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# **Culvert Design for Peak Flow and Aquatic Organism Passage**

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Professor/Department Chair, Hydraulics & Water Resources

**Brigham Young University** 

President, ASCE Environmental & Water Resources Institute

## Tuesday and Wednesday, December 5&6, 2017

Simpson, Gumpertz and Heger

41 Seyon Street, Building 1, Suite 500, Waltham, MA

8:30 AM - 4:30 PM

Have you been asked to design a culvert for a new road crossing or to replace an existing culvert? Perhaps it's been a long time since you've done that and you feel a rising sense of panic. Or even if you're comfortable with culvert design, what about "aquatic organism passage" criteria that keeps popping up in your state or agency? And how can that be incorporated with the latest software?

The two-day seminar will begin with a review of peak discharge methods and open channel flow. We will then discuss culvert basics and the unique world of culvert hydraulics.

Attendees will be asked to complete two case studies, each developed to illustrate common issues encountered when designing a culvert. A discussion of energy dissipation will follow with a workshop featuring the broken back culvert feature found in HY-8. The second day will conclude with a detailed discussion of aquatic organism passage including the basics, popular design procedures, and a workshop on the topic.

Upon completing the short course, participants will have a solid understanding of the policies and procedures involved in culvert design, and will be able to design a culvert including determining peak discharge and any Aquatic Organism Passage requirements.

A representative from the MA Division of Ecological Restoration will also be present to give a statewide perspective on the challenges road managers face and the resources available for replacing culverts for aquatic organism passage and storm resilience.

### Registration Deadline: Friday, November 17, 2017

Registration Fees: \$1,200 Members; \$1,425 Non-Members

Registration fee includes course materials, continental breakfast, breaks, and lunch.

### **Registration Information:**

For a detailed program description and to register to attend this seminar and pay by credit card online, click here. To register online for an event at the BSCES member rate you must login using your BSCES assigned username and password. If you do not know your BSCES member login information call 617/227-5551. You can also register for this event by mail or email. To do so, download and complete a BSCES Event Registration Form and follow the submission instructions. Cancellations received after November 17, 2017 and no-shows will be billed.

