

**Embryo Report:**

**Terrain,  
Terrain Constraints to Residential Development,  
Hazards,  
and  
Aggregate Resources**

**Goldbridge - Bralorne Area**

**Introduction**

**Terrain Mapping**

**Methodology**

**Results**

brief descriptions of surficial materials and hazardous processes

**Interpretations**

**Definitions**

*Hazards* are natural processes that can damage to property or even cause loss of life. In the G-B area, they include debris flows, slumps and slides, other kinds of landslides, snow avalanches, and stream floods (bank erosion, shifting channels, inundation, sediment deposition). Areas with actual or potential hazards are best avoided for settlement, roads, etc., because usually considerable expense is involved if hazard mitigation/protection has to be carried out *after* development, and the risk may not be entirely removed. Many hazards cannot be offset by engineering.

*Constraints* are conditions that are a nuisance, and that increase the cost of site preparation or construction, but are usually not dangerous in the sense that they result in injury or death. They include poorly drained soils, steep slopes, and rocky terrain.

It is important to treat hazards and constraints separately in any analysis of settlement suitability because of their different implications for zoning and management.

## Methods

### Hazards

Hazards that could be identified by air photo interpretation (i.e., no field checking) are shown on the terrain map. Information was transferred to the interpretive map as shown in the following table.

<i>Hazard</i>	<i>Terrain map symbol</i>	<i>Interpretive map symbols</i>
unstable ground	-F", -R" (process symbols)	H1
hazards from upslope	-F, -R, -A (ditto)	H2
flood hazard	F <sup>A</sup> <sub>p</sub> , F <sup>A</sup> <sub>f</sub> , F <sub>p</sub> , F <sub>f</sub>	H3
floods and/or debris flows	C <sub>f</sub> , C <sub>c</sub>	H4
potential erosion	-V (process symbols)	H5

On-site symbols that represent hazards are shown on both the terrain map and the interpretive map.

### Constraints to Residential Development

First, all polygons with slopes steeper than about 45% (24 degrees) were excluded from this analysis. These polygons were identified from contour spacing on the topographic map (1:50 000 enlarged to 1:2000 -- a very imprecise tool!) and air photo interpretation. They are marked "S" on the interpretive map. (There may well be some areas of gentler slopes within these polygons that could be considered for house sites.)

All remaining polygons were numbered sequentially.

Constraints were assessed according to conditions indicated in the following table, which is compiled from Maynard, 1979. (Maynard, D. 1979. Terrain Capability for Residential Settlements: Summary Report. Working Report, Resource Analysis Branch, B.C. Ministry of Environment, Victoria, B.C.) Assessment was made on the basis of terrain map information, augmented by additional air photo interpretation and field observations. Note, however, that the assessment is very generalized. For example, in the table, critical depths to water table range from < 0.5 m to < 3 m. In the assessments, "high" water tables (Hwt) were assumed for floodplains (F<sub>p</sub> and F<sup>A</sup><sub>p</sub>), fluvial fans (F<sup>A</sup><sub>f</sub>, F<sub>f</sub>), the downslope parts of colluvial fans (C<sub>f</sub> = /Hwt), lake plains (L<sub>p</sub>) and bogs (O<sub>p</sub>).

	Hydrology*	Surficial material texture	Other material characteristics	Slope steepness	Depth to Bedrock
Septic filter fields	soil drainage v <sub>r</sub> , r, (H <sub>r</sub> ); or p, and v <sub>p</sub> (H <sub>p</sub> ); or very permeable (H <sub>r</sub> ) or impermeable (H <sub>p</sub> ) surficial materials; depth to water table (Hwt) < 2m.	gravel and sand (M <sub>g</sub> ) or clay (M <sub>f</sub> ), or many boulders within 2 m of the surface (M <sub>b</sub> ).	organic soils (M <sub>o</sub> )	> 15% (S <sub>s</sub> )	< 2 m (R)

Foundations	soil drainage p and vp (Hp); depth to water table or impervious layer <0.5 m (Hwt).	frost susceptible materials (silts and clays) (Mf); many boulders (Mb)	high compressibility and/or plasticity (Mp);	>25% (Ss)	< 0.5 m (R)
Road subgrade	soil drainage p and vp (Hp); materials of low permeability (Hp).	highly plastic silts and clays(Mp); frost susceptible materials (silts and clays)(Mf)	organic soils (Mo)	>20% (Ss)	<0.5 m (R)
Ease of excavation	soil drainage i to vp (Hp); depth to water table <3 m (Hwt).	plastic silts and clays (Mp); cohesionless gravels and sand (Mg)	organic soils (Mo); highly cemented or very dense materials (Mc); many boulders (Mb).	>20 to 25% (Ss)	< 3m (R)

\* Soil drainage: vp = very poor; p = poor; i = imperfect; r = rapid; vr = very rapid.

**Hydrologic Constraints:**

Hr: very rapidly and rapidly drained soils (gravels and rubble in colluvial fans)

Hp: imperfect to very poorly drained soils

Hwt: water table sufficiently close to surface to constrain some kinds of development.

**Material constraints**

Mg: loose gravelly materials

Mf: fine materials: predominantly silts and/or clays

Mb: bouldery materials

Mo: organic materials

**Slope Constraints**

Ss: slopes steeper than about 15% (and less than 45%)

**Bedrock constraints**

Ro: bedrock outcrops

Rt: rock under a thin cover of surficial material (1-2 m)

Constraints assessed for each polygon are listed in the accompanying table (several pages). Symbols such as /Hr indicate that the constraint applies to only part of the polygon. Constraints were then assigned numerical ratings:

Mo (organic materials) = 2

Hwt (high water table) = 2

All other constraints = 1

Constraints affecting only part of a polygon (e.g., /Hr) were rated as 0.5 x normal rating.

Constraint ratings for each polygon were then summed, and the sum is shown as C0.....C5, following the polygon number, on the interpretive map.

**Sources of Aggregate**

Aggregate potential was interpreted directly from the terrain map:

G1 glaciofluvial gravels (FG); may be quite variable in places, and may contain pockets of sand and silt, and boulders. May be several metres or more in thickness.

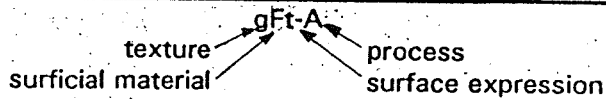
G2: fluvial gravels on terraces: may not be very thick (i.e., 1-2 m only).

Gravelly materials with high water table were excluded from this analysis.

## TERRAIN MAP LEGEND

### (1) TERRAIN UNIT SYMBOLS

Simple Terrain Units: e.g.,



Note: Two letters may be used to describe any characteristic other than surficial material, or letters may be omitted if information is lacking.

Composite Units: Two or three groups of letters are used to indicate that two or three kinds of terrain are present within a map unit.

e.g., Mm-Rr indicates that "Mm" and "Rr" are of roughly equal extent  
 Mm/Rr indicates that "Mm" is more extensive than "Rr" (about 2/1 or 3/2)  
 /Mv indicates that Rr is partially buried by Mv  
 Rr

Stratigraphic Units: Groups of letters are arranged one above the other where one or more kinds of surficial material overlie a different material or bedrock:

e.g.,  $\frac{Mv}{Rr}$  means that "Mv" overlies "Rr".

### (2) MATERIALS

A Anthropogenic materials	FG Glaciofluvial sediments	R Bedrock
C Colluvium	L Lacustrine sediments	U Undifferentiated materials
E Eolian sediments	LG Glaciolacustrine sediments	V Volcanic sediments
F Fluvial sediments	M Till	
FA "Active" fluvial sediments	O Organic sediments	

### (3) SURFACE EXPRESSION

a moderate slope(s)	j gentle slope(s)	s steep slope(s)
b blanket	k moderately steep slope	t terrace(s)
c cone	m rolling topography	u undulating topography
d depression	p plain	v veneer
f fan	r ridges	w mantle of variable thickness
h hummocky		

### (4) GEOLOGICAL PROCESSES

A Avalanches	H Kettled	R Rapid mass movement
B Braiding	I Irregularly sinuous channel	V Gullyng
E Glacial meltwater channels	J Anastomosing channel	
F Failing	M Meandering channel	

### (5) TERRAIN UNIT BOUNDARY LINES AND SITE SYMBOLS

definite :       indefinite       assumed or arbitrary :   
 field sites:      ⊙ S34

### ON-SITE SYMBOLS

debris flow paths



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snow avalanche paths



Polygon number	Terrain symbol	Specific constraints	Constraint rating	Comments
1	/Cv Mbv	/Hr, /Ss	1	
2	Mvb/Cv	/Hr, Ss, /Rt	2	
3	Mw Rhu	Ss, Rt	2	
4	F <sup>A</sup> p	Hwt, Hr, Mg	4	floodplain
5,6	Mb	Ss	1	
7	Cf-ARd	Hr, /Hwt	2	slope hazards
8	Mbv	Ss, Rt	1.5	
9	Cb	Hr, Ss	2	
10	Cf-R	Hr, /Hwt, Mg, Ss	4	slope hazards
11	Mb	Ss, /Rt	1.5	
12	Ff-B	Hr, /Hwt, Mg	3	fluvial fan; floodplain
13	Mbv	/Ss, /Rt	1	
14	Mwb	/Rto	0.5	
15	/Mwb Rh	Rto	1	
16	Mw	/Ss, Rto	1.5	
17	Mu		0	
18,19	Lp	Hwt, Mp	4	
19b	F <sup>G</sup> <sub>j</sub>	Hr, Mg	2	
20	F <sup>G</sup> <sub>t</sub>	Hr, Mg	2	
21	Rsk-Cv	/Hr, Ss, Rot	2.5	
22	Mw	Ss, /Rto	1.5	
23	Mvb/Cv	/Hr, Ss, /Rt	2	
24	Mv	Rt	1	
25	CvRh	/Hr, Ss, Rto	2.5	
26	Mvb	/Rt	0.5	
27	CvMv	/Hr, Rt	1.5	
28	MwRak	Ss, Rto	2	
29	Cf	Hr, /Hwt, /Mg, Ss	3.5	debris flow hazard?
30	Mwm/F <sup>G</sup> <sub>u</sub>	/Hr, /Hwt, /Mg	2	
31	MuF <sup>G</sup> <sub>p</sub>	/Hr, /Hwt, /Mg	2	
32	/bF <sup>G</sup> <sub>y</sub> Mb F <sup>G</sup> <sub>t</sub>	Hr, /Hwt, /Mb	2.5	
33	Ff	Hr, Hwt, Mg	4	fluvial fan; floodplain
34	CvMw	/Hr, /Ss, Rto	2	
35	Rh/CvMw	/Hr, Ss, Rot	2.5	
36	Mw	Ss, Rto	2	
37	Lp	Hwt, Mp	4	
38	/Cv Mbv	/Hr, /Ss	1	
39	MvCv	/Hr, Ss, Rt	2.5	
40,41	CvMv	/Hr, Ss, Rt	2.5	
42	Cv	/Hr, Ss, Rt	2.5	

Polygon number	Terrain symbol	Specific constraints	Constraint rating	Comments
45	Rh-Mw	Ss, Rot	2	
46,47,48	Rh	Ss, Ro	2	
49	Mw Ru	Rto	1	
50	Rh/Mw	/Ss, Rot	1.5	
51	Mv-Cv	/Hr, Rt	1.5	
52	Mv	Rt	1	
53	Mv/R	Rto	1	
54	Mwb	Rt	1	
55	Mvb	/Ss, /Rt	1	
56	/Cv Mvb	/Hr, Ss, /Rt	2	
57,59	/bFg Mb	/Hr, Mb	1.5	
58	Fg	/Hr, Mg, Mb	2.5	
60	Cf	Hr, /Hwt, Mg	3	debris flow hazard?
61	Rh-Cv	/Hr, /Ss, Rot	2	
62	Rh	Ss, Ro	2	
63	Mw Ruh	Rto	1	
64	/Mv-Cv Rhs	/Hr, Rot	1.5	
65	Ff	Hr, /Hwt, Mg	3	fluvial fan; floodplain
66	Lp	Hwt, Mp	4	
67,68	O	Hwt, Mop	5	bog
69	/Cvb Mw	/Hr, Ss, /Rt	2	
70	Fpt	Hwt, Hr, Mg	4	includes floodplain
71	Mvb	/Ss, /Rt	1	
72	/Mw Rh	/Ss, Rot	1.5	
73	Mw Ruh	/Ss, Rot	1.5	
74,75	O	Hwt, Mop	5	bog
76	Cv/Rks	/Hr, /Ss, Rto	2	
77	Cv-Mvb/Rk	/Hr, Ss, Rto	2.5	
78	Mb		0	
79,81	Mbv	/Ss, /Rt	1	
80	Mv-Cv	/Hr, Ss, Rt	2.5	
82	/Cv Mvb	/Hr, Ss	1.5	
83	Cf	Hr, /Hwt, Mg	3	debris flow hazard?
84	Mvb-R	Ss, /Rt	1.5	slope hazards
85	Mb	Ss	1	
86	Mv	/Ss, Rt	1.5	
87	Cv-R/Mw	/Hr, Ss, Rto	2.5	
88	Mwb	/Rt	0.5	
89	Lp	Hwt, Mp	4	
90	Mw/Rh	/Ss, Rto	1.5	

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96,98	Mb		0	proximity to lake-septic problem
97,100	FAf	Hr, Hwt, Mg	4	fluvial fan; floodplain
99	/Cvb Mb	/Hr, /Ss	1	
101	Cvb	Hr, Ss	2	
102,103	Mb	Ss	1	
104	Mbv	Ss, /Rt	1.5	
105	/Cvb Mb	/Hr, Ss	1.5	
106	FAf	Hr, Hwt, Mg	4	fluvial fan; floodplain
107	Mb		0	
108,110	FGp	Hr, Mg	2	
109,111	FGu	Hr, Mg	2	
112	FApFt	/Hr, /Hwt, Mg	2.5	includes floodplain
113	FGt-F Mb	Hr, Mg, /Ss	2.5	
114	Mmb FGt		0	
115	Lp	Hwt, Mp	4	
116	Op	Hwt, Mop	5	bog
117	Ru	Ro	1	
118	FGt	Hr, Mg	2	
119	Mub		0	
120,121,123	Lp	Hwt, Mp	4	
122	Rh	Ss, Ro	2	
124	FGka	Hr, Mg, Ss	3	
125	FGu	Hr, Mg	2	
126	Lp	Hwt, Mp	4	
127	/Mw Rh	/Ss, Rot	1.5	
128	Mb		0	
129	FGt	Hr, Mg	2	
130	Mw/Rh	Rto	1	
131	Rhs/Cv	/Hr, Ss, Rot	2.5	
132	Lp	Hwt, Mp	4	
133	/Mw Rh	/Ss, Rot	1.5	
134	Mw Rh	Ss, Rot	2	
135	Mbw	/Rt	0.5	
136	Mw Rh	Rot	1	



Polygon number	Terrain symbol	Specific constraints	Constraint rating	Comments
138	FGt	Hr, Mg	2	
139	Mbv	/Rt	0.5	
139B	FAp	Hwt, Hr, Mg	4	floodplain
140	/Cv Mbv	/Hr, Ss	1.5	
141	Mbw	/Rt	0.6	
142	Mw Rh	/Ss, Rto	1.5	
143	Ruh	/Ss, Ro	1.5	
144	Mw Ruh	/Ss, Rto	1.5	
145	Rh	Ss, Ro	2	
146	Mbv	/Ss, /Rt	1	
147	A	Hwt	2	old settling pond
148	Rock quarry	Ss, Ro	2	quarry
149	RskCw	/Hr, Ss, Ro	2.5	
150	Rkh	Ss, Ro	2	
151	CvMv-R	/Hr, Ss, Rt	2.5	slope hazards
152	Rh	Ss, Ro	2	
153	/Cbv Mbv	/Hr, Ss	1.5	
153B	Ft	Hr, Mg	2	
154	Cbv	Hr, Ss, /Rt	2.5	
155	Lp	Hwt, Mp	4	
156	Mvb	/Rt	0.5	
157	/Mw Rh	/Ss, Rot	1.5	
158	FAp	Hwt, Hr, Mg	4	floodplain
159	Cah	Hr, /Ss	1.5	
160	Mv	/Ss, Rt	1.5	
161	FAf	Hr, Hwt	3	fluvial fan; floodplain
162	Cvb/Rs	/Hr, Ss, Rto	2.5	
163,165	FAf	Hwt, Hr, Mg, /Ss	4.5	fluvial fan; floodplain
164	Mbv	Ss, /Rt	1.5	
166	Cf	Hr, /Hwt, Mg, Ss	4	debris flow hazard
167	FAf	Hr, Hwt, Mg	4	fluvial fan; floodplain
168	Mvb	Ss, /Rt	1.5	
169	Mvb	Ss, /Rt	1.5	
170	Mb/FAp	/Hwt, /Hr, /Mg, /Ss	2.5	partly floodplain
171	Mw	Ss, Rto	2	
172	Rrm/Mw	Ss, Rot	2	
173	Mw Rhm	/Ss, Rto	1.5	
174	/Cv Mvb	/Hr, Ss	1.5	
175	FAf	Hr, Hwt, Mg	4	fluvial fan; floodplain
176	Mw Rrm	/Ss, Rto	1.5	

Polygon number	Terrain symbol	Specific constraints	Constraint rating	Comments
177	MwCv Rrm	/Hr, Rto	1.5	
178	Op	Hwt, Mop	5	bog
179	Rs-R*	Ss	1	slope hazards
180	Cc	Hr, Ss	2	debris flow hazard?
181	F <sup>A</sup> p	Hwt, Hr, Mg	4	floodplain
182	Cv	Hr, Ss, Rt	3	
183	F <sup>G</sup> t	/Hr, Mg, /Rt	2	
184	CvbMvb	/Hr, Ss, /Rt	2	
185	Fp	Hwt, Hr, Mg	4	floodplain
186	Cf	Hr, /Hwt, Mg	3	debris flow hazard?
187	Mb	Ss	1	
188	F <sup>G</sup> k-VR*	Hr, Mg, Ss	3	slope hazards
189	Ft	Hr, Mg	2	
190	F <sup>G</sup> f	Hr, Mg	2	Goldbridge village
191	gF <sup>A</sup> pFt-l	/Hwt, /Hr, Mg	2.5	Bridge river floodplain
191b	gF <sup>A</sup> p-l	Hwt, Hr, Mg	4	Bridge river floodplain
192	F <sup>G</sup> t	Hr, Mg	2	
193	L <sup>G</sup> b F <sup>G</sup> tk	Hr, Mg, Ss	3	special problems
194	Mvbw	/Ss, /Rt	1	
195,196,197	/Mvw Rhu	/Ss, Rto	1.5	
198	Mbw//F <sup>G</sup> b	/Hr, /Mg, /Rt	1.5	
199	MwRh	/Ss, Rto	1.5	
200	F <sup>G</sup> tRh	/Hr, /Mg, /Ss, /Ro	2	
201	F <sup>A</sup> p	Hwt, Hr, Mg	4	floodplain
202, 202B	F <sup>G</sup> t	Hr, Mg	2	
203	F <sup>G</sup> j/Mw	/Hr, /Mg, /Rto	1.5	
204	Mbw//Rh	/Rto	0.5	
205	MwCv/R-V	/Hr, Ss, Rto	2.5	potential gully erosion
206	Mw Ruh	/Ss, Rto	1.5	
207	/Mvw Rhu	/Ss, Rto	1.5	
208	Op	Hwt, Mop	5	
209	Mb/Cv	/Hr, Ss, /Rt	2	
210	Lp	Hwt, Mp	4	
211	Mw Ruh	/Ss, Rto	1.5	
212	Caj	Hr, /Hwt, /Ss	2.5	slope hazards?
213	Cc-A	Hr, /Hwt, Ss	3	avalanche hazard
214	/Cv Rr	/Hr, Ss, Rot	2.5	
215,218	Ch	/Ss	0.5	blocky landslide debris

(10)

Polygon number	Terrain symbol	Specific constraints	Constraint rating	Comments
216	Op	Hwt, Mop	5	
217	Cf	Hr, Mg, Ss	3	debris flow hazard
219	Mw Rm	Rto	1	
220	Mv-Cv	/Hr, /Ss, Rto	2	
221	Mv	/Ss	0.5	
222	Mbv	/Ss, /Rto	1	
223	Cbv	Hr, Ss, /Rto	2.5	
224	Mwb	/Rto	0.5	
225	Mvb	/Ss, /Rto	1	
226	Mbw	Ss, /Rto	1.5	
227	Mb		0	
228	Ff	Hr, /Hwt, Mg, /Ss	3.5	fluvial fan; floodplain
229	Mbv	Ss, /Rto	1.5	
230	Mv-Cv	/Hr, Ss, Rt	2.5	
231	Rs	Ss, Ro	2	
232	Mv	Rt	1	
233	Uk-V	Ss	1	potential gully erosion
234	Mb-V	Ss	1	potential gully erosion
235	Mwv	/Ss, Rto	1.5	
236	Mv	/Ss, Rt	1.5	
237,238	Mw	/Ss, Rto	1.5	
239	Mu		0	
240	/Mw Rr	/Ss, Rto	1.5	
241	Mvb-Cv	/Hr, Ss, /Rto	2	
242	Lp	Hwt, Mp	4	
242B	Fp	Hwt, Mg	2	
243,243B, 244	Cc	/Hwt, Hr, Mg, Ss	4	
245	Mbv-RV	Ss, /Rt	1.5	potential slope hazards and erosion
246	Mv	Rt	1	
247	/Mw Ru	Rot	1	
248	Mwu	/Rt	0.5	
249,251	Op	Hwt, Mop	5	bog
250	Mm		0	
252	Mb-V		0	potential gully erosion
253	Mub		0	
254	Op	Hwt, Mop	5	bog
255	Fp	Hwt, Hr, Mg	4	floodplain
256	/Mwv Rum	/Rto	0.5	
257	Mvb	/Rt	0.5	
258	Mwv	/Ss, Rto	1.5	

Polygon number	Terrain symbol	Specific constraints	Constraint rating	Comments
259,261	/Cv Mbv	/Hr, Ss	1.5	
260	Mb	/Hwt	1	
262	/Mw Ru	Rot	1	
263	Cbv	Hr, Ss, /Rt	2.5	
264	Cyb Mb	Hr, Ss	2	
265,268	FGt	Hr, Mg	2	
266	/Mw Rh	Ss, Rot	2	
267	Mwb	/Ss, /Rt	1	
269	Mvb	/Ss, /Rt	1	
270	Mw Rh	Rto	1	
271, 271B	Fpt	/Hr, /Hwt, Mg	2.5	floodplain
272	/Mw Rh	/Ss, Rto	1.5	
273	/Qv Fp	Hwt, Hr, /Mop, /Mg	4.5	floodplain
274	FAj	Hwt, Hr, Mg	4	floodplain
275	FGfc	/Hwt, Hr, Mg	3	
276	Mbv	/Ss, /Rt	1	
277	Mwb	/Ss, /Rto	1	
278	FGpt	Hr, Mg	2	
279	L <sup>G</sup> ksMks-F*	Hp, Mf, Ss	3	special problems; slope hazards
280	FGt	Hr, Mg	2	special problems
281	Ft	Hr, Mg	2	
282	FAp/Ft	/Hwt, /Hr, Mg	2.5	floodplain
283	FGt	Hr, Mg	2	
284	Cf	Hr, /Hwt, Mg	3	potential debris flow hazard
284B	Mb	/Ss	0.5	
285	FGy/Re L <sup>G</sup> s	Hr, Mg, Ss, /Ro Hp Mf	3.5	special problems
286	FAp	Hwt, Hr, Mg	4	floodplain
286B	FGj	Mg, Hr	2	
287	/Cf FGt	/Hwt, Hr, Mg, /Ss	3.5	
288	gFAp-l	Hwt, Mg	3	floodplain
289	L <sup>G</sup> t	Hp, Mf	2	special problems
290	Ft	Hr, Mg	2	
291	dCa	Hp, Mf, Ss	3	special problems
292	Mks/L <sup>G</sup> ks-VF*	Hp, Mf, Ss	3	special problems; hazards
293	Ft	Hr, Mg	2	
294	L <sup>G</sup> tu	Hp, Mf	2	special problems
295	Mbv	Ss, /Rt	1.5	

Polygon number	Terrain symbol	Specific constraints	Constraint rating	Comments
298	L <sup>G</sup> <sub>t</sub>	H <sub>p</sub> , M <sub>f</sub>	2	special problems
297,298	F <sub>pt</sub>	/H <sub>r</sub> , /H <sub>w</sub> t, M <sub>g</sub>	2.5	
299	F <sup>G</sup> <sub>t</sub> L <sup>G</sup> <sub>t</sub>	/H <sub>r</sub> , /H <sub>p</sub> , /M <sub>g</sub> , /M <sub>p</sub>	2	special problems
300	C <sub>fc</sub> -AR	H <sub>r</sub> , M <sub>g</sub> , /S <sub>s</sub>	2.5	slope hazards
301	M <sub>v</sub> C <sub>v</sub>	/H <sub>r</sub> , S <sub>s</sub> , R <sub>t</sub>	2.5	
301B	F <sup>G</sup> <sub>t</sub>	H <sub>r</sub> , M <sub>g</sub>	2	
302	C <sub>c</sub> -AR	H <sub>r</sub> , M <sub>g</sub> , S <sub>s</sub>	3	avalanche hazard
303	/C <sub>yk</sub> M <sub>w</sub>	/H <sub>r</sub> , S <sub>s</sub> , /R <sub>t</sub>	2	
304	M <sub>w</sub> R <sub>r</sub>	/S <sub>s</sub> , R <sub>to</sub>	1.5	
305	M <sub>b</sub>		0	
306	M <sub>b</sub>		0	
307	M <sub>w</sub> -E <sup>G</sup>	R <sub>to</sub>	1	
308	C <sub>f</sub>	H <sub>r</sub> , /H <sub>w</sub> t, M <sub>g</sub>	3	
309	C <sub>c</sub> -A	H <sub>r</sub> , /S <sub>s</sub>	1.5	avalanche hazard

