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PROJECT NAME

DINAH'S HOLLOW, MELBURY ABBAS

REPORT

SLOPE STABILITY OPTIONS APPRAISAL

CLIENT

MELBURY ABBAS & CANN PARISH COUNCIL

REFERENCE NO

C11895

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1 Introduction

Red Rock Geoscience Limited (Red Rock) have been instructed by Melbury Abbas and Cann Parish Council (The Client) to provide a slope stability options appraisal for the road cutting known as Dinah's Hollow to the north of Melbury Abbas.

The road cutting has experienced some slope failure over the last few years and it is currently recommended to complete stabilization of the cutting using a mesh and anchor solution. It is likely that this approach will require significant vegetation clearance and as a consequence The Client has requested a review of available options.

2 Background

2.1 Site Location

The site is located along a 440m long section of the C13 road to the immediate north of Melbury Abbas at approximate National Grid co-ordinates 388240, 120415. We understand that following a fatal landslide at Beaminster in July 2012, Dorset County Council (DCC) studied other slopes within their highway network for signs of potential failure. A report on the Dinah's Hollow site was issued in December 2013[1] which concluded that there was "*the potential for large quantities of material to slip, unannounced, onto the highway… [s]ufficient to bury a passing small vehicle*." A stabilisation options appraisal report was issued in November 2014[2] following further investigation and analysis which concluded that the preferred option was" to *soil nail the slopes and use a hard facing on the steeper, lower slopes and flexible facing on the upper slopes*". Reference will be made to these reports within this 2024 assessment, however for full details the original documents should be consulted.

We understand that remediation scheme was developed but was put on hold by DCC in December 2015 to consider funding options for the scheme.

In March 2016 approximately 35 tonnes of soil slipped from the east bank onto the road which caused its temporary closure. A further three slips were recorded in October 2021 from the east bank. Approval to reactivate and progress the scheme was discussed and approved by DCC in 2020 and 2021 with WSP being commissioned in 2022 to review the scheme design and confirm it remained adequate and conforms to current standards.

2.2 Beaminster Tunnel

We understand that part justification for the subject stabilisation works is due to a landslide that occurred on the southern portal exit to the Beaminster road tunnel on the A3066 in July 2012 following a period of heavy rainfall which engulfed a passing vehicle killing two people. The geology at this location comprises of Upper Greensand Formation overlying the Gault Clay Formation. The contact between the Upper Greensand Formation and the Gault Clay Formation is often marked with a spring line and landslides do occur in this geological context, particularly in relation to the Gault Clay Formation[3]. As described in Section 2.3, the geological conditions at Dinahs Hollow are significantly different to that at Beaminster.

2.3 Geology at Dinah's Hollow

Two Phases of Ground Investigation have been completed at the site[1,4] between 2013 and 2014. In summary, the site is underlain by the Upper Greensand Formation, at this location further subdivided into member's:

- Melbury Sandstone Member
- Boyne Hollow Chert member
- Shaftesbury Sandstone Member
- Cann Sand Member

The investigation completed in 2014[2] concluded that there was little to differentiate the on-site geology into its substituent members and it was decided to combine the site under the parent Upper Greensand

[1] Brody Forbes. 2013. Investigation and Report into Stability of Existing Road Cutting. ST/TJC/7125A-R-001
[2] Parsons Brinkerhoff. 2014. Dinah's Hollow Stabilisation Options Report. 285400AF-HLT/1
[3] Ellis, L.A., Harrison, E., and Bowden, A.J. 2011. Landslides on Gault: Geomorphological Identification and Qualitative Risk Assessment. Quarterly Journal of Engineering Geology and Hydrogeology, 44, 35-48.
[4] Environmental Scientifics Group. 2014. Dinah's Hollow, Melbury Abbas – Phase 2 Ground Investigation. H4042-14A

Formation. Here, it was typically recorded as a medium dense to dense sand with occasional beds of clay and the subsequent analysis and design was made on this basis.

A back analysis of the slope determined that to be metastable (i.e. on the edge of failure) an angle of shearing resistance of 35° (i.e. safe slope angle) was needed with an apparent cohesion[5] of 10kPa. It was determined that the onsite geology is granular in nature, shows no effective cohesion and was very weakly cemented (i.e. an apparent cohesion of 0kPa), therefore this scenario was unlikely to be achieved. Groundwater levels were monitored at the site with the majority of wells being dry throughout the monitoring program, however it should be noted that this was during August and September 2014, where it was likely to be drier. Where water levels were recorded, they were at depths of between 8.37 and 14.45m below ground level (mbgl).

2.4 Existing Options Appraisal

The 2014 report[2] provided a stabilisation options appraisal which considered the following options:

- Regrading of the slope. Cutting the existing slopes back to an angle of 28° was considered appropriate and removal of approximately 42,200m^2 of material was estimated.
- Soil Nailing. Spacings of 1m were assumed at an inclination of 10° to the horizontal. Soil nails of 8m were considered appropriate. Drainage would be installed at 5m intervals at a length of 8m. A hard facing would be installed on the lower, steeper slopes to comprise of soil panels which would be hydroseeded to allow vegetation to grow. Flexible facing would be installed on the shallower upper slopes and would be hydroseeded to promote vegetation growth.
- Bioengineering. The use of vegetation to provide stability was also considered. It was concluded that the existing vegetation was providing some stabilising effect, which explained the existing topography, but the extents of this were likely to be highly variable across the slope due to the large variety of vegetation present. Areas with limited or no vegetation would likely not benefit from this effect. It was concluded that the weight of larger trees was likely providing a detrimental effect to the slopes stability and that there was a risk of trees falling during storm events, the failure of which could cause increased damage to the slope, however the reintroduction of suitable planting was strongly recommended post installation of any stabilisation measures.
- Vertical realignment. Raising the vertical alignment of the road in the lower section was also considered, however this was not considered a standalone solution and would need to be completed in conjunction with other solutions.
- Retaining Structures. The installation of retaining structures was considered through the hollow, both sheet or bored piled as well as a mass gravity retaining wall. This would involve extensive temporary works, excavation of material and would fundamentally alter the aesthetic of Dinah's Hollow. It was discounted as a potential solution as a consequence.

Following discussion of the positives and negatives of each option the soil nailing option was considered the preferred option with a hard facing on the lower slopes and flexible facing on the upper slope.

2.5 Red Rock Site Visit

The site was visited by Red Rock on 15th August 2024. During the site visit the weather was overcast and damp with occasional rain showers. The site runs along the C13 and was inspected during a road closure between two sets of traffic lights, one at the south at the entrance to Melbury Abbas and the second set of lights approximately 200m to the north. The site is located within a deep cutting, understood to be a "hollow

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[5] Cohesion is the bonding of soil particles by electrostatic forces and is of primary importance in clay and silt soils. Granular soils are generally considered to be "cohesionless, i.e. there is zero cohesion. Apparent cohesion can be exhibited by granular soils through surface tension in the surrounding pore water, cementation of the grains or through the effects of roots. Both cohesion and apparent cohesion may be lost over time through a variety of processes.

way" (i.e. a road that is at a lower level to the surrounding land, formed through a mixture of erosion by water or traffic over a long period of time). Either side of the carriageway between the traffic lights is a continuous extension of concrete blocks (each block being approximately 3m in length and 50cm high). A Site Layout plan is presented as Appendix A and a series of photographs are presented as Appendix B.

In the south of the site the height of the banks either side of the road itself is approximately 5m above road level. This increases to approximately 14m in the middle of the section inspected before dropping to a height of around 7m beyond the northern set of traffic lights. Approximately 300m north along the C13 is a former quarry cut into the west bank. Sandstone bedrock is exposed within this quarry and is heavily vegetated and overgrown.

Dinah's Hollow is heavily vegetated throughout, comprising a mixture of broad-leafed woodland (including beech, holly and sycamore amongst others) with some low-level vegetation on the slope sides (including ferns and ivy.).

The slope sides immediately adjacent to the road were steeply cut, being near vertical in places and typically between 60° and 70°. Above approximately 2 to 3m this shallows to an angle of between approximately 38° and 51° to the slope crest.

Along the length of section inspected there was evidence of shallow failures, both historically and more recent and cracking throughout indicative of potential future movement. Furthermore, on the higher levels there were numerous "bowl" like features which is assessed to be either from preferential drainage channels or historical shallow slope movements. The channels between the concrete blocks and the slope were visually inspected and there was evidence of minor (i.e. a few kilograms weight of material) spalling however they were generally clear of material. It is not known what the clearance and maintenance regime for Dinah's Hollow is.

Some trees were noted to be off vertical, and there were some that had tilted in the past and had continued to grow vertically. In some areas tree roots had been exposed through slope movement and were noted to be overhanging the slope.

From our observations and in simple terms, the instabilities result from the surface weathering of the slightly cemented sandstones. While the sandstones are sufficiently stable at the gradients present along Dinahs Hollow, as the materials weather, the cohesive cement strength between the sand grains is lost. This results in a sand layer on the surface which is now at gradients too steep for its stability, and slippages of sand and vegetation occur. These slippages are often exacerbated by changes in water pressures and surface water run-off during rainfall events.

The slips are often relatively shallow (typically a metre or so deep) but can be wide features, some 5 to 10m wide and extending the full height of the slope. Once the failure has occurred, the new backscarp will expose fresher sandstone, which then progressively weathers, becomes vegetated, becomes a sand and the cycle of instability continues.

3 SLOPE STABILISATION OPTIONS

3.1 Introduction

Red Rock have been requested by The Client to review the available data and to consider some options available to address the risk to road users identified by others. There is a spectrum of solutions available to improve the stability of slopes within Dinah's Hollow which will include those already considered in previous assessments. As requested, Red Rock will also provide a discussion of alternative methods which may be adopted. However, to stress, a risk has been identified to road users within Dinah's Hollow and therefore something needs to be done to mitigate this risk. There is not an option to do nothing.

From a purely geotechnical perspective, these measures need to be considered with respect to the reduction in the level of risk that they provide. For each of these types of instability processes, there are a range of engineering measures which are commonly used within slope engineering practice, and these are discussed in the following sections.

In Table 3-1, a summary of the advantages and disadvantages of each of these methods is provided.

3.2 Monitoring and Reactive Repair

Monitoring can take several forms of differing complexity and prediction capability. Monitoring is undertaken on the premise that smaller movements could be a precursor to larger and more dangerous land movements, but this is not always the case. This option would effectively leave the slope untouched with monitoring, possibly providing an early warning system of pending movement.

The simplest form of monitoring is a frequent visual inspection by a qualified person. That person would note any signs of ground movement, such as fallen trees, new scarps or debris on the road and instruct a more detailed slope inspection.

More complex and involved monitoring systems could be installed including movement sensors, lidar and total station surveys of fixed monitoring stations installed on the slope. Again, these would need to be monitored on a frequent basis, with predetermined movement thresholds to trigger certain actions that need to be undertaken. It may be possible to install sensors within the slope so that when a threshold trigger is reached and breached the traffic lights in place would become permanently red until manually changed. This would remove the risk of road users entering Dinah's Hollow, however, would not affect those already driving through it.

The problem with this approach is that there are shallow failures throughout the Hollow and evidence of historical movements. These may occur suddenly and without warning. This approach can be considered as a "*status quo*" approach which wouldn't mitigate the risks identified by others adequately, it is therefore not considered a viable option.

3.3 Tree Management and Bioengineering

An appropriately qualified arboriculturist would need to be commissioned to address any tree management requirements, be it coppicing or tree removal. We understand that there is already an active management of the trees through the hollow by both DCC and local landowners and there is evidence of coppicing. We do not know the nature of this or its frequency and discussion of this is beyond the scope of this report.

Certain national infrastructure companies, such as Network Rail, have, in more recent years, followed a policy of removing all trees from their cuttings and embankments due to the risks associated with falling trees onto the infrastructure and their perceived detrimental impact on slope stability, i.e. an increased load. Where trees have been removed, slopes are often extensively stabilised by mesh and anchor systems.

Bioengineering as a form of slope stability is a useful approach but generally is not an approach that is used on its own, rather it is in conjunction with other approaches. The variability of the benefit given by planting and roots means that there is a continued risk of slope movement. Where tree management occurs, vegetation is removed or dies back, the benefit imparted to the slope by the tree roots is removed, evidenced by the 2016 failure which we understand was potentially as a result of removal of a mature tree.

Therefore, this as an approach on its own is not considered to be an appropriate solution and wouldn't fully mitigate the risks to road users.

3.4 Mesh and Anchor Systems

A mesh and anchor system is an approach that is commonly used in a range of situations around the world and throughout the UK. It is a system that is proven to provide stability and is considered to be an appropriate method of stabilising Dinah's Hollow. There are several anchoring and meshing options available to secure and retain sections of the slope, as follows:

- Comprehensive slope stabilisation by the effective fixing of the soil overburden to the bedrock by the installation of soil nails on a tight grid patten (e.g. 1.5 horizontal x 1.5m vertical spacing) with the slope covered in a geo-composite of high tensile mesh with an underlay of erosion mat. The erosion matting enables a thin layer of soil to be retained on the slope and for light vegetation to re-establish.
- Other mesh systems include netting drapes where only the top of the mesh is fixed with anchors and material is allowed to fall between the mesh and slope to accumulate at the base of the installation. Such netting arrangements do not stop landslides but prevent them travelling away from the slope face. The base of the netting can be either fixed or left open. For the fixed condition, any fallen debris accumulates as a bulge in the mesh which is then periodically cleaned out by disconnecting the anchor plates and cables.

Whilst there will be an impact to the ecological environment, as vegetation will need to be cleared to allow access to the slope, this approach is considered to be a viable option for the medium to long term stability of Dinah's Hollow.

3.5 Passive Barrier

There are several propriety mesh fenced systems which act as a physical barrier to retain any falling debris coming from steep slopes. These systems essentially comprise a system of high tensile wire connected to flexible posts with cables and anchors holding the structures in place. On impact, the mesh and posts deform with a gradual tightening of the cables reducing and decelerating the impact forces to manageable levels.

Systems which are specifically designed for vegetation and soil debris are mostly installed in dry channels where such material can rapidly accumulate and wash downwards rather than in an infrastructure setting.

This approach, typically used in mountainous regions, will likely require less intrusive vegetation clearance. However, they are generally designed to catch material within gulleys and valleys, where there is more space. They are designed to flex and deform to accommodate the material and load. Therefore, in such a confined space there is still the risk of the passive barrier and/or material encroaching onto the road and still presents a risk to road users. As with the monitoring option, these movements could be rapid and come without warning whilst vehicles are using Dinah's Hollow.

A similar option would be to utilise barriers similar to those already in place, but higher, to catch material. These should be appropriately anchored into the ground to withstand the horizontal forces that will act upon them in the event of a failure. There is once again the risk of material overspilling into the road and/or the barrier deforming much like occurred in the 2016 failure (See Figure 3-1 below)

Figure 3-1 2016 slope failure

3.6 ElectroKinetics

We understand that the option of ElectroKinetics has been discussed as a potential solution. This technique has been used in a variety of different settings for several decades and has been used on embankments adjacent to key infrastructure including roads and railways. It is mostly used as a temporary method to permit permanent stabilisation works, such as soil nailing, to be installed. Fundamentally it involves the installation of anodes and cathodes within the slope, typically using a slope climbing drilling rig or similar. An electrical current is then conducted through the impacted soil for a period of several weeks. There are four components to this process[6]:

- Dewatering
- Reinforcement
- Drainage
- Soil modification.

Following the ground investigation completed to date we understand that the material within Dinah's Hollow is granular in nature and effectively dry. This technique is principally used to dewater slopes, alter pore water pressures and is only effective in cohesive soils[7], conditions that are not applicable within Dinah's Hollow. Drying out of sand could also lead to increased instability and have a detrimental effect on the health of the

[6] Lamont-Black, J., Jones, C.J.F.P., and Alder, D. 2016. Electrokinetic Strengthening of Slopes – Case History. Geotextiles and Geomembranes 44, 319-331

[7] Pugh, R.C. 2002 The Application of Electrokinetic Geosynthetic Materials to Uses in the Construction Industry. PhD Thesis. Newcastle University

existing vegetation. As a sole means of stabilising the slope there will be a significant cost to maintaining the electrical currents through the system. Furthermore, there would need to be an element of devegetation as there is still a requirement to use a drilling rig to install the anodes and cathodes.

In the right ground conditions this approach may be considered as an option, unfortunately in Dinah's Hollow the conditions are not conducive to successful stabilisation. Therefore, this technique is not considered appropriate.

3.7 Surface Water Management

Surface water flows can result in surface erosion, and through infiltration, increased soil saturation and water pressures within the bedrock. Therefore, controlling surface water flows and where they discharge can improve the slope stability condition.

Water run-off from higher up the hollow could be managed at the interface of the hollow and the adjacent fields by means of bunds and swales to direct flows further downslope.

Improvements to the drainage along the road could be considered. This could take the form of highway edge protection with formal drainage and / or channels directing flows beyond the hollow. Alternatively, provision of an earth bund at the interface of the field fence at the top of the hollow, again directing water away from the drop-off could be considered.

In cuttings constructed for infrastructure purposes (railways or highways), counterfort drains are often installed on the slope face to reduce surface water infiltration. These are either vertical stone filled channels spaced at specific intervals (say 3-5m) or with the channels positioned in a herringbone arrangement to maximised water collection. Such methods are considered to be inappropriate at Dinah's Hollow.

Table 3-1 Slope Stabilisation Options

Option	Advantages	Disadvantages	Maintenance issues
1 Monitoring And Re-active Repair	i. Low cost. ii. Landslip frequency and location can be monitored to identify areas where instability is more common (with view to other mitigation). iii. Displacement monitoring systems effective approach for determining the potential of larger scale instabilities. Minimal environmental impact.	i. Would not stop landslides, may only provide advance warning of instability in certain circumstances. ii. Not effective as a warning of smaller to medium sized failures. iii. Remote monitoring systems or frequent monitoring will be expensive. iv. Needs appropriate person to undertake monitoring and for any data to be processed and acted upon. v. The inherent risks previously identified are not addressed.	i. Would require regular monitoring and systems to be effective. ii. The road would need to be closed if excessive falls or movements recorded. iii. Potential for remote monitoring techniques. Displacement gauges will need replacing.
2 Tree Management and Bioengineering	i. Good implementation of woodland management good for eco systems and slope performance. ii. Proactive approach to identifying trees in poor health or stability. Controls development of tree species of poor value.	i. Some questions to the benefit of overall slope stabilisation. The support provided can be variable. ii. Other stabilisation methods would still be required. The inherent risks previously identified are not fully addressed. If vegetation removal were necessary, then there will be a risk of slope movement.	Would need to be undertaken on a periodic basis to remain effective.
3 Extensive anchoring and netting Covering the entire slope with mesh and anchors	i. Provides comprehensive long term slope stabilisation solution. ii. Can be designed to stabilise all types of instability from rockfalls to large scale slides. Established approach to stabilising infrastructure cuttings and embankments.	i. Very costly. ii. Significant impact to environment and ecology. iii. Requires all vegetation to be removed. iv. Short to moderate term aesthetic impact until vegetation re-establishes.	i. Would require periodic maintenance to retighten mesh (once every one to two years). ii. Some vegetation regrowth would need to be periodically removed. iii. Galvanised or PVC coated netting products provide good long-term durability. Moderate maintenance costs.

Table 3-1 Slope Stabilisation Options

4 Passive Barrier	i. Very effective if placed at target locations where other stabilisation methods less appropriate. ii. Even if capacity exceeded, fence likely to reduce impact energy of strike. iii. Lesser environmental impact on slope above fence. iii. Automated alarm systems available to remotely notify council following a slip.	i. Fence would need to be positioned above road at sufficient height to avoid deformation from impact. ii. Visual impact if larger or extensive fences are used. iii. May be less effective at retaining wide vegetation and soil slides. iv. Local environmental impact around installation area. v. This approach would require additional space to install and may make it unviable.	i. Apart from routine inspections, automated alarm systems will provide notification of a landslip. ii. All catch fences require maintenance, and repair. iii. Requires debris to be removed following a slide. iv. High maintenance cost if extensive fencing is used. iv. Galvanised products available to enhance durability.
5 Electrokinetics	i. Minimises the environmental impact iv. Anodes and cathodes can be placed wider apart than soil nails	i. Not appropriate for the ground conditions within Dinah's Hollow v. Drying out of sand would cause further instability.	i. Drainage channels to be maintained and cleaned. v. Regular inspections.
6 Surface Water Management Surface water drainage, Swails	i. Crest drainage is relatively simple to install. ii. Lower environmental impact than other methods. iii. Low cost. iv. Some drainage could be dealt with by highways authority. ii. Best use in conjunction with other methods.	i. Uncertain benefit of surface water drainage to overall stability. ii. Needs location for discharge of water and requires favourable land gradients. ii. May require permissions / land purchases outside Council ownership.	ii. Frequent maintenance to keep runs clear of vegetation and dirt.

4 FEASIBILITY ASSESSMENT

4.1 Effectiveness of Stabilisation Options

Table 4-1 provides the general effectives of the main stabilisation solutions being considered with respect to the typical size of instability.

- **Good:** An appropriate method for this size of instability without recourse to special techniques or local circumstances.
- **Mod**. (Moderate): Still effective to some degree but this may depend on the site specifics of the slope section to be stabilised or access/location issues.
- **Poor:** Generally, not a suitable approach for this size of instability, but can, in some circumstances, still provide some level of mitigation.
- **NA:** Not applicable – this method is not appropriate to mitigate the risks arising from instability of this dimension.

Table 4-1 Effectiveness of Stabilisation Options

Instability Size Term	Mass (ton)	Monitor	Tree Management and Bioengineering	Netting & anchor system	Passive Barrier	ElectroKinetics
Very Small	< 0.0002	NA	Mod.	Good	Mod.	NA
Small	0.0002 – 0.008	NA	Mod.	Good	Good	NA
Medium	0.008 - 0.2	Poor	Poor	Good	Good	NA
Large	0.2 – 8	Poor	NA	Mod.	Good	NA
Extremely Large (i.e. mass of soil & vegetation)	8 - 20	Poor	NA	Mod.	Good*[1]	Poor
Landslip (Gross instability)	>20	NA	NA	Poor	Mod.*[1]	Poor

*[1] May need high impact energy "alpine" level of rockfall attenuators.

4.2 Potential Stabilisation Options

For the slope conditions above the road at Dinahs Hollow, the following main stabilisation options can be considered:

- Mesh and Anchor Entire Slope
- Passive Barrier

With these, other works which can provide additional stability benefits can be considered:

- Tree Management
- Management of surface water run-off

The key features of these options with respect to the environment at Dinah's Hollow are:

- Mesh and Anchor entire slope
    - Scaling of rock outcrops and removal of rock blocks from the slope.
    - Entire removal of all vegetation on the slope to accommodate the netting.
    - Installation of soil nails / rock anchors on a tight grid pattern, with slope covered in high tensile netting with erosion matting.
    - Very infrequent tree management.
    - Minimal emergency call outs likely.
- Passive Barrier
    - Scaling of rock outcrops and removal of rock blocks from the slope
    - Removal of loose soil, loose rocks and accumulations of vegetation lying on the slope and built up behind tree stumps by roped access techniques.
    - Moderate tree management works.
    - Some Emergency Call Outs leading to the clearing of debris in catch fences.

5 Conclusion

Based on a review of the available data it is considered that slope instability within the hollow is active and will be ongoing. These failures will likely be shallow failures but may lead to road closures and there is a risk of personal injury. As a consequence, a '*status quo*' option is not recommended. It is not possible to predict where or when these may occur as there was visual evidence of failures throughout the hollow.

Bioengineering and tree management needs to be continued as this does provide some element of stabilisation to the slope, which allows the relative stability of the slope at the angles it is at. It should be noted that severe devegetation or removal of mature trees will likely lead to instability as the stabilising effect of the roots is removed. If a tree is removed it is recommended that the stump remain in-situ, which may allow the tree to regrow to a certain extent but also keep the stabilizing effect of the tree. This, however, is not an approach that can be adopted in isolation.

A mesh and anchor solution would be appropriate in this instance. As a technique it would provide long term stability to the slopes and allow the road to operate normally. This will however provide significant disruption to the local environment with the removal of many mature trees, and it will likely take several years for the environment to recover. Full consideration of the impact on the environment is beyond the scope of this report.

If a mesh and anchor approach is not adopted, then it is recommended that the traffic lights and some form of edge barrier remain in place. A passive barrier could be adopted at the toe of the slope which would catch any falling material however this approach would need to be fully designed to accommodate a "worst case scenario" failure e.g. in line with the estimated 35 tonnes of material that came down in 2016. Additionally, this approach would require minimal intervention to the environment, the ecology and plants, however, would provide a visual impact which may not be aesthetically appealing.

Electrokinetics has been mentioned as a potential solution, however the ground conditions are not appropriate for this technique and wouldn't achieve the required aims.

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Appendix A. SITE LAYOUT PLAN

NOTES:

1: Do not scale from this drawing

Created by: Gareth Lewis

Approved by:

Project Number: C11895

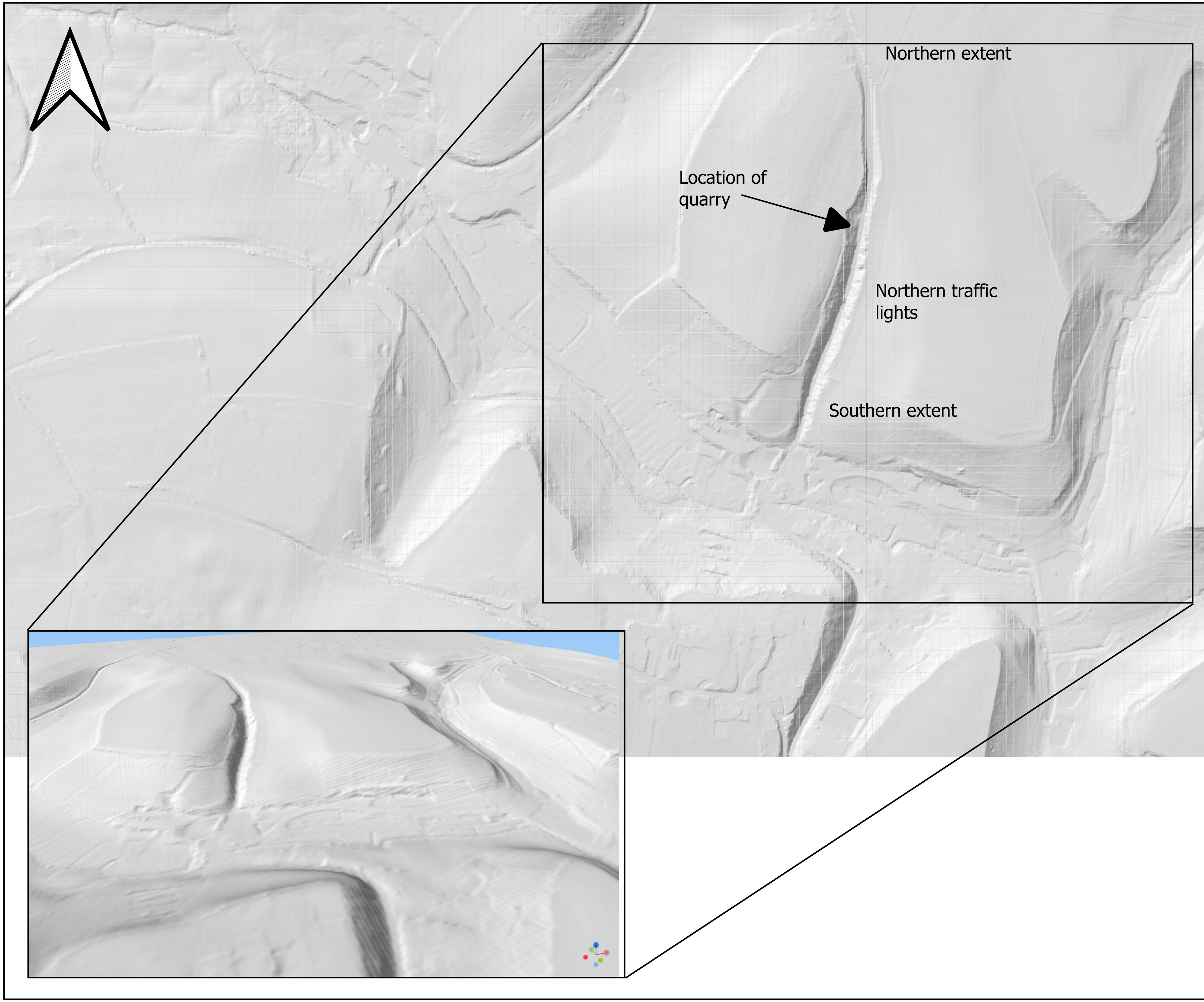
Client Name: Melbury Abbas & Cann Parish Council

Project Name: Dinah's Hollow

Drawing Title:

Site Layout

RED ROCK GEO PART OF RICHTER



NOTES:

1: Do not scale from drawing
2: Data interpreted from lidar image of the site

Created by: Gareth Lewis

Approved by:

Project Number: C11895

Client Name: Melbury Abbas & Cann Parish Council

Project Name: Dinah's Hollow

Drawing Title: 3D interpretation of the site

RED ROCK GEO

PART OF RICHTER

Appendix B. SITE PHOTOGRAPHS

PHOTOGRAPH SHEET

Figure 1. View from the south of Dinah's Hollow looking north

Figure 2. Western bank at the southern end of Dinah's Hollow

Figure 3 Western bank at the southern end of Dinah's Hollow

Figure 4 Evidence of back scar formation on the lower slopes, western bank.

Figure 5 Back scar formation on the western bank.

Figure 6 Possible indication of recent slope movement - limited vegetation and exposed tree roots.

Figure 7 Traffic lights at northern end of Dinah's Hollow

Figure 8 View down Dinah's Hollow to the south

Figure 9. Evidence of recent slope movement, eastern bank

Figure 10 Eastern bank with some evidence of back scar formation.

Figure 11 Southern end of Dinah's Hollow, east bank.