



STATE OF VERMONT
AGENCY OF TRANSPORTATION
DISTRICT 6 HIGHWAY OFFICE
186 INDUSTRIAL LANE ROAD/BERLIN
BARRE, VERMONT 05641



September 24, 2002

Ms. Marlene A. Betit
Town Administrator
Town of East Montpelier
P.O. Box 157
East Montpelier, VT 05651-0157


Dear Marlene:

We have had an opportunity to review the landslide site at the end of Town Highway 71, with Chris Benda, the Agency's Soils and Foundations Engineer, and Mike Garand, who provided us with some background information on this site.

Chris Benda's report is enclosed. Please note his recommendations near the end of the report.

If you have any questions on the report, or would like to discuss the situation further, please call me or Doug Newton at 828-2691.

Sincerely,


Ernest C. Englehardt, P.E.
District Transportation Administrator
District No. 6

Enclosure:

cc: Chris Benda
Doug Newton

TOWN CLERKS OFFICE
EAST MONTPELIER, VT
RECEIVED

SEP 25 2002
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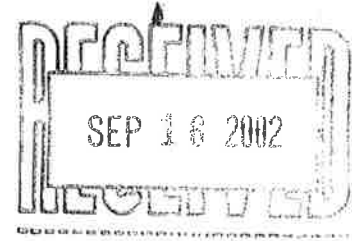
AGENCY OF TRANSPORTATION

OFFICE MEMORANDUM

SEP 25 2002

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To: Ernie Englehardt, District 6 Transportation Administrator
From: Christopher C. Benda, ^{CUB} Soils and Foundations Engineer
Date: September 10, 2002
Subject: East Montpelier TH 71 Slide



On Thursday, August 29, 2002, Alex Fuentes and I met with Doug Newton from your office and Mike Garand, the East Montpelier road foreman, at the site of a landslide in East Montpelier at the northern end of TH 71, see Figure 1. According to Mr. Garand, the slide has been on-going since roughly 1997 and appears to be getting progressively worse.

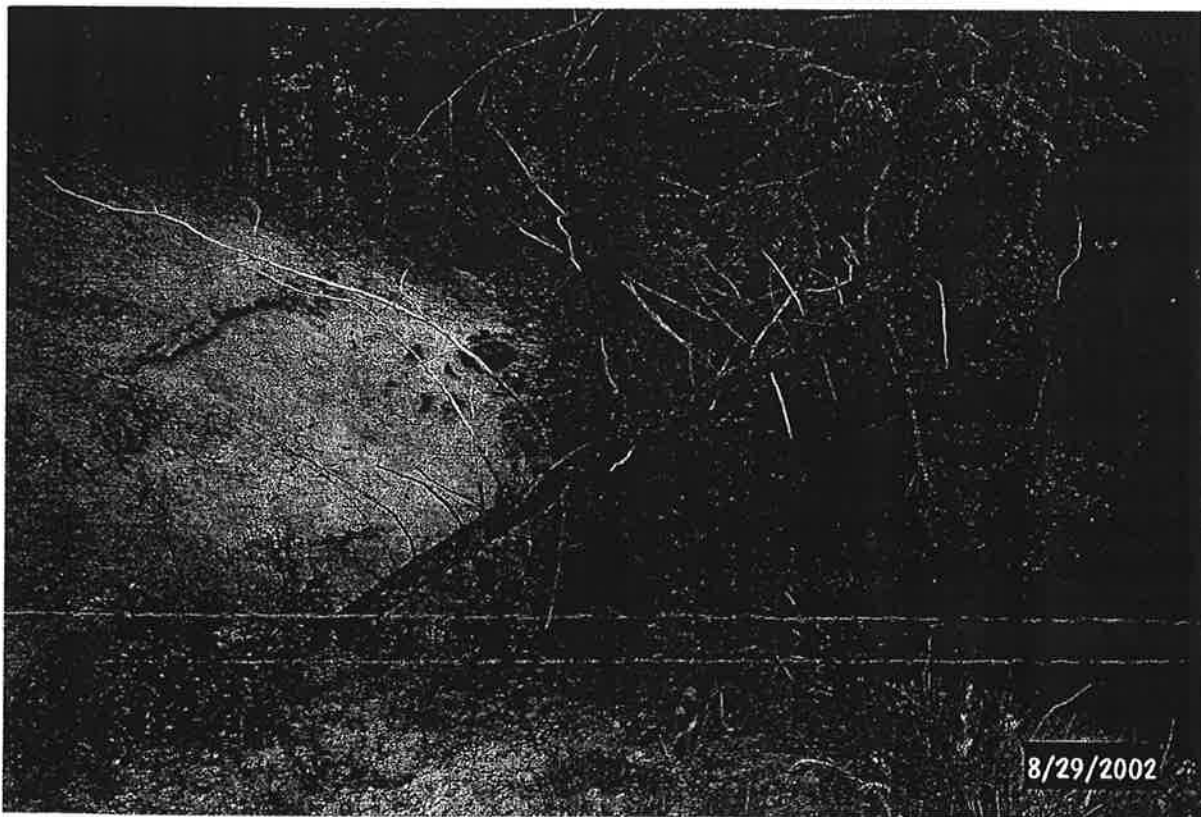


Figure 1, Landslide at the North end of TH 71, East Montpelier

The soils consist of alluvial sand deposits and the ground surface is steeply sloping towards the Winooski River. There are numerous smaller slides along the river; however, this slide appears to be the worst in this area. There are several factors that are likely to have influenced the formation of this slide. The toe of the slope, which is easterly facing, is being undercut by the river. This results in

the formation of an excessively steep slope, the sand cannot maintain a state of equilibrium and movement begins to occur. Drainage ditches appear to be directed towards the slide and snowmelt and rainwater from the roadway and housing development will readily erode the sandy soils in this area. As small trees become larger, they add load to the slope, the sand cannot support the load and additional movement occurs. As vegetation is lost, further erosion takes place. This cycle will likely continue until a state of equilibrium is reached. Whether or not a balance is achieved before the slide impacts the road will depend on the volume of runoff, whether vegetation can become established and how much more the Winooski River cuts into the bank.

I recommend the town continue to monitor the area particularly during heavy rain events. They should take photographs and place some sort of railing at the cul-de-sac. I also suggest that if observations made during significant rainstorms indicate a substantial amount of runoff occurs, the town seriously consider redirecting the runoff away from the slide area.

If you have any questions about this information or would like to discuss it further, please call me at 828-6910.

Attachments

- c: Doug Newton, District 6
- Rich Tetreault, Maintenance
- CCB
- Read file
- CF

9/24/02
 Per Doug = Chris suggested make hole during heavy rains & see if water is getting to edge of slide area. This is lot steep to determine speed of erosion.

Per Doug up & downstream this continues to happen not near roads has to do with sandy soils in that area.

No damage in development
 No storm system

you ~~see~~ during intense rain problem you could go back to developer & ask them to put in system