

CANADIAN BOARD OF EXAMINERS FOR PROFESSIONAL SURVEYORS
E3 – ENVIRONMENTAL MANAGEMENT

March 2019

Note: This examination consists of 5 questions on 1 page.

Marks

Q. No

Time: 3 hours **Please read questions carefully.**

Value Earned

1.	<p>A local government in your province has granted approval to develop a townhouse complex on an area of sloping land, but has concerns about impacts on water quality in a fish-bearing stream located a short distance downstream.</p> <p>a) Discuss the potential impacts.</p> <p>b) How may these impacts be mitigated?</p>	5 15	
2.	<p>Define the following terms and explain how they may relate to land development:</p> <p>a) unconfined aquifer;</p> <p>b) red-listed species;</p> <p>c) turbidity;</p> <p>d) biodiversity.</p>	5 5 5 5	
3.	<p>Conventional stormwater systems convey runoff from rain on impervious surfaces (roads, sidewalks, driveways etc.) via ditches, inlets, and a network of underground storm drain pipes. They are designed to convey storm water away from developed areas as quickly as possible.</p> <p>a) Discuss some of the deleterious effects of this type of stormwater management on downstream resources from the perspective of water quantity.</p> <p>b) Describe some low-impact practices that would minimize the deleterious off-site impacts listed in a).</p>	20	
4.	<p>Why should we care about species at risk? Give some examples to support your answer.</p>	20	
5.	<p>Compare the costs, greenhouse gas emissions and general environmental impacts of the following power sources:</p> <p>a) coal;</p> <p>b) hydro;</p> <p>c) nuclear;</p> <p>d) wind.</p>	5 5 5 5	
Total Marks:		100	