

## Attachment N<sup>o</sup>. A.1

### Non-Technical Summary.

The agglomeration for which the Waste Water Discharge Licence is sought consists of Tralee town and adjacent developed area. The Waste Water Treatment Plant and Primary Discharge point are located in Ballyvelly, Lohercanan, Tralee. The pumping stations and storm water overflows are located at various points throughout the agglomeration.

The waste water from the agglomeration is collected in a combined network and is conveyed to the Waste Water Treatment Plant by gravity flow. Where gravity does not allow flow to the WWTP pumping stations are used. The largest of these is located at Mulgrave Bridge which pumps the greater part of the waste water to the treatment plant. In times of heavy rainfall waste water heavily diluted with storm water, of volume in excess of 6 times Dry Weather Flow, is discharged via storm overflows, to local watercourses – mainly the Big River and the River Lee.

At the Waste Water Treatment Plant preliminary treatment consists of screening and grit removal. Waste water in excess of 3 times Dry Weather Flow is held in stormwater holding tanks to be treated later. Secondary treatment consists of primary settling tanks, biological filters, activated sludge treatment tanks, final settling tanks, inlet and outlet flow monitoring and discharge of treated effluent to Tralee Bay via a holding tank. Ultra violet disinfection is also used to further protect the environment.

Discharges from the Primary Discharge point to surface waters are sampled and tested on a daily basis. Details of these and other tests and tests on overflow from stormwater overflows are detailed in the attached tables in section D.

An estimate of the quantity of waste water likely to be omitted from Primary Discharge is contained in Tables in section D. the quantity of waste water likely to be emitted in relation to storm water overflows is also addressed in this section. A proposed programme of environmental monitoring including sampling points, safe means of access, sampling methods and quality control etc. is also contained in section D.

Location data on sampling points is also enclosed together with historical sampling data for the past 12 months.

The Primary Discharge from the water works is from the Waste Water Treatment Plant discharges into the Lower Lee Estuary. This water in this part of the estuary is considered to be of good quality. The storm water overflows mainly emit into the Upper Lee Estuary and into the Big River. The Upper Lee Estuary is classified as sensitive for the purpose of tackling eutrophication in the area. The eutrophication is considered to be caused by agricultural activities and emissions from the storm water overflows.

The water in Tralee Bay, into which the water from the Lee Estuary flows, is considered to be of high quality.

The Tralee Sewerage Scheme Nutrient Reduction Preliminary Report, prepared by RPS Consulting Engineers in April 2006 has been prioritised in the Kerry County Council Water Services Investment Programme Capital Works Programme 2007.

The implementation of the report has been allocated **€260,000** in the Department of the Environment Heritage and Local Government Water Services Investment Programme 2007 – 2009. The report recommends a detailed investigation and modelling of the existing collection system, together with further waste water testing and sampling, as a basis for planning necessary future improvements. The report also recommends the consideration of the provision of Phosphate removal facilities.

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**Attachment N<sup>o</sup>. B.2**

Autocad geo-referenced scaled drawing ( $\leq$  A3) showing:

- WWT Plant boundary
- Overall site plan
- Including labelled discharge, monitoring and sampling points

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## Attachment N<sup>o</sup>. B.3

Autocad geo-referenced scaled drawing ( $\leq$  A3) of **Primary Discharge Point** showing:

- Discharge point
- Associated labelled monitoring points
- Associated labelled sampling points

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## Attachment N<sup>o</sup>. B.4

Autocad geo-referenced scaled drawing ( $\leq$  A3) of **Secondary Discharge Points** showing:

- Discharge point
- Associated labelled monitoring points
- Associated labelled sampling points

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## **TAttachment N<sup>o</sup>. B.5**

Autocad geo-referenced scaled drawing ( $\leq$  A3) of **Storm Water Overflow Points** showing:

- Discharge point
- Associated labelled monitoring points
- Associated labelled sampling points

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**Attachment N<sup>o</sup>. B.6**

It is likely that last major upgrade on the waste water collection and treatment network was subject to th Part X procedure under the Planning Acts. Unfortunately a copy of the final report on this is not available at time of writing. A copy of the relevant report will be forwarded when available.

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**Attachment N<sup>o</sup>. B.7(i)**

Details of all discharges located within SFADCo area.

All discharges and outfalls are located within the SFADCo area. The entire agglomeration is within the SFADCo area.

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**Attachment N<sup>o</sup>. B.8**

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Site Notice

"APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTE WATER DISCHARGE LICENCE in TRALEE.

Kerry County Council, County Buildings, Rathass, Tralee, County Kerry intends to apply to the Environmental Protection Agency for a **waste water discharge licence** for waste water works in Tralee, County Kerry.

The waste water works comprise:  
a mainly combined collection network with pumping stations and constructed system overflows which service the agglomeration comprising of Tralee town and surrounding developed area, and  
the waste water treatment plant at Lohercannan.

The Primary Discharge is located at Lohercannan, Tralee. The National Grid reference of the Primary Discharge point is Northing: 114183.98, Easting: 81319.75

The associated waste water treatment plant is located at Lohercannan, Tralee, County Kerry. The National Grid reference of the plant is Northing: 114272.00, Easting: 81374.40.

A copy, in such format as may be determined by the Environmental Protection Agency, of  
(i) the Application for a waste water discharge licence,  
(ii) such further information relating to the application as may be furnished to the Agency in the course of the 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 Environmental Protection Agency, and at the principal office of the Water Services Authority of Kerry County Council, County Buildings, Rathass, Tralee, Co. Kerry.

Submissions in relation to the application may be made to the Environmental Protection Agency at its headquarters at EPA, PO Box 3000, Johnstown Castle Estate, Co. Wexford."

## Attachment N<sup>o</sup>. C.1

The construction of Tralee WWTP located at Lohercannan, Tralee and the extension of the combined treatment collection network was completed in 1998. The WWTP caters for a flow of 6,350 m<sup>3</sup>/day and a B.O.D.<sub>5</sub> loading of 3,020 kg/day, population equivalent (PE) of 50,333 at 60g BOD/PE. Ultra Violet Disinfection of the effluent was commissioned during 2003.

Approximately 6 times D.W.F. is pumped to the plant where it undergoes fine screening and grit removal. 3 times D.W.F. flow passes on to the secondary treatment plant, the remainder overflowing to the Stormwater holding tanks, to be returned later for secondary treatment during periods of low flow.

The main elements of the secondary treatment system are primary settling tanks, biological filters, activated sludge treatment tanks, final settling tanks, inlet and outlet flow monitoring and discharge to Tralee Bay via a holding tank.

All elements of the treatment plant are monitored and controlled via a computerised supervisory system located in the administration building which also houses a fully equipped laboratory where samples of influent and effluent are analysed daily.

Ultra-violet disinfection has been added more recently to the system to add further protection to the environment, particularly to the waters of Tralee Bay which are important to the shellfish industry.

The plant has two primary settlement tanks each having a volume of 963 m<sup>3</sup>.

Two trickling filters were installed in the plant mainly to reduce a large amount of BOD load in soluble form from industrial flows, particularly from Denny's where large quantities of blood were discharged. As Denny's has closed the soluble BOD load has dramatically decreased and the filters are not required at present for BOD removal.

Tralee WWTP uses the complete mix activated sludge (CMAS) process, made up as follows:

- 1no. 138 m<sup>3</sup> contact tank where wastewater from the primary settlement tank and/or trickling filters, the return activated sludge from the secondary settlement tanks and the decanted liquid from the sludge treatment are mixed
- 3 no. 840 m<sup>3</sup> reactor tanks in which micro organisms responsible for treatment are kept in suspension and aerated
- 3 no. secondary settlement tanks each of volume 685 m<sup>3</sup>, 567 m<sup>3</sup> of which is available for settling inflows
- A return activated sludge system for returning solids from the secondary sedimentation tank to the reactor

Allowance has been allowed for future increase in capacity by allowing space for a fourth reactor and fourth sedimentation tank.

In addition to the construction of a new Waste Water Treatment Plant, Tralee Sewage Scheme which was commissioned in 1999 involved the laying approximately 19.8 km of sewers, which varied in width from 100mm to 900mm.

Six pumping stations were constructed to service the new system. Mulgrave Bridge is the largest of these and has both storm and foul flow pumps. 4 no. low lift storm pumps installed here pump Stormwater to the nearby River Lee. 3 no. sewage pumps serve approximately 94% of the needs of Tralee. The remaining 6% is served by a new pumping station at Lohercannan which is also fed from a small pumping station at Blennerville. The remaining three pumping stations – Castlemaine P.S., Cloghers P.S. and Garryruth P.S. – feed trunk sewers which ultimately discharge to Mulgrave Bridge.

The majority of the collection system is combined and 27 combined system overflow (CSO) structures are required to remove the large volumes of storm water from the system. The CSOs have been designed to spill at six times the dry weather flow (DWF). Anything in excess of this is discharged to a local watercourse such as the River Lee or the Big River.

The main pumping station for Tralee is located at Mulgrave Bridge, with five other submersible pumping stations at other locations throughout the town. Flows from three of these minor pumping stations – Ballymullen/Garryruth, Moyderwell, Denny Street – are received at Mulgrave Bridge PS and then pumped to the 600mm gravity sewer that flows to the WWTP. Blenerville pumps to Lohercannan/Ballyvely, which in turn pumps to the 600mm sewer. Cloghers PS was in existence prior to the others while Castlemaine PS was put in place to facilitate flood relief works on the River Lee.

Mulgrave Bridge Pumping Station located on the North side of the river Lee, West of Mulgrave Bridge is the main pumping station in the town pumping around 95% of the foul to the WWTP. It takes all the flow through from Mounthawk/Baloonagh Scheme, Clash Boherboy Scheme, Killierisk/Cloghers Scheme, and the town centre area including the flow-through from Denny Street. The design 5DWF from the pumping station was 7,171 m<sup>3</sup>/day.

The inlet pipe to Mulgrave Bridge P.S. is a 900mm diameter pipe, with a 500mm diameter rising main at the outlet. Storm pumps are fitted into the pumping station as well as an overflow weir. This leads to an overflow chamber which discharges the storm water to the canal via a 900mm diameter outfall pipe. From the 2004 pumping station records, 6,500 m<sup>3</sup>/day is the 99% percentile flow.

Castlemaine Pumping Station is located just South of Ballymullen Bridge and it pumps the foul from camp and Killerisk areas to Cloghers PS. There is no overflow from this pumping station.

The 2006 flow to the pumping station is 29.13 litres/sec.

Moyderwell Pumping Station is located in Tralee Town Park, and pumps the foul flows from the schools in the Park and Moyderwell area. The overflow from the pumping station enters a disused channel which outfalls to the River Lee. The 6DWF from the area is 7.56 litres/sec. Excess flow into the wet well spills out through an ope into a pipeline which carries the spill to the River Lee.

Garry Ruth Pumping Station is located North of the River Lee and West of the Fels Point development. It was designed to pump the foul from Ballymullen, via a 225mm diameter rising main, across the River Lee to the gravity feed to Mulgrave Bridge Pumping station. The total current flow received at the PS is around 50 litres/sec (6DWF), including the flows from Moyderwell PS. The access influent to the pump station spills over a weir at the inlet and to the River Lee via a 525mm diameter outfall. On inspection, the pumping station was found to be in good condition with both the overflow chamber and the tide-flex valve in good condition.

Denny Street Pumping Station is located in the Town Park, just off Denny Street. The sump station pumps foul from the Denny Street area to a gravity collector, which connects to the Princes Quay eastern collector. The 6DWF is 0.62 litres/sec. The pumping station has an outlet which connects which connects, via the Denny street culvert to the Princes Quay culvert and then outfalls to the River Lee. On inspection the wet wall was found to contain a thick layer of grease. Chemicals had been added in an attempt to break up the grease. The grease was as a result of hotels in the catchment. The baffle plate was found to be intact and clean.

Blennerville Pumping Station is located at Blennerville Bridge on the South side of the River Lee. This pumping station sends foul from Blennerville Village across the river where it is pumped up to the treatment plant. The 6DWF flow figure from this catchment is 3.18 litres/sec. The inlet pipe to Blennerville PS is 300mm diameter, with a 100mm rising main outlet and a 300mm diameter emergency outfall pipe from the overflow chamber which discharges to the River Lee.

When visually inspected the overflow attached to the pumping station revealed a steady flow of water into the overflow chamber through the flap valve at the inlet. The valve appeared to be stuck open approximately 60mm.

Clogher Pumping Station receives flows from Ballymullen, Cloghers and also flow from Castlemaine PS, and pumps to a gravity line which flows to Mulgrave Bridge PS. The 6DWF received is 54.34 litres/sec. The pumping station is located a distance South of the River Lee..

Lohercannan Pumping Station is located west of Blennerville Bridge, North of the canal. The pumping station is to pump foul from Lohercannan Ballyvelly and Blennerville to the treatment plant. Flow in excess of the design capacity is overflowed to a chamber where it joins the storm flow from the 750mm diameter storm pipe and goes to the inverted siphon.

The inlet pipe diameter to the pumping station is 300mm diameter with a 250mm rising main as the outlet. The excess flow overflows through a 300mm diameter pipe. This becomes a 900mm diameter pipe after connection with the 750mm storm pipe. The 6DWF to the pumping station is 10.62 litres/sec.

Wastewater Treatment Plant. The 1991 Trelee WWTP design is based on the following loadings:

Stage (Year)	Domestic Flow (m <sup>3</sup> /d)	Domestic BOD <sub>5</sub> (kg/d)	Industrial Flow (m <sup>3</sup> /d)	Industrial BOD <sub>5</sub> (kg/d)	1DWF Flow (m <sup>3</sup> /d)	1DWF (l/s)	BOD <sub>5</sub> (mg/l)
1(1996)	4,500	1,510	1,850	1,510	6,350	73	476
2(2016)	5,750	1,925	2,320	1,993	8,070	93	485

The high concentration of Domestic BOD<sub>5</sub> was due to heavily loaded industrial sewerage entering the system. This source is no longer contributing.

**Attachment N<sup>o</sup>. C.2**

**Details of outfalls.**

Type	Reference	Location	Outfalls to:
Primary discharge		Waste water Treatment Plant	Tralee Bay
Overflow Chamber		Lohercannan Pumping Station	Lee Estuary
Overflow Chamber		Blennerville PS	Canal
Overflow Chamber		Mulgrave PS	Canal
Overflow Chamber		Garryrute PS	River Lee
Overflow Chamber		Moyderwell PS	Culvert
Overflow Chamber	CB 178	Racecourse rd / Racecourse lawn junction	Big River
Overflow Chamber	CB 165	Racecourse rd / Laurel court junction	Big River
Overflow Chamber	LR 8	Oakpark Rd opposite derrybeg Hse entrance	Big River
Overflow Chamber	CB 39	Racecourse rd / Oakpark rd junction	Big River
Overflow Chamber	CB 67A	Oakpark rd / Brewery rd	Big River
Overflow Chamber	CB 69A	Oakpark rd / CBS football pitch	Big River
Overflow Chamber	MB 106	Bridge Lane	Big River
Overflow Chamber	CB 47A	Oakpark Rd / O'Shea's bus hire	Big River
Overflow Chamber		Cloghers PS	River Lee
Overflow Chamber	CB 128A	Near Dunnes Stores opp Apartments	Big River
Overflow Chamber	C 5B	Near Dunnes before roundabout	Big River
Overflow Chamber	A13	Austin Stack Park / Horan centre Grounds	-
Overflow Chamber	KC 40	in front of Texaco's	River Lee
Overflow Chamber	MB 160	St Brendan's Park / Cahermoneen Junction	Storm pipe
Overflow Chamber	P8A	Cahermoneen	-
Overflow Chamber	MB 199	Caheerslee Road near Pembroke sq.	Culvert
Overflow Chamber	MB 40	Day Place	Princes Quay Culvert
Overflow Chamber		Ballymullen	River Lee
Overflow Chamber		Marina Apartments	Small stream leading to canal

The overflows in the network are interlinked, that is to say the outfalls from a large number of overflows enter another part of the network. Only those overflows which outfall to surface water have been sampled and tested.

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## **Attachment N<sup>o</sup>. D.1**

Due to the volume and complexity of the tests required for this application, quotations were sought from private companies to carry out this work, as in-house laboratory facilities are working at full capacity. While the sampling has been carried out, and some provisional test results have been received the successful company has informed us that the all the final test results are not ready at this time. They have informed us that the delay is due to the volume of work they have on hand, due to having contracted to carry out similar work for other Local Authorities. The possibility of hiring a different company to do this work has been considered but, as the sampling would have to be carried out again, we have concluded that this course of action would result in a longer delay. This situation is regrettable but outside of our control at this stage. It is our belief that it is important to have the tests done accurately even though this will result in a time delay. The results will be forwarded to you, in the required format, when available. The associated co-ordinate data on discharge points will also be submitted at the same time.

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**Attachment N<sup>o</sup>. D.2**

**Tabular Data for Discharge Points**

PT_CD	PT_TYPE	LA_NAME	RWB_TYPE	RWB_NAME	DESIGNATION	EASTING	NORTHING
SW1	Primary	Kerry County Council	Transitory	Lee Estuary Lower	Shellfish	81319.750	114183.980
SW2	Storm Water Overflow	Kerry County Council	Transitory	Lee Estuary Lower	Shellfish	81319.750	114183.980
SW3	Storm Water Overflow	Kerry County Council	River	Big River	Not designated	84946.040	115878.390
SW4	Storm Water Overflow	Kerry County Council	River	Big River	Not designated	84498.030	115059.020
SW5	Storm Water Overflow	Kerry County Council	River	Big River	Not designated	84680.020	115293.340
SW6	Storm Water Overflow	Kerry County Council	River	Big River	Not designated	84172.910	114769.350
SW7	Storm Water Overflow	Kerry County Council	River	River Lee	Sensitive	84115.180	113601.490
SW8	Storm Water Overflow	Kerry County Council	River	River Lee	Sensitive	84160.490	113606.790
SW9	Storm Water Overflow	Kerry County Council	River	River Lee	Sensitive	83003.780	113766.540
SW11	Storm Water Overflow	Kerry County Council	Transitory	Lee Estuary Lower	Sensitive	81560.000	113076.250
SW12	Storm Water Overflow	Kerry County Council	Transitory	Lee Estuary Lower	Sensitive	81412.320	113236.960

**Attachment N<sup>o</sup>. E.1**

Complete **Table E.1 (i) of Annex** for each **Primary & Secondary Discharge Points**

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**Attachment N<sup>o</sup>. E.1**

Complete **Table E.1 (i) of Annex** for each **Primary & Secondary Discharge Points**

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## **Attachment N<sup>o</sup>. E.2**

It is proposed to sample for the relevant substances yearly in Summer and Winter. This will yield information on the wastewater composition in differing temperature and rainfall situations.

The testing will be carried out by a private laboratory taking samples to Kerry County Council, Environmental Section protocol. The laboratory is accredited to Irish National Accreditation Board.

Safe means of access will entail the following:

- Training in working in confined spaces for personnel taking samples in manholes etc.
- Training in traffic safety at roadworks for personnel taking samples on and adjacent to public roadways.
- Provision of proper Personal Protective Equipment at all times for personnel carrying out sampling.

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**Attachment N<sup>o</sup>. E.3**

PT_CD	PT_TYPE	MON_TYPE	EASTING	NORTHING	VERIFIED

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**Attachment N<sup>o</sup>. E.4**

Specify sampling data pertaining to discharge based on samples taken in 12 months preceding the application.

Details of compliance with any applicable monitoring requirements and treatment standards

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**Attachment N<sup>o</sup>. F.1**

The River Lee flows in a Westerly direction through the Lee Estuary into Tralee Bay. The CSOs from Tralee waste water works outfall into the River Lee and its tributaries, mainly the Big River. The Primary Discharge from the waste water works, which comes from the WWTP discharges into the Lower Lee Estuary.

The Lee Estuary Upper from Ballymullen Bridge to the end of the Ship Canal is classified as sensitive in Part 1 of the Third Schedule of S.I. No. 254/2001 – Urban Waste Water Treatment Regulations, 2001, for the purpose of tackling eutrophication in the area. This area is approximately 300 m upstream of the PDP. The Lower Lee Estuary which has good quality water and is not eutrophic.

The EPA reports that Tralee WWTP is compliant with the UWWTR and the Lower Lee Estuary has actually improved in water quality in recent years despite receiving the Primary Discharge from the plant. The EPA also reports high levels of Phosphorus upstream of the plant in the River Lee sourced from agricultural run-off.

The evidence suggests that the Primary Discharge from the plant does not have any perceptible effect on the eutrophic status of the River Lee. A holding tank minimises the discharges reaching the upper estuary with a flooding tide. The plant discharges cannot reach 50% of the sensitive Lee Estuary with the flooding tide. The flooding tide also dilutes the discharges from the Primary Discharge Point.

1995 - 1999 KCC data	Salinity psu		DIN mg/l N		MRP ug/l N		Chlor. A mg/m <sup>3</sup>			DO % sat.		
	Median	n	Median	n	Median	n	Med	90 %ile	n	5 %ile	90 %ile	n
Lee River & tributaries <i>Criteria corresponding to salinity</i>	0.1	17	1.69 > 2.6	19	88 >60	19						
Upper Lee Estuary <i>Criteria corresponding to salinity</i>	1.8	29	1.74 >2.529	32	137 >60	32	12.7 >15	73.6 >30	24	42 >70	113 >130	24
Lower Lee Estuary <i>Criteria corresponding to salinity</i>	30.4	22	0.062 >0.569	22	26 >46	22	11 >11.4	16.8 >22.8	22	71 <77.2	117 >122.8	22
Tralee Bay <i>Criteria corresponding to salinity</i>	33.2	99	0.018 >0.378	99	10 >42	99	2 >10.6	5.7 >21.1	99	93 <78.9	114 >121.1	99

Summary of Water Quality Statistics and Compliance with Criteria 1995 – 1999.

The following table is from the EPA publication “Water Quality in Ireland 2001 – 2003.”

Summer only

2001-2003 EPA data	Salinity psu				DIN mg/l N		MRP ug/l P		Chl. A mg/m <sup>3</sup>		DO % sat.	
	w	n	s	n	w	s	w	s	Med.	90 %ile	5 %ile	90 %ile
Lee River & tributaries <i>Criteria corresponding to salinity</i>	0.1	11	0.1	26	2	1.3	60	67	4.4	25.8	91	140
					>2.6	>2.6	>60	>60	>15	>30	<70	>130
Upper Lee Estuary <i>Criteria corresponding to salinity</i>	0.1	4	1.9	74	2.6	1.6	42	124	15.5	46.2	45	134
					>2.6	>2.4	>60	>60	>15	>30	<70	>130
Lower Lee Estuary <i>Criteria corresponding to salinity</i>	-	0	31.4	19	-	0	-	24	8.5	18.1	92	116
						>0.48		0.44	>11.1	>22.2	<78	>122
Tralee Bay <i>Criteria corresponding to salinity</i>	30.3	2	33.8	84	0.4	0	10	10	2.1	4.7	94	105
					>0.5	>0.3	>41	>41	>10.3	>20.6	<79	>121

This report shows that while the Upper Lee Estuary continues to be eutrophic, the Lower Lee Estuary improved in quality in the period 1999 – 2000 with no breach of any category of criteria.

The report also states “With the exception of two relatively high ammonium values recorded during a survey in August 1999, Inner Tralee Bay again exhibited exceptionally high water quality during all surveys in this period.”

The 2001-2002 Kerry County Phosphorus Plan stated that the River Lee was polluted at all monitoring stations (MRP values 0.064 – 0.097). Results from monitoring data from 1996 – 2003 show that large quantities of MRP in the Upper Lee Estuary originate from upstream in the River Lee with agricultural run-off and storm overflows from Tralee collection being the main process.

**Attachment N<sup>o</sup>. F.2**

**Tabular Data on Drinking Water Abstraction Point(s).**

There are no drinking water abstraction points downstream or downgradient of this agglomeration.

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## Attachment N<sup>o</sup>. G.1

### Capital Investment Programme

The Tralee Sewerage Scheme Nutrient Reduction Preliminary Report, prepared by RPS Consulting Engineers in April 2006 has been prioritised in the Kerry County Council Water Services Investment Programme Capital Works Programme 2007.

The implementation of the report has been allocated **€260,000** in the DOEHLG Water Services Investment Programme 2007 – 2009.

The report estimates a time scale of 18 months for the works.

The report presents a review of Tralee sewerage scheme, particularly in relation to nutrient reduction and makes recommendation on works required to improve the receiving water quality in line with the Urban Waste Water Treatment Regulations (UWWTR) 2001.

The report recommends:

- 1) Monitoring of the Waste Water Treatment Plant influent and effluent for total phosphorous and nitrogen levels.
- 2) Regular sampling and testing of the River Lee and its Estuary in accordance with EPA recommendations.
- 3) The following surveys to be carried out by specialist contractors
  - a. Connectivity surveys (to prove The sewer route)
  - b. CCTV survey to locate infiltration/exfiltration, blockages etc.)
  - c. Flow and rainfall survey (to quantify actual foul and storm flows)
  - d. Impearmability survey (to assess storm water contributions to the flows)

Following the surveys a hydraulic model of the collection systems should be built and the system assessed, to identify remedial works necessary to the sewage system.

- 4) The report concluded that Nitrogen removal facilities are not required at the WWTP as Nitrogen was not considered to be a contributing factor to the eutrophic status of the Upper Lee Estuary.
- 5) The installation of Phosphate removal should be considered on the precautionary principal.

The report also recommends that flows at each CSO should be analysed for BOD, COD, Total Phosphorus (TP), Orthophosphates (Ortho P0, Suspended Solids (SS) and Total Kjeldahl Nitrogen (TKN). *1 page 74,75.*

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**Attachment N<sup>o</sup>. G.2**

In the 1999 – 2000 Phosphorus Plan, it was reported that a stretch of the River Lee, upstream of the Lee Estuary Upper, less than 50m long, on one side of the river had become seriously polluted in the period from 1991 – 1997. The suspected cause was agricultural. In total, 5.5 km out of a total 11 km for the River Lee was below Q4 standard in 2000.

Station	Base	1998-2000	2001-2003	2001-2002	No. of Samples	2007 Target	2007 Target	Source of Pollution
Location	Q	Q	Q	Q		Q	MRP (mg/l)	
Br SE of Caherbreagh	4	3	3-4	0.088	13	4	0.03	Farm run off
2nd Br d/s of Ballymullen Mills	3	3-4	2-3	0.064	15	03-Apr	0.05	CSOs

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## Attachment N<sup>o</sup>. G.3

Provide details on a programme of improvements to ensure that discharges from the agglomeration will not result in significant environmental pollution

1. Most recent development programme
2. Copy of approved funding
3. Timeframe for completion

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## Attachment N<sup>o</sup>. G.4

The following recommendations from *Tralee Sewerage Scheme Nutrient Reduction*, prepared by RPS Consulting Engineers (2006)

- a. Connectivity surveys (to prove The sewer route)
- b. CCTV survey to locate infiltration/exfiltration, blockages etc.)
- c. Flow and rainfall survey (to quantify actual foul and storm flows)
- d. Impearmability survey (to assess storm water contributions to the flows)

Will allow hydraulic model of the collection systems should be built and the system assessed, to identify remedial works necessary to the sewage system, including works necessary to bring the Storm Water Overflows to the required standard. To achieve this it will also be necessary to provide separate waste water and storm water systems in the agglomeration.

The implementation of the report has been allocated €260,000 in the Department of the Environment, Heritage and Local Government Water Services Investment Programme 2007 – 2009.

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## **BIBLIOGRAPHY**

- 1) RPS Consulting Engineers (2006). *Tralee Sewerage Scheme Nutrient Reduction*.
- 2) Environmental Protection Agency (2001). *The Assessment of the Trophic Status of the Estuaries and Bays in Ireland (ATSEBI)*.
- 3) Environmental Protection Agency (2005). *Water Quality in Ireland 2001 – 2003*.
- 4) Tralee Town Council (2003). *Tralee Town Development Plan 2003 – 2009*.

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**Situations Vacant**

**APPRENTICE** Tiler wanted, working in Cork city area. Own transport a big advantage. 086 8200783.

**DENTAL** Nurse required to cover maternity leave for a period of 8 months, exp preferred but not essential as full training will be given. Please send CV to G O'Sullivan, Westend, Mal-low, Co. Cork.

**Legal Secretary**

Six month contract starting January 2007. You need two years' legal experience. Accuracy and attention to detail important. Good conditions for right candidate. Applications treated in strict confidence. Apply with CV to Mary Linehan, Noonan Linehan Carroll Coffey, 54 North Main St, Cork Fax 021 4274347 Email: mlinehan@nlcc.ie

**SALES** Reps required, car owner, no experience necessary, training provided. 087-8218770

**SPRAY PAINTER**

required, qualified, for south side Bodysop, usual terms and conditions apply. Ph:087-2515137

**TRAINEE** Journalist required for busy local newspaper. Forward CV and work samples to Editor, Dungarvan Observer, Shandon, Dungarvan, Co. Waterford by December 20, 2007.

**Accountancy**

**ACCOUNTANTS GET HEADHUNTED UPLOAD YOUR CV TODAY**

RecruitIreland.com

**Childcare**

**CLASSROOM** assistant required for a Montessori school in Cork city for January. Apply with CV to box no POS 2249787 this office

**MONTESORI** teacher / qualified Childcare Assistant required for Creche in Kinsale. (087) 2248816

**Courses**

**MANUAL** handling Course December 13th. HSS. Tel: 1890-600666

**Safe Pass**

FÁS Approved Courses available Dec 12th, 15th Tel: 086-3507648

**Adult Computer**

Courses, Beginners, ECDL, ECDL advanced & Childrens @ Futurekids 021 4893800.

**Education Teachers**

**Bruce College Cork**

Maths teacher req. maternity cover Feb-May. Leaving Cert. Ord Level, Part time or Full time. email:mlanders@brucecollege.ie, Mail: Principal, Bruce College, Audley House, St Patricks Hill, Cork.

**Business & Accountancy**

Teacher required for 5th year students in City Centre school. 9 hours per week. Email: personnel@vodafone.ie

**English Teacher**

Required for City Centre School. 9hrs per week. Up to 6th year Leaving Certificate. Email: personnel@vodafone.ie

**PART TIME S.N.A**

Applications are invited from suitably qualified persons for the position of part time S.N.A. (12.5hrs), in Scoil Naomh Seosamh, Laragh, Bandon. Duties are in line with D.E.S. guidelines. Applications with CV and refs to Rev. Chairperson, B.O.M., by January 2, 2008. A list of suitable applicants may be drawn up from which future vacancies may be filled.

**TÁ** Gaelscoil Pheig Sayers, uimhir Rolla 19909M, Aonad 42, North Point Business Park, Bothar Nua, Mala, Corcaigh ag lorg 6ú oide scoile cáilithe do phost buan. Seo Gaelscoil meascaithe 96 dalta faoi phátrúnacht an tEaspag Caitliceach Corcaigh agus Róis seol iarrachtas le C.V. Cáilíochta litreacha molta, tuairisc cigire le clúdach litreach chuig an Cathaoirleach ag seoladh na scoile roimh 25/12/07. Coiméad-far liosta dos na h-iarrachtóirí do aon post eile.

**Engineering**

**ENGINEERS GET HEADHUNTED UPLOAD YOUR CV TODAY**

RecruitIreland.com

**Hotel & Catering**

**Head Chef & Sous Chef**

Required, immediate start. Top Salaries, Glanmire. Ph:087-2622664

**Indian Chef**

2 years experience and Restaurant Management experience required. Apply in writing only to: The Auld Triangle, Killarney, Mac-room, Co.Cork.

**I.T.**

**IT PROFESSIONALS GET HEADHUNTED UPLOAD YOUR CV TODAY**

RecruitIreland.com

**Medical, Chemists**

**Supervising Pharmacist**

Required for new Pharmacy opening in early 2008 located in growing and vibrant Cork city suburb. Excellent terms & conditions. Tel: (086) 8050703

**Sales & Marketing**

**SALES & MARKETING PROFESSIONALS GET HEADHUNTED UPLOAD YOUR CV TODAY**

RecruitIreland.com

**Sales & Marketing**

**MARKETING** and Sales Manager for Cork based Food Company. Key Account Exp Ess., Ex-package available. Ronan 087-6822821

**Massage Holistic/ Reiki**

**Jai Thai Centre**

Now open in Middleton & Ballincollig. Thai massage, warm oil massage, slimming massage plus a full range of health & beauty treatments for men & women. Gift Vouchers available. Phone Jai 021 4636938

**For Sale**

**Auto Roller Doors**

Garage, Insulated, Fire doors, I.D.A. Pk, Kanturk, Co. Cork. FreePhone:1800 612 138, 8am-8pm, Closed Sundays.

**Kitchens**

Made from real wood with no chipboard. Solid Oak framed shaker kitchens on real wood cabinets with real granite worktops, stainless steel, multi function oven & Hob, sink, taps and all extras. All still boxed and guaranteed. Should cost €6,000 accept €1,195. Tel 00 44 1616289731/ 00 44 8712000400.

**Business For Sale**

**EXCITING** Coffee and Sandwich Bar Franchise Business available for resale in the Limerick area, enjoying excellent location and turnover, huge potential for further expansion. Please reply to box no POS 2244387 this office

**Business To Let**

**LANDMARK** Bar Restaurant & Accommodation business available to let in East Cork. Experienced operator required. Excellent business opportunity available to the right candidate. Apply in confidence to POS 2247238 this office

**Licensed Premises**

7 Day - BAR LICENCE For Sale. Contact Murray Browne 021-4279955

**7 Day Licence**

**Property Commercial**

**Warehouse to let**

Ballincollig. 3,200 sq. ft. with offices. Secure location. Phone 086-1721530.

**Modern Offices**

- 1,068 sq m - 50 Car Parking Spaces, Southside. Purchase or Lease. Tel Frank V Murphy & Co 021 427 4204

**Property For Sale**

**CUL ARD, CARRIGTWOHILL:** Selection of 2, 3 & 4 bed houses and apartments from €240,000

Contact: Keane Mahony Smith 021-4270311, Property Team Maurice Ahern 021-4634022 www.mosgroup.ie

**DERRINGREE (Yravuchane)** 2 c. 1/2 acre sites with full planning for dormer bungalow. Priced to sell €128,000 each. Sherry Fitzgerald Hinchion 026-41165

**Excellent Investment**

Dingle 3 bed house, already let. €10K rental per annum. Superb location. FF. Contact: 087-1229655

**LISBON, Portugal.** Prime apartment blocks, ready for re-development to avail of recent tenancy legislation changes. 086-252445 - 021-4293333. Rose Property Services.

**MILLSTREET 3** bed semi. priced to sell, 086-1721142

**Property To Let**

**EXECUTIVE** prof let, Bishopstown. 3 mins from CUH & Wilton, EU:1800pm. 087-6826811

**MIDDLETON,** Castleredmond, £3 3 bed semi, €900pm. Tel. 087-2514613

**NEW 3** bed house FF, Charleville suite couple. €700pm.086-2600784

**NOHOVAL** Kinsale, 1 bed studio apartment, €500pm. Ph. 087-2541416

**To Let,** 2 bed apartment, fully furnished, first let, private secure parking, close to city, €1200pm. Tel: 087-9208730.

**Farm Buildings**

**SLURRY** tanks/ formwork Cork. Tel: 086-3410020

**Government Notices**

European Communities (Foot and Mouth Disease) (Restriction on Imports from the United Kingdom) (No. 2) (Third Amendment) Regulations 2007 S.I. No 787 of 2007

The Minister for Agriculture and Food has made an Order that gives effect to Commission Decision 2007/746/EC of 19 November 2007 regarding conditions for import due to the existence of foot-and-mouth disease in the United Kingdom.

Copies may be obtained from the Government Publications Sale Office, Sun Alliance House, Molesworth Street, Dublin 2 or by mail order from Government Publications, Postal Trade Section, 51 St Stephens Green, Dublin 2, Fax: 01 - 6476843. Price €1.27

Department of Agriculture, Fisheries and Food  
11 December 2007

**Legal Notices**

In the Matter of THE COMPANIES ACTS 1963 to 2006  
And in the Matter of CORK SUPERBIKE CENTRE LIMITED (In Liquidation)

Notice is hereby given pursuant to Sections 263 and 305 of the Companies Act, 1963, that a meeting of the members of the above-named company will be held at 11-12 South Terrace, Cork, on Wednesday, January 9, 2008, at 10am, for the purposes mentioned in the said Sections.

Proxies to be used at the meeting should be lodged with the Liquidator at 11-12 South Terrace, Cork, on or before 4pm on December 31, 2007.

**BARRY CONDON**  
Liquidator

**PATRICK McNAMARA & ASSOCIATES**  
11-12 South Terrace, Cork  
December 12, 2007.

Note: All admitted creditors have been paid in full.

**STATUTORY NOTICE TO CREDITORS**  
In the Estate of THOMAS HYLAND, Deceased late of Glenacunna,

**Public Notices**

**COMHAIRLE CONTAE CHIARRAÍ KERRY COUNTY COUNCIL**



**APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTE WATER DISCHARGE LICENCE in TRALEE**

Kerry County Council, County Buildings, Rathass, Tralee, County Kerry intends to apply to the Environmental Protection Agency for a **Waste Water Discharge Licence** for waste water works in Tralee, County Kerry.

**The waste water works comprise:**

- a mainly combined collection network with pumping stations and constructed system overflows which service the agglomeration comprising of Tralee town and surrounding developed area
- the waste water treatment plant at Lohercannan.

The Primary Discharge point is located at Lohercannan, Tralee. The National Grid reference of the Primary Discharge point is Northing: 114183.98, Easting: 81319.75

The associated waste water treatment plant is located at Lohercannan, Tralee, County Kerry. The National Grid reference of the plant is Northing: 114272.00, Easting: 81374.40.

A copy, in such format as may be determined by the Environmental Protection Agency, of (i) the Application for a waste water discharge licence, (ii) 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 Environmental Protection Agency, and at the principal office of the Water Services Authority of Kerry County Council, County Buildings, Rathass, Tralee, Co. Kerry.

Submissions in relation to the application may be made to the **Environmental Protection Agency at its headquarters at EPA, PO Box 3000, Johnstown Castle Estate, Co. Wexford.**

**APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A WASTE WATER DISCHARGE LICENCE in KILLARNEY**

Kerry County Council, County Buildings, Rathass, Tralee, County Kerry intends to apply to the Environmental Protection Agency for a **Waste Water Discharge Licence** for waste water works in Killarney, County Kerry.

**The waste water works comprise:**

- a mainly combined collection network with pumping stations and constructed system overflows, which service the agglomeration of Killarney town and surrounding developed area
- a waste water treatment plant at The Demesne Ross Rd., Killarney

The Primary Discharge point is located at The Demesne, Ross Road, Killarney, County Kerry. The National Grid reference of the Primary Discharge point is Northing: 89,888.190, Easting: 95,658.455

The associated waste water treatment plant is located at The Demesne, Ross Road, Killarney. The National Grid reference of the plant is Northing: 90,005.287, Easting: 95,596.929.

A copy, in such format as may be determined by the Environmental Protection Agency, of (i) the Application for a waste water discharge licence, (ii) 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,

**Public Notices**

**Public Notices**

**Public Notices**



**Waterford County Council Comhairle Contae Phort Láirge**

**TEMPORARY CLOSING OF ROADS**

**SECTION 75 ROADS ACT 1993**

**Tallow Sewerage Scheme - Collection System**  
Notice is hereby given that Waterford County Council, in exercise of its powers pursuant to Section 75 Roads Act 1993, propose to close the following road from the 21st January 2008 to the 5th February 2008, for pipelaying works.

**Road to be Closed:**  
R627 (Mill Road) between Junction with R634 (Barrack Street) and Junction with L6000 Cockpit Lane.

**Alternative Routes**  
For vehicles in excess of 3 tonnes G.L.W., via West Street (R628), Conna, Ballynoe and Murley's Crossroads.

For all other traffic via West Street (R628) and Cockpit Lane (L6000).

Objections or Submissions to be received by the undersigned not later than 17th December, 2007.

**John O'Flynn**  
Director of Services & County Engineer  
12th December, 2007

**TEMPORARY CLOSING OF ROADS**

**SECTION 75 ROADS ACT 1993**

**Tallow Sewerage Scheme - Collection System**  
Notice is hereby given that Waterford County Council, in exercise of its powers pursuant to Section 75 Roads Act 1993, propose to close the following road from the 7th January 2008 to the 21st January 2008, for pipelaying works.

**Road to be Closed:**  
R634 (Barrack Street) between Junction with R627 (Mill Road) and Junction with R628 (West Street).

**Alternative Routes**  
For vehicles in excess of 3 tonnes G.L.W., via Mill Road (R627), Murley's Crossroads, Ballynoe, Conna and West Street (R628).

For all other traffic via Mill Road (R627), Cockpit Lane (L6000) and West Street (R628).

Objections or Submissions to be received by the undersigned not later than 17th December, 2007.

**John O'Flynn**  
Director of Services & County Engineer  
12th December, 2007

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