CM0001501 _2006_03_07

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

ENVIRONMENT AGENCY WALES
NORTHERN AREA
CONSENT REVIEW 2004

UWWTD

[URBAN WASTE WATER TREATMENT DIRECTIVE 1991]

FILE NOTE

A snapshot of WRA 91 Discharge Consents qualifying for review under UWWTD was extracted from WIMS (EA electronic Public Register) on the 21st April 2004. All details shown on this file note are based on the permission extant as of this date.

CONSENT REF :	CM0001501	VERSION :	2
OPERATOR :	DWR CYMRU CYFYNGEDIG		
DISCHARGE SITE :	BALA STW		
EXTANT CONSENT ISSUE DATE :	30/01/1985	EFFECTIVE DATE :	30/01/1985

DWF (m^3/day) :	500	MAX DAILY VOL. (m^3/day) :	1131	RATE (l/s) :	13.1

Records held on WIMS show BALA STW (CM0001501) to be extant under version 2 issued 30/01/1985 with numeric consent conditions, effective 30/01/1985. The works is currently consented to discharge a max daily volume of 1131m^3/day effluent to the RIVER DEE at NGR SH9377035560.

UWWTD directive aims to deliver a standard level of sewage treatment throughout EC member states. This has been interpreted as prescribing a minimum of secondary biological treatment (package plant or equivalent) on all discharges made to a controlled surface water; or a minimum of primary (septic tank or equivalent) treatment on all discharges made to ground.

The discharge of 1131m^3/day effluent to 'RIVER DEE', for the purposes of this review, is described as 'secondary treated effluent to surface waters'. This treatment / receiving water combination has been assessed* as APPROPRIATE under the UWWTD review. This consent is reviewed as APPROPRIATE under UWWTD as of 01/09/2005.

* NB: the assessment of this Discharge Consent to meet UWWTD 'appropriate treatment' criteria is based solely on provision of the appropriate 'threshold' level of minimum treatment for the receiving medium. This review does not assess appropriateness in terms of the specific river needs of the receiving water stretch.

Iwan Williams Regulatory Team Leader (Water Quality)	IWilliams

Water Resources Act 1991

as amended by the Environment Act 1995

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

Consents to Discharge

Certificate of Holder

Part A

To : **DWR CYMRU CYFYNGEDIG**
PENTWYN ROAD
NELSON
TREHARRIS
MID GLAMORGAN CF46 6LY

NB: For a body corporate the job title is a point of contact.

Holder Start Date : **23 February 2005**

The Environment Agency ("the Agency") hereby confirm that the above named person (or organisation) is a / the registered Holder of the Consent : **CM0001501** *Consent Issued :* **17 February 2005**

Nature of Discharge(s) **STEC Sewage effluent**

at **SH9378235551 BALA WWTW**

Note : This certificate should be kept with the consent document for future reference. If you transfer responsibility for the discharge to somebody else, you must pass the consent to them and tell the Agency within 21 days. Responsibility for the consent cannot be disclaimed by the Holder but the registration of Holder may be transferred to a successor. To do this, please complete the form below (Part B), then tear it off and return it to the address shown. If you fail to transfer the consent, even though you are no longer on the site, you will still be liable for prosecution for pollution. If you transfer the consent but do not tell us, you will be committing an offence. In case of any queries, please contact your local Environment Agency office, quoting the Consent Reference.

- *cut here* -

Part B *Please complete in block capitals or type*

To : **Water Resources Act 1991 : Notice of transfer of Consent to Discharge**

Consent Reference : **CM0001501**
Consent Issued : **17 February 2005**

Name : **DWR CYMRU CYFYNGEDIG**
Address : **PENTWYN ROAD**
NELSON
TREHARRIS
MID GLAMORGAN CF46 6LY

I / We* hereby serve notice on the Agency that I / we* am /are* no longer a / the* Holder of the above consent which will be / was* transferred to :

** delete as appropriate*

Name(s) of the new Holder(s) :

Post Code :

Date of Transfer to new Holder(s) .....

Signed : ..... **Dated :** .....

Name (block capitals) : ..... **Postion (if appropriate) :** .....

(to be completed when signing on behalf of corporate bodies)

Deddf Adnoddau Dŵr 1991

fel y'i diwygiwyd gan Ddeddf yr Amgylchedd 1995

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

Caniatâd Gollwng

Tystysgrif Daliwr

Rhan A

At : **DWR CYMRU CYFYNGEDIG**
PENTWYN ROAD
NELSON
TREHARRIS
MID GLAMORGAN CF46 6LY

DS: I gorfforaeth gorfforedig mae teitl y swydd yn bwynt cysylltu.

Dyddiad Cychwyn y Daliwr : **23 Chwefror 2005**

Mae Asiantaeth yr Amgylchedd ("yr Asiantaeth") yn cadarnhau drwy hyn mai / bod y sawl (neu sefydliad) a enwyd uchod yw / yn ddaliwr cofrestredig y caniatâd : **CM0001501** ***Cyhoeddwyd y Caniatâd :*** **17 Chwefror 2005**

Natur y Gollyngiad(au) : **STEC Carthffrwd**

yn **SH9378235551 BALA WWTW**

Noder : Dylid cadw'r dystysgrif hon gyda'r ddogfen ganiatâd i gyfeirio ati yn y dyfodol. Os byddwch yn trosglwyddo cyfrifoldeb am y gollyngiad i rywun arall, rhaid i chi drosglwyddo'r caniatâd iddo ef neu hi a dweud wrth yr Asiantaeth cyn pen 21 diwrnod. Ni all y Daliwr wadu cyfrifoldeb am y caniatâd, ond gall cofrestriad y Daliwr gael ei drosglwyddo i olynydd. I wneud hynny, byddwch gystal â llenwi'r ffurflen isod (Rhan B), yna'i dychwelyd i'r cyfeiriad a nodir. Os fethwch â throsglwyddo'r caniatâd, hyd yn oed os nad ydych ar y safle mwyach, gallwch gael eich erlyn am achosi llygredd. Os trosglwyddwch y caniatâd ond heb ddweud wrthym, yna byddwch yn cyflawni trosedd. Os bydd gennych unrhyw ymholiadau a fyddech gystal â chysylltu â'ch swyddfa Asiantaeth yr Amgylchedd lleol, gan ddyfynnu Cyfeirnod y Caniatâd.

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torrwch yma

Rhan B *Llenwch mewn priflythrennau bras neu deipio*

At : **Deddf Adnoddau Dŵr 1991 : Hysbysiad am drosglwyddo Caniatâd Gollwng**

Cyfeirnod y Caniatâd : **CM0001501**

Enw : **DWR CYMRU CYFYNGEDIG**

Cyhoeddwyd y Caniatâd : **17 Chwefror 2005**

Cyfeiriad : **PENTWYN ROAD**
NELSON
TREHARRIS
MID GLAMORGAN CF46 6LY

Yr wyf fi / Yr ydym ni* drwy hyn yn hysbysu'r Asiantaeth nad fi / ni mwyach yw* Daliwr / Deiliaid y caniatâd uchod a fydd yn cael / cafodd ei drosglwyddo i

**** dilëer fel yn briodol***

Enw(au) y Daliwr / Deiliaid newydd :

Côd Post :

Dyddiad Trosglwyddo i'r Daliwr / Deiliaid newydd :

Llofnodwyd : ..... **Dyddiedig :** .....

Enw (priflythrennau bras) : ..... **Swydd (os yn briodol) :** .....

(i'w lenwi pan yn llofnodi ar ran corfforaethau corfforedig)

ASIANTAETH YR
AMGYLCHEDD CYMRU
ENVIRONMENT
AGENCY WALES

Ein cyf/Our ref. IH/RP/CM0001501

Dyddiad/Date: 18th February 2005

Tony Andrews
Environment Quality Scientist
Dwr Cymru Cyf
Pentwyn Roaf
Nelson
Treharris
Mid Glamorgan
CF46 6LY

F.A.O Jan Edwards

Dear Jan Ewards,

RE: WATER RESOURCES ACT 1991, SCHEDULE 10 (AS AMENDED BY THE ENVIRONMENT ACT 1995) MODIFICATION OF CONSENT TO DISCHARGE NO. CM0001501

Further to our recent correspondence concerning the consent to discharge sewage effluent from Bala Wastewater Treatment Works, Off A494, Bala, Denbighshire, LL23 7DW, I enclose the Agency's formal notice of the modifications made to the conditions of the consent.

Under the present Scheme of Charges for Discharges to Controlled Waters an annual charge will be made for all consents to discharge, except where the discharge is of sewage effluent of five cubic metres or less per day. The charge is based on information derived from the conditions attached to the consent to discharge, as outlined in the enclosed leaflet. A change in conditions may therefore result in a change in annual charge, you may therefore receive a revised bill in due course.

If you are not satisfied with the new conditions of the consent you may appeal against the decision to The National Assembly for Wales at Cathays Park, Cardiff CF10 3NQ.

Please take careful note that if the holder of the consent changes, you must inform the Agency IN WRITING as soon as possible of the name of the new holder. This is to ensure that the rights and charges associated with the Consent are transferred to the holder. A Certificate of Holder notice will be sent to you shortly which is designed for this purpose, and should be kept safely with the Consent until required.

Asiantaeth yr Amgylchedd Cymru
Ffordd Caer, Bwcle, Sir y Fflint CH7 3AJ
Ffon08708 506 506, Ffacs 01244 550144

Environment Agency Wales
Chester Road, Buckley, Flintshire CH7 3AJ
Tel 08708 506 506, Fax 01244 550144

If you have any queries regarding the enforcement of this consent, please do not hesitate to contact Iwan Williams, Team Leader Regulatory Water Quality, Environment Agency Wales, Chester Road, Buckley, Flintshire, CH7 3AJ.

Yours sincerely,

Kelvin Graham
Team Leader Customer Contact & Authorisations

Asiantaeth yr Amgylchedd Cymru
Ffordd Caer, Bwcle, Sir y Fflint CH7 3AJ
Ffon 01244 550124 Ffacs 01244 550144

Environment Agency Wales
Chester Road, Buckley, Flintshire CH7 3AJ
Tel 01244 550124 Fax 01244 550144

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

CONSENT NO.	CM0001501

ENVIRONMENT AGENCY

WATER RESOURCES ACT 1991

(AS AMENDED BY ENVIRONMENT ACT 1995)

NOTICE OF MODIFICATION OF CONSENT TO DISCHARGE

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

WHEREAS the Agency in pursuance of its powers under the Water Resources Act 1991 (as amended by the Environment Act 1995) **VARIED ITS CONSENT** to the making of a discharge **SEWAGE EFFLUENT** on the 24th day of January 2005

FROM **Bala Wastewater Treatment Works**

the Agency in pursuance of its powers under the Water Resources Act 1991 (as amended by the Environment Act 1995) hereby GIVES NOTICE that CONSENT CM0001501 is hereby modified as follows:

SEWAGE EFFLUENT

FROM: Bala Wastewater Treatment Works
AT: Off A494, Bala, Denbighshire LL23 7DW
TO: River Dee

The conditions of Schedule CM0001501 01 issued on 24th January 2005 are modified as detailed in this notice.

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 modifications made by this notice, without the agreement in writing of the Consent Holder, during a period of 4 years from the date this notice is served.

Dated this 17th day of February 2005

Signed ..... Iw Williams .....

IWAN WILLIAMS
Regulatory Team Leader (Water Quality)

Asiantaeth yr Amgylchedd Ffordd Caer, Bwcle, Sir Fflint CH7 3AJ Ffon 01244 550124 Ffacs 01244 550144
Environment Agency Chester Road, Buckley, Flintshire CH7 3AJ Tel 01244 550124 Fax 01244 550144

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

CONSENT NO.	**CM0001501**
SCHEDULE NO.	**CM0001501 01**
DATED	**17th February 2005**

CONDITIONS TO BE MODIFIED

Condition 3 modified to read:

3. An appropriately labelled sample point shall be provided and maintained at National Grid Reference SH 93537 35771, as shown marked 'Discharge Sample Point' on the Plan CM0001501 attached as Annex 2 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.

Condition 7 modified to read:

7. 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 and operated to record the daily volume and instantaneous flow of sewage through the treatment works.

Condition 12 modified to read:

12. Flows of sewage through the treatment works shall be measure at the inlet works NGR SH 93453 35769, or such other point(s) as agreed by the Agency.

Condition 21 modified to read:

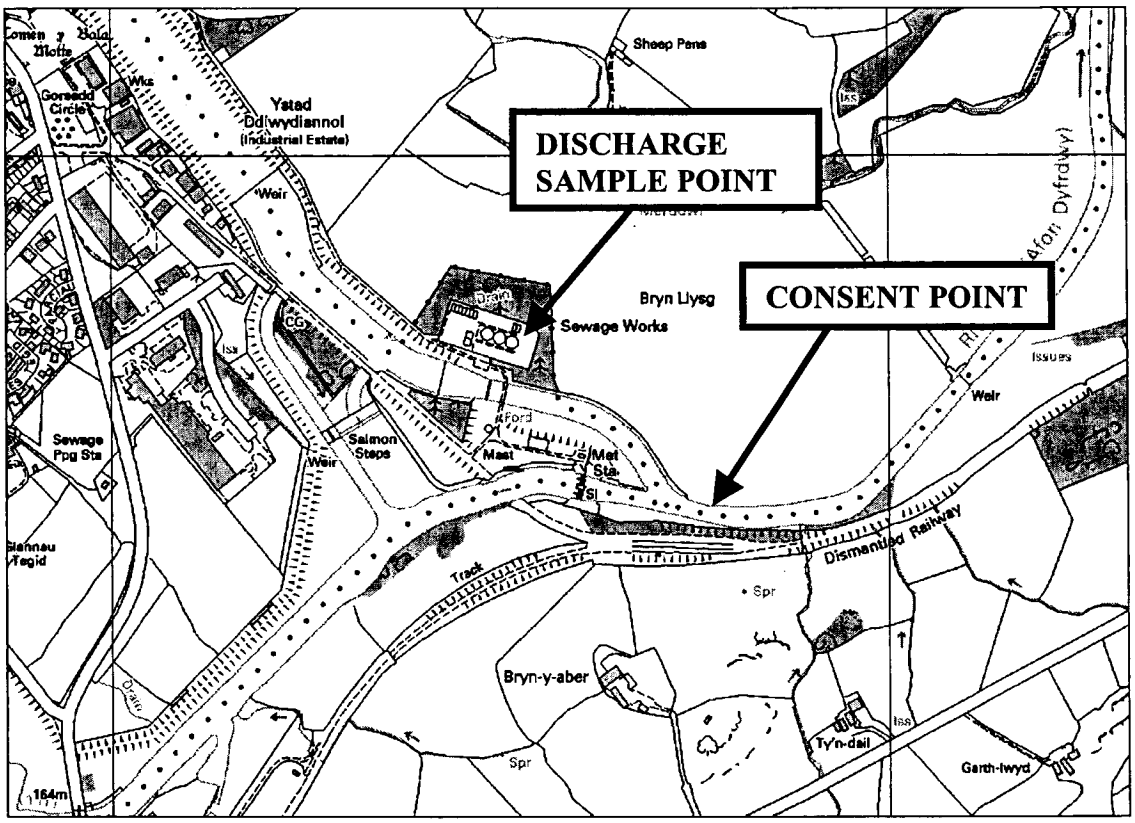
21. Until the Discharge is permitted under the terms of this consent, the quality of the effluent from Bala Sewage Treatment Works shall be controlled under the terms of the consent issued on 30th January 1985.
There shall be no discharge under the terms of this consent until the 31st December 2005 or 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.

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

CONSENT NO.	**CM0001501**
SCHEDULE NO.	**CM0001501 01**
DATED	**17th February 2005**

The plan attached as Annex 2 to the consent is modified as follows:

PLAN No. CM0001501



OTHER CONDITIONS OF THE CONSENT

All other conditions of the consent remain in force. Consent CM0001501 is updated accordingly.

Water Resources Act 1991

as amended by the Environment Act 1995

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

Consents to Discharge

Certificate of Holder

Part A

To : **DWR CYMRU CYFYNGEDIG**
PENTWYN ROAD
NELSON
TREHARRIS
MID GLAMORGAN CF46 6LY

NB: For a body corporate the job title is a point of contact.

Holder Start Date : **27 January 2005**

The Environment Agency ("the Agency") hereby confirm that the above named person (or organisation) is a / the registered Holder of the Consent : **CM0001501** ***Consent Issued :*** **24 January 2005**

Nature of Discharge(s) **STEC Sewage effluent**

at **SH9377035560 BALA STW**

Note : This certificate should be kept with the consent document for future reference. If you transfer responsibility for the discharge to somebody else, you must pass the consent to them and tell the Agency within 21 days. Responsibility for the consent cannot be disclaimed by the Holder but the registration of Holder may be transferred to a successor. To do this, please complete the form below (Part B), then tear it off and return it to the address shown. If you fail to transfer the consent, even though you are no longer on the site, you will still be liable for prosecution for pollution. If you transfer the consent but do not tell us, you will be committing an offence. In case of any queries, please contact your local Environment Agency office, quoting the Consent Reference.

- cut here -

Part B ***Please complete in block capitals or type***

To : **Water Resources Act 1991 : Notice of transfer of Consent to Discharge**

Consent Reference : **CM0001501** ***Name :*** **DWR CYMRU CYFYNGEDIG**

Consent Issued : **24 January 2005** ***Address :*** **PENTWYN ROAD**
NELSON
TREHARRIS
MID GLAMORGAN CF46 6LY

I / We* hereby serve notice on the Agency that I / we* am /are* no longer a / the* Holder of the above consent which will be / was* transferred to :

**** delete as appropriate***

Name(s) of the new Holder(s) :

Post Code :

Date of Transfer to new Holder(s) .....

Signed : ..... **Dated :** .....

Name (block capitals) : ..... **Postion (if appropriate) :** .....

(to be completed when signing on behalf of corporate bodies)

Deddf Adnoddau Dŵr 1991

fel y'i diwygiwyd gan Ddeddf yr Amgylchedd 1995

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

Caniatâd Gollwng

Tystysgrif Daliwr

Rhan A

At : DWR CYMRU CYFYNGEDIG
PENTWYN ROAD
NELSON
TREHARRIS
MID GLAMORGAN CF46 6LY

DS: I gorfforaeth gorfforedig mae teitl y swydd yn bwynt cysylltu.

Dyddiad Cychwyn y Daliwr : **27 Ionawr 2005**

Mae Asiantaeth yr Amgylchedd ("yr Asiantaeth") yn cadarnhau drwy hyn mai / bod y sawl (neu sefydliad) a enwyd uchod yw / yn ddaliwr cofrestredig y caniatâd : **CM0001501** ***Cyhoeddwyd y Caniatâd :*** **24 Ionawr 2005**

Natur y Gollyngiad(au) : **STEC Carthffrwd**

yn **SH9377035560 BALA STW**

Noder : Dylid cadw'r dystysgrif hon gyda'r ddogfen ganiatâd i gyfeirio ati yn y dyfodol. Os byddwch yn trosglwyddo cyfrifoldeb am y gollyngiad i rywun arall, rhaid i chi drosglwyddo'r caniatâd iddo ef neu hi a dweud wrth yr Asiantaeth cyn pen 21 diwrnod. Ni all y Daliwr wadu cyfrifoldeb am y caniatâd, ond gall cofrestriad y Daliwr gael ei drosglwyddo i olynydd. I wneud hynny, byddwch gystal â llenwi'r ffurflen isod (Rhan B), yna'i dychwelyd i'r cyfeiriad a nodir. Os fethwch â throsglwyddo'r caniatâd, hyd yn oed os nad ydych ar y safle mwyach, gallwch gael eich erlyn am achosi llygredd. Os trosglwyddwch y caniatâd ond heb ddweud wrthym, yna byddwch yn cyflawni trosedd. Os bydd gennych unrhyw ymholiadau a fyddech gystal â chysylltu â'ch swyddfa Asiantaeth yr Amgylchedd lleol, gan ddyfynnu Cyfeirnod y Caniatâd.

- torrwch yma -

Rhan B ***Llenwch mewn priflythrennau bras neu deipio***

At : Deddf Adnoddau Dŵr 1991 : Hysbysiad am drosglwyddo Caniatâd Gollwng

Cyfeirnod y Caniatâd : **CM0001501**

Cyhoeddwyd y Caniatâd : **24 Ionawr 2005**

Enw : **DWR CYMRU CYFYNGEDIG**

Cyfeiriad : **PENTWYN ROAD**
NELSON
TREHARRIS
MID GLAMORGAN CF46 6LY

Yr wyf fi / Yr ydym ni* drwy hyn yn hysbysu'r Asiantaeth nad fi / ni mwyach yw* Daliwr / Deiliaid y caniatâd uchod a fydd yn cael / cafodd ei drosglwyddo i

**** dilëer fel yn briodol***

Enw(au) y Daliwr / Deiliaid newydd :

Côd Post :

Dyddiad Trosglwyddo i'r Daliwr / Deiliaid newydd :

Llofnodwyd : ..... **Dyddiedig :** .....

Enw (priflythrennau bras) : ..... **Swydd (os yn briodol) :** .....

(i'w lenwi pan yn llofnodi ar ran corfforaethau corfforedig)

CONSENT NO.	CM0001501

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. CM0001501 issued on the 30th January 1985

FROM: BALA WASTEWATER TREATMENT WORKS

AT: OFF A494, BALA, DENBIGHSHIRE LL23 7DW

TO: RIVER DEE

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

Secondary Treated Sewage Effluent	Schedule No. CM0001501 01
UWWT Regulations 1994	Schedule No. CM0001501 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 24th day of January 2005
This variation of consent takes effect on the 31st day of March 2005

Signed .....IWWilliams.....
IWAN WILLIAMS
Regulatory Water Quality Team Leader

Asiantaeth yr Amgylchedd Cymru
Ffordd Caer, Bwcle, Sir Fflint CH7 3AJ. Ffôn 08708 506506, Ffacs 01244 550144

Environment Agency Wales
Chester Road, Buckley, Flintshire CH7 3AJ. Tel 08708 506506, Fax 01244 550144

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

CONSENT NO.	CM0001501
SCHEDULE NO.	CM0001501 01
DATE ISSUED	24th January 2005

CONDITIONS OF CONSENT TO DISCHARGE

Secondary Treated Sewage Effluent ("the Discharge")

FROM: Bala Wastewater Treatment Works, Off A494, Bala, Denbighshire, LL23 7DW

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 457 millimetre diameter pipe;

   (b) discharging to the River Dee;

   (c) at National Grid Reference SH 93782 35552;

   (d) shown marked 'Consent Point' on Plan CM0001501 attached as Annex 2.

SAMPLE POINT

3. An appropriately labelled sample point shall be provided and maintained at National Grid Reference SH 93536 35761, as shown marked 'Discharge Sample point' on the Plan CM0001501 attached as Annex 2 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.

CONSENT NO.	**CM0001501**
SCHEDULE NO.	**CM0001501 01**

VOLUME

4. The volume of the Discharge shall not exceed 1690 cubic metres per day.

5. The Dry Weather Flow of the Discharge shall not exceed 689 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 19.6 litres per second.

FLOW MEASUREMENT

7. 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 31st March 2005 and operated to record the daily volume and instantaneous flow of sewage through the treatment works.

8. 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.

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, 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.

11. 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.

12. Flows of sewage through the treatment works shall be measured at the inlet works NGR SH 93451 35765, or such other point(s) as agreed by the Agency.

COMPOSITION

13. (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 20^0 C with nitrification suppressed by the addition of allyl-thiourea)

(ii) 60 milligrammes per litre of suspended solids (measured after drying at 105^0C);

(iii) 18 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 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.

14. The Discharge shall not contain more than 80 milligrammes per litre of biochemical oxygen demand (measured after 5 days at 20^0 C with nitrification suppressed by the addition of allyl-thiourea).

15. The Discharge shall not contain more than 46 milligrammes per litre of ammoniacal nitrogen (expressed as N).

CONSENT NO.	**CM0001501**
SCHEDULE NO.	**CM0001501 01**

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, 14 and 15 than is required by those conditions;

(b) any alteration of the works or a change in the type of treatment used.

UNUSUAL WEATHER

17. (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 13, 14, 15 and 16 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.

(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

18. (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.

SUBSTANTIAL CHANGE

19. (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 13, 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.

UNAUTHORISED DISCHARGE

20. (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.

CONSENT NO.	**CM0001501**
SCHEDULE NO.	**CM0001501 01**

START DATE

21. Until the Discharge is permitted under the terms of this consent, the quality of the effluent from Bala Sewage Treatment Works shall be controlled under the terms of the consent issued on 30th January 1985.
There shall be no discharge under the terms of this consent until the 31st March 2005 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.

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

CONSENT NO.	CM0001501
SCHEDULE NO.	CM0001501 01/U
DATE ISSUED	24th January 2005

CONDITIONS OF CONSENT TO DISCHARGE

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

FROM: Bala Wastewater Treatment Works, Off A494, Bala, Denbighshire, LL23 7DW

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 between 2,000 and 10,000 discharging to freshwaters.

(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 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.

CONSENT NO.	CM0001501

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

ANNEX 1

TABLE

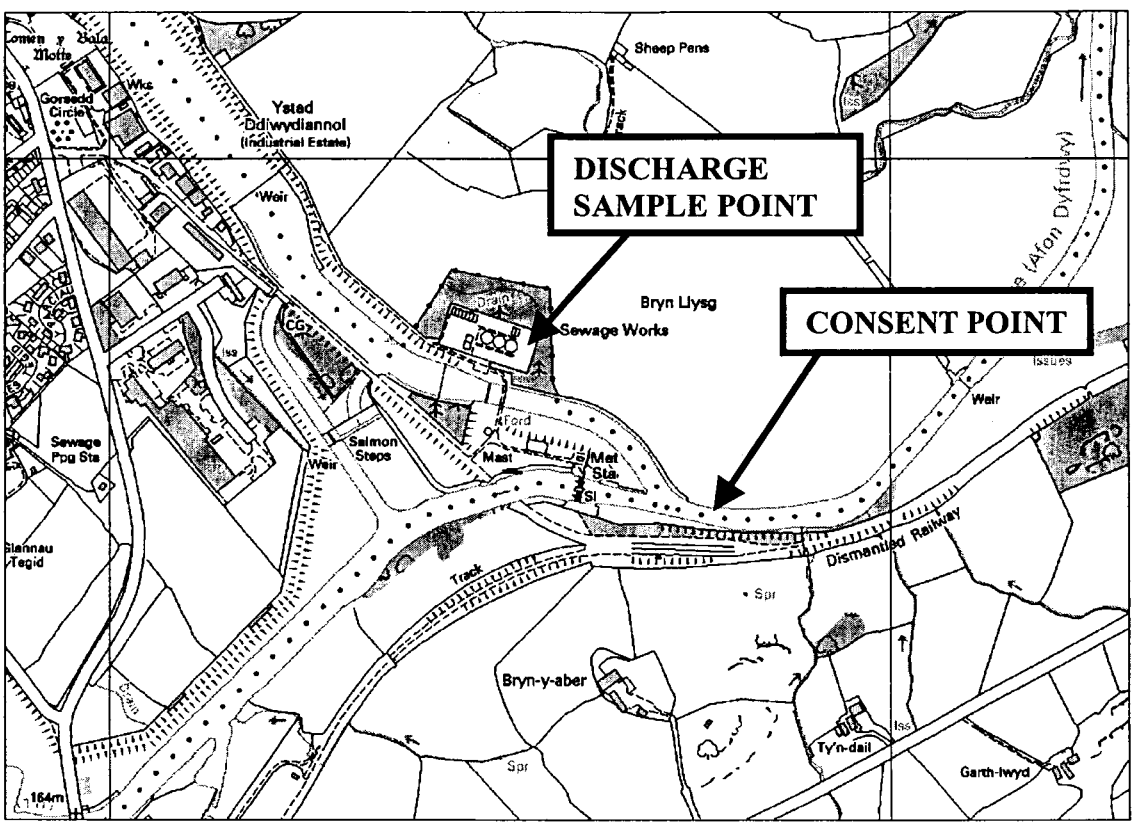
Column 1 Number of samples taken in any period of 12 months	Column 2 Maximum number of samples permitted to exceed limit for given determinand
4-7	1
8-16	2
17-28	3
29-40	4
41-53	5
54-67	6
68-81	7
82-95	8
96-110	9
111-125	10
126-140	11
141-155	12
156-171	13
172-187	14
188-203	15
204-219	16
220-235	17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

CONSENT NO.	CM0001501

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

ANNEX 2

PLAN No. CM0001501



NOT TO SCALE

ASIANTAETH YR
AMGYLCHEDD CYMRU
ENVIRONMENT
AGENCY WALES

Eich cyf/Your ref.
Ein cyf/Our ref. IH/RP/CM0001501
Enquiries Ruth Prichard
Dyddiad/Date: 25th January 2005

Tony Andrews
Environment Quality Scientist
Dwr Cymru Cyf
Pentwyn Road
Nelson
Treharris
Mid Glamorgan
CF46 6LY

F.A.O Jan Edwards

Dear Jan Edwards,

RE: WATER RESOURCES ACT 1991, SCHEDULE 10 (AS AMENDED BY THE ENVIRONMENT ACT 1995) APPLICATION FOR VARIATION OF CONSENT TO DISCHARGE NO CM0001501.

Further to your application for variation of consent of the Agency to discharge under the provisions of Section 88 of the Water Resources Act 1991, I enclose the Agency's formal notice of the variations made to the conditions of the consent to discharge sewage effluent from Bala Wastewater Treatment Works, Off A494, Bala,Denbighshire, LL23 7DW.

Under the present Scheme of Charges for Discharges to Controlled Waters an annual charge will be made for all consents to discharge, except where the discharge is of sewage effluent of five cubic metres or less per day. This charge is based on information derived from the conditions attached to the consent to discharge, as outlined in the enclosed leaflet. A change in conditions may therefore result in a change in annual charge, you may therefore receive a revised bill in due course.

If you are not satisfied with the new conditions of the consent you may appeal against the decision to the National Assembly for Wales at Cathays Park, Cardiff CF10 3NQ.

Please take careful note that if the holder of the consent changes, you must inform the Agency IN WRITING as soon as possible of the name of the new holder. This to ensure that the rights and charges associated with the Consent are transferred to the new holder. A certificate of Holder notice will be sent to you shortly which is designed for this purpose, and should be kept safely with the Consent until required.

Asiantaeth yr Amgylchedd Cymru
Ffordd Caer, Bwcle, Sir y Fflint CH7 3AJ
Ffon 08708 506 506, Ffacs 01244 550144

Environment Agency Wales
Chester Road, Buckley, Flintshire CH7 3AJ
Tel 08708 506 506, Fax 01244 550144

If you have any queries regarding the enforcement of this consent, please do not hesitate to contact Iwan Williams, Regulatory Water Quality Team Leader, Environment Agency, Chester Road, Buckley, Flintshire, CH7 3AJ.

Yours sincerely,

Kelvin Graham
Team Leader Customer Contact and Authorisations
Enc.

Asiantaeth yr Amgylchedd Cymru
Ffordd Caer, Bwcle, Sir y Fflint CH7 3AJ
Ffon 08708 506 506, Ffacs 01244 550144

Environment Agency Wales
Chester Road, Buckley, Flintshire CH7 3AJ
Tel 08708 506 506, Fax 01244 550144

APPENDIX 11
Form HR01: Proforma for new applications within Stage 2 criteria.

ENVIRONMENT AGENCY

Environment Agency Record of Assessment of Likely Significant Effect On A European Site (Stage 2)

The new application for a *<please fill in details>* detailed below is within the Stage 1 criteria of ***<please fill in details>***, and in order to progress the application a Stage 2 assessment and consultation with EN/CCW is required.

PART A
To be completed by relevant technical/project officer in consultation with Conservation/Ecology section and EN/CCW

1. Type of permission/activity:	Water Resources Act (1991) (as amended by Environment Act 1995) consent to discharge
2. Agency reference no:	CM0001501
3. National Grid reference:	SH 93782 35552
4. Site reference:	Bala Wastewater Treatment Works Off A494 Bala
5. Brief description of proposal:	Application to discharge up to 1690m³ of biologically treated sewage effluent to the River Dee.
6. European site name(s) and status:	River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid cSAC: UK0030252 Dee Estuary SPA: UK9013011 Dee Estuary cSAC: UK9013011 River Dee RAMSAR features: 7UK020

7.	**List of interest features:**	1.3 Riverine habitats and running waters 1.10 Coastal Habitats 1.11 Coastal habitats (sensitive to abstraction) 1.12 Estuarine and intertidal habitats 2.1 Vascular plants of aquatic habitats 2.4 Mosses and liverworts 2.5 Anadromous fish 2.6 Non-migratory fish and invertebrates of rivers 2.9 Mammals of riverine habitats 2.10 Amphibia 3.4 Birds of lowland wet grasslands 3.6 Birds of lowland freshwaters and their margins 3.7 Birds of farmland 3.8 Birds of coastal habitats 3.9 Birds of estuarine habitats 3.10 Birds of open sea and offshore rocks
8.	**Is the proposal directly connected with or necessary to the management of the site for nature conservation?**	No

9. **What potential hazards are likely to affect the interest features?** (Refer to relevant sensitivity matrix and only include those to which the interest features are sensitive). **Are the interest features potentially exposed to the hazard?**

Sensitive Interest Feature:	**Potential hazard:**	**Potential exposure to hazard and mechanism of effect/impact if known:**

River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid cSAC features:		
1.3 Riverine habitats and running waters: • Floating vegetation of Ranunculus of plain and submountainous rivers	A, b, c, d, e, f, g, h	
2.1 Vascular plants of aquatic habitats: • Floating water plantain	A, b, c, d, e, f, g, h	
2.5 Anadromous fish: • Atlantic Salmon • River Lamprey • Sea Lamprey	A, b, c, d, e, g, h,	
2.6 Non-migratory fish and invertebrates of rivers: • Brook Lamprey • Bullhead	A, b, c, d, e, g, h,	
2.9 Mammals of riverine habitats: • Otter	A, b, c, d, e, g, h,	
Dee Estuary SPA features		
3.4 Birds of lowland wet grasslands: • Bar-tailed Godwit • Black-tailed Godwit • Curlew • Dunlin • Grey Plover • Knot • Oystercatcher • Redshank • Teal	A	
3.6 Birds of lowland freshwaters and their margins: • Common Tern • Pintail • Shelduck • Teal	A, b, c, d, e, g	

3.7 Birds of Farmland: • Bar-tailed Godwit • Curlew • Dunlin • Grey Plover • Knot • Oystercatcher • Redshank	N/A	
3.8 Birds of coastal habitats • Bar-tailed Godwit • Black-tailed Godwit • Common Tern • Curlew • Dunlin • Grey Plover • Knot • Little Tern • Oystercatcher • Pintail • Redshank • Sandwich Tern • Shelduck • Teal	A, b, d, e, g	
3.9 Birds of estuarine habitats • Bar-tailed Godwit • Black-tailed Godwit • Common Tern • Curlew • Dunlin • Grey Plover • Knot • Little Tern • Oystercatcher • Pintail • Redshank • Sandwich Tern • Shelduck • Teal	A, b, d, e, f, g, h	
3.10 Birds of open sea and offshore rocks: • Common Tern • Little Tern • Sandwich Tern	A	

Dee Estuary cSAC features:		
1.10 Coastal Habitats • Embryonic shifting dunes • Fixed dunes with herbaceous vegetation (grey dunes) • Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes)	N/A	
1.11 Coastal habitats (sensitive to abstraction) • Humid dune slacks • Vegetated sea cliffs of the Atlantic and Baltic coasts •	A, b, d, f, g, h	
1.12 Estuarine and intertidal habitats: • Estuaries • Mudflats and sandflats not covered by seawater at low tide • Atlantic salt meadows • *Salicornia* and other annuals colonising mud and sand	A, b, d, e, f, g, h	
2.4 Mosses and liverworts • Petal Wort	N/A	
2.5 Anadromous fish: • River Lamprey • Sea Lamprey	A, b, c, d, e, g, h	
Dee Estuary RAMSAR features		
2.10 Amphibia • Natterjack toad	A, b, c, d, e, g, h	
3.9 Birds of estuarine habitats • Sandwich tern • Common tern • little tern • Oyster Catcher • Grey plover • Dunlin • Black-tailed Godwit	A, b, d, e, f, g, h	

3.8 Birds of coastal habitats • Bar-tailed Godwit • Shelduck • Pintail • Curlew • Redshank	A, b, d, e, g	
Key: - A – Toxic contamination B – Nutrient enrichment C – pH changes D – Changes in salinity regime E – Changes in thermal regime F – Physical damage G – Turbidity H - Siltation		

10. Is the potential scale or magnitude of any effect likely to be significant?	
a) Alone? (explain conclusion, e.g. in relation to de minimus criteria)	No – see point 10c
b) In combination with other plans or projects?	No - see point 10c
c) In combination with plans/projects of other Competent Authorities?	As a result of its risk assessment, the Agency can conclude that this application could not act in combination with plans/projects of other competent authorities. Consultation has not been necessary and our conclusion is that this project could not act alone or in combination with any other plans or projects. AMP 3 is a national scheme undertaken by Welsh Water designed to improve water quality The scheme of improvements taking place at Bala WwTW has been assessed as a catchment resolution, incorporating improvements to the Bala storm discharge. The catchment is residential with a significant influx of tourists during the summer months. There are two consented trade discharges with a combined maximum daily flow of $30m^3$/day.

11. Conclusion: Is the proposal likely to have a significant effect 'alone or in combination' on a European site?	This is an application to discharge up to 1690m³ of biologically treated sewage effluent to the River Dee. Treatment will include a 6mm screening device on all flows entering the works to alleviate problems associated with carry over from screenings causing poor settlement and blockages in the filter media. After screening the effluent enters a primary settlement tank, during which suspended solids are settled out of solution. The effluent then passed through full biological treatment using stone media filters. Historically there have been problems occurring with the filter distributors, which are prone to stop-start during low or no flow. This can lead to a solid surge from the filter contributing to poor settlement in the final chamber. It an effort to resolve this issue recirculation will be provided for these stone filters ensuring rotation of the filter arms at all times. This will give regular flushing of the media and promote improved settlement of humus solids. In addition to this there will be an automation of the return liquors, which will improve flow management and a new upflow humus settlement tank which will be de-sludged automatically. Extensive consultation and modelling has taken place between Dŵr Cymru Welsh Water and the Environment Agency to ensure the WwTW meets AMP design guidelines. It is anticipated that this discharge will have no detrimental effect upon the surrounding habitats, as it is part of a scheme by Welsh Water to improve effluent quality (and hence water quality) in the catchment, and is an improvement to the current effluent quality at the outlet.	
12. Name of EA Officer:	Sarah Middleton	**Date: 18/10/04**
13. EN/CCW comment on assessment: (If the EN/CCW officer disagrees with the conclusion of 10c, please include details of the other Competent Authorities which should be consulted)		
14. Name of EN/CCW Officer:		**Date:**

IF THE PROPOSAL IS LIKELY TO HAVE A SIGNIFICANT EFFECT AN APPROPRIATE ASSESSMENT WILL BE REQUIRED (see part B for suggested scope).

Part B - SUGGESTED SCOPE OF THE APPROPRIATE ASSESSMENT:
(see also EN and CCW Habitats Regulations Guidance Notes HRGN1 and OH 99/01)
(Water Resources, please see note in Appendix 4 of the guidance for assessing new permissions)
(add details to following framework)

- Other competent authorities involved (the scope of the appropriate assessment must be agreed with them).

- Characterise the site in relation to the qualifying features and their conservation objectives;
- Existing information
- Additional surveys
- Management/ unauthorised impacts

- Detailed description of plan/project

- Assess each likely impact on the interest features;
- Compare with historical data
- predict impacts
- compare with impact from management/unauthorised activities

- Determine the extent to which each possible impact can be avoided.

- What alternative solutions could be considered?

15. EN/CCW Comment on scope of appropriate assessment:

16. Name of EN/CCW Officer:		**Date:**

APPENDIX 11

Form HR01: Proforma for new applications within Stage 2 criteria.

ENVIRONMENT AGENCY

Environment Agency Record of Assessment of Likely Significant Effect On A European Site (Stage 2)

The new application for a *<please fill in details>* detailed below is within the Stage 1 criteria of ***<please fill in details>***, and in order to progress the application a Stage 2 assessment and consultation with EN/CCW is required.

PART A

1. Type of permission/activity:	Water Resources Act (1991) (as amended by Environment Act 1995) consent to discharge
2. Agency reference no:	CG0428901
3. National Grid reference:	SH 93782 35552
4. Site reference:	Bala Wastewater Treatment Works Off A494 Bala
5. Brief description of proposal:	Application to discharge screened sewage effluent intermittently under storm conditions to the River Dee.
6. European site name(s) and status:	River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid cSAC: UK0030252 Dee Estuary SPA: UK9013011 Dee Estuary cSAC: UK9013011 River Dee RAMSAR features: 7UK020

To be completed by relevant technical/project officer in consultation with Conservation/Ecology section and EN/CCW	

7.	**List of interest features:**	1.3 Riverine habitats and running waters 1.10 Coastal Habitats 1.11 Coastal habitats (sensitive to abstraction) 1.12 Estuarine and intertidal habitats 2.1 Vascular plants of aquatic habitats 2.4 Mosses and liverworts 2.5 Anadromous fish 2.6 Non-migratory fish and invertebrates of rivers 2.9 Mammals of riverine habitats 2.10 Amphibia 3.4 Birds of lowland wet grasslands 3.6 Birds of lowland freshwaters and their margins 3.7 Birds of farmland 3.8 Birds of coastal habitats 3.9 Birds of estuarine habitats 3.10 Birds of open sea and offshore rocks
8.	**Is the proposal directly connected with or necessary to the management of the site for nature conservation?**	No

9. **What potential hazards are likely to affect the interest features?** (Refer to relevant sensitivity matrix and only include those to which the interest features are sensitive). **Are the interest features potentially exposed to the hazard?**

Sensitive Interest Feature:	**Potential hazard:**	**Potential exposure to hazard and mechanism of effect/impact if known:**

River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid cSAC features:		
1.3 Riverine habitats and running waters: • Floating vegetation of Ranunculus of plain and submountainous rivers	A, b, c, d, e, f, g, h	
2.1 Vascular plants of aquatic habitats: • Floating water plantain	A, b, c, d, e, f, g, h	
2.5 Anadromous fish: • Atlantic Salmon • River Lamprey • Sea Lamprey	A, b, c, d, e, g, h,	
2.6 Non-migratory fish and invertebrates of rivers: • Brook Lamprey • Bullhead	A, b, c, d, e, g, h,	
2.9 Mammals of riverine habitats: • Otter	A, b, c, d, e, g, h,	
Dee Estuary SPA features		
3.4 Birds of lowland wet grasslands: • Bar-tailed Godwit • Black-tailed Godwit • Curlew • Dunlin • Grey Plover • Knot • Oystercatcher • Redshank • Teal	A	
3.6 Birds of lowland freshwaters and their margins: • Common Tern • Pintail • Shelduck • Teal	A, b, c, d, e, g	

3.7 Birds of Farmland: • Bar-tailed Godwit • Curlew • Dunlin • Grey Plover • Knot • Oystercatcher • Redshank	N/A	
3.8 Birds of coastal habitats • Bar-tailed Godwit • Black-tailed Godwit • Common Tern • Curlew • Dunlin • Grey Plover • Knot • Little Tern • Oystercatcher • Pintail • Redshank • Sandwich Tern • Shelduck • Teal	A, b, d, e, g	
3.9 Birds of estuarine habitats • Bar-tailed Godwit • Black-tailed Godwit • Common Tern • Curlew • Dunlin • Grey Plover • Knot • Little Tern • Oystercatcher • Pintail • Redshank • Sandwich Tern • Shelduck • Teal	A, b, d, e, f, g, h	
3.10 Birds of open sea and offshore rocks: • Common Tern • Little Tern • Sandwich Tern	A	

Dee Estuary cSAC features:		
1.10 Coastal Habitats • Embryonic shifting dunes • Fixed dunes with herbaceous vegetation (grey dunes) • Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes)	N/A	
1.11 Coastal habitats (sensitive to abstraction) • Humid dune slacks • Vegetated sea cliffs of the Atlantic and Baltic coasts •	A, b, d, f, g, h	
1.12 Estuarine and intertidal habitats: • Estuaries • Mudflats and sandflats not covered by seawater at low tide • Atlantic salt meadows • *Salicornia* and other annuals colonising mud and sand	A, b, d, e, f, g, h	
2.4 Mosses and liverworts • Petal Wort	N/A	
2.5 Anadromous fish: • River Lamprey • Sea Lamprey	A, b, c, d, e, g, h	
Dee Estuary RAMSAR features		
2.10 Amphibia • Natterjack toad	A, b, c, d, e, g, h	
3.9 Birds of estuarine habitats • Sandwich tern • Common tern • little tern • Oyster Catcher • Grey plover • Dunlin • Black-tailed Godwit	A, b, d, e, f, g, h	

3.8 Birds of coastal habitats • Bar-tailed Godwit • Shelduck • Pintail • Curlew • Redshank	A, b, d, e, g	
Key: - A – Toxic contamination B – Nutrient enrichment C – pH changes D – Changes in salinity regime E – Changes in thermal regime F – Physical damage G – Turbidity H - Siltation		

10. Is the potential scale or magnitude of any effect likely to be significant?	
a) Alone? (explain conclusion, e.g. in relation to de minimus criteria)	No – see point 10c
b) In combination with other plans or projects?	No - see point 10c
c) In combination with plans/projects of other Competent Authorities?	As a result of its risk assessment, the Agency can conclude that this application could not act in combination with plans/projects of other competent authorities. Consultation has not been necessary and our conclusion is that this project could not act alone or in combination with any other plans or projects. AMP 3 is a national scheme undertaken by Welsh Water designed to improve water quality The scheme of improvements taking place at Bala WwTW has been assessed as a catchment resolution, incorporating improvements to the Bala WwTW final effluent discharge. The catchment is residential with a significant influx of tourists during the summer months. There are two consented trade discharges with a combined maximum daily flow of $30m^3$/day.

11. Conclusion: Is the proposal likely to have a significant effect 'alone or in combination' on a European site?	This is an application to discharge screened sewage effluent to the River Dee. The discharge will take place intermittently, only occurring when the incoming flow exceeds the flow to full treatment and the storm tank is fully utilised. The improvements at the storm outlet will introduce 6mm static screens on all spill flows with capacity in line with AMP guidelines. An increase in storm storage capacity will reduce spill rates. Storm flow management will be provided by flow measurement, and a storm event monitor will monitor the frequency and the duration of any spills. Telemetry is provided in the form of a high level switch fitted on the outlet of the storm tank which will detect 6mm screened flows leaving which are greater than 3DWF. A nominated storm sample point will be provided at the outlet of the storm tank. Draining of the storm tank will be automated to take place once the works flow is less than the flow to full treatment. Extensive consultation and modelling has taken place between Dŵr Cymru Welsh Water and the Environment Agency to ensure the WwTW meets AMP design guidelines. It is anticipated that this discharge will have no detrimental effect upon the surrounding habitats, as it is part of a scheme by Welsh Water to improve effluent quality (and hence water quality) in the catchment, and is an improvement to the current effluent quality at the outlet.	
15. Name of EA Officer:	Sarah Middleton	**Date: 18/10/04**
16. EN/CCW comment on assessment: (If the EN/CCW officer disagrees with the conclusion of 10c, please include details of the other Competent Authorities which should be consulted).		
17. Name of EN/CCW Officer:		**Date:**
IF THE PROPOSAL IS LIKELY TO HAVE A SIGNIFICANT EFFECT AN APPROPRIATE ASSESSMENT WILL BE REQUIRED (see part B for suggested scope).		

Part B - SUGGESTED SCOPE OF THE APPROPRIATE ASSESSMENT:
(see also EN and CCW Habitats Regulations Guidance Notes HRGN1 and OH 99/01)
(Water Resources, please see note in Appendix 4 of the guidance for assessing new permissions)
(add details to following framework)

- Other competent authorities involved (the scope of the appropriate assessment must be agreed with them).

- Characterise the site in relation to the qualifying features and their conservation objectives;
- Existing information
- Additional surveys
- Management/ unauthorised impacts

- Detailed description of plan/project

- Assess each likely impact on the interest features;
- Compare with historical data
- predict impacts
- compare with impact from management/unauthorised activities

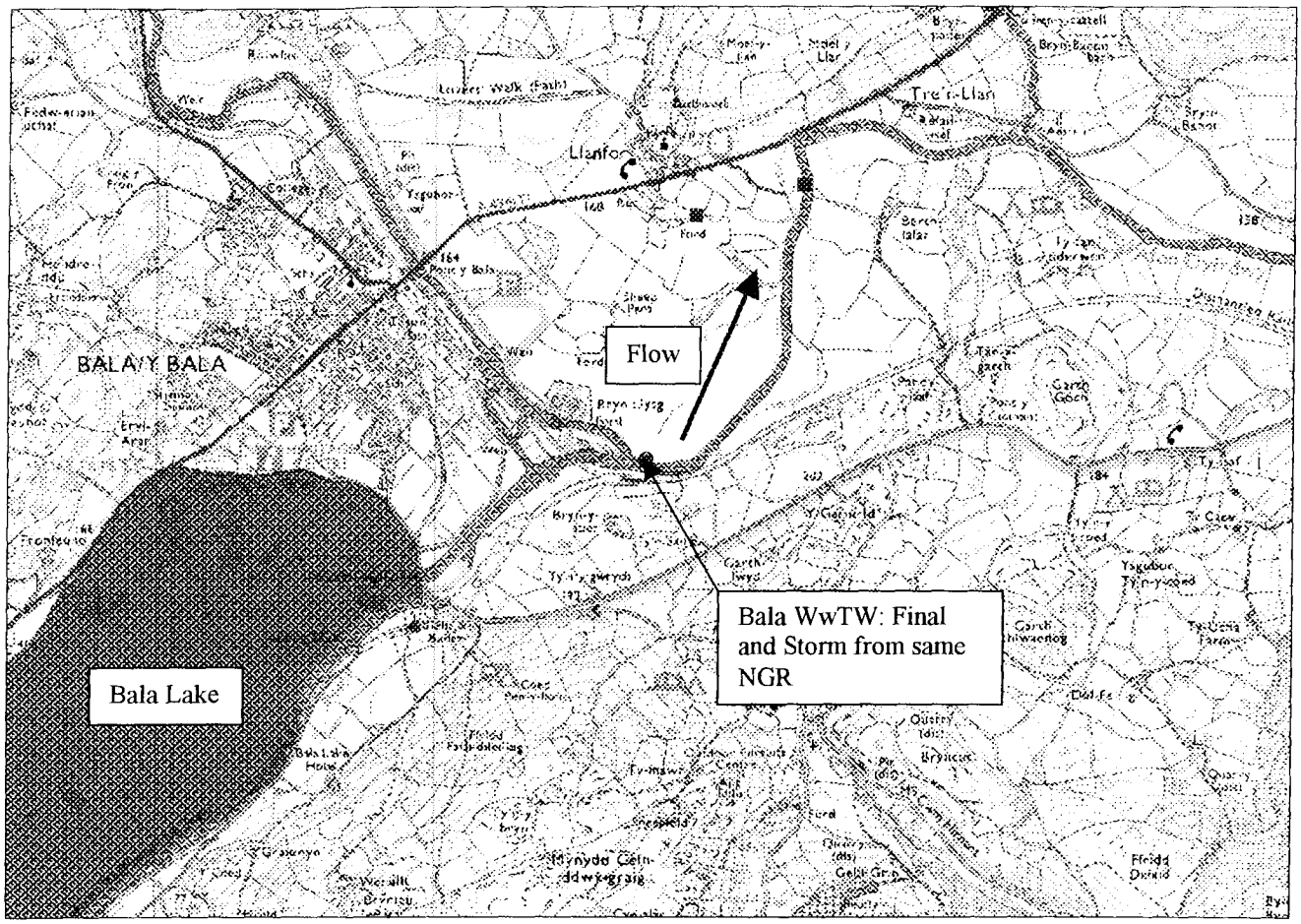
- Determine the extent to which each possible impact can be avoided.

- What alternative solutions could be considered?

15. EN/CCW Comment on scope of appropriate assessment:

16. Name of EN/CCW Officer:		**Date:**

LOCATION MAP FOR BALA WwTW



Layer	Key
WIMS - DC/WW Discharge Consents - WA	
Designations - SSSIs (Sites of Special Scientific Interest) at 10,000 - WA	
Designations - SPAs (Special Protection Areas) at 10,000 - WA	
Designations - SACs (Special Areas of Conservation) at 10,000 - WA	
Designations - RAMSAR Sites at 10,000 - WA	
Water - Sea Area at 10,000 -WA	

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

Eich cyf/Your ref.

Ein cyf/Our ref. DR/RP/CM0001501/CG0428901

Dyddiad/Date: 20th October 2004

Paul Day
CCW
Glan y Nant,
Unit 19,
Mold Business Park,
Wrexham Road,
Mold,
Flintshire,
CH7 1XP.

Dear Mr Day,

WATER RESOURCES ACT 1991, SCHEDULE 10 (AS AMENDED BY THE ENVIRONMENT ACT 1995): FORMAL CONSULTATION. APPLICATION FOR CONSENT TO DISCHARGE SEWAGE EFFLUENT BY DWR CYMRU CYF FROM BALA WASTEWATER TREATMENT WORKS, OFF A494, BALA
APPLICATION NO: CM0001501/CG0428901

I append a copy of the application for consent to discharge received from Dwr Cymru Cyf and Appendix 11. If you have any comments regarding this application could you please respond by 3rd November 2004.

Yours sincerely

Kelvin Graham
Team Leader Customer Contact & Authorisations

Please ask for Ruth Prichard ext 4502

Asiantaeth yr Amgylchedd Cymru
Ffordd Caer, Bwcle, Sir y Fflint CH7 3AJ
Ffon 08708 506 506 Ffacs 01244 550144

Environment Agency Wales
Chester Road, Buckley, Flintshire CH7 3AJ
Tel 08708 506 506 Fax 01244 550144

CROW Appendix 4

The CROW Act 2000 and Environment Agency Permissions - Formal Notice

ENVIRONMENT AGENCY

Environment Agency Formal Notice To English Nature/Countryside Council For Wales

Requirements of section 28I of the Wildlife & Countryside Act 1981 as incorporated by the Countryside and Rights of Way Act (CROW) 2000.

Duty in relation to granting any consent, licence or permit for activities to be carried out in or capable of affecting Sites of Special Scientific Interest (SSSI).

To be completed by relevant technical/project officer in consultation with Conservation section, referring to the Agency Guidance and the flow chart in CROW Appendix 2 titled , ' The CROW Act 2000 and Environment Agency Permissions'.

NB: [1] It is expected that there has been preliminary Consultation with EN/CCW, where the application timetable permits.

[2] Complete this form for any proposed permissions which the Agency is minded to approve, having taken account of the Agency's S28G duties. This applies to all proposed permissions within an SSSI which relate to operations listed on the OLD list, and to permissions outside an SSSI which are likely to damage its special features.

1. Agency Region and Area Office:	Environment Agency Wales, Chester Road, Buckley, Flintshire
2. Name of SSSI(s):	River Dee SSSI
3. Type of permission:	Discharge of sewage effluent into surface waters
4. Date for Agency determination:	28 days
5. Predicted 28 day date for EN/CCW Response (under S28 I(4)):	ASAP
6. Agency reference no:	CG0428901: Bala Wastewater Treatment Works (Storm)
7. National Grid reference:	SH 93782 35552
8. Description of proposal:	Application to discharge screened sewage effluent intermittently under storm conditions to the River Dee.
9. Is the proposed activity within (wholly or partially) the SSSI boundary?	Yes. Discharge is directly into River Dee.

10. If within the SSSI and on the OLD list, and/or outside the SSSI boundary, what aspect of the proposed permission is likely in the Agency view to adversely affect the notified interest of the SSSI?

This is an application to discharge screened sewage effluent to the River Dee. The discharge will take place intermittently when the flow exceeds the flow to full treatment and the storm tank is full.

The improvements at the storm outlet will introduce 6mm static screens on all flows to spills and capacity in line with AMP guidelines. This increase in storm capacity will reduce spill rates. Storm flow management will be provided by flow measurement, and a storm event monitor will monitor the frequency and the duration of any spills.

Telemetry is provided in the form of a high level switch fitted on the outlet of the storm tank which will detect 6mm screened flows leaving which are greater than 3DWF. A nominated storm sample point will be provided at the outlet of the storm tank. Draining of the storm tank will be automated to take place once the works flow is less than the flow to full treatment.

Extensive consultation and modelling has taken place between Dŵr Cymru Welsh Water and the Environment Agency to ensure the WwTW meets AMP design guidelines. It is anticipated that this discharge will have no detrimental effect upon the surrounding habitats, as it is part of a scheme by Welsh Water to improve effluent quality (and hence water quality) in the catchment, and is an improvement to the current effluent quality at the outlet.

13b: Modification to the structure of watercourses including rivers....

11. Name & job title of Agency Officer:	**Sarah Middleton x4565**	**Date form sent to EN/CCW: 18/10/04**

For Agency use only, once EN/CCW response received		
12. EN/CCW comment on assessment:	**Please circle one of following:** 1) No comment/advice 2) Advise approval 3) Advise approval with conditions 4) Advise refusal **Please ensure that the EN/CCW response is attached to this Formal Notice.**	
13. Name & job title of EN/CCW Officer:		**Date of receipt of EN/CCW response:**

CROW Appendix 4

The CROW Act 2000 and Environment Agency Permissions - Formal Notice

ENVIRONMENT AGENCY

Environment Agency Formal Notice To English Nature/Countryside Council For Wales

Requirements of section 28I of the Wildlife & Countryside Act 1981 as incorporated by the Countryside and Rights of Way Act (CROW) 2000.

Duty in relation to granting any consent, licence or permit for activities to be carried out in or capable of affecting Sites of Special Scientific Interest (SSSI).

To be completed by relevant technical/project officer in consultation with Conservation section, referring to the Agency Guidance and the flow chart in CROW Appendix 2 titled , ' The CROW Act 2000 and Environment Agency Permissions' .

NB: [1] It is expected that there has been preliminary Consultation with EN/CCW, where the application timetable permits.

[2] Complete this form for any proposed permissions which the Agency is minded to approve, having taken account of the Agency's S28G duties. This applies to all proposed permissions within an SSSI which relate to operations listed on the OLD list, and to permissions outside an SSSI which are likely to damage its special features.

1. Agency Region and Area Office:	Environment Agency Wales, Chester Road, Buckley, Flintshire
2. Name of SSSI(s):	River Dee SSSI
6. Type of permission:	Discharge of sewage effluent into surface waters
7. Date for Agency determination:	28 days
8. Predicted 28 day date for EN/CCW Response (under S28 I(4)):	ASAP
6. Agency reference no:	CM0001501: Bala Wastewater Treatment Works (Final)
7. National Grid reference:	SH 93782 35552
8. Description of proposal:	Application to discharge biologically treated sewage effluent to the River Dee.
9. Is the proposed activity within (wholly or partially) the SSSI boundary?	Yes. Discharge is directly into River Dee.

10. If within the SSSI and on the OLD list, and/or outside the SSSI boundary, what aspect of the proposed permission is likely in the Agency view to adversely affect the notified interest of the SSSI?

This is an application to discharge up to 1690m³ of biologically treated sewage effluent to the River Dee. Treatment will include a 6mm screening device on all flows entering the works to alleviate problems associated with carry over from screenings causing poor settlement and blockages in the filter media.

After screening the effluent enters a primary settlement tank, during which suspended solids are settled out of solution. The effluent then passed through full biological treatment using stone media filters. Historically there have been problems occurring with the filter distributors, which are prone to stop-start during low or no flow. This can lead to a solid surge from the filter contributing to poor settlement in the final chamber. It an effort to resolve this issue recirculation will be provided for these stone filters ensuring rotation of the filter arms at all times. This will give regular flushing of the media and promote improved settlement of humus solids.

In addition to this there will be an automation of the return liquors, which will improve flow management and a new upflow humus settlement tank which will be de-sludged automatically.

Extensive consultation and modelling has taken place between Dŵr Cymru Welsh Water and the Environment Agency to ensure the WwTW meets AMP design guidelines. It is anticipated that this discharge will have no detrimental effect upon the surrounding habitats, as it is part of a scheme by Welsh Water to improve effluent quality (and hence water quality) in the catchment, and is an improvement to the current effluent quality at the outlet.

13b: Modification to the structure of watercources including rivers....

12. Name & job title of Agency Officer:	Sarah Middleton	**Date form sent to EN/CCW: 18/10/04**

For Agency use only, once EN/CCW response received		
12. EN/CCW comment on assessment:	**Please circle one of following:** 1) No comment/advice 2) Advise approval 3) Advise approval with conditions 4) Advise refusal **Please ensure that the EN/CCW response is attached to this Formal Notice.**	
14. Name & job title of EN/CCW Officer:		**Date of receipt of EN/CCW response:**

DŴR CYMRU
WELSH WATER

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Mr Iwan Williams
Consents Regulation Manager
Environment Agency
Chester Road
Buckley
Flintshire
CH7 4AJ

Dyddiad/Date:
30 September 2004

Ymholiadau/Enquiries:
JP Edwards
Tel: 01244 661628

Ein Cyf./Our Ref:

Eich Cyf./Your Ref:

Dear Iwan

Re: Request for Date of Effect to be 31 December 2005

Following our conversation today I write to confirm that DCWW wish for the 'Date of Effect' to be changed on the applications from 31 March 2005 to 31 December 2005 for the following schemes:

Llangoed (CG0084901)
Nantglyn (CM0077901)
Llanarmon Yn Ial (CM0001201/CM0001202)
Bala (CM000150/CG0428901)
Llanfair PG (CG0081101/CG0081201

Maentwrog and Blaenau Ffestiniog have been submitted with the relevant date of effect as 31 December 2005.

Sorry for any inconvenience

Yours sincerely

JP Edwards

JP EDWARDS
Area Regulation Scientist

ASIANTAETH YR AMGYLCHEDD
ENVIRONMENT AGENCY

WATER RESOURCES ACT 1991 (schedule 10)

(as amended by the Environment Act 1995)

Application for ~~new consent~~/variation to an existing consent* to discharge
(* delete as appropriate)

Regional/Area Address:	*Official Use Only*
Discharge Consent Applications Environment Agency Wales Chester Road Buckley Flintshire CH7 3AJ	*Dist/Area Ref:* *Application No.* CM0001501 ~~CM000130~~ *Date Received:* 28/09/2004 *Fee Received:* 28/09/2004

Each applicant must complete the main form and may need to complete a separate annexe if appropriate. Please look through the form and read the notes carefully before you complete it. Processing of your application will be aided by full and accurate completion of all relevant sections and provisions of the necessary plans. If you have any queries regarding the form please contact the person given in the notes.

NOTE:
All information contained within this application will be made available on the public register unless there is a request to withhold any of it. Any such request should provide a full justification stating why the information needs to be withheld (see note xiii).

1 SITE ADDRESS

1.1 Address or other sufficient description of land or premises to which this application applies.

BALA WWTW
Off A494
Bala
Denbighshire

Post Code: LL23 7DW

2 DETAILS OF DISCHARGE(S)

2.1 State the nature of the discharge(s) (see note i and ii) - tick one or more boxes as appropriate:

Sewage Effluent - volume of 5 cubic metres per day or less	
Sewage Effluent - volume greater than 5 cubic metres per day (**complete annexe 1**)	X
Sewage Effluent discharged under storm or emergency conditions (**complete annexe 2**)	
Cooling Water (**complete annexe 3**)	
Trade Effluent (*including site drainage*) (**complete annexe 3**)	
Others (*please specify*)	

2.2 Please state the maximum quantity it is proposed to discharge in any one day: 1690 m³/day
Briefly state how this figure was calculated (see note ii).

Calculated from Formulae 3DWF=3PG+I+3E

2.3 a) Indicate proposed means of discharge - tick as appropriate and show on plan:
(for 1, 2 & 3 please state dimensions below)

1. Pipe	X	4. Borehole		7. Sub-Irrigation System	
2. Channel		5. Well		8. Combination of 6 & 7	
3. Culvert		6. Soakaway		9. Other (*please specify below*)	

18 inch diameter pipe

b) National Grid Reference(s) of point(s) of discharge (see note iii).

S	H	9	3	7	8	2	3	5	5	5	2

(please indicate on accompanying plans)

2.4 a) The Agency will normally require adequate provision for the taking of samples of the discharge in a safe and convenient manner at any time. Please indicate the means proposed (see note iv) - tick as appropriate and show on plan:

At the outlet [ ] At a manhole or sampling chamber [X]

Other *(please specify)*

b) National Grid Reference(s) of sampling point(s) (if different from 2.3 b) above).

S	H	9	3	5	3	6	3	5	7	6	1

(please indicate on accompanying plans)

c) What flow measurement facilities will be provided (see note v)?
Please give details.

One 250mm(10inch) dia Mag Flow Meters will be installed at the head of the works.

2.5 a) Type of Treatment Plant(s) to be used *(please specify make and model)* - tick as appropriate:

Septic Tank [ ] Package Sewage Treatment Works [ ] Other [✔]

6mm Screen followed by primary settlement followed by biological treatment using stone media filters followed by Final Settlement.

b) Will the treatment process involve the use of any chemicals (eg ferric salts, polyelectrolytes). If yes please give details. ~~Y~~/N

2.6 a) On what date do you anticipate the discharge will commence? 31/03/05

b) If you require the consent for a limited time period please give dates; from: / /

to: / /

c) If the discharge is not continuous please detail the period/circumstances when it will occur.

N/A

2.7 a) Are there any existing consents for discharges from the premises (see note vi)? Y/~~N~~

If yes, please give the reference numbers *(Any further information should be given in Section 5.3).*

CM0001301

b) Has any person had a Prohibition Notice serviced on them in respect of this site? ~~Y~~/N

If yes, please give the reference number.

3 SITE DETAILS

3.1 Please give the name of the relevant Planning Authority.

Denbighshire County Council

3.2 Please give details of the premises - tick as appropriate:

1. Single Dwelling	[ ]	6. Fish Farm	[ ]
2. Multiple Dwellings	[ ]	7. Mineral Workings	[ ]
3. Industrial Premises	[ ]	8. Water Services plc STW	[X]
4. Vehicle Parking Area	[ ]	9. Water Supply	[ ]
5. Commercial Premises *(please specify)*	[ ]	10. Other *(please specify)*	[ ]

3.3 Please indicate source of the water supply - tick as appropriate: Not Applicable

1. Well		5. River *(please give name below)*	
2. Borehole		6. Estuary *(please give name below)*	
3. Precipitation (eg rain or snow)		7. Coastal Water *(please give name below*	
4. Mains *(please state water supply company)*	X		

Dwr Cymru (DCWW)

4 DETAILS OF RECEIVING ENVIRONMENT

4.1 Receiving Medium - tick the category(s) to which the proposed discharge(s) is(are) to be made:

1. Estuarial Water (tidal river or stream)		5. Into Land	
2. River or Stream (non-tidal)	X	6. Onto Land	
3. Canal		7. Directly into Groundwater	
4. Lake, Lock or Pond		8. Coastal Water (see note vii)	

State name of receiving water if known:

River Dee

4.2 In the case of sub-irrigation systems, soakaways or boreholes: **Not Applicable**

(a) Is any part of the system within 5 metres of the boundary of the premises? ~~Y~~/N

(b) Is any part of the system within 10 metres of a watercourse? ~~Y~~/N

(c) Is any part of the system within 50 metres of a borehole or spring? ~~Y~~/N

(d) For wells and boreholes state dimension(s) in metres. N/A m

(e) For sub-irrigation systems, soakaway pits, wells and boreholes, state maximum depth in metres.

N/A m

(f) For boreholes, state details of lining in metres:

(i) Depth of lining N/A m

(ii) Depth of perforated lining N/A m

(iii) Depth of unperforated lining N/A m

(g) A percolation test must be carried out in accordance with British Standard BS6297:1983. Have the results been provided? ~~Y~~/N

4.3 Is there a foul sewer available to which the discharge(s) could be made (see note viii)? ~~Y~~/N

If yes, please give the reasons it is not practical to connect to it (eg distance, flow etc).

5 DETAILS OF APPLICANT AND OTHER INFORMATION

5.1 (See general notes and note ix)

(a) Full name and postal address of applicant. This should be the person who will become the consent holder should consent be issued.

*Dwr Cymru Cyf
*Pentwyn Road
*Nelson
*Treharris
*Mid Glamorgan
*

Post Code: CF46 6LY

Daytime Telephone Number:

Company Registration Number (if appropriate): 2366777

(b) Agent (if any) - Full name and postal address.

*
*
*
*
*
*

Post Code:

Contact Name and Daytime Telephone Number:

5.2

Please give full name and address to which bills should be sent if different to that given above:

*
*
*
*
*
*

Post Code:

Daytime Telephone Number:

5.3 Are there any other factors to be taken into account? Please continue on a separate sheet if necessary.

DECLARATION

~~I~~/We:

1. apply under the Water Resources Act 1991 (as amended by the Environment Act 1995) for consent to discharge, as described in this Application. "This Application" means this page, all the other pages of this form and any attached annexes, the attached plan(s), any other sheets attached, and any other written information supplied to support the application.

2. enclose the required application fee, payable to the Environmental Agency (see note x).

3. enclose 3 copies of the plan(s) and location maps with all relevant information clearly marked (see note xi).

4. will pay required advertising costs (see note xii).

5. confirm that ~~I~~/we* will notify the Environment Agency of any changes in the information in this application which might be material to the continuation of the consent.

6. confirm that the information given in this application and any questions which the Environment Agency may have about it is/~~will be~~ true to the best of ~~my~~/our* knowledge, information and belief and am/are* not aware of any other facts or information which might affect the granting of a consent, or conditions which might be put on it (see note xiii).

7. confirm that ~~I~~/we* will pay any annual charges due should a consent be granted ~~YES/NO~~*. If no please indicate who will be completing section 5.2 above (see note xiv).

(* Delete as appropriate)

SIGNED: J P Edwards **PRINT NAME:** J P Edwards

ON BEHALF OF: .....DWR CYMRU CYF..... **DATED:** 24/9/04

CONFIDENTIALITY

I/we apply for commercial confidentiality and enclose a full written justification (see note xv).

SIGNED: ..... **DATED:** .....

PLEASE RETURN THIS FORM TO THE ADDRESS GIVEN ON THE FRONT PAGE

ASIANTAETH YR AMGYLCHEDD
ENVIRONMENT AGENCY

ANNEXE 1
SEWAGE EFFLUENT GREATER THAN 5 CUBIC METRES PER DAY

Please complete this annexe if you are proposing to discharge more than 5 cubic metres per day of sewage effluent (if the effluent is to contain a trade component Annexe 3 should also be completed).

Official Use Only
Application No.

1. Site Name.

Bala WwTW

2. Please detail the type and number of treatment units you are proposing to use.

1x 6mm Screen, 1x Primary Settlers, 3x Stone Filters, 1x Final Settler.

3. Volume, rates and overflow settings. (Please give volumes in cubic metres per day or litres per second as indicated below)

a) Maximum flow to full treatment. (see note ii) in main guidance notes for population equivalents). — 1690 m³/d

b) Dry weather flow of discharge(s). — 688.8 m³/d

c) Average daily flow. — 861 m³/d

d) Maximum rate of discharge(s) — 19.6l/s

4. Will there be provisions for storm/~~emergency~~ discharges? — Y/~~N~~

If yes, please complete Annexe 2.

5. a) Will any self monitoring take place? — Y/~~N~~

If yes, please give details.

UWWTD monitoring will be undertaken as required.

b) Will automatic sampling equipment be provided? — ~~Y~~/N

If yes, please give details of type and location *(please indicate on plan).*

6. a) Please state the maximum population served by the treatment works.

The works is designed for a 2614 population equivalent based Dwr Cymru's AIS system using Census 2001 data and a 2.4Pe/house.

b) Please give reasons for any variations in population, eg holiday resort, training area, seasonal industry etc, and detail the periods/times involved.

The catchment area receives a significant influx of tourists in the summer months.

c) Please state type of catchment/site being served, eg residential, resort, industrial etc.

The catchment is residential with significant tourist influx in summer months. There are two consented trade discharges (farmers mart and local leisure centre).

7. Will a maintenance agreement be set up to manage the sewage works? (see note b) Y/~~N~~
If yes, please give details.

The works is subject to operational maintenance contract with the Operational contractor

8. Does the effluent contain a trade component? Y/~~N~~
If yes, please complete appropriate section on Annexe 3 for authorised discharges of trade effluent to the sewerage system.

Notes (see also the notes attached to the main form):

a) For significant sewage treatment plants full details of the plant design, dry weather flow and Biochemical Oxygen Demand load, along with information on all discharges from the works must be included in order for the application to be processed. Flow monitoring will normally be required for such discharges and details of siting and type of flow recorders should be provided.

b) The Agency require a single body or company to be responsible for the discharge and any bills raised under the Charges for Discharges Scheme. Where multiple dwellings under different ownership are connected to the same system a management company should be set up.

ASIANTAETH YR AMGYLCHEDD
ENVIRONMENT AGENCY

ANNEXE 3
TRADE EFFLUENT DISCHARGES

Please complete this annexe if you are proposing to make a discharge trade effluent (this includes site drainage).

Official Use Only
Application No.

1. Site Name.

Bala WWTW, LL23 7DW

2. a) Describe in full the trade effluent and the process(es) from which it arises.

Resulting from swimming pool and farmers market.

b) Please state the type and number of treatment units you are proposing to use *(if site drainage please include details of oil/petrol interception facilities).*

N/A

3. Rainfall Dependent Discharges **Not applicable**

a) Is the volume going to be rainfall dependent? ~~Y/N~~

b) If yes, please give the total area drained. m²

c) Please give details of any activities which occur in the drainage area which could contaminate surface water (see note b)

N/A

4. Rainfall Independent Discharges

a) What is the maximum rate of discharge? N/A l/s

b) What is the average daily flow? N/A m³/d

c) For discharges where the source of supply is other than mains water:

i) give the abstraction licence number N/A

ii) give the National Grid Reference of a point where the influent can be sampled.

(please mark on the plan)

5. a) Will any self monitoring take place? Y/~~N~~

If yes, please give details

This discharge is controlled through trade effluent legislation within the Water Industry Act and is monitored regularly by trade effluent staff for monitoring and charging purposes

b) Will automatic sampling equipment be provided? ~~Y~~/N

If yes, please give details of type, frequency and location *(please indicate on plan)*

N/A

6. a) Please state the maximum temperature in degrees Celsius of the effluent when discharged if different from ambient.

N/A

b) Will the discharge be monitored for temperature? ~~Y~~/N

If yes, please give details of type and location *(please indicate on plan)*

N/A

7. Has an application for Authorisation been made for a 'prescribed process' as defined in Part 1 of the Environmental Protection Act 1990? ~~Y/N~~

If yes, please complete the following:

a) The application reference.

N/A

b) Contact name of case officer.

N/A

8. a) Please indicate if any of the specified substances given below or their compounds will be present in the effluent and if so at what maximum concentration (please give values in micrograms per litre - ug/l). Refer to *

SUBSTANCE	CONCENTRATION (ug/l)			SUBSTANCE	CONCENTRATION (ug/l)		
	Max	Min	Mean		Max	Min	Mean
Iron				Lead			
Arsenic				Malathion			
Atrazine				Mercury			
Azinphos-ethyl				Nickel			
Azinphos-methyl				PCB's			
Boron				PCSD's			
Cadmium				Parathion			
Carbon tetrachloride				Parathion-methyl			
Chloroform				Pentachlorophenol (PCP)			
Chromium				Perchloroethylene			
Copper				Permethrin			
Cyanide				pH <5.5 or >9.0			
Cyfluthrin				Phosphorus			
DDT				Polychlorinated biphenyls			
1,2 Dichloroethane				Simazine			
Dichlorovos				Sulcofuron			
Dioxins				Tetrachloroethylene			
Drins (eg Aldrin, Dieldrin)				Tributyltin compounds			
Endosulfan				Trichlorobenzene			
Fenitrothion				Trichloroethane			
Fenthion				Trichloroethylene			
Flucofuron				Trifluralin			
Hexachlorobenzene (HCB)				Triphenyltin compounds			
Hexachlorobutadiene (HCBD)				Vanadium			
Hexachlorocyclohexanes (HCH's)				Zinc			

b) Are there any other significant chemical components used on site which may be contained in the effluent, including biocides or additives? Y/N

If yes, please give details.

* No change in discharges have been observed or declared by the trader and normal sanitary determinands and sulphide and sulphate are analysed. We have no knowledge of any red list or grey list chemicals present in the trade discharges.

Notes (see also the notes attached to the main form):

a) *For direct trade effluent discharges, full details of the type of the effluent are required (eg cooling water from air conditioning units), along with typical analytical details and the results of any toxicity studies on the effluent or its constituents. In certain circumstances the Agency may require that specific samples be taken and tests and analysis carried out. The Agency is empowered to recover any costs incurred as a result of special studies.*

b) *Possible sources of contamination include oil/chemical storage areas, vehicle loading/unloading areas, heavy vehicle parking areas and oil/petrol filling points. Any other potential sources of contamination should be detailed.*

c) *Where discharges of trade effluent take place to a sewerage system, as covered by this application, please give details of all authorised discharges of substances listed in table 8 overleaf.*

ASIANTAETH YR AMGYLCHEDD
ENVIRONMENT AGENCY

ANNEXE 4
WELSH REGION SUPPLEMENTARY INFORMATION ANNEXE

Please complete this annexe for every proposed discharge.

Official Use Only
Application No.

For all proposed discharges:

1. Site Name.

Bala WwTW, LL23 7DW

2. Is this application being made to reinstate a lapsed Consent? ~~Y~~/N

If so, please state the Number of the lapsed Consent:

IMPORTANT: If you are in need of advice on either part of Question 2, please contact the Agency Regional Consents Section on 01222 770088.

3. If the proposed discharge is to be made down a pipe, channel or culvert (as given in Section 2.3 of the main application form), please state the diameter (including units):

18 inch diameter pipe

4. Please indicate the anticipated cost of the proposed scheme, including any alternatives which may have been considered:

Estimated cost of the scheme £250,000

5. Is there any trade effluent component in the proposed discharge? Y/~~N~~

If yes, please confirm here that you have completed and enclosed Annexe 3: *Tick* X

6. Will the proposed discharge be pumped or made under gravity? ~~Pumped~~ / Gravity

If pumped, please state the maximum pump rate in l/sec:

For proposed discharges of sewage in storm or emergency conditions:

7. Please confirm here that you have completed and enclosed both Annexes 1 and 2: *Tick* X

8. Please state:

Population served (head)	2,614
Consumption (l/head/day) default = 180	180
Infiltration (m^3/day)	188
Industrial effluent flow (m^3/day)	30
Dry Weather Flow (m^3/day)	688.8
Soc A (l/sec)	50
Predicted spill frequency (per annum)	NA

IMPORTANT NOTES FOR ALL CONSENT APPLICATIONS:

1. **Whoever signs the declaration on the main application form takes responsibility for the discharge, and will become the registered consent holder, if consent is given. In the case of a 'body corporate' (eg a public limited company ('plc'), limited, company, local authority), the 'body corporate' will be the registered consent holder, and the person with the delegated authority to sign on behalf of the 'body corporate' should give their job title.**

2. **Agents making an application on behalf of a client, must attach their clients written authority.**

3. **If the name and/or address of the applicant changes after submission of this application to the Environment Agency, the applicant must inform the Agency in writing.**

Bala WwTW

Bala WwTW

Bala WwTW is a conventional biological treatment works discharging final effluent to the River Dee. The works has been designed to provide full biological treatment to flows up to 3DWF (13.1 $l.s^{-1}$). Flows between 3-8DWF are passed into a storm tank (136.4 m^3) and flows greater than 8DWF passed direct to the combined final effluent/storm water outfall. The works DWF is 5.8l/s.

To comply with the Urban Waste Water Treatment Directive the quality of waste water discharged will have to meet a more stringent consent to be imposed by 31st March 2005.

Bala WwTW utilises one macerator, one primary settlement upflow dortmund tanks, three stone media biofilters for carbonaceous removal and partial nitrification followed by two cross flow final settlement-7 day sludge store tanks. There are five lagoons (total 180m3) and a sludge storage tank on the site. The final water gravitates to the River Dee. There is a final effluent sample chamber for flows treated by the works .

The works is currently consented (ref CM0001301) and the process units have been designed to discharge biologically treated sewage .

Flows received from the works catchment are pumped by duty/assist/standby fixed speed pumps.

The proposed improvements at the works include :

1. The present flow management using the floating arm method for control of flows upto 3DWF will be improved by replacing replaced because of premature spill to storm. This will also reduce sediment buildup in the floating arm chamber which provides dampening to flows .

2. The mascerator will be replaced with a 6mm screen for treatment of FFT

3. The primary settler internal flow distribution will be changed to increase performance. The tank de-sludging will be automated for daily sludge removal at regular intervals.

4. Provide recirculation of the filter to ensure continuous rotation of the distribution arms and minimum wetting. This will maintain the biomass and as such improve settlability of the solids and aeration in the filter.

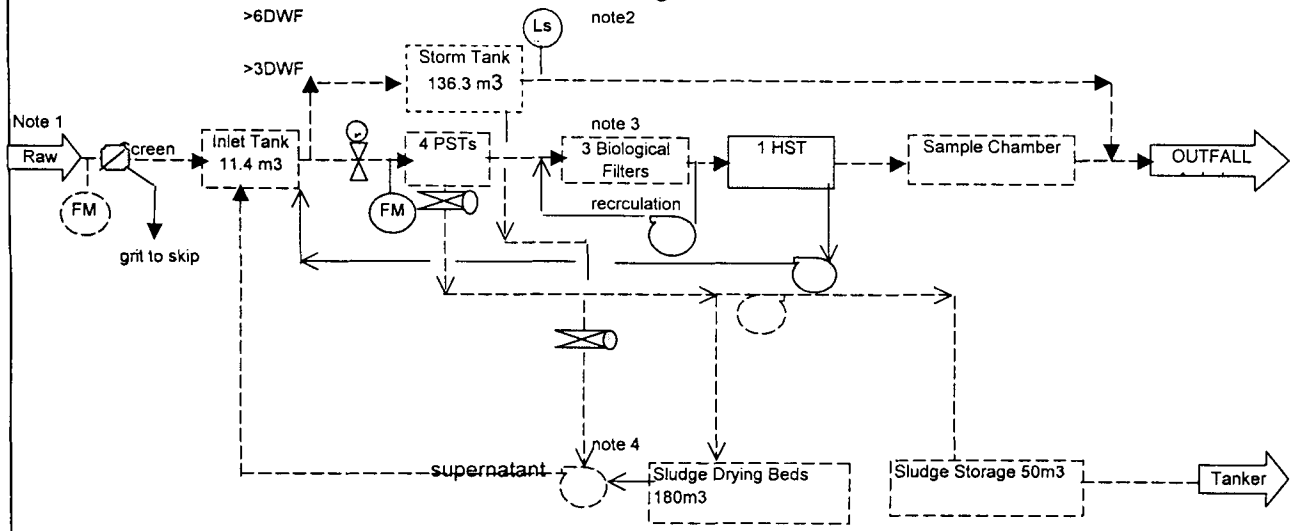
5. Provide a new 10m diameter half bridge scraper humus tank with automatic pumped de-sludge carried out daily at regular intervals.

6. All works flow above FFT will be screened to 6mm at the storm tank. The existing storm tank will provide 1.94 hours storage at FFT. A storm event monitor will be provide along with nominated sample point. The storm tanks will be automated to empty.

7. The return liquors will be managed on flow policy and load so the performance of the works will not be compromised.

The above improvements will enhance the performance of the works allowing the treatment process to achieve the tighter indicative consent standards set for the treated effluent.

BALA S wag Treatment Works - Process Flow Diagram - New



PRESENT FINAL EFFLUENT INDICATIVE CONSENT

Pop Equiv hd

BOD	(mg/l)	75	
SS	(mg/l)	100	
Ammonia	(mg/l)	25	
NH3-N	(mg/l)		
N	(mg/l)		
P	(mg/l)		
DWF	(l/s)	5.8	
FFT	(l/s)	13.1	
SOCA	(l/s)		

FUTURE FINAL EFFLUENT INDICATIVE CONSENT

Pop Equivalent (Pe) hd **2528**

BOD	(mg/l)	40	
SS	(mg/l)	60	
Ammonia	(mg/l)	20	
NH3-N	(mg/l)		
N	(mg/l)		
P	(mg/l)		
DWF	(l/s)	8	
3DWF(FFT)	(l/s)	19.6	
SOC A	(l/s)	50	

Notes

1.2duty/1sby Terminal PS, F/speed c/w generator. Inlet bar screen
2.Storm Events monitor and EA storm sample point
3.Top 500mm media turned. Check air pipes not blocked
4. Return liquors /works de-sludge inhibited at flows 75% FFT

PLANT SIZE		
PST (4)	Dortmund, upflow	
m2	58.064	7.62mx 7.62m O/L
m/h	**1.2**	at FFT (**19.6 l/s**)
m3 (h)	113.6	**1.6h** at FFT (**19.6 l/s**)
Filter (3)	Stone media	
CSA m2	614.6	total-16.15mdia
Vol m3	934	1.52m depth
Depth m	1.52	
BOD settled	117.75	kgBOD/d (25% removal PST)
OLR	**0.126**	kgBOD/m3-d
HST (1)-New	Circ, upflow	
m2	80	10m dia,700dia diffuser drum
m/h	**0.9**	at FFT (19.6 l/s)
m3 / HRT (h)	140	2 h at FFT (19.6 l/s)

Bala WwTW

Reference Documents

1) Consent 30 Jan 1985 (CM0001301) - 75 BODmg/l, 100 mg/l SS and 25 mg/l Amm.N DWF 5.79l/s, FFT 13.1l/s

2) STAM, Trade 40Pe , Residential **1850**, Non Res 1199

3) Meica house count/DCWW data base. Census 2001 2.5persons/house

4) Infiltration taken to be 25% PG based on summer population to be confirmed by F&L survey

5) Indicative consent EA reference CM 0001501, letter 18th june 2004;40(BOD5)/60(TSS)/20(NH4-N)

6)Default 40% infiltration

Description	Meica Count	hd/count	Units	Previous	New Summer Pe	Source
Bala WwTW						
Residential Population	930	2.5	hd		2325	Ref 3
Holiday Homes	8	2.4	hd		19	Ref 3
Static Caravans	0	2.4	hd		0	Ref 3
Conference	70	0.35	hd		24	Ref 3
Day Tourists (estimate)	431.9	0.35	hd		150	Note 1 below
Planned Developments	30	2.4	hd		72	Ref 3
Growth	10	2.4	hd		24	Ref 3
Design					**2614**	
Flow			l/hd/d			
Per capita consumption		Gresidential	180			
Per capita consumption		Gstatic caravans	NA			
Per capita consumption		Gmob caravans	NA			
Per capita consumption		Gconference	25			
Per capita consumption		G Day Visitors	25			
Domestic Pop Equivalent		PG total (calc)	m3/d		470.6	
			l/s		5.4	
Swimming Pool			m3/d		5.0	Consented Trade flow
Farmers Mart			m3/d		25.0	Consented Trade flow
Total Trade		E	m3/d		30	Total Consented Trade
			l/s		0.35	
Infiltration flow		I	m3/d		188.2	
			l/s		2.18	
			%		40	Ref 6
Design Flows						
DWF		P1G1+I+E	m3/d	500.0	688.8	
			l/s	5.8	8.0	
Average		(PG+I+E)*1.25	m3/d		861	
			l/s		10.0	
FFT		3PG+I+3E	m3/d	1131.8	1690.1	
			l/s	13.1	19.6	
6DWF		6PG+I+6E	m3/d		3192	
			l/s		36.9	
SOC A		DWF+1.36P+2E	m3/d		4305	
			l/s		50	
Design Loads (Domestic)						
COD		L1*Pe	kg/d		314	L1 =120 g/h/d
			mg/l		455	
BOD5		L2*Pe	kg/d		157	L2=60 g/h/d
			mg/l		228	
TSS		L3*Pe	kg/d		157	L3=60g/h/d
			mg/l		228	
NH3-N		L4*Pe	kg/d		18.3	L4=7g/h/d
			mg/l		27	
P			kg/d		8	L5=3g/h/d
			mg/l		11	

Case Type	Hrs	m3/h	m3-reqd	m3 -available	m3-excess	Comments
						Provided retention hours
FFT	2	70.4	140.8	136.4	-4	1.94

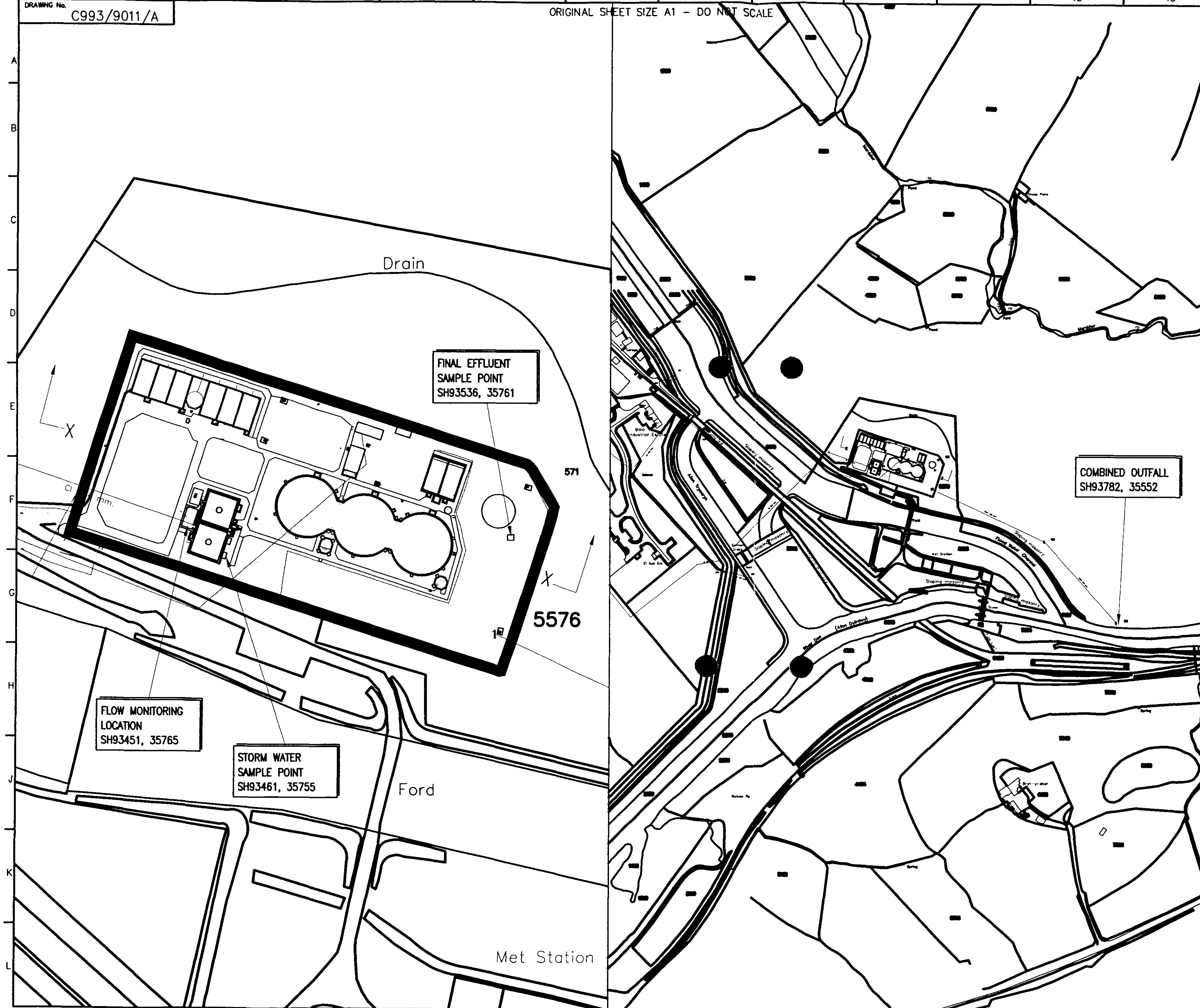
Final Effluent Discharge Consent		BOD, mg/l	SS, mg/l	Amm.N, mg/l	
Current Consent		75	100	25	Sample Failure 2002 analysis
Likely Future	Ref 5.	40	60	20	Works at risk - 2002 analysis
Current performance					
Highest value		85	153	26.1	17th Sept 2002
Highest value		43	68	4.5	1st May 2002
Highest value		49.7	53	8.7	26th July 2001
Mean 2000-2003		20.9	36	5.2	
Std Dev		17.7	27.7	4.8	

Note

1. 617 car spaces @ 70% occupancy 2.4 persons per vehicle 25 l/h/d
2. Flow/Load indicated works risks failure TSS and NH4

DRAWING No. C993/9011/A

ORIGINAL SHEET SIZE A1 – DO NOT SCALE



NEW DRAWING

SEE PREVIOUS ISSUES FOR PAST REVISION DETAILS			
REV.	REVISION DESCRIPTION		
A	.	DRAWN BY	JNICHOLLS
		DATE	.

DESIGN APPROVAL

ELECTRICAL ENGINEER	.	PROCESS ENGINEER	.
MECHANICAL ENGINEER	.	MANAGER APPROVAL	.

GENERAL NOTES

Welsh Water ALLIANCE / CYNGHRAIR Dŵr Cymru

DWR CYMRU WELSH WATER

MEICA PROCESS LTD

17 Station Road, Four Ashes
Wolverhampton, WV10 7DB
Tel: 01902 791616
Fax: 01902 791772

CUSTOMER: DWR CYMRU WELSH WATER

PROJECT TITLE: BALA WwTW

TITLE: EA CONSENT APPLICATION

ORIGINAL ISSUE DRAWN BY	ORIGINAL ISSUE DATE	ORIGINAL ISSUE APPROVED BY	
JNICHOLLS	.	.	
DRG.NO. C993/9011		SCALE 1:500 / 1:2500	REV. A

New A1 Standard Border

DŴR CYMRU
WELSH WATER

Welsh Water
ALLIANCE
CYNGHRAIR
Dŵr Cymru

Improvements in Quality of Wastewater Treatment at Bala WwTW

Supporting Data Report

September 2004

To be read in conjunction with Consent Application

Table of Contents

List of Tables and Graphs

1 INTRODUCTION

1.1 Background

Bala WwTW is a conventional biological treatment works discharging final effluent to the River Dee. The works has been designed to provide full biological treatment to flows up to 3DWF (13.1 $l.s^{-1}$). Flows between 3-8DWF are passed into a storm tank (136.4 m^3) and flows greater than 8DWF passed direct to the combined final effluent/storm water outfall. The works DWF is 5.8l/s.

To comply with the Urban Waste Water Treatment Directive the quality of waste water discharged will have to meet a more stringent consent to be imposed by 31st March 2005.

Bala WwTW utilises one macerator, one primary settlement upflow dortmund tanks, three stone media biofilters for carbonaceous removal and partial nitrification followed by two cross flow final settlement-7 day sludge store tanks. There are five lagoons (total 180m3) and a sludge storage tank on the site. The final water gravitates to the River Dee. There is a final effluent sample chamber for flows treated by the works .

The works is currently consented (ref CM0001301) and the process units have been designed to discharge biologically treated sewage .

Flows received from the works catchment are pumped by duty/assist/standby fixed speed pumps.

Current
Lower Tier (95%ile)

BOD/TSS/Amm.N ($mg.l^{-1}$) : 75/100/25

Likely future:
BOD/TSS/Amm.N ($mg.l^{-1}$) : 40/60/20

1.2 Scope of Work

The proposed improvements at the works include :

1. The present flow management using the floating arm method for control of flows upto 3DWF will be improved by replacing replaced because of premature spill to storm. This will also reduce sediment buildup in the floating arm chamber which provides dampening to flows .
2. The mascerator will be replaced with a 6mm screen for treatment of FFT .

3. The primary settler internal flow distribution will be changed to increase performance. The tank de-sludging will be automated for daily sludge removal at regular intervals.
4. Provide recirculation of the filter to ensure continuous rotation of the distribution arms and minimum wetting. This will maintain the biomass and as such improve settlability of the solids and aeration in the filter.
5. Provide a new 10m diameter half bridge scraper humus tank with automatic pumped de-sludge carried out daily at regular intervals.
6. All works flow above FFT will be screened to 6mm at the storm tank. The existing storm tank will provide 1.94 hours storage at FFT. A storm event monitor will be provide along with nominated sample point. The storm tanks will be automated to empty.
7. The return liquors will be managed on flow policy and load so the performance of the works will not be compromised.

2. HYDRAULIC INFORMATION AND BASIS OF DESIGN

2.1 Dry Weather Flow

The DWF has been calculated in the Basis of Design document as 8 l/s (688.8m3/d)

2.2 Population Served

Bala is tourist resort that attracts a large number of day visitors.

The population has been deduced from Dwr Cymru's AIS system and by counting amenities used by the visitors who frequent the resort in summer. The census 2001 data gave the population equivalent of 2614 persons in summer of which 289 are visitors. (Further information can be obtained from the Basis of Design document ,reference 6).

2.3 Infiltration

During the sampling period there was rainfall greater than 0.2mm and there was less than 6 consecutive days, which preceded the flow data gathering. Infiltration therefore has been taken at the default value of 40%.

2.4 Trade Effluent

There are two consented traders in the catchment with a combined maximum consented daily flow of 30m3/d (See Basis of Design document, refernce 5)

2.5 Catchment / Hydraulic Model

There is no AMP3 programme for CSO spills.

2.6 Flow Meter

All flow to the works is presently measured. In future the flow upto FFT will be measured by this same magflowmeter.

3. SCHEME DEFINITION

3.1 Description of existing works

A flow diagram of the existing works is presented in Appendix figure 1.

The WwTW comprises the following equipment:-

- Reception tank
- Floating arm for regulating flow upto 3DWF
- Macerator
- One up flow Dortmund type primary settlement tank constructed from four tanks
- Three Stone Media Filter of 1.5m depth
- Two cross flow Final Settlers of 1.35 depth
- Final effluent sampling chamber
- Single outlet pipe discharge by gravity .

3.2 Limitations of the existing works

The limitations of the existing works are: -

1. Screenings carry over cause poor settlement in the primary settler, cause blockage in the filter distributor arms and the filter media.
2. The primary settlement tanks are de-sludged manually .
3. The filter distributors are prone to stop-start during low or no flow and operate at varying speeds of rotation and dose rates to the filter media. This influences the treatment of soluble BOD5 and solids surge from the filter which together contribute to poor settlement in the final settler.
4. The existing final settler provide no depth for settlement and these type of process tanks are de-sludged weekly and taking the settler out of service.

This puts the works at high risk which is made worse because the tanks are drained to the works inlet.

5. The storm tanks draining require operator attendance .

3.3 Improvements to Wastewater Treatment at Bala WwTW

1 A 6mm screen will be provide for all flows received by the works upto SOC A..

2. The primary settler will be de-sludged at regular intervals.

3 Recirculation will be provided for the stone filters ensuring rotation of the filter arms at all times. This will give regular flushing of the media and promote improved settlement of humus solids.

4 Automation of the return liquors will improve the flow management.

5 A new upflow humus settlement tank will be provided with automated de-sludge at regular intervals.

3.4 Improvements to Stormwater treatment

Storm flow management will be provided by flow measurement. A level switch fitted on the outlet of the storm tank will detect 6mm screened flows leaving which are greater than 3DWF. A nominated storm sample point will be provided at the outlet of the storm tank.
Draining of the storm tank will be automated to take place once the works flow is less than FFT.

4. DISCHARGE CONSENTS

The **current** consent conditions (CM0001301) for discharge from Bala WwTW to the River Dee are:

DWF	$\leq$ 500 m³/d $\leq$ 5.8/s
Max Rate of Discharge	$\leq$ 13.1 l/s $\leq$ 1131.8m³/d
Determinand	
BOD/TSS/Amm.N 95% ile	75/100/25

Proposed Modifications

The **proposed** conditions for discharge from Mostyn WwTW to Dee estuary are:

DWF	$\leq$ 688.8 m³/d (8 l/s)
3DWF	$\leq$ 19.6 l/s $\leq$ 1690 m³/d
6DWF	$\leq$ 3191 m³/d
Max Rate of Discharge	$\leq$ 36.9 l/s
Formula "A"(FFT)	$\leq$ 50 l/s $\leq$ 4304 m³/d

Derivation of Flow rates

The formulae provided by The Institution of Water and Environmental Management in the handbook Preliminary Processes Third Edition has been used.

DWF = PG + I + E
(2614 x 0.18) + 188.2 + 30 m^3/d
= **688.8 m^3/d (8l/s)**

3DWF = 3PG + I + 3E
3 (2614x0.18) + 190 + 3(30)
= **1690m3/d (19.6l/s)**

6DWF = 6PG + I + 6E
6 (2614x0.18) + 190 + 6(30)m^3/d
= **3191 m^3/d (36.9 l/s)**

SOC 'A' = DWF + 1.36 P + 2E
= 966+ 1.36(2614) +2 (30) m^3/d
= **4304 m^3/d (50l/s)**

APPENDIX

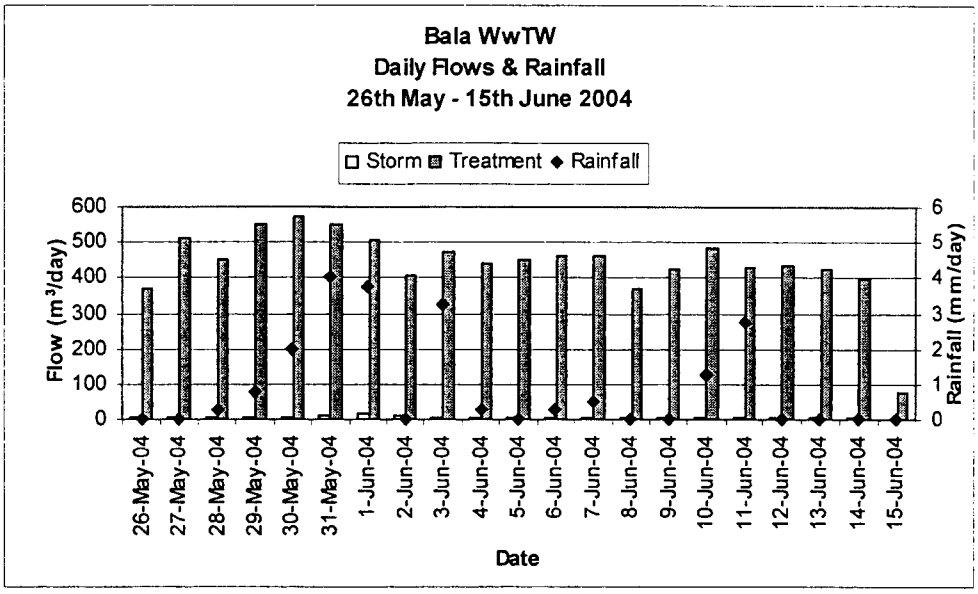
Table 1-Titan Daily Flow Summary – Flow to Treatment

Date	MaxFlow Time	MaxFlow (l/s)	MinFlow Time	MinFlow (l/s)	AveFlow (l/s)	TotVolume (m3)	
26-May-04	21:00	11.80	08:04	0.00	6.40	366.1	**
27-May-04	10:48	12.40	09:26	1.00	5.90	510.3	
28-May-04	09:04	12.60	15:34	1.20	5.20	450.0	
29-May-04	09:42	12.80	06:46	2.00	6.40	550.2	
30-May-04	13:36	12.70	03:10	2.70	6.60	570.9	
31-May-04	22:14	13.40	06:54	1.60	6.40	551.1	
01-Jun-04	13:18	14.40	12:46	0.00	5.90	505.5	
02-Jun-04	08:30	14.40	04:08	0.00	4.70	405.2	
03-Jun-04	08:52	14.30	04:52	1.90	5.50	471.8	
04-Jun-04	10:58	14.40	08:38	1.90	5.10	439.0	
05-Jun-04	12:22	10.60	06:04	1.10	5.30	453.9	
06-Jun-04	08:54	11.40	04:28	2.20	5.40	462.0	
07-Jun-04	17:16	13.40	15:18	1.40	5.40	463.8	
08-Jun-04	06:06	13.00	08:04	0.90	4.30	371.2	
09-Jun-04	08:26	11.30	03:42	1.40	4.90	423.1	
10-Jun-04	03:24	14.60	15:34	1.30	5.60	485.9	
11-Jun-04	18:36	12.80	13:34	1.40	5.00	429.9	
12-Jun-04	09:14	13.30	07:40	1.70	5.00	433.3	
13-Jun-04	13:20	10.20	05:12	2.00	4.90	423.9	
14-Jun-04	12:22	12.80	15:12	1.40	4.60	397.4	
15-Jun-04	06:44	9.20	03:40	1.70	3.00	78.8	**

** Part Day Only

Graphs

Graph 1-Daily Flows & Rainfall



Graph 2-Hourly Average Flow