Dyffryn Crawnon Green Energy Micro Hydroelectric.

NRW Abstraction Licence and Impoundment Licence applications -

Document D: Geomorphology photo survey.

This document provides information relating to Dyffryn Crawnon Green Energy's (DCGE) applications for abstraction licence and impoundment licence for a micro hydroelectric scheme on the Nant y Wenynen watercourse in the Dyffryn Crawnon valley near Llangynidr in Powys. All of the following documents should be read together:

- Completed Form WRA – NRW Provide Applicant Details and Proposal Outline.
- Completed Form WRD – NRW Application for a New Abstraction License.
- Completed Form WRE – NRW Application for a New Impoundment License.
- Document A: Covering letter to NRW.
- Document B: Design and construction statement.
- Document C: Supplementary information for NRW forms.
- Document D: Geomorphology photo survey. **THIS DOCUMENT.**
- Document E: 2011 EA letter with relevant comments for 2026 applications.
- Document F: Rights of access lease.
- 09001/01/F Site plan and pre-2015 intake area (A3)
- 09001/02/F Existing post-2015 intake details (A3)
- 09001/03/G Existing turbine house and outfall (A3)
- 09001/06/A Proposed intake details (A3)
- 09001/07/A Document H: Extent of land access rights (A4)
- 09001/08/A Document E: OS map of site (A4)

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PREAMBLE.

Dyffryn Crawnon Green Energy CIC (DCGE) are applying to Natural Resources Wales (NRW) for a new abstraction licence and a new impoundment licence relating to an existing, but mothballed, micro hydroelectric scheme on the Nant-y-Wenynen watercourse in the Dyffryn Crawnon valley near Llangynidr in Powys.

Since 2015 DCGE operated the micro hydroelectric scheme as covered by the original abstraction licence WA/056/0038/001 and original impoundment licence WA/056/0038/002. The original 2012 licences were reissued on the 14th March 2013 to take into account a slight change in the position of the turbine house and outfall pipe (all other details remained the same).

For a variety of reasons, the 2012 and 2013 licences were held by TGVHydro Ltd. (the designers and builders of the scheme). TGVHydro Ltd ceased trading several years ago. During the winding up process for TGVHydro Ltd. the transfer of the above licences to DCGE did not take place. Towards the end of 2025 NRW became aware that TGVHydro had been wound up without transferring the licences. At this point NRW cancelled the original licences (back dated to February 2025).

The micro hydroelectric scheme is currently mothballed because there is no valid abstraction licence and there is no valid impoundment licence.

DCGE wish to continue to operate the scheme and are applying for new licences for the same basic scheme using the same installed structures, pipes and mechanical/electrical equipment (although abstraction regime, and thus intake, are to be amended to suit current NRW guidelines).

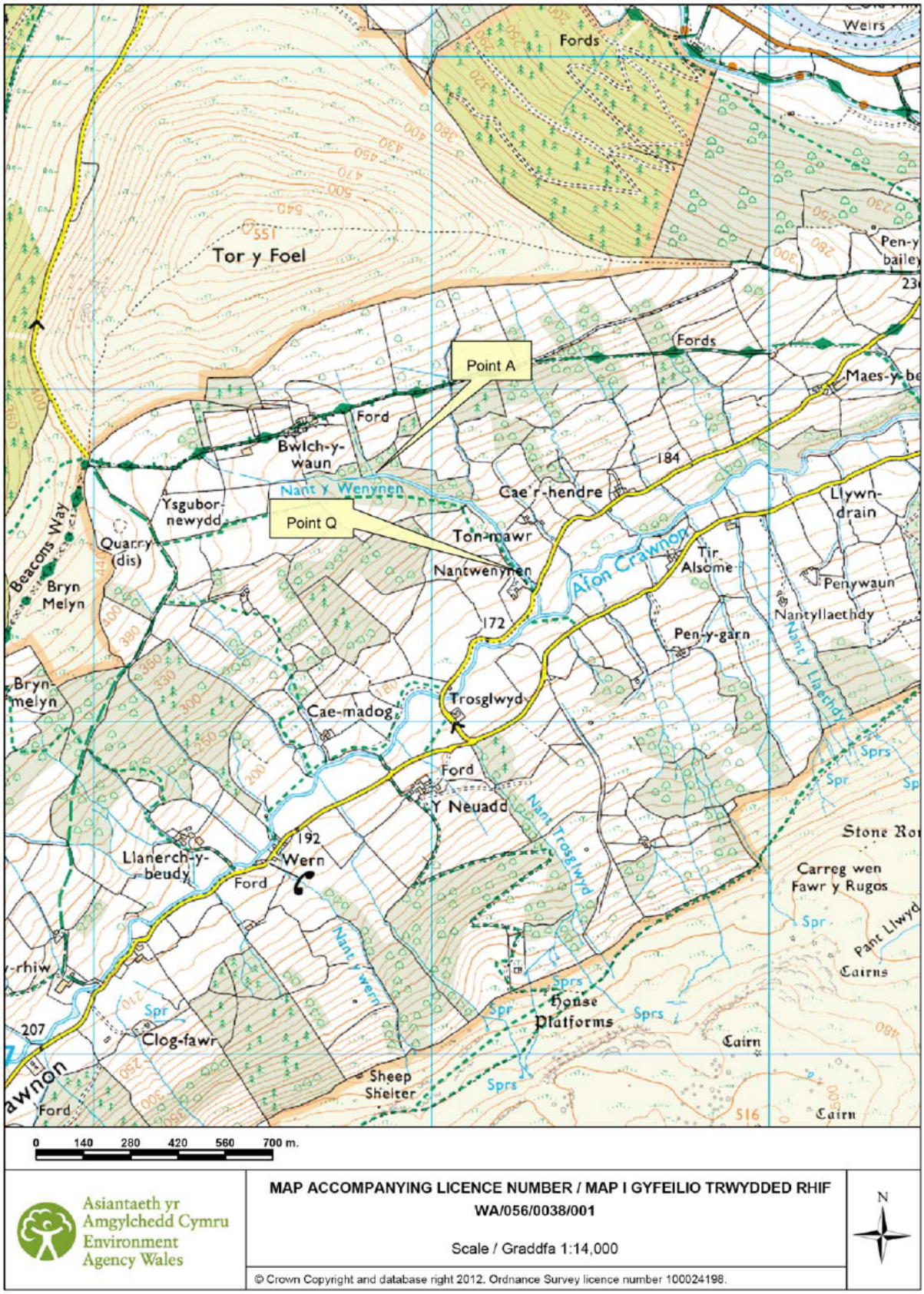
This geomorphology photo survey document has been produced as a supporting document for DCGE's applications for the new licences.

The OS map below is copied from the previous abstraction licence (issued 14th March 2013, a slightly revised version of the initial 2012 issued licence).

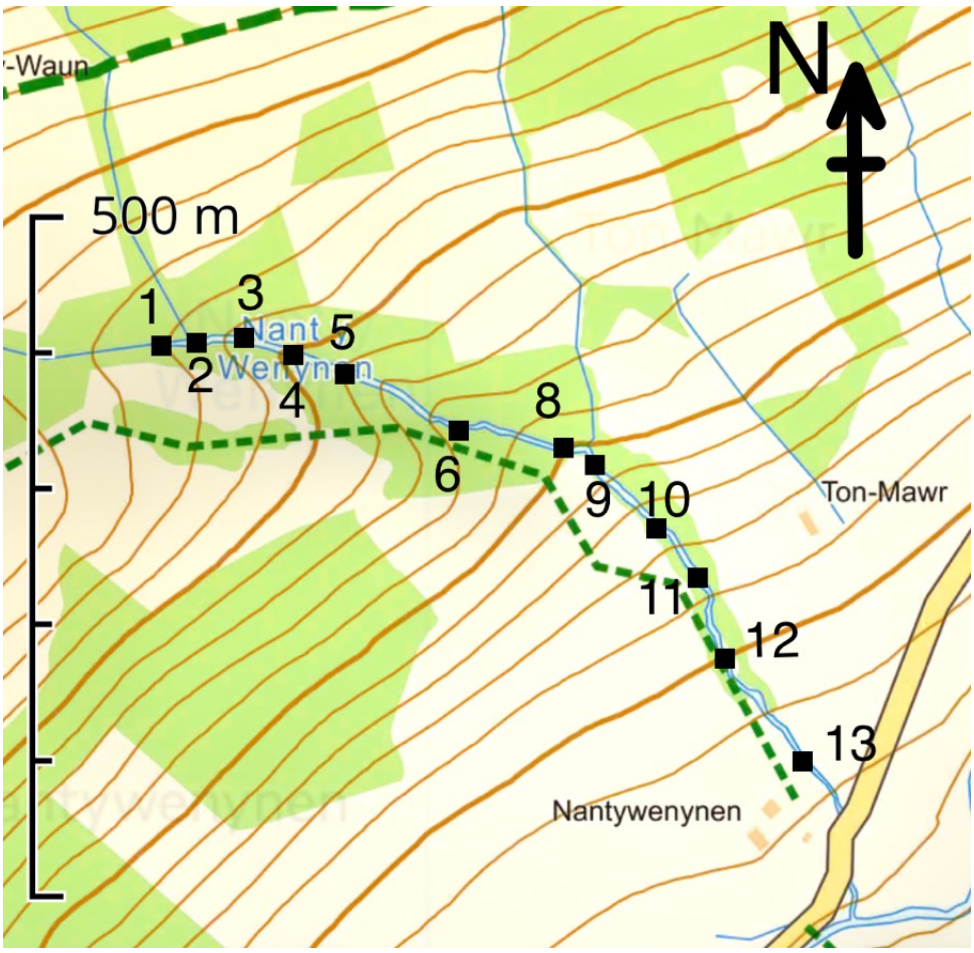
- Point A indicates the location of the 2013 issued licences (SO 11840 18747). The new licence applications will request the intake to be at the currently as built outfall location. Recent GPS readings indicate the point as SO 11832 18740 (11m from 2013 coordinates). The difference could be due to GPS fluctuations since the physical location is the same. The recent GPS coordinates will be used in this document.
- Point Q indicates the location of the 2013 issued licences (SO 12265 18446). The new licence applications will request discharge back into the main stream at the currently as built outfall location. Recent GPS readings indicate the point as SO 12277 18436 (16m from 2013 coordinates). The difference could be due to GPS fluctuations, or that the outfall location slightly changed during construction. The recent GPS coordinates will be used in this document.

The photo survey was carried out 23rd February 2026.

The photo survey starts about 24m above the intake (in table below referenced as area one), and extends all the way down the depleted reach to the outfall (area thirteen). The photo survey also captures details of the existing micro hydroelectric scheme intake structure and outfall (built during 2015).



OS map from 2013 version of abstraction licence WA/056/0038/001



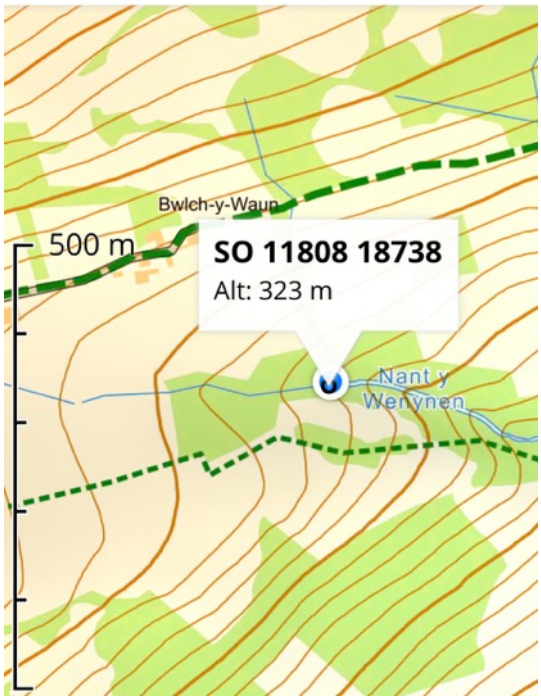
This map indicates approximate location of each of the thirteen photo areas.

The table below summarises the OS grid coordinates, altitudes and slope distances (along stream line) from the intake for each of the photograph areas. GPS grid coordinates, altitudes and distances are approximate. Indicated distances from intake are derived from adding up each point to point slope distance along the stream line.

		Coords, OS grid 'SO'		Altitude	Slope from
Area	**Comment**	**East**	**North**	**mAOD**	**intake (m)**
One	Located above the existing intake and above the depleted reach.	11808	18738	323	25
Two	Located at the existing intake structure covered by previous abstraction and impoundment licences (Point A in the 2013 abstraction licence), and so the start of the depleted reach. It is proposed to use this intake structure for the new licences even if adaptions are required by new abstraction regime. At this point, immediately up from the existing intake, there is a branch stream that comes from the northwest and joins the main stream coming from the west.	11832	18740	317	0
Three	General main stream views of upper and flatter section of depleted reach (without any significant waterfalls).	11865	18739	310	33

		Coords, OS grid 'SO'		Altitude	Slope from
Area	**Comment**	**East**	**North**	**mAOD**	**intake (m)**
Four	General main stream views of upper and flatter section of depleted reach (without any significant waterfalls).	11901	18731	304	71
Five	General main stream views of upper and flatter section of depleted reach (without any significant waterfalls).	11946	18718	293	118
Six	General main stream views of upper and flatter section of depleted reach (without any significant waterfalls). At this location the stream splits for about 20m around a central area of raised ground (an island). The dominant flow passes on the north side.	12018	18679	293	200
Seven	Not used				
Eight	This location marks the end of the upper and flatter section of the depleted reach and the start of a section of the depleted reach with a string of 3 to 4m waterfalls. The photos below show the first significant waterfall below the intake.	12098	18662	252	282
Nine	This location is within part of the depleted reach with a string of 3 to 4m waterfalls and is also at a point where there is a branch stream (from the north) entering the main stream.	12119	18660	249	328
Ten	This location marks the end of the part of the depleted reach with a the string of 3 to 4m waterfalls and the start of the lower section of the depleted reach. The photos in this section show the last significant waterfalls below the intake.	12166	18612	228	396
Eleven	General main stream views of lower and steeper section of depleted reach (without any significant waterfalls).	12191	18572	228	447
Twelve	General main stream views of lower and steeper section of depleted reach (without any significant waterfalls). This section does start to flatten out towards the outfall about 100m downstream from this point.	12218	18508	200	517
Thirteen	Located at the existing outfall structure covered by previous abstraction and impoundment licences (about Point Q in the 2013 abstraction licence), and so the end of the depleted reach. It is proposed to use this outfall for the new licences.	12277	18436	184	614

AREA ONE – Approximately 25m upstream existing/proposed intake.



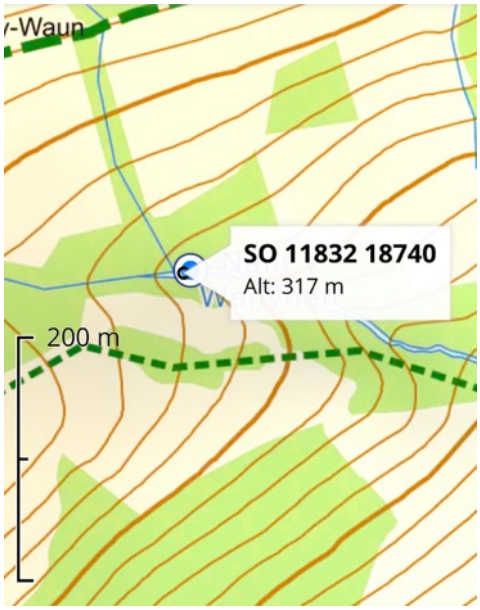
Area 1 approximate grid location.
Located above the existing intake and above the depleted reach.

Photo 1a – Looking east down the main stream towards intake (in distance).

Photo 1b - Looking west up the main stream.

Photo 1c – Bed of main stream.

AREA TWO – Existing/proposed intake structure.



Area 2 approximate grid Location.

Located at the existing intake structure covered by previous abstraction and impoundment licences, and so the start of the depleted reach. It is proposed to use this intake structure for the new licences even if adaptions are required by new abstraction regime. At this point, immediately up from the existing intake, there is a branch stream that comes from the northwest and joins the main stream coming from the west.

Photo 2a – Above the intake looking northwest up the branch stream.

Photo 2b – Above the intake looking west up the main stream.

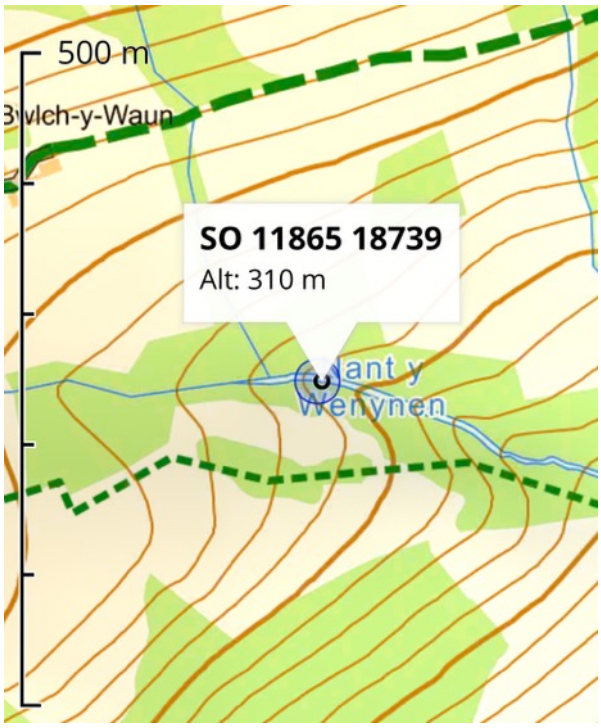
Photo 2c – Looking northwest at the confluence of two streams just above the intake. Intake structure in bottom right of photo (below fallen trunk), main stream coming from the left, and branch stream coming from top right.

Photo 2d – Looking east over the intake wall and down the main stream.

Photo 2e – Looking east down the main stream, from on top of the intake. Intake box in bottom right and penstock leaving box cutting above ground across the slope on the right.

Photo 2f – Looking west up the main stream and at the face on the existing intake structure. Previous hands off flow achieved through calibrated hole in bottom right of the intake box.

AREA THREE – Approximately 33m downstream of existing/proposed intake.



Area 3 approximate grid location

General main stream views of upper and flatter section of depleted reach (without any significant waterfalls).

Photo 3a – Looking west up the main stream.

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Photo 3b – Looking east down the main stream.

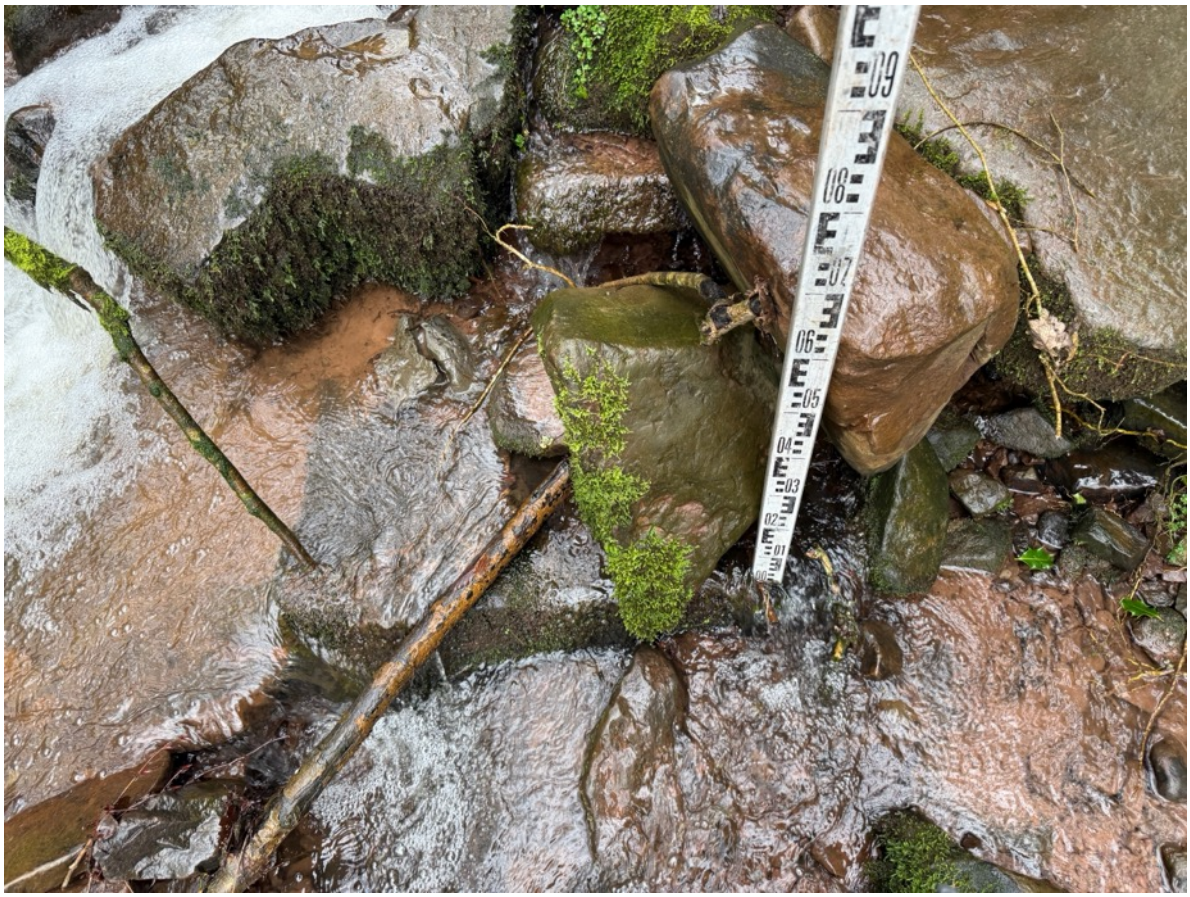


Photo 3c – Bed of main stream.

AREA FOUR – Approximately 71m downstream of existing/proposed intake.

Area 4 approximate grid location

General main stream views of upper and flatter section of depleted reach (without any significant waterfalls).

Photo 4a – Looking west up the main stream.

Photo 4b – Looking east down the main stream

Photo 4c – Main stream bed.

AREA FIVE – Approximately 118m downstream of existing/proposed intake.

Area 5 approximate grid location

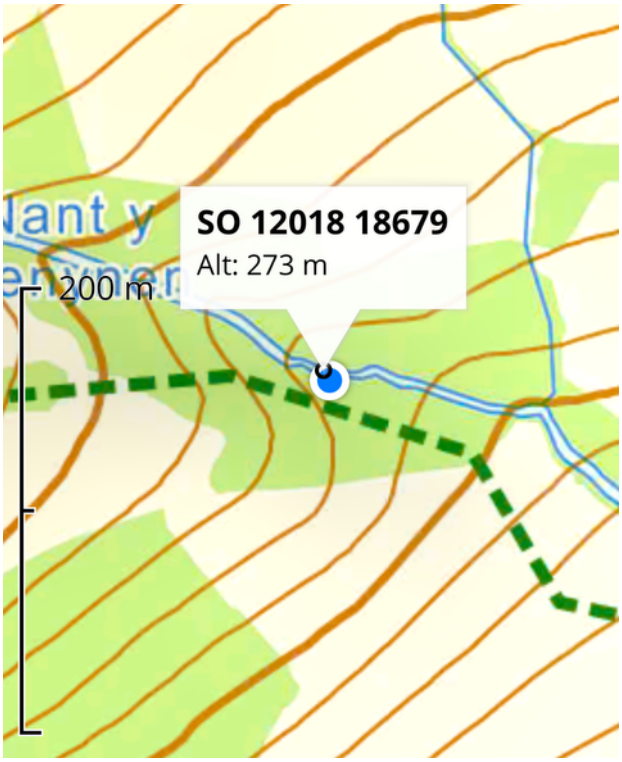
General main stream views of upper and flatter section of depleted reach (without any significant waterfalls).

Photo 5a – Looking west up the main stream.

Photo 5b – Looking east down the main stream.

Photo 5c – Main stream bed.

AREA SIX – Approximately 200m downstream of existing/proposed intake.



Area 6 approximate grid location

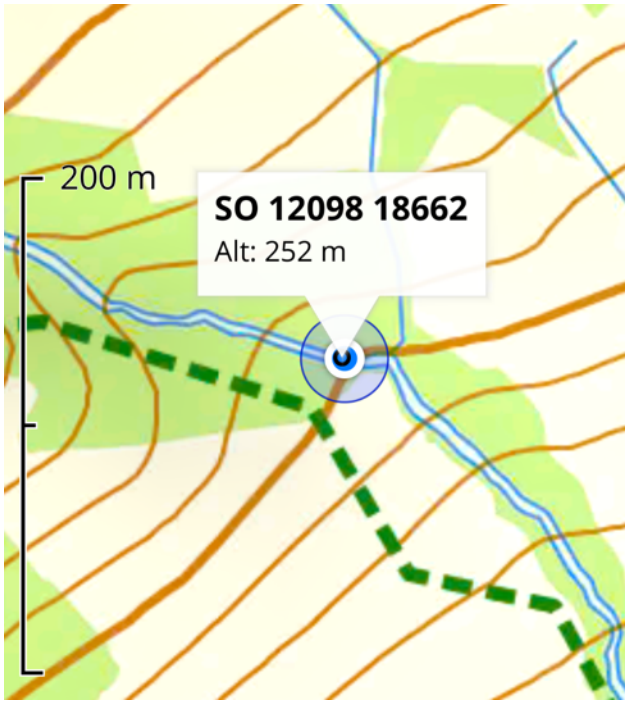
General main stream views of upper and flatter section of depleted reach (without any significant waterfalls). At this location the stream splits for about 20m around a central area of raised ground (an island). The dominant flow passes on the north side.

Photo 6a – Standing on the end of the island looking west up the main stream at the point where the main stream splits around island. Dominant flow is passing on the right-hand side.

Photo 6b – Standing on the bank before the island looking east down the main stream at the point where the main stream splits around island. Dominant flow is passing on the left-hand side.

Photo 6c – Standing on the bank below the island looking west up the main stream at the point where the main stream converges after going around the island. Dominant flow is passing on the right-hand side.

AREA EIGHT – Approximately 282m downstream of existing/proposed intake.



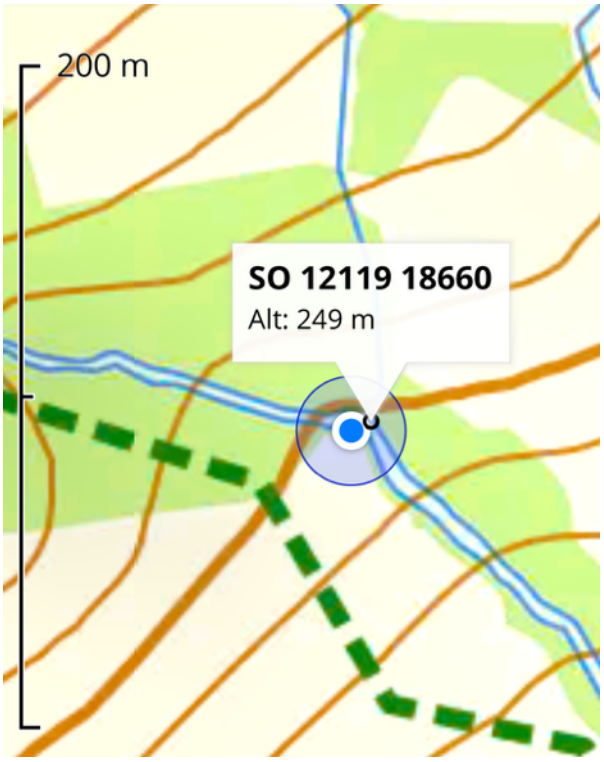
Area 8 approximate grid location

This location marks the end of the upper and flatter section of the depleted reach and the start of a section of the depleted reach with a string of 3 to 4m waterfalls. The photos below show the first significant waterfall below the intake.

Photo 8a – Standing below 3.6m high waterfall looking west up the main stream.

Photo 8b – Standing above 3.6m high waterfall looking east down the main stream.

AREA NINE – Approximately 328m downstream of existing/proposed intake.



Area 9 approximate grid location

This location is within part of the depleted reach with a string of 3 to 4m waterfalls and is also at a point where there is a branch stream (from the north) entering the main stream.

Photo 9a – Standing above 3.0m high waterfall looking east down the main stream. Also at the confluence of the main stream (coming in from bottom left) and the branch stream (coming in from top left).

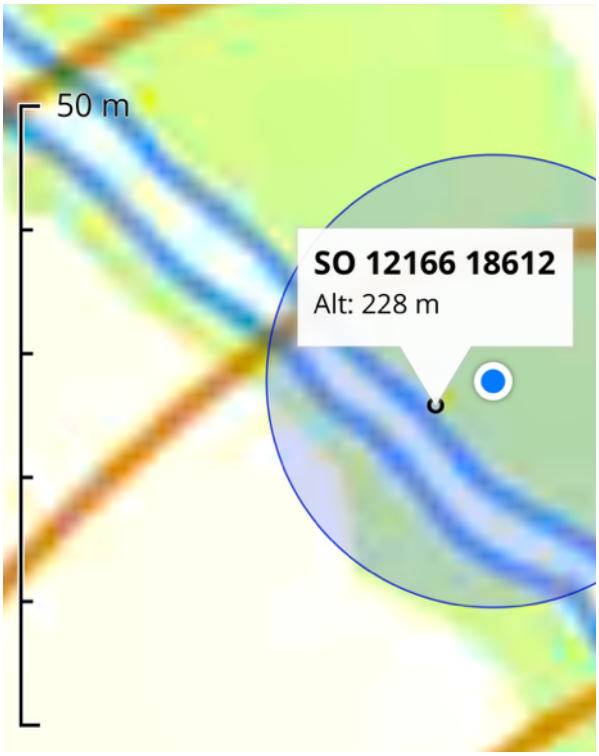
Photo 9b – Standing below 3.0m high waterfall looking west up the main stream. Also at the confluence of the mainstream (coming in from top left and the branch stream (coming in from top right).

Photo 9c – Main stream bed from middle of Photo 9b.

Photo 9d – Photo from just up from photo 9b looking east down the main stream. Note that there is another 3m waterfall at the end of the pool of water.

Photo 9e – Standing below waterfall showing in photo 9b looking north up the branch stream.

AREA TEN – Approximately 396m downstream of existing/proposed intake.



Area 10 approximate grid location

This location marks the end of the part of the depleted reach with a the string of 3 to 4m waterfalls and the start of the lower section of the depleted reach. The photos in this section show the last significant waterfalls below the intake.

Photo 10a – Just above last big waterfall (bottom left-hand corner of photo) looking northwest up the main stream.

Photo 10a – Just below the last big waterfall looking northwest up the main stream.

Photo 10b – Just below the last big waterfall looking southeast down the main stream. Note this is the start of a steeper lower section of the depleted reach.

AREA ELEVEN – Approximately 447m downstream of existing/proposed intake.

Area 11 approximate grid location

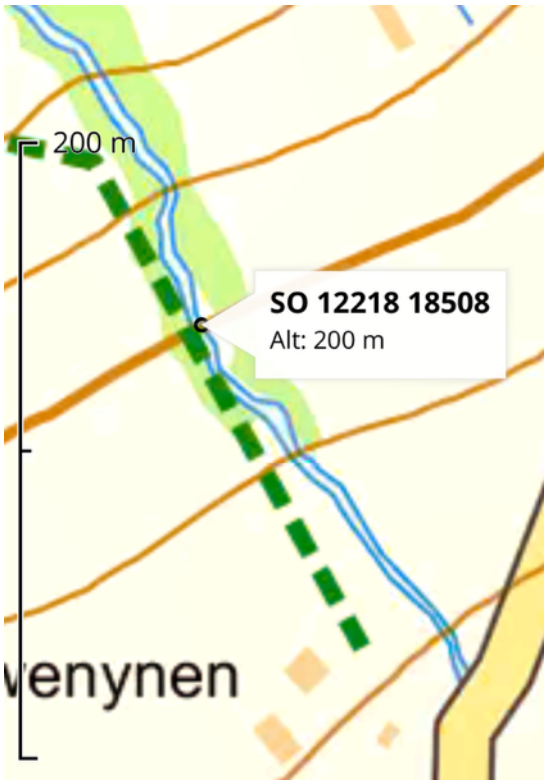
General main stream views of lower and steeper section of depleted reach (without any significant waterfalls).

Photo 11a – Looking northwest up the main stream.

Photo 11b – Looking southeast down the main stream.

Photo 11c – Main stream bed.

AREA TWELVE – Approximately 517m downstream of existing/proposed intake.



Area 12 approximate grid location

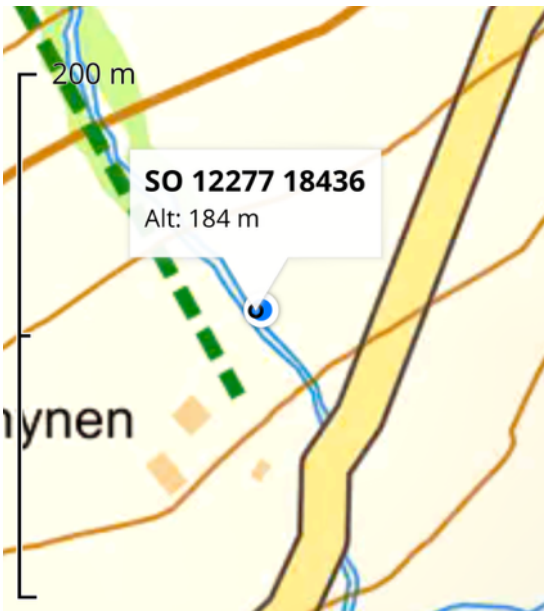
General main stream views of lower and steeper section of depleted reach (without any significant waterfalls). This section does start to flatten out towards the outfall about 100m downstream from this point.

Photo 12a – Looking northwest up the main stream.

Photo 12b – Looking southeast down the main stream

Photo 12c – Main stream bed.

AREA THIRTEEN – Approximately 614m downstream of existing/proposed intake and location of existing/proposed outfall.



Area 13 approximate grid location

Located at the existing outfall structure covered by previous abstraction and impoundment licences, and so the end of the depleted reach. It is proposed to use this outfall for the new licences.

Photo 13a – Looking up the main stream from just below the outfall. Outfall pipe on left.

Photo 13b – Looking down the main stream from just above the outfall. Outfall pipe on right.

Photo 13c – Main stream bed.

Photo 13d – Existing/proposed outfall pipe showing 10mm mesh within pipe.