

**Procedure:** JSY07  
**Title:** Management and Monitoring of Site Water, Effluent and Discharges



**1 Purpose:** To ensure that the abstraction of water and discharge of site drainage, process effluent and any other water is managed and monitored in accordance with site consents.

2	Procedure	Responsible Person	Record
2.1	'Water' arises on site from a variety of sources including: <ul style="list-style-type: none"> <li>groundwater and springs</li> <li>incidental rainfall and resultant run-off</li> <li>excess, settled process water from concrete and block making activities</li> <li>general yard run-off</li> </ul>	Information	-
2.2	The main water features including site water flow direction, abstraction and monitoring boreholes, discharge silt settlement system and off-site surface water sampling locations are shown on Figure HRA 1 attached at the end of this procedure.	Information	-
<b>Water Abstraction</b>			
2.3	Water is abstracted to supply water for concrete and block making activities, dust suppression and to maintain quarry workings in a dry state for safe operation. Water is authorised for abstraction as follows:	Site Manager	Water abstraction consents

**Table 1 - Summary of Water Abstraction Licences**

Licence No	Abstraction Location and Use of Water	Volume Limits	Monitoring & Reporting Requirements
175	From 3 boreholes (BH Pump 1, 2, 3) serving readymix and CAQ plant for purposes of production, washout and dust suppression.	110m <sup>3</sup> /day, 26,176m <sup>3</sup> /year	Weekly volumes in each borehole via flow meter. Daily readings at times of maximum abstraction. Annual records to be sent to SoJ by 14th January of the following year.
176	From Point A: block yard 'well' (sump) and Point B: quarry sump for concrete block production, dust suppression and quarry dewatering.	2380m <sup>3</sup> /day, 250,000m <sup>3</sup> /year	Weekly volumes from points A & B via flow meter. Daily readings at times of maximum abstraction. Annual records to be sent to SoJ by 14th January of the following year.

**Procedure:** JSY07  
**Title:** Management and Monitoring of Site Water, Effluent and Discharges



- 2.4 The quantity of water abstracted from the 3 borehole pumps and the block yard sump is measured by flow meter and is recorded daily. Site Manager      Abstraction records
  - 2.5 The volume abstracted from the quarry sump is calculated daily from pump hours run and pump capacity. Site Manager      Abstraction records
  - 2.7 Water abstraction / consumption records are retained for the life of the site, and are submitted to Brett SHE Department when requested but to the States of Jersey annually (by 14<sup>th</sup> January for the preceding calendar year). Site Manager      Abstraction records / evidence of submission to SHE and SoJ
  - 2.8 A water sample is obtained annually from the header tank at the concrete plant fed from the quarry sump and sent for analysis at an external laboratory to confirm that the water quality is suitable for use in ready mixed concrete manufacture. The suite of analysis is determined by the Quality Manager. Additional water samples may be obtained in response to concerns/complaints regarding product quality. Quality Manager      Water quality analysis certificate
- Water / Effluent Discharge**
- 2.9 A 'deemed' consented discharge of site water is made to La Gigoulande Brook. This water is collected in the quarry sump and pumped into the settlement lagoon from where it flows to the block yard sump and subsequent discharge pipe entering the Brook opposite the site entrance/workshop area. Site Manager      Water discharge consent

**Table 2 - Summary of Discharge Consent**

Licence No	Discharge Location and Source	Volume / Quality Limits	Monitoring & Reporting Requirements
Deemed discharge consent DP (B) 2000/11/0 3A	Water arising on site and from internal springs into La Gigoulande Brook	currently n/a	currently n/a

- 2.10 The volume of water/effluent discharged is calculated for each day using the method outlined below, and records retained: Site Manager      Water discharge records

**Procedure:** JSY07  
**Title:** Management and Monitoring of Site Water, Effluent and Discharges



$$\begin{array}{r}
 \text{volume (m}^3\text{)} \\
 \text{abstracted} \\
 \text{from quarry} \\
 \text{sump} \\
 \text{(measured as} \\
 \text{per Clause 2.5} \\
 \text{above)}
 \end{array}
 \text{ minus }
 \begin{array}{r}
 \text{volume (m}^3\text{)} \\
 \text{abstracted} \\
 \text{from} \\
 \text{blockyard} \\
 \text{sump} \\
 \text{(measured as} \\
 \text{per Clause 2.4} \\
 \text{above)}
 \end{array}
 =
 \begin{array}{r}
 \text{volume} \\
 \text{discharged} \\
 \text{(m}^3\text{)}
 \end{array}$$

- 2.11 The discharge is sampled and analysed for key quality parameters as part of the site surface water monitoring programme detailed below. Site Manager Water discharge records

**Surface Water Monitoring**

- 2.12 A programme of surface water sampling is carried out to monitor the quality of the discharge from the site and to provide data for the receiving water body, La Gigoulande Brook, both upstream and downstream of the discharge. The programme is summarised below: Site Manager -

**Table 3 - Surface Water Monitoring Regime**

Sampling Location	Analysis Required	Frequency
SW1	Suite GP2	Monthly (Feb, Mar, May, Jun, Aug, Sep, Nov, Dec)
SW2, SW3 & Discharge	Suite GP2 + Banded & Total EPH	
Blockyard Sump	Banded & Total EPH	
SW1	Suite GP1 + BOD + Suspended solids	Quarterly <sup>1</sup> (Jan, Apr, Jul, Oct)
SW2, SW3 & Discharge	Suite GP1 + BOD + Suspended solids + Banded & Total EPH	
Lagoon, Blockyard Sump	Banded & Total EPH + Suspended solids	

<sup>1</sup> - Quarterly suite GP1 includes the monthly parameters in GP2

**Procedure:** JSY07  
**Title:** Management and Monitoring of Site Water, Effluent and Discharges



- 2.13 The monitoring is undertaken by Site Monitoring Personnel in accordance with JSY07 WI01 Surface Water Monitoring and Sampling and JSY07 WI03 Water Sampling – Dispatching Samples to the Lab. The excel monitoring proforma is completed on the day of sampling and emailed with a copy of the analysis request sheet to [REDACTED].  
 Site Manager Completed monitoring proforma and lab analysis sheet

**Ground Water Monitoring**

- 2.14 In order to provide data for the inert landfill licence application and future environmental impact assessments, sampling and analysis of ground water is also carried out, as summarised below:

**Table 4 - Groundwater Monitoring Regime**

Sampling Location	Analysis Required	Frequency
BH1, BH2, BH3, BH5, BH6, BH7, BH9, BH10, BH Pump 2	Suite GP1	Quarterly (Jan, Apr, Jul, Oct)
Quarry Sump	Suite GP1 plus Banded & Total EPH + Suspended solids	Quarterly (Jan, Apr, Jul, Oct)

- 2.15 In addition to the above samples, groundwater levels are dipped monthly in boreholes BH Pump 1, BH Pump 2, and BH Pump 4, plus all monitoring boreholes (BH1, BH2, BH3, BH5, BH6, BH7, BH9, BH10). At least annually a dip to the base of the monitoring boreholes is also recorded.  
 Site Manager Water sampling / monitoring records
- 2.16 The groundwater level in the quarry sump is maintained by float switches controlling the pump. Any changes to the level at which the floats are set (e.g. deepening of the sump, relocation/lowering of the pump) are recorded and the float level confirmed by survey – this change and the new survey level are communicated to [REDACTED].  
 Site Manager Water sampling / monitoring records
- 2.17 Groundwater monitoring is undertaken by Site Monitoring Personnel in accordance with JSY07 WI02 Groundwater Monitoring and Sampling and JSY07 WI03 Water Sampling – Dispatching Samples to the Lab. The excel monitoring proforma is completed on the day of sampling and water level dipping and emailed with a copy of the analysis request sheet to [REDACTED].  
 Site Manager Completed monitoring proforma and lab analysis sheet

**Laboratory Analysis**

- 2.18 Surface and groundwater samples are analysed by Element laboratory. The specified analytical suites are as follows:  
 SHE Department Suite list/ lab results

**Procedure:** JSY07  
**Title:** Management and Monitoring of Site Water, Effluent and Discharges



**Table 5 - Analytical Suites**

Suite GP1	Suite GP1 + BOD + SS	Suite GP2
pH	pH	pH
E.Conductivity	E.Conductivity	E.Conductivity
Chloride	Chloride	Chloride
Ammoniacal Nitrogen as N	Ammoniacal Nitrogen as N	Ammoniacal Nitrogen as N
Alkalinity	Alkalinity	BOD
Sulphate	Sulphate	Sulphate
Magnesium	Magnesium	Suspended Solids
Potassium	Potassium	
Calcium	Calcium	
Sodium	Sodium	
Chromium	Chromium	
Copper	Copper	
Iron	Iron	
Lead	Lead	
Nickel	Nickel	
Zinc	Zinc	
Manganese	Manganese	
Arsenic	Arsenic	
Cadmium	Cadmium	
Mercury	Mercury	
Selenium	Selenium	
Fluoride	Fluoride	
Nitrate	Nitrate	
	BOD	
	Suspended Solids	
	<i>(Metals are total and dissolved)</i>	
		<b>Additional Analysis (where specified)</b>
		Banded and Total EPH (C8 - C40)

**Data Storage**

- |      |   |                                    |  |
|------|---|------------------------------------|--|
| 2.19 | Laboratory results are sense checked upon receipt and any queries raised with the laboratory. Final results are imported into the Monitor Pro database and retained for the life of the site or until surrender of all relevant permits/consents, whichever is the latter. This database is backed up as part of Brett Group-wide IT management and hence is a secure storage system. | SHE<br>Department<br>/Site Manager | Water<br>sampling /<br>monitoring<br>records |
| 2.20 | Water level data is retained in the database as a field dip value and a water elevation (relative to local datum/mean sea level). The results of ground and surface water monitoring are retained for the life of the site.   | SHE<br>Department<br>/Site Manager | Water<br>sampling /<br>monitoring<br>records |
| 2.21 | Sampling data is provided to States of Jersey in line with relevant consents or upon request. Data is also forwarded to consultants working on behalf of Granite Products Ltd as and when required.   | SHE<br>Department<br>/Site Manager | Water<br>sampling /<br>monitoring<br>records |

**Procedure:** JSY07  
**Title:** Management and Monitoring of Site Water, Effluent and Discharges



- |      |   |                                    |             |
|------|---|------------------------------------|-------------|
| 2.22 | The monitoring and sampling regime may be revised in accordance with new business requirements, changes to legislation or site specific consents and following incident or breach of a specified limit. At such time this procedure is updated accordingly. | SHE<br>Department<br>/Site Manager | -           |
| 2.23 | The boreholes are maintained in a readily accessible state and clearly labelled at all times. If damaged, repairs are instigated as soon as reasonably practicable and the borehole(s) re-surveyed.   | Site Manager                       | Survey data |

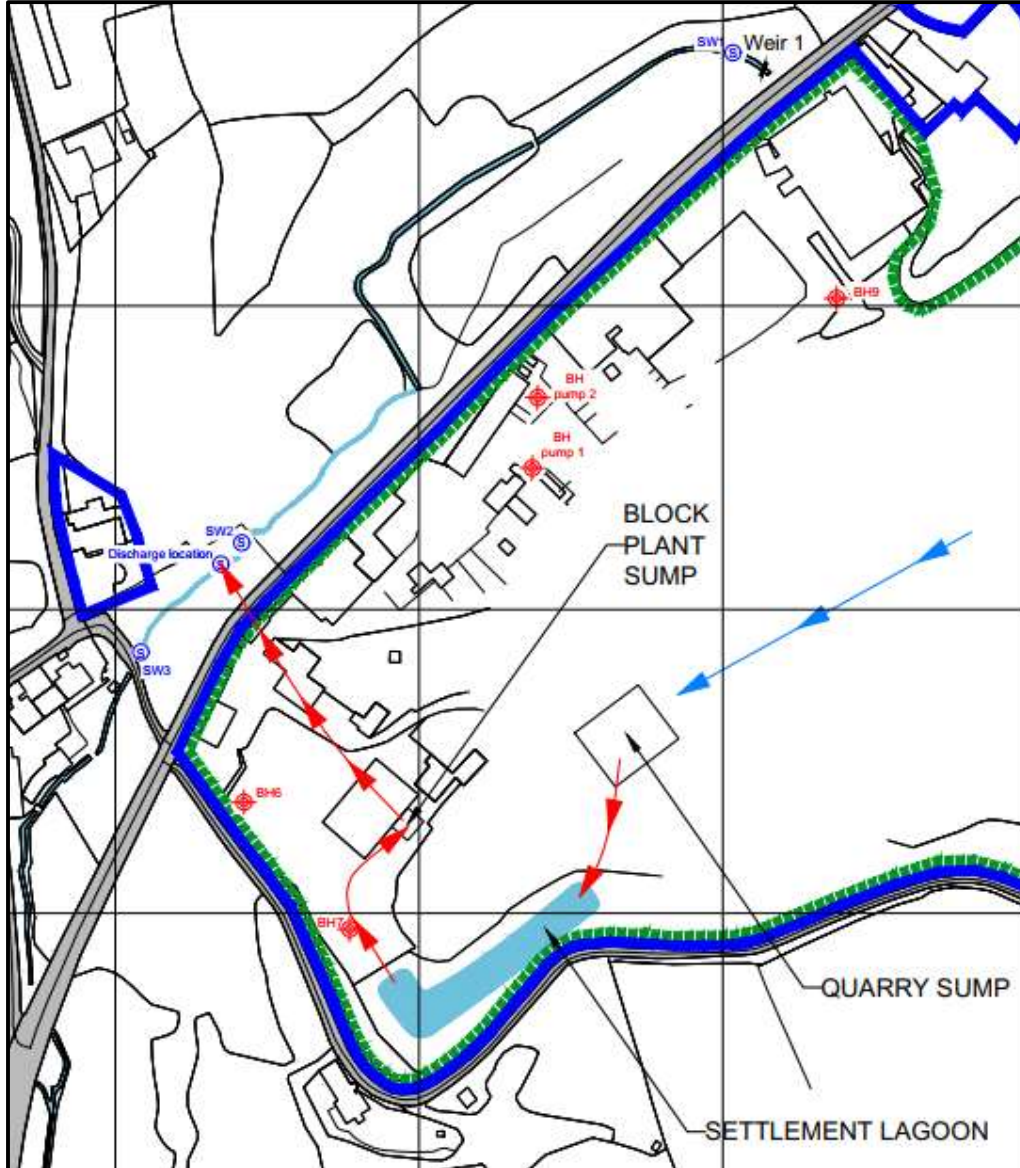
**Reference Documents**

- Site Specific Water Abstraction Consents
- Site Specific Discharge Licence
- JSY07 WI01 Surface Water Monitoring and Sampling
- JSY07 WI02 Groundwater Monitoring and Sampling
- JSY07 WI03 Water Sampling – Dispatching Samples to the Lab

**Plans**

- Extract from Figure HRA 1 showing surface water management features, discharge and sampling locations
- Figure HRA 1 in full including all monitoring and abstraction boreholes.

Procedure: JSY07  
Title: Management and Monitoring of Site Water, Effluent and Discharges





Procedure: JSY07  
 Title: Management and Monitoring of Site Water, Effluent and Discharges

