

PAUL'S PLANT HIRE

BARRIER MITIGATION PROPOSAL

AFON SIEDI, TEIFI

DATE: 21/01/2025

CLIENT: NATURAL RESOURCES WALES



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LOCATION

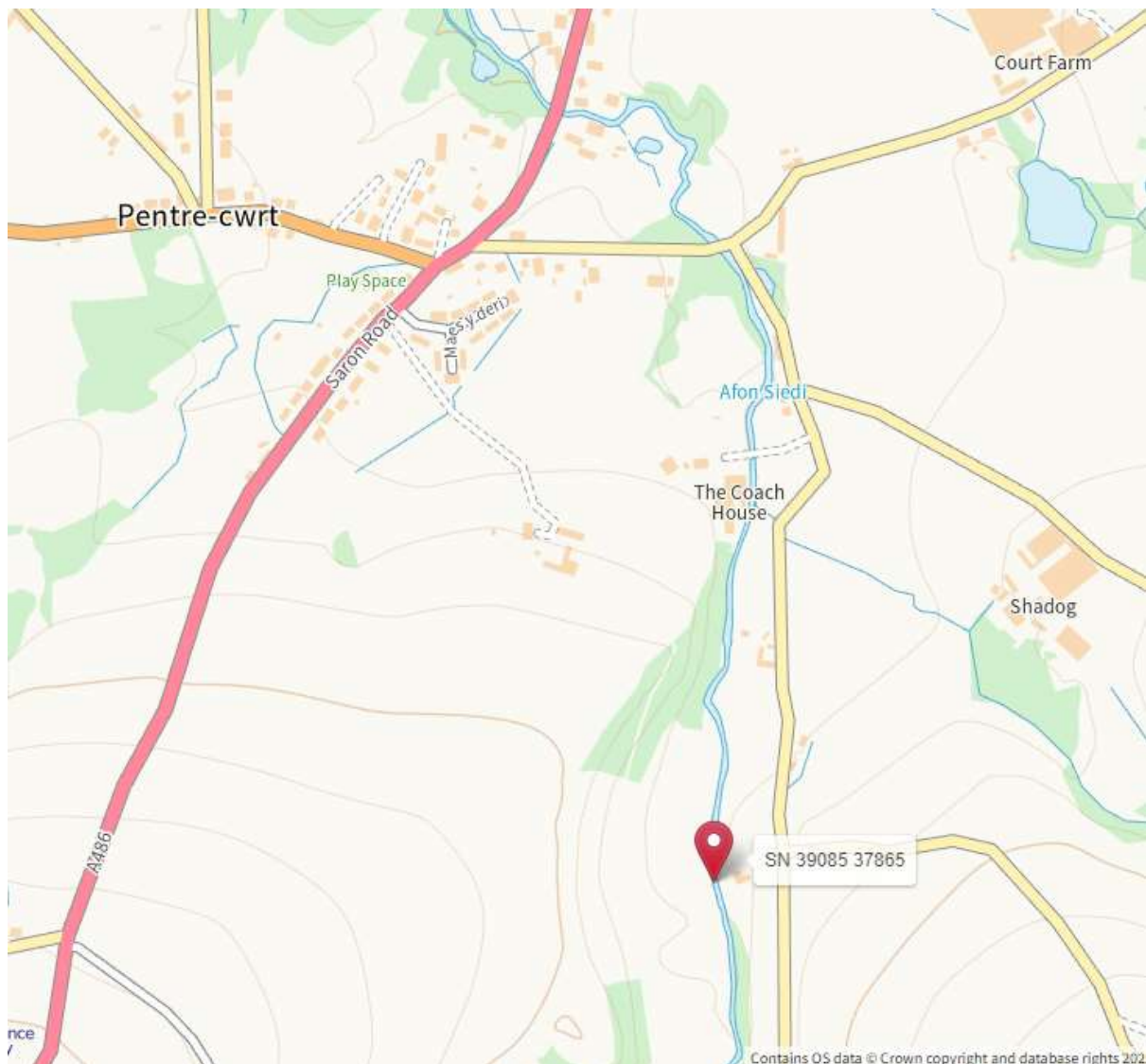
ADDRESS (NEAR): Pentre Cwrt, Llangeler, SA44 5AF

GRID REFERENCE: SN 39085 37865

WHAT3WORDS: jazzy.awakening.newlyweds

DATE OF SITE VISIT: 12/12/2024

LOCATION MAP



DESCRIPTION AND PHOTO OF BARRIER

- The river barrier is a 6-sill weir located on the Afon Siedi.
- It measures 5.3 metres wide and 18 metres long.
- The structure has a head difference of over 2 metres.

Photograph 1: weir structure



Photograph 2: weir structure



BARRIER MITIGATION: HYBRID ROCK RAMP & BANK PROTECTION

Installation of a hybrid rock ramp with an informal low flow channel to be installed along the length of the weir from the top sill to 35 m downstream.

The rock ramp is to be constructed from rip rap (600 mm to 100 mm), with three block stone pre-barrages installed below the weir and a block stone bedcheck installed at the toe of the rock ramp.

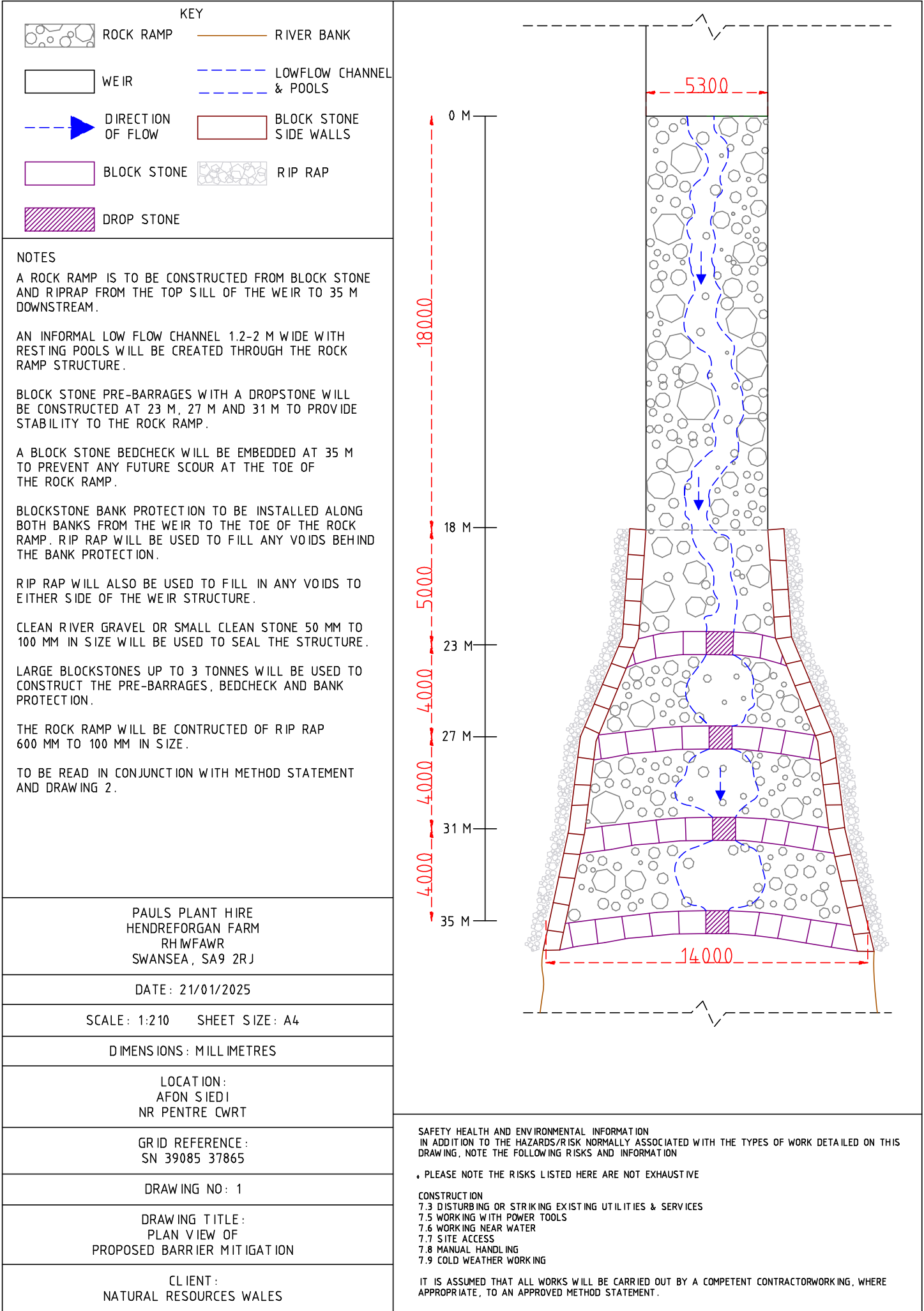
Block stone bank protection will be installed from the bottom of the weir to the block stone bedcheck to prevent further bank erosion which would destabilise the rock ramp and pre-barrages. Rip rap will be used to back fill any voids behind the bank protection and also in any voids found to the sides of the weir structure.

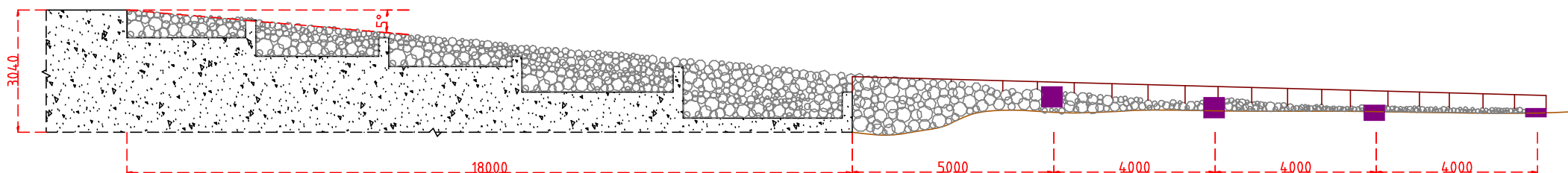
The pre-barrage block stone structures, bedcheck and bank protection will form part of the rock ramp to provide greater stability to the structure. Large blockstones of up to 3 tonnes will be used.

Clean river gravel or small clean stone (50 mm to 100 mm) can be used to help seal the structure.

Please refer to drawings 1 and 2 in Appendix A for details.

APPENDIX A





NOTES

- A ROCK RAMP IS TO BE CONSTRUCTED FROM BLOCK STONE AND RIPRAP FROM THE TOP SILL OF THE WEIR TO 35 M DOWNSTREAM.
- AN INFORMAL LOW FLOW CHANNEL 1.2-2 M WIDE WITH RESTING POOLS WILL BE CREATED THROUGH THE ROCK RAMP STRUCTURE.
- BLOCK STONE PRE-BARRAGES WITH A DROPSTONE WILLBE CONSTRUCTED AT 23 M, 27 M AND 31 M TO PROVIDE STABILITY TO THE ROCK RAMP.
- A BLOCK STONE BEDCHECK WILL BE EMBEDDED AT 35 M TO PREVENT ANY FUTURE SCOUR AT THE TOE OF THE ROCK RAMP.
- BLOCKSTONE BANK PROTECTION TO BE INSTALLED ALONG BOTH BANKS FROM THE WEIR TO THE TOE OF THE ROCK RAMP. RIP RAP WILL BE USED TO FILL ANY VOIDS BEHIND THE BANK PROTECTION.
- RIP RAP WILL ALSO BE USED TO FILL IN ANY VOIDS TO EITHER SIDE OF THE WEIR STRUCTURE.
- CLEAN RIVER GRAVEL OR SMALL CLEAN STONE 50 MM TO 100 MM IN SIZE WILL BE USED TO SEAL THE STRUCTURE.
- LARGE BLOCKSTONES UP TO 3 TONNES WILL BE USED TO CONSTRUCT THE PRE-BARRAGES, BEDCHECK AND BANK PROTECTION.
- THE ROCK RAMP WILL BE CONSTRUCTED OF RIP RAP 600 MM TO 100 MM IN SIZE.
- TO BE READ IN CONJUNCTION WITH METHOD STATEMENT AND DRAWING 1.

KEY

- ROCK RAMP
- BLOCKSTONE BANK PROTECTION
- BLOCK STONE PRE-BARRAGES & BEDCHECK
- WEIR STRUCTURE

SAFETY HEALTH AND ENVIRONMENTAL INFORMATION

- IN ADDITION TO THE HAZARDS/RISK NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING RISKS AND INFORMATION
- PLEASE NOTE THE RISKS LISTED HERE ARE NOT EXHAUSTIVE
 - CONSTRUCTION
 - 7.3 DISTURBING OR STRIKING EXISTING UTILITIES & SERVICES
 - 7.5 WORKING WITH POWER TOOLS
 - 7.6 WORKING NEAR WATER
 - 7.7 SITE ACCESS
 - 7.8 MANUAL HANDLING
 - 7.9 COLD WEATHER WORKING
 - IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT.

PAULS PLANT HIRE
HENDREFORGAN FARM
RH/FAWR
SWANSEA, SA9 2RJ

DATE : 21/01/2025

SCALE : 1:140 SHEET SIZE : A4

DIMENSIONS : MILLIMETRES

LOCATION:
AFON SIEDI
NR PENTRE CWRT

GRID REFERENCE:
SN 39085 37865

DRAWING NO : 2

DRAWING TITLE:
LONG SECTION VIEW OF
PROPOSED BARRIER MITIGATION

CLIENT:
NATURAL RESOURCES WALES