

THE GEOMORPHOLOGY

OF THE

BROADMARSH - ELDERSLIE AREA

with special reference to
HILLSLOPE MORPHOLOGY

A thesis submitted as part of the
requirements for the Degree of
Bachelor of Science with Honours

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ABSTRACT.

The morphology of the Broadmarsh-Elderslie area is very largely controlled by lithology and structure — variations in topography, stream pattern, and valley and channel morphology are shown to be closely related to bedrock changes.

Hillslope morphology is examined in detail. Dolerite slopes decline by extending basal slopes with accumulated debris eroded from the summit sections. Differential protection by vegetation is held to be the main reason for the differences in form and rate of erosion on north- and south-facing slopes.

Alluvial terraces can be correlated only within individual segments of the valley, producing a 'ponded' effect.

When casually observed in the field, the channel of the Jordan River is a picture of disorder. To the contrary, an analysis of width-depth ratios reveals no significant variations in channel form.

Large valley meanders, extensive alluvial fans and aprons, and aeolian deposits provide evidence of marked variations in former climatic conditions.