Water Resources Act 1991
as amended by the Environment Act 1995
Consent to Discharge
Certificate of Holder

ENVIRONMENT AGENCY

Part A

To: DWR CYMRU CYFYNGEDIG
CONSENTS REGULATION OFFICER
PLAS-Y-FFYNNON
CAMBRIAN WAY
BRECON LD3 7HP

The **Environment Agency** ("the Agency") hereby confirm that the above named person is a/the registered holder of consent BC0006102

Nature of Discharge(s); SEWAGE EFF/STORM EFF/RAINFALL
at
LLANSAINT STW (SETTLED STORM)

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, 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 may 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.

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

To:

Water Resources Act 1991: Notice of transfer of consent to discharge

Consent:

Name:
Address:

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 new holder(s):
Address:

Post Code:

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

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

Name (block capitals):..... **Position:**.....
(to be completed when signing on behalf of corporate bodies)

Your ref.: various
Our ref.: N/WQConsents/DSAnnex

Date: 14th March 2000

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

Mr A. Andrews
Dŵr Cymru cyf.
Plas Y Fynnon
Cambrian Way
Brecon
LD3 7HP

Dear Sir

DISCHARGE CONSENTS - NOTIFICATION OF CHANGE TO DANGEROUS SUBSTANCES ANNEX

According to our records, you have a Consent to discharge trade or sewage effluent. The Discharge Consent contains the following condition or one that is similar: -
"*The discharger shall notify the Agency in writing if any known introduction or material change in respect of discharges from trade premises...occurs that may increase or introduce into the effluent any "dangerous substance" included on List I, List II, or Red List (set out in Annex ...to this notice as updated from time to time and notified to the discharger in writing)...*"

Owing to Regulations issued by DETR, the Environment Agency has reviewed the listing of substances in the Annex to this condition.

The Surface Waters (Dangerous Substances) (Classification) Regulations (SI No 2560 (1997) and SI No 389 (1998)) have made some substances, which had previously been identified in Government circular 7/89, statutory and have added 20 new substances to this list. The Annex listing has also been revised to reflect the additional substances in the Regulations and to include other substances that have become a cause for concern since 1989 when the listing was first issued.

This letter and the attached revised listing serves as the required Notification, referred to in the Consent condition. The change takes immediate effect. Please replace the old list with the new one. Please contact your local Environment Agency office and write or speak to Alun Davies if you have any queries about this letter.

Thank you for your help in this important matter.

Yours faithfully

B. Williams

pp.

KEVIN THOMAS
WATER QUALITY MANAGER WALES

Asiantaeth yr Amgylchedd Cymru
Plas-yr-Afon, Parc Busnes Llaneirwg, Llaneirwg, Caerdydd, CF3 0EY
Ffon: 029 20770088 Ffacs: 029 20798555

Environment Agency Wales
Rivers House, St Mellons Business Park, St Mellons, Cardiff, CF3 0EY
Tel: 029 20770088 Fax: 029 20798555

CONSENT NO.	BC000610 2
SCHEDULE NO.	BC000610201

ANNEX

1.	Mercury and its compounds	2.	Cadmium and its compounds
3.	Hexachlorocyclohexane (lindane and related compounds)	4.	Carbon tetrachloride
5.	DDT (the isomers of 1,1,1-trichloro-2,2 bis{p-chlorophenyl} ethane)		
6.	Pentachlorophenol (PCP)	7.	Aldrin
8.	Dieldrin	9.	Endrin
10.	Isodrin	11.	Hexachlorobenzene (HCB)
12.	Hexachlorobutadiene (HCBD)	13.	Chloroform
14.	Polychlorinated biphenyls	15.	Dichlorvos
16.	1,2-Dichloroethane	17.	Trichlorobenzene
18.	Atrazine	19.	Simazine
20.	Tributyltin compounds	21.	Triphenyltin compounds
22.	Trifluralin	23.	Fenitrothion
24.	Azinphos-methyl	25.	Malathion
26.	Endosulfan	27.	Lead
28.	Chromium	29.	Zinc
30.	Copper	31.	Nickel
32.	Arsenic	33.	*Iron
34.	*pH outside range 5.5 to 9.0	35.	*Boron
36.	Vanadium	37.	PCSD'S
38.	Cyfluthrin	39.	Sulcofuron
40.	Flucofuron	41.	Permethrin
42.	4-Chloro-3-methyl-phenol	43.	2-Chlorophenol
44.	2,4-Dichlorophenol	45.	2,4-D (ester)
46.	2,4-D (non ester)	47.	1,1,1-Trichloroethane
48.	1,1,2-Trichloroethane	49.	Bentazone
50.	Benzene	51.	Biphenyl
52.	Chloronitrotoluenes	53.	Demeton
54.	Dimethoate	55.	Linuron
56.	MCPA	57.	Mecoprop
58.	Mevinphos	59.	Napthalene
60.	Omethoate	61.	Toluene
62.	Triazophos	63.	Xylene
64.	Cyanide	65.	Azinphos-ethyl
66.	Fenthion	67.	Parathion
68.	Parathion-methyl	69.	Trichloroethylene
70.	Tetrachloroethylene	71.	Dioxins
72.	PAHs	73.	Nonyl phenol
74.	Nonyl phenyl ethoxylate	75.	Di-ethylhexyl phthalate
76.	Bisphenol-A	77.	Diazinon
78.	Chlorfenvinphos	79.	Chlorotoluron
80.	Isoproturon	81.	Diuron
82.	Propetamphos	83.	Flumethrin
84.	Amitraz	85.	High-Cis Cypermethrin
86.	Cyromazine	87.	Deltamethrin
88.	Cypermethrin		

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

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

NRA

Awdurdod Afonydd Cenedlaethol
Rhanbarth Cymru

National Rivers Authority
Welsh Region

Consent No. BC0006102

WATER RESOURCES ACT 1991

Under Section 88 and Schedule 10 of the Water Resources Act 1991 and all other enabling powers the National Rivers Authority hereby gives this

C O N S E N T

To: Dwr Cymru Cyfyngedig

Of: Plas Y Ffynnon, Cambrian Way, Brecon, Powys, LD3 7HP

For: A discharge of Settled Storm Sewage

To: Llansaint Stream

From: Llansaint STW, Llansaint, Kidwelly, Dyfed

CONDITIONS OF CONSENT

1. The discharge shall consist only of settled storm sewage.

2. The discharge shall be made in the manner and at the place specified as follows:-

   Discharging via : 150 mm diameter pipe
   Discharging to : Llansaint Stream
   At OS Grid Ref: : SN 3741 0768
   As shown marked : Point A on attached drawing/plan number BP0220901/1

3. Adequate facilities shall be provided to enable representative samples of the discharge to be conveniently obtained at any time at the open chamber as shown marked point 'B' on the attached drawing/plan number BP0220901/2.

4. No discharge shall occur unless the rate of flow passing forward to full treatment is at least 2.6 litres per second.

5. The discharge shall not contain any solid matter having a particle size greater than 6.0 mm in any two dimensions.

continued.....

Aelod Rhanbarthol o'r Bwrdd
Yr Athro Ron Edwards

Rheolwr Rhanbarth Cyffredinol
Dr John Stoner

Llys Afon
Hawthorn Rise
Hwlffordd
Dyfed SA61 2BQ
Ffôn: Hwlffordd (0437) 760081
Ffacs: (0437) 760881

Regional Board Member
Professor Ron Edwards

Regional General Manager
Dr John Stoner

Llys Afon
Hawthorn Rise
Haverfordwest
Dyfed SA61 2BQ
Tel: Haverfordwest (0437) 760081
Fax: (0437) 760881

Consent No.	BC0006102

WATER RESOURCES ACT 1991
Continuation Sheet

6. The Authority shall be informed in writing and as soon as reasonably practicable of any information received by Dŵr Cymru to the effect that there has been or is likely to be discharged into the sewer upstream of the overflow, a significant increase in the quantities of any of the substances listed in the attached annex.

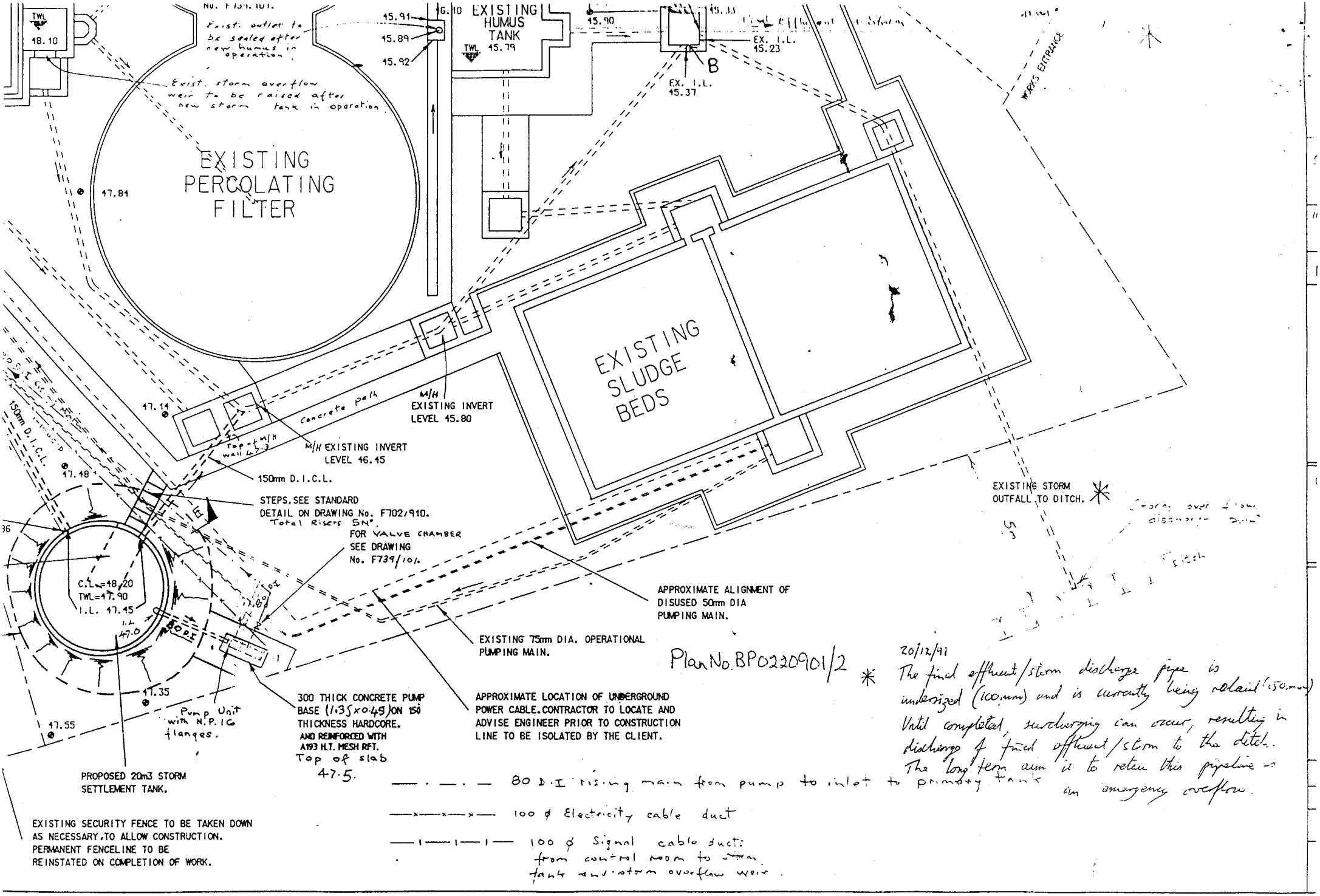
7. Storm sewage flows between 3DWF and 6DWF shall receive at least 2 hours retention in the storm tank prior to discharge. When flows exceed 6DWF, all storm flows shall receive at least 1.1 hours retention in the storm tank prior to discharge.

This Consent is given on: 25th January 1993 on behalf of the Authority by: [signature], Area Environmental Quality Manager

During the period ending with the 24th January 1995 the terms of this Consent will not be altered without the written agreement of the person making the discharge.

ANNEX

SUBSTANCE	
Mercury	Fenthion
Cadmium	Parathion
g-Hexachlorocyclohexane	Parathion-methyl
DDT	Tetrachloroethylene
Pentachlorophenol	Trichloroethane
Hexachlorobenzene	Dioxins
Hexachlorobutadiene	Isodrin
Aldrin	
Dieldrin	
Endrin	
Polychlorinated Biphenyls	
Dichlorvos	
1,2 Dichloroethane	
Trichlorobenzene	
Atrazine	
Simazine	
Tributyltin compounds	
Triphenyltin compounds	
Trifluralin	
Fenitrothion	
Azinphos-methyl	
Malathion	
Endosulphan	
Carbon tetrachloride	
Chloroform	
Trichloroethylene	
Perchloroethylene	
Lead	
Chromium	
Zinc	
Copper	
Nickel	
Arsenic	
Iron	
pH	
Boron	
Vanadium	
PCSDs	
Cyfluthrin	
Sulcofuron	
Flucofuron	
Permethrin	
Cyanide	
Azinphos-ethyl	



Plan No. BP0220901/2 *

20/12/91

The final effluent/storm discharge pipe is undersized (100mm) and is currently being relaid (150mm). Until completed, surcharging can occur, resulting in discharge of final effluent/storm to the ditch. The long term aim is to retain this pipeline as an emergency overflow.

PR.

ASIANTAETH YR AMGYLCHEDD
ENVIRONMENT AGENCY

WATER RESOURCES ACT 1991 (schedule 10)

(as amended by the Environment Act 1995)

Application for variation to existing consent* to discharge

(* delete as appropriate)

Regional/Area Address:	*Official Use Only*
The Regional Finance Manager Environment Agency Welsh Region PO Box 425 St Mellons Business Park CARDIFF CF3 0LT	*Dist/Area Ref:* 1303 *Application No.* BC000 6102 *Date Received:* 20/9/04 *Fee Received:* £743 (20/9/04)

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.

Llansaint WwTW

Post Code: N/a

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)**	
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 110 m³/day
Briefly state how this figure was calculated (see note ii).

See spill frequency analysis in supporting documentation

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

100 mm NB

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

S	N	3	7	4	1	0	0	7	6	8	0

(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 [✓]

Other *(please specify)*

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

S	N	3	8	0	9	4	0	8	5	9	7

(please indicate on accompanying plans)

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

None

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 [✓]

1 off storm storage tank

b) Will the treatment process involve the use of any chemicals (eg ferric salts, polyelectrolytes). If yes please give details. [no]

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.

during high rainfall events

2.7 a) Are there any existing consents for discharges from the premises (see note vi)? [yes]
If yes, please give the reference numbers *(Any further information should be given in Section 5.3).*

BC0006102 storm
BC0006101 treated effluent
BC0006103 emergency

b) Has any person had a Prohibition Notice serviced on them in respect of this site? [no]
If yes, please give the reference number.

3 SITE DETAILS

3.1 Please give the name of the relevant Planning Authority.

Carmarthenshire 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	[✓]
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: n/a

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

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

State name of receiving water if known:

Llansaint stream

4.2 In the case of sub-irrigation systems, soakaways or boreholes: n/a

(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. m

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

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

(i) Depth of lining m

(ii) Depth of perforated lining m

(iii) Depth of unperforated lining 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
*Caerphilly
*

Post Code: CF46 6LY

Daytime Telephone Number: Hilary Ford 01437 769061

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: Hilary Ford **PRINT NAME:** HILARY FORD

ON BEHALF OF: Dŵr Cymru Cyf **DATED:** 17.9.04

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.

Llansaint WwTW

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

1 off 6mm x 6mm mechanical screen
1 off 22 m3 storm retention tank

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). — 256 m^3/d

b) Dry weather flow of discharge(s). — 96 m^3/d

c) Average daily flow. — 120 m^3/d

d) Maximum rate of discharge(s) — 3.0 l/s

4. Will there be provisions for storm/emergency discharges? — Yes
If yes, please complete Annexe 2.

5. a) Will any self monitoring take place? — No
If yes, please give details.

b) Will automatic sampling equipment be provided? — No
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.

470 PE

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

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

Residential

7. Will a maintenance agreement be set up to manage the sewage works? (see note b) no

If yes, please give details.

8. Does the effluent contain a trade component? no

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 2
SEWAGE EFFLUENT DISCHARGED IN STORM OR EMERGENCY CONDITIONS

Please complete this annexe if you are proposing to make a discharge of sewage in emergency or storm conditions (if the effluent is to contain a trade component Annexe 3 should also be completed).

Official Use Only
Application No.

1. Site Name.

Llansaint WwTW

2. State the type of discharge - tick as appropriate:

Storm tanks	✓
Combined Sewer Overflow from sewerage system	
Combined Sewer Overflow from pumping station	
Emergency overflow from sewerage system	
Emergency overflow from pumping station	
Other *(please specify)*	

3. For effluents discharging from sewage treatment works, is the storm/emergency effluent discharged via the same outlet as the treated effluent? yes

If no please give: a) the National Grid Reference of the treated effluent outlet.

b) the consent or application number covering the treated effluent discharge

BC0006101

If yes please give the National Grid Reference of the storm/emergency sampling point (see notes)

S	N	3	8	0	9	4	0	8	5	9	7

4. For effluents discharging from combined sewer overflows, is the discharge via a dedicated pipe? N/a

If no please give the National Grid Reference of the overflow into the sewer.

5. Overflow settings

a)	Overflow setting to storm tanks	3.0 l/s
b)	Maximum flow to storm tanks (instantaneous)	13.6 l/s
c)	Overflow setting to storm sewage overflow	l/s
d)	Maximum flow to storm sewage overflow	l/s

6. Storage capacity

a)	Volume of Storm tanks	22 m^3
b)	Retention time of storm tanks at maximum flow	1.4 hours
c)	Storage capacity of sewer/wet well	m^3

7. Please provide full details of the design criteria that have been used to support this application.

Storm tank sized for 2hr retention at 3DWF, Full details in supporting documentation.

8. Will facilities be provided to raise alarms (eg telemetry)? no
If yes, please give details.

9. Will facilities be provided to prevent the discharge of gross solids? yes
If yes, please give details (for screens give bar spacing or aperture).

All flows screened to 6mm x 6mm at inlet works.

10. What provisions will be made to deal with:

a) power failure (eg standby generators)?

Plug in facility for standby generator

b) mechanical breakdown (eg standby pumps)?

Main process pumps duty/standby

c) rising main failure?

N/a

d) tanker access?

available

Notes (see also the notes on the main form):

Full details of the design criteria must be provided in order for the application to be determined. If you have any queries about what information is required please contact the person given in notes attached to the main form.

ASIANTAETH YR AMGYLCHEDD
ENVIRONMENT AGENCY

ANNEXE 4
WELSH REGION SUPPLEMENTARY INFORMATION ANNEXE

Please complete this annexe for <u>every</u> proposed discharge.

<u>Official Use Only</u>
Application No.

<u>For all proposed discharges:</u>

1. Site Name.

   Llansaint WwTW

2. Is this application being made to reinstate a lapsed Consent? no

   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 <u>diameter</u> (including units):

   100 mm NB

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

   £250,000

5. Is there any trade effluent component in the proposed discharge? no

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

6. Will the proposed discharge be pumped or made under gravity? (please circle) | Gravity |

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

For proposed discharges of sewer in storm or emergency conditions:

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

8. Please state:

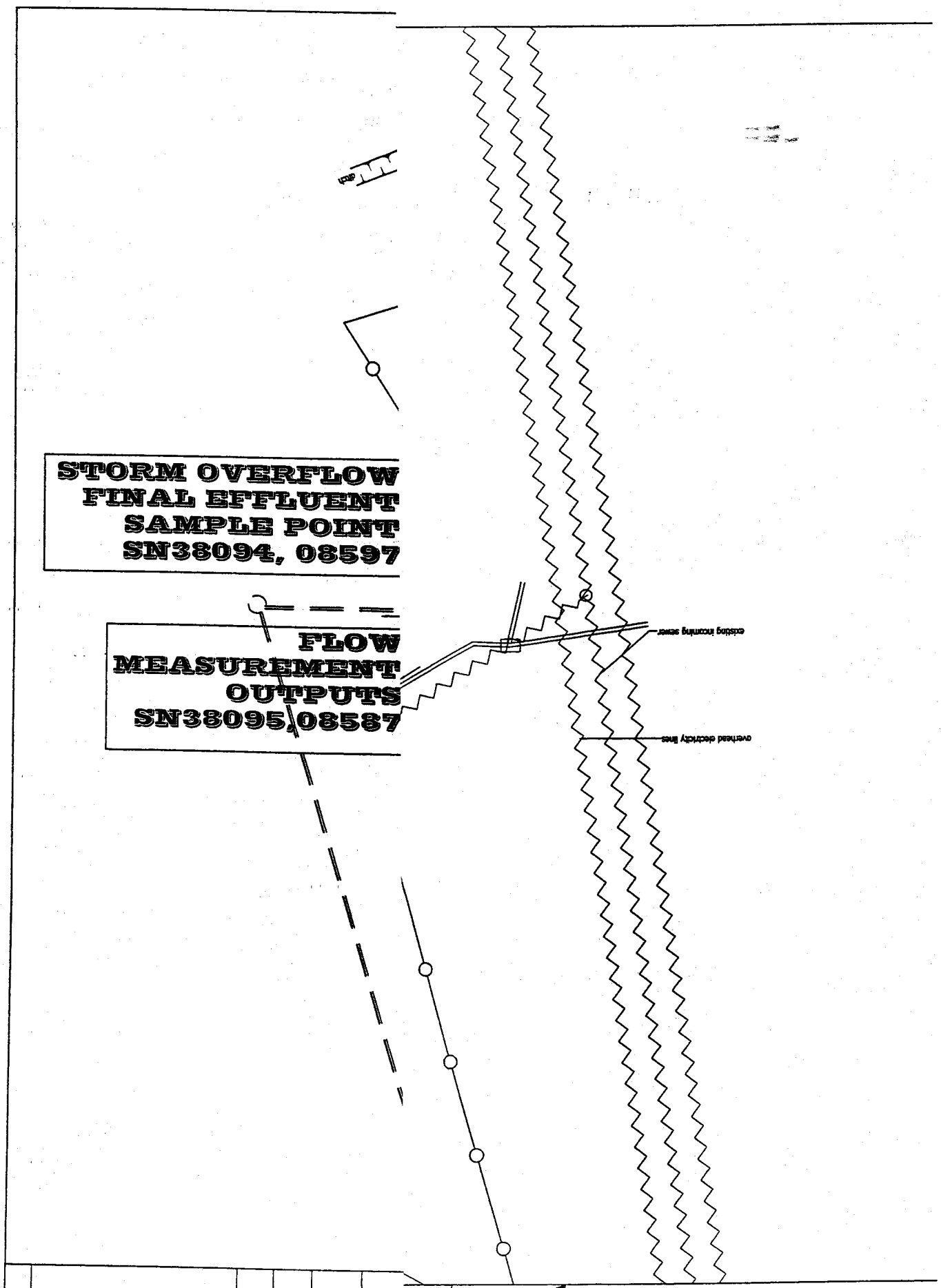
Population served (head)	470
Consumption (l/head/day) default = 180	170
Infiltration (m^3/day)	16
Industrial effluent flow (m^3/day)	0
Dry Weather Flow (m^3/day)	96
Soc A (l/sec)	8.5
Predicted spill frequency (per annum)	< 1%

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.**



Issue	Description	Auth.	Ckd.	Appd.	Date
0	FOR APPROVAL	CACE	MR	MR	SEP04

CAD Ref: 10/01/A3-HP

MEICA
PROCESS LTD
Parc Y Splott, Llansteffan Road
Johnstown, Carmarthen, SA31 3QU
Tel: 01267 229203
Fax: 01267 221167

Project Code	Drawing No.	Issue
C891	C891–2004	0

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

Ein cyf/Our ref. 2/CS/LL/
Eich cyf/Your ref.

Dyddiad/Date: **28 September 2004**

Hilary Ford
Area Consents and Regulation Scientist
Dwr Cymru
Merlins Bridge WWTW
Merlins Bridge
Haverfordwest
Pembrokeshire
SA61 1JL

Dear Ms Ford,

WATER RESOURCES ACT 1991, SCHEDULE 10 (As amended by the Environment Act 1995) APPLICATIONS FOR VARIATION OF CONSENT TO DISCHARGE SEWAGE EFFLUENT BY DWR CYMRU CYF FROM LLANDOVERY, LLANSAINT, LAMPHEY, TREGARON & CWMTAWEL WwTW

We thank you again for the recent applications sent to us for variation of consent. Unfortunately they were assigned new numbers by mistake. Could you please refer to the older assigned numbers used on the application forms you sent us in any correspondence relating to these applications. Apologies for these.

Yours sincerely

L. Lewis

L LEWIS
Authorisations Officer

Asiantaeth yr Amgylchedd Cymru
Maes Newydd, Llandarsi, Nedd Port Talbot, SA10 6JQ
Ffon: 08708 506 506, Ffacs: 01792 325511

Environment Agency Wales
Maes Newydd, Llandarcy, Neath Port Talbot, SA10 6JQ
Tel: 08708 506 506, Fax: 01792 325511

DŴR CYMRU
WELSH WATER

Gwaith Trin Dŵr Gwastraff Pont Myrddin
Pont Myrddin
Hwlffordd
Sir Benfro SA61 1JL

Ffôn: +44 (0)1437 765 460
Ffacs: +44 (0)1437 762 552
Safle gwe: www.dwrcymru.com

Merlins Bridge WWTW
Merlins Bridge
Haverfordwest
Pembrokeshire SA61 1JL

Tel: +44 (0)1437 765 460
Fax: +44 (0)1437 762 552
Web site: www.dwrcymru.com

Ms. Anne Sennett
Environment Agency Wales
Maes Newydd
Llandarcy
Neath Port Talbot
SA10 6JQ

17th September 2004

Tel: 01437 769061

Dear Madam

X2 sep. discharges.

Application for Discharge Consent – Lamphey WwTW FE and Storm, Llansaint WwTW FE and Storm.

2 sep. discharges

Please find enclosed application forms, fee and supporting information in respect of the above discharges which are AMP3 programme quality improvements.. A new consent is required for the storm discharge at Lamphey, As no alterations are being made to the existing, consented, emergency discharge of treated sewage at Llansaint, no application is made for any variation to the existing consent.

Yours faithfully

Hilary Ford

Hilary Ford
Area Consents and Regulation Scientist

E. A. WALES
£1486.00 BB
20 SEP 2004
CH 004488
REC: 4710
PAID

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

Ein cyf/Our ref. **2/CS/LL/BP0339001 & BP0339101**
Eich cyf/Your ref.

Dyddiad/Date: **27 September 2004**

Hilary Ford
Area Consents and Regulation Scientist
Dwr Cymru Cyf
Pentwyn Road
Nelson
Treharris
Mid Glamorgan
CF46 6LY

Dear Ms Ford,

WATER RESOURCES ACT 1991, SCHEDULE 10 (As amended by the Environment Act 1995) APPLICATIONS FOR CONSENT TO DISCHARGE SEWAGE EFFLUENT (FINAL & STORM/EMERGENCY) FROM LAMPHEY WwTW & SEWAGE EFFLUENT FROM LLANSAINT WwTW (FINAL & STORM /EMERGENCY) BY DWR CYMRU CYF
APPLICATION NOS: BP0339001 & BP0339101; BP0339201 &BP0339301

Thank you for your applications for consent to discharge final and storm/emergency effluent & your two sets of application fees of £1486 each. They are receiving consideration and you will be hearing from us again shortly. Please state application numbers BP0339001(Lamphey final effluent), BP0339101 (Lamphey storm/emergency effluent), BP0339201 (Llansaint final effluent) or BP0339301 (Llansaint storm/emergency effluent) in any correspondence with us relating to these applications.

Yours sincerely

L. Lewis

L LEWIS
Authorisations Officer

Asiantaeth yr Amgylchedd Cymru
Maes Newydd, Llandarsi, Nedd Port Talbot, SA10 6JQ
Ffon: 08708 506 506, Ffacs: 01792 325511

Environment Agency Wales
Maes Newydd, Llandarcy, Neath Port Talbot, SA10 6JQ
Tel: 08708 506 506, Fax: 01792 325511

Documentation Supporting Consent Application for Llansaint WwTW

Introduction

Llansaint WwTW is scheduled for upgrade under the AMP3 programme, to meet new indicative consents of BOD:SS:NH3 = 22:40:4.
Discussions with the EA have resulted in an actual consent agreed of 10:47:5.

Documentation is attached to support the application for a revised treated effluent and storm discharge consent to the Llansaint stream.

CONTENTS

Meica Processes
Parc Y Splott WwTW
Llansteffan Road
Johnstown
Carmarthen SA31 3QU
Tel 01267 221131
Fax 01267 221167

Welsh Water ALLIANCE
CYNGHRAIR Dŵr Cymru

Document Cover Sheet

Project Title	Llansaint WwTW
Project Number	C891
Client	DWR CYMRU/WELSH WATER
Document Reference Number	C891/6.1/01/001/B

Llansaint WwTW

Feasibility Report

Rev.	Date	Description/Purpose	Prepared	Checked[1]			Approved for Issue[2]		
				Mech	Proc	Elect	LE	EM	PM
0	11.05.04	Draft for discussion	MR	SR	AJW	BB	SR	AJW	SW
A	29.07.04	First issue for approval	MR	SR	AJW	BB	SR	AJW	SW
B	20.08.04	Mod'd for actual consent	MR	SR	AJW	BB	SR	AJW	SW
C									
D									

Notes

1. Relevant Disciplines to initial
2. LE – Lead Engineer, EM – Engineering Manager, PM – Project Manager

CONTENTS

APPENDIX

- Process Calculations Sheets C891/6.1/100/02
- Existing Process Flow Diagram (PFD) C891/1000
- Proposed Process Flow Diagram (PFD)C891/1001
- UU Process Status Report
- Spill frequency analysis, 20.08.04

Summary

Llansaint WwTW is scheduled for upgrade under the AMP3 programme, the driver applicable is QO©, river quality to meet the new consent of BOD:SS:AmmN = 10:47:5, 95%ile.

This report presents an option to meet the quality issue (driver QO©) and gives recommendations to achieve the necessary outcome.

1. INTRODUCTION

Llansaint WwTW treats wastewater from the domestic dwellings in the village of Llansaint.

The gravity sewage from the catchment runs direct to the works.

Current consent limits for the works are

Biological Oxygen Demand (BOD) :	40 mg/l, 95%ile
Suspended Solids (SS) :	60 mg/l, 95%ile
Ammoniacal Nitrogen :	40 mg/l
Dry Weather Flow (DWF)	127.3m3/d
Maximum flow rate	8.9 l/sec

The EA spread sheet for AMP3 investment applies the core driver QO©

The consent limits, confirmed by the EA are as follows

Biological Oxygen Demand (BOD) :	10 mg/l, 95%ile
Suspended Solids (SS) :	47 mg/l, 95%ile
Ammoniacal Nitrogen :	5 mg/l, 95%ile

Treated effluent is discharged by gravity from the works to the Llansaint Stream.

2. TREATED EFFLUENT QUALITY

The receiving watercourse has limited water quality sample data on which to base an assessment and a request has been made for the EA to reconsider its initial assessment by considering the receiving water quality to be RE2.

On the basis of a receiving water quality of RE2 our assessment suggests that an Amm-N limit of < 5.0 mg/l would be appropriate, this has now been confirmed by the EA.

This quality will be achievable from the existing secondary process treatment system given some minor improvements.

3. EXISTING WORKS

The Process Flow Diagram (PFD) for the existing works is included in the Appendix as Dwg. C891/1000.

The existing works comprises macerator, rectangular primary settlement tanks, redundant siphon chamber, a pair of rock media biological filters followed by a GRP conical humus tank.
There is a storm overflow to a GRP conical storm tank complete with return pump.

A pumping system is provided for humus sludge return, a redundant sludge drying bed is used for sludge storage.

4. FLOWS AND LOADS

Design has been based on house counts, flow and load surveys and taking into account the expected growth projected in the Pembrokeshire UDP.

	BASIS	VALUE
Population Equivalent (PE)	Flow	470
Dry Weather Flow (DWF)	m^3/day	96
	l/s	1.1
Average Flow	m^3/day	120
	l/sec	1.4
3DWF - FFT	m3/d	256
	l/sec	3.0
SOC A	m3/d	735
	l/sec	8.5
BOD Load	kg/day	28.2
SS Load	kg/day	28.2
NH_3 – N Load	kg/day	3.8

The above table is a summary of the calculations which are included in the Appendix as Process Calculations Sheet C891/6.1/100/02.

5. PROCESS ISSUES

The existing inlet macerator is not acceptable as it is situated prior to the storm weir split and it is not acceptable to spill macerated sewage via a storm overflow. A mechanical screen will therefore need to be installed.

Sample analysis proves that the current plant would struggle to reliably meet the proposed consent limits due to lack of biological treatment capacity.

The primary tank is limited to a flow equivalent to 3DWF it is therefor suggested that the flow split at the inlet works should spill all higher flows direct to the existing storm retention tank.

The humus tank is hydraulically limited to a flow rate of 3DWF, which would suit the revised operating regime.

The existing rock media filters will have satisfactory, theoretical capacity, for treatment of the expected loads, if the bed depth is increased to 1.8m, (currently 1.2m deep) the media seems to be in good condition without signs of ponding.

The existing sludge storage system is satisfactory and as no increase in the sludge make is projected its volume is considered adequate.

5.2 Schedule of Improvements.

General refurbishment of inlet works, new 6mm x 6mm mechanical screen and improvements to storm split arrangements.

Refurbish existing primary tank, raise weirs as far as practical (100mm expected).

Increase filter wall height by 600 mm.
Add 600mm high spool piece to each filter feed pipe to raise distributor.
Add 600 mm washed slag filter media to each filter.
Add electric drive to each filter distributor.

Add recirculation pump rated at 2.0 l/s (check duty of existing).

Add discharge flow measurement and readouts

6 RECOMMENDATIONS.

That the above improvements be progressed to detail design and costing to target cost.

7 ASSUMPTIONS

That the existing filter beds are in satisfactory condition to continue to operate with the beds topped up with an additional 600mm of washed/graded slag.
There is no intention of removing or refurbishing the existing beds.

The current sludge storage/decant/tanker system is satisfactory for continued operation as there is no significant increase in the sludge produced.

The storm storage/return system is operational as there is no intention to carry out any work on this facility.

8 Feasibility and Outline Design Report Acceptance Sheet

We confirm that we have discussed the content of the Llansaint WwTW Feasibility Report and that we are in agreement with the conclusions and recommendations.

Aled Daniel, Manager United Utilities

..... Date .....

Stuart Worts, Meica Process Ltd., Project Manager

..... Date .....

APPENDIX

- **Process Calculations Sheets C891/6.1/100/02**
- **Existing Process Flow Diagram (PFD) C891/1000**
- **Proposed Process Flow Diagram (PFD)C891/1001**
- **UU Process Status Report**
- **Spill frequency analysis, 20.08.04**

LLANSAINT - C891 20.08.04 **CONVENTIONAL PLANT**

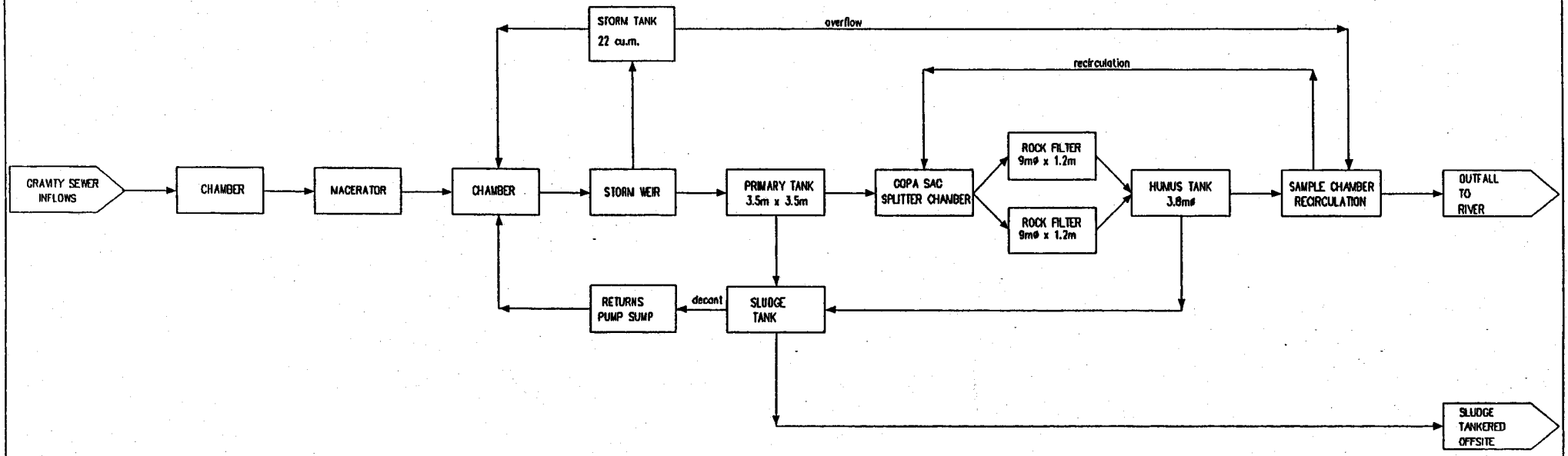
consent BOD:SS: Amm = 40/60/40 — **Doc ref C891/6.1/100/02**

confirmed consent BOD:SS:Amm-N=10/47/5 — **Prepared by MR**

DWF = 75 m3/d, max flow = 2.6 l/s — **Checked by AJW**

PARAMETER	UNITS			
design basis horizon	date			
Resident Population served (P)	pop.	**470**		based on house count = 170 + 17 from udp
Design Flows				
Tourist pop served(T)	pop.	**0**		
Day visitors(V)	pop.	**0**		
Peak population served	pop.	**470**		
Per capita BOD contribution Residents	kg/h.d	**0.06**		
Per capita BOD contribution Tourists	kg/h.d	**0.04**		
Per capita BOD contribution Visitors	kg/h.d	**0.02**		
per capita resident TSS contribution	kg/h.d	**0.06**		
per capita tourist TSS contribution	kg/h.d	**0.06**		
per capita Amm-N contribution Residents	kg/h.d	**0.008**		
per capita Amm-N contribution Tourists	kg/h.d	**0.006**		
per capita Amm-N contribution Visitors	kg/h.d	**0.003**		
per capita domestic flow(G)	l/h.d	**170**		
per capita tourist flow	l/h.d	**120**		
per capita visitors flow	l/h.d	**25**		
total residents flow (PG)	m3/d	**80**		
total tourists flow (Tg)	m3/d	**0**		
total visitors flow (Vg)	m3/d	**0.0**		
Infiltration (I)	m3/d	**16.0**	20 %	
	l/s	**0.2**		**minimum flowmeasured = 0.2**
industrial flow (E)	m3/d	**0.0**		
Dry weather flow (PG + Tg + Vg + I + E)	m3/d	**96**	PG+I+E	**consented 75 m3/d**
	l/s	**1.1**		
Average Flow	m3/d	**120**		
	l/s	**1.4**		**measured average flow = 0.8**
Full Flow to Treatment(3DWF)	m3/d	**256**	3PG+I+3E	
	l/s	**3.0**		**Consent max flow = 2.6 l/s**
Full Flow to Treatment(6DWF)	m3/d	**495**		
	l/s	**5.7**		
Formula A=(PG+I+E)+1.36P+2E	m3/d	**735**		
	l/s	**8.5**		
Storm tank capacity (2hrs at 3DWF)	m3	**21.3**		**4 m dia GRP conical tank approx 22 m3**
storm tank capacity (68 l/h)	m3	**32.0**		
LOADS				
Total BOD Load	kg/d	**28.2**		
BOD Concentration at Average Flow	mg/l	**235**		
Total TSS load	kg/d	**28.2**		
TSS concentration at Average Flow	mg/l	**235**		
Total Amm-N Load	kg/d	**3.8**		
Amm-N concentration at Average Flow	mg/l	**31.4**		
Primary Treatment	% removal			
Settled BOD load	25	kg/d	**22.2**	includes return liquors
Settled BOD Concentration		mg/l	**185**	
Settled TSS load	50	kg/d	**14.8**	
Settled TSS concentration		mg/l		
Settled Amm-N load	0	kg/d	**3.9**	includes return liquors
Settled Amm-N concentration		mg/l	**32.9**	
primary sludge mass		kg/d	**13.4**	
Flow split		%	**100.0**	
Number of tanks			**1.0**	
Type of tank			**square**	
diameter		m	**0.0**	
Size		m	**3.5**	

Area			m2	11.0		
Volume based on	1.5	depth	m3	16.5		
Upflow rate	at 3DWF		m/h	1.0		
Retention time			h	1.6		
Biological treatment						
secondary BOD load			kg/d	22.2		
secondary BOD concentration			mg/l			
secondary TSS load			kg/d	14.8		
secondary TSS concentration			mg/l			
secondary Amm-N load			kg/d	3.95		
secondary Amm-N concentration			mg/l			
biol. sludge mass (@0.7kg/kg BOD removed			kg/d	14.8		
Number of filters				2.0		
Media				rock		
Diameter			m	9.0		
Depth			m	1.8	depth increased	
Surface area			m2	127.3		
Volume			m3	229.1		
BOD loading			kg/m3/d	0.10	OK for 20/30/5	
hydraulic loading			m3/m2/d	3.9		
Amm-N loading			kg/m3/d	0.017	OK for 20/30/5	
minimum hydraulic flow			m3/m3/d	0.8		
minimum recirc flow			l/s	1.99		
Final Settlement	% removal					
Final BOD load	95		kg/d	1.11		
Final BOD concentration			mg/l	9.3		
Final TSS load	90		kg/d	1.48		
Final TSS concentration			mg/l	12		
Final Amm-N load	0		kg/d	3.95		
Final Amm-N concentration			mg/l	32.9		
					existing tank	
Flow split			%	0.0	100.0	
Number of tanks				0.0	1.0	
Type of tank				0.0	circular	
diameter			m	0.0	3.8	
Size			m	0.0	0.0	
Area			m2	0.0	10.2	
Volume based on	1.5	depth	m3	0.0	1.5 15.3	
Upflow rate			m/h	#DIV/0!	1.0	at 3DWF
Retention time			h	#DIV/0!	1.4	
Sludge Production						
total sludge mass			kg/d	28.2		
total sludge volume @2%ds			m3/d	1.4		



Issue	Description	Auth.	Chd.	Appd.	Date
P	FOR APPROVAL	CACE	MR	MR	AUG04

Client: DWR CYMRU WELSH WATER

Project: LLANSAINT W.W.T.W.

Title: EXISTING P.F.D.

Scale A3:

Datum: LOCAL

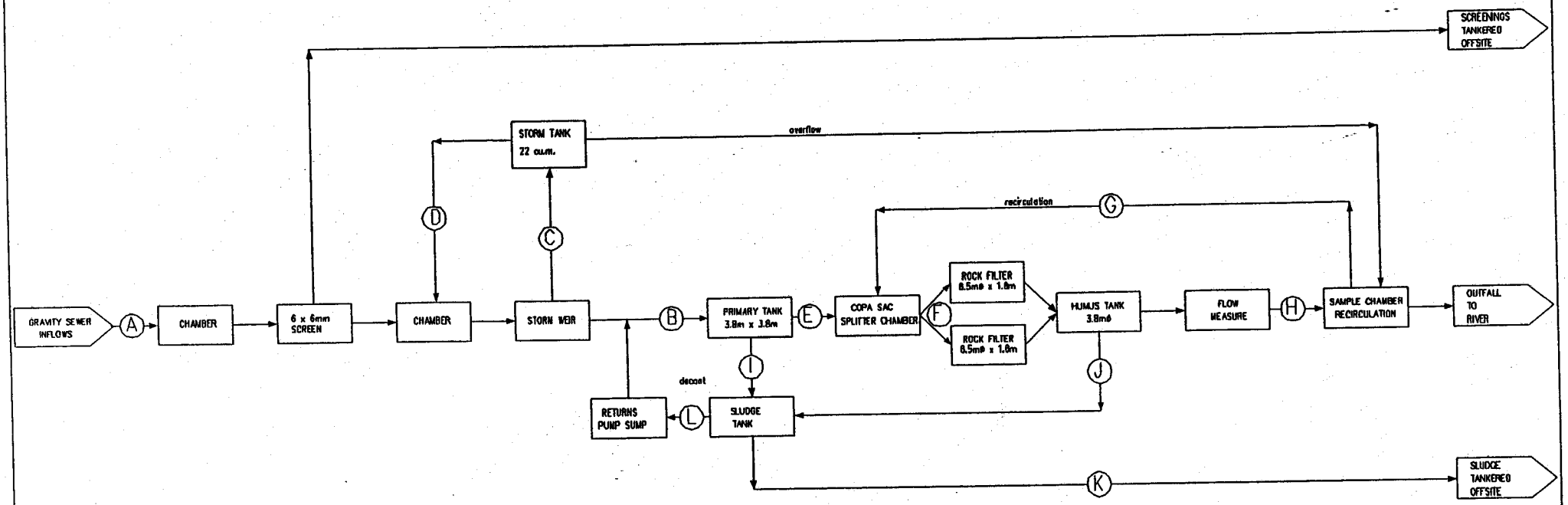
Welsh Water Capital Alliance — Cynghrair Cyfalaf Dŵr Cymru

DWR CYMRU WELSH WATER

MEICA PROCESS LTD
Parc Y Splott, Llansteffan Road
Johnstown, Carmarthen, SA31 3QU
Tel: 01267 229203
Fax: 01267 221167

Project Code	Drawing No.	Issue
C891	C891.1000	P

CAD Rdt0/01/A3-HP



LLANSAINT W.W.T.W.	LINE REFERENCE	A	B	C	D	E	F	G	H	I	J	K	L
PARAMETER	UNITS	Raw	Primary Feed	Storm	Storm Return	Settled	Filter Feed	Recirc	Final	Primary Sludge	Humus Sludge	Sludge	Decant
MAX HYDRAULIC FLOW	cu.m/day	20	3.0	17	0.8	3.0	3.0	2.0	3.0				
DESIGN FLOW 24hr ave	l/s		1.4										
MAX DESIGN FLOW	l/s	20	3.0	17	0.8	3.0	3.0	2.0	3.0				
MIN DESIGN FLOW	l/s												
DESIGN PRESSURE	bar	0											
DESIGN TEMPERATURE	℃	ambient											
B.O.D.	kg/d	28.2	28.2			22.2	22.2	<10	<10 , 95 %ile				750
CONC ON AVE FLOW	mg/l	235	235	235	235	185	185						
SUSPENDED SOLIDS	kg/d	28.2	28.2			14.8	14.8	<47	<47 , 95 %ile	13.4	13	28	
CONC ON AVE FLOW	mg/l	235	235	235	235	123	123			3.0%	0.5%	1% to 4%	500
AMMONIACAL N	kg/d	3.8	3.8			3.9	3.9	<5	<5 , 95 %ile				
CONC ON AVE FLOW	mg/l	31.4	31.4	31.4	31.4	33	33						100

Issue	Description	Auth.	Chd.	Appd.	Date
P	FOR APPROVAL	CACE	NR	MR	AUG04

Client: DWR CYMRU WELSH WATER

Project: LLANSAINT W.W.T.W.

Title: PROPOSED P.F.D.

Scale A3: Datum: LOCAL

Welsh Water Capital Alliance — Cynghrair Cyfalaf Dŵr Cymru

DWR CYMRU WELSH WATER

MEICA PROCESS LTD
Parc Y Splott, Llanstaffan Road
Johnstown, Carmarthen, SA31 3QU
Tel: 01267 229203
Fax: 01267 231167

Project Code: C891 | Drawing No.: C891.1001 | Issue: P

CAD ReNO/01/A3-HP

Meica Processes
Parc Y Splott WwTW
Llansteffan Road
Johnstown
Carmarthen SA31 3QU
Tel 01267 221131
Fax 01267 221167

Welsh Water ALLIANCE
CYNGHRAIR Dŵr Cymru

Document Cover Sheet

Project Title	Llansaint WwTW
Project Number	C 891
Client	DWR CYMRU/WELSH WATER
Document Reference Number	C891/6.1/01/002

Llansaint WwTW

Spill frequency analysis

Rev.	Date	Description/Purpose	Prepared	Checked[1]			Approved for Issue[2]	
				Mech	Proc	Elect	EM	PM
0	20.08.04	First issue	MR		MR		AJW	SW
A	06.09.04	Errors corrected	MR		MR		AJW	SW
B								
C								
D								

Notes

1. Relevant Disciplines to initial
2. EM – Engineering Manager, PM – Project Manager

LLANSAINT – C891 – SPILL FREQUENCY

1.0 Introduction

1.1 Llansaint WwTW serves the catchment from the village of Llansaint.

1.2 At the works it is proposed to treat flows equivalent to 3DWF spilling all greater flows to a 22 m3 storm retention tank.

1.3 Storm water would be returned for treatment through the works once flows reduce. Storm flows in excess of 22 m3 will spill direct to the existing outfall.

1.4 Flows in excess of 10.5 l/s will continue to spill via the emergency overflow.

1.5 The EA require a prediction of spill frequency for consideration of the consent limits.

2.0 Methodology

2.1 Under the Environment Agency guidelines for spill frequency analysis, this site was assessed using the South West Series of the Annual Time Series Rainfall data, this data was made 'catchment specific' using the guidelines published by WRc.

2.2 Meica Process Limited commissioned a flow monitoring survey of this site which was undertaken by Titan Environmental Surveys. The resultant report and flow information was used to verify that the model was producing accurate results.

3.0 Population and Flow Assessment

3.1 The population within this catchment has been assessed as 470.

3.2 The daily water consumption has been assumed to be 170 litres/head/day, with an occupancy rate of 2.5 persons per property for permanent residential properties.

3.3 Infiltration has been calculated from base flow measured and is equivalent to 20%.

3.4 The maximum flow for treatment in the existing plant is 3.0 l/s (equivalent to 3DWF) Flows in excess of this will overflow to the 22m3 storm tank.

4.0 Results Summary

4.1 The attached analysis suggests that the number of spills will be less than 1% and will thus have no detrimental effect on river water quality.

4.2 There are 2 events indicated where the total flow exceeds 10.5 l/s when spill will occur via the emergency overflow.

4.2 Estimates for impenetrable area are those normally expected from this type of small rural catchment.

Martyn Robinson
20.08.04

SPILL FREQUENCY ANALYSIS LLANSAINT WwTW
Results of Annual Time Series Rainfall Assessment

Event No	Date	Total intensity	Rainfall duration	Average intensity	Maximum intensity	peak storm flow $Q = 2.78.C_v C_R i A$	Total storm inflow	DWF (l/s) 1.10	Total foul flow	Total inflow	Peak sewer flow	FFT (l/s) 3.00	Spill to Storm Tank	Storm tank volume (m3)	Overflow to watercourse	spill time (averaged)
		(mm)	(hr)	(mm/hr)	(mm/hr)	(l/s)	(m^3)	(l/s)	(m^3)	(m^3)	(l/s)	(m^3)	(m^3)	22	(m3)	(hrs)
1	08/10/1964	1287.4	8.15	2.63	34.2	6.4	187.9	1.1	32.3	220.2	7.5	88.0	132.2	22.0	110.2	4.78
2	20/07/1973	903.0	5.65	2.66	23.4	6.5	131.8	1.1	22.4	154.2	7.6	61.0	93.2	22.0	71.2	3.05
3	25/09/1963	876.4	5.32	2.75	28.8	6.7	127.9	1.1	21.1	149.0	7.8	57.5	91.5	22.0	69.5	2.89
4	20/01/1960	864.6	10.32	1.40	16.2	3.4	126.2	1.1	40.9	167.1	4.5	111.5	55.6	22.0	33.6	2.75
5	09/12/1961	879.6	9.32	1.57	28.2	3.8	128.4	1.1	36.9	165.3	4.9	100.7	64.7	22.0	42.7	3.10
6	20/11/1974	937.2	7.15	2.18	22.8	5.3	136.8	1.1	28.3	165.1	6.4	77.2	87.9	22.0	65.9	3.44
7	23/09/1963	969.0	8.15	1.98	34.8	4.8	141.5	1.1	32.3	173.7	5.9	88.0	85.7	22.0	63.7	3.67
8	25/07/1973	632.4	1.65	6.39	51.0	15.5	92.3	1.1	6.5	98.8	16.6	17.8	81.0	22.0	59.0	1.06
9	23/01/1960	1074.0	8.32	2.15	15.0	5.2	156.8	1.1	32.9	189.7	6.3	89.9	99.9	22.0	77.9	4.13
10	11/12/1961	1098.6	14.48	1.26	32.4	3.1	160.4	1.1	57.3	217.7	4.2	156.4	61.3	22.0	39.3	3.55
11	10/11/1974	902.4	10.48	1.44	42.6	3.5	131.7	1.1	41.5	173.2	4.6	113.2	60.0	22.0	38.0	3.03
12	05/06/1964	875.4	10.15	1.44	36.0	3.5	127.8	1.1	40.2	168.0	4.6	109.6	58.4	22.0	36.4	2.89
13	26/08/1956	783.6	13.15	0.99	39.0	2.4	114.4	1.1	52.1	166.5	3.5	142.0	24.4	22.0	2.4	0.28
14	10/09/1963	460.2	8.65	0.89	73.2	2.2	67.2	1.1	34.3	101.4	3.3	93.4	8.0	22.0	0.0	0.00
15	22/03/1970	747.0	7.32	1.70	49.8	4.1	109.0	1.1	29.0	138.0	5.2	79.1	59.0	22.0	37.0	2.48
16	11/02/1973	1232.4	14.82	1.39	36.0	3.4	179.9	1.1	58.7	238.6	4.5	160.1	78.5	22.0	56.5	4.66
17	06/06/1964	675.0	10.50	1.07	9.6	2.6	98.5	1.1	41.6	140.1	3.7	113.4	26.7	22.0	4.7	0.50
18	08/09/1963	416.8	4.32	1.60	38.4	3.9	60.5	1.1	17.1	77.6	5.0	46.7	31.0	22.0	9.0	0.64
19	07/10/1964	481.2	11.32	0.71	45.0	1.7	70.4	1.1	44.8	115.2	2.8	122.3	0.0	22.0	0.0	0.00
20	24/09/1963	423.6	4.65	1.52	23.4	3.7	61.8	1.1	18.4	80.2	4.8	50.2	30.0	22.0	8.0	0.60
21	13/12/1961	285.6	4.00	1.19	53.4	2.9	41.7	1.1	15.8	57.5	4.0	43.2	14.3	22.0	0.0	0.00
22	12/06/1964	567.6	6.32	1.46	19.2	3.6	80.8	1.1	25.0	105.8	4.7	68.3	37.6	22.0	15.6	1.22
23	01/12/1961	728.4	13.32	0.91	18.6	2.2	106.3	1.1	52.7	159.1	3.3	143.9	15.2	22.0	0.0	0.00
24	06/10/1964	640.8	5.32	2.00	15.0	4.9	93.2	1.1	21.1	114.3	6.0	57.5	56.8	22.0	34.8	1.99
25	04/05/1962	798.6	8.93	1.48	8.4	3.6	115.8	1.1	35.4	151.1	4.7	96.4	54.7	22.0	32.7	2.52
26	03/09/1963	964.2	15.15	1.06	19.8	2.6	140.7	1.1	60.0	200.6	3.7	163.6	37.0	22.0	15.0	1.62
27	30/04/1963	866.4	11.15	1.29	10.8	3.1	126.0	1.1	44.2	170.1	4.2	120.4	49.7	22.0	27.7	2.45
28	07/12/1961	771.0	16.32	0.79	10.2	1.9	112.9	1.1	64.6	177.6	3.0	176.3	1.3	22.0	0.0	0.00
29	12/12/1961	388.8	5.00	1.30	18.6	3.2	56.8	1.1	19.8	76.6	4.3	54.0	22.6	22.0	0.6	0.05
30	11/11/1974	316.8	6.48	0.81	39.0	2.0	46.0	1.1	25.7	71.6	3.1	70.0	1.6	22.0	0.0	0.00
31	23/01/1960	602.4	12.33	0.81	10.8	2.0	87.9	1.1	48.8	136.8	3.1	133.2	3.6	22.0	0.0	0.00
32	25/08/1956	319.8	3.32	1.59	23.4	3.9	46.2	1.1	13.1	59.4	5.0	35.9	23.5	22.0	1.5	0.11
33	15/07/1973	382.2	2.65	2.39	11.4	5.8	55.5	1.1	10.5	66.0	6.9	28.6	37.3	22.0	15.3	0.73
34	20/04/1963	387.4	6.00	0.80	18.0	1.9	42.0	1.1	23.8	65.8	3.0	64.8	1.0	22.0	0.0	0.00
35	01/08/1956	486.0	5.00	1.62	7.2	3.9	70.9	1.1	19.8	90.7	5.0	54.0	36.7	22.0	14.7	1.04
36	30/03/1970	315.6	5.00	1.05	11.4	2.6	46.0	1.1	19.8	65.8	3.7	54.0	11.8	22.0	0.0	0.00
37	14/07/1973	769.2	14.65	0.87	16.2	2.1	111.6	1.1	58.0	169.6	3.2	158.2	11.4	22.0	0.0	0.00
38	18/07/1973	547.2	6.15	1.48	11.4	3.6	79.7	1.1	24.4	104.1	4.7	66.4	37.7	22.0	15.7	1.21
39	03/03/1970	442.8	6.65	1.11	9.0	2.7	64.7	1.1	26.3	91.0	3.8	71.8	19.2	22.0	0.0	0.00
40	21/01/1960	382.2	6.15	1.03	9.0	2.5	55.5	1.1	24.4	79.8	3.6	66.4	13.4	22.0	0.0	0.00
41	19/03/1970	256.8	3.48	1.22	8.4	3.0	37.2	1.1	13.8	51.0	4.1	37.6	13.4	22.0	0.0	0.00
42	08/05/1962	220.2	3.15	1.16	8.4	2.8	32.0	1.1	12.5	44.5	3.9	34.0	10.5	22.0	0.0	0.00

SPILL FREQUENCY ANALYSIS LLANSAINT WwTW
Results of Annual Time Series Rainfall Assessment

Event No	Date	Total intensity	Rainfall duration	Average intensity	Maximum intensity	peak storm flow $Q = 2.78.C_v.C_R.i.A$	Total storm inflow	DWF (l/s) 1.10	Total foul flow	Total inflow	Peak sewer flow	FFT (l/s) 3.00	Spill to Storm Tank	Storm tank volume (m3) 22	Overflow to watercourse	spill time (averaged)
		(mm)	(hr)	(mm/hr)	(mm/hr)	(l/s)	(m^3)	(l/s)	(m^3)	(m^3)	(l/s)	(m^3)	(m^3)		(m3)	(hrs)
43	10/05/1962	166.2	0.65	4.15	12.0	10.1	23.6	1.1	2.6	26.2	11.2	7.0	19.2	22.0	0.0	0.00
44	19/11/1974	803.4	11.32	1.18	10.8	2.9	117.0	1.1	44.8	161.8	4.0	122.3	39.6	22.0	17.6	1.70
45	05/10/1964	467.4	7.32	1.06	25.8	2.6	68.0	1.1	29.0	96.9	3.7	79.1	17.9	22.0	0.0	0.00
46	02/01/1960	357.6	8.82	0.70	11.4	1.7	54.1	1.1	34.9	89.0	2.8	95.3	0.0	22.0	0.0	0.00
47	05/06/1964	327.0	3.65	1.50	5.4	3.6	48.0	1.1	14.5	62.4	4.7	39.4	23.0	22.0	1.0	0.08
48	13/07/1973	328.8	6.00	0.90	17.4	2.2	47.3	1.1	23.8	71.1	3.3	64.8	6.3	22.0	0.0	0.00
49	29/08/1956	352.8	6.15	0.95	15.0	2.3	51.2	1.1	24.4	75.5	3.4	66.4	9.1	22.0	0.0	0.00
50	10/12/1961	394.2	5.50	1.19	10.8	2.9	57.5	1.1	21.8	79.3	4.0	59.4	19.9	22.0	0.0	0.00
51	01/01/1960	250.2	11.32	0.37	8.4	0.9	36.5	1.1	44.8	81.4	2.0	122.3	0.0	22.0	0.0	0.00
52	11/03/1970	211.8	3.48	1.01	10.2	2.5	30.9	1.1	13.8	44.7	3.6	37.6	7.1	22.0	0.0	0.00
53	04/12/1961	180.0	2.15	1.40	9.6	3.4	26.3	1.1	8.5	34.8	4.5	23.2	11.6	22.0	0.0	0.00
54	09/10/1964	305.4	7.48	0.68	13.2	1.7	44.6	1.1	29.6	74.2	2.8	80.8	0.0	22.0	0.0	0.00
55	02/11/1974	201.6	2.15	1.56	11.4	3.8	29.4	1.1	8.5	37.9	4.9	23.2	14.7	22.0	0.0	0.00
56	03/12/1961	288.6	11.82	0.41	9.6	1.0	42.1	1.1	46.8	88.9	2.1	127.7	0.0	22.0	0.0	0.00
57	11/11/1974	285.0	6.65	0.71	18.6	1.7	41.6	1.1	26.3	67.9	2.8	71.8	0.0	22.0	0.0	0.00
58	19/07/1973	252.0	3.32	1.27	8.4	3.1	36.8	1.1	13.1	49.9	4.2	35.9	14.1	22.0	0.0	0.00
59	10/03/1970	157.8	2.15	1.22	9.0	3.0	23.0	1.1	8.5	31.5	4.1	23.2	8.3	22.0	0.0	0.00
60	30/03/1970	171.0	1.98	1.44	11.4	3.5	25.0	1.1	7.8	32.8	4.6	21.4	11.4	22.0	0.0	0.00

Summary			
		total hours	(averaged) 62.21
number of spills from works	29	ie. < 1%	
number of spills (>50m3) from works	8		

Notes

1. Rainfall events are the Annual Time Series Rainfall for the South-West region.
2. Due to the low number of spills, only the first 60 storms have been assessed.
3. Peak storm flow has been calculated using the Wallingford Procedure, Modified Rational Method, with impermeable area of 45 m2/house
4. Total storm inflow = peak storm flow x storm duration
5. DWF = dry weather flow from calculations
6. Total foul flow = DWF x storm duration
7. Total inflow = total storm inflow + total foul flow
8. FFT = flow to treatment, maximum rate x storm duration
9. When Inflow > FFT spill to to watercourse will only occur
10. Total number of properties in catchment = 187

Ein cyf/Our ref. 2/CS/LL/BC0006101;BC0006102
Eich cyf/Your ref.

Dyddiad/Date: 14 October 2004

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

Dwr Cymru Cyf
Pentwyn Road
Nelson
Treharris
Mid Glamorgan
CF46 6LY

Dear Sir/Madam

WATER RESOURCES ACT 1991, SCHEDULE 10 (As amended by the Environment Act 1995)
APPLICATIONS TO DISCHARGE SEWAGE EFFLUENT BY DWR CYMRU CYF FROM LLANSAINT WWTW (Final effluent & storm effluent), LLANSAINT, LLANELLI, CARMARTHENSHIRE
APPLICATION NOS: BC0006101 (Final effluent) & BC0006102 (Storm effluent)

I acknowledge receipt of your completed applications received on 20 September 2004 together with your application fees totalling £1,486. Please quote the above application numbers in any communication with us.

The legislation allows us 4 months from the date of receipt to determine your applications. However, an extension to the 4-month period may be necessary if we require further information to determine your applications or if agreed between us in writing. You will be advised if this proves necessary.

We will do all we can to deal with your applications quickly, but if by **20 January 2005** (or such longer period as explained above), you have not been advised of our decision then the application will be deemed to be refused. You will have a right of appeal to the National Assembly for Wales.

If granted, the consent of the Agency to make a discharge covers water quality considerations only. Should you require any advice on other consents, permissions, licences etc regulated by the Agency, please do not hesitate to contact me.

Details of your applications for consent are placed on a public register, kept by the Agency and open for inspection by the public.

Yours faithfully

L. Lewis

L LEWIS
Authorisations Officer

Asiantaeth yr Amgylchedd Cymru
Maes Newydd, Llandarsi, Nedd Port Talbot, SA10 6JQ
Ffon: 08708 506 506, Ffacs: 01792 325511

Environment Agency Wales
Maes Newydd, Llandarcy, Neath Port Talbot, SA10 6JQ
Tel: 08708 506 506, Fax: 01792 325511

CONSENT NO.	BC0006102

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 Cyfyngedig
Pentwyn Road
Nelson
Treharris
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:

Settled Storm Sewage
with respect to Consent No. **BC0006102** issued on the 25th day of January 1993

FROM:	**LLANSAINT WASTEWATER TREATMENT WORKS**
AT:	**LLANSAINT, NEAR FERRYSIDE, CARARTHENSHIRE**
TO:	**LLANSAINT STREAM**

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

Settled Storm Sewage **Schedule No. BC0006102 01**

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 affects 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 28th day of February, 2005 and takes effect on the 31st day of March 2005.

Signed .....

Team Leader – Regulatory Water Quality

Asiantaeth yr Amgylchedd Cymru
"Maes Newydd", Llandarsi, Nedd Port Talbot. SA10 6JQ
Ffon **08708 506 506** Ffacs 01792 325511

Environment Agency Wales
"Maes Newydd", Llandarcy, Neath Port Talbot. SA10 6JQ
Tel **08708 506 506** Fax 01792 325511

CONSENT NO.	**BC0006102**
SCHEDULE NO.	**BC0006102 01**
DATE ISSUED	**26th February, 2005**

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

CONDITIONS OF CONSENT TO DISCHARGE

Settled Storm Sewage ("the Discharge")

FROM: **LLANSAINT WASTEWATER TREATMENT WORKS, LLANSAINT, NEAR FERRYSIDE, CARARTHENSHIRE**

NATURE

1. The Discharge shall consist solely of settled storm sewage.

LOCATION

2. The Discharge shall be made in the manner and at the place specified as:

(a) discharging via a 150 millimetre diameter pipe;

(b) discharging to Llansaint Stream;

(c) at National Grid Reference SN 37395 07690;

(d) shown marked 'Consent Point' on Plan BH0057801 attached as Annex 1.

SAMPLE POINT

3. An appropriately labelled sample point shall be provided and maintained at National Grid Reference Reference SN 38094 08597, as shown marked 'Sampling Point' on Plan BC0006102, 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.

VOLUME

4. (a) The Discharge shall occur when and only for as long as, the storm tank(s) are full. The discharge of storm sewage to the storm tank(s) shall only occur when the rate of flow at the storm sewage separating weir is in excess of 3 litres per second due to rainfall and/or snow melt and shall consist only of flows in excess of this figure. The storm tank(s) shall be emptied automatically and their contents returned for full treatment as soon as practicable after cessation of the overflow to the storm tank(s).

(b) The capacity of the storm tank(s) shall be at least 22 cubic metres.

COMPOSITION

5. (a) The Discharge shall not contain a significant quantity of solid matter having a size greater than 6 millimetres in more than one dimension.

(b) The Discharge shall not be comminuted or macerated to achieve the standard in (a) above.

WORKS OPERATION

6. (a) 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;

(b) This condition does not require any alteration of the works or a change in the type of treatment used.

UNUSUAL WEATHER CONDITIONS

7. (a) No inspection of the sewage treatment works, made at a time when unusual weather conditions are adversely affecting the operation of the sewage treatment works, shall be taken into account in deciding whether or not the condition 6 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 effect.

(d) For an inspection of the sewage treatment works 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

8. (a) The Consent Holder shall establish and operate a documented maintenance programme and record all non-routine actions undertaken that may have adversely affected the operation of the storm tanks. 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 the operation of the storm tanks.

SUBSTANTIAL CHANGE

9. 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.

9.1 A discharge of trade effluent into the works is new if -

(a) it is made by the sewerage undertaker and is of a kind not made into the works by the undertaker immediately before the date of effect of this consent; or

(b) it is made by a third party and the discharge is authorised on or after that date.

9.2 A discharge of trade effluent into the works is altered if -

(a) it is made by the sewerage undertaker and its composition or quantity changes significantly on or after the date of effect of this consent; or

(b) it is made by a third party and the alteration of the discharge is authorised on or after that date.

9.3 An increase in the polluting effects of the Discharge on controlled waters is not significant for the purposes of this condition if it relates to any characteristic of the Discharge which is specifically regulated by other conditions of this consent but it may be significant if it is caused by a change in some other characteristic of the Discharge.

9.4 For the purposes of this condition "trade effluent" means -

(a) any discharge by the sewerage undertaker other than

(i) domestic sewage from premises connected directly or indirectly to the works; or

(ii) surface water run-off;

(b) any discharge by a third party which is authorised under Chapter III 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 DISCHARGES

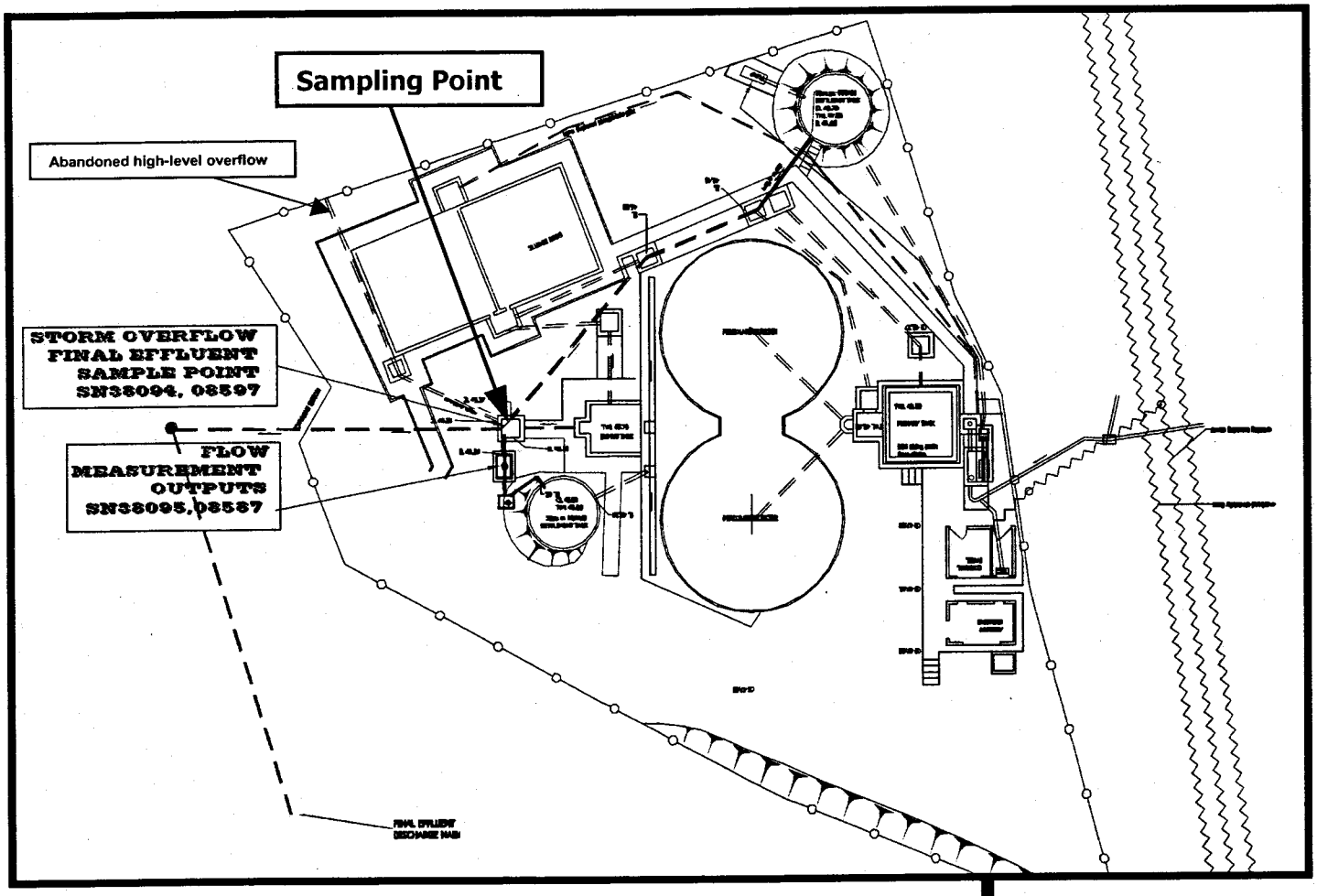
10. A discharge made from the works shall not contain any poisonous, noxious or polluting matter or solid waste matter which is attributable to any unauthorised discharge into the works.

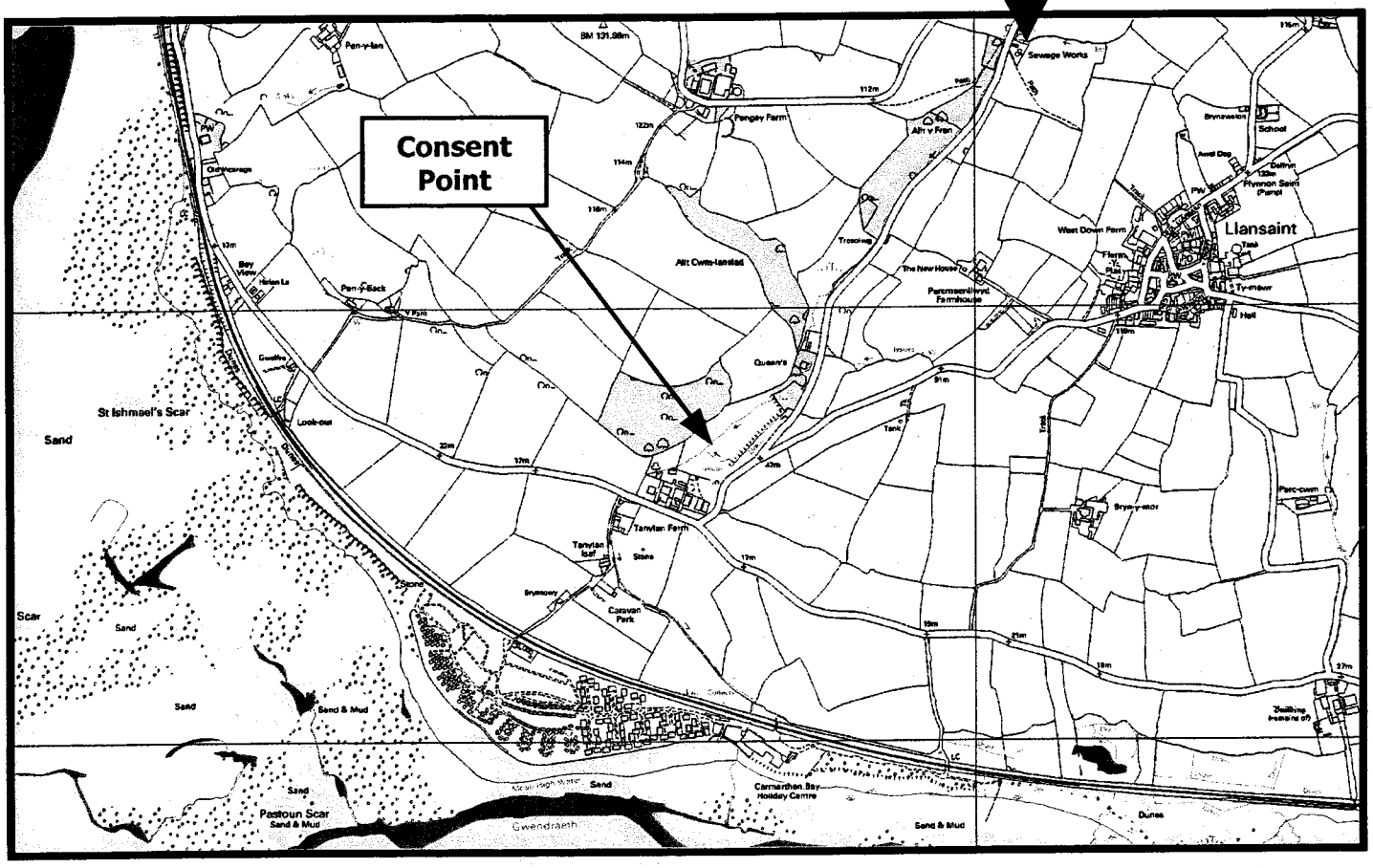
(a) A discharge into the works is unauthorised if it is made by a third party and either there is no obligation to receive it or conditions subject to which there is an obligation to receive it are not observed.

(b) Nothing in this, or any other, condition of this consent prevents anyone from relying on any defence available to them under section 87 of the Water Resources Act 1991.

ANNEX 1	BC0006102

LLANSAINT WwTW SETT/STORM LLANSAINT, NEAR FERRYSIDE, CARMARTHENSHIRE





ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

Ein cyf/Our ref. **LL/BC0006102**
Eich cyf/Your ref.

Dyddiad/Date: **7 March 2005**

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

Dear Sir/Madam,

RE: WATER RESOURCES ACT 1991, SCHEDULE 10 (AS AMENDED BY THE ENVIRONMENT ACT 1995) APPLICATION FOR CONSENT TO DISCHARGE SEWAGE EFFLUENT AT LLANSAINT WWTW, LLANSAINT, NEAR FERRYSIDE, CARMARTHENSHIRE BY DWR CYMRU CYF
APPLICATION NO BC0006102

Further to your application the Agency has decided that consent should be given subject to conditions. I enclose the Agency's formal consent to discharge sewage effluent from Llansaint WWTW, Llansaint, near Ferryside, Carmarthenshire.

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.

If you consider that the conditions imposed by the consent are unreasonable you have a right of appeal to the National Assembly for Wales at Cathays Park, Cardiff CF10 3NQ.

Notice of an appeal must be given in writing within three months of this notification and must be accompanied by a statement of the grounds of appeal.

If granted, a consent under Schedule 10 of the Act, covers water quality considerations only. It does not alter the need to obtain any other consents or approvals which might be required in connection with your proposal under other legislation. For example it does not give any right or permission to discharge where land is not owned by the applicant.

Asiantaeth yr Amgylchedd Cymru
Maes Newydd, Llandarsi, Nedd Port Talbot, SA10 6JQ
Ffon: 08708 506 506, Ffacs: 01792 325511

Environment Agency Wales
Maes Newydd, Llandarcy, Neath Port Talbot, SA10 6JQ
Tel: 08708 506 506, Fax: 01792 325511

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 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.

If you have any queries regarding the enforcement of this consent, please do not hesitate to contact Hamish Osborn, Team Leader Environment Management, Plas Gwendraeth, Heol Parc Mawr, Cross Hands Business Park, Llanelli SA14 6RE.

Yours faithfully,

L. Lewis

L Lewis
Authorisations Officer

Enc.

Asiantaeth yr Amgylchedd Cymru
Maes Newydd, Llandarsi, Nedd Port Talbot, SA10 6JQ
Ffon: 08708 506 506, Ffacs: 01792 325511

Environment Agency Wales
Maes Newydd, Llandarcy, Neath Port Talbot, SA10 6JQ
Tel: 08708 506 506, Fax: 01792 325511