

SECTION E – MONITORING

Attachment E1: Wastewater Discharge Frequency & Quantities – Existing & Proposed

- **Table E.1(i): Waste Water Frequency and Quantity of Discharge Primary and Secondary Discharge Points**

(NOTE: There is no Secondary Discharge Point)

- **Table E.1(ii): Waste Water Frequency and Quantity of Discharge Storm Water Overflows**

(NOTE: No Information on Quantity of Waste Water discharged available for Storm Water Overflow, as flows are not continuous or consistent)

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TABLE E.1(i): WASTE WATER FREQUENCY AND QUANTITY OF DISCHARGE – Primary and Secondary Discharge Points

Identification Code for Discharge point	Frequency of discharge (days/annum)	Quantity of Waste Water Discharged (m ³ /annum)
SW-1	365	40150

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TABLE E.1(ii): WASTE WATER FREQUENCY AND QUANTITY OF DISCHARGE – Storm Water Overflows

Identification Code for Discharge point	Frequency of discharge (days/annum)	Quantity of Waste Water Discharged (m ³ /annum)	Complies with Definition of Storm Water Overflow
SW-2			Yes

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SECTION E – MONITORING

Attachment E2: Monitoring & Sampling Points

- Programme for Environmental Monitoring
- Drawing No. 5270-2795

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PROGRAMME FOR ENVIRONMENTAL MONITORING

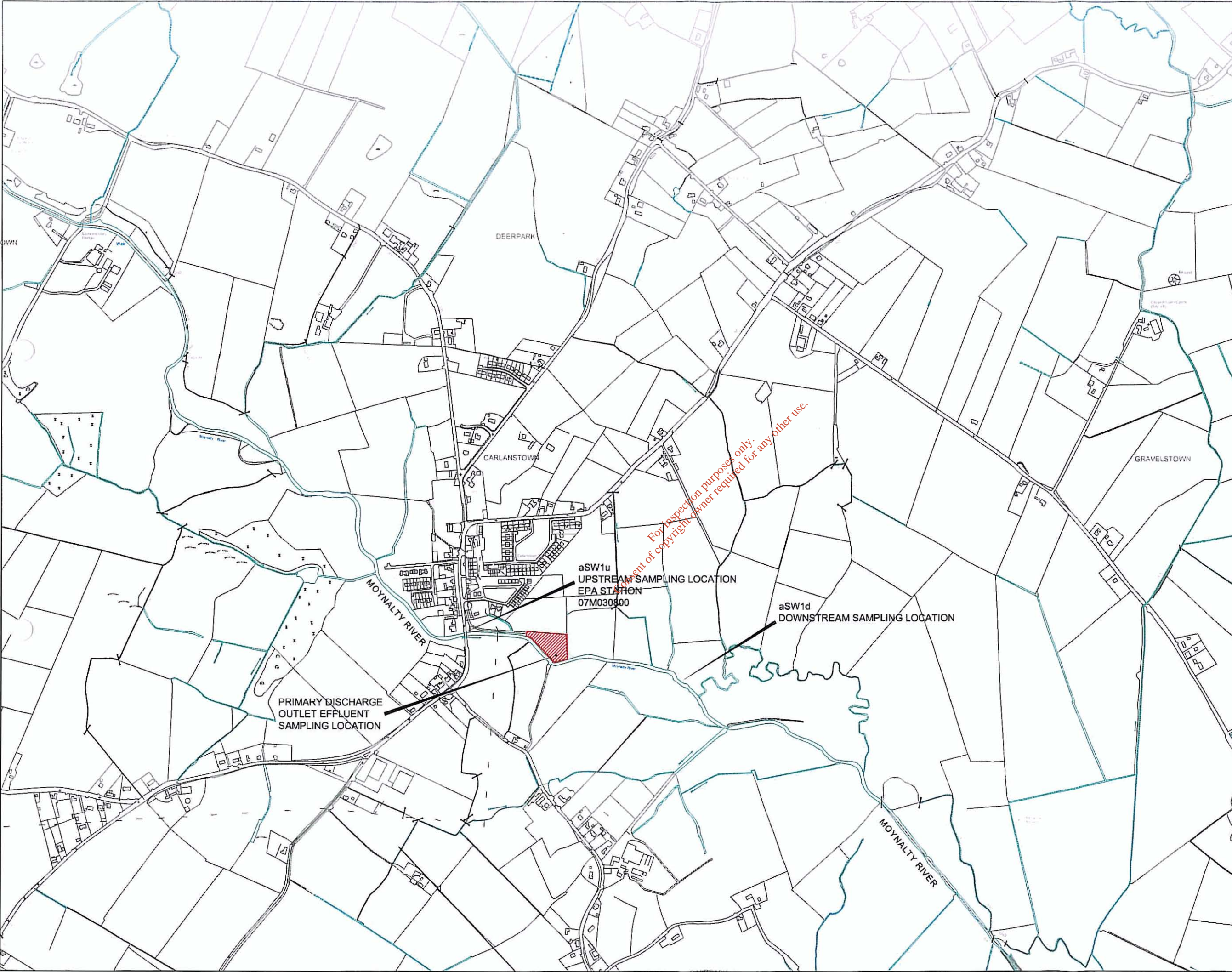
The 'Programme for Environmental Monitoring' is proposed to continue in much the same way as it has done for the last 2 years. This will involve monitoring of the Influent to the Waste Water Treatment Plant and Effluent from the Waste Water Treatment Plant (i.e. Primary Discharge Outlet Effluent Sampling Location) on a monthly basis for the following parameters: BOD, COD, Total Suspended Solids (TSS), Total Phosphorus as P & Total Nitrogen as N.


The Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007) requests water sampling of the aquatic environment into which the Primary and Secondary Discharges occur, in order to monitor the impact of the discharges on the ambient environment.

The Primary Discharge Point (SW1) and the Storm Water Overflow (SW3) from Carlanstown WWTP discharge directly to the Moynalty River. For the last number of years, Meath County Council have carried out monthly monitoring upstream and downstream of Carlanstown WWTP discharges into the Moynalty River, at the EPA Station Locations 07M030800 and 07M030900, as shown on Drawing No. 5270-2795 (overleaf). The results of this analysis for 2007 & 2008 are presented in Attachment E.4. This sampling includes analysis for: Dissolved Oxygen (DO), Temperature, pH, Electrical Conductivity, BOD, Suspended Solids, Ammonia, Total Nitrogen, Nitrate, Chloride, Alkalinity, Hardness & Colour.

It is proposed to continue this monitoring upstream and downstream of the discharge points in the Moynalty River, but to replace the EPA sampling locations with locations aSW1u and aSW1d, as shown on Drawing No. 5270-2795 (overleaf).

All sampling points proposed above have a safe means of access. Samples will be tested for DO, Temperature, pH & Electrical Conductivity by the sampler at the time of sampling, using fully calibrated and serviced equipment. The remainder of analysis will be carried out by an independent fully quality-controlled laboratory.





WWTP SITE
BOUNDARY

NOTES

- FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING
- ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
- ENGINEER TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
- ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

Rev	Date	Description	By	Chd
A	18.05.09	ISSUE TO MEATH CO. CO.	R.K.	M.H.

Client:

MEATH COUNTY COUNCIL

Project:

CARLANSTOWN WASTE WATER
DISCHARGE LICENCE
APPLICATION

Title:


ALL MONITORING &
SAMPLING POINTS

(SECTION / ATTACHMENT E.2)

Scale @ A3: 1 : 10,000

Prepared by:	Checked:	Date:
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Drawing No.: 5270-2795

Revision: A

SECTION E – MONITORING

Attachment E3: Tabular Data on Monitoring and Sampling Points

- **Table E3: Tabular Data on Monitoring & Sampling Points**

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Table E3

[illegible]

SECTION E – MONITORING

Attachment E4: Sampling Data

- **Sampling Data Pertaining to the Existing Waste Water Treatment Plant for Previous 12 Months**
- **Details of Compliance with Any Applicable Monitoring Requirements and Treatment Standards**

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**SAMPLING DATA PERTAINING TO THE EXISTING WASTE WATER TREATMENT
PLANT FOR PREVIOUS 12 MONTHS**

As stated in Attachment E.2 above - '*Programme for Environmental Monitoring*', monitoring of the Influent to the Waste Water Treatment Plant and the Effluent from the Waste Water Treatment Plant (i.e. Primary Discharge Outlet Effluent Sampling Location) have been carried out on a monthly basis for the last number of years. Monitoring results for the 'Influent' to the WWTP (2007 & 2008) were attached in Attachment D.1. Monitoring results for the 'Effluent' from the WWTP (2007 & 2008) are attached overleaf.

Also, as stated in Attachment E.2 above - '*Programme for Environmental Monitoring*', for the last number of years, Meath County Council have carried out monthly monitoring upstream and downstream Carlanstown WWTP discharges into the Moynalty River, at the EPA Station Locations 07M030800 and 07M030900, as shown on Drawing No. 5270-2795. Monitoring results for these stations for 2007 & 2008 are attached overleaf.

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CARLANSTOWN 'EFFLUENT' MONITORING 2007										
Plant Name	Sample	Date of Sampling	Sample Type	BOD mg/l	COD mg/l	TSS mg/l	Total P mg/l	Prtho P mg/l	Total N mg/l	NH3-N mg/l
Carlanstown	Final Effluent	22/02/2007	G	5.05	25.4	4.8	0.484	-	41.4	
	Final Effluent	06/03/2007	G	2.45	34	5.6	0.795	-	4.62	
	Final Effluent	30/05/2007	G	3.5	63.3	9.2	-	-	-	
	Final Effluent	12/07/2007	G	8.9	-	32	4.92	-	35.9	
	Final Effluent	19/09/2007	G	24.9	120	62.8	5.54	-	99.3	no sample
	Final Effluent	04/10/2007	G	35.4	208	120	8.79	-	40	no sample
	Final Effluent	11/10/2007	G	8.4	50	8.4	4.54	-	49	no sample
	Final Effluent	25/10/2007	G	4.7	48.3	9.6	3.63	-	28.2	no sample
	Final Effluent	13/11/2007	G	7.05	55.6	6.8	4.84	-	51.6	-

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CARLANSTOWN 'EFFLUENT' MONITORING 2008						
	03-Jan-08	20-Feb-08	23-Apr-08	06-Jun-08	06-Aug-08	02-Oct-08
Parameter	Eff	Eff	Eff	Eff	Eff	Eff
BOD mg/l	18.7	6.2	43	11.59	4.51	2.85
COD mg/l	48.7	43.8	161	71.6	7.49	30.9
TSS mg/l	42.4	6	105		22.8	9.2
Tot P mg/l	0.932	0.385	4.25	5.02	4.69	0.37
Tot N mg/l	17	17.7	25.3	41.8	38.1	11.9

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SampleCode	EPA_Site_Code	SampleDate	SampleTime	SampleMethod	EmployeeID	DO_Sat_(%Sat)	DO_(mg/L)	Temperature_(degC)	pH_Units	Conductivity_(uS/cm,25DegC)	BOD_(mg/L)	Suspended_Solids_(mg/L)	NH4_(mgN/L)	MRP_(mgP/L)	TON_(mgN/L)	NO2_(mgN/L)	Chloride_(mgCl/L)	Alkalinity_(mg/LCaCO3)	Total_Hardness_(mg/LCaCO3)	Colour_(Pt/CoUnits)	Cu_(mg/L)	Zn_(mg/L)
07990051	07M030800	17/01/2007	10:25:00 AM	Grab	9911	96.4	11.57	6.3	7.90	344			0.043	0.041	5.02	0.035						
07990158	07M030800	21/02/2007	1:15:00 PM	Grab	9915	105.9	12.53	6.9	8.04	298			0.043	0.045	3.60	0.028				66		
07990287	07M030800	14/03/2007	12:05:00 PM	Grab	9915	100.1	11.91	7.8	8.05	342	1.51		0.013	0.026	4.33	0.011	14.5	128	152	28		
07990370	07M030800	16/04/2007	1:10:00 PM	Grab	9915	143.3	15.08	13.2	8.51	460			0.008	0.008	4.88	0.015						
07990545	07M030800	15/05/2007	12:45:00 PM	Grab	9915	107.0	11.10	12.7	8.14	454	1.70		0.032	0.036	4.27	0.035	17.3	204	220	25		
07990654	07M030800	21/06/2007	11:40:00 AM	Grab	9911	97.3	9.81	14.4	7.76	287			0.059	0.097	2.60	0.041						
07990770	07M030800	18/07/2007	2:15:00 PM	Grab	9911	100.2	10.14	14.8	7.86	302			0.018	0.069	2.50	0.015						
07990888	07M030800	22/08/2007	2:20:00 PM	Grab	9911	104.6	10.54	15.6	8.07	355	0.84		0.013	0.043	3.14	0.012	13.0	144	160	46		
07991020	07M030800	25/09/2007	3:35:00 PM	Grab	9911	117.3	12.48	12.7	8.28	470			0.010	0.032	3.83	0.011						
07991162	07M030800	25/10/2007	1:30:00 PM	Grab	9911	103.6	12.49	7.6	8.12	514			0.014	0.050	4.26	0.015						
07991306	07M030800	28/11/2007	2:15:00 PM	Grab	9911	96.1	10.83	9.6	7.88	320	1.22		0.028	0.068	2.56	0.024	16.0	116	134	37		
07991414	07M030800	17/12/2007	12:10:00 PM	Grab	9916	94.0	11.89	5.9	7.91				0.031	0.033	4.32	0.014						
08990091	07M030800	30/01/2008	12:05:00 PM	Grab	9911	95.9	12.07	6.0	7.70	355			0.032	0.038	4.09	0.017						
08990140	07M030800	20/02/2008	3:25:00 PM	Grab	9911	97.8	12.19	5.9	7.93	431	0.89		0.019	0.024	4.73	0.013	15.8	170	200	17		
08990269	07M030800	22/04/2008	2:25:00 PM	Grab	9911	133.8	14.32	11.9	8.56	427			0.008	0.012	3.79	0.019						
08990441	07M030800	28/05/2008	10:15:00 AM	Grab	9911	92.7	9.80	12.3	8.06	496	1.25		0.023	0.029	3.63	0.026	17.5	204	232	18		
08990616	07M030800	13/08/2008	1:15:00 PM	Grab	9911	91.6	9.25	14.1	7.43	232	1.92		0.043	0.075	1.75	0.022	12.1	79	84	105		
08990759	07M030800	18/11/2008	11:05:00 AM	Grab	9911	95.7	11.13	9.1	7.52	306	0.72		0.025	0.036	2.13	0.017	12.1	120	130	45		

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SampleCode	EPA_Site_Code	SampleDate	SampleTime	SampleMethod	EmployeeID	DO_Sat_(%Sat)	DO_(mg/L)	Temperature_(degC)	pH_Units	Conductivity_(uS/cm,25DegC)	BOD_(mg/L)	Suspended_Solids_(mg/L)	NH4_(mgN/L)	MRP_(mgP/L)	TON_(mgN/L)	NO2_(mgN/L)	Chloride_(mgCl/L)	Alkalinity_(mg/LCaCO3)	Total Hardness_(mg/LCaCO3)	Colour_(Pt/CoUnits)	Cu_(mg/L)	Zn_(mg/L)
07990052	07M030900	17/01/2007	10:10:00 AM	Grab	9911	90.9	10.91	6.5	7.88	495			0.056	0.037	5.18	0.034						
07990159	07M030900	21/02/2007	1:30:00 PM	Grab	9915	100.6	11.88	7	7.93	445			0.073	0.049	3.77	0.032				73		
07990288	07M030900	14/03/2007	12:15:00 PM	Grab	9915	94.3	11.29	7.6	8	493	1.28		0.035	0.032	4.47	0.018	15.9	198	240	29		
07990371	07M030900	16/04/2007	1:25:00 PM	Grab	9915	103.8	10.98	12.7	8.14	620			0.034	0.019	4.71	0.025						
07990546	07M030900	15/06/2007	1:00:00 PM	Grab	9915	98.8	10.51	11.8	8.07	602	1.47		0.035	0.031	3.79	0.036	18.6	272	300	33		
07990655	07M030900	21/06/2007	11:30:00 AM	Grab	9911	83.7	8.48	14.3	7.56	414			0.111	0.101	2.44	0.062						
07990771	07M030900	18/07/2007	2:25:00 PM	Grab	9911	89.1	9.08	14.5	7.8	446			0.035	0.070	2.48	0.023						
07990889	07M030900	22/08/2007	10:40:00 AM	Grab	9911	85.1	8.87	14	7.65	511	0.91		0.024	0.045	3.10	0.024	14.3	228	248	58		
07991021	07M030900	25/09/2007	3:45:00 PM	Grab	9911	99.2	10.61	12.5	8.09	622			0.012	0.036	3.57	0.014						
07991163	07M030900	25/10/2007	1:40:00 PM	Grab	9911	93	11.29	7.3	8.12	666			0.016	0.044	3.80	0.033						
07991307	07M030900	28/11/2007	2:25:00 PM	Grab	9911	87	9.78	9.7	7.85	481	1.04		0.047	0.066	2.57	0.030	16.8	190	224	32		
07991415	07M030900	17/12/2007	11:50:00 AM	Grab	9916	88.8	11.4	5.6	7.79				0.063	0.039	4.24	0.030						
08990092	07M030900	30/01/2008	12:15:00 PM	Grab	9911	90.9	11.48	5.8	7.73	504			0.065	0.042	4.27	0.028						
08990141	07M030900	20/02/2008	3:35:00 PM	Grab	9911	93.3	11.71	5.7	7.99	593	1.11		0.056	0.033	4.80	0.023	18.0	246	292	16		
08990265	07M030900	22/04/2008	2:35:00 PM	Grab	9911	110.2	11.87	11.8	8.26	588			0.044	0.020	3.73	0.022						
08990442	07M030900	28/05/2008	10:05:00 AM	Grab	9911	81.4	8.65	12	8.04	634	1.94		0.042	0.031	3.20	0.032	18.1	268	308	16		
08990504	07M030900	15/07/2008	11:00:00 AM	Grab	9911	82.1	8.06	16.5	7.93	551			0.062	0.081	2.40	0.046						
08990617	07M030900	13/08/2008	1:30:00 PM	Grab	9911	75.59999847	7.6199999	14.19999981	7.39	347	2.24		0.081	0.091	2.06	0.044	13.1	128	154	131		
08990760	07M030900	18/11/2008	10:50:00 AM	Grab	9911	86.5	10.09	9.199999809	7.26	450	0.81		0.049	0.041	2.29	0.026	13.6	190	212	48		
00990056	07M030900	11/02/2009	2:15:00 PM	Grab	9911	95.1	12.41	4.4	7.98	519	0.90		0.048	0.026	3.41	0.016	15.6	220	252	33		

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DETAILS OF COMPLIANCE WITH ANY APPLICABLE MONITORING REQUIREMENTS
AND TREATMENT STANDARDS

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

Final effluent from Carlanstown WWTP is discharged directly to the Moynalty River, which is not classified as nutrient sensitive under the Urban Waste Water Treatment Regulations 2001 (S.I. No. 254 of 2001). Nonetheless, the secondary treatment at the WWTP includes 'Nutrient Removal'.

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