CANADIAN BOARD OF EXAMINERS FOR PROFESSIONAL SURVEYORS

E3 - ENVIRONMENTAL MANAGEMENT   October 2015

Note: This examination consists of 6 questions on 1 page.

Q. No	Time: 3 hours	Value	Earned
1.	Describe how climate change in Canada may affect the following sectors, and give specific examples: a) Agriculture (crops, livestock) b) Land Development (urban/suburban/rural environments) c) Ecology (aquatic and/or terrestrial wildlife or habitat)	30	
2.	In recent years, many lakes across Canada, and in particular the Great Lakes, have experienced algal blooms of unprecedented size. Explain the most likely cause of these blooms, how they affect lake ecology and how they could be controlled.	10	
3.	There is compelling evidence that trees in cities make them more "livable" or provide beneficial "services." Describe three ways that trees – along boulevards or in urban parks – have this effect.	15	
4.	A residential development has been proposed in a watershed which the local government and the province deem to be "sensitive." The concern is that further development will change the hydrology of the area, resulting in damage to fish habitat (due for example to scouring of spawning gravels). There are also concerns about the effects of stormwater runoff on water quality. Assuming the development is a residential sub-division, what measures could the developer offer to minimize the effect on: a) Water quantity (amount and speed of runoff); and b) Water quality?	20	
5.	A land developer is considering acquiring a parcel of land in a large vacant area on the outskirts of a mid-sized Canadian city. The land is currently zoned "Industrial" but now the developer wishes to rezone to accommodate a mix of residential and commercial land use. a) What risks will he be taking on in proceeding with this development? b) What would you recommend the developer do to mitigate these risks?	5 10	
6.	Populations of many species of migratory birds in Canada have declined – some precipitously – in the last 40 years. Why is this?	10	
	Total Marks:	100	