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River bank instability in the Deviot area

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An area where slumping has occurred along the River Tamar shoreline at Deviot in recent times has been examined at the request of the Municipality of Beaconsfield.

The area inspected is just south of a previously piled area where the road was affected by similar but larger slumps some five to ten years ago.

Slumps involving some tens of cubic metres of material have occurred in the higher parts of the embankment along a 50 m or so length of the river edge. Red and grey mottled clay of Tertiary age is exposed in the embankment. At shore level this material has intensive seams and networks of iron oxide seams.

The probable cause of the slumping is because of undercutting of the embankment at high tide levels and perhaps wave action at the same time. Slumping due to this cause is probably more prevalent when recent rains have saturated (and softened) the lower parts of the slope.

The drainage along the road is relatively good and it is likely that little water would spill over the edge of the slope from the road except in an extremely heavy downpour. The water from the road is directed to a culvert at the southern end of the area showing instability. Although there is minor slumping around the culvert outlet and the road has been repaired locally around the drain outlet, the major part of the movement is not influenced by this drain.

Prevention of the undercutting action of high tides and wave action will probably only be achieved by constructing a wall (or barrier) of some kind so that the river water is not in contact with the embankment. The process of undercutting, slumping and removal of material by the river and wave action is likely to continue over time until the road itself is affected as it was further to the north.

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