

P/R

CONSENTS OFFICER'S COPY

Dave Charrett  
Customer Contact Dept  
Environment Agency Wales  
Rivers House  
St Mellons  
Cardiff  
CF3 0LT

9<sup>th</sup> May 2003

Tel 01792 511828

Dear Dave,

**Beulah SPS and STW, Powys**

Please find enclosed applications for a variation of Beulah STW final effluent (consent no. AW1000501) and a new consent for storm and pumped emergency discharges from Beulah SPS.

The total fee is £1444. I enclose cheque no. 003703 for £688 and cheque no.003848 for £756.

Yours sincerely,

Dr Lewis Keil  
Scientist - Wastewater





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)

<p><b>Regional/Area Address:</b></p> <p>The Regional Finance Manager Environment Agency Welsh Region PO Box 425 St Mellons Business Park CARDIFF CF3 0LT</p>	<p><i>Official Use Only</i> Dist/Area Ref: 1303</p> <p>Application No. <b>AW1000501</b></p> <p>Date Received: <b>12/5/03</b></p> <p>Fee Received:</p> <div style="text-align: right;"> </div>
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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).

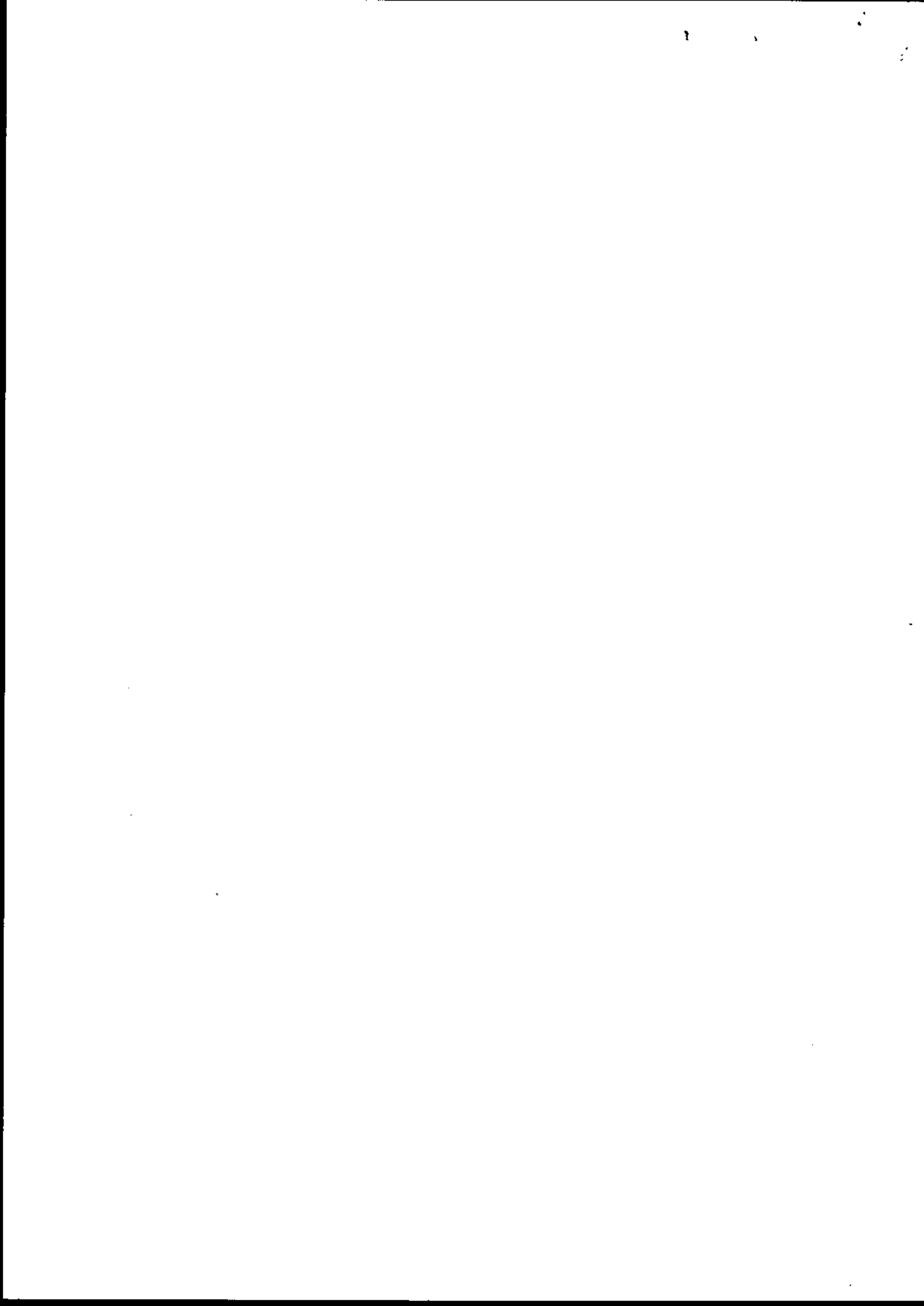
**1 SITE ADDRESS**

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

<p><b>BEULAH STW</b> <b>BEULAH</b> <b>POWYS</b></p>
---

Post Code: 

<b>LD5 4YD</b>
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**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 326 m<sup>3</sup>/day  
 Briefly state how this figure was calculated (see note ii).

**Based on Population of 200 using: DWF + 1.36P + 2E**  
**Works treats SOCa passed forward from SPS**

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 <input checked="" type="checkbox"/> | 4. Borehole <input type="checkbox"/> | 7. Sub-Irrigation System <input type="checkbox"/>                 |
| 2. Channel <input type="checkbox"/>         | 5. Well <input type="checkbox"/>     | 8. Combination of 6 & 7 <input type="checkbox"/>                  |
| 3. Culvert <input type="checkbox"/>         | 6. Soakaway <input type="checkbox"/> | 9. Other ( <i>please specify below</i> ) <input type="checkbox"/> |

**150 mm  $\phi$  DISCHARGE PIPE**

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

S	N	9	2	2	2	1	5	1	0	3	9
---	---	---	---	---	---	---	---	---	---	---	---

(*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).

--	--	--	--	--	--	--	--	--	--	--	--

(*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

**PRIMARY SETTLEMENT, FILTRATION, HUMUS SETTLEMENT**

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? **Ongoing**  **N/A**

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.

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*).

**FINAL EFFLUENT FROM BEULAH STW AW1000501**

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.

**POWYS COUNCIL, COUNTY HALL, LLANDRINDOD WELLS, LD1 5LG**

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

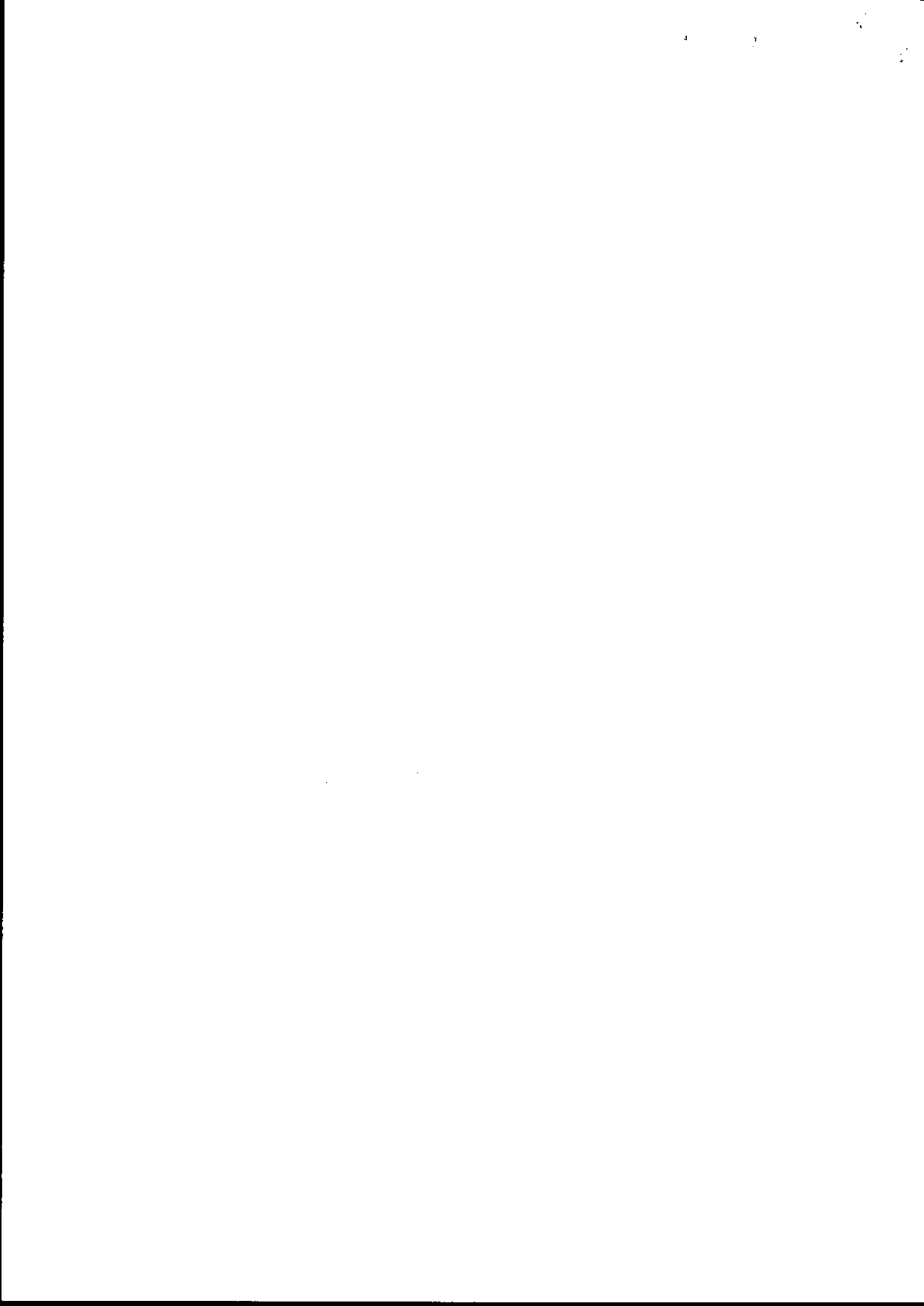
1. Single Dwelling  6. Fish Farm

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                                      | <input type="checkbox"/> | 5. River (please give name below)         | <input type="checkbox"/> |
| 2. Borehole                                  | <input type="checkbox"/> | 6. Estuary (please give name below)       | <input type="checkbox"/> |
| 3. Precipitation (eg rain or snow)           | <input type="checkbox"/> | 7. Coastal Water (please give name below) | <input type="checkbox"/> |
| 4. Mains (please state water supply company) | <input type="checkbox"/> | <input type="text"/>                      |                          |

#### 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) | <input type="checkbox"/>            | 5. Into Land                    | <input type="checkbox"/> |
| 2. River or Stream (non-tidal)             | <input checked="" type="checkbox"/> | 6. Onto Land                    | <input type="checkbox"/> |
| 3. Canal                                   | <input type="checkbox"/>            | 7. Directly into Groundwater    | <input type="checkbox"/> |
| 4. Lake, Lock or Pond                      | <input type="checkbox"/>            | 8. Coastal Water (see note vii) | <input type="checkbox"/> |

State name of receiving water if known:

**RIVER CAMMARCH**

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?
- (b) Is any part of the system within 10 metres of a watercourse?
- (c) Is any part of the system within 50 metres of a borehole or spring?
- (d) For wells and boreholes state dimension(s) in metres.
- (e) For sub-irrigation systems, soakaway pits, wells and boreholes, state maximum depth in metres.
- (f) For boreholes, state details of lining in metres:
- (i) Depth of lining
- (ii) Depth of perforated lining
- (iii) Depth of unperforated lining
- (g) A percolation test must be carried out in accordance with British Standard BS6297:1983. Have the results been provided?

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

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 Welsh Water  
Pentwyn Road  
Nelson  
Treharris  
Caerphilly  
Post Code: CF46 6YA

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

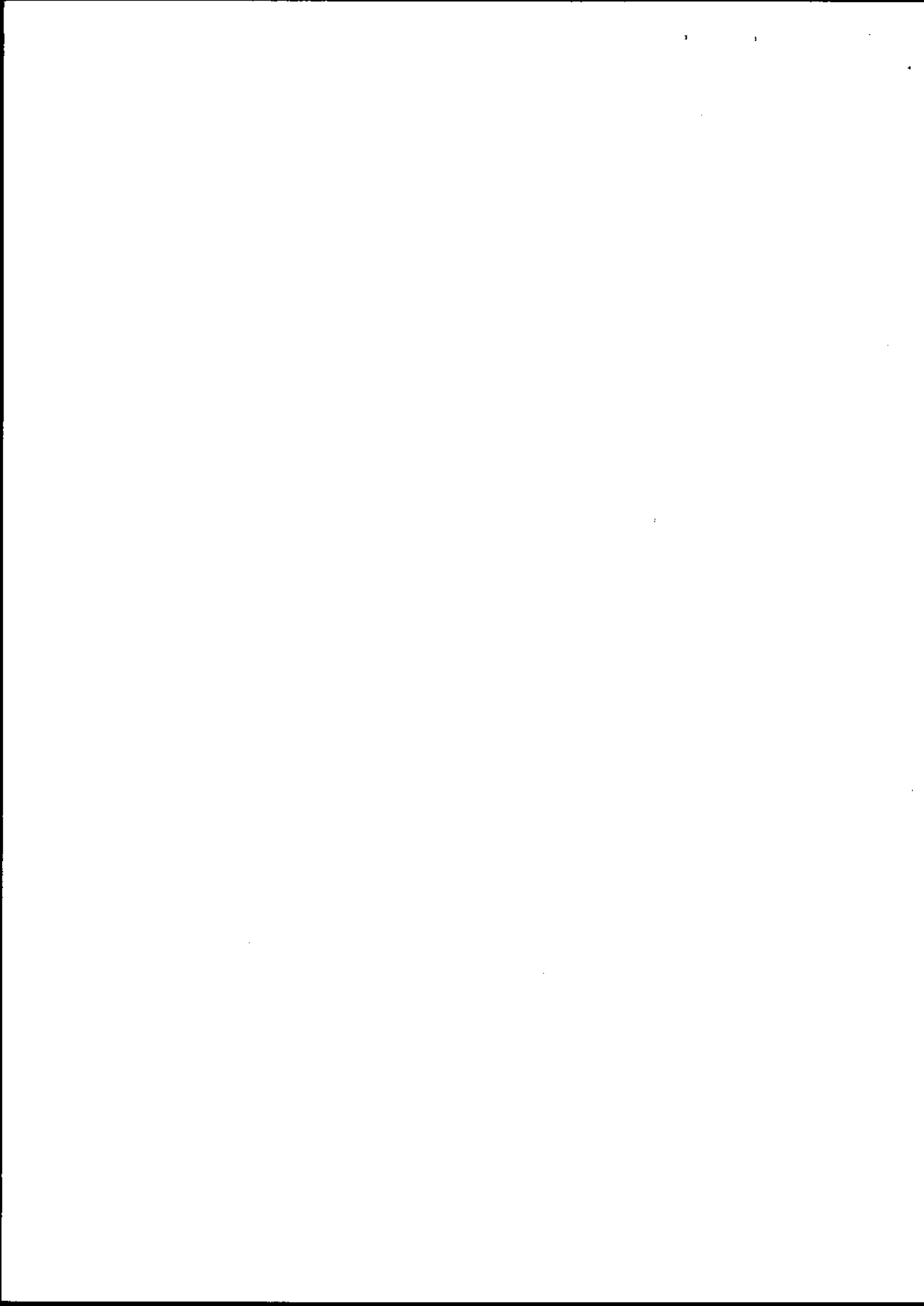
Please give full name and address to which bills should be sent if different to that given above:

\*  
\*  
\*  
\*  
\*  
\*

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: .....	<i>Lewis Keil</i>	PRINT NAME: .....	<i>LEWIS KEIL</i>
ON BEHALF OF: .....	<i>DWR CYMRU CYF</i>	DATED: .....	<i>9/5/03</i>

# 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





**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 Annex 3 should also be completed).**

<p><i>Official Use Only</i> Application No.</p>
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1. Site Name.

<p><b>BEULAH STW BEULAH POWYS LD5 4YD</b></p>
---

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

<p><b>PRIMARY SETTLEMENT SECONDARY TREATMENT IN TRICKLING FILTERS HUMUS SETTLEMENT</b></p>
--

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. <b>Works treats SOCa</b> (see note ii) in main guidance notes for population equivalents).	<b>326 m<sup>3</sup>/d</b>
b) Dry weather flow of discharge(s).	<b>54 m<sup>3</sup>/d</b>
c) Average daily flow.	<b>65 m<sup>3</sup>/d</b>
d) Maximum rate of discharge(s)	<b>3.8 l/s</b>

4. Will there be provisions for storm/emergency discharges?  
**If yes, please complete Annex 2.**

<b>NO</b>
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5. a) Will any self monitoring take place?  
If yes, please give details.

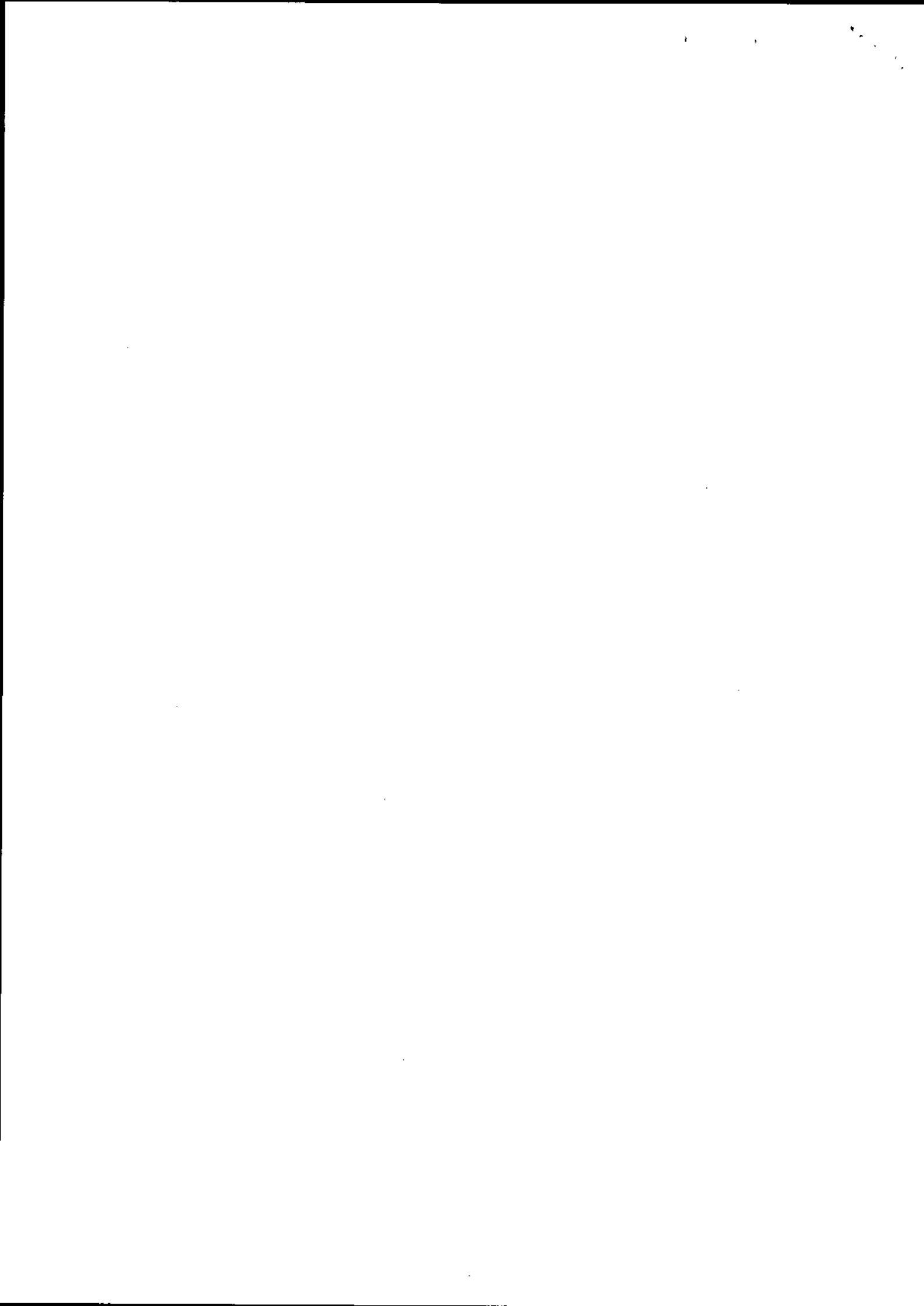
<b>NO</b>
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b) Will automatic sampling equipment be provided?  
If yes, please give details of type and location (*please indicate on plan*).

<b>NO</b>
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6. a) Please state the maximum population served by the treatment works.

200

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

NONE

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

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.*





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.

BEULAH STW  
BEULAH  
POWYS  
LD5 4YD

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 diameter (including units):

150 mm  $\phi$  PIPE

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

TOTAL COST ANTICIPATED FOR SCHEME IS £115,000

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: N/A

Tick



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

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

**For proposed discharges of sewage in storm or emergency conditions:**

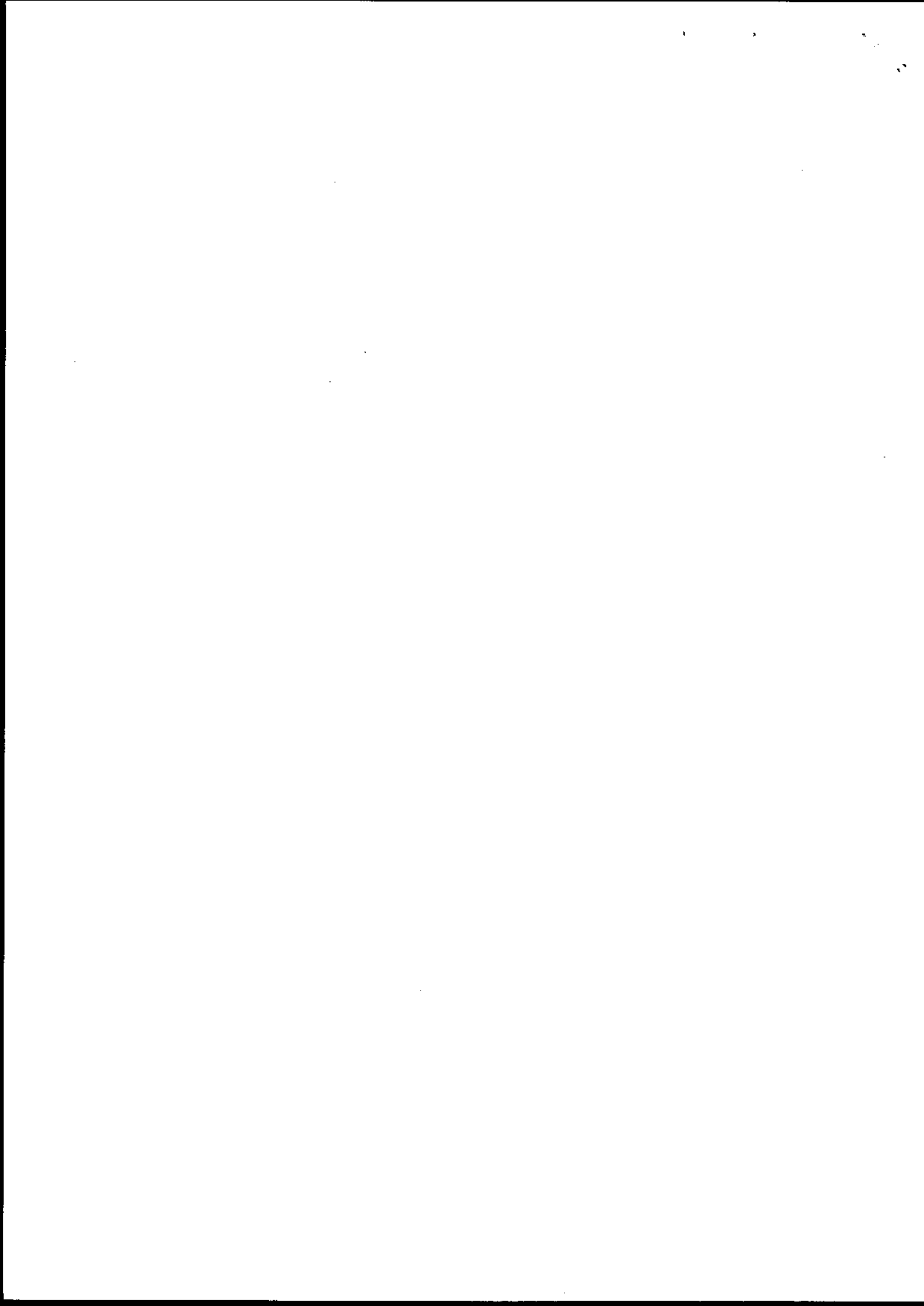
7. Please confirm here that you have completed and enclosed both Annexes 1 and 2:  *Tick*

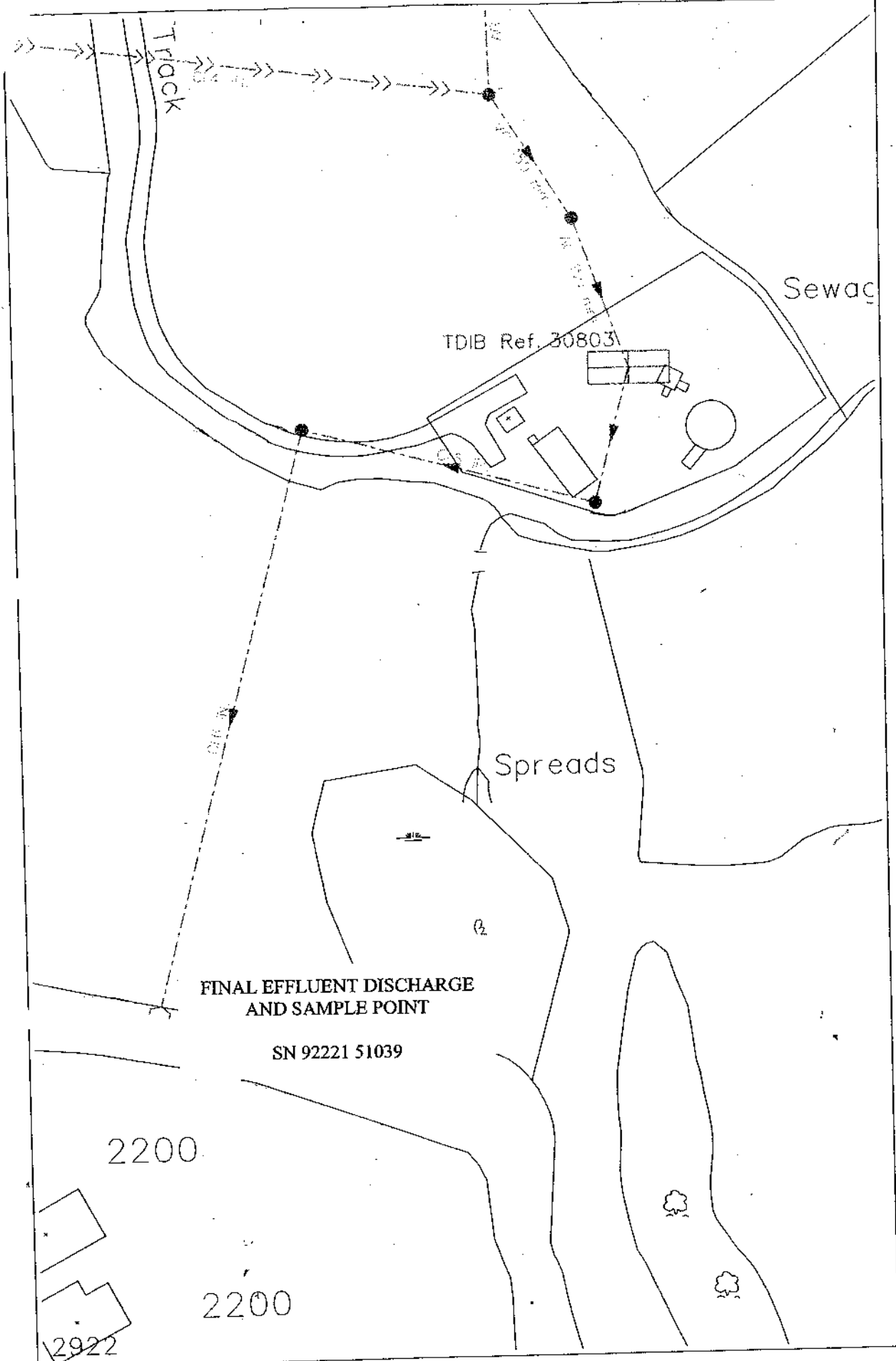
8. Please state:

Population served (head)	
Consumption (l/head/day) default = 180	
Infiltration (m <sup>3</sup> /day)	
Industrial effluent flow (m <sup>3</sup> /day)	
Dry Weather Flow (m <sup>3</sup> /day)	
Soc A (l/sec)	
Predicted spill frequency (per annum)	

**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.**





- Legends
- Foul
  - Surface
  - Combined
  - Rising Main
  - Private
  - Treatment Works
  - Pumping Station
  - Combined Overflow
  - Special Purpose Chamber
  - Unknown End
  - Outfall
  - Lampole
  - Man Edge

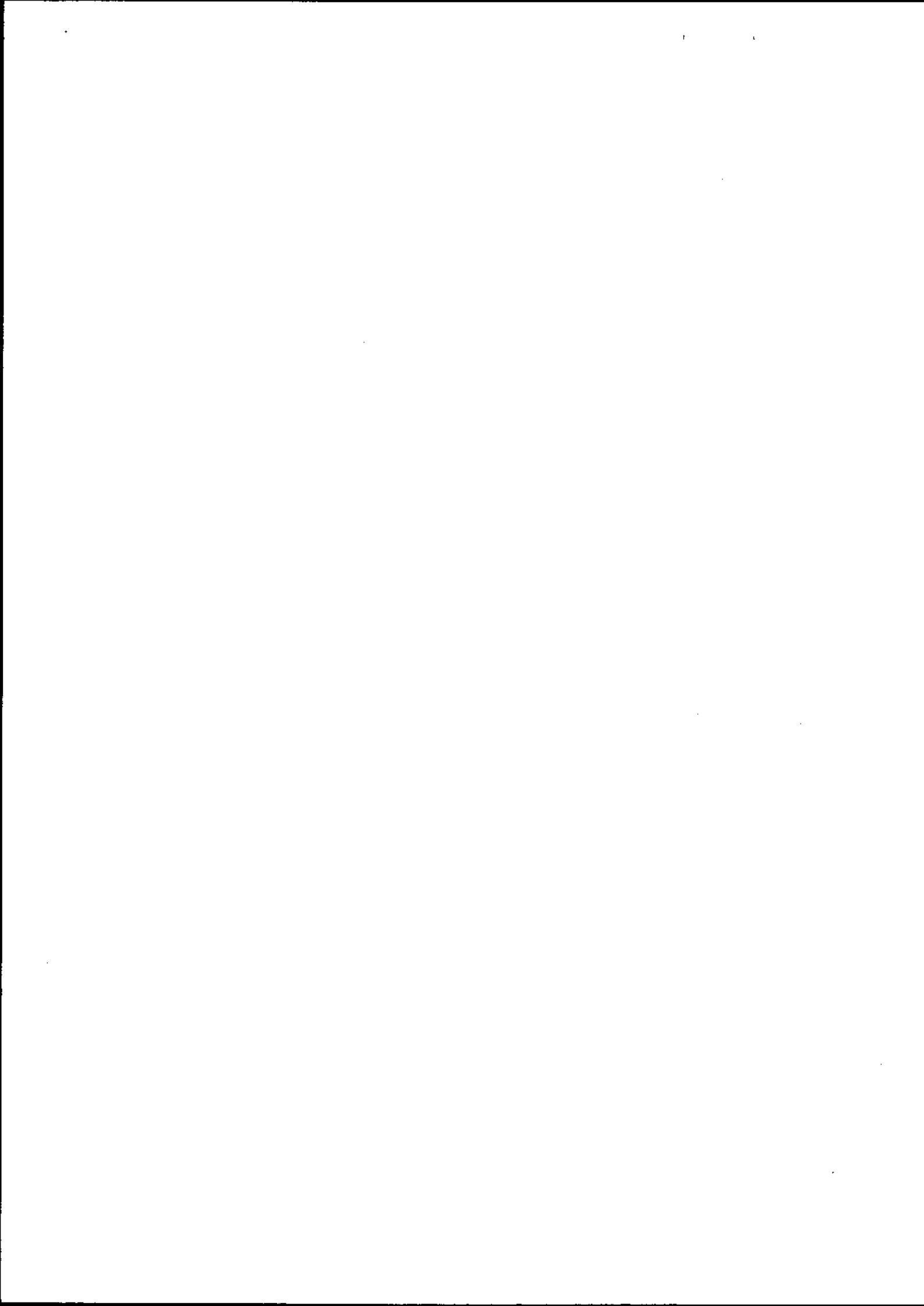
### Beulah Works and Outfall

Apr 09 2003  
Scale: 1:800

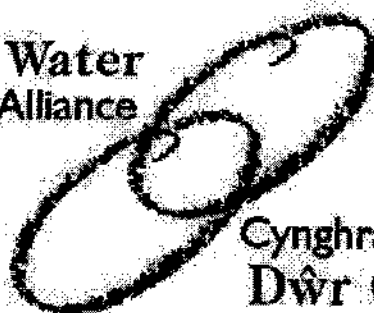
Our Offices give this information as to the position of its underground apparatus by way of general guidance only on the strict understanding that it is based on the best information available and is subject to its correctness as noted upon in the event of excavations or other works made in vicinity of the Company's apparatus and any work of locating the apparatus before carrying out any excavations made entirely on your behalf be understood that the liability of the information is entirely on you. It shall be understood that the liability of the information is entirely on you. It shall be understood that the liability of the information is entirely on you. It shall be understood that the liability of the information is entirely on you.

EXACT LOCATIONS OF ALL APPARATUS TO BE DETERMINED ON SITE.

Approved: [Signature] the General Services Manager with the permission of the Controller of the [Signature] the Secretary of the [Signature] the [Signature]



Welsh Water  
Capital Alliance



Cynghrair Cyfalaf  
Dŵr Cymru

PCM

**Environment Agency Discharge Consent Variation  
Scheme Justification Report**

**Beulah STW & SPS**

**1244-00-1011**

4<sup>th</sup> February 2003



Revision	Date	Description	Checked	Approved	Issued
A	4-11-2002	First Draft	WJS	JSG	JSG
B	4-02-2003	Minor changes	WJS	JSG	JSG



**1 KEY DATA**

<b>Project Team:</b>			
PCL:	Project Engineer:	William Spencer	01443 452149
	Mechanical Engineer:	Mick Upton	01443 452812
	Electrical Engineer:	Mike Griffin	01443 452812
<b>Plant Data: Beulah STW &amp; SPS</b>			
Population Equivalent:		200	
Flow (l/s):		DWF 0.7l/s FFT 1.5l/s SOCA 3.8l/s (pass forward flow)	
Process line:		2 x 3l/s foul pumps (duty/standby) 1 x 6l/s storm pump 1 x Copasac storm screen	

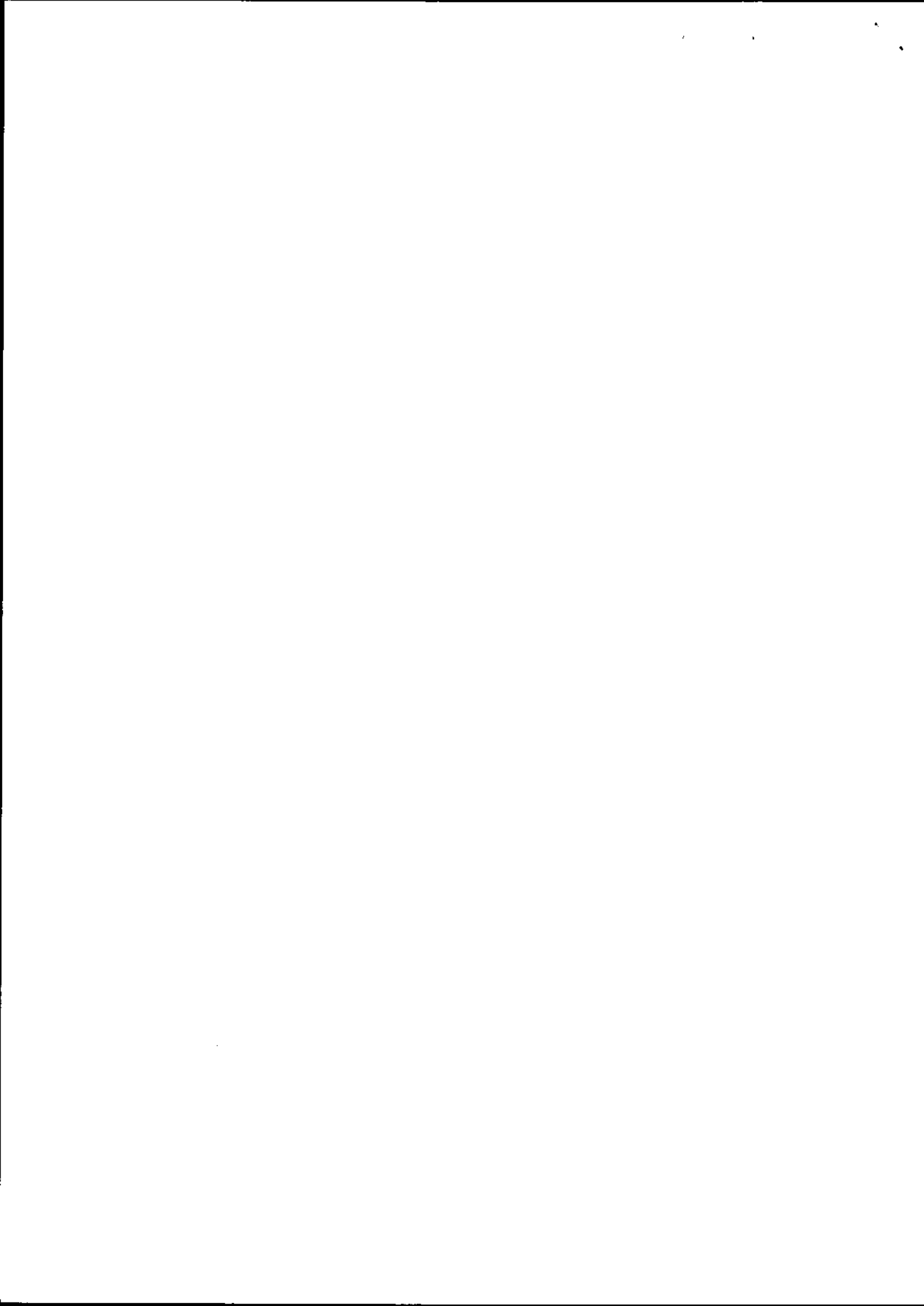
**2 INTRODUCTION**

Beulah STW & SPS is part of the Compliance Strategy due to the flooding of local houses during storm conditions. This flooding is a consequence of insufficient wet well storage and inadequate pumping capacity at the station during storm conditions, which allows the excess flow to surcharge the sewer network.

The plant currently receives flows in excess of 3 l/s on a continuous basis (3 l/s from the pumping station plus the direct gravity flow from a small group of houses, flow unknown but estimated to be <1 l/s). The effluent sample results indicate that the level of treatment that this flow receives is very satisfactory.

PCL, therefore, propose to maintain this flow to the works of > 3 l/s on a continuous basis. The SOCA flow for the catchment is 3 l/s for a population of 150 people. We would increase this consent for a population of 200 to allow for current and future growth, increasing the SOCA flow to 3.8 l/s. As the plant at present is estimated to already treat ≈3.8 l/s adequately in storm conditions, there would be no need for storm tank capacity on site, as all of the SOCA flows will receive full secondary level treatment on a permanent basis.

Flows in excess of SOCA levels occur in severe storm conditions and during such conditions it is imperative to pump this flow away from the station to avoid surcharging the sewer network.

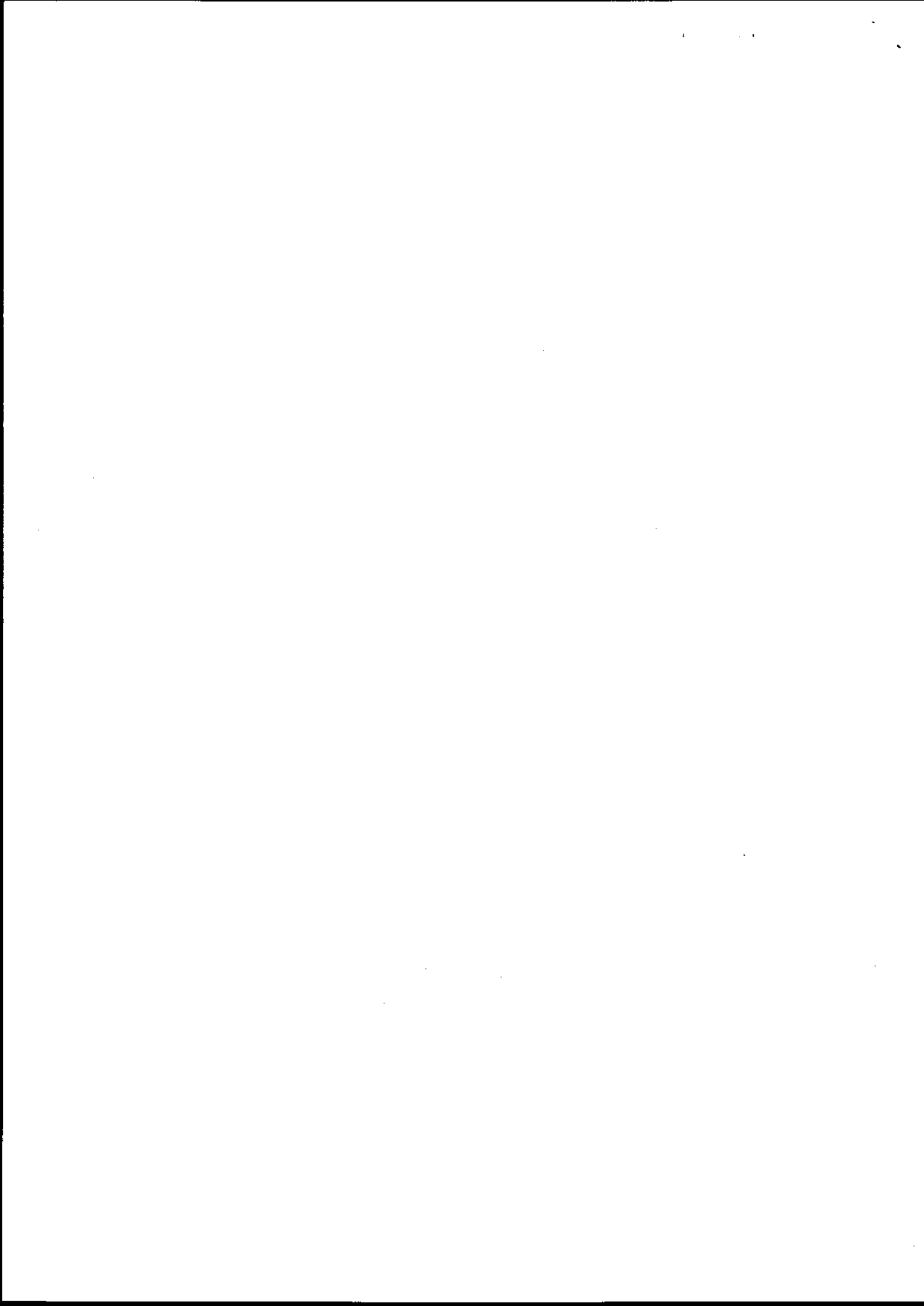


**3 PREFERRED SOLUTION**

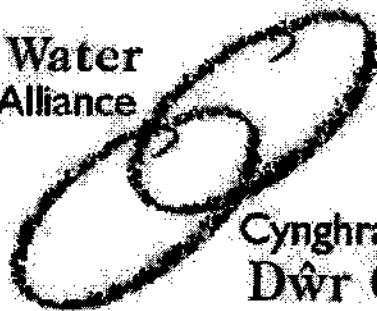
The proposal to prevent flooding of the pumping station and sewer network during storm conditions involves converting the whole of the existing dry well into a wet well. This will provide a free discharge into the well (as the well is deeper than the existing chamber) which will limit surcharging of the sewer network. It will also provide additional buffering and storage capacity by increasing the wet well volume from 2.5m<sup>3</sup> to 15m<sup>3</sup> and will, therefore, provide the necessary retention time in the event of a power failure of 2.8 hours. The wet well will also be benched to limit the sewage retention time within the well at low flows.

A connection will be made at the lowest point of the wet well so that a tanker can suck out from the bottom of the well when it requires cleaning. This will ensure any grit build-up within the well is removed from the system.

The existing ejector pumps will be replaced with self-priming pumps, each rated at 3 l/s and operated as duty/standby. A submersible storm pump will also be provided within the new wet well to provide additional pumping capacity during storm conditions. This pump shall be rated at 6 l/s and shall discharge directly into the existing works outlet pipe via a new dedicated storm pipeline. This pipe will break into the existing outlet where it will discharge freely via a Copasac so that all storm and pumped emergency flows are screened prior to discharge. The tie-in chamber shall incorporate an isolated storm and pumped emergency flow sample point.



Welsh Water  
Capital Alliance



Cyngwraig Cyfalaf  
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**Environment Agency Discharge Consent Variation  
Scheme Justification Report**

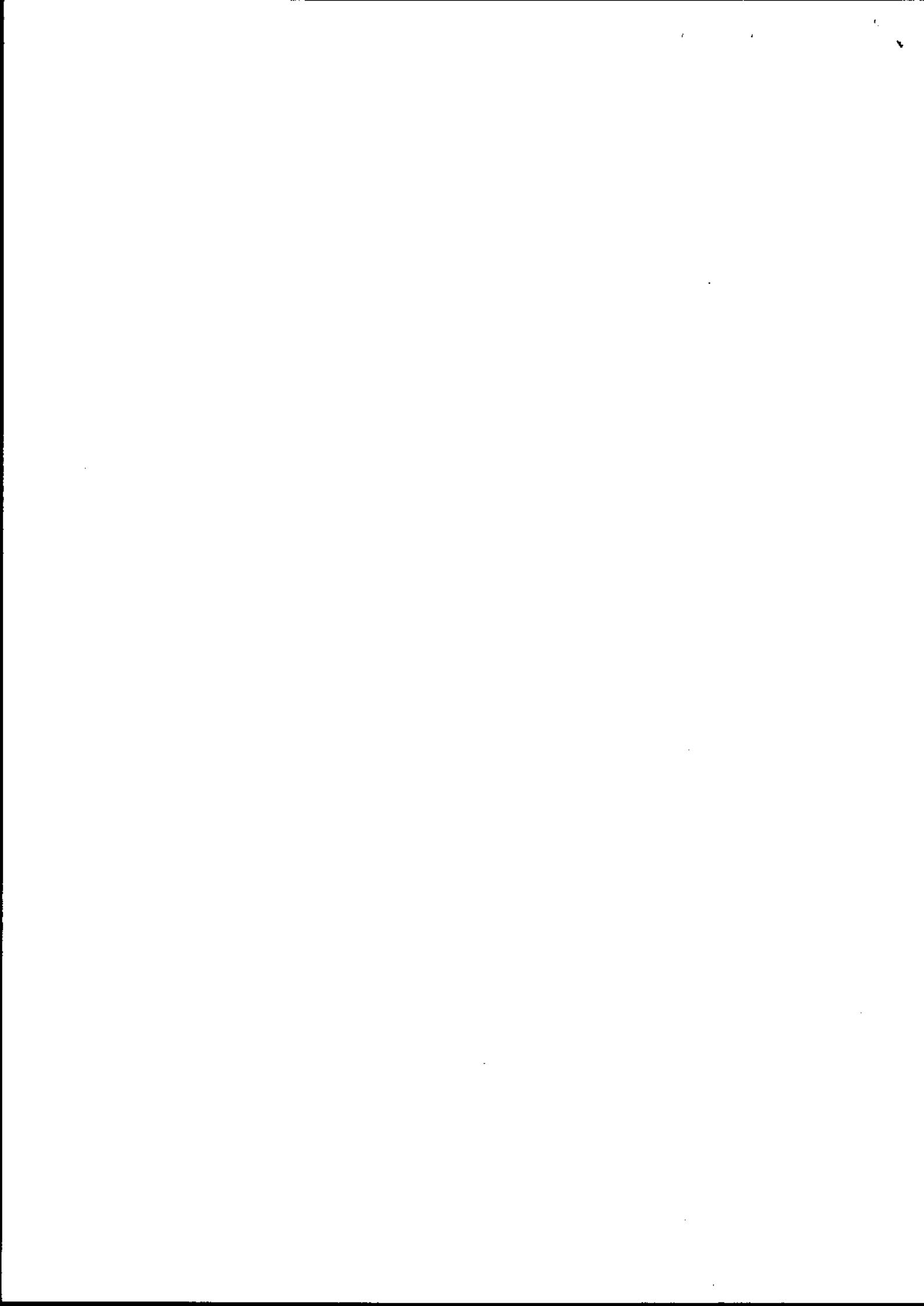
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**1244-00-1011**

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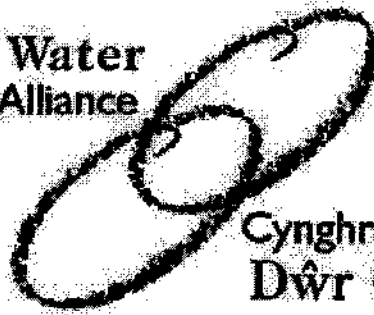
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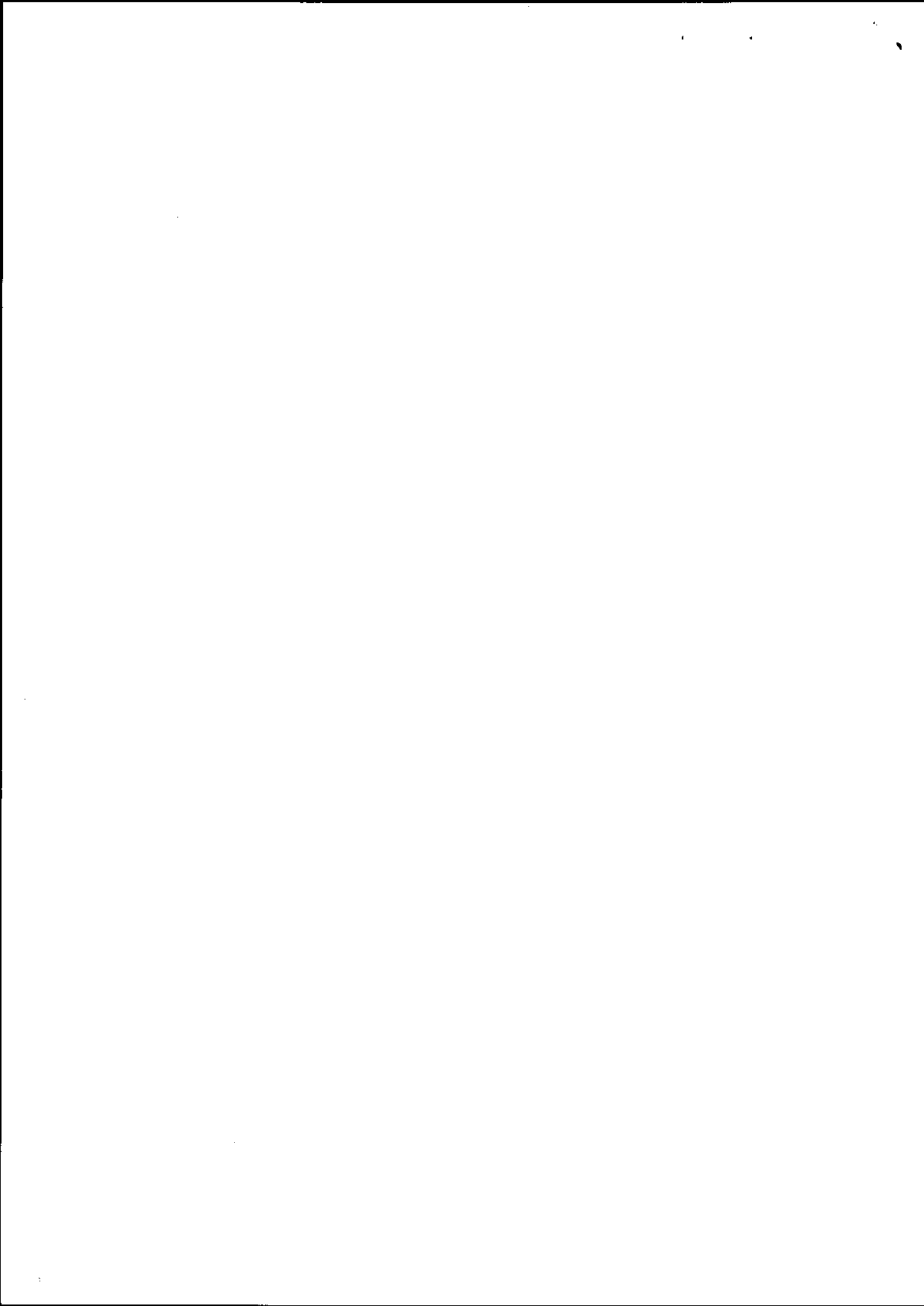
**Beulah STW & SPS**

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4<sup>th</sup> February 2003



Revision	Date	Description	Checked	Approved	Issued
A	4-11-2002	First Draft	WJS	JSG	JSG
B	4-02-2003	Minor changes	WJS	JSG	JSG



## 1 KEY DATA

<b>Project Team:</b>			
PCL:	Project Engineer:	William Spencer	01443 452149
	Mechanical Engineer:	Mick Upton	01443 452812
	Electrical Engineer:	Mike Griffin	01443 452812
<b>Plant Data: Beulah STW &amp; SPS</b>			
Population Equivalent:		200	
Flow (l/s):		DWF 0.7l/s FFT 1.5l/s SOCA 3.8l/s (pass forward flow)	
Process line:		2 x 3l/s foul pumps (duty/standby) 1 x 6l/s storm pump 1 x Copasac storm screen	

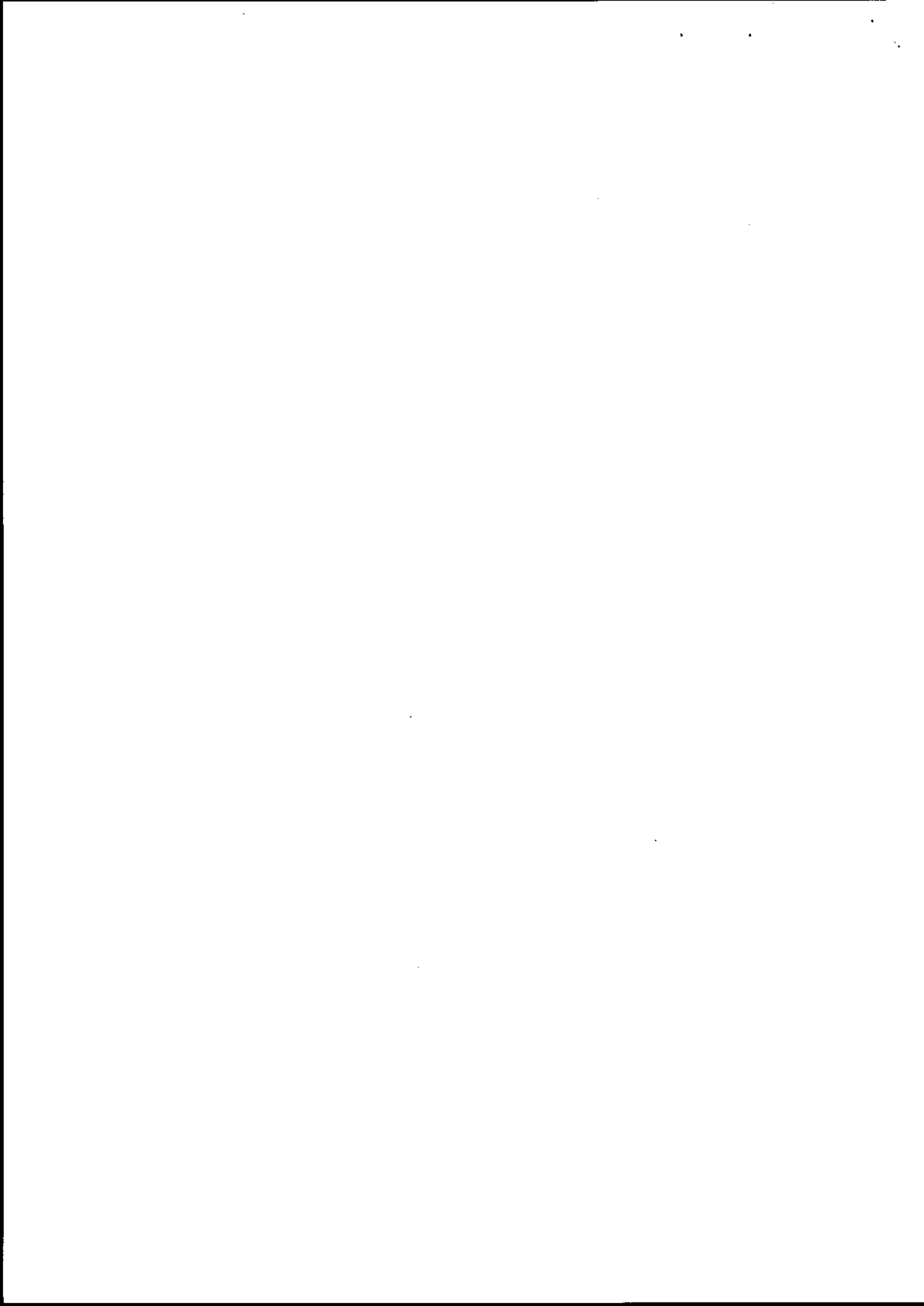
## 2 INTRODUCTION

Beulah STW & SPS is part of the Compliance Strategy due to the flooding of local houses during storm conditions. This flooding is a consequence of insufficient wet well storage and inadequate pumping capacity at the station during storm conditions, which allows the excess flow to surcharge the sewer network.

The plant currently receives flows in excess of 3 l/s on a continuous basis (3 l/s from the pumping station plus the direct gravity flow from a small group of houses, flow unknown but estimated to be <1 l/s). The effluent sample results indicate that the level of treatment that this flow receives is very satisfactory.

PCL, therefore, propose to maintain this flow to the works of > 3 l/s on a continuous basis. The SOCA flow for the catchment is 3 l/s for a population of 150 people. We would increase this consent for a population of 200 to allow for current and future growth, increasing the SOCA flow to 3.8 l/s. As the plant at present is estimated to already treat ≈3.8 l/s adequately in storm conditions, there would be no need for storm tank capacity on site, as all of the SOCA flows will receive full secondary level treatment on a permanent basis.

Flows in excess of SOCA levels occur in severe storm conditions and during such conditions it is imperative to pump this flow away from the station to avoid surcharging the sewer network.

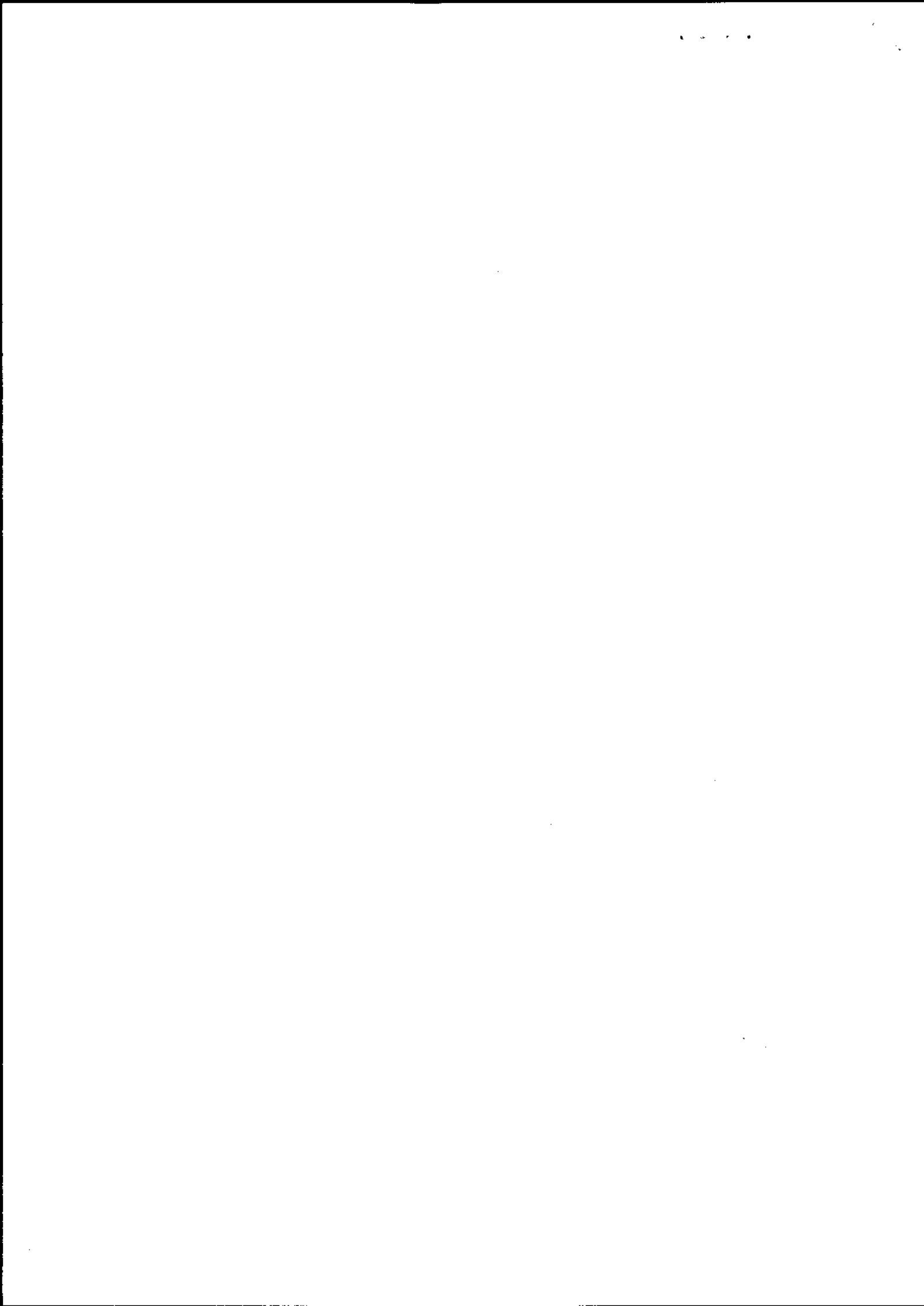


### 3 PREFERRED SOLUTION

The proposal to prevent flooding of the pumping station and sewer network during storm conditions involves converting the whole of the existing dry well into a wet well. This will provide a free discharge into the well (as the well is deeper than the existing chamber) which will limit surcharging of the sewer network. It will also provide additional buffering and storage capacity by increasing the wet well volume from 2.5m<sup>3</sup> to 15m<sup>3</sup> and will, therefore, provide the necessary retention time in the event of a power failure of 2.8 hours. The wet well will also be benched to limit the sewage retention time within the well at low flows.

A connection will be made at the lowest point of the wet well so that a tanker can suck out from the bottom of the well when it requires cleaning. This will ensure any grit build-up within the well is removed from the system.

The existing ejector pumps will be replaced with self-priming pumps, each rated at 3 l/s and operated as duty/standby. A submersible storm pump will also be provided within the new wet well to provide additional pumping capacity during storm conditions. This pump shall be rated at 6 l/s and shall discharge directly into the existing works outlet pipe via a new dedicated storm pipeline. This pipe will break into the existing outlet where it will discharge freely via a Copasac so that all storm and pumped emergency flows are screened prior to discharge. The tie-in chamber shall incorporate an isolated storm and pumped emergency flow sample point.





DWR CYMRU  
WELSH WATER

Gwaith Trin Dŵr Gwastraff Tregŵr  
Heol Victoria  
Tre Gŵyr  
Abertawe SA4 3AB

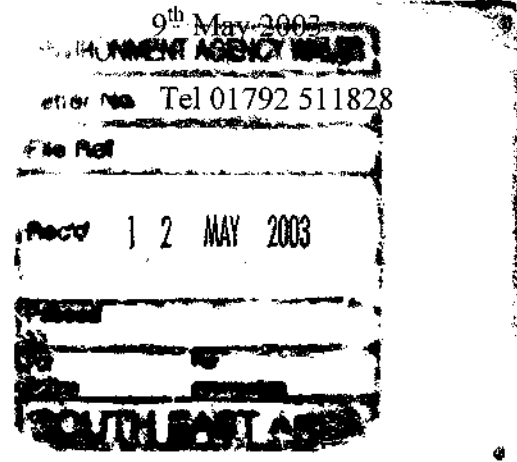
Gowerton Waste Water Treatment Works  
Victoria Road  
Gowerton  
Swansea SA4 3AB

P/R

Ffacs: +44 (0)1792 872 604  
Safle gwe: www.dwrcymru.com

Fax: +44 (0)1792 872 604  
Web site: www.dwrcymru.com

Dave Charrett  
Customer Contact Dept  
Environment Agency Wales  
Rivers House  
St Mellons  
Cardiff  
CF3 0LT



Dear Dave,

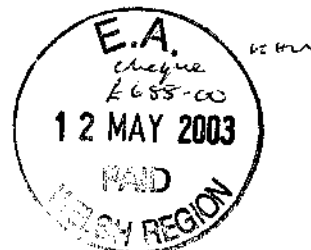
**Beulah SPS and STW, Powys**

Please find enclosed applications for a variation of Beulah STW final effluent (consent no. AW1000501) and a new consent for storm and pumped emergency discharges from Beulah SPS.

The total fee is £1444. I enclose cheque no. 003703 for £688 and cheque no.003848 for £756.

Yours sincerely,

Dr Lewis Keil  
Scientist - Wastewater







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)

<b>Regional/Area Address:</b>  The Regional Finance Manager Environment Agency Welsh Region PO Box 425 St Mellons Business Park CARDIFF CF3 0LT	<i>Official Use Only</i> <i>Dist/Area Ref:</i> 1303  <i>Application No.</i> AN0337901 <i>Date Received:</i> 12/5/03 <i>Fee Received:</i>
--	---

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).

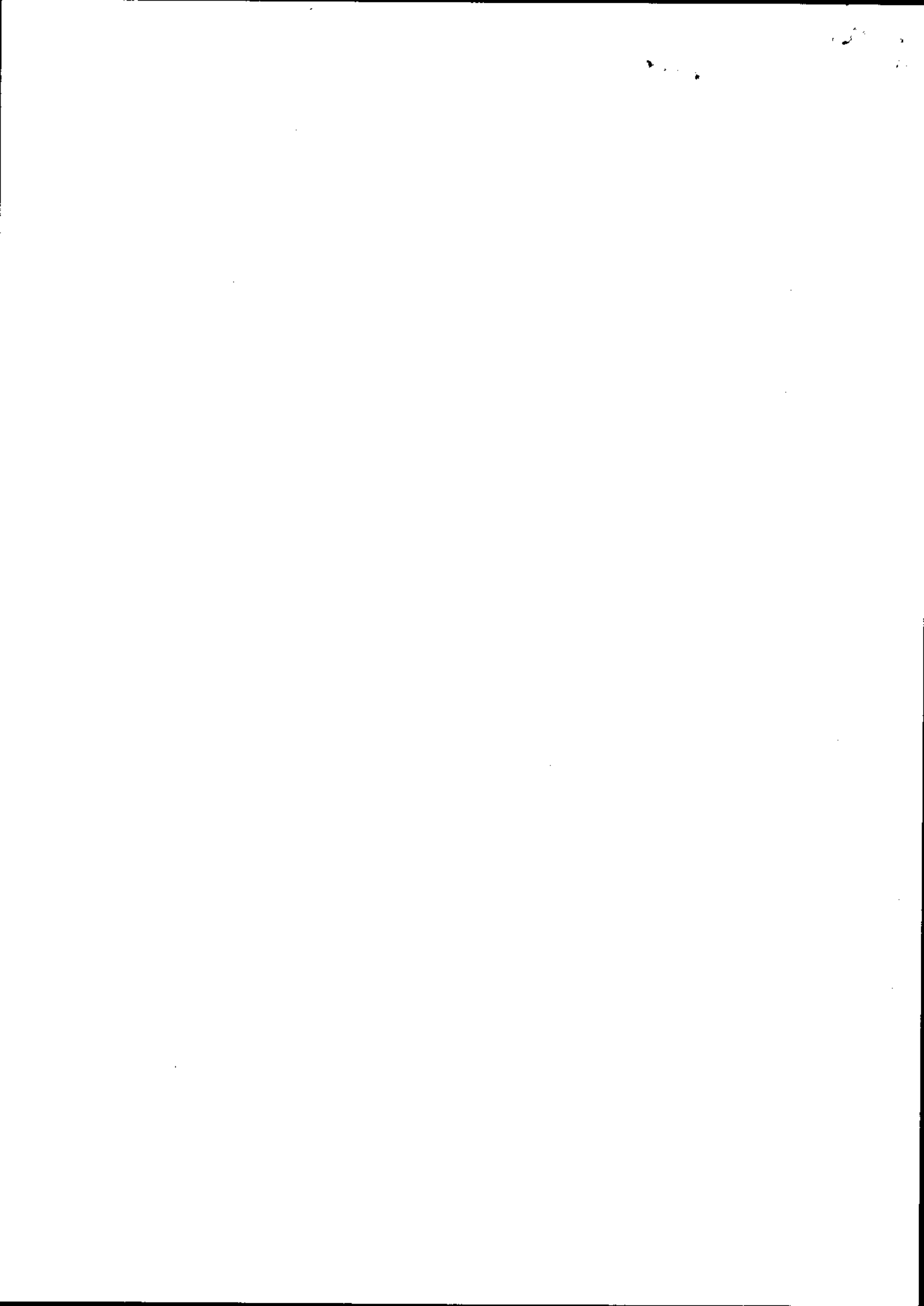
### 1 SITE ADDRESS

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

BEULAH SPS BEULAH STW BEULAH POWYS
---

Post Code: 

LD5 4YD
---------



**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 N/A m<sup>3</sup>/day  
 Briefly state how this figure was calculated (see note ii).

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    | <input checked="" type="checkbox"/> | 4. Borehole | <input type="checkbox"/> | 7. Sub-Irrigation System                 | <input type="checkbox"/> |
| 2. Channel | <input type="checkbox"/>            | 5. Well     | <input type="checkbox"/> | 8. Combination of 6 & 7                  | <input type="checkbox"/> |
| 3. Culvert | <input type="checkbox"/>            | 6. Soakaway | <input type="checkbox"/> | 9. Other ( <i>please specify below</i> ) | <input type="checkbox"/> |

**150 mm  $\phi$  DISCHARGE PIPE**

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

S	N	9	2	2	2	1	5	1	0	3	9
---	---	---	---	---	---	---	---	---	---	---	---

*(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*)

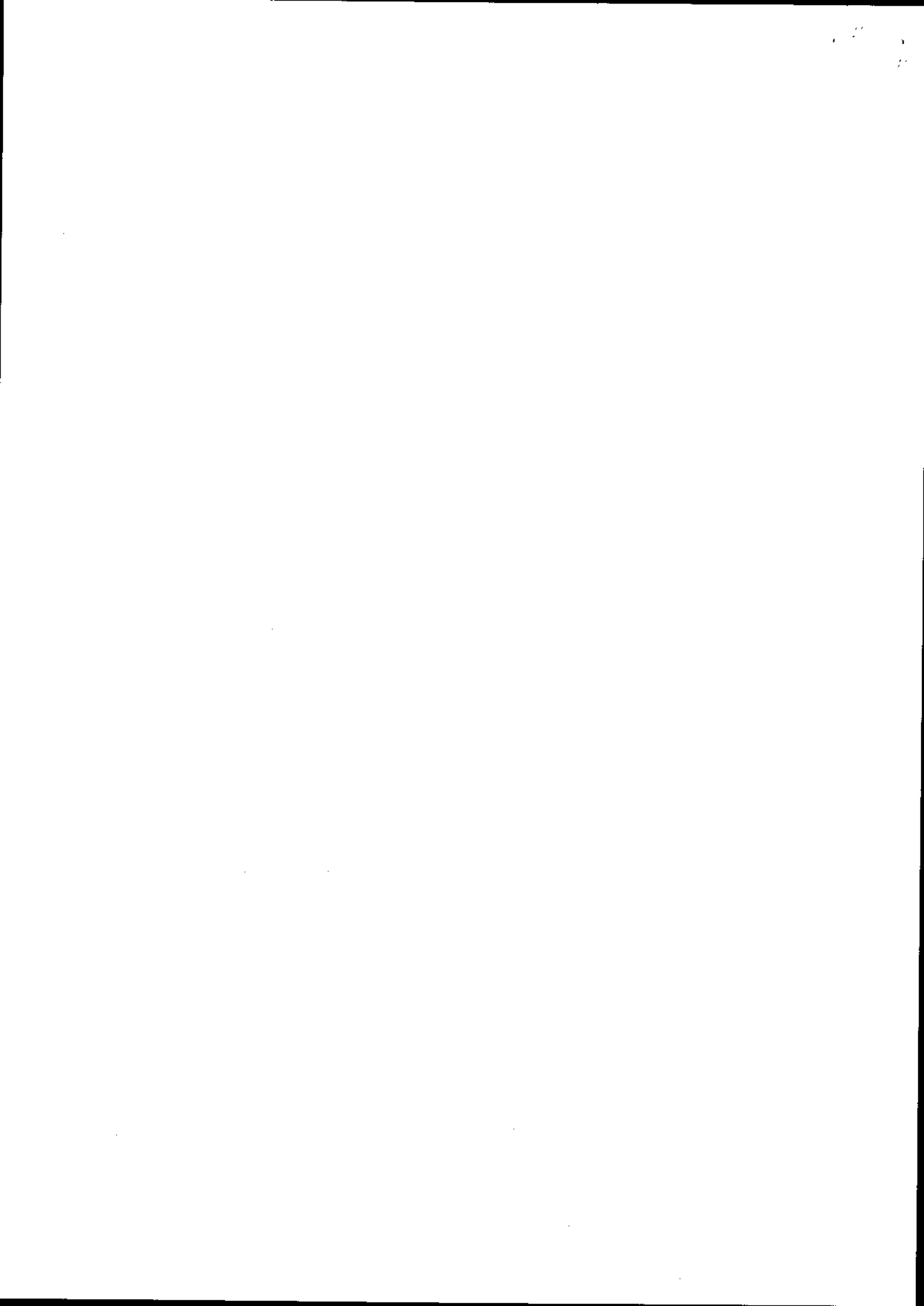
b) National Grid Reference(s) of sampling point(s) (if different from 2.3 b) above).

--	--	--	--	--	--	--	--	--	--	--	--

*(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

**PUMPING TO EXISTING WORKS OUTFALL**

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?

**19/05 /03**

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.

**STORM AND PUMPED EMERGENCY CONDITIONS**

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).

**FINAL EFFLUENT FROM BEULAH STW AW1000501**

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.

**POWYS COUNCIL, COUNTY HALL, LLANDRINDOD WELLS, LD1 5LG**

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

- |   |                          |                            |                                     |
|---|--------------------------|----------------------------|-------------------------------------|
| 1. Single Dwelling                      | <input type="checkbox"/> | 6. Fish Farm               | <input type="checkbox"/>            |
| 2. Multiple Dwellings                   | <input type="checkbox"/> | 7. Mineral Workings        | <input type="checkbox"/>            |
| 3. Industrial Premises                  | <input type="checkbox"/> | 8. Water Services plc STW  | <input type="checkbox"/>            |
| 4. Vehicle Parking Area                 | <input type="checkbox"/> | 9. Water Supply            | <input type="checkbox"/>            |
| 5. Commercial Premises (please specify) | <input type="checkbox"/> | 10. Other (please specify) | <input checked="" type="checkbox"/> |

**WATER SERVICES PLC SPS**



3.3 Please indicate source of the water supply - tick as appropriate: **N/A**

- |  |                          |   |                          |
|--|--------------------------|---|--------------------------|
| 1. Well                                      | <input type="checkbox"/> | 5. River (please give name below)         | <input type="checkbox"/> |
| 2. Borehole                                  | <input type="checkbox"/> | 6. Estuary (please give name below)       | <input type="checkbox"/> |
| 3. Precipitation (eg rain or snow)           | <input type="checkbox"/> | 7. Coastal Water (please give name below) | <input type="checkbox"/> |
| 4. Mains (please state water supply company) | <input type="checkbox"/> | <input type="text"/>                      |                          |

#### 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) | <input type="checkbox"/>            | 5. Into Land                    | <input type="checkbox"/> |
| 2. River or Stream (non-tidal)             | <input checked="" type="checkbox"/> | 6. Onto Land                    | <input type="checkbox"/> |
| 3. Canal                                   | <input type="checkbox"/>            | 7. Directly into Groundwater    | <input type="checkbox"/> |
| 4. Lake, Lock or Pond                      | <input type="checkbox"/>            | 8. Coastal Water (see note vii) | <input type="checkbox"/> |

State name of receiving water if known:

**RIVER CAMMARCH**

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)? **N/A**  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 Welsh Water  
Pentwyn Road  
Nelson  
Treharris  
Caerphilly  
Post Code: CF46 6YA

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.

[Empty box for additional information]



# 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: <u>Lewis Keel</u>	PRINT NAME: <u>LEWIS KEEL</u>
ON BEHALF OF: <u>DWR CYMRU CYF</u>	DATED: <u>9/5/03</u>

## 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





**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.

BEULAH SPS  
BEULAH STW  
BEULAH  
POWYS  
LD5 4YD

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

- Storm tanks
- Combined Sewer Overflow from sewerage system
- Combined Sewer Overflow from pumping station (PUMPED)
- Emergency overflow from sewerage system
- Emergency overflow from pumping station (PUMPED). NO GRAVITY EMERGENCY
- Other (please specify)

**OVERFLOW FROM PUMPING STATION COMBINES WITH WORKS EFFLUENT OUTFALL. SEE ATTACHED DRAWING 1244-00-3110.**

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

**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

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

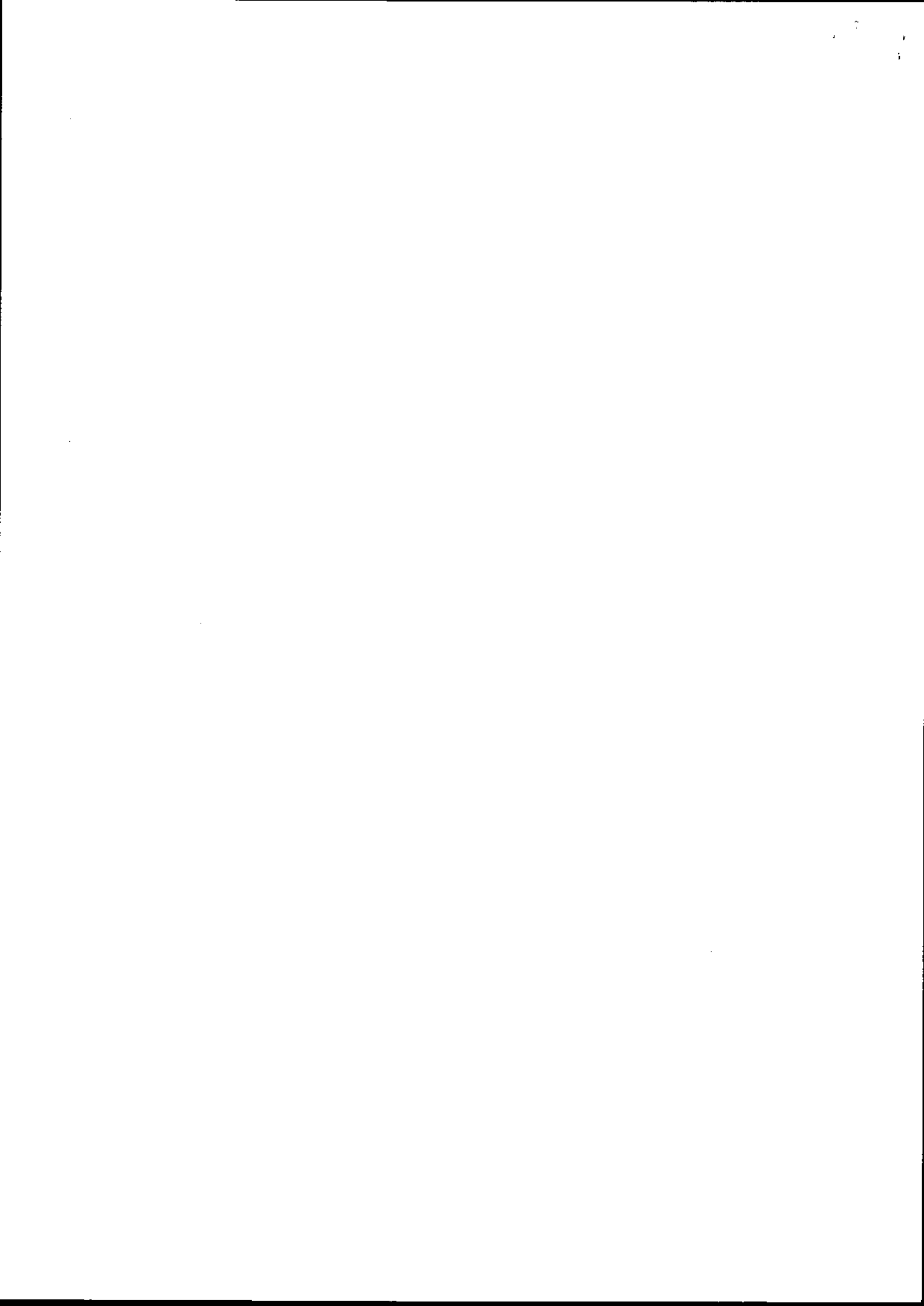
S	N	9	2	2	2	1	5	1	0	3	9
---	---	---	---	---	---	---	---	---	---	---	---

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

**YES - SHARED WITH FINAL EFFLUENT**

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

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--



5. Overflow settings

- |  |             |     |
|--|-------------|-----|
| a) Overflow setting to storm tanks           | N/A         | l/s |
| b) Maximum flow to storm tanks               | N/A         | l/s |
| c) Overflow setting to storm sewage overflow | 3           | l/s |
| d) Maximum flow to storm sewage overflow     | PUMP RATE 6 | l/s |

6. Storage capacity

- |  |     |                |
|--|-----|----------------|
| a) Volume of Storm tanks   | N/A | m <sup>3</sup> |
| b) Retention time of storm tanks at maximum flow                       | N/A | hours          |
| c) Storage capacity of sewer/wet well (Gives 2.8 hrs retention at FFT) | 15  | m <sup>3</sup> |

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

**SEE BEULAH SPS SCHEME JUSTIFICATION, DOCUMENT NUMBER 1244-C1F, EA Discharge Consent Variation, Scheme Justification Report (18-04-2002)**

8. Will facilities be provided to raise alarms (eg telemetry)? **YES**  
If yes, please give details.

**TELEMETRY IN PUMPING STATION BREAKDOWN/ELECTRICAL FAILURE**

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).

**COPASAC (SCREENING SIZE 6mm)**

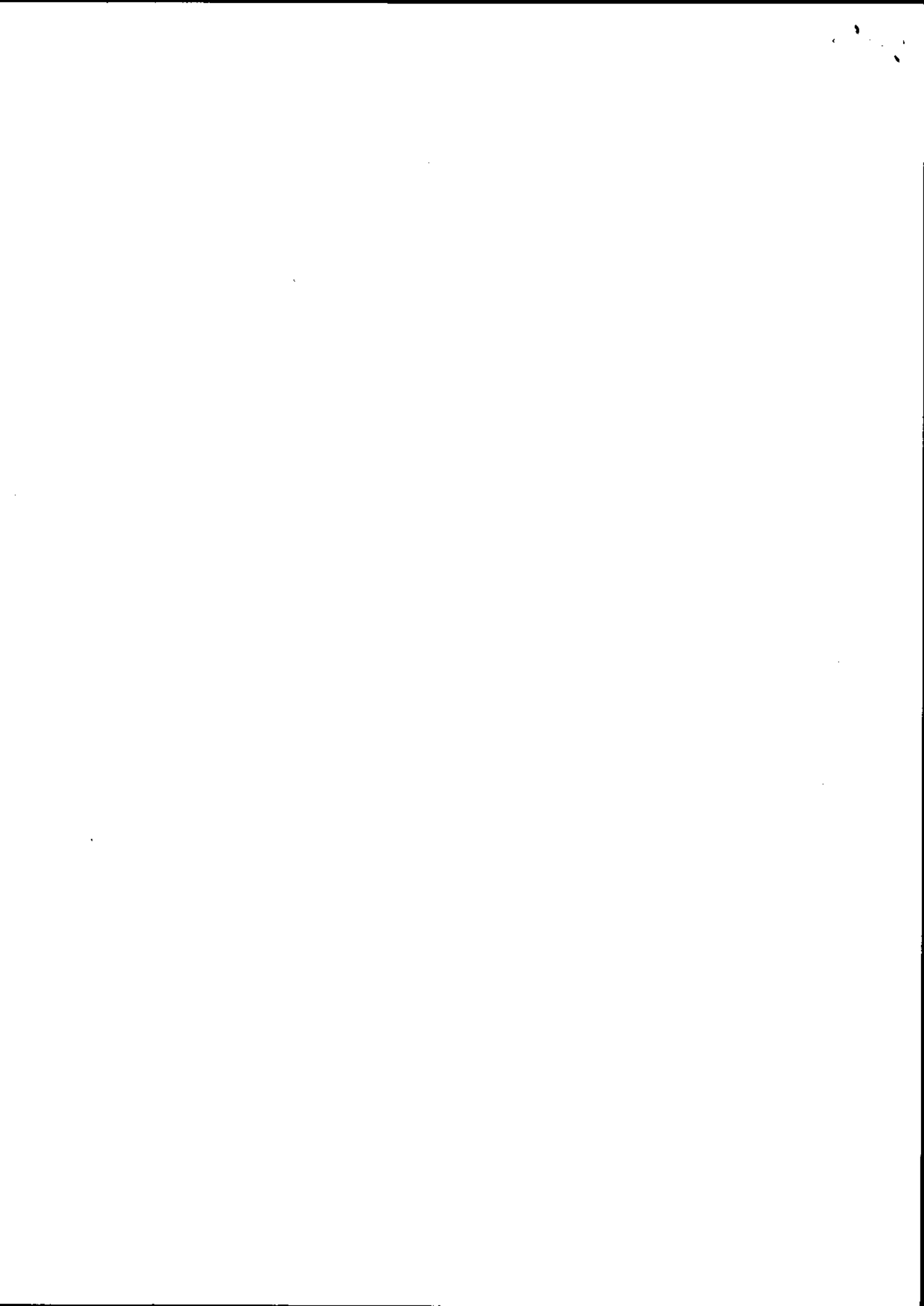
10. What provisions will be made to deal with:

- |   |                          |
|---|--------------------------|
| a) power failure (eg standby generators)?   | <b>PLUG-IN FACILITY</b>  |
| b) mechanical breakdown (eg standby pumps)? | <b>DUTY/STANDBY</b>      |
| c) rising main failure?                     | <b>SHORT MAIN TO STW</b> |
| d) tanker access?                           | <b>YES</b>               |

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.*





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.

BEULAH SPS  
BEULAH STW  
BEULAH  
POWYS  
LD5 4YD

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 diameter (including units):

150 mm  $\phi$  PIPE

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

TOTAL COST ANTICIPATED FOR SCHEME IS £128,000

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: N/A

Tick



\*

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

If pumped, please state the maximum pump rate in l/sec: 6 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: N/A Tick  
✓

8. Please state:

Population served (head)	200
Consumption (l/head/day) default = 180	180
Infiltration (m <sup>3</sup> /day)	18 (NOMINAL 50% PG)
Industrial effluent flow (m <sup>3</sup> /day)	N/A
Dry Weather Flow (m <sup>3</sup> /day)	54
Soc A (l/sec)	3.8
Predicted spill frequency (per annum)	NOT KNOWN BUT PREDICTED <24

**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.**

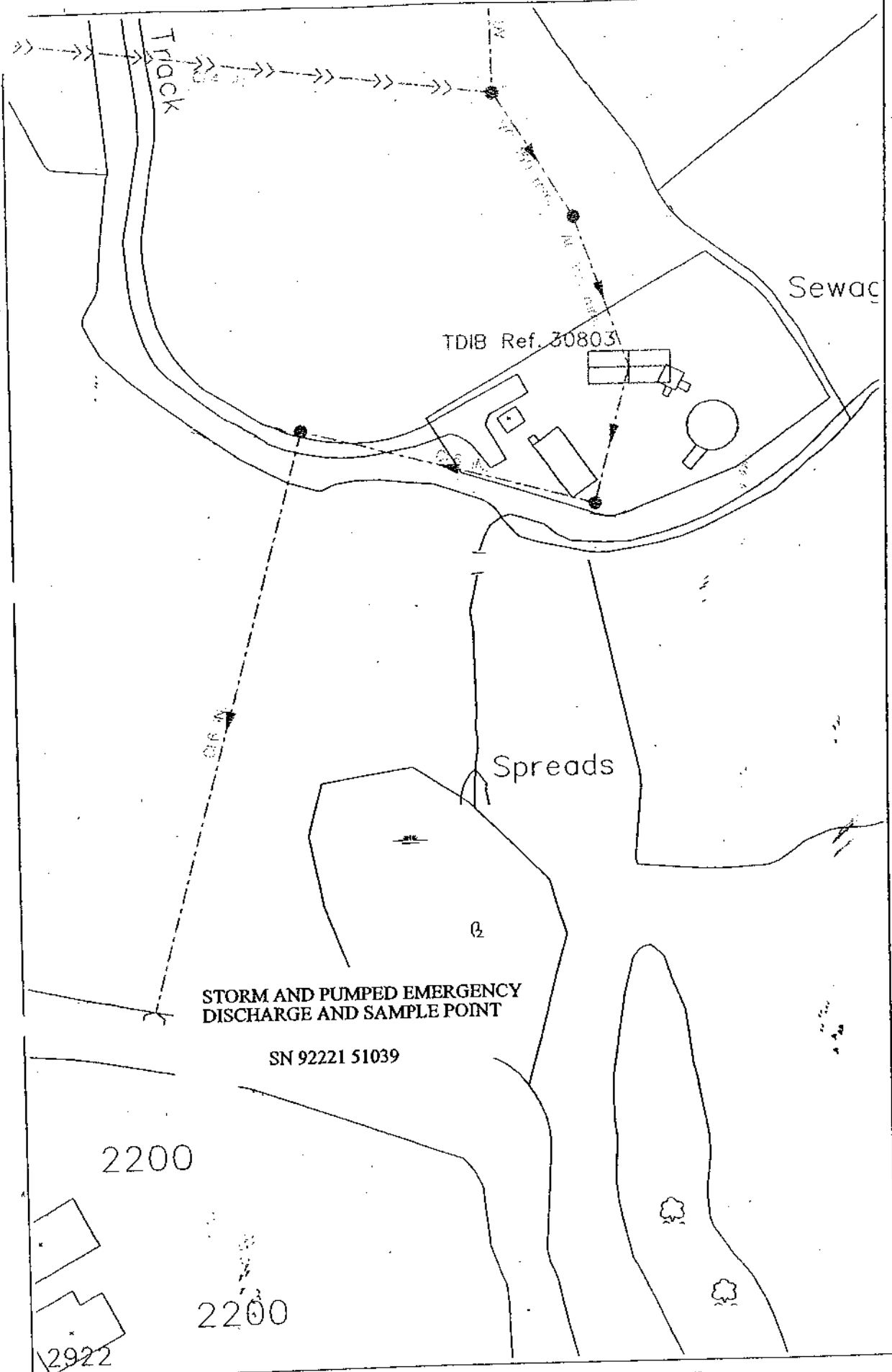
- THE STORM FROM THE PS IS PUMPED
- IF THE DUTY/STANDBY PUMPS FAIL THEN THE SUMP FILLS UNTIL THE STORM PUMP CUTS IN; IE PUMPED EMERGENCY
- IF THERE IS COMPLETE PS FAILURE THEN FLOWS BACK UP INTO THE SEWERAGE SYSTEM; IE NO GRAVITY EMERGENCY





Legends

- Foil
- Surface
- Combined
- Rising Main
- Private
- Treatment Works
- Pumping Station
- Combined Overflow
- Special Purpose Chamber
- Unknown End
- Outlet
- Lampole
- Map Edge



# Beulah Works and Outfall

Apr 09 2003  
Scale: 1:800

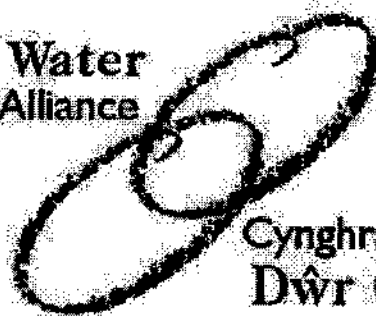
This Company does not guarantee the accuracy of the information shown on this plan, which is based on the best information available and no warranty is made in the drawings as to their accuracy. The user of this plan shall be responsible for the accuracy of the information shown and any errors or omissions in the drawings shall be the responsibility of the user. The user shall be responsible for the accuracy of the information shown and any errors or omissions in the drawings shall be the responsibility of the user. The user shall be responsible for the accuracy of the information shown and any errors or omissions in the drawings shall be the responsibility of the user.

EXACT LOCATIONS OF ALL APPARATUS TO BE DETERMINED ON SITE.

Professional Engineer, The Engineer's Office, 1000 Highway 101, Suite 100, Beulah, Alberta T0A 1A0. Copyright 2003.



Welsh Water  
Capital Alliance



Cynghrair Cyfalaf  
Dŵr Cymru

PCM

**Environment Agency Discharge Consent Variation  
Scheme Justification Report**

**Beulah STW & SPS**

**1244-00-1011**

4<sup>th</sup> February 2003



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	Electrical Engineer:	Mike Griffin	01443 452812
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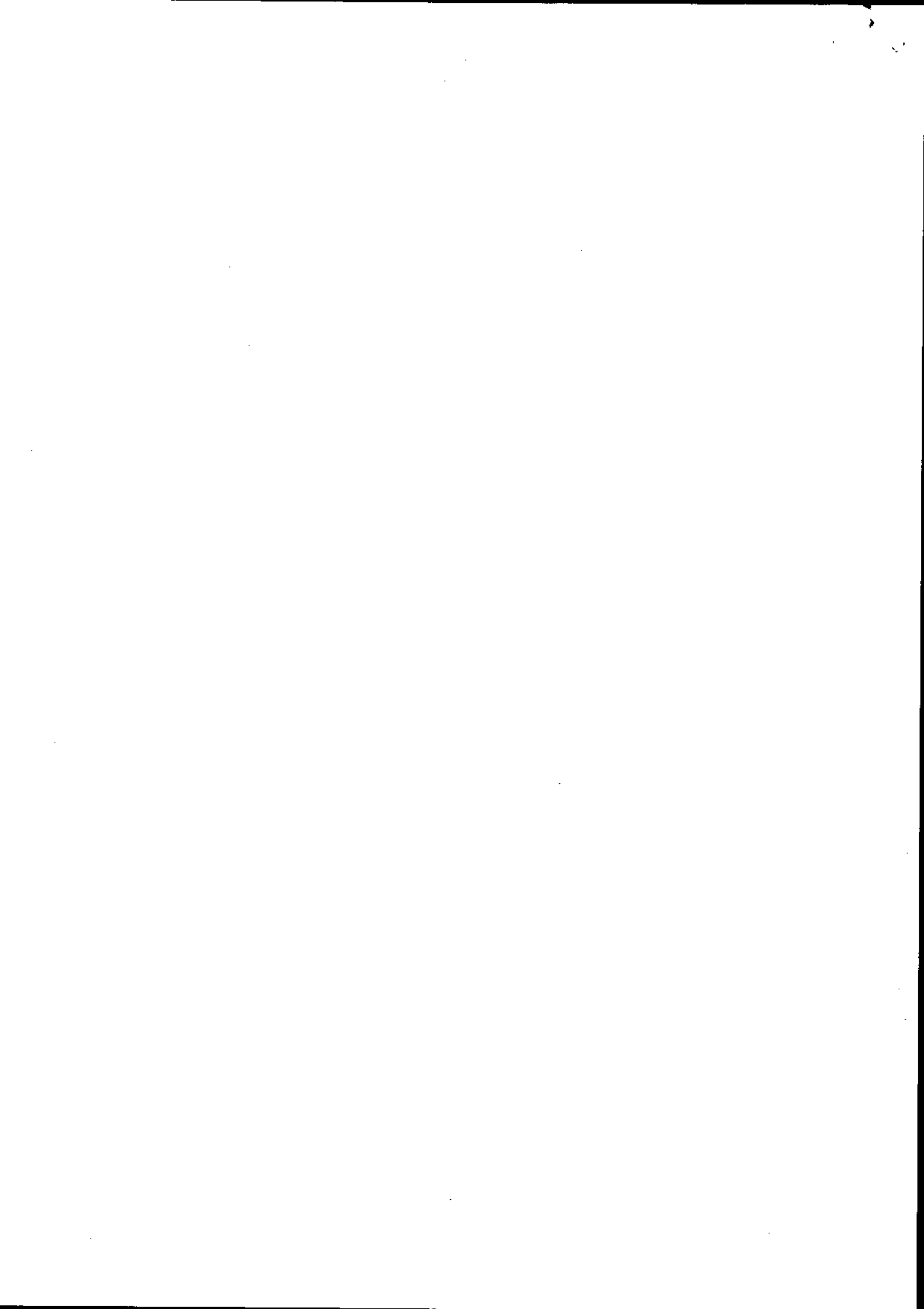
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The plant currently receives flows in excess of 3 l/s on a continuous basis (3 l/s from the pumping station plus the direct gravity flow from a small group of houses, flow unknown but estimated to be <1 l/s). The effluent sample results indicate that the level of treatment that this flow receives is very satisfactory.

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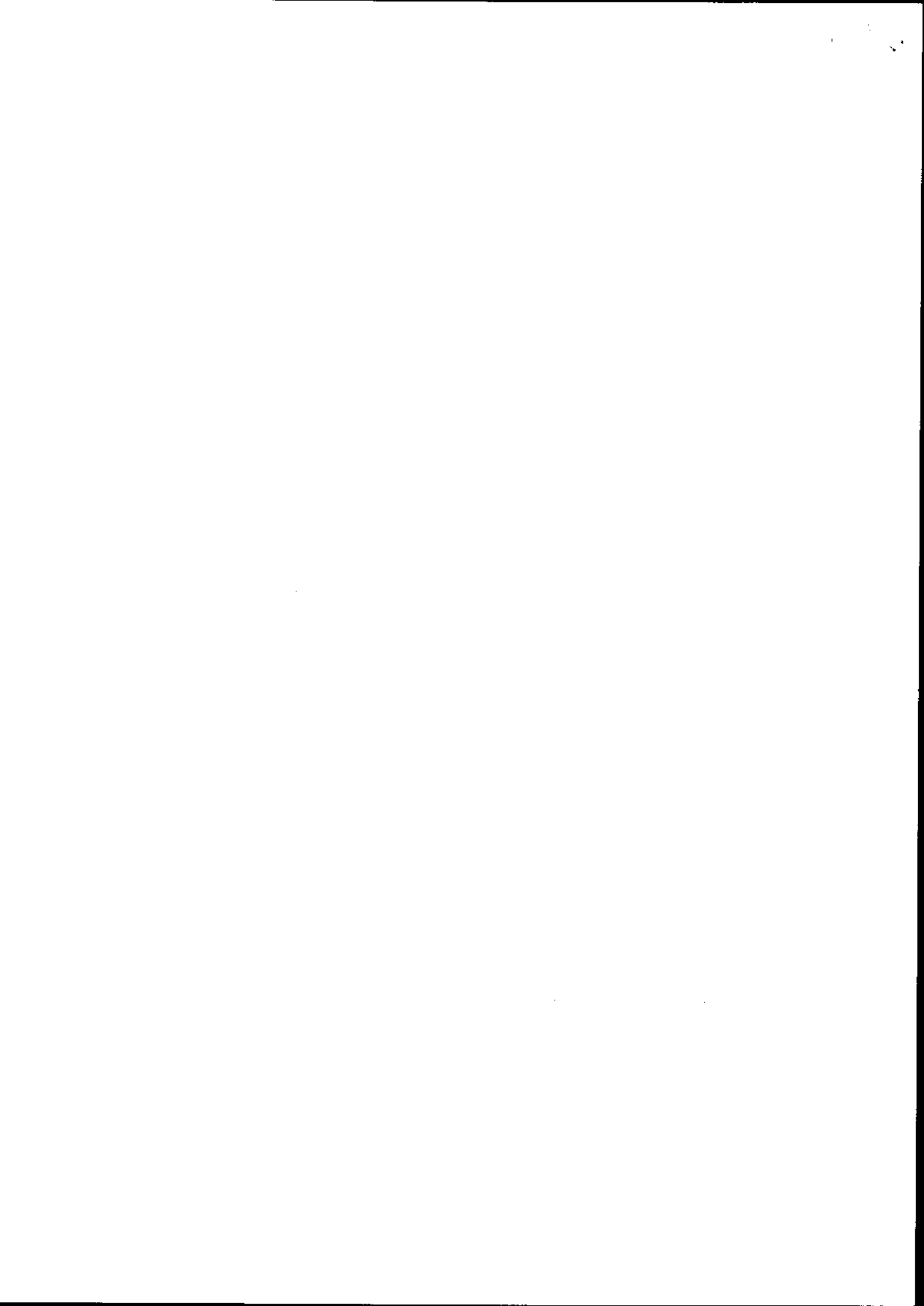


### 3 PREFERRED SOLUTION

The proposal to prevent flooding of the pumping station and sewer network during storm conditions involves converting the whole of the existing dry well into a wet well. This will provide a free discharge into the well (as the well is deeper than the existing chamber) which will limit surcharging of the sewer network. It will also provide additional buffering and storage capacity by increasing the wet well volume from 2.5m<sup>3</sup> to 15m<sup>3</sup> and will, therefore, provide the necessary retention time in the event of a power failure of 2.8 hours. The wet well will also be benched to limit the sewage retention time within the well at low flows.

A connection will be made at the lowest point of the wet well so that a tanker can suck out from the bottom of the well when it requires cleaning. This will ensure any grit build-up within the well is removed from the system.

The existing ejector pumps will be replaced with self-priming pumps, each rated at 3 l/s and operated as duty/standby. A submersible storm pump will also be provided within the new wet well to provide additional pumping capacity during storm conditions. This pump shall be rated at 6 l/s and shall discharge directly into the existing works outlet pipe via a new dedicated storm pipeline. This pipe will break into the existing outlet where it will discharge freely via a Copasac so that all storm and pumped emergency flows are screened prior to discharge. The tie-in chamber shall incorporate an isolated storm and pumped emergency flow sample point.



Welsh Water  
Capital Alliance



Cynghrair Cyfalaf  
Dŵr Cymru

PCM

**Environment Agency Discharge Consent Variation  
Scheme Justification Report**

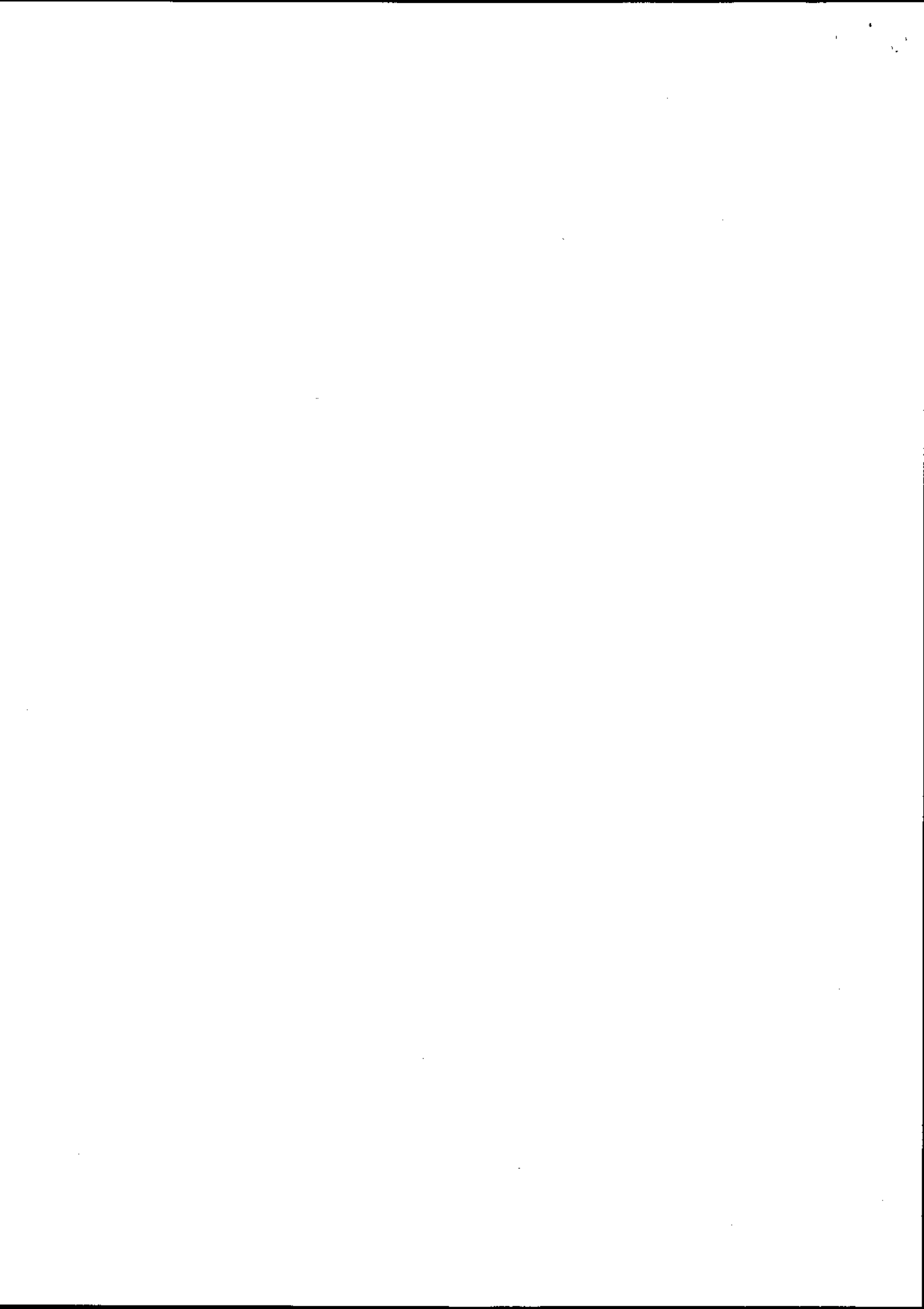
**Beulah STW & SPS**

**1244-00-1011**

4<sup>th</sup> February 2003



Revision	Date	Description	Checked	Approved	Issued
A	4-11-2002	First Draft	WJS	ISG	JSG
B	4-02-2003	Minor changes	WJS	ISG	JSG



## Scheme Justification Report – Beulah STW & SPS

### 1 KEY DATA

<b>Project Team:</b>			
PCL:	Project Engineer:	William Spencer	01443 452149
	Mechanical Engineer:	Mick Upton	01443 452812
	Electrical Engineer:	Mike Griffin	01443 452812
<b>Plant Data: Beulah STW &amp; SPS</b>			
Population Equivalent:		200	
Flow (l/s):		DWF 0.7l/s FFT 1.5l/s SOCA 3.8l/s (pass forward flow)	
Process line:		2 x 3l/s foul pumps (duty/standby) 1 x 6l/s storm pump 1 x Copasac storm screen	

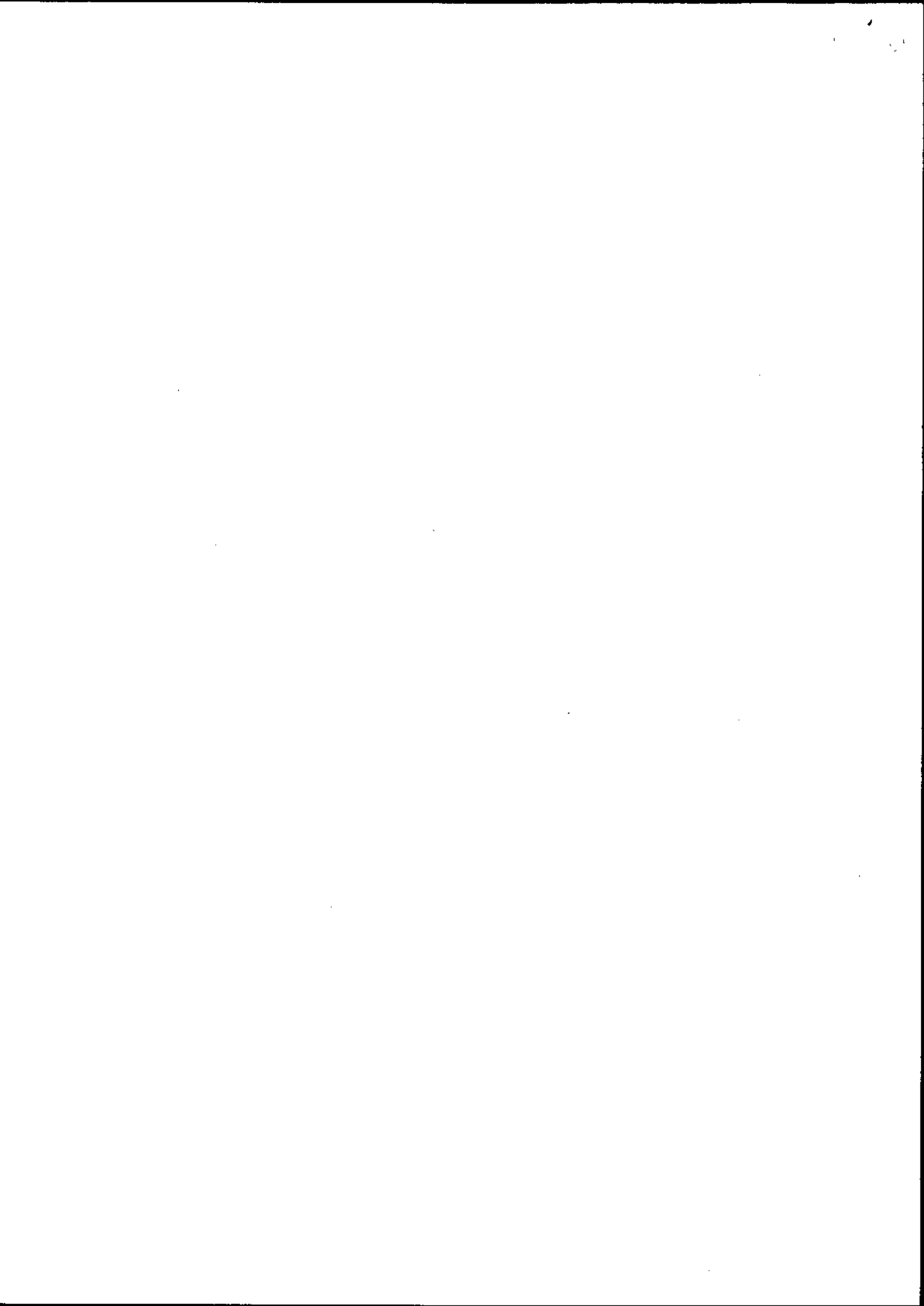
### 2 INTRODUCTION

Beulah STW & SPS is part of the Compliance Strategy due to the flooding of local houses during storm conditions. This flooding is a consequence of insufficient wet well storage and inadequate pumping capacity at the station during storm conditions, which allows the excess flow to surcharge the sewer network.

The plant currently receives flows in excess of 3 l/s on a continuous basis (3 l/s from the pumping station plus the direct gravity flow from a small group of houses, flow unknown but estimated to be <1 l/s). The effluent sample results indicate that the level of treatment that this flow receives is very satisfactory.

PCL, therefore, propose to maintain this flow to the works of > 3 l/s on a continuous basis. The SOCA flow for the catchment is 3 l/s for a population of 150 people. We would increase this consent for a population of 200 to allow for current and future growth, increasing the SOCA flow to 3.8 l/s. As the plant at present is estimated to already treat ≈3.8 l/s adequately in storm conditions, there would be no need for storm tank capacity on site, as all of the SOCA flows will receive full secondary level treatment on a permanent basis.

Flows in excess of SOCA levels occur in severe storm conditions and during such conditions it is imperative to pump this flow away from the station to avoid surcharging the sewer network.



### 3 PREFERRED SOLUTION

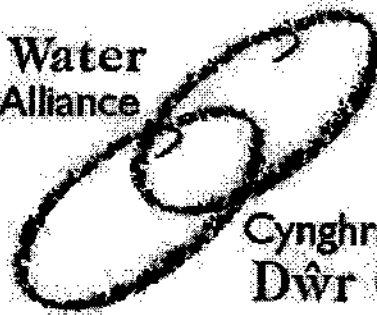
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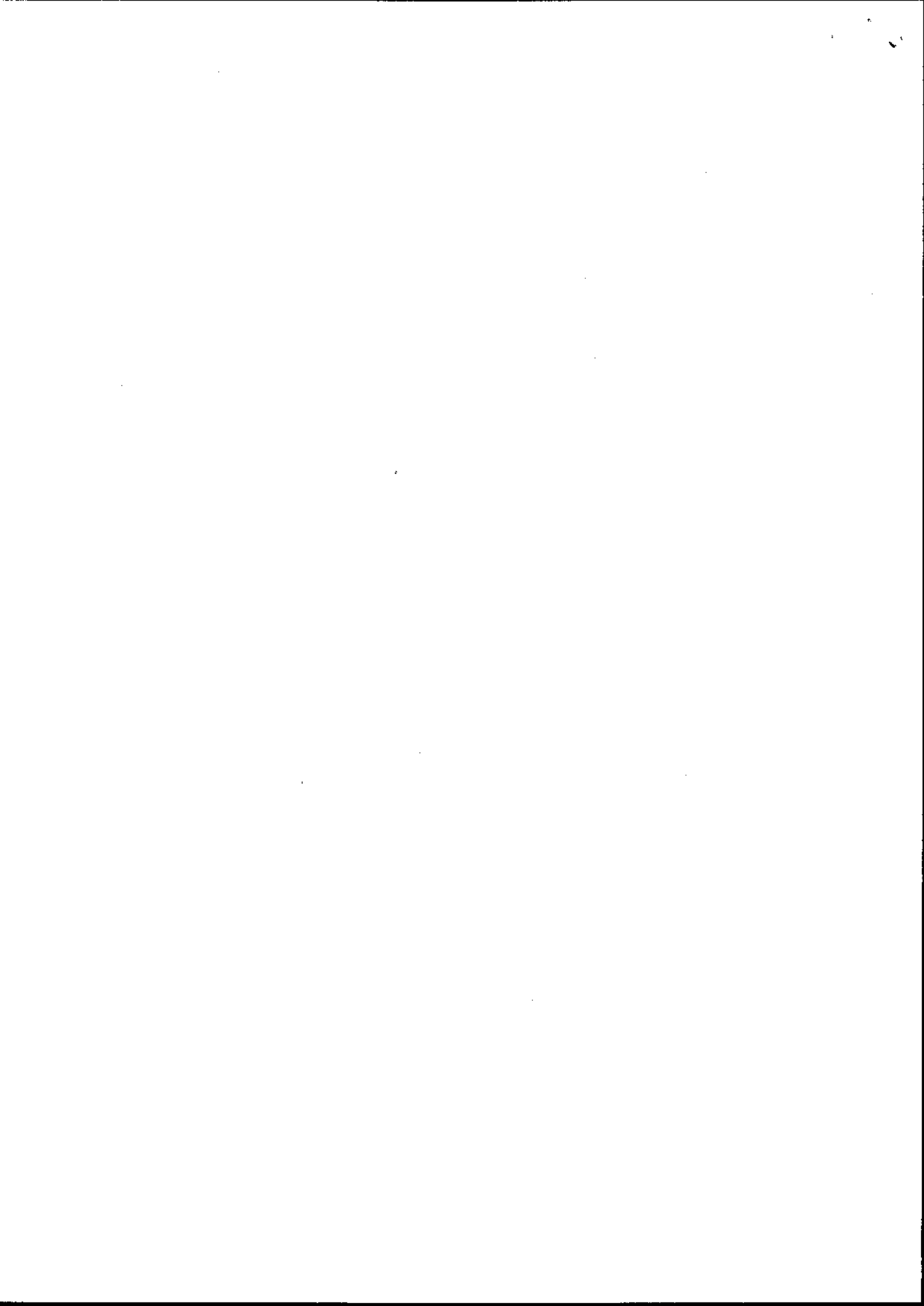
**Beulah STW & SPS**

**1244-00-1011**

4<sup>th</sup> February 2003



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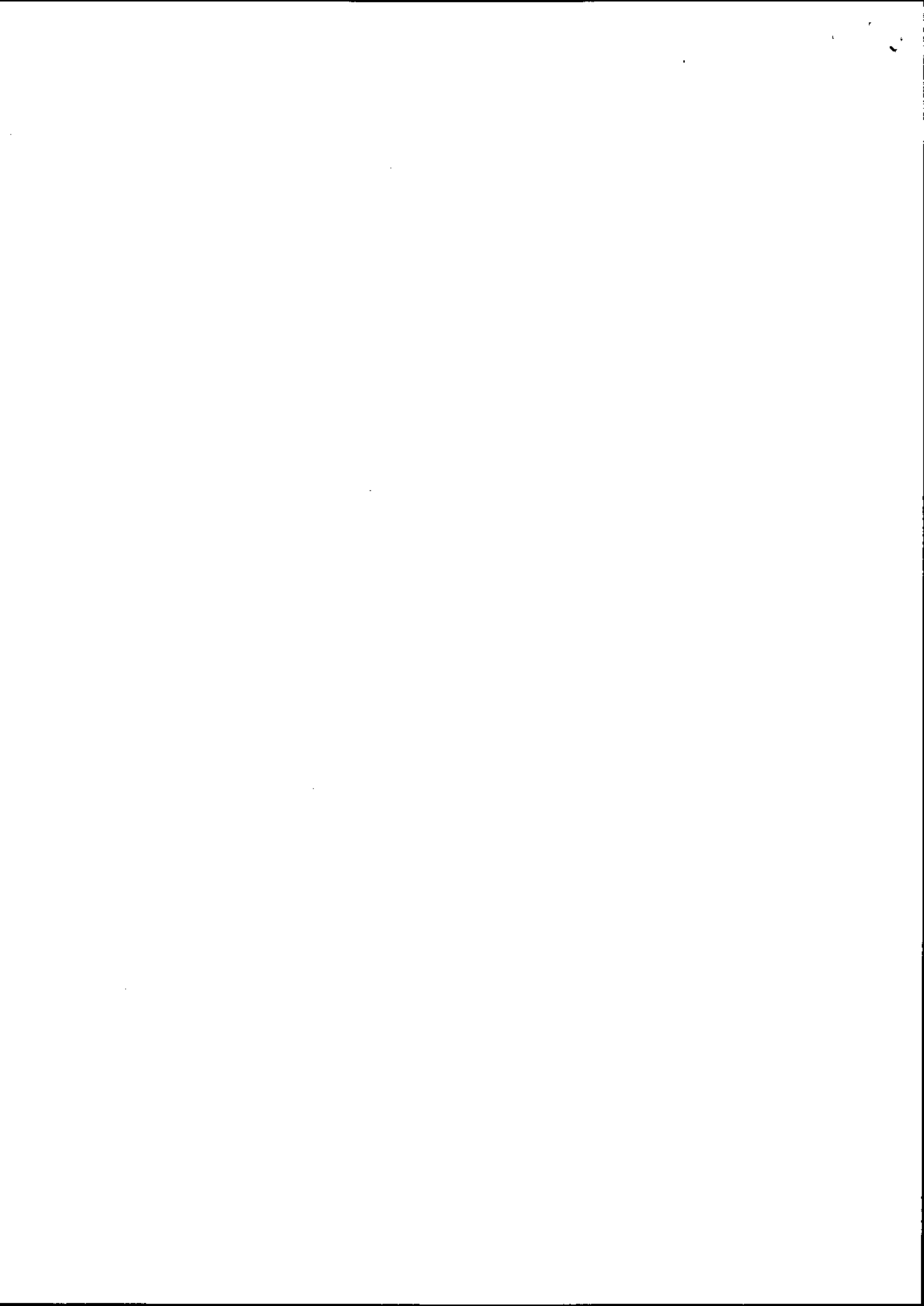
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