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## ILLINOIS SECTION AMERICAN SOCIETY OF CIVIL ENGINEERS

645 NORTH MICHIGAN AVENUE, SUITE 540 \* CHICAGO, IL 60611-2881  
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### THE ASCE ILLINOIS SECTION - STRUCTURAL GROUP

## LRFD FOR HIGHWAY BRIDGE SUBSTRUCTURES AND EARTH RETAINING STRUCTURES (4-DAY)

Course Number FHWA-NHI-130082B

Monday, November 16<sup>th</sup>, thru Thursday, November 19<sup>th</sup> 2009

The course promotes the philosophy of the LRFD design platform and establishes the motivation for LRFD as the reassurance that safe design practices are being applied where needed. For structural applications, the curriculum follows the AASHTO "LRFD Bridge Design Specifications," 3rd Edition, 2004 (AASHTO LRFD). However for geotechnical applications, the curriculum follows recent development work on AASHTO LRFD Section 10, Foundations, including the approved 2006 interim specifications.

This course is a combination of Instructor-led discussions and workshop exercises. It includes LRFD theory applied to design examples and illustrates step-by-step LRFD design procedures through a series of detailed process flowcharts. The training includes the extensive use of student exercises and example problems to demonstrate overall design, detailing, and construction principles addressed in the reference materials, and provides hands-on experience in the AASHTO LRFD design and detailing of bridge abutment and pier elements, deep and shallow foundation design, and earth retaining structures. Exercise and example problems are based on components of overall comprehensive bridge design examples using AASHTO LRFD and provide comparisons between ASD, LFD, and LRFD design methods where meaningful.

The curriculum materials are comprised of a comprehensive reference manual, FHWA Publication No. FHWA NHI 05-094, lecture and workshop exercises intended to promote or enhance a working knowledge of the AASHTO LRFD specification, and a participant workbook for lecture notes and exercises.

The course material contains the following major topics:

1. Loads, load distribution, and load combinations
2. Principles of limit state designs
3. Geotechnical spread footing design (soil and rock)
4. Driven pile and drilled shaft design (soil and rock)
5. Substructure design and detailing for a cantilever abutment and hammerhead pier
6. Mechanically stabilized earth walls
7. Precast modular walls
8. Ground anchor wall design

Upon completion of the course, participants will be able to:

- Define AASHTO LRFD limit states and compute structural and geotechnical design loads
- Apply AASHTO LRFD criteria for design
- Integrate the geotechnical aspects of LRFD foundation design into LRFD structural design

This seminar will provide 24 hours of continuing education credit.  
Advanced registration required.

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**ASCE ILLINOIS SECTION STRUCTURAL GROUP**

**REGISTRATION FORM**

**LRFD FOR HIGHWAY BRIDGE SUBSTRUCTURES AND EARTH RETAINING  
STRUCTURES (4-DAY)**

**NOVEMBER 16-19, 2009 7:30 AM TO 5:00 PM**

**Name:** \_\_\_\_\_

**Email:** \_\_\_\_\_ **Daytime Phone:** \_\_\_\_\_

**Cell Phone:** \_\_\_\_\_

**Company Name:** \_\_\_\_\_

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

**City:** \_\_\_\_\_ **State:** \_\_\_\_\_ **Zip Code:** \_\_\_\_\_

Lunches are included in the cost of the seminar. Register early. Space is limited.

**Seminar Location**

UBS Tower  
1 N. Wacker, 2nd Floor  
Superior Room  
Chicago, IL 60606

**Registration Deadline:** October 16<sup>th</sup>  
**Late Registration:** October 17<sup>th</sup> thru November 12<sup>th</sup>

**Seminar Fees**

**Postmarked By:** October 16<sup>th</sup>: \$1,100  
**Postmarked After** October 16<sup>th</sup>: \$1,250

**Cancellation fee by** September 30<sup>th</sup>: \$100  
**No refunds after** September 30<sup>th</sup>

Mail registration form and check payable to ASCE Structural Group to:

HDR c/o Victor Van Santen,  
8550 W. Bryn Mawr Ave., Suite 900,  
Chicago, IL 60631

Or email registration to:

Victor Van Santen at [Victor.VanSanten@hdrinc.com](mailto:Victor.VanSanten@hdrinc.com)