

Appendix E: Geotechnical Risk Assessment Methodology

Geotechnical Risk Assessment Methodology

In order to evaluate the possible risks associated with the potential geotechnical hazards that have been identified within each of the zones, the methodology provided in CD 622 Revision 1.

Risk is considered to be a function of the likelihood of the hazard occurring and the potential severity of impact should the hazard occur. Both likelihood and severity are scored 1 to 5, and the product of these two variables provides a risk rating score (i.e. Risk = Likelihood x Severity).

The classification system used to define likelihood, severity and risk is described in the following tables.

Classification of Severity

CLASSIFICATION	SCORE	DEFINITION
Minor	1	Minor damage or loss (no human injury).
Moderate	2	Moderate damage or loss (slight injury or illness).
Serious	3	Substantial damage or loss (serious injury or illness).
Major	4	Major damage or loss (fatal injury).
Catastrophic	5	Catastrophic damage or loss (multiple fatalities).

Classification of Severity

Classification of Risk

		SEVERITY				
		MINOR (1)	MODERATE (2)	SERIOUS (3)	MAJOR (4)	CATASTROPHIC (5)
LIKELIHOOD	EXTREMELY UNLIKELY (1)	1	2	3	4	5
	UNLIKELY (2)	2	4	6	8	10
	LIKELY (3)	3	6	9	12	15
	EXTREMELY LIKELY (4)	4	8	12	16	20
	ALMOST CERTAIN (5)	5	10	15	20	25

Classification of Risk

RISK CLASSIFICATION		
1 – 8	Low	Ensure assumed control measures are maintained and reviewed as necessary.
9 – 19	Medium	Additional control measures needed to reduce risk rating to a level that is equivalent to a test of "reasonably required" for.
20 - 25	High	Activity not permitted. Hazard to be avoided or risk to be reduced to tolerable level.

Description of Risk