

## SECTION A: NON-TECHNICAL SUMMARY

*Advice on completing this section is provided in the accompanying Guidance Note.*

A non-technical summary of the application is to be included here. The summary should identify all environmental impacts of significance associated with the discharge of waste water associated with the waste water works. This description should also indicate, where applicable, the hours during which the waste water works is supervised or manned and days per week of this supervision.

The following information must be included in the non-technical summary:

A description of:

- the waste water works and the activities carried out therein,
- the sources of emissions from the waste water works,
- the nature and quantities of foreseeable emissions from the waste water works into the receiving aqueous environment as well as identification of significant effects of the emissions on the environment,
- the proposed technology and other techniques for preventing or, where this is not possible, reducing emissions from the waste water works,
- further measures planned to comply with the general principle of the basic obligations of the operator, i.e., that no significant pollution is caused;
- measures planned to monitor emissions into the environment.

Supporting information should form **Attachment N° A.1**

### Background

Carnaross is located in County Meath, on the N3 road from Navan to Cavan. It is approximately 5km west of Kells.

Carnaross has approximately 75 houses including a housing estate of 27 houses served by a short foul sewer network that discharges into a wastewater treatment system.

### Sewer Network

The sewer system is separated and was built in two stages. The two sewer sections discharge into a single inlet manhole. The first section was recently built and serves 18 houses at the back of the housing estate. The second section serves the remaining 9 houses. The main foul sewer line is a 225mm diameter PVC pipe which is considered sufficient to convey foul flows to the treatment system. Junctions and house connections are below 150mm in diameter.

There is no storm overflow within the sewerage infrastructures in Carnaross.

### Existing Waste Water Treatment Works

The existing treatment system (RBC – upgraded in the early 2000s) was recently upgraded when the 18 houses were built. It is closed off by a 1.8m high palisade fence.

It is estimated that the treatment system is designed on the basis of a population equivalent of approximately 150p.e with the design parameters detailed as follows:

Population Equivalent (p.e.)	150
Total BOD5	9 kg/d
Total Suspended Solids	21 kg/d
Total Dry Weather Flow	27 m3/day
Total peak design flow to be treated (3DWF)	3 m3/h

The findings of the house count which results in population equivalent of 74. The treatment plant was designed to cater for 150 p.e. which equated to a spare capacity of 74 p.e.

A search of planning applications for 2008 and 2009 revealed that there is no approved planning application proposing to connect to this sewerage scheme. Therefore there is no population allocated for pending development. For the purpose of this application Meath County Council estimate an increase in projected population to 12 p.e.

Meath County Council carried out a 14 day flow and load survey. The findings of this survey included in Attachment D.1 indicate the average flow to the works is 2.26m<sup>3</sup>/day or 10 p.e. (225l/h/day). This average flow is lower than the house count findings. This may be indicating that there are a number of holiday/second homes within this housing scheme.

It is envisaged that this spare capacity is sufficient to cater for unaccounted pending development.

There are no non-domestic users connected to the treatment plant.

The treated effluent standards have to comply with the current Urban Wastewater Treatment Regulations, 2001 (S.I. No. 254 of 2001) which gives further effect to EU Council Directives 91/271/EEC, 200/60/EC and 98/15/EC.

The Regulations require agglomerations with a P.E. of less than 2,000 p.e, which discharge to freshwater or estuaries to have "appropriate treatment". Appropriate treatment is defined in the Regulations as "treatment of urban wastewater by any process and/or disposal system which after discharge allows the receiving waters to meet the relevant quality objectives and relevant provisions of the Directive and of other Community Directives".

The findings of the grab sample taken during the 14 day flow and load survey indicate the treated effluent at Carnaross is meeting the standards for BOD, COD and SS.

It is envisaged that the Carnaross WWTP can cater for additional hydraulic and organic load within design capacity.

An assessment of the likelihood of significant effects of the wastewater discharges from the Carnaross Treatment Plant on relevant natural heritage and European sites – in this case the River Boyne and River Blackwater SAC is located 0.2km east of the Treatment Plant discharge point – has been carried out in accordance with Circular L8/08. Based on this assessment, it was found that the Carnaross Wastewater Treatment Plant has potential to impact on the above SAC and will require further investigation – i.e. an Appropriate Assessment will have to be carried out in accordance with Article 6(3) of the Habitats Directive.

A detailed description of the treatment plant is summarised below :

### **Rotating Biological Contactors (RBC)**

Primary and secondary treatment is being achieved by means of a RBC unit. The RBC unit consists of plastic media assembled on a horizontal shaft (as vertical discs) in the form of a cylinder approximately 2.5m wide and 7.5m long. The shaft is rotated at a rate varying from 1 to 10 revolutions per minute. The assembly is placed in a bulk fluid tank containing wastewater, and the media are immersed to a depth of about 40% of their diameter. The rotation of the assembly ensures that the media are alternately in air and wastewater resulting in a development of a biofilm.

### **Percolation area / Secondary Treatment**

The waste water from the RBC unit then flows into a percolation system using soil as filtering media.

It is in the percolation area that the wastewater undergoes secondary treatment and is purified. The wastewater is distributed to the percolation area, which acts as a bio-filter. As the wastewater flows into and through the soil, it undergoes surface filtration, straining, physico-chemical interactions and microbial breakdown.

The percolation system has an area of 500m<sup>2</sup>.

### **Treated Effluent**

The treated effluent percolates into the soil and then reaches the sub soil. There is no discharge to freshwater.

### **Control system**

The plant is equipped with a control kiosk for the RBC unit. In case of system failure, a radio signal is sent directly to the caretaker.

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