



# Guide to Bridge Hydraulics: An Overview of Hydrotechnical Planning, Design & Operations

This course examines bridge hydraulic considerations from a full lifecycle perspective and within an integrated infrastructure context. Planning and design issues anchor the course as key topics are addressed such as boundary conditions, waterway design, scour protection and channel control as well as hydraulic aspects of construction, inspection and maintenance. Creating awareness of available tools for bridge hydraulics and key resources such as the Transportation Association of Canada's *Guide to Bridge Hydraulics*.

The course is aimed at practitioners responsible for addressing bridge hydraulic considerations and issues in the planning, design, operations and maintenance infrastructure lifecycle from consulting, contracting and construction firms, municipal, provincial and federal governments.

The speaker, **Marcel Chichak, P.Eng.**, has some thirty years experience in bridge planning, water resources and river engineering. This course draws on his extensive experience with bridges and bridge hydraulic performance problems.



## Course Overview

- 1 **Overview**
- 2 **Bridge Hydraulics**
- 3 **Bridge Hydraulics Engineering**
  - Information Requirements & Data Issues
  - Local Influences
  - Methodology
- 4 **Bridge Hydrotechnical Planning**
  - Planning Process
  - Optimization & Constraints
- 5 **Bridge Hydrotechnical Design**
  - Span Arrangements; Hydraulic Capacity & Discharge
  - Skew, Drift, Scour, Ice, Geotechnical Issues
  - Approvals
- 5 **Monitoring and Inspection**
  - River Alignment, Training and Protection
- 6 **Cross Selection Case Study**
  - Identifying and Mapping Constraints

## VENUES

**VANCOUVER** November 29, 2011  
**Sandman Hotel** - Ballroom  
180 West Georgia Street  
Vancouver, BC V6B 4P4  
604-681-2211

**REGINA** December 1<sup>st</sup>, 2011  
Best Western Seven Oaks – Banyon C  
777 Albert Road  
Regina, SK S4R 2P6  
306-757-0121

**CALGARY** November 30, 2011  
**Blackfoot Inn** - Ballroom  
9540 Blackfoot Trail S.E.  
Calgary, AB T2H 2B5  
403-252-2253

**EDMONTON** December 2<sup>nd</sup>, 2011  
**Days Inn & Suites West Edmonton**  
Holiday Inn Express – Linden Room  
10010 - 179A Street  
Edmonton, AB T5S 2T1  
780-444-4440

Course endorsed  
by



Development Funding provided by **TRANSPORTATION ASSOCIATION OF CANADA**

As a national centre of transportation expertise, and a not-for-profit association, TAC's goal is to provide a neutral forum to gather and exchange relevant ideas and information on technical guidelines and best practices. TAC actively promotes the importance of transportation to Canada's economic well-being, as well as safe, secure, efficient and environmentally and financially sustainable transportation services.

The *Guide to Bridge Hydraulics* Manual (2001) can be obtained through the TAC Bookstore at [www.tac-atc.ca](http://www.tac-atc.ca)

# REGISTRATION

Please click to register online: <http://www.csce.ca/gbh-register>

7:45 Registration – 8:30 Start of Session – 10:00 Coffee Break – 12:00 Lunch – 15:00 Coffee Break – 16:30 – End of Session  
Dates refer to receipt of registration by CSCE. Payment must be received to confirm your place. Fees include tax.

	By November 1st, 2011		After November 1st, 2011	
	BC	AB, SK	BC	AB, SK
CSCE Members	\$400 + T = <b>\$448.00</b>	\$400 + T = <b>\$420.00</b>	\$450 + T = <b>\$504.00</b>	\$450 + T = <b>\$472.50</b>
New Members	\$425+\$95+T = <b>\$582.40</b>	\$425+\$95+T = <b>\$546.00</b>	\$475+\$95+T = <b>\$638.40</b>	\$475+\$95+T = <b>\$598.50</b>
Non-members	\$500 + T = <b>\$560.00</b>	\$500 + T = <b>\$525.00</b>	\$550+tax = <b>\$616.00</b>	\$550 + T = <b>\$577.50</b>
Students	\$100 + T = <b>\$112.00</b>	\$100 + T = <b>\$105.00</b>	\$100 + T = <b>\$112.00</b>	\$100 + T = <b>\$105.00</b>

- ▶ **GROUP RATES** (5 and more) are available upon request.
- ▶ **NEWLY ENROLLING MEMBERS** pay a special introductory membership fee of \$95 plus tax and obtain a discount on all future CSCE events.

**Cancellation & Substitution** Cancellation requests received more than 14 calendar days before the start of the course will receive a full refund minus a \$100 administration fee.  
Cancellation requests received within the 14 days prior to the start of the course will be non-refundable.  
CSCE reserves the right to cancel any course and will, in such event, fully refund all registration fees.  
Any registrant may substitute another person eligible for the same fee at any time prior to the start of the course.

For group rates and any additional information, please contact: Mahmoud Lardjane    mahmoud@csce.ca    514-731-7859

## CSCE MEMBERSHIP APPLICATION

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Name \_\_\_\_\_ Date of Birth \_\_\_\_\_ Sex \_\_\_\_\_

Indicate Desired Mailing Address

**Home Address** \_\_\_\_\_

T \_\_\_\_\_ F \_\_\_\_\_ E-mail \_\_\_\_\_

**Employer** \_\_\_\_\_ **Bus. Title** \_\_\_\_\_

**Address** \_\_\_\_\_

T \_\_\_\_\_ F \_\_\_\_\_ E-mail \_\_\_\_\_

Professional Registration/Memberships Held \_\_\_\_\_ Provinces \_\_\_\_\_

Are you a member of any other Engineering Societies? If so, give details \_\_\_\_\_

SOCIETY	PROVINCE(S)	MEMBERSHIP GRADE
_____	_____	_____
_____	_____	_____
_____	_____	_____

**TECHNICAL DIVISION MEMBERSHIPS** — Select up to three fields in order of preference, (i.e. 1, 2, 3)

<input type="checkbox"/> Cold Regions	<input type="checkbox"/> Eng. Mechanics/Materials Eng.	<input type="checkbox"/> Hydrotechnical	<input type="checkbox"/> Computer Applications
<input type="checkbox"/> Structural	<input type="checkbox"/> Transportation	<input type="checkbox"/> Construction	<input type="checkbox"/> Environment
<input type="checkbox"/> Infrastructure Renewal		<input type="checkbox"/> Sustainable Dev.	

Signature \_\_\_\_\_ Date \_\_\_\_\_