

Glyn Rhonwy Pumped Storage Development Consent Order

Outline Materials Management Plan



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Revision	Date	Amends	Revised By:	Approved By:
0	June 2016	Deadline 5	DM	CA
1	August 2016	Deadline 7	DH	CA

1 INTRODUCTION

1.1 INTRODUCTION

- 1.1.1 Snowdonia Pumped Hydro (“the Applicant”) has submitted an application for a Development Consent Order (“DCO”) for a pumped storage facility known as Glyn Rhonwy Pumped Storage. The generating capacity of the Development exceeds 50 megawatts (MWe) and it is therefore designated as a Nationally Significant Infrastructure Project (“NSIP”) under the Planning Act 2008.
- 1.1.2 This document was prepared for the DCO application to comply with the requirements of Regulation 5(2)(q) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 and in accordance with the Department for Communities and Local Government guidance ‘Planning Act 2008: Application Form Guidance’ and the Planning Inspectorate Advice Note 6 on Preparation and Submission of Application Documents.
- 1.1.3 This document sets out the minimum contents for the Materials Management Plan which is to be adopted when constructing the Development.

2 MATERIALS MANAGEMENT PLAN

2.1 INTRODUCTION

2.1.1 The preparation of a detailed Material Management Plan (MMP) is to be finalised and approved prior to construction commencing as per Requirement 7.

2.2 OBJECTIVE

2.2.1 This MMP aims to characterise and quantify the materials generated on site from the construction of the Development, describe how they will be dealt with, and provide an auditable system to demonstrate that best practice is adhered to.

2.2.2 The MMP will be finalised by the Applicant and Principal Contractor (PC) and will be a live document during construction. The minimum contents of this MMP will include the following:

- the identification of materials generated;
- how these materials will be used;
- how these materials will be moved and stored within the site; and
- how material management will be audited and recorded.

2.2.3 This MMP should be read in conjunction with the Ordnance Management Strategy (OMS). Any materials identified as unexploded ordnance (UXO) or are produced from the management of UXO such as casings and scrap will be dealt with by the OMS and not by this MMP due to the specialist nature of UXO management and removal.

2.3 MATERIALS MANAGEMENT

Slate

2.3.1 Slate will be the predominant material generated on site. The CL:AIRE Definition of Waste: Development Industry Code of Practice (DoW CoP),

which sets out good practice endorsed by the Environment Agency in their consultation response included in the Planning Inspectorate's Scoping Opinion in 2012, provides the guiding principles which will be implemented for the management of excavated materials on site.

- 2.3.2 Approximately 810,000m³ of excess material will be generated from the Development, around 650,000m³ of which will be transported to the new excess spoil mounds at Q1 from Q6. A conveyor connection in the penstock will facilitate this movement of material between the quarries and is not anticipated to have any additional effects.
- 2.3.3 All excavated material will be graded with only suitable material utilised in the construction of the dam, with less suitable material used for landscaping purposes or incorporated into the existing spoil mounds. Where required, screening for UXO will be undertaken as prescribed in the OMS as part of any remediation and management of any identified UXO.
- 2.3.4 The spoil mounds located to the south west of Q1 will be designed to minimise any visual impact and have been designed to encourage natural re-colonisation of vegetation, where practical. Slate waste will also be re-used on site wherever reasonably practicable to create access tracks
- 2.3.5 Slate crushing will be required on site and therefore suitable mitigation measures will be implemented to prevent runoff, such as settlement lagoons.
- 2.3.6 The re-use of slate waste has already been successfully undertaken during the extension of the upper storage reservoir, Marchlyn Mawr, at Dinorwig hydroelectric power station. During these works the embankment level was raised by 1.3m using locally derived slate waste. This construction method will help to ensure that waste will not need to be disposed of at an alternative location and demonstrates adherence to the waste hierarchy.
- 2.3.7 Subject to geotechnical testing, all excavated materials will be re-used on site wherever reasonably practicable and any contaminated material requiring remediation will be treated onsite where it is reasonably practicable to do so. However, if it is not possible to reuse or remediate material onsite, a licensed off-site waste disposal facility will be used and

waste will be disposed of in accordance with the Waste Management Plan (WMP).

Figure 1 illustrates the processes involved in the management of slate generated by the Development. It should be noted that the UXO screening works will dovetail this process but is covered under the OMS.

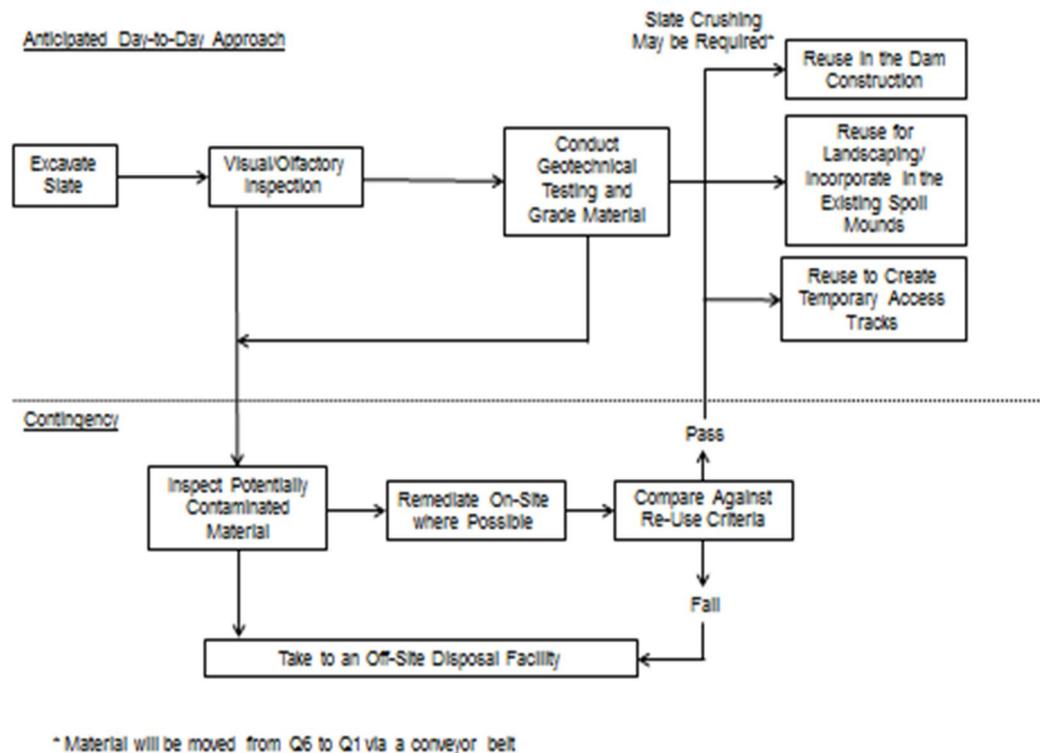


Figure 1 – Schematic flowchart demonstrating the processes involved in slate management

2.3.8 Wood and Foliage The waste wood and foliage material resulting from the removal of trees will be managed in-line with the Waste Hierarchy as detailed within the Waste Framework Directive, thus helping to minimise potential environmental issues pertaining to this process.

2.3.9 Wherever feasible, the generation of tree and foliage waste will be prevented and these features will be retained in-situ, especially as part of the Development site is subject to a Tree Preservation Order (TPO) which includes groups and woodland areas as well as individual trees.

- 2.3.10 However, the retention of trees and foliage will not always be possible; therefore the reuse of material on site will be explored wherever practicable, with wood material either reused in construction, or within landscaping aspects such as the use of wood chippings, or as mulch to enhance soil quality to aid the re-planting of trees.
- 2.3.11 Should this not prove to be a viable option for all generated material, then excess wood waste will be stored under cover, such as tarpaulin, to protect wood from the weather so that it may be re-used wherever possible off-site e.g. as carpentry material or offered to the local community for fire wood and biomass.
- 2.3.12 Attention will also be paid to the proximity principle, with local uses for waste materials considered where this represents the best practicable environmental option. For all material that cannot be re-used on or off site, or recycled, then elements of the wood and foliage material can be converted into wood-chip. Through following this process, it will be possible to limit the volume of tree and foliage waste sent for disposal as far as practicably possible. Discussions have been undertaken with Minerals and Waste department of Gwynedd Council regarding this matter and the above agreed.
- 2.3.13 Figure 2 demonstrates the processes involved in the management of trees and foliage.

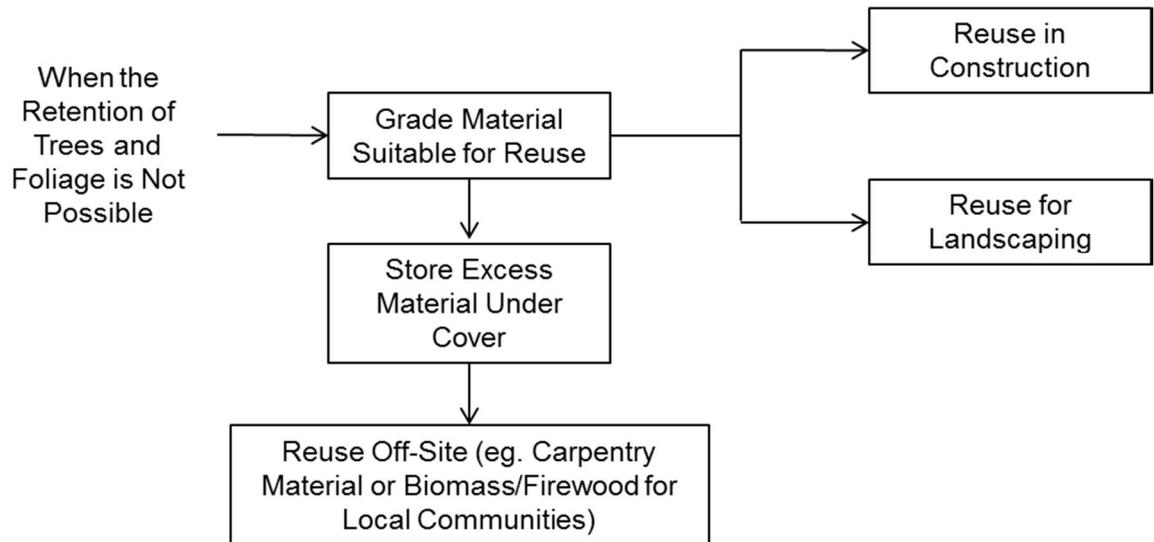
Anticipated Day-to-Day Approach

Figure 2 – Schematic flowchart demonstrating the processes involved in the management of trees and foliage

2.4 AUDITING AND RECORDING

- 2.4.1 The MMP will ensure that any movement of materials from the Development within and outwith the Order Limits will be recorded and audited. Auditing and recording will primarily relate to slate as this will be the predominant material generated on site, and will be conducted in accordance with the guiding principles of the CL:AIRE CoP. The generation of organic material will be localised and the material will be stored in one area. Any organic material taken off-site will be recorded.
- 2.4.2 The Materials Management Plan will be reviewed by a Qualified Person (QP) who is an approved person registered by CL:AIRE. The QP will review the evidence provided in the MMP to confirm it complies with the CoP and when satisfied that the documentation supplied meets the requirements will sign the Declaration for submission.
- 2.4.3 During the works the PC will implement the MMP, tracking and controlling the movement of materials in accordance with the plan, with the testing and screening as required. Appendix A provides an example of a spreadsheet used to record the excavation, placement and disposal of slate. The PC will

be responsible for the collection and recording of verification data in accordance with the MMP.

- 2.4.4 Upon completion of the works a Verification Report will be compiled documenting the works undertaken. This is required to satisfy the requirements of the MMP / CL:AIRE CoP (without this the CoP has not been complied with and may result in subsequent failure of any Environment Agency audit).

APPENDIX A – Example Slate Tracking Spreadsheet

Example Slate Tracking Spreadsheet

ID	Date	EXCAVATION				PLACEMENT				DISPOSAL			
		Area/ Stockpile	Description	Load No.	Test Ref	Area/ Stockpile	Description	Load No.	Test Ref	Date	Site Ref	Ticket No.	Test Ref
1													
2													
3													
4													
5													
6													
7													
8													
9													

Explanatory Notes:

- This spreadsheet is an example of a system to track the movement of material around and off the site and is an integral component of the Materials Management Plan.
- Description should include type of material and visual appearance.
- Each load taken to an area of fill or stockpile can be given a unique ID.
- Test ref. is the laboratory certificate number corresponding to tests performed on the material, if applicable.
- In this example the tracker has been setup for the removal of material from site, so includes the capacity to record waste transfer references and any corresponding laboratory certificate references for tests performed to satisfy the requirements of the accepting waste management facility,
- Accompanying the completed tracking spreadsheet should be a series of plans showing the position of each area of excavation, fill and stockpile in relation to the site layout.

Prepared by DH		Title Appendix A EXAMPLE SLATE TRACKING SPREADSHEET	
Approved by CA	Date: 27/07/16		
		Project Glyn Rhonwy Pumped Storage DCO	