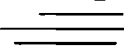



GENERALIZED TERRAIN LIMITATIONS

Coastal Resources Folio

LEGEND

1	DEPTH OF SURFICIAL MATERIALS	8c	marine (waves, currents)
1a	less than 1m to bedrock	8d	fluvial (channeling, floodplain)
1b	less than 1m to impervious unconsolidated materials	8e	wind
2	DRAINAGE	8f	affected by failing process upslope (rockfalls, avalanche cones)
2a	poorly or very poorly drained	8g	avalanching
2b	rapidly or very rapidly drained	9	PERCHED WATER TABLE OR WATER TABLE NEAR SURFACE
3	DEPRESSIONAL TO SURROUNDING TERRAIN		DEVELOPED AREA
4	ORGANIC DEPOSITS GREATER THAN 1m		FAULTS
5	SLOPE GREATER THAN 30%		
6	SOIL TEXTURE - sandy clay, clay, silt, sand and silty clay		
7	POTENTIAL FOR SETTLING		
8	ENVIRONMENTAL HAZARDS		
8a	gullying		
8b	failing		

Notes:

The number of limitations in any one unit does NOT indicate more or less severe constraints.

The identification of specific terrain limitations within a unit does not preclude the need for more detailed site specific studies for developments within that unit.

PURPOSE

Terrain limitations (such as steep slopes, fine soil textures, organic deposits, environmental hazards) can, if not recognized, lead to river siltation, drainage, or engineering problems which can increase development costs. These limitations, presented in a generalized format as they are here, can serve as useful guidelines when planning for certain developments.

This map series covers the south coast of Vancouver Island (Hatch Point to Ledingham Creek) and it:

- standardizes the information available from terrain classifications;
- identifies general terrain types which would be hazardous to any development;
- gives a general warning of potentially unstable terrain units which are adjacent to river and marine shorelines;
- identifies the many fault systems which may affect siting of some developments;
- provides general terrain limitations, useful at the regional planning level.

The use of these maps in conjunction with others in this folio can provide a useful database for developers, resource administrators and planners who wish to identify concerns which might suggest the need for more detailed consideration of a particular development.

METHODS

Literature Search

Initially, all available information on [unclear] was reviewed.

Research Centre of the Canadian Forestry Service were used. Except for the Saanich Peninsula and Victoria, the two systems provided complete map coverage of the study area.

The terrain analysis maps were at a scale of 1:50,000.

Scales for the landscape analysis maps were 1:20,000 and 1:100,000, providing coverage for Langford, Colwood, and Sooke. This information was transferred manually to the 1:50,000 mapsheets.

The existing soils, topographic, and surficial geology maps were used to define terrain limitation units for the Saanich Peninsula.

The units were delineated by listing the limitations that could be identified from the information available. These tend to follow existing terrain, landscape, or soil unit boundaries except where larger areas of the same limitations could be identified.

Supplementary information for drainage, texture, and slope was derived from other sources such as soils, surficial geology, and topographic maps.

Seismic hazard, per se, is not provided, though the major fault lines are identified. Sources for the delineation of these faults came from Muller, 1971, Mayers and Bennett, 1973, Roddick et al, 1979, and B.C. Hydro, 1981.

QUALIFICATIONS

The unit boundaries should not be construed as representing the definitive location of [unclear]. To locate these [unclear]

METHODS

Literature Search

Initially, all available information on terrain and related subjects was reviewed. Information came chiefly from two classification systems:

- the Terrain Classification System of the Resource Analysis Branch (now Terrestrial Studies Branch) of the British Columbia Ministry of Environment; and
- the Landscape Analysis System of the Canadian Forestry Service of Environment Canada.

Soils reports (for Vancouver Island only), surficial geology reports, and studies on hazards and terrain suitabilities for various developments, provided supplementary information.

Interviews

Personal interviews with key personnel, held on an as-needed basis, served as a guide in developing the legend.

Development of Legend

A legend was developed to describe the key factors which either limit development, add to development costs, or are potential hazards. These key factors were selected from those identified by Maynard, 1980 for specific developments, from settlement suitability studies of the North Okanagan, 1978, the North Shore of Vancouver, 1977, and a geological hazards study of northern Vancouver Island, 1981, all conducted by the Terrestrial Studies Branch.

Nine factors were categorized, some with sub-categories of more specific information. After review, personnel at the Terrestrial Studies Branch confirmed these nine were the most pertinent terrain limitations, this listing became the legend.

In addition, to reflect the coastal limitations, a marine factor was added; it applied to certain active shoreforms (spits, tombolos, etc.) and to active coastal bluffs. Finally, a wind erosion hazard was also identified.

Development of the Map Series

The terrain limitation units were identified through interpretations of the terrain analysis surveys by the Terrestrial Studies Branch. In those areas where these data were not available, maps which followed the landscape analysis system developed by the Pacific Forest

and Bennett, 1979, and B.C. Hydro, 1981.

QUALIFICATIONS

The unit boundaries should not be construed as representing the definitive location of any particular limitation. To locate these boundaries accurately, more site-specific studies would be required.

The order of the limitation numbers is numerical and has no other significance. Those areas without numbers can be construed as having little or no identified limitation to most developments.

Some of the units can have opposing limitations (a unit, for example, having both poor and rapid drainage) because some units are composed of randomly interspersed material types.

Much of the area has been developed at least for residential purposes, and limitations cited for any particular area have likely been overcome at that site. But some of the hazards identified are of a larger scale and may not be remedied by site-specific measures.

Some conversions of mapped information from a larger scale to the 1:50,000 scale was done manually. Problems with positioning and form could be caused by the scale limitations (i.e. the smallest area which can be identified) and by the process of transferring the boundaries.

The data available for this map series were limited; some of the sources relied upon were outdated. The soils work for Vancouver Island, for example, were done in 1959. Still, some data was useable, although the soil nomenclature has since been standardized. The work is now being redone by the Terrestrial Studies Branch of the British Columbia Ministry of Environment.

The susceptibility of many of the terrain units to seismic shock has not been indicated. Seismic information for the whole study area is discussed in the companion report.

The classification systems used in compiling this map series have evolved over time, so that some methods of mapping information have changed. For example, some important factors - such as process information - were absent on some map sheets but present on others. The identification of active flood plains is a case in point.

Levels of detail varied among the data available: the terrain analysis maps provided more useful data in a more accessible format than did the landscape analysis maps.

SOURCES

other relevant information

SOURCES

Refer to the Sources section of this folio for references and other relevant information applicable to this subject and area.

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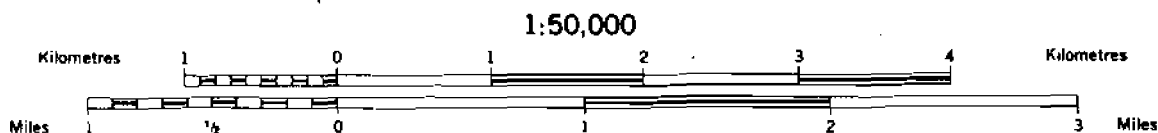
M.J. Romaine

DATE:

January 1982

NOTE: This map series is only part of the documentation available; other sections of the Coastal Resources Folio; South Coast Vancouver Island (Hatch Point to Ledingham Creek) include Introduction, Land/Water Use and Status Tables, Companion Report, and Sources.

NATIONAL TOPOGRAPHIC SYSTEM NUMBERS-92 B/5,12,92C/8,9
BATHYMETRIC CONTOURS (in fathoms)



305948

MAP SERIES REFERENCE 81-3-3

102.1.3-3

Note: This is a copy of the legend on a Coastal Resources Folio map for Eastern Vancouver Island. Contact Soilterrain@Victoria1.gov.bc.ca for more information. (Jan. 2006)