

# Cutting Slope Failure & Bridge Undermining

## SafetyAlert

March 2016

### Incident Description

An incident has occurred on a Highways England construction site which resulted in the serious undermining of a footbridge foundation.

The work involved excavation and steepening of an existing cutting slope to accommodate an additional carriageway lane and the installation of a replacement footbridge.

Shortly after the slope was steepened and the footbridge installed the slope and ground immediately in-front of the bridge foundation slipped, undermining the new foundation.

The site has now been made safe with temporary slope stabilisation and bridge propping, whilst a permanent solution is determined.

Fortunately this incident occurred overnight when nobody was working in the immediate area.



Excavated Cutting Slope

(Note bridge foundation at the top of slope before failure of cutting)



Steepened Cutting Slope Failure

(Bridge foundation undermined by slope failure.)

### Investigation:

The incident is currently under investigation.

### Further Information

Further information will be provided following the outcome of the ongoing investigation. For more information about this incident please contact

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### Actions

Initial findings are that the 'rock' supporting the new bridge foundation was significantly weaker than anticipated by the Designer with potential fault zones.

It is essential that all work which requires excavation to cutting slopes, particularly when adjacent to existing or new structures considers the following:

#### Design

The Designer must ensure risks are identified and considered at all stages during construction to ensure that safe systems of can be developed.

The risk assessment should provide information relating to the safe sequence of construction, holding checks and validation of design assumptions which will be referred through the Method Statement produced as part of the safe system of work.

Designers must follow the technical approval of highway structures procedures set out in BD2/12 and the procedures for managing geotechnical risk set out in HD 22/08, with all necessary certification in place before construction.

#### Safe System of Work

**Risk Assessments and Method Statements must** identify all significant hazards and risks to ensure suitable controls and checks can be implemented.

All controls must be fully **communicated** to those affected by the work activity including the level of **supervision** required and the site **monitoring regime** needed.

#### Health and Safety Responsibilities

Duty holders must ensure that everybody is made aware of their roles and responsibilities.

The Principal Contractor is required to inform all site personnel that if they witness an unsafe condition or act, they must **STOP** the activity immediately and report it to their Supervisor / Line Manager.