

**Berry Hill Quarry, Mansfield**  
**Site Inspections Update**  
**February 2020**



**FAIRHURST**

## **1.0 Background**

Following the large composite soil and rock failure at Berry Hill Quarry, on the 7<sup>th</sup> November 2019, Fairhurst have implemented regular photographic surveys and inspections at the site. These were implemented following the completion of the temporary emergency works and associated full time site presence on site.

The temporary works put in place measures to reduce risks to residents and properties associated with further failure. This has included the clearing of debris, tree height reduction, tree removal, de-vegetation and removal of loose materials, creation of a rock trap, a haul road/rock trap at the base of the quarry and concrete road barriers. Additionally, restricted garden access has been implemented post emergency work and pre-stabilisation.

Since completion of temporary works, Fairhurst have now completed a total of 12 No. visits, the inspection for the latest of which is enclosed to this update.

No increase in risk has been identified and inspections have continued at approximately weekly intervals. The quarry wall has continued to display small failures (small block <1m<sup>3</sup>) and ongoing ravelling and weathering, as per previous reports and assessments. No evidence of potential large mass failure, similar to that seen on the 7<sup>th</sup> November 2019, has been identified.

## **2.0 Weather Events**

It is recognised that the failure event in November 2019 was considered to have been triggered by an extreme climate event, with the wettest October on record, resulting in increased pore water pressure in already saturated ground. This triggered movement and further infiltration of water into the soil and weak rock, and a subsequent slip of composite soil and rock.

Storm Ciara moved across the whole of the UK on the weekend of the 8<sup>th</sup> February 2020, which brought heavy downpours of rain and gusts of wind, including locally at Berry Hill Quarry. The Environment Agency data indicates that more rain fell on the 7<sup>th</sup> February 2020 in the local area (23mm, weather station 3) than in the whole of the preceding week for the same area. An amber weather warning was issued across much of the UK, including Nottinghamshire. Once the storm passed, the local weather did see a reduction in precipitation and decrease in temperatures, with resultant snow during week commencing the 10<sup>th</sup> February 2020.

Storm Dennis followed the next weekend with further weather warnings, wind and downpours recorded. The weather station closest to Mansfield reported high rainfall (albeit <20mm each day) again on the 14<sup>th</sup> and 15<sup>th</sup> February 2020. Due to the short time between the storms, the ground remains saturated and as a result parts of the UK have seen flooding when further persistent rain has followed.

Fairhurst have monitored the local Mansfield weather forecasts and adapted the inspection days to suit, with one being undertaken on the 11<sup>th</sup> February 2020 and most recently on the 18<sup>th</sup> February 2020. It is encouraging to see that no increased features which may indicate creep or movement of the soil and overburden have been observed from our inspections at the toe of the slope.

Ongoing block failure has occurred (as it has previously) and our recent inspection enclosed (18<sup>th</sup> February 2020) recorded some vegetation and small blocks had come down following the inspection on the 11<sup>th</sup> February. These small areas of debris are likely to have been influenced by high winds and rainfall, however they are characteristic of the low impact/low risk failure mechanisms commonly occurring at the site.

Fairhurst will continue the site inspections and associated memos to communicate any issues, or lack thereof, to residents and the Council. If residents have any concerns or observe anything as per the 'return to home' guidance, they are advised to contact the Council on the number contained within the memo enclosed.

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## **Appendix 1**

### **Site Inspection Memo 18.02.2020**

FH Reference: 125592	Project : Berryhill Landslip Remedial Works	Date of Site Visit: 18/02/2020
<p>Mansfield District Council (MDC) have appointed Fairhurst to undertake regular site inspections of the quarry wall between completion of the emergency response works (w/e 24<sup>th</sup> November 2019) and the commencement of the permanent works in this portion of the quarry in early 2020.</p> <p>During a recent inspection on Friday 18<sup>th</sup> of February 2020, the weather was cloudy. There was a 1cm covering of snow on the crest and toe of the quarry.</p> <p>A photographic record of the quarry has been collated and is being updated on inspection and no obvious visible changes have been noted from the previous site visit (11/02/2020). Minimal further noticeable debris was noted in the rock trap at the toe of the slope. Fairhurst are not aware of any reported issues to MDC and the garden hedges fencing remained in situ as agreed. No increase in risk has been determined from the recent inspection.</p> <p>If residents see or hear anything associated with the cliff face, please call 01623 463 050 to report this to the Council.</p> <p>Photographs included overleaf.</p>		
Prepared by: Joshua Blacker Engineering Geologist, Fairhurst		Date: 18/02/2020
<p>Distribution: Mansfield District Council – James Biddlestone</p> <p>For distribution to affected residents on Stone Bank and Bank End Close.</p>		





Photograph 1 : Looking along the southern flank of the quarry to the south west corner (Image taken on 18/02/2020)





Photograph 2: Previous failure scar (Image taken on 18/02/2020)





Photograph 3: Looking at a small landslide scar on the southern flank, middle of Unit 7. The small failure and debris occurred between the 11<sup>th</sup> and 18<sup>th</sup> of February 2019. (Image taken on 18/02/2020).





Photograph 4 : Looking west to the south west quarry corner (Image taken on 18/02/2020)





Photograph 5 : Looking at western flank and previous failure scar (Image taken on 18/02/2020)





Photograph 6: Looking north to the end of Unit 8. Debris from a small failure reported on the 24<sup>th</sup> November 2019 is in the foreground, while debris in the background is from a later small failure that occurred between the 11th and 18th of February 2019. (Image taken on 18/02/2020).



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