

**FFOS-Y-FRAN
FINAL RESTORATION STRATEGY**

**Supplementary Environmental Information (SEI)
SEI Report**

For

**MERTHYR
(SOUTH WALES) LTD**

November 2025

3274-11

**FFOS-Y-FRAN
FINAL RESTORATION STRATEGY**

**Supplementary Environmental Information (SEI)
SEI Report**

For

**MERTHYR
(SOUTH WALES) LTD**

November 2025

3274-11

© Copyright. This report and figures remain the copyright of Richards, Moorehead & Laing Ltd.

QUALITY ASSURANCE PROCEDURES: Qp4, QP7.3Doc6

Prepared by: Jon Stoddard Date: 13th October 2025
Checked by: Rhodri Edwards Date: 6th November 2025
Approved by: Jon Stoddard Date: 7th November 2025

Issue Record

Rev	Date	Description	Prepared by	Checked by
1	07/11/2025	Submission to MTCBC	J. Stoddard	Rh. Edwards
2	08/12/2025	Re-submission to MTCBC	J. Stoddard	J. Stoddard



1 Llys Clwyd, Cwrt Y Dderwen, Ffordd Celyn, Ruthin, Denbighshire LL15 1NJ
email: rml@rmlconsult.com web: www.rmlconsult.com
Tel: +44(0)1824 704366
Registered in England and Wales No. 1848683 VAT Reg No. 401 424 313



Preamble	1
1 Introduction	3
2 Geotechnical Engineering.....	6
3 Dowlais Free Drainage System (DFDS)	20
4 Surface Water Monitoring Plan (SWMP)	23
5 De-watering of the Pit Lake	25
6 Water Quality Monitoring Plan (WQMP)	27
7 Trecatti Landfill Site	30
8 Conservation Management Plan (CMP) for European Protected Species (EPS)	32
9 Construction Environmental Management Plan (CEMP)	37
10 Landscape and Ecological Management Plan (LEMP)	39
APPENDICES	41
Appendix A Consultation Responses	
Appendix B Dowlais Free Drainage System (DFDS)	
Appendix C Surface Water Monitoring Plan (SWMP)	
Appendix D Proposals for amendments to Discharge Permit	
Appendix E Water Quality Monitoring Plan	
Appendix F Trecatti Landfill Site	

Table 1: Acronyms used

Acronym	Name
MSW	<i>Merthyr (South Wales) Ltd</i>
NRW	<i>Natural Resources Wales</i>
FLRS	<i>Ffos-y-Fran Land Reclamation Scheme</i>
MTCBC	<i>Merthyr Tydfil County Borough Council</i>
RML	<i>Richards, Moorehead & Laing Ltd</i>
EMRS	<i>East Merthyr Reclamation Scheme</i>
EIA	<i>Environmental Impact Assessment</i>
mAOD	<i>Metres Above Ordnance Datum</i>
SEI	<i>Supplementary Environmental Information</i>



Preamble

Merthyr (South Wales) Ltd (MSW) have submitted a Section 73 planning to Merthyr Tydfil County Council application to vary conditions 4 (Duration of Restoration), 6 (Approved Plans) and 50 (Restoration Strategy) of planning permission APP/U6925/A/10/212991. The S73 application to vary the conditions was received by MTCBC on 7th February 2025 and formally validated on 20th February 2025.

Following validation MTCBC commenced the consultation exercise and published the documents submitted with the application on the council's website. The documents included an Environmental Statement with several technical appendices and a Green Infrastructure Statement. The statutory consultation period for a scheme with an EIA would last for 16 weeks leading to a target determination date of mid-June 2025.

On the 13th of June 2025, MTCBC sent a letter to RML (agent for the Applicant MSW) requesting an extension of time for determination until the end of October 2025 and seeking further information and clarification on the proposal. The response from MTCBC also included responses from the county ecologist, WSP (geotechnical consultants to the Council) and Natural Resources Wales (NRW).

On 7th July 2025 and on behalf of the Applicant (MSW), RML prepared a response to the letter (dated 13th June 2025) from MTCBC and response from NRW. A separate response by James Associates (geotechnical advisors to MSW) to the technical note by WSP was also sent to MTCBC on 8th July 2025.

NRW responded to the RML letter (dated 7th July 2025) on 7th October 2025 (NRW Ref CAS-286263-P6X2) stating that they continued to ***“have concerns with the application as submitted because inadequate information has been provided in support of the proposal. To overcome these concerns, you should seek further information from the applicant regarding land contamination and pollution prevention. If this information is not provided, we would object to the planning application.”***

The NRW letter also states that ***“conditions regarding European protected species should be attached to any planning permission granted. Without the inclusion of these conditions we would object to this planning application”***.

The Applicant (MSW) has engaged with MTCBC and NRW in an attempt to clearly understand the scope of the outstanding information required to determine the S73 application. Meetings (via Teams) have been held on the 4th and 23rd September 2025 and 13th October 2025 culminating in the preparation of this document.



1 Llys Clwyd, Cwrt Y Dderwen, Ffordd Celyn, Ruthin, Denbighshire LL15 1NJ
email: rml@rmlconsult.com web: www.rmlconsult.com
Tel: +44(0)1824 704366
Registered in England and Wales No. 1848683 VAT Reg No. 401 424 313



This document is a report that provides Supplementary Environmental Information (SEI) to address the concerns raised by MTCBC and NRW in respect of the S73 application (Ref P/25/0037) and Environmental Statement submitted with the application. The report also addresses conditions that could be included in any planning consent for the scheme that have been the subject of discussions held between the Applicant, MTCBC and NRW following the validation of the application on 20th February 2025. The aim of the SEI report is to collate all the outstanding information and draft conditions in one location and provide a suitably concise document to enable further re-consultation by MTCBC with key stakeholders and to provide sufficient information to MTCBC for the S73 application to be finally determined.

Correspondence between the parties referred to above is collated in **Appendix A – Consultation Responses**



1 Llys Clwyd, Cwrt Y Dderwen, Ffordd Celyn, Ruthin, Denbighshire LL15 1NJ
email: rml@rmlconsult.com web: www.rmlconsult.com
Tel: +44(0)1824 704366
Registered in England and Wales No. 1848683 VAT Reg No. 401 424 313



1 Introduction

- 1.1 This document is a report that provides Supplementary Environmental Information (SEI) to address the concerns raised by MTCBC and NRW in respect of the S73 application (Ref P/25/0037) and Environmental Statement submitted with the application. The report also addresses planning conditions that could be included in any planning consent for the scheme that have been the subject of discussions held between the Applicant, MTCBC and NRW following the validation of the application on 20th February 2025. The aim of the SEI report is to collate all the outstanding information and draft conditions in one location and present a suitably concise document to enable MTCBC to re-consult with key stakeholders and to provide sufficient information to MTCBC for the S73 application to be determined.
- 1.2 Following the cessation of mining and the extraction of coal in November 2023, the site has entered a period of Care and Maintenance (C&M) by MSW. The C&M team are responsible for routinely inspecting and monitoring all safety and environmental aspects of the site, including water levels in the void and water quality both in and around the site boundary.
- 1.3 The C&M team complete regular checks of the water quality to ensure the water discharges are within consent limits set by NRW (Natural Resources Wales). This is supported with a quarterly water testing programme, as required by a planning condition which was agreed with both MTCBC and NRW at the start of mining operations. Water samples are tested by an accredited laboratory for a comprehensive suite of determinants. Results are regularly reviewed against site environmental standards and actions taken if required. All analytical data is analysed and recorded and is available either for submission to NRW or is made available for inspection on routine site visits as requested.
- 1.4 The progressive restoration of parts of the site has been implemented in line with the originally approved scheme over 2024/2025 in agreement with, and as approved, by MTCBC. To date, Phases 1, 2A and 2B have been completed or are near to completion at the time of writing (November 2025). See Figure 1.



1 Llys Clwyd, Cwrt Y Dderwen, Ffordd Celyn, Ruthin, Denbighshire LL15 1NJ
email: rml@rmlconsult.com web: www.rmlconsult.com
Tel: +44(0)1824 704366
Registered in England and Wales No. 1848683 VAT Reg No. 401 424 313



FFOS-Y-FRAN FINAL RESTORATION SCHEME - SECTION 73 APPLICATION P/25/0037
SUPPLEMENTARY ENVIRONMENTAL INFORMATION (SEI) REPORT

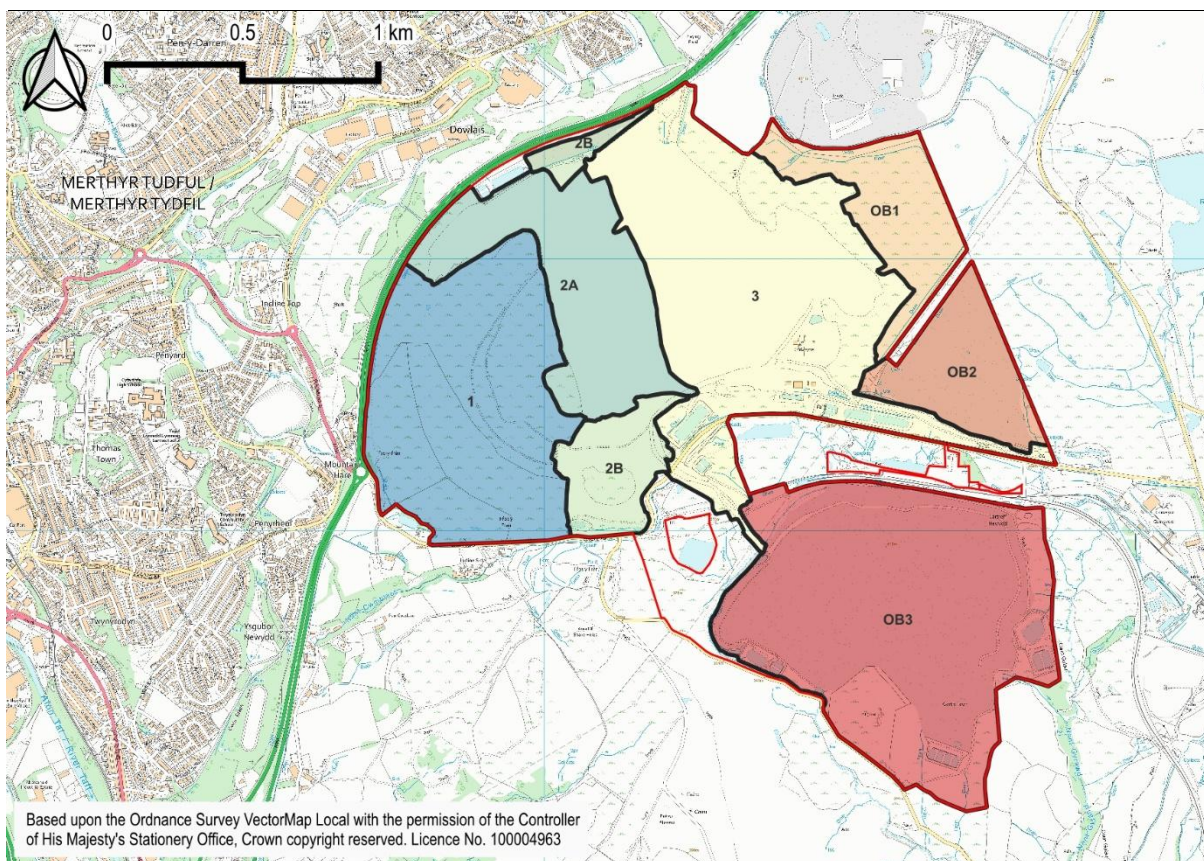


Figure 1 – Restoration Phases

Note: Phase 3 includes restoration proposals for OB1, OB2 and OB3 that are subject to planning permission being approved for the S73 Application (2025).

Phases 1, 2A and 2B are substantially complete as of end 2025.



1 Llys Clwyd, Cwrt Y Dderwen, Ffordd Celyn, Ruthin, Denbighshire LL15 1NJ
email: rml@rmlconsult.com web: www.rmlconsult.com
Tel: +44(0)1824 704366
Registered in England and Wales No. 1848683 VAT Reg No. 401 424 313



1.5 This SEI report is structured as follows:-

Chapter	Content
1. Introduction	- Brief description of the consented scheme and alternative restoration proposals - Description of the progressive restoration undertaken following closure cessation of mining operations at end of November 2023
2. Geotechnical Engineering	Response to WSP Technical Note 001 (dated 15th April 2025) regarding stability of overburden mounds OB1, OB2 and OB3
3. Dowlais Free Drainage System	- Exploration of how the DFDS may be connected to below ground drainage systems and groundwater discharge - Presentation of possible/unlikely worse case scenarios
4. Surface Water Monitoring Plan (SWMP)	- Description of Dowlais Free Drainage System (DFDS) - Risk assessment of DFDS failing - Proposals for flow rate modelling at outfalls
5. De-watering of Pit Lake	Proposal for reducing lake pit levels in order for engineering works to be undertaken to western backfill as part of the final restoration scheme
6. Water Quality Monitoring Plan (WQMP)	- History of land use and baseline data - Proposals for pollution prevention a ground water monitoring plan
7. Trecatti Landfill	Description of stability risk assessment and previous proposals for extension of open mine towards Trecatti Landfill Site
8. Conservation Management Plan (CMP)	Draft Conservation Management Plan for great crested newts to be finalised in Spring 2026 following further surveys
9. Construction Environmental Management Plan (CEMP)	- Outline of CEMP to be prepared prior to works final restoration commencing - Proposals for undertaking Preliminary Roost Assessments (PRA) prior to demolition of former works buildings
10. Landscape and Ecological Management Plan (LEMP)	- Long term site management plan describing target habitats and ecological features to be created - Long term habitat management prescriptions - Details of reporting and monitoring requirements including an Ecological Compliance Audit (ECA)



2 Geotechnical Engineering

2.1 There have been several outstanding matters raised in relation to the various geotechnical issues relating to the proposed restoration strategy. When operational, the site was operated in accordance with the Quarries Regulations 1999 and was subject to regular site inspections regulated by the Coal Authority and the Health and Safety Executive. It appears that many of the concerns raised surrounding geotechnical issues only came to light following the cessation of mining and coal extraction at the end of November 2023 and when operations came to an end.

2.2 James Associates (JA) have responded to many of these outstanding matters in a letter to MTCBC dated 8th July 2025. However, there remains concerns raised by WSP, consultant engineers to MTCBC that still need resolving. The summary response from WSP reads as follows:-

“The submission does not adequately consider the stability of the proposed slopes and rockfaces for the proposed restoration scheme. There is insufficient evidence that a rigorous assessment of the soil parameters and groundwater regime has been undertaken. It is considered that based on the scheme proposals contained within documents submitted to support the planning application there will remain a significant risk of slope instability in the medium to long term.”

2.3 The work to address these concerns is currently in progress and involves the review of a large amount of information and records, both prior to and from the operational period that spans over 17 years.

2.4 The scope of the review has been prepared in a direct response to the points raised by WSP and ‘significant observations’ (SOs) as follows. Work in providing a response to these significant observations is currently (31/10/2025) being prepared by JA (Geotechnical Specialists) and will be submitted to MTCBC in due course on completion. The following paragraphs provide an indication of what WSP consider to be significant observations (SOs) followed by a response from JA to each point. The responses will be addressed in more detail within a geotechnical report referred to above.



Overburden Tips

SO1 - WSP state that: -

- 2.5 *“No records have been supplied indicating the volumes or locations of where these materials were deposited within the overburden tips. Further, no records have been supplied indicating if any compaction has been applied to the materials within the tips. It is assumed that as these were constructed as temporary earthworks and that they were constructed by tracking the material into place, as they were temporary earthworks, rather than being compacted to any engineering specification.”*

SO1 - JA response:

- 2.6 The overburden mounds (OBs) were constructed to the approved designs in compliance with the requirements of The Quarries Regulations 1999 (QR 1999) and monitored by a full-time geotechnical specialist based at the site from the date of commencement, 2007 to 2013 with responsibility for this site alone. Thereafter, the OBs were inspected in accordance with the QR 1999. Construction details and survey information (in LSS) for the base preparation to include stripping of topsoil, subsoil, un-suitable materials and sub-tip drainage, along with construction methodology are available. It should be noted that some areas beneath OB2 and OB3 were excavated down to solid measures around the Hafod Coal Seam.

Overburden Mound 1 (OB1)

SO2 - WSP state that: -

- 2.7 *“Tip OB1 failed in 2022 on its western side, the ES notes that this was due to the toe being excavated but no documentation is provided to support this and there appears, based upon the evidence supplied, to have been no further investigation into the failure. While the ES also states that further earthworks are required to ensure long-term stability, there are no records of any ground investigations being undertaken to inform stability analysis undertaken. Therefore, the stability analysis may not reflect the medium to long-term performance of tip OB1”.*

SO2 - JA response:

- 2.8 The western side of OB1 failed in 2022 as a direct consequence of the western facing toe of the mound being re-excavated to a temporary profile as part of preparatory works to extend the mining operations. Cracks were noticed in the



1 Llys Clwyd, Cwrt Y Dderwen, Ffordd Celyn, Ruthin, Denbighshire LL15 1NJ
email: rml@rmlconsult.com web: www.rmlconsult.com
Tel: +44(0)1824 704366
Registered in England and Wales No. 1848683 VAT Reg No. 401 424 313



excavated slopes and all machinery and personnel were withdrawn from the area to a safe location. The slope then failed over the weekend of 30th July 2022. A further monitoring and inspection scheme was implemented and documentary evidence comprising pre-failure and post failure survey data along with a series of field notes compiled by the appointed geotechnical specialist confirm the reason for the failure. The temporary profile in this case was never intended to be a final restored slope and it is accepted that a detailed engineering specification is necessary for the remediation of this mound which will include regrading the western slopes to around 1 in 3. No further site investigation works are proposed. The original SI is considered to be adequate and can be provided if required.

SO3 - WSP state that: -

- 2.9 *“The ES states with respect to the stability analysis of the north, east and south sides of tip OB1 that they will remain stable in the long-term based upon the fact that the design undertaken prior to them being tipped indicated them to be so. Furthermore, the ES provides factors of safety against failure for these slopes of between 1.19 and 1.23. Current British Standards, in place since 2004, do not adopt a lumped factor of safety approach, the now withdrawn BS 6031: 1981 Code of Practice for Earthworks did so. This, withdrawn standard, requires for permanent slopes a factor of safety of 1.3 to 1.4 for a first-time slide, although this is based upon a good standard of investigation and information being available. The factors of safety proposed appear from the information supplied to be based upon analysis undertaken by Miller Argent (South Wales) Ltd prior to the development of the open cast mine. The ES suggests the following:*

- *That Tip OB1 was designed as a temporary tip.*
- *That there are no records of how and where the various materials were placed within the tip.*
- *That there are no records of the materials being compacted to any engineering specification.*
- *That the factors of safety against slope instability are low compared with design standards.”*

SO3 - JA response:

- 2.10 A detailed assessment of site records for the construction phase may enable a zonation of the materials contained within the mound to be defined though it



1 Llys Clwyd, Cwrt Y Dderwen, Ffordd Celyn, Ruthin, Denbighshire LL15 1NJ
 email: rml@rmlconsult.com web: www.rmlconsult.com
 Tel: +44(0)1824 704366
 Registered in England and Wales No. 1848683 VAT Reg No. 401 424 313



would be considered 'conservative' to assume the mound to comprise mudstones and siltstone which will form the vast proportion of the mound, as is typical of opencast sites in South Wales, some of which have retained OB's as part of the approved restoration design (e.g. Celtic Energy Sites at East Pit, Margam, Nant Helen & Selar). Due to the nature of the construction method the tipped material can be expected to be effectively homogenous on a large-scale. This can be confirmed by an assessment of the extensive borehole data which covers the majority of the site and sub-divides the sequence of measures into specific lithological units.

SO4 - WSP state that: -

- 2.11 *"It is concluded that the medium to long-term stability of tip OB1 in the permanent situation cannot be relied upon and may represent a significant ongoing risk."*

SO4 - JA response:

- 2.12 We would dispute the fact that OB1 represents a significant ongoing risk particularly due to its construction, content, and its geographical location in relation to its surroundings. By adopting conservative parameter values for the materials contained within the OB, and with appropriate engineering design for the re-construction of the western face, the likelihood of OB failure can be absolutely minimised. In the highly unlikely event that OB failure ever occurred in the future, in our opinion it would not be catastrophic and at worst, would only involve slow moving creep with an extremely low consequence of failure. We would propose reviewing site records again, before undertaking a further review of stability analyses to confirm the long-term stability of OB1.

Overburden Mounds 2 and 3 (OB2 and OB3)

SO5 - WSP state that: -

- 2.13 *"With respect to tips OB2 and OB3, the ES notes that they have suffered small scale instabilities, but these are considered to have no significance, the basis of this statement is unclear. The ES states that they were constructed to the approved design, although this does appear to be designed for temporary tips. It further provides factors of safety for tips OB2 and OB3 of 1.18 to 1.26 and 1.18 to 1.35, respectively. As with OB1, no information has been provided as to the construction of the tips, no investigations have been undertaken to determine the structure of the geological materials and groundwater within the tip and provide geotechnical parameters for the materials. Given this and the low*



factors of safety, the medium and long-term stability of OB2 and OB3 must be questioned and the long-term stability cannot be relied upon and may represent a significant ongoing risk.”

SO5 - JA response

- 2.14 The observed failures are of minimal scale and of no significance with respect to overall tip stability. They have occurred due to the localised effects of surface drainage or minor excavation works undertaken at the toe of slopes and have been inspected, monitored, and remediated. In addition, in excess of 95 million m³ of overburden has been placed in backfill tips during the operation of the site with no instances of any significant instabilities being observed. Further information can be provided indicating the location of the failures, their scale and form along with the likely cause. As set out above, given the available information regarding the construction, content, supervision, and geographical locations, we would dispute the fact that OB2 & OB3 represent any significant long term stability risks and present extremely low consequences of failure.

SO6 - WSP state that:

- 2.15 *“It is noted that the ES states on a number of occasions that the overburden tips have remained stable through the life of the opencast mine, even though failures of various sizes have been reported within the tips, and it is suggested that for this reason they can be considered stable in the long-term. This does not consider the ongoing long-term impact of climate change and the likely weathering of soils and rock within the tips, particularly as there are no records of the material being compacted to an engineering standard.”*

SO6 - JA response

- 2.16 Details of previous instabilities can be provided along with the justification for considering them to be insignificant. Due to their size and nature OBs would never be compacted to an engineering standard as required for example by a Civil Engineering project, which is what WSP 001 appears to imply is necessary. However, an OB can be described as a designed engineered structure which is constructed following site investigation work, signed off and inspected by a Geotechnical Specialist under the Quarries Regs 1999, in full knowledge of the rock and other materials contained within, which are transported directly from the mine and placed in 4 – 5 metre layers and compacted by fully laden 160



tonne dump trucks and bulldozers, onto prepared ground with underdrainage as recommended.

Backfill Slopes

SO7 – WSP state that:

- 2.17 *“The ES proposes that Backfill slope BF1 is re-engineered and provides limited stability analysis. It is noted that this analysis has been undertaken on a lumped factor of safety approach. This analysis does not appear to have been based upon any geotechnical investigation to provide information on the structure and physical characteristics of the materials within the slope or the groundwater regime. No information has been provided on the actual approach to the re-engineering of the slope or the source of the proposed compacted material within the toe, a critical element of the design. The soil strength parameters adopted for the “general fill” forming the side slope of BF1 and the compacted fill supporting the toe within the slope analysis are unrealistic and overly optimistic, therefore the medium to long-term stability of this slope cannot be relied upon.”*

SO7 - JA response

- 2.18 As stated above, in excess of 95 million m³ of overburden has been placed in backfill during the operation of the site with no instances of any significant instabilities being observed. It is accepted that a method statement is required to include a detailed programme of dewatering the lake before the lower slope of backfill is reprofiled to its final slope, with particular emphasis on the toe to ensure long term stability. Further detailed stability analyses will be undertaken adopting a range of parameter values based on site records of the materials being tipped along with a sensitivity analysis before finalising this method statement.
- 2.19 The Mining Remediation Authority (formerly The Coal Authority) have actively monitored the site on an annual basis throughout mining operations and several times since the cessation of operations to check that the site has been operated in a responsible manner and left in a safe state in compliance with the conditions as defined in the Coal Licence. This includes the safe removal (and capping if necessary) of any shafts, adits, and old mine workings in the sites ‘Area of Responsibility’.



1 Llys Clwyd, Cwrt Y Dderwen, Ffordd Celyn, Ruthin, Denbighshire LL15 1NJ
 email: rml@rmlconsult.com web: www.rmlconsult.com
 Tel: +44(0)1824 704366
 Registered in England and Wales No. 1848683 VAT Reg No. 401 424 313



Open Cast Rock Side Walls

SO8 – WSP state that:

- 2.20 *“The proposed restoration includes the retention of parts of the open cast side walls; the stability of the exposed faces is discussed in terms of the stability analysis undertaken, prior to the mine being developed, by Miller Argent (South Wales) Ltd. There does not appear to have been any review of these results following on from the mining operations when a better understanding of the geology, its structure and the geotechnical parameters may have been attainable. The ES does discuss a number of ongoing risks and potential mitigation, but it does not address the overall stability, with respect to the southern side wall it notes that the original analysis identified small scale failures/features that were “...only of possible significance as a safety consideration during the mining operational phase”. If such features remain exposed, they will continue to represent an ongoing health and safety risk. With respect to the eastern sidewall, the ES reports various instabilities that occurred during the mining operations, including some large-scale spalling. It also states that “rock gutters” will be installed to mitigate the risk from rockfalls, while these are shown on a number of sketches the basis of size selection, where shown, is unclear and there is no evidence of any analysis or assessment being undertaken to determine the likely sizes, frequency or location of rockfalls. In addition, one of the sketches indicates that there is an abandoned adit within the face, it is not clear if this will be or has been treated to prevent collapse within the length that may have an impact upon the rock faces above.”*

SO8 - JA response

- 2.21 The proposals for remedial works for the residual rock sidewalls [southern and eastern] are based upon a firm understanding of the structural geological conditions and presence of abandoned underground coal and ironstone workings, along with extensive experience of the response of strata to the mining process.
- 2.22 Significant archival information relating to previous mining activity along with extensive borehole information for the site is available which have confirmed the geological model with a high degree of confidence. From the point of commencement, the site has been continually monitored, initially by the



1 Llys Clwyd, Cwrt Y Dderwen, Ffordd Celyn, Ruthin, Denbighshire LL15 1NJ
email: rml@rmlconsult.com web: www.rmlconsult.com
Tel: +44(0)1824 704366
Registered in England and Wales No. 1848683 VAT Reg No. 401 424 313



resident geotechnical engineer then by the appointed geotechnical specialist in accordance with the requirements of QR 1999.

- 2.23 Two large -scale instabilities have occurred on the site the first at which the NNW /SSE trending Dowlais Fault intersected the southern sidewall and the second, a nominal scale displacement NNW/SSE trending fault which intersected the final advance excavation panels.
- 2.24 The first was excavated through several years ago under the guidance and approval of the Geotechnical Specialist and has subsequently been fully concealed by opencast backfill.
- 2.25 The second structure was initially intercepted at the southern end of the eastern advance excavation panels and resulted in the large-scale spalling of rock from the western ‘free’ rock faces. The maximum extent of spalling was the actual fault plane beyond which the strata has remained in place.
- 2.26 As excavation panels advanced to the east, the fault migrated up the cuts towards the north and resulted in a continuation of strata spalling. Remedial works undertaken in the affected area have secured the sidewall with all works in this area taking place under a Safe Systems of Work.
- 2.27 The proposal to install rock gutters in areas which may be accessible to the general public, will be based upon the results of more detailed rockfall modelling. There are no known recorded untreated adits remaining on the site. Any abandoned roadways which were exposed in residual excavation faces have been treated by compacting backfill material into the opening and then grading material up against the structure. As has been observed throughout the working of this site, where several un-recorded adits and roadways have been encountered in excavation faces, the collapse of strata above the opening’s chokes-off and rarely exceeds more than a few metres. The filling with backfill and buttressing of opencast material against the openings have secured them.



1 Llys Clwyd, Cwrt Y Dderwen, Ffordd Celyn, Ruthin, Denbighshire LL15 1NJ
email: rml@rmlconsult.com web: www.rmlconsult.com
Tel: +44(0)1824 704366
Registered in England and Wales No. 1848683 VAT Reg No. 401 424 313



Scree Slopes

SO9 – WSP state that:

- 2.28 *“A scree slope developed below the east side wall during the mining operations as a result of largescale spalling, based upon the documents it is proposed to retain the scree slope and possibly add further material. No apparent assessment of the stability of this slope has been undertaken to confirm the ongoing stability.”*

SO9 - JA response

- 2.29 The scree slope which has formed against the southern half of the final eastern sidewall is a result of major spalling from the fault affected sidewall plus additional material which has been excavated from the upper level of faces to remove significantly dilated strata.
- 2.30 The angle of the scree represents the friction angle of the materials [which it can be considered to have no cohesion] contained within the slope. The slope can be considered to have a Factor of Safety of around unity. Naturally formed slopes as can be observed in the ‘natural environment’ can be assumed to have a Factor of Safety of around unity.
- 2.31 The potential does exist for future creeping movements, which taking into account the location of the scree slope, i.e., immediately to the east of the proposed lake structure, will not pose a threat to public safety as the consequences of failure are very low.

Lagoons and Water Treatment Areas

SO10 – WSP state that:

- 2.32 *“The lagoons and water treatment areas constructed as part of the mining operations that are to remain are stated to have remained stable during the site operations and will continue to do so “...in perpetuity” providing they are not impacted by any engineering works; no evidence or justification to support this has been provided.”*

SO10 - JA response

- 2.33 Further details of the lagoons, their location and nature of the ground upon which they are located will be supported by any available SI. The lagoons have all been inspected in accordance with the QR 1999 throughout the life of operations and there have been no recorded instabilities.



Climate Change and Tip Failures

SO11 – WSP state that:

- 2.34 The ES appears to dismiss the impact upon climate change, particularly on OB2 and OB3. Given the recent history of a number of tip failures across South Wales as a result of high rainfall events these appear to be an optimistic view, which is not likely to borne out in time.

SO11 - JA response

- 2.35 Relating the documented tip failures in South Wales is a case of comparing ‘apples and pears.’ Colliery tips significantly differ from opencast backfill and OB in the following ways:

Colliery Tips

- Generally, are located on steep hillsides.
- Most (if not all) do not have adequate pre-tip preparatory works or any associated SI or geotechnically based designs.
- The materials will be dominated by mudstones, seatearths, lagoonal deposits, generally ‘weak’ materials which occur in close proximity to coal seam horizons. Many of these materials are tipped as washery discard with significantly elevated moisture contents.
- Are likely to have been deposited by conveyor tipping with little or no compactive works having been undertaken

Opencast Backfill and Overburden Mounds

- Are generally constructed on level or near level ground, gradients beneath the Ffos-y-Fran mounds were formed on ground with gentle gradients.
- In the case of OB2 and OB3, parts of the mounds were formed on solid measures above the Hafod Coal Seam (OB2 in particular).
- OB1 was formed on glacial till deposits and involved the installation of an extensive subdrainage system.
- The stripping of ‘unsuitable’ materials and the installation of sub-tip drainage systems was undertaken [records available].



- Materials comprised a mixture of Glacial Till, Mudstones, Siltstone, Sandstone, and Claystone Seatearths, excavated and transported directly to OB.
- The mounds were constructed by layer tipping involving cone tipping and dozing in layers using CAT D9 / D10 dozers with extensive tracking by fully laden CAT 777 160 tonnes dump trucks.

Geotechnical Review

- 2.36 The Applicant (MSW) is proposing the preparation of a document titled Geotechnical Review (to be undertaken by JA) that summarises the points raised above and would be presented as a report the contents of which are presented below in Table 2-1.
- 2.37 The report would include examples of South Wales opencast coal sites where large overburden mounds have been left as a part of the final restoration. Good examples are;
- Celtic Energy East Pit – large OB with only cosmetic restoration works, in place for 30 years [on an inclined hillside] and still stable.
 - Celtic Energy – Margam - several OBs in place for in excess of 20 years - stable and remaining as a part of the final restoration.
 - Celtic Energy – Nant Helen, large OB in place for in excess of 20 years, stable and is a part of the final site restoration.
 - Celtic Energy – Selar, large OB, in place for 20 years, little alteration by restoration works. Stable and lies adjacent to the ‘Parish Road,’ a public right of way.



1 Llys Clwyd, Cwrt Y Dderwen, Ffordd Celyn, Ruthin, Denbighshire LL15 1NJ
 email: rml@rmlconsult.com web: www.rmlconsult.com
 Tel: +44(0)1824 704366
 Registered in England and Wales No. 1848683 VAT Reg No. 401 424 313



Proposed Condition

- 2.38 MSW are committed to providing this additional geotechnical review for consideration and approval and have commissioned JA to proceed and the work is currently in progress. However, this may take some time to complete and finalise due to the volume of work requested. Therefore, it is proposed that the geotechnical review could be considered as a condition of planning permission with the following (or similar) wording: -

“Prior to commencement of the final restoration proposals (including any earthworks, groundworks or drainage works) a geotechnical review of the proposed landform, rock faces, backfill, lagoons and overburden mounds shall be submitted to and approved in writing by the Local Planning Authority to include the following contents as set out in Table 2-1 below:”



1 Llys Clwyd, Cwrt Y Dderwen, Ffordd Celyn, Ruthin, Denbighshire LL15 1NJ
email: rml@rmlconsult.com web: www.rmlconsult.com
Tel: +44(0)1824 704366
Registered in England and Wales No. 1848683 VAT Reg No. 401 424 313



Table 2 -1 Geotechnical Review 2025

1. Introduction	Purpose of the geotechnical review
2. The Quarry Regulations 1999	Duties under the regulations undertaken and carried out by Miller Argent and MSW during coal extraction
3. Chronology	Record of operations undertaken at Ffos-y-Fran
4. Rock Faces	• Details of the instability which affected the east wall. • Details on geological conditions • Review of initial pre-commencement stability analyses and their relevance to the proposed restoration works. • Comments on Adits/ abandoned roadways treatment and rock gutter provision, referring to specific locations. • Review of climate change impact. • Assessment of consequences of any slope degradation
5. In Pit Backfill	• Methodology for the re-grading of the lower backfill tip and construction of the toe area. • Stability analyses assuming a range of parameter values • Assume various groundwater conditions to reflect 'climate change.' • Assess consequences of any potential instability. • Review of climate change impact
6. Lagoons	• Details of the locations and geometries of each set of lagoons. • Relevant background SI • Assessment of stability of each structure
7. Overburden Mound OB1	• Details of the geological / geotechnical information to include original topographical gradients, rockhead contours, drift isopachyte etc. • Details on the construction of the tip to include base preparation and tipping methodology. • Supply of pre-failure and post failure survey information and provision of geotechnical field notes (July 2022 failure). • A design for the re-construction of the tip with stability analyses. • Review of climate change impact • Assess consequences of any potential instability



Table 2 -1 Geotechnical Review 2025 (continued)

8. Overburden Mounds OB2 and OB3	• Review previous SI. To include original surface, rockhead gradient, drift isopachyte etc. • Review construction method, sub-tip preparatory works and operational details. • Undertake sensitivity analysis varying parameter values and groundwater conditions [assumed]. • Assess consequences of any potential instability. • Review of climate change impact
9. Comparisons	• Provide examples of South Wales opencast coal sites where large overburden mounds have been left as a part of the final restoration



1 Llys Clwyd, Cwrt Y Dderwen, Ffordd Celyn, Ruthin, Denbighshire LL15 1NJ
 email: rml@rmlconsult.com web: www.rmlconsult.com
 Tel: +44(0)1824 704366
 Registered in England and Wales No. 1848683 VAT Reg No. 401 424 313



3 Dowlais Free Drainage System (DFDS)

- 3.1 The Dowlais Free Drainage System (DFDS) is an extensive network of drainage features that lie both above and below ground in the area surrounding Ffos-y-Fran and Merthyr Tydfil. The network was an ingenious system of reservoirs and leats, fed by gravity, and which formerly provided water to the Dowlais Ironworks and the water balance systems of its associated workings, was also a feature of the area although the largest concentration of surviving features (such as Sarn Howell and Isaac Morgan Ponds) are now found in the south – western corner of the Ffos-y-Fran site. The system, which in part dates to c 1818, was crucial to the expansion of the ironworks at Dowlais and indeed Penydarren. It supplied water to the coal mines and ironworks of Dowlais via an extensive above-ground network of leats and reservoirs and underground U-shaped channels, built to the 'Dowlais pattern' within various levels.
- 3.2 As well as above ground features, there were also some below ground features such as drains and adits and some of these are believed to have been removed in the process of surface mining the main void at Ffos-y-Fran. These features were recorded as part of the ongoing recording by GGAT during the operation of the works. The majority of the above ground network of the DFDS that managed surface water was recorded by GGAT as part of Phase III of the East Merthyr Reclamation Scheme (EMRS). **See Appendix B1.**
- 3.3 NRW have previously stated (NRW letter dated 17th April 2025) that the *“ongoing maintenance of the pit lake level and groundwater modelling of the site relies heavily on the presence of the Dowlais Free Drainage System (DFDS), which we assume drains the whole area by a network of adits (although this is not clear). There is little information presented on how the underdrainage works and where connections are present. There are discharge points noted, but it is unclear how connected these are”*
- 3.4 The letter continues to state *“A plan showing the discharge points with flows, elevations and cross sections with the pit void should be provided to understand the potential or relative connections. An assessment of the risk of the DFDS failing should also be considered. Therefore, we advise that a risk assessment is provided to understand the risk of a blow out occurring, and what effect this would have on the pit lake/local water features and how the ongoing success of the DFDS will be monitored during the aftercare phase”.*



- 3.6 MSW as 'the Applicant' have previously responded to the points raised by NRW in a letter dated 7th July 2025 where they state:-

"While the history of the site is well documented and researched, the full extent and condition of the DFDS is not known with complete accuracy or detail, as is the case with similar old workings and drainage networks the length and breadth of the South Wales coalfield. It is worth remembering that the previous ES relating to the currently accepted planning application explicitly assumes that the DFDS controls groundwater levels in the site area and will continue to do so post-closure, as reflected by the rebound of groundwater to similar pre-mining levels. As such the assumptions put forward in the current ES with respect to the DFDS do not present a departure from what has previously been accepted and agreed by other experts and NRW (and its predecessors). In addition, the flow of groundwater is also controlled by the fact that over 95 million m³ of backfill has been placed as part of Ffos-y-Fran, in addition to the backfill on the other side of the A4060 at the former Great White Tip and Incline Top sites. It seems that the most appropriate approach would be to propose a suitable monitoring regime that could be shared and agreed between the interested parties."

- 3.7 MSW have agreed with MTCBC to a monitoring regime that is proposed in section 4 (Surface Water Modelling Plan) of this SEI report. NRW have agreed that this can be conditioned to any grant of planning permission
- 3.8 Records suggest that most, if not all, of the below ground DFDS located in the excavation area was removed as part of the surface mining operations and backfilled as the site was progressively worked from west to east. Some of the old adits, thought to be possibly connected to the DFDS, were positioned at a higher level and consequently are unlikely to have a connection with groundwater levels. This is reported in more detail in **Appendix B2 – Geotechnical Note – James Associates** and demonstrated in drawings 3274-RML-DR-L-62, 63 and 64.
- 3.9 The potential connection of the groundwater to the former DFDS and surface water outfalls is difficult to prove or evaluate with any certainty, as is the case with many other underground systems throughout the South Wales coalfield. While a number of scenarios can be explored and hypothesised, the assumptions made will always be open to interpretation given the absence of firm background evidence and lack of definitive survey records due to their age.



This reported in more detail in **Appendix B2** – Geotechnical Note by James Associates.

- 3.10 MSW have commissioned Groundwater Science to investigate these concerns further and early indications are that these investigations are likely to be indicative, especially in relation to below ground network of the DFDS.
- 3.11 However, it is considered that the findings of any further investigations would have no bearing on the determination of the S73 planning application to vary the current conditions for an alternative restoration strategy, particularly as the hydrogeology of the site (and DFDS) has already been considered extensively by several experts over the years, including at a public inquiry. A hydrogeological assessment undertaken by Groundwater Science can be found in **Appendix B3**.
- 3.12 There appears to be little or no evidence to suggest that there was an extensive underground drainage system as part of the DFDS within the area of the East Merthyr Reclamation Scheme that connects to the surface water drainage system. It also appears that any sub-surface drainage system located in the excavation area (such as the Penyrheol Watercourse and Cross Measure) was excavated and backfilled as part of the surface mining operations at Ffos-y-Fran or previous mining activities and therefore would no longer function as direct drainage features or pathways.
- 3.13 It is therefore proposed that although the further investigations will be concluded, on the basis of the reviews carried out to date these will have no material bearing on any planning considerations for the S73 application. It is proposed that flows from the site, including those associated with the DFDS would be monitored and reviewed as part of the Surface Water Management Plan (considered in Section 4).



1 Llys Clwyd, Cwrt Y Dderwen, Ffordd Celyn, Ruthin, Denbighshire LL15 1NJ
email: rml@rmlconsult.com web: www.rmlconsult.com
Tel: +44(0)1824 704366
Registered in England and Wales No. 1848683 VAT Reg No. 401 424 313



4 Surface Water Monitoring Plan (SWMP)

4.1 An Environmental Statement (ES) was prepared for the alternative restoration scheme and included an assessment of the potential effects that the post operational restoration scheme would have on surface water and hydrology. The ES concluded that¹: -

- The alternative Scheme would cause no adverse changes to the quantity or quality of groundwater discharges to surface water bodies and would provide a more biodiverse landscape.
- The alternative Scheme does not introduce new surface water flow routes off-site and does not increase the risk of flood elsewhere with the lake providing significant attenuating capacity during storm events. The retention and enhancement of existing water bodies and water treatment areas left from post-surface mining operations is likely to result in betterment of water quality and improve biodiversity.
- The water quality of the groundwater would remain unaffected by the final restoration proposals and would return to similar levels recorded prior to the surface mining operations. The main difference is that the groundwater is now left exposed by the excavation of the coal and overburden and visible as a permanent lake.

4.2 In the post planning validation consultation process, NRW have requested further information because inadequate information has been provided in support of the proposal. These requests by NRW and the and the resulting responses are summarised in this report and accompanied by additional information in the relevant appendices.

4.3 In respect of surface water and hydrology, these requests from NRW have resulted in the preparation of a Surface Water Monitoring Plan (SWMP) that is presented in **Appendix C** of this report. The SWMP has been prepared by consultants Groundwater Science with the purpose of providing a:-

- *Surface water flow monitoring plan designed to monitor environmental flows in the vicinity of the site both during and after the Ffos-y-Fran land restoration scheme.*

¹ ES Chapter 19 Summary and Conclusions - Table 19.1 Comparison of the likely effects of the approved scheme with the alternative final restoration scheme



4.4 The specific objectives of the SWMP are to:

- Instrument the main receiving surface watercourses of relevance to the site to measure flow and indicate any long-term, hydrological changes that may be associated with enactment of the proposed reclamation scheme.
- Assist in constraining the site water balance, including aspects related to former mine workings and surface drainage.
- Provide datasets of relevance to ongoing monitoring and assessment of surface water quality.
- Complement the existing NRW streamflow monitoring network in the region

4.5 The SWMP includes information on the following:-

- Connectivity to the Dowlais Free Drainage System
- Receiving surface watercourses
- Monitoring point locations
- Monitoring Instrumentation
- Measuring frequency and data handling

4.6 The SWMP would be implemented following the determination of the S73 planning application

4.7 The results of the monitoring would be available to be shared with MTCBC and NRW if required. It is hoped that a joint monitoring programme could be agreed between the parties in the interests of collaboration and long-term working.

4.8 A draft Surface Water Monitoring Plan has been prepared by Groundwater Science Ltd and this is presented in **Appendix C1** of this document.



1 Llys Clwyd, Cwrt Y Dderwen, Ffordd Celyn, Ruthin, Denbighshire LL15 1NJ
email: rml@rmlconsult.com web: www.rmlconsult.com
Tel: +44(0)1824 704366
Registered in England and Wales No. 1848683 VAT Reg No. 401 424 313



5 De-watering of the Pit Lake

- 5.1 The pit lake has formed by recharge of the natural groundwater, following cessation of pumping operations in August 2023 and operational mining activity at the end of November 2023. Since that time the levels of the pit lake have been regularly monitored by the C&M team and results recorded against climate changes and rainfall. The level of water within the pit lake fluctuates seasonally and is typically higher during the winter months than the summer but rises on average to around 280 metres AOD. The highest level of 281.10 mAOD was recorded in April 2024 and the lowest level of 273.50 mAOD in September 2025.
- 5.2 The pit lake is basically the groundwater level exposed by the removal of coal and overburden material from within the area of the void. Abstraction of the water from the void was a requirement of the surface mining operations to facilitate the mechanical extraction of coal from the seams and when the pumps were removed, the groundwater level recharged back to around pre-surface mining levels.
- 5.3 De-watering of the pit lake is now needed to reach a surface water level of around 265 metres AOD to expose a bench at circa 267-283 mAOD to enable reconstruction of the western backfill to a safe and stable engineering gradient, as recommended by the Geotechnical Specialist. To achieve the reduced water level, two pumps would be deployed with a combined maximum pumping capacity of around 1,000m³/hour. At that rate it is estimated that the pumps would need to be operational for approximately 7-9 weeks on a 24/7 basis with a maximum de-watering rate of approximately 265 litres/second. The pumped water would be discharged to the WB lagoons for the duration of the de-watering period that would ideally be between April – June to enable engineering works to the backfill to be undertaken during the summer months. Once the level of 265metres AOD has been achieved, pumping rates would be scaled back to hold the water level steady while engineering works are ongoing.
- 5.4 The current discharge rate permitted from the WB lagoon into the Nant Morlais 'A' Culvert is 100 litres/second (360m³/hour). In order to enact the de-watering operations, it would be necessary to increase the total discharge capacity from the WB lagoon to 265 litres/second (i.e. around 950m³/hour) into the Nant Morlais 'A' culvert that crosses beneath the A4060 road corridor into an open channel to the north-west of the road towards Goat Mill Road. Surface water runoff from the A4060 also discharges into this culvert.



- 5.5 The open channel is stone lined and is typically seasonal, with higher flows during the winter months and periods of heavy rain.
- 5.6 The stones of the channel are covered in green algae and to the lower surface of the stone lining, occasional pools of water indicated that periods of slow flow or stagnated water occur within the channel. It is also surmised that the channel dries up completely during dry spells as it was at the time of inspection in October 2025. During the inspection, no evidence of pollution was found to be present. It is considered that the channel has little ecological value and therefore the de-watering of the void would have a neutral effect on biodiversity with water within the channel representing a typical seasonal variation of between 7-9 weeks plus additional time to allow the engineering works to be completed of around 2 – 3 months.
- 5.7 MSW intend to apply (to NRW) for an amendment to the current discharge permit to accommodate a discharge rate of 265l/s in order to de-water of the pit lake within a reasonable timescale and maintain it at that level to enable the engineering works to take place. No other amendments regarding the quality of the discharge would be sought.
- 5.8 Additional details of the proposals are found in **Appendix D** of this SEI report that will be submitted to NRW for consideration and approval.



1 Llys Clwyd, Cwrt Y Dderwen, Ffordd Celyn, Ruthin, Denbighshire LL15 1NJ
email: rml@rmlconsult.com web: www.rmlconsult.com
Tel: +44(0)1824 704366
Registered in England and Wales No. 1848683 VAT Reg No. 401 424 313



6 Water Quality Monitoring Plan (WQMP)

6.1 The potential effects of the alternative restoration scheme on the post operational baseline conditions of the scheme were assessed as part of the EIA and reported in the ES submitted as part of the S73 Application in 2025. ES Chapter 9 Hydro-Chemical reports on the likely effects of the restoration on the water quality.

6.2 The assessment concluded that

- The alternative scheme contains a permanent body of groundwater water in the main void. This has no adverse effects on groundwater quality and presents a low risk to AMD issues arising. Quality of groundwater at source is easily accessible and can be monitored
- The water quality of the groundwater would remain unaffected by the final restoration proposals and would return to similar levels recorded prior to the surface mining operations. The main difference is that the groundwater is now left exposed by the excavation of the coal and overburden and is visible as a permanent lake
- The Alternative Scheme does not introduce new surface water flow routes off-site and does not increase the risk of flood elsewhere with the lake providing significant attenuating capacity during storm events. The retention and enhancement of existing water bodies and water treatment areas left post-surface mining operations is likely to result in betterment of water quality and improve biodiversity

6.3 Water quality monitoring has been ongoing throughout the operational period of surface mining since 2007 and has continued post mine closure since November 2023. The water quality monitoring was a requirement of Condition 44 during the operational period of the surface mine during coal extraction.

Condition 44

Details of a groundwater monitoring scheme shall be submitted to and approved in writing by the Planning Authority prior to development commencing. This shall include the location, number and depth of monitoring wells as well as the frequency of monitoring of groundwater levels and quality,



1 Llys Clwyd, Cwrt Y Dderwen, Ffordd Celyn, Ruthin, Denbighshire LL15 1NJ
email: rml@rmlconsult.com web: www.rmlconsult.com
Tel: +44(0)1824 704366
Registered in England and Wales No. 1848683 VAT Reg No. 401 424 313



together with determinants for analysis, to cover the periods prior to, during and after excavation and restoration.

REASON To protect groundwater resources.

- 6.4 NRW have requested that further information is provided in respect of water quality sampling during the post operational period including monitoring locations, frequency and details of conditions.
- 6.5 The issues of surface water quality have been presented in the ES (2025) for the alternative restoration scheme and mitigation proposed in the form of monitoring. As a result, the proposals for future monitoring are presented in **Appendix E – Water Quality Monitoring Plan (WQMP)** as a commitment undertaken by MSW during the final restoration phase.
- 6.6 The WQMP sets out the parameters of the proposed monitoring regime and Pollution Alert Values (PAV's) and as a continuation of Condition 44 that broadly aligns with the requirements of the Water Framework Directive (WFD 2015). The directive was not in force when the original scheme was consented in 2005. An assessment of the proposed restoration scheme under the WFD was submitted as part of the S73 application (refer to **Appendix 10B**). The assessment concluded that overall, the works as proposed are expected to result in improvements to the ecological diversity of the site, including the WFD status of receiving water bodies.
- 6.7 NRW have previously raised concerns² about the results of water sampling on site that identified elevated concentrations of some heavy metals and ammonia in the void and in water surrounding the site. In some limited cases the levels are elevated above the PAV's referred to above.
- 6.8 The ES submitted as part of the S73 application reported potential contamination, mainly as ammonia, in some of the monitoring points between the pit void and the landfill site. The source of this does not appear to be in the mine void groundwater but instead appears to be from the north-east and the Trecatti Landfill site.³ As part of the mitigation measures recommended in the 2025 ES, the continued monitoring of information from upgradient off site sources is recommended but this is reliant on obtaining third party information.

² NRW letter dated 17th April 2025 Ref CAS-275294-H025

³ ES 2025 para 9.6.15



- 6.9 This could have potential implications on the groundwater quality of the pit void lake, especially as there is adjudged no requirement for a groundwater management system at the Trecatti Landfill Site. Therefore, it is anticipated that should there be any elevated levels of ammonia within the pit lake, they are likely to originate at Trecatti Landfill Site and as such should be monitored and tested by the operator Biffa Waste Services Ltd in accordance with the Environmental Permitting (England & Wales) Regulations 2016.



1 Llys Clwyd, Cwrt Y Dderwen, Ffordd Celyn, Ruthin, Denbighshire LL15 1NJ
email: rml@rmlconsult.com web: www.rmlconsult.com
Tel: +44(0)1824 704366
Registered in England and Wales No. 1848683 VAT Reg No. 401 424 313



7 Trecatti Landfill Site

- 7.1 Trecatti Landfill Site lies outside the red line boundary for the approved scheme and is an operational landfill site managed by Biffa Waste Services Ltd and located to the north-east of the Ffos-y-Fran site. Up until 1992 the site was operated by Merthyr Tydfil Borough Council and at that time licensed to receive domestic, commercial and industrial wastes including difficult and special wastes.⁴
- 7.2 Trecatti Landfill has been constructed above the regional groundwater table of the Coal Measures strata and therefore no permanent groundwater management system is required. However, it is understood that temporary underliner drainage systems have been installed beneath the phases developed to date due to the presence of perched groundwater.
- 7.3 NRW have raised concerns (17/04/2025) that *“the extension of the originally permitted mine workings has brought the eastern sidewall boundary closer to the active Trecatti Landfill site. Sections of the eastern and southern side walls will now be exposed with revised reprofiling restoration works to the sidewalls and spoil tip OB1”*.
- 7.4 The alternative restoration proposals do not amend the existing profiles of the existing eastern and southern sidewall of the pit void as they currently exist. There will remain >200 metres of existing land between the southern boundary of the landfill site and the northern and eastern sidewalls of the void. There are no proposals to significantly amend the northern profile of OB1, the toe of which lies circa 50 metres from the southern perimeter of the landfill site. It should also be noted that OB1 is constructed as an engineering structure, and not a ‘spoil tip’ as described incorrectly by NRW.
- 7.5 Further information is provided by geotechnical specialists JA in the following appendices:
- Appendix F1** – Excavation wall adjacent to the Trecatti Landfill Site. (This report provides a review of the Geotechnical Assessment at **Appendix F2** as described below).
- 7.6 There were previous proposals considered by MSW to undertake a small extension to the Ffos-y-Fran site involving the excavation of three additional

⁴ NRW Permit Number EPR/RP3733PC



panels (varying in width of up to approximately 60 metres) extending the consented scheme further north-east towards the Trecatti Landfill site. These were proposed as three cuts numbered 26, 27 and 28, with excavations proposed down to the Lower Four Feet (BA) seam. A detailed geotechnical assessment of these proposals was carried out at the time.

- 7.7 While some of the work in the extension was subsequently undertaken, sections further south-east were not progressed due to slope stability concerns. Cut 26 was substantially completed, however, only the northern sections of cuts 27 (to the Bute G seam) and 28 (to the Red K and Big L seams) were progressed and now form the excavation limit of the works to the north-east corner of the site. The actual limit of excavation has been calculated as being a stand-off distance of around 213 metres to the south-west of Trecatti Landfill Site.
- 7.8 A geotechnical assessment of the original proposed scheme to extend the works titled 'Land Reclamation Extension' (Ref JA.M(SW).FYF.01.20) was undertaken by JA in February 2020. This is reported in the following appendices: -

Appendix F2 - Land Reclamation Extension – February 2020.



1 Llys Clwyd, Cwrt Y Dderwen, Ffordd Celyn, Ruthin, Denbighshire LL15 1NJ
email: rml@rmlconsult.com web: www.rmlconsult.com
Tel: +44(0)1824 704366
Registered in England and Wales No. 1848683 VAT Reg No. 401 424 313



8 Conservation Management Plan (CMP) for European Protected Species (EPS)

8.1 The alternative restoration proposals incorporate several ponds and associated habitat that support populations of Great Crested Newts (GCN). The presence of GCN is well documented both within the original ES dated and that prepared for the alternative restoration scheme dated and submitted as part of the S73 planning application.

8.2 NRW and MTCBC have requested that a Conservation Management Plan and licence application be prepared. NRW have also responded stating that:-

“Whilst we consider that submitted ecological reports provides an adequate basis upon which to consider the potential impacts of the scheme on this species, aspects of the proposed scheme will require further development. However, we are satisfied that this further information can be provided via a suitably worded conditions and obligations, included on the decision notice. Consequently, for the purposes of demonstrating no detriment to the maintenance of the favourable conservation status of the local population of the species planning conditions and obligations will be required.”

The alternative restoration proposals

8.3 The implementation of the final restoration strategy would see the restoration of the main void to a permanent water body, the re-profiling of the OB1 overburden tip and lower tier of the backfill slopes, and retention of the open cliff to the east of the pit lake. The remaining areas of the site would generally remain as they stand today, and a variety of habitats encouraged to continue regenerating naturally and developing habitats further enhanced. The existing waterbodies such as ponds and settlement lagoons, several of which contain evidence of great crested newts as reported in the Environmental Statement, would be retained and enhanced through the formation of shallower banks and margins.

Scope of the Conservation Management Plan (CMP)

8.4 The CMP would set out in more detail measures that would be put in place to avoid, mitigate and compensate for any adverse effects on the existing ponds and waterbodies and areas of adjoining terrestrial habitat. The alternative restoration proposals seek to preserve and enhance all the ponds and waterbodies within the S73 application red line boundary.



8.5 A draft contents list for the CMP is presented in the table below :-

Section	Content
1. Introduction	• Background to the scheme and • Relevant Legislation • Previous Conditions • Signposting to other relevant documents
2. Survey Information	• Review of previous survey information and records • Baseline Conditions (taken as 2024) • Description of existing ponds, eDNA results and records of HSI (2024) • Schedule of future surveys (to be agreed with NRW/MTCBC)
3. Need for the alternative restoration scheme	• Reiteration of the need for the scheme presented in the Green Infrastructure Statement and Environmental Statement
4. Consultation	• A record of previous consultations
5. Proposals & Methodology	The principles of the proposals to: • Avoid detriment to the great crested newts known to be present in the ponds on site • Minimise potential disturbance or damage to ponds and terrestrial habitat • Enhance terrestrial habitat through implementation of appropriate mitigation measures such as native tree and hedgerow planting
6. Mitigation Measures	Proposals for short- and long-term mitigation measures and demonstration of the stepwise approach and following measures to include:- • Locations and specification of stockproof and amphibian fencing • Considerations of access issues including PRow and maintenance access • Prescription of works to each pond/waterbody • Planting plans of terrestrial habitat including plant species • 5-year aftercare and establishment maintenance plan
7. Programme of Works	• Prepare an outline programme of site works and operations
8. Long term management and monitoring	• A description of proposed long-term management and monitoring activities and reporting protocols for a period of not less than 25 years.



- 8.6 The CMP would also include additional surveys and monitoring for the ponds south of Cwmbargoed Disposal Point and those in the Cwm Golau ecological area as requested by NRW. NRW have also requested that the Merthyr Common SINC should be included in the long-term management plan but much of this area also lies within the CEA.
- 8.7 The CMP will include the following areas and waterbodies:
- The Ffos-y-Fran application area defined by the red line boundary in the application
 - A 250-metre buffer zone around the application boundary
 - Tair Carreg Moor SINC
 - The Central Ecological Area (CEA) and SINC No's. 4 Merthyr Common Central (in the CEA) and
 - SINC 6 Cwm Golau Ecological Area
 - The Cwmbargoed Ecological Area
- 8.8 Note that the Cwmbargoed Ecological Area included within the CMP falls outside the jurisdiction of MTCBC and is subject to a separate planning permission consented by Caerphilly County Borough Council. However, it is considered appropriate to include this area for the purposes of the CMP.

Programme and Timescales

- 8.9 MSW have commissioned RML to prepare the CMP and the preparation of the CMP is currently work in progress. HSI surveys of additional ponds in Cwm Golau, Cwmbargoed and Tai Carreg Mor SINC were undertaken in October 2025.
- 8.10 Note that any further surveys be requested by NRW or MTCBC, these are seasonally constrained for great crested newts between the optimum months April – May. It is therefore an expectation, that the EPS Conservation Plan and licence application would be sufficient to determine the application to ensure that restoration could then continue to progress in spring 2026
- 8.11 The presence of great crested newts in several ponds was determined by eDNA surveys undertaken in 2024. Further updated presence absence surveys have been requested by NRW. It is proposed that due to health and safety concerns associated with some of the settlement lagoons and ponds (with steep sided slopes), non-invasive surveys would be deployed using a combination of eDNA testing, HSI and torching.



Planning Condition

- 8.12 NRW have indicated that the following conditions in respect of GCN is included with any planning permission granted and that no development, including site clearance, shall be commenced until a Great Crested Newt (GCN) Conservation Plan has been submitted to and approved by the Local Planning Authority.
- 8.13 It is proposed that with a suitable condition that the S73 planning application can be consented and that the CMP and licence application would be submitted to MTCBC and consented by NRW EPS licensing team prior to works re-commencing on site in 2026. A draft condition is set out for consideration below.

Proposed Condition

- 8.14 *“No development, including site clearance, shall commence until a Great Crested Newt (GCN) Conservation Plan has been submitted to and approved in writing by the Local Planning Authority. The Conservation Plan should build upon the principles outlined in the ecology reports and Environmental Statement, but not necessarily be limited to:*
1. *The submission (to include proposed timescales and reporting requirements) of further details and associated plans concerning GCN avoidance and mitigation measures including, but not limited to:*
 - *fence specifications, locations, construction and maintenance (one-way amphibian fence, prior to and throughout the duration of construction operations)*
 - *considerations of access issues (including PROW if applicable)*
 - *monitoring and maintenance requirements and supervised removal.*
 2. *The submission of further detail of on-site habitat retention, enhancement and creation proposals associated with terrestrial and aquatic habitats.*
 3. *Details of timing, phasing and duration of construction activities and conservation measures.*
 4. *Post-construction monitoring for a period to be agreed with the local authority. Methodology shall include GCN abundance counts and Habitat Suitability Index (HSI) assessments. All ponds to be added to the Wales*



GCN Monitoring Scheme, with individuals/bodies being identified as being responsible for monitoring and reporting works. “

REASON

To safeguard the protected species within and around the application site.

- 8.15 The final wording of the condition set out above is subject to further discussions and agreement with MSW. Detailed methodology of surveys for GCN abundance counts also need to be agreed with NRW and MTCBC.



1 Llys Clwyd, Cwrt Y Dderwen, Ffordd Celyn, Ruthin, Denbighshire LL15 1NJ
email: rml@rmlconsult.com web: www.rmlconsult.com
Tel: +44(0)1824 704366
Registered in England and Wales No. 1848683 VAT Reg No. 401 424 313



9 Construction Environmental Management Plan (CEMP)

9.1 A CEMP is often a condition of any planning permission that would typically be prepared by a contractor prior to works commencing on site who would be unknown at the time of a planning submission. The CEMP provides more details on how a construction project will manage any environmental risk, such as surface water run-off, air quality and noise.

9.2 The CEMP is often prepared in response to the Environmental Statement (ES) and the environmental actions and commitments made as mitigation measures to avoid, minimise or reduce any adverse effects potentially caused by construction activities.

9.3 The CEMP would be a similar requirement to the condition (46) that applied to the original planning permission previously approved as follows:-

46. *No development approved by this permission shall commence until a detailed Method Statement(s) describing the works to be undertaken and details of any necessary pollution prevention measures during the construction phase, has been submitted to and approved in writing by the Planning Authority. The Method Statement(s) must identify as a minimum:*

- *all fuels, oils and chemical storage facilities.*
- *details of surface water drainage arrangements to be installed to intercept and treat contaminated surface water run-off.*
- *details of measures to ensure there is no polluting discharge from haul roads and disturbed areas; and*
- *details of the nature, type and quantity of materials to be imported on-site.*

REASON To prevent pollution of the aquatic environment

9.4 An EMP was prepared as part of the ES (Chapter 18) that contained an outline CEMP (refer to Table 18-1). It is proposed that this document is used as a basis for the CEMP and that a suitably worded condition is attached to a planning permission for the S73 application.

9.5 The CEMP would also include a list of potential surveys required prior to any works commencing. This would include a Preliminary Roost Assessment (PRA) for bats of any buildings to be demolished or removed as part of the final restoration works.



1 Llys Clwyd, Cwrt Y Dderwen, Ffordd Celyn, Ruthin, Denbighshire LL15 1NJ
 email: rml@rmlconsult.com web: www.rmlconsult.com
 Tel: +44(0)1824 704366
 Registered in England and Wales No. 1848683 VAT Reg No. 401 424 313



- 9.6 A Record of Actions and Commitments (REAC) would also be provided. This would be used to keep track of all the restoration scheme commitments and to ensure they are fulfilled. The REAC would list relevant commitments from legislation and commitments made within the ES principally taken from the mitigation sections of each topic chapter.



1 Llys Clwyd, Cwrt Y Dderwen, Ffordd Celyn, Ruthin, Denbighshire LL15 1NJ
email: rml@rmlconsult.com web: www.rmlconsult.com
Tel: +44(0)1824 704366
Registered in England and Wales No. 1848683 VAT Reg No. 401 424 313



10 Landscape and Ecological Management Plan (LEMP)

- 10.1 A LEMP has been requested by NRW to be a condition of any planning permission to be submitted within 12 months of determination/approval. MSW would be accepting of such a condition. The draft condition is set out below:-

Planning Condition

- 10.2 *“Within 12 months of the date of consent, a Landscape and Ecological Management Plan (LEMP) for the provision, management and maintenance of the landscape and ecological features at the site has been submitted to and approved by the Local Planning Authority. The Plan shall include, but not be limited to:*

The submission of a long-term site management plan (not less than 25 years) that includes:

- a) Details of habitats and ecological features present or to be created, both in written form and shown on appropriate drawings, including planting plans.*
- b) Defined aims and objectives (including defined key performance indicators for long term monitoring indicators).*
- c) Location, including geographical information system shapefiles*
- d) Details of the desired condition for each habitat and criteria to determine when habitats have achieved this*
- e) Details of short and long-term habitat management prescriptions to both achieve and maintain the desired condition*
- f) Details of monitoring methodologies for species*
- g) Details of scheduling and timings of activities*
- h) Current and any proposed changes to the tenure of ecology area(s) (tenure of the ecology and heritage area to be approved by the Local Planning Authority*
- i) Demonstrate how any issues with the site being designated as common land will be addressed post site restoration*
- j) Persons or bodies responsible for undertaking management and surveillance together with required skills and competencies*



- k) *Site liaison and wardening*
- l) *Licensing requirements for management surveillance and other defined activities Biosecurity measures which consider invasive non-native species and specific diseases (e.g., Chytrid) to prevent the introduction of and where present control, removal or for the long-term management of invasive species both during construction and operation*
- m) *Details of reporting, review and update of the plan (informed by monitoring) at specific intervals as agreed*

REASON

A LEMP is required for the purposes of demonstrating the population of great crested newts is being monitored and recorded with the aim of reaching favourable conservation status in the long term.

- 10.3 MSW are keen to explore further avenues of collaboration with other key stakeholders over any monitoring requirements and long-term management activities. These include voluntary and charitable bodies that could offer assistance on a voluntary basis and also statutory bodies such as NRW.
- 10.4 Further consultations with the Gelligaer & Merthyr Commoners Association over long term land tenure and management of the urban common would also be undertaken as part of the LEMP.



1 Llys Clwyd, Cwrt Y Dderwen, Ffordd Celyn, Ruthin, Denbighshire LL15 1NJ
 email: rml@rmlconsult.com web: www.rmlconsult.com
 Tel: +44(0)1824 704366
 Registered in England and Wales No. 1848683 VAT Reg No. 401 424 313



APPENDICES

Contents

Appendix A – Consultation Responses

- A1 - NRW response 09-09-2024
- A2 - MTCBC response 04-10-2024
- A3 - NRW response 17-04-2025
- A4 - MTCBC ecology memo 02-04-2025
- A5 - LPA Technical Note 15-04-2025
- A6 - MTCBC response 13-06-2025 re s73 Application
- A7 - RML response to MTCBC 07-07-2025
- A8 - James Associates response to WSP 08-07-2025
- A9 - NRW letter to MTCBC 07-10-2025

Appendix B – Dowlais Free Drainage System

- B1 - GGAT - A788 East Merthyr Reclamation Scheme
- B2 – Geotechnical Note – James Associates
- B3 – Hydrogeological Assessment Report – Groundwater Science

Appendix C – Surface Water Monitoring Plan

- C1 - GS270_C001_SW_monitoring

Appendix D – Pit Lake De-Watering

- D1 - Dewatering Proposal Pit Void Spring
- D2 - Dewatering Procedure
- D3 - WB Water Treatment Lagoons
- D4 - Dewatering Plan

Appendix E - Water Quality Monitoring Plan (WQMP)

- E1 - FF 2025 Monitoring Program review Draft R2

Appendix F - Trecatti Landfill Site

- F1 - Excavation wall adjacent to the Trecatti Landfill Site
- F2 - Geotech Report 01 - Reclamation Scheme Extension
- F3 - Extension Sections 202510 - Location Plan
- F3 - Extension Sections 202510 - Sections



1 Llys Clwyd, Cwrt Y Dderwen, Ffordd Celyn, Ruthin, Denbighshire LL15 1NJ
 email: rml@rmlconsult.com web: www.rmlconsult.com
 Tel: +44(0)1824 704366
 Registered in England and Wales No. 1848683 VAT Reg No. 401 424 313

