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AJS/C4315/9610

2nd October 2020

D Morgan
New Hey
Chester Road
Great Sutton
Ellesmere Port
CH66 2LS

[redacted]

Dear [redacted]

Re: New Hey Quarry, Rochdale – Non-Technical Summary of Rock Slope Assessment

This letter provides a non-technical summary of the assessments carried out in respect to the existing cliff face at the above site.

It is understood the above site will be redeveloped for a residential use and the assessments carried out take this into consideration.

A summary of the rationale behind the proposed reduction of the cliff face angle, which in essence is required to enable the safe development of the site, are as follows:

- Firstly, the cliff is not a natural feature and has been artificially generated by quarrying activities over a number of years. Since it has been generated artificially, it exists at a much steeper angle than would be typical of a natural slope/cliff had it formed through natural processes and is therefore unlikely to be as stable in the long term.
- At present, the face is near vertical with a large scree slope along the base. The main concern is that through time erosion between stronger and weaker rock layers within the face could lead to unstable blocks of rock.
- These blocks could then potentially fall posing a risk to any future development below (either causing damage to property and/or harm to human life).
- The presence of scree at the base indicates that rock (of variable sizes including large boulders) has already been falling off the face to some extent
- There would likely be unacceptable risks to the development if the face was left as it currently stands, therefore, to mitigate the risk, an engineered solution will be required.
- Assessments to date (using industry standard modelling software) show that reducing the slope to 45° with the inclusion of "benches" into the rock face, will minimise the risk of rock falls.
- A suitable "no development" buffer zone including a catchment/drainage ditch will also be incorporated at the base of the slope to further mitigate the risk from falling debris. The buffer zone will be set based on computer modelling of rock falls from the cliff face.
- An additional benefit of reducing the face will be the resultant soils/rock available for the creation of a suitable development/construction platform. This is a highly sustainable way of creating a development platform as it will result in significantly less heavy wagon movements through the area (along with the additional noise, dust and traffic) to either bring in soils or take the soils/rock off site.
- The emplacement of soils and rock as fill at the base of the slopes will also act as a "buttress", adding further support to stability.
- Sections would be seeded with a suitable geotextile matting to provide green areas, this will provide further long-term stability and will also likely be of ecological value.

- The inclusion of the above along with benches would provide an opportunity from ecological perspectives, such as creating nesting habitats for different bird species.

We trust the above meets your requirements at this stage. However, if you have any queries, then please do not hesitate to contact the undersigned.

Yours sincerely
For Brownfield Solutions Ltd

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