

**NEATH PORT-TALBOT COUNTY BOROUGH COUNCIL
STREETSCENE AND ENGINEERING CABINET BOARD**

21st May 2021

Report of Head of Engineering & Transport – D.W.Griffiths

Matter for Decision

Wards affected: Godre'r Graig

**Design Options for the Remediation of Cilmaengwyn Tip above
Godre'r Graig Primary School**

Purpose of Report

To obtain Members approval to direct award Earth Science Partnership work to investigate design options and produce budget estimates for works associated with the remediation of Cilmaengwyn Spoil Tip.

Executive Summary

The report outlines the risks associated with Cilmaengwyn tip to Godre'r Graig Primary School & the wider village and remedial options.

Background

Inspection of historic Ordnance Survey plans dating from 1877 indicates the overall site to have initially developed with the formation of two small quarries, one named Cwar Pentwyn and the other un-named and described as an 'old quarry'. A mine entry (adit) is shown as an 'old coal level' at the southwest corner of Cwar Pentwyn with a small spoil tip immediately adjacent. Mounds of quarry waste are shown to the south and east of both quarries.

The 1898 plan shows Cwar Pentwyn to have expanded slightly, with a corresponding increase in spoil tip mounds to the south and east. Both quarries appear to be disused on the 1918 Edition plan, with Godre'r Graig School having been constructed during the period between surveys.

The spoil tip to the east is the problematic one above the school. The majority of the land on which this tip is on, is in the ownership of Neath Port Talbot CBC and is registered on the same Land Registry Title as the school. The other tips within this complex are on privately owned land.

Investigations to Date

Earth Science Partnership were commissioned in 2019 to investigate the tip material and land slip above Godre'r Graig School following concerns raised following the investigation works on the Pantteg Landslip on the same hillside but further up the valley.

The first body of work was to investigate the possible affect the tip could have on the school and the results are contained in the following reports, which can be found online at <https://www.npt.gov.uk/19911> :-

Godre'r Graig School Interpretive Report - ESP.7234e.02.3302 - Godre'r Graig Primary school Preliminary Investigation and Additional Assessment

Preliminary Landslide Hazard and Risk Assessment - ESP.7234e.3221 - Godre'r Graig Primary School Preliminary Landslide Hazard and Risk Assessment

Godre'r Graig School Executive Summary - ESP.7234e.02.3339 - Godre'r Graig Primary School Executive Summary; Preliminary Investigation and Additional Assessment

The second body of work was to investigate the possible affect the tip could have on the wider village of Godre'r Graig and the results are contained in the following reports, which can be found online at the address noted above:-

Wider Godre'r Graig Preliminary Landslide Hazard And Risk Assessment - ESP.7372e.3331 - Godre'r Graig Village Preliminary Landslide Hazard and Risk Assessment

Godre'r Graig Village Executive Summary - ESP.7372e.3394 - Godre'r Graig Village Executive Summary; Preliminary Landslide Hazard and Risk Assessment

The final report is the Combined Summary of Land Stability for Godre'r Graig Village and School Site - ESP.7234e.7372e.3451.Rev1 - Godre'r Graig Village Land Stability Summary.

The conclusions contained in the last report were as follows

Primary School Area

Risk management or mitigation options were considered and following an assessment using a semi-quantitative scoring system. Each mitigation option was scored for effectiveness, durability, practicability, sustainability, and cost. The scoring system was given +1, for a positive impact, 0 (or zero) for a neither negative nor positive impact and a -1 for a negative impact, all relative to the other options. The risk management or mitigation options that scored the highest were:

1. Stop using the current school property such that the tip no longer represents a risk to users, 1 point; or
2. A combined approach of incorporating drainage to create betterment only, install monitoring points and produce warning system, 2 points. It is worth noting that this option only scores higher than the option above because of cost, not because it is viewed as safer.

The assessment showed that physically removing the tip spoil or some combination of hard-engineered structure(s) are unlikely to be favourable due to physical conditions & cost.

The original/initial slope stability assessment based on ground investigation has shown that the Quarry Spoil Tip is marginally stable (marginally stable - likely to fail at some time in response to destabilising forces reaching a certain level of activity). This assessment broadly aligns with the medium risk assigned to the Quarry Spoil Tip in ESP's previous report (ESP 2019).

Following additional monitoring of the in-ground instrumentation in 2020 suggests that the Quarry Waste (Hazard Type 2a), may be, or has become, actively unstable (actively unstable - slopes where destabilising forces produce continuous or intermittent movements). Downward continuous and/or intermittent movements have been recorded via inclinometers. This would need to be considered in point 2 above.

Wider Godre'r Graig Village

The assessment has shown that there is a very low to low risk to residential properties in Godre'r Graig, which is "usually acceptable to regulators" (AGS, 2007). No specific remedial or mitigation recommendations are considered necessary. Risks to cemetery users is likely to be lower than the risks to residential properties surrounding the cemetery (due to lower frequency & duration of occupation). The risk to residential properties to the south of Graig Road is very low, due to their location.

Remedial Options

There are three main remedial options for the tip material.

1. The removal of the spoil material associated with Cilmaengwyn Tip.
2. A hard engineering solution in the form of bunds, catch walls etc., with associated drainage to protect Godre'r Graig Primary School site from the slip of any spoil material associated with Cilmaengwyn Tip.
3. The demolition of Godre'r Graig Primary School building and reusing the site with a community benefit.

Proposal

A Specialist Consultant should be appointed to investigate design options and produce budget estimates for works associated with the remediation of Cilmaengwyn Spoil Tip. To include but not limited to:-

1. The development of a design (including methodology) and production of a budget estimate for the removal of the spoil material associated with Cilmaengwyn Tip and associated drainage works.
2. The development of a design and production of a budget estimate for a hard engineering solution in the form of bunds, catch walls etc., with associated drainage to protect Godre'r Graig Primary School site from the slip of any spoil material associated with Cilmaengwyn Tip.
3. The development of a design and production of a budget estimate for demolition of Godre'r Graig Primary School building and reusing the site with a community benefit. This option will have to take into account the effect on properties downhill of the school from the slip of any spoil material associated with Cilmaengwyn Tip.

In order to maintain continuity of the geotechnical expertise it is proposed to appoint, via direct award, Earth Science Partnership using the rates & terms agreed in the South West Wales Regional Civil Engineering Framework and that the civil engineering experts will be sub-contracted to Earth Science Partnership.

Financial Impact

The feasibility study will be funded from the Councils Revenue Contingency Budget as set out for 2021/22.

The study is estimated to be in the region of £20K.

Integrated Impact Assessment

A first stage impact assessment has been undertaken to assist the Council in discharging its legislative duties (under the Equality Act 2010, the Welsh Language Standards (No.1) Regulations 2015, the Well-being of Future Generations (Wales) Act 2015 and the Environment (Wales) Act 2016.

The first stage assessment, attached at Appendix A, has indicated that a more in-depth assessment is not required. A summary is included below:-

A full impact assessment is not required, as the proposed remediation works will provide a benefit to the Community.

Valleys Community Impacts

There are '**No implications**' associated with this report.

The findings of this study and community valley impacts will be considered in a future report.

Workforce Impacts

There are '**No Implications**' associated with this report.

Legal Impacts

There are '**No Implications**' associated with this report.

Risk Management Impacts

There are no risk management impacts associated with this report.

Consultation

No formal consultation has taken place.

Recommendations

Having due regard to the Integrated Impact Assessment Screening it is recommended that;

Members approve the direct award of work to investigate the design options to Earth Science Partnership, including the production of budget estimates for all works associated with the remediation of Cilmaengwyn Spoil Tip.

Reason for Proposed Decision

To help produce a suitable remediation option for Cilmaengwyn Tip.

Implementation of Decision:

The decision is proposed for implementation after the three-day call in period.

Appendices

Appendix A – Integrated Impact Assessment.

Background Papers

As outlined within this report and published on the Councils website.

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