

CONSENT NO.

CG0138301



ASiantaeth Yr  
Amgylchedd Cymru  
Environment  
Agency Wales

WATER RESOURCES ACT 1991

SECTION 88 - SCHEDULE 10

(AS AMENDED BY THE ENVIRONMENT ACT 1995)

## VARIATION OF CONSENT TO DISCHARGE

**TO:** Environment Quality Scientist  
Dŵr Cymru Cyf.  
Pentwyn Road  
Nelson  
Treharris  
Mid Glamorgan CF46 6LY

In pursuance of an application by the consent holder for variation of consent, the **ENVIRONMENT AGENCY** ("The Agency") in pursuance of its powers under the Water Resources Act 1991 **HEREBY VARIES ITS CONSENT** to the making of a discharge **OF SEWAGE EFFLUENT** as follows:

Secondary treated sewage effluent incorporating the requirements of the Urban Waste Water Treatment Regulations (UWWTR) 1994

with respect to Consent No. CG0138301 issued on the 23<sup>rd</sup> November 1992

**FROM: FAIRBOURNE WASTE WATER TREATMENT WORKS**

**AT: FAIRBOURNE, GWYNEDD, LL38 2LQ**

**TO: COASTAL WATERS**

**HEREAFTER SUBJECT TO** the conditions set out in the following schedule(s):

Secondary Treated Sewage Effluent

Schedule No. CG0138301 01

UWWT Regulations 1994

Schedule No. CG0138301 01/U

Subject to the provisions of Paragraphs 7 and 8 of Schedule 10 of the Water Resources Act 1991, no notice shall be served by the Agency, which alters the effect of variations made to this consent, without the agreement in writing of the consent holder, during a period of 4 years from the date this variation is issued.

This variation of consent is issued on the 20<sup>th</sup> day of February 2004

This variation of consent takes effect on the 30<sup>th</sup> day of March 2004

Signed .....

**IWAN THOMAS**

Environment Management Team Leader

Asiantaeth yr Amgylchedd

Llwyn Brain, Ffordd Penlan, Parc Menai, Bangor LL57 4DE Ffon 01248 670770 Ffacs 01248 670561

Environment Agency

Llwyn Brain, Ffordd Penlan, Parc Menai, Bangor LL57 4DE Tel 01248 670770 Fax 01248 670561



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## **CONDITIONS OF CONSENT TO DISCHARGE**

**Secondary Treated Sewage Effluent ("the Discharge")**

**FROM: Fairbourne Waste Water Treatment Works, Fairbourne,  
Gwynedd, LL38 2LQ**

### **NATURE**

1. The Discharge shall consist solely of secondary treated sewage effluent which has been disinfected at all times by passage through membrane filters. For the purpose of this consent, "disinfection" is defined as the use of a process designed specifically to reduce the number of viable, potentially infectious micro-organisms in the effluent.

### **LOCATION**

2. The Discharge shall be made in the manner and at the place specified as:
  - (a) discharging via a 225 millimetre diameter pipe;
  - (b) discharging to coastal waters adjacent to the mouth of the Mawddach Estuary;
  - (c) at National Grid Reference SH 60736 13574;
  - (d) shown marked 'Consent Point' on Plan CG0138301 (i) attached as Annex 3.

### **SAMPLE POINT**

3. An appropriately labelled sample point shall be provided and maintained at National Grid Reference SH 62077 13337, as shown marked 'Discharge Sample point' on the Plan CG0138301(ii) attached as Annex 4 or some other point as agreed in writing with the Agency, so that a representative spot sample of the Discharge may be obtained. The Consent Holder shall ensure that all constituents of the Discharge pass through the said sampling point at all times and in any legal proceedings it shall, for the purposes of Section 10 of the Rivers (Prevention of Pollution) Act 1961, be presumed, until the contrary is shown, that any sample of the Discharge taken at the said sampling point is a sample of what was being discharged into controlled waters.



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## **VOLUME**

4. The volume of the Discharge shall not exceed 939.2 cubic metres per day.
5. The Dry Weather Flow of the Discharge shall not exceed 381.22 cubic metres per day.

For the purpose of this condition Dry Weather Flow shall mean the average daily flow to the treatment works during seven consecutive days without rain (excluding a period which includes public holidays) following seven days during which the rainfall did not exceed 0.25 millimetres on any one day.

6. The rate of discharge shall not exceed 10.87 litres per second.
7. The discharge shall not take place during the period from 1.5 hours before low tide to 1.5 hours after low tide.

## **FLOW MEASUREMENT**

8. A continuous flow monitoring and recording system, to a specification provided by the Agency, with on-site visual display from which readings can be readily obtained by the Agency, shall be provided by 31<sup>st</sup> March 2005 and operated to record the daily volume and instantaneous flow of sewage through the treatment works.
9. As soon as practicable after completion of the flow system installation the Consent Holder shall employ an independent expert to certify that the installation complies with the Agency's specification. The Consent Holder shall satisfy himself as to the professional competence of the expert. A copy of the certifier's report shall be provided to the Agency when it is available.
10. Records of the flow readings shall be maintained by the Consent Holder and shall be provided to the Agency when requested, in a format specified by the Agency.
11. The Consent Holder shall produce and maintain a quality control manual, approved by the independent expert and to the satisfaction of the Agency, specifying procedures for the calibration, operation and maintenance of the flow monitoring system. The flow system shall be calibrated, operated and maintained by the Consent Holder in accordance with the provisions of the manual. The Consent Holder shall keep a record of these procedures available for inspection by the Agency and provide a copy to the Agency on request.



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12. The Consent Holder shall record all failures of the continuous flow system and any other breaks in the flow record. The reasons for these failures and breaks shall be recorded and all steps taken to prevent a re-occurrence. The Consent Holder shall ensure that as far as possible the recorder remains fully operational at all times. Any failures shall be remedied as soon as possible.
13. Flows of sewage through the treatment works shall be measured at the inlet works NGR SH 62074 13327, or such other point(s) as agreed by the Agency.

### **COMPOSITION**

14. (a) Subject to paragraph (b) below, the Discharge shall not contain more than;
  - (i) 40 milligrammes per litre of biochemical oxygen demand (measured after 5 days at 20<sup>0</sup> C with nitrification suppressed by the addition of allyl-thiourea)
  - (iii) 60 milligrammes per litre of suspended solids (measured after drying at 105<sup>0</sup>C);
- (b) The limit for any of the relevant parameters set out in paragraph (a) above may be exceeded where, in any series of samples of the Discharge taken at regular but randomised intervals in any period of twelve consecutive months as listed in Column 1 of the table at Annex 1 to this consent, no more than the relevant number of samples, as listed in Column 2 of the said table, exceed the applicable limit for that relevant parameter.

### **WORKS OPERATION**

15. The works shall be operated and the effluent shall be treated in a manner which, so far as reasonably practicable, minimises the polluting effects of the discharge made from the works on controlled waters.

This condition does not require -

- (a) any higher standard to be achieved in relation to any characteristic of the discharge which is specifically regulated by Condition 14 than is required by those conditions;
- (b) any alteration of the works or a change in the type of treatment used.



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## **MAINTENANCE**

16. (a) A maintenance programme, including the method and frequency of cleaning and replacement of membrane filters, on-line turbidity meters, and flow meters, shall be undertaken by the Consent Holder. Details of the maintenance programme shall be provided to the Agency for agreement.
- (b) The Consent Holder shall keep records of the maintenance undertaken (both programmed and un-programmed). Copies of these records shall be maintained by the Consent Holder and kept conveniently available for inspection by the Agency's officers at all reasonable times.
17. (a) The Consent Holder shall maintain the outfall pipe and diffusers in an efficient operational condition, so as to minimise the probability of blockages or other failures, and shall implement periodic inspections of the integrity and performance of the diffusers and outfall pipe.
- (b) On request the Consent Holder shall supply the Agency with a written report on the maintenance and all non-routine actions undertaken.

## **UNUSUAL WEATHER**

18. (a) No sample of the discharge, taken at a time when unusual weather conditions are adversely affecting the operation of the sewage treatment works, shall be taken into account in deciding whether or not conditions 14 and 15 of this consent schedule have been complied with.
- (b) For the purpose of this condition "unusual weather conditions" shall include:
  - (i) low ambient temperatures as evidenced by effluent temperatures of 5°C or less, or by the freezing of mechanical equipment in the works;
  - (ii) significant snow deposits;
  - (iii) tidal or fluvial flooding;
  - (iv) weather conditions causing unforeseen loss of power supply to the sewage treatment which could not be ameliorated by the reasonable provision and operation of standby generation facilities.





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- (c) On any occasion where unusual weather conditions adversely affect the operation of the sewage treatment works, the Consent Holder shall use its best endeavours to mitigate that adverse affect.
- (d) For a sample of the discharge to be considered for the purposes of (a) above, the Consent Holder shall notify the Agency by telefax or telephone as soon as unusual weather conditions are known to have adversely affected operations and shall confirm the circumstances in writing as soon as possible thereafter (and in any event within 14 days of the occurrence of such conditions). That notification shall include a full description of the unusual weather conditions and their impact on the operation of the works.

## RECORDING AND REPORTING

- 19. (a) The Consent Holder shall establish and operate a documented maintenance programme and record all non-routine actions undertaken that may have adversely affected effluent quality. Copies of the programme shall be made available for inspection by the Agency's officers at all reasonable times.
  - (b) On request the Consent Holder shall supply the Agency with a written report on the maintenance and all non-routine actions that may have adversely affected effluent quality.
20. The Consent Holder shall notify the Agency in writing if any known or planned introduction or material change in respect of discharges from trade premises to the environment occurs, that may increase or introduce into the effluent any "dangerous substance" (set out in Annex 2 to this notice as updated from time to time and notified to the Consent Holder in writing), and any other substance considered by the Consent Holder as having or likely to have a significant effect on the receiving waters.



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## **21. Process Monitoring and Reporting**

Continuous recorders, with on-site visual display from which readings may be readily obtained, shall be provided and maintained by the Consent Holder enabling:

- (a) the instantaneous effluent flow rate to be recorded at hourly, or more frequent intervals to be agreed in writing with the Agency ;
- (b) the instantaneous effluent turbidity after membrane filtration to be measured and recorded at hourly, or more frequent intervals to be agreed in writing with the Agency ;
- (c) Copies of the records shall be maintained by the Consent Holder for a minimum of 2 years and be kept at a nominated place available for inspection by the Agency's officers at all reasonable times.
- (d) The Consent Holder shall supply to the Agency, on a three-monthly basis, records of the turbidity and flow readings, in a format agreed with the Agency.

## **22. Records of Maintenance and Incidents of failure**

The Consent Holder shall supply to the Agency, on a three-monthly basis, records of the maintenance undertaken, including any details and an explanation of the circumstances where the agreed maintenance programme was not met.

The Consent Holder shall supply to the Agency, on a three-monthly basis, a written report detailing all occurrences when:

- there were any failures of any measurement system used to control the membrane filtration system,
- the external power supply to the membrane filtration system was interrupted
- where effluent turbidity exceeded 30 NTU (nephelometric turbidity units)
- A discharge of sewage effluent was made which had not been subjected to treatment by membrane filtration as specified in condition 1 of this consent.
- The report shall detail the reasons why the situation occurred, and the actions taken by the Consent Holder. The report shall include an assessment of what measures can be adopted in the future to minimise such occurrences.



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## **SUBSTANTIAL CHANGE**

23. (a) A discharge shall not be made from the works if it would cause a significant increase in the polluting effects of the discharge on controlled waters as a result of a new or altered discharge of trade effluent into the works.
- (b) A discharge of trade effluent into the works is new if -
- (i) it is made by the sewerage undertaker and is of a kind not made into the works by the undertaker immediately before the date of effect of this consent; or
  - (ii) it is made by a third party and the discharge is authorised on or after that date.
- (c) A discharge of trade effluent into the works is altered if -
- (i) it is made by the sewerage undertaker and its composition or quantity changes significantly on or after date of variation of this consent ; or
  - (ii) it is made by a third party and the alteration of the discharge is authorised on or after that date.
- (d) An increase in the polluting effects of the discharge on controlled waters is not significant for the purposes of this condition if it relates to any characteristics of the discharge which are specifically regulated by conditions 14 and 15 of this consent schedule but it may be significant if it is caused by a change in some other characteristic of the discharge.
- (e) For the purposes of this condition “trade effluent” means -
- (i) any discharge by the sewerage undertaker other than
    - (1) domestic sewage from premises connected directly or indirectly to the works; or
    - (2) surface water run-off;
  - (ii) any discharge by a third party which is authorised under Chapter III of Part IV of the Water Industry Act 1991 or which is only accepted as a result of a contract with the sewerage undertaker.





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## **UNAUTHORISED DISCHARGE**

24. (a) A discharge made from the works shall not contain any poisonous, noxious or polluting matter or solid waste matter which is attributable to any unauthorised discharge into the works.
- (b) A discharge into the works is unauthorised if it is made by a third party and either there is no obligation to receive it or conditions subject to which there is an obligation to receive it are not observed.
- (c) Nothing in this, or any other, condition of this consent prevents anyone from relying on any defence available to them under Section 87 of the Water Resources Act 1991.

## **TELEMETRY**

25. A telemetry alarm system connected to a 24-hour manned station shall be provided and maintained by the Consent Holder to provide a warning in the event that:
- (a) the external power supply to the treatment system has been interrupted;
- (b) there has been a mechanical or control system breakdown;
- (c) the effluent turbidity exceeds 30 NTU (nephelometric turbidity units).

## **EMERGENCY NOTIFICATION**

26. The Consent Holder shall notify the Agency in the event of a Discharge of sewage effluent which has not been subjected to the required membrane filtration process as specified in condition 1 of this consent. Such notification must be made as soon as practicable and no later than 24 hours after the event.

## **POWER**

27. Facilities shall be provided so that a mobile stand-by generator may readily be installed at the works in the event of electrical failure and the Consent Holder shall install and operate such a generator as soon as is practicable after an electrical failure.





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## EFFICACY MONITORING PROGRAMME

28. The Consent Holder shall carry out the monitoring programme as detailed below during the commissioning period and for the duration of the period as specified in condition 1 of this consent, when the effluent undergoes membrane filtration. The results of the monitoring programme are to be supplied to the Agency in an agreed format every three months.

### I. Sample points

- A Crude influent to sewage treatment works NGR 62070 13329
- B Biologically treated sewage effluent after membrane filtration NGR SH 62077 13337.

### II. Microbiological determinands and frequencies

(Agency Standard Analytical Methods to be employed, including AQC)

- (a) Faecal Coliforms - fortnightly, at sample points A and B;
- (b) Total Coliforms - fortnightly, at sample points A and B;
- (c) Faecal Streptococci - fortnightly, at sample points A and B;
- (d) Salmonella - fortnightly, at sample point B;
- (e) Representative enteroviruses - fortnightly, at sample point B;
- (f) F-specific bacteriophage - fortnightly, at sample point B.

Following two consecutive years of full consent compliance, the Agency will review the data annually and notify in writing the Consent Holder of any resulting change in the monitoring regime.

### III. Other determinands and frequencies

The measurement of all determinands below shall coincide with the measurement of microbial determinands.

#### *Flow*

The flow shall be measured at NGR SH 62074 13327.

#### *Suspended solids*

Suspended solids shall be measured at sample point B.

#### *Reporting*

Results of the monitoring programme shall be reported to the Agency in an agreed format at three-monthly intervals.





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#### START DATE

29. There shall be no discharge under the terms of this consent until the 30<sup>th</sup> March 2004 or the end of commissioning of the works whichever is the sooner. The Consent Holder shall give the Agency at least 28 days written notice before making the discharge.



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## **CONDITIONS OF CONSENT TO DISCHARGE**

**Urban Waste Water Treatment Regulations 1994 ("the Discharge")**

**FROM: Fairbourne Waste Water Treatment Works, Fairbourne, Gwynedd,  
LL38 2LQ**

- U0**     (a)     The Consent Holder shall comply with the Urban Waste Water Treatment (England and Wales) Regulations 1994 ("the Regulations").
- (b)     For the purpose of conditions U1 below, interpretations and references to a numbered regulation or Schedule shall have the meaning as in the Regulations, unless otherwise indicated.
- U1**     (a)     The Discharge derives from an agglomeration with a population equivalent of less than 2,000, discharging to coastal waters.
- (b)     The Consent Holder shall inform the Agency in writing of any change, or proposed change, to the population equivalent such as would make a material change to the application of the Regulations and shall, on request, inform the Agency in writing of the actual population equivalent.
- (c)     The Discharge shall be subject to Regulation 5(7) and shall satisfy the requirements of Regulation 5(8)(a).



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# ANNEX 1

## TABLE

<u>Column 1</u>	<u>Column 2</u>
Number of samples taken in any period of 12 months	Maximum number of samples permitted to exceed limit for given determinand
4-7	1
8-16	2
17-28	3
29-40	4
41-53	5
54-67	6
68-81	7
82-95	8
96-110	9
111-125	10
126-140	11
141-155	12
156-171	13
172-187	14
188-203	15
204-219	16
220-235	17
236-251	18
252-268	19
269-284	20
285-300	21
301-317	22
318-334	23
335-350	24
351-365	25



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## ANNEX 2

- |  |                              |
|--|------------------------------|
| 1. Mercury and its compounds   | 2. Cadmium and its compounds |
| 3. Hexachlorocyclohexane<br>(lindane and related compounds)            | 4. Carbon tetrachloride      |
| 5. DDT (the isomers of 1,1,1-trichloro-2,2 bis{p-chlorophenyl} ethane) |                              |
| 6. Pentachlorophenol (PCP)   | 7. Aldrin                    |
| 8. Dieldrin  | 9. Endrin                    |
| 10. Isodrin  | 11. Hexachlorobenzene (HCB)  |
| 12. Hexachlorobutadiene (HCBd)   | 13. Chloroform               |
| 14. Polychlorinated biphenyls  | 15. Dichlorvos               |
| 16. 1,2-Dichloroethane   | 17. Trichlorobenzene         |
| 18. Atrazine   | 19. Simazine                 |
| 20. Tributyltin compounds  | 21. Triphenyltin compounds   |
| 22. Trifluralin  | 23. Fenitrothion             |
| 24. Azinphos-methyl  | 25. Malathion                |
| 26. Endosulfan   | 27. Lead                     |
| 28. Chromium   | 29. Zinc                     |
| 30. Copper   | 31. Nickel                   |
| 32. Arsenic  | 33. *Iron                    |
| 34. *pH if outside the range 5.5 to 9.0                                | 35. *Boron                   |
| 36. Vanadium   | 37. PCSD'S                   |
| 38. Cyfluthrin   | 39. Sulcofuron               |
| 40. Flucifuron   | 41. Permethrin               |
| 42. 4-Chloro-3-methyl-phenol   | 43. 2-Chlorophenol           |
| 44. 2,4-Dichlorophenol   | 45. 2,4-D (ester)            |
| 46. 2,4-D (non ester)  | 47. 1,1,1-Trichloroethane    |
| 48. 1,1,2-Trichloroethane  | 49. Bentazone                |
| 50. Benzene  | 51. Biphenyl                 |
| 52. Chloronitrotoluenes  | 53. Demeton                  |
| 54. Dimethoate   | 55. Linuron                  |
| 56. MCPA   | 57. Mecoprop                 |
| 58. Mevinphos  | 59. Napthalene               |
| 60. Omethoate  | 61. Toluene                  |
| 62. Triazophos   | 63. Xylene                   |
| 64. Cyanide  | 65. Azinphos-ethyl           |
| 66. Fenthion   | 67. Parathion                |
| 68. Parathion-methyl   | 69. Trichloroethylene        |
| 70. Tetrachloroethylene  | 71. Dioxins                  |
| 72. PAHs   | 3. Nonyl phenol              |
| 74. Nonyl phenyl ethoxylate  | 75. Di-ethylhexyl phthalate  |
| 76. Bisphenol-A  | 77. Diazinon                 |
| 78. Chlorfenvinphos  | 79. Chlorotoluron            |
| 80. Isoproturon  | 81. Diuron                   |
| 82. Propetamphos   | 83. Flumethrin               |
| 84. Amitraz  | 85. High-Cis Cypermethrin    |
| 86. Cyromazine   | 87. Deltamethrin             |
| 88. Cypermethrin   |                              |

This list is applicable as at 1 December 1998 and will be updated as and when changes to the relevant legislative requirements occur.

\*Notification to the Agency by the Consent holder is only required in respect of changes to trade effluents likely to cause significant changes to the pH value, and/or iron or boron concentrations, of the crude sewage.





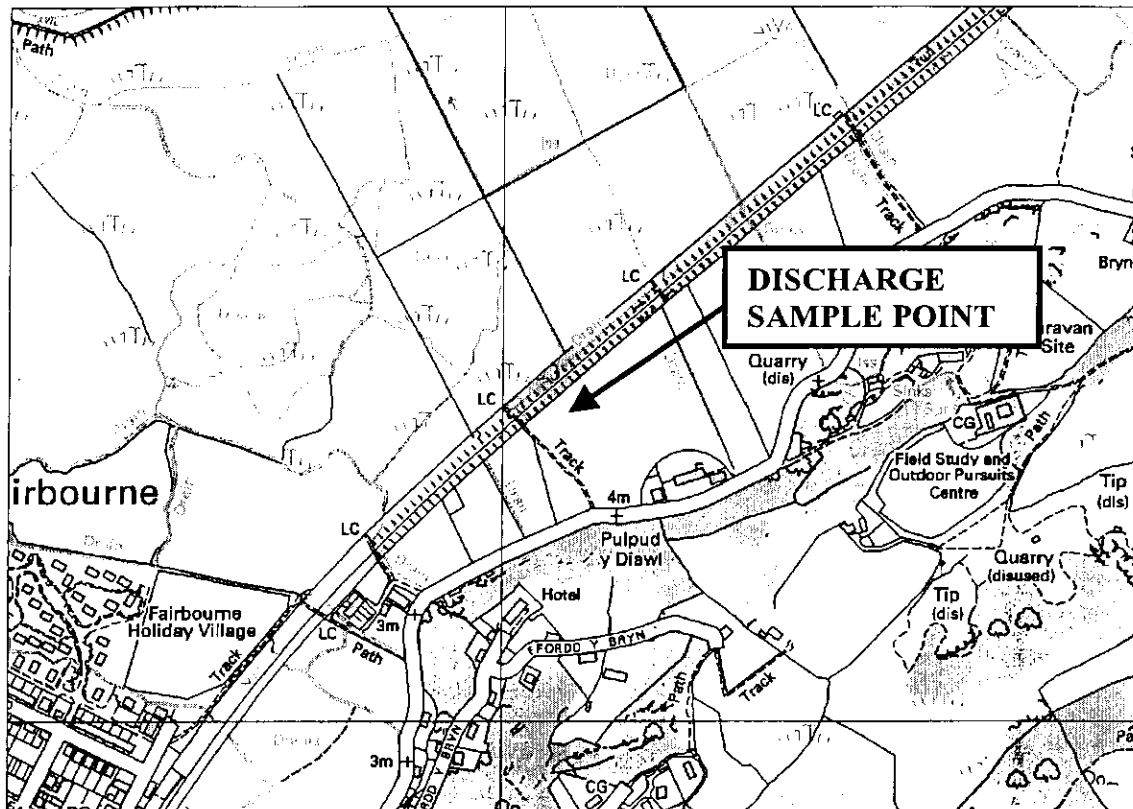


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#### ANNEX 4

#### PLAN No CG0138301 (ii)



NOT TO SCALE

