

APPENDIX B

CAPILANO RIVER ESCARPMENT LANDSLIDE RISK SUMMARY

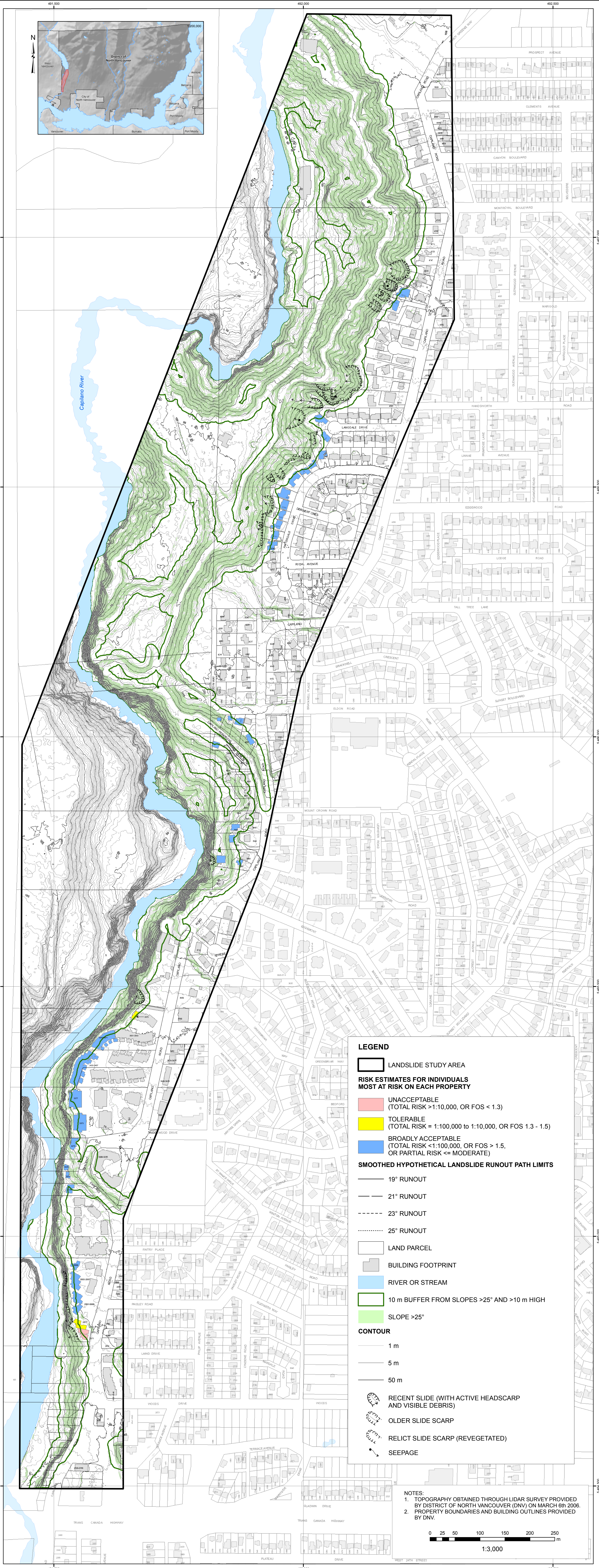
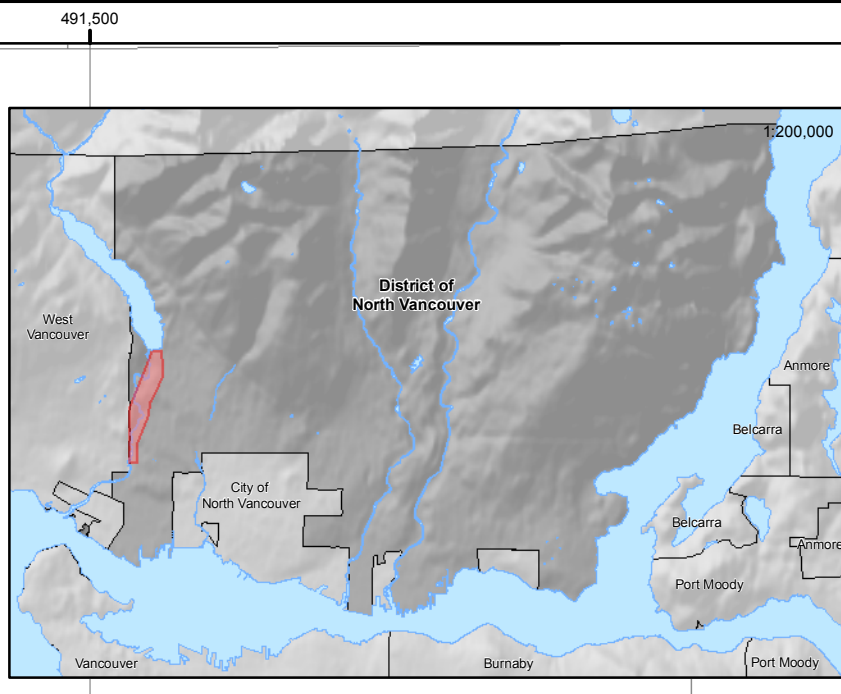
CAPILANO RIVER EAST ESCARPMENT - LANDSLIDE RISK SUMMARY

ADDRESS	PHASE I APRIL 2009 - PARTIAL RISK ASSESSMENT ⁽¹⁾				PHASE II JANUARY 2010 - QUANTITATIVE RISK ASSESSMENT ⁽²⁾			DNV's RISK TOLERANCE LEVEL ⁽⁵⁾	REPORT REFERENCE												
	P _H - Hazard Probability	x	P _{SH} - Spatial Probability of Impact	=	P _{HA} - Qualitative Partial Risk	Individual Risk at Crest of Escarpment ⁽³⁾	Factor of Safety Method ⁽⁴⁾		PHASE I APRIL 2009 ⁽¹⁾			PHASE II JANUARY 2010 ⁽²⁾									
							FOS		Seismic Slope Deformation (1:475)	Table No.	Table Location	DWG No.	Table No.	Table Location	DWG No.						
4617 Capilano Road	High	x	Low	=	MODERATE	See Comment Below ⁽⁶⁾			Broadly Acceptable	9	Page 15	2	N/A								
4613 Capilano Road	High	x	Low	=	MODERATE																
1290 Langdale Drive	Moderate	x	Moderate	=	MODERATE																
1297 Langdale Drive	Moderate	x	Low	=	LOW																
4423 Patterdale Drive	High	x	Low	=	MODERATE																
4421 Patterdale Drive	High	x	Moderate	=	HIGH	3.2E-06	N/A	Broadly Acceptable	8	Page 13	2	5	Page 21	2							
4419 Patterdale Drive	High	x	Low	=	MODERATE	See Comment Below ⁽⁶⁾			Broadly Acceptable	9	Page 15	2	N/A								
4417 Patterdale Drive	High	x	Low	=	MODERATE																
4411 Patterdale Drive	Low	x	Low	=	VERY LOW																
4399 Patterdale Drive	High	x	Low	=	MODERATE																
4385 Patterdale Drive	Moderate	x	Low	=	LOW																
4371 Patterdale Drive	High	x	Low	=	MODERATE																
4357 Patterdale Drive	Moderate	x	Low	=	LOW																
4343 Patterdale Drive	Moderate	x	Moderate	=	MODERATE																
1349 Eldon Road	Low	x	High	=	MODERATE																
1357 Eldon Road	Moderate	x	Moderate	=	MODERATE																
1365 Eldon Road	Moderate	x	Moderate	=	MODERATE																
4085 Capilano Road	Moderate	x	High	=	HIGH				4.8E-06	N/A	Broadly Acceptable	8				Page 13	2	5	Page 21	3	
4075 Capilano Park Road	Low	x	High	=	MODERATE				See Comment Below ⁽⁶⁾			Broadly Acceptable				9	Page 15	2	N/A		
3943 Capilano Road	Low	x	Moderate	=	LOW																
3929 Capilano Road	Low	x	High	=	MODERATE																
3917 Capilano Road	Low	x	High	=	MODERATE																
3905 Capilano Road	Low	x	Moderate	=	LOW																
3575 Capilano Road	Moderate	x	High	=	HIGH	N/A	1.4 - 1.5	0.14 m	Tolerable	8	Page 13	2	6	Page 21	16						
3547-3571 Capilano Road	Low	x	High	=	MODERATE	See Comment Below ⁽⁶⁾			Broadly Acceptable	9	Page 15	2	N/A								
3433-3457 Capilano Road	Low	x	High	=	MODERATE																
3373-3377 Capilano Crescent	High	x	Low	=	MODERATE																
3275 Capilano Crescent	Low	x	Moderate	=	LOW																
3225 Capilano Crescent	Low	x	High	=	MODERATE																
3201 Capilano Crescent	Low	x	Low	=	VERY LOW																
3179 Capilano Crescent	Moderate	x	Low	=	LOW																
2899 Capilano Road	Moderate	x	Low	=	LOW																
2893-2897 Capilano Road	Moderate	x	Low	=	LOW																
2881-2889 Capilano Road	High	x	Low	=	MODERATE																
2871-2873 Capilano Road ⁽⁷⁾	High	x	High	=	VERY HIGH				N/A	1.2 - 1.3	0.23 - 0.38 m	Unacceptable				7	Page 12	2	6	Page 21	17
2875-2877 Capilano Road	High	x	High	=	VERY HIGH				N/A	1.3 - 1.4	0.18 m	Tolerable				7	Page 12	2	6	Page 21	17

Notes:

- BGC Engineering Inc. report to the District of North Vancouver - Capilano River East Escarpment Preliminary Landslide Hazard Assessment and Risk Analysis. April 30, 2009. This report assigned a Partial Landslide Risk Estimate to each property studied.
- BGC Engineering Inc. report to the District of North Vancouver - 2009 Landslide Risk Assessment for Select Escarpment Slopes. January 04, 2010. This report estimated a quantitative landslide risk for each property studied.
- Landslide risk to an individual at the crest of the slope was estimated using a procedure developed for the Berkley Escarpment in 2006.
- In some cases geological conditions or landslide failure mechanisms differed from the Berkley Escarpment. In these instances results of rock fall risk assessments or limit equilibrium slope stability analyses were compared to DNV's risk acceptance criteria for new and existing development.
- DNV adopted Risk Tolerance Criteria in 2009 (DNV 2009). Three risk tolerance criteria levels were adopted by DNV - 'Broadly Acceptable', 'Tolerable' and 'Unacceptable'.
- Properties assigned a Partial Risk Rating of 'Very Low', 'Low' or 'Moderate' were considered to pose risks similar to DNV's Broadly Acceptable risk tolerance level and not studied further.
- This site is undergoing mitigation design by others at the time of report preparation.

TABLE B1

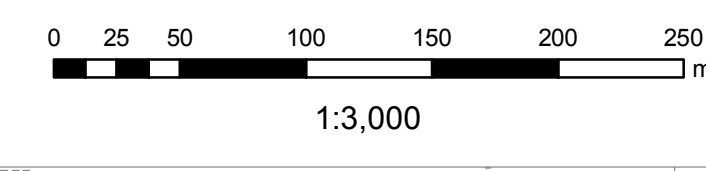


LEGEND

- LANDSLIDE STUDY AREA
- RISK ESTIMATES FOR INDIVIDUALS MOST AT RISK ON EACH PROPERTY**
- UNACCEPTABLE (TOTAL RISK > 1:10,000, OR FOS < 1.3)
- TOLERABLE (TOTAL RISK = 1:100,000 TO 1:10,000, OR FOS 1.3 - 1.5)
- BROADLY ACCEPTABLE (TOTAL RISK < 1:100,000, OR FOS > 1.5, OR PARTIAL RISK <= MODERATE)
- SMOOTHED HYPOTHETICAL LANDSLIDE RUNOUT PATH LIMITS**
- 19° RUNOUT
- 21° RUNOUT
- 23° RUNOUT
- 25° RUNOUT
- LAND PARCEL
- BUILDING FOOTPRINT
- RIVER OR STREAM
- 10 m BUFFER FROM SLOPES >25° AND >10 m HIGH
- SLOPE >25°
- CONTOUR**
- 1 m
- 5 m
- 50 m
- RECENT SLIDE (WITH ACTIVE HEADSCARP AND VISIBLE DEBRIS)
- OLDER SLIDE SCARP
- RELICT SLIDE SCARP (REVEGETATED)
- SEEPAGE

NOTES:

1. TOPOGRAPHY OBTAINED THROUGH LIDAR SURVEY PROVIDED BY DISTRICT OF NORTH VANCOUVER (DNV) ON MARCH 6th 2006.
2. PROPERTY BOUNDARIES AND BUILDING OUTLINES PROVIDED BY DNV.



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