

CONSENT NO.

AN0303701



ASiantaeth Yr
Amgylchedd Cymru
ENVIRONMENT
AGENCY WALES

WATER RESOURCES ACT 1991

SECTION 88 - SCHEDULE 10

(AS AMENDED BY THE ENVIRONMENT ACT 1995)

CONSENT TO DISCHARGE

TO: Environment Quality Scientist
Dŵr Cymru Welsh Water
Plas y Ffynnon
Cambrian Way
Brecon LD3 7HP

The **ENVIRONMENT AGENCY** ("The Agency") in pursuance of its powers under the Water Resources Act 1991 **HEREBY CONSENTS** 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.

FROM: Cardiff Waste Water Treatment Works.

AT: Tide Field Road, Tremorfa, Cardiff, CF2 2RX

TO: The Severn Estuary.

HEREAFTER SUBJECT TO the conditions set out in the following schedule:

Secondary Treated Sewage Effluent: Schedule No. AN030370101

UWWT Regulations 1994: Schedule No. AN0303701/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, altering this consent, without the agreement in writing of the Consent Holder other than for the purposes described in condition 28 of the attached schedule AN030370101, during a period of 4 years from the date this Consent takes effect.

This consent is issued and takes effect on the 28th day of February 2001

Signed

Team Leader – Water Quality Consents



CONSENT NO.	AN0303701
SCHEDULE NO.	AN030370101
DATE ISSUED	28/2/01



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AGENCY WALES**

CONDITIONS OF CONSENT TO DISCHARGE

Secondary Treated Sewage Effluent ("the Discharge")

FROM: Cardiff Waste Water Treatment Works

NATURE

1. The Discharge shall consist solely of secondary treated sewage effluent.

LOCATION

2. The Discharge shall be made in the manner and at the place specified as:
 - (a) discharging via a 4.2Km long (measured from Mean High Water Spring Tide Mark), 2000 millimetre diameter pipe terminating with a diffuser section comprising of 10 risers, each with two 450 millimetre diameter ports, with a minimum spacing of 18 metres between risers;
 - (b) discharging to the Severn Estuary;
 - (c) between National Grid References ST 2508 7395 and ST 2525 7393;
 - (d) shown marked 'Consent Point' on Plan AN0303701A attached as Annex 1.

SAMPLE POINT

3. An appropriately labelled sample point shall be provided and maintained at National Grid Reference ST 2148 7576, as shown marked 'Sample Point' on Plan AN0303701B attached as Annex 2, so that a representative 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 discharging into controlled waters.

VOLUME

4. The volume of the Discharge shall not exceed 523584 cubic metres per day.
5. The rate of discharge shall not exceed 7500 litres per second.



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6. The Dry Weather Flow of the Discharge shall not exceed 309960 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.

7. A continuous flow recorder, to a specification provided by the Agency, with on-site visual display from which readings can be readily obtained, shall be provided and operated to record the daily volume and instantaneous flow of the discharge.
8. As soon as practicable after completion of the flow recorder 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.
9. 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.
10. The Consent Holder shall produce and maintain a quality control manual, to the satisfaction of the Agency, specifying procedures for the calibration, operation and maintenance of the flow recorder. The flow recorder 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.
11. The Consent Holder shall record all failures of the continuous flow recorder 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.
12. Flows of the discharge shall be measured at an inlet flume, or such other point as agreed by the Agency.



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COMPOSITION

13. (a) Subject to paragraph (b) below, the Discharge shall not contain more than:
- (i) 50 milligrammes per litre of biochemical oxygen demand (measured after 5 days at 20°C with nitrification suppressed by the addition of allyl-thiourea);
 - (ii) 20 milligrammes per litre of ammoniacal nitrogen (expressed as N).
- (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 3 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.
14. The Discharge shall not contain more than:
- (a) 100 milligrammes per litre of biochemical oxygen demand (measured after 5 days at 20°C with nitrification suppressed by the addition of allyl-thiourea);
 - (b) 48 milligrammes per litre of ammoniacal nitrogen (expressed as N).
 - (c) 250 milligrammes per litre of suspended solids (measured after drying at 105°C).
15. The Discharge shall not contain more than:
- (a) 0.36 milligrammes per litre of total zinc.
 - (b) 0.09 milligrammes per litre of total lead.
 - (c) 0.39 milligrammes per litre of total chromium.
 - (d) 0.15 milligrammes per litre of total copper.
 - (e) 0.81 milligrammes per litre of total nickel.
 - (f) 0.48 microgrammes per litre of total cadmium.



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WORKS OPERATION

16. 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 conditions 13 to 15 than is required by those conditions;
- (b) any alteration of the works or a change in the type of treatment used.

MAINTENANCE

17. The works shall be operated and maintained in accordance with good operational practice such that:
- (a) it remains fully operational except at times of unavoidable mechanical or electrical breakdown which shall be attended to, and the Agency informed of the failure, as soon as practicable after the failure;
 - (b) following a failure all equipment shall be returned to normal operation as soon as practicable;
 - (c) tanks shall be desludged at sufficient frequency and in such a manner to prevent excessive carryover of suspended solids.
18. 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.



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UNUSUAL WEATHER CONDITIONS

19. (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 the conditions contained in paragraphs 13,14 and 16 of this consent 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.
- (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 effect.
- (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

20. (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.
21. 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 sewerage system occurs, that may increase or introduce into the effluent any "dangerous substance" (set out in Annex 4 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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SUBSTANTIAL CHANGE

22. 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.
23. A discharge of trade effluent into the works is new if -
 - (a) 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
 - (b) it is made by a third party and the discharge is authorised on or after that date.
24. A discharge of trade effluent into the works is altered if -
 - (a) it is made by the sewerage undertaker and its composition or quantity changes significantly on or after the date of effect of this consent; or
 - (b) it is made by a third party and the alteration of the discharge is authorised on or after that date.
25. 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 characteristic of the Discharge which is specifically regulated by conditions 13 to 15 of this consent but it may be significant if it is caused by a change in some other characteristic of the Discharge.
26. For the purposes of this condition "trade effluent" means -
 - (a) any discharge by the sewerage undertaker other than
 - (i) domestic sewage from premises connected directly or indirectly to the works; or
 - (ii) surface water run-off;
 - (b) any discharge by a third party which is authorised under Chapter III or 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 DISCHARGES

27. 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.
- (a) 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.
 - (b) 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.

OTHER

28. The Agency may alter any of the conditions of this Consent at any time within 4 years of the date of issue for the purposes of the Conservation (Natural Habitats & c.) Regulations 1994 as amended.



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CONDITIONS OF CONSENT TO DISCHARGE

Secondary Treated Sewage Effluent ("the Discharge")

FROM: Cardiff Waste Water Treatment Works

URBAN WASTE WATER TREATMENT REGULATIONS

- 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 and U2 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 more than 15,000 discharging to an estuary.
- (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(1) and shall satisfy the relevant requirements of Part I of Schedule 3.
- U2 (a) The Consent Holder shall provide apparatus for the purpose of:
 - (i) measuring or recording the volume, rate of flow, nature, composition or temperature,
 - and (ii) collecting samples of any waste water,
 as is necessary to ensure compliance with paragraph (b) below.
- (b) The Consent Holder shall monitor the Discharge to verify compliance with the requirements of condition U1(c) above in accordance with control procedures as set out in Part II of Schedule 3.
- (c) The Consent Holder shall provide to the Agency any information collected in complying with paragraph (b) above in a manner agreed with the Agency.
- U3 Condition U2 above shall apply for the purpose of verifying compliance with the Directive from the date as specified in the relevant paragraph of Regulation 5 as incorporated into this consent under condition U1(c) above.



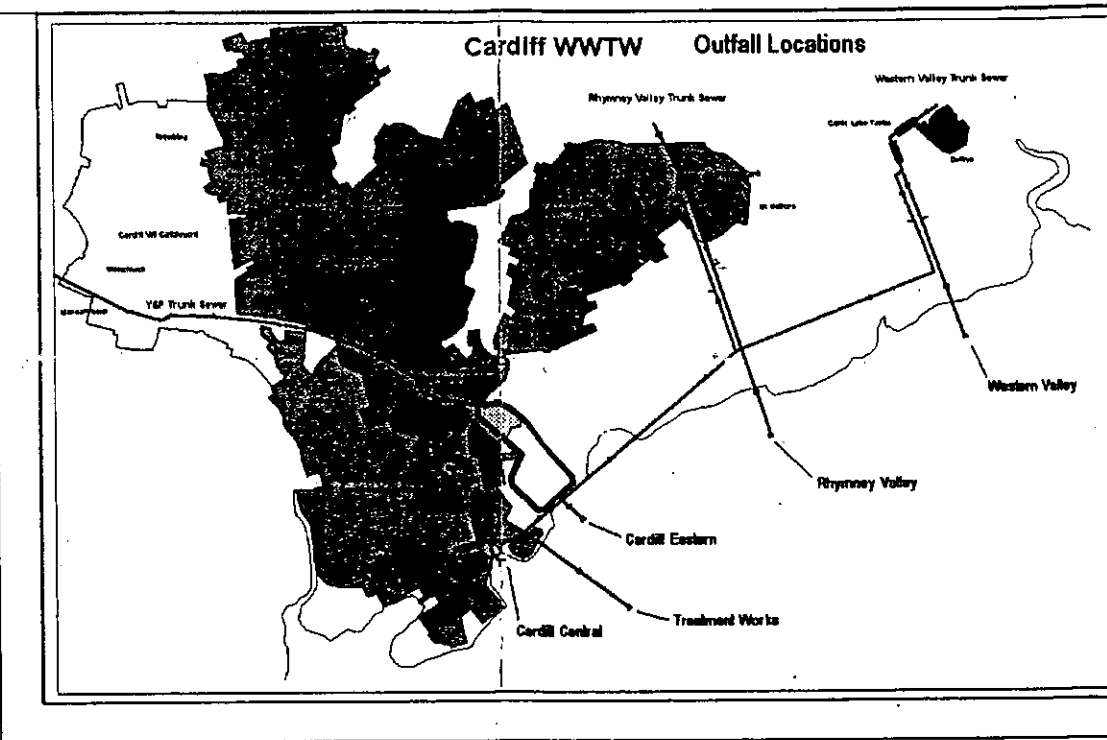
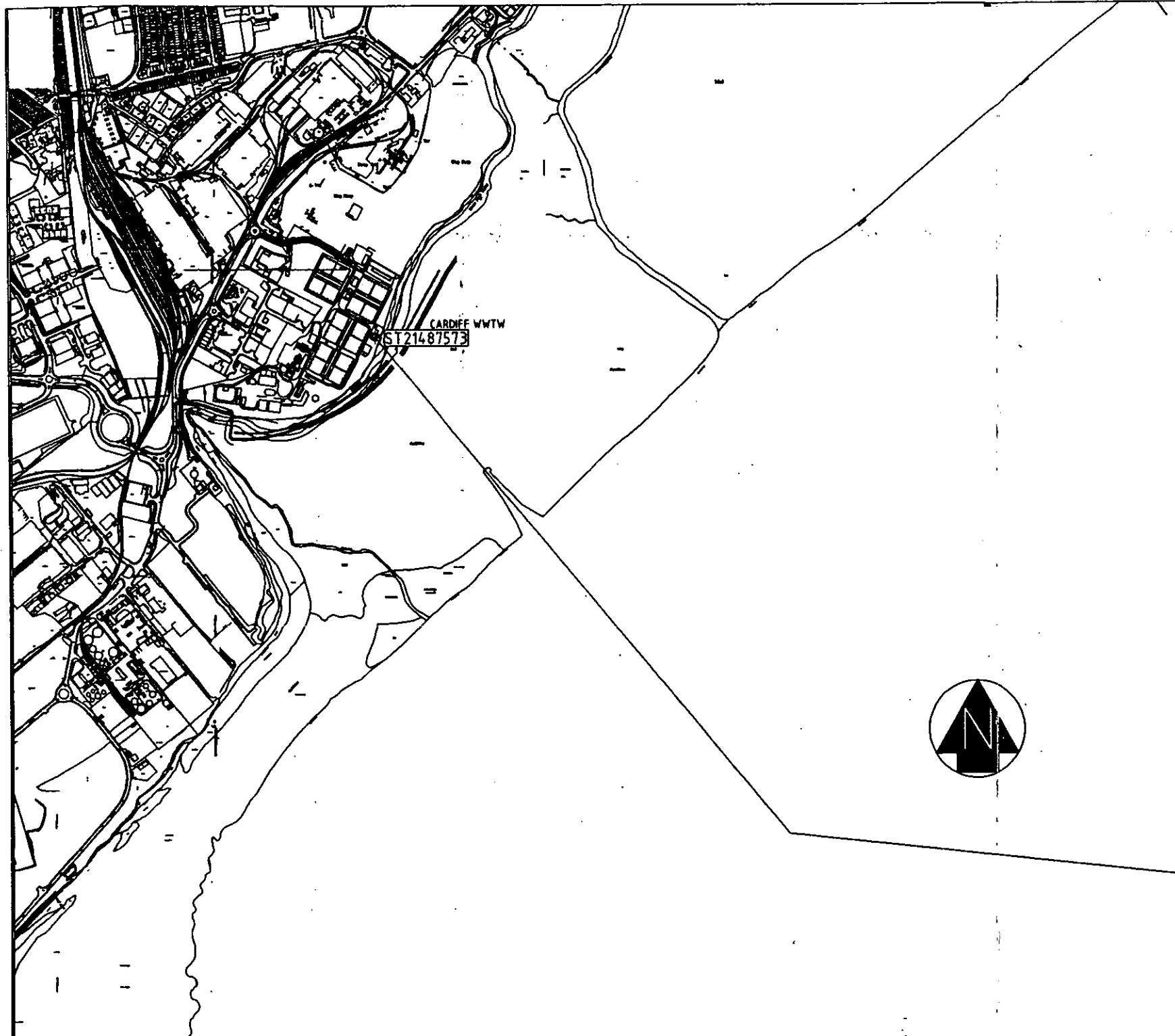
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- U4(a) An appropriately labelled sample point shall be provided and maintained at National Grid Reference ST 2136 7570, as shown marked 'Crude Sewage Sampling Point UWWTD' on the attached Plan AN0303701B, or some other point as agreed in writing with the Agency, so that a representative sample of the Influent may be obtained.
- U4(b) An appropriately labelled sample point shall be provided and maintained at National Grid Reference ST 2148 7576, as shown marked 'Final Effluent Sampling Point UWWTD' on the attached Plan AN0303701B, or some other point as agreed in writing with the Agency, so that a representative sample of the Discharge may be obtained.



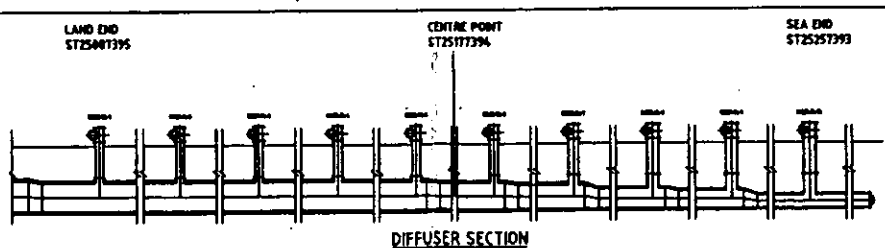




ASIANTAETH YR AMGYLCHEDD ENVIRONMENT AGENCY	
CONSENT PLAN NUMBER	AN0303701A
AUTHORISED SIGNATURE	<i>[Signature]</i>

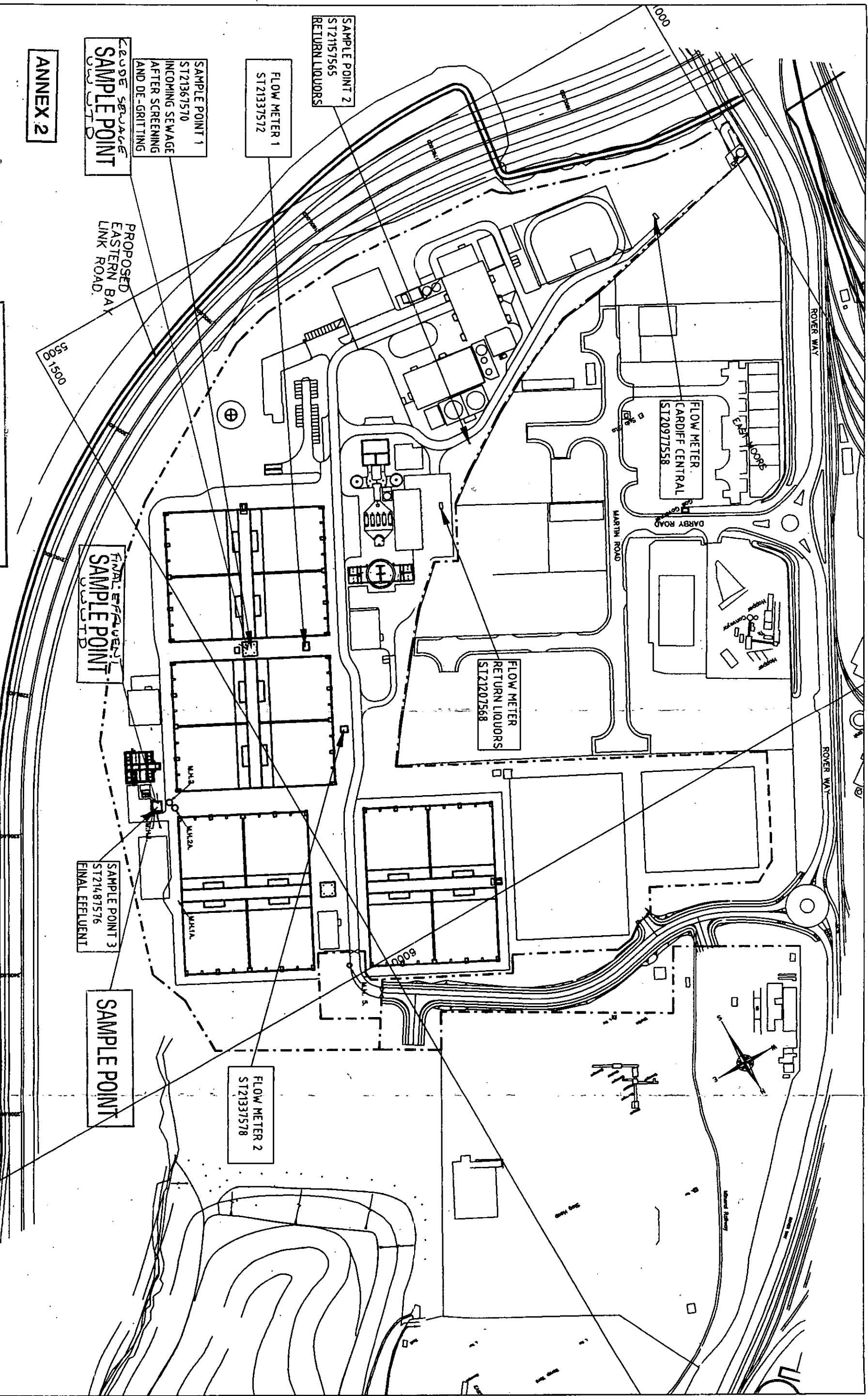
CONSENT POINT

DIFFUSER SECTION END POINT
ST25257393

ANNEX 1



				Notes				 CARDIFF - WASTE WATER - PARTNERS		Client DWR CYMRU WELSH WATER		Project CARDIFF WASTE WATER TREATMENT WORKS SCHEME		 HYDER CONSULTING LIMITED PO Box 4 Penybryn Road Nelson CF48 9YA Tel: +44 (0)1443 401 999 Fax: +44 (0)1443 402 144		
B	DESIGNED DIFFUSER SECTION ADDED			R.A.T.			20/9/9			Scale: A1	Datum	Title CARDIFF TREATMENT WORKS OUTFALL		Project Code	Drawing No.	Issue
A	FIRST ISSUE			R.A.T.	C.I.T.	M.A.B.	1/6/99			N.T.S.	LOCAL			NE00929	SK9	B
Issue	Description			Auth.	Chd.	Appd.	Date									



ANNEX 2

B		FLOW CHANGERS, ADDS AND CO-ORDINATES REVERSED		DATE	20/7/98
A		FIRST ISSUE		DATE	20/7/98
REVISION		Description		Auth	CD
				Appd	DAV
Notes					
ASIANIAEITH YR AMGYLCHEDD					
ENVIRONMENT AGENCY					
CONSENT					
PLAN NUMBER					
AUTHORISED SIGNATURE					
Scale: 1:10,000					
N.T.S.					
LOCAL					
Project: CARDIFF WASTE WATER TREATMENT WORKS SCHEME					
Title: SITE LAYOUT SAMPLE POINTS AND FLOW METER LOCATIONS					
Project Code: NE00929					
Drawing No: SK10					
Issue: 8					

ANNEX 3TABLE

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ENVIRONMENT
AGENCY WALES

Column 1

Number of samples
taken in any period
of 12 months

Column 2

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





ANNEX 4

- | | |
|--|------------------------------|
| 1. Mercury and its compounds | 2. Cadmium and its compounds |
| 3. Hexachlorocyclohexane (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 outside 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 | 73. 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.

