

## NOT PROTECTIVELY MARKED

A summary of discharge A1 is provided in table 2-1.

**Table 2-1 Discharge A1**

<b>Catchment</b>	Tre'r Gof
<b>Receiving watercourse (Freshwater/ Coastal)</b>	Existing drainage ditch (north of Tre'r Gof) that drains into Porth Wylfa <b>Freshwater discharge</b>
<b>Grid Reference</b>	235983, 393781
<b>Catchment area (ha)</b>	19.14
<b>Combined inlet rate (30yr return period) (l/s)</b>	126.6
<b>Outlet rate (30yr return period) (l/s)</b>	121.8
<b>Cumulative volume (m<sup>3</sup>/ day) (30yr return period)</b>	389.2
<b>Estimated no. of dosing units required</b>	1

**Catchment based TSS limit:** A derived limit of 30mg/l from baseline data was noted to be overly stringent and therefore a limit of **40mg/l** has been proposed (Jacobs, 2017), further monitoring is required to justify this limit.

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### 2.2.1.2. Discharge A2

A summary of discharge A2 is provided table 2-2.

Table 2-2 Discharge A2

Catchment	N/A
Receiving watercourse (Freshwater/ Coastal)	Drainage channel from an existing well installation. Existing channel ultimately discharges directly to Cemaes Bay <b>Freshwater Discharge</b>
Grid Reference	236633, 393779
Catchment area (ha)	4.05
Combined inlet rate (30yr return period) (l/s)	322.5
Outlet rate (30yr return period) (l/s)	145.6
Cumulative volume (m <sup>3</sup> / day) (30yr return period)	960.4
Estimated no. of dosing units required	1

**Catchment based TSS limit:** As the outfall will effectively be discharged to the marine environment at Cemaes Bay, a **70mg/l** limit for TSS is proposed (Jacobs, 2017).

### 2.2.1.3. Discharge A3

A summary of discharge A3 is provided in table 2-3.

Table 2-3 Discharge A3

Catchment	Cemaes
Receiving watercourse (Freshwater/ Coastal)	Nant Camaes <b>Freshwater Discharge</b>
Grid Reference	236772, 393447
Catchment area (ha)	6.22
Combined inlet rate (30yr return period) (l/s)	516.4
Outlet rate (30yr return period) (l/s)	273.5
Cumulative volume (m <sup>3</sup> / day) (30yr return period)	1475.9
Estimated no. of dosing units required	2

**Catchment based TSS limit:** A derived limit of 20mg/l from baseline data was noted to be overly stringent and therefore a limit of **40mg/l** has been proposed (Jacobs, 2017), further monitoring is required to justify this limit.

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### 2.2.2.1. Discharge B1

A summary of discharge B1 is provided in table 2-4.

Table 2-4 Discharge B1

Catchment	Tre'r Gof
Receiving watercourse (Freshwater/ Coastal)	Existing drainage ditch (West of Tre'r Gof) <b>Freshwater Discharge</b>
Grid Reference	235539, 393117
Catchment area (ha)	39.94
Combined inlet rate (30yr return period) (l/s)	1275.4
Outlet rate (30yr return period) (l/s)	527.3
Cumulative volume (m <sup>3</sup> / day) (30yr return period)	9,969.3
Estimated no. of dosing units required	3

**Catchment based TSS limit:** A **70mg/l** limit for TSS is proposed and will be achieved, as required, with dosing during construction activities (Jacobs, 2017).

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### 2.2.3.1. Discharge C1

A summary of discharge C1 is provided in table 2-5.

Table 2-5 Discharge C1

Catchment	Afon Cafnan
Receiving watercourse (Freshwater/ Coastal)	Caerdegog Isaf <b>Freshwater Discharge</b>
Grid Reference	235026, 392379
Catchment area (ha)	12.55
Combined inlet rate (30yr return period) (l/s)	1355.2
Outlet rate (30yr return period) (l/s)	924.3
Cumulative volume (m <sup>3</sup> / day) (30yr return period)	5,894.3
Estimated no. of dosing units required	5

**Catchment based TSS limit:** A **70mg/l** limit for TSS is proposed and will be achieved, as required, with dosing during construction activities (Jacobs, 2017).

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### 2.2.4.1. Discharge D1

A summary of discharge D1 is provided in table 2-6.

Table 2-6 Discharge D1

Catchment	Afon Cafnan
Receiving watercourse (Freshwater/ Coastal)	Afon Cafnan <b>Freshwater Discharge</b>
Grid Reference	234042, 392407
Catchment area (ha)	4.39
Combined inlet rate (30yr return period) (l/s)	491.6
Outlet rate (30yr return period) (l/s)	178.4
Cumulative volume (m <sup>3</sup> / day) (30yr return period)	2361.6
Estimated no. of dosing units required	2

**Catchment based TSS limit:** A **40mg/l** limit for TSS is proposed and will be achieved, as required, with dosing during construction activities (Jacobs, 2017).

### 2.2.4.2. Discharge D2

A summary of discharge D2 is provided in table 2-7.

Table 2-7 Discharge D2

Catchment	Afon Cafnan
Receiving watercourse (Freshwater/ Coastal)	Afon Cafnan <b>Freshwater Discharge</b>
Grid Reference	234145, 392938
Catchment area (ha)	8.77
Combined inlet rate (30yr return period) (l/s)	192.7
Outlet rate (30yr return period) (l/s)	419.2
Cumulative volume (m <sup>3</sup> / day) (30yr return period)	1,047.8
Estimated no. of dosing units required	3

**Catchment based TSS limit:** A **40mg/l** limit for TSS is proposed and will be achieved, as required, with dosing during construction activities (Jacobs, 2017).

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flow regime is matched as far as reasonably practicable and this can only be confirmed during the detailed design stage.

A summary of discharge E1 is provided in table 2-8.

**Table 2-8 Discharge E1**

<b>Catchment</b>	Cemlyn
<b>Receiving watercourse (Freshwater/ Coastal)</b>	Nant Cemlyn <b>Freshwater Discharge</b>
<b>Grid Reference</b>	233419.4, 392655.8
<b>Catchment area (ha)</b>	14.58
<b>Combined inlet rate (30yr return period) (l/s)</b>	976.9
<b>Outlet rate (30yr return period) (l/s)</b>	960.6
<b>Cumulative volume (m<sup>3</sup>/ day) (30yr return period)</b>	3928.2
<b>Estimated no. of dosing units required</b>	6

**Catchment based TSS limit:** No net increase in downstream sediment concentration (Jacobs, 2017).

### 2.2.5.2. Discharge E2

A summary of discharge E2 is provided in table 2-9.

**Table 2-9 Discharge E2**

<b>Catchment</b>	Afon Cafnan
<b>Receiving watercourse (Freshwater/ Coastal)</b>	Afon Cafnan <b>Freshwater Discharge</b>
<b>Grid Reference</b>	234174, 392897
<b>Catchment area (ha)</b>	14.68
<b>Combined inlet rate (30yr return period) (l/s)</b>	860.4
<b>Outlet rate (30yr return period) (l/s)</b>	769.5
<b>Cumulative volume (m<sup>3</sup>/ day) (30yr return period)</b>	3022.1
<b>Estimated no. of dosing units required</b>	5

**Catchment based TSS limit:** A **40mg/l** limit for TSS is proposed and will be achieved, as required, with dosing during construction activities (Jacobs, 2017).

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A summary of discharges from the platform area is provided in table 2-10.

**Table 2-10 Platform Area Discharge**

<b>Catchment</b>	Power Station
<b>Receiving watercourse (Freshwater/ Coastal)</b>	PA – Existing drainage (Freshwater) PB and PC – Porth-y-pistyll (Coastal)
<b>Grid Reference</b>	PA – 234824.9, 393625.8 PB – 234435.0, 393527.6 PC - 234653.1, 393860.6
<b>Catchment area (ha)</b>	70
<b>Combined inlet rate (30yr return period) (l/s)</b>	N/A
<b>Outlet rate (30yr return period) (l/s)</b>	1174.6
<b>Cumulative volume (m<sup>3</sup>/ day) (30yr return period)</b>	16.623.7
<b>Estimated no. of dosing units required</b>	12

**Catchment based TSS limit:** A preliminary **70mg/l** limit is proposed for this catchment pending output of modelling (Jacobs, 2017).

### 2.3. Nitrates

Nitrate is a naturally occurring form of nitrogen in soil; the levels of nitrate can be changed through the addition of organic matter. The Construction Phase of the scheme will require existing topsoil from the site to be stripped and temporarily stockpiled and this operation has the potential to release nitrates into the aquatic environment. Aside from any areas treated by hydroseeding, the scheme will not be adding nitrates into the WNDA.

Existing nitrate data from long term water quality monitoring is limited and further ongoing monitoring will be required. Mitigation measures will be confirmed by the detailed design stage however measures to completely restrict livestock from the WNDA during the Construction Phase, localised stockpiling of topsoil (including re-use within the same catchment) and management of runoff will have positive effects on the release of nitrates into the environment.

### 2.4. Phosphates

Phosphorus is one of the three nutrients generally added to soils in fertilisers. As with nitrates, proposed bulk earthwork operations have the potential to increase the levels of phosphorous within the aquatic environment. Aside from any areas treated by hydroseeding, the scheme will not be adding phosphates into the WNDA.

Existing phosphate data from long term water quality monitoring is limited and further ongoing monitoring will be required. Notwithstanding this the following measures are expected to substantially control the release of phosphates into the environment:

- Control of surface water runoff as outlined in Section 1 of this report.
- Restrictions on livestock within the WNDA during the Construction Phase (preventing them from entering watercourses), however it is noted that there may be some areas where grazing occurs during the Construction Phase (e.g. Wylfa Head, Tre'r Gof SSSI and areas where landscaping is completed early on in the development).
- No application of fertilisers within the WNDA during the Construction Phase.

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