conditions, the licensee is required to monitor BOD/COD and conduct weekly visual inspections at the surface water discharge points around the site, where inspection chambers are provided.

The EPA monitoring results for the receiving waterbody upstream of the WWTW indicate a Q value of 4. While downstream of the WWTW discharge point and also downstream of the IPPC facility, indicate a current Q value of 3-4 (at the station at Br 1.5km d/s Muckno Mill L and Derrycreevy Br). The data from the station at Derrycreevy Br has shown an improvement in water quality from the Q3 recorded in 2003 and 2000 to Q3-4 (2009 and 2006).

Taking the above on board, no combination impacts are predicted on the NHA's.

3.4 Step 3 Characteristics of the Site

3.4.1 General Description

Muckno Lake NHA

Muckno Lake is the largest lake in County Monaghan. Pastoral farmland slopes steeply down to the lake edge and frequent areas of wet woodland are growing at or near the shore. Species include Willow (*Salix* spp) and Birch (*Betula pubescens*). The common reed occupies the water margin (*Phragmites australis*). The area supports a number of species of waterfoul including Swans, Mallards and Teals together with a diverse range of invertebrate fauna. Muckno Lake occurs as the largest lake within the Ballybay / Castleblaney Lakelands. It is considered as important for water flea and breeding birds and provides wintering ground for wild fowl.

Drumakill Lough NHA

Drumakill Lough is located in an area of undulating lowland approximately. Drumlin hills are located close to the lake margin. The most ecologically valued part of this site is the vegetation that surrounds the lake.

Wet grasslands, reedswamps and some wetland scrub are the principal vegetation groups. The fresh water margin vegetation is also ecologically important.

Lough Smiley NHA

Lough Smiley contains a good diversity of habitats dispersed over a large area. The Lough contains an area of floating marsh fringed by Willow (*Salix spp*). Bulrush (*Schoenoplectus lacustris*), Reeds (*Phragmites australis*), Reed Canary grass (*Phalaris arundinaceae*), Meadowsweet (*Filipendula ulmaria*) and Water Horsetail (*Equisetum fluviatile*) are the dominant species in this wetland vegetation. Small pockets of raised bog are located in this area and overall the habitat diversity is good.

3.4.2 NHA Qualifying Interest

Muckno Lake NHA

The Muckno Lake NHA is a limestone lake important for water flea and breeding birds and marginal fen. It also is an important wintering ground for wild fowl.

The Conservation Objective of this site is to maintain the qualifying interests for this NHA at favourable conservation status.

Some of the qualifying interests for which the NHA are designated are water dependent. However the designated site is not located immediately upstream or downstream of the discharge location and is a significant distance from the discharge location (approximately 4km). After a review of water quality data downstream of the discharge and the NHA's distance downstream of the discharge point, no significant effects on the NHA's integrity and qualifying interests are likely, therefore no further assessment is required.

Drumakill Lough NHA

The Drumakill Lough NHA qualifying interest is the vegetation that surrounds the lake. Wet grasslands, reedswamps and some wetland scrub are the principal vegetation groups. The fresh water margin vegetation is also ecologically important.

The Conservation Objective of this site is to maintain the qualifying interests for this NHA at favourable conservation status.

Some of the qualifying interests for which the NHA are designated are water dependent. However the designated site is not located upstream or downstream of the discharge location and is a significant distance away from the discharge location (approximately 2.8km south as the crow flies). No significant effects on the NHA's integrity and qualifying interests are likely, therefore no further assessment is required.

Lough Smiley NHA

The Lough Smiley NHA qualifying interests include floating fen community and pockets of raised bog.

The Conservation Objective of this site is to maintain the qualifying interests for this NHA at favourable conservation status.

Some of the qualifying interests for which the NHA are designated are water dependent. However the designated site is not located upstream or downstream of the discharge location and is a significant distance from the discharge location (approximately 4km southwest). No significant effects on the NHA's integrity and qualifying interests are likely, therefore no further Assessment is required.

3.5 Step 4 Assessment of Significance

As per Circular L8/08 Water Services Investment and Rural Water Programmes - Protection of Natural Heritage and National Monuments issued by the DoEHLG, this section displays the outcome of the Appendix 1 Flow Diagram which was used to screen for impacts. It should be noted that the red line indicates the project-specific outcomes.

3.6 Conclusion

The discharge from the Oram WWTW will not have significant adverse impacts on the qualifying interests or integrity of Muckno Lake NHA, Lough Smiley NHA and Drumakill Lough NHA. Therefore, Stage 2 of the Appropriate Assessment process is not required.

Figure 4 - Appendix 1 Flow Diagram of the DoEHLG Circular 08/08 Completed for Oram