

Mechanically Stabilized Earth Walls and Reinforced Soil Slopes

including

Load Resistance Factor Design (*LRFD*) and Allowable Stress Design (*ASD*)

October 26-28, 2011

(2.4 CEU or 24 PDH awarded for full participation¹)

This course presents the latest national recommendations for design and construction practice for reinforced soil structures AND it now includes the latest wall design guidance based on LRFD and ASD *plus* hands-on instruction for using two powerful software packages, **MSEW** and **ReSSA**, licensed to the FHWA as well as State DOT's. **Note that the AASHTO LRFD Specifications are federally mandated.** This is your chance to be at the forefront!

Location: The Newark Club, 1085 Raymond Blvd, One Newark Center, 22nd Floor, Newark, NJ 07102 (Tel. 1-973-242-0658), a short walking distance from Newark Penn Station. It is easily accessible from New York City and its metropolitan area.

Course Description

This practical training program, based on AASHTO and FHWA technical specifications and design and construction recommendations on soil reinforcement, is presented by two nationally recognized geotechnical experts who will help you appreciate and implement mechanically stabilized earth walls and reinforced soil slopes (MSEW/RSS). Discussions will involve civil and geotechnical design issues. You will learn how to combine soil reinforcing materials made of steel and polymers with an appropriate facing to produce a composite structure with improved engineering properties. These earth fill construction methods are cost effective and aesthetically pleasing, and they provide substantial construction time-savings compared to conventional types of earth retaining systems used in the transportation community. *Registration will be limited* in order to facilitate discussion and learning that takes place not only through lectures, but also through working with your peers on sample problems

¹ A CEU certificate will be issued to each registrant who successfully completed this course. Since continuing education requirements for P.E. license renewal vary from state to state, ADAMA Eng. recommends that individuals check with their state registration board on their specific continuing education requirements that affect P.E. licensure and the ability to renew licensure. Your state may or may not accept our CEU certificate.

and getting hands-on experience with the *MSEW* and *ReSSA* software. (A calculator for problem-solving sessions and your laptop computer, on which the software will be temporarily loaded, are required).

Who Should Attend

Geotechnical engineers, design specialists (geotechnical, structural), construction engineers; consulting engineers; and technical representatives and academic community representatives who work on earth retaining structure selection, design and contracting will also find this course valuable. Attendees should have a basic knowledge of soil mechanics.

Benefits

- This course enables you to gain practical knowledge in all areas of mechanically stabilized earth walls and reinforced soil slopes, including:
 - selection
 - design (LRFD, Allowable Stress for MSE Walls, designs beyond AASHTO)
 - construction
 - monitoring
 - contractual aspects
- Use sophisticated ***MSEW*** and ***ReSSA*** software temporarily loaded on your own laptop, to perform hands-on exercises -- even using the software as a forensic tool.
- Understand the advantages and limitations of each reinforcement system.

The Instructors

Dov Leshchinsky, Ph.D. is a professor of civil engineering at the University of Delaware since 1982. Dr. Leshchinsky holds the PhD in geotechnical engineering from the University of Illinois at Chicago. His research contributions are in the areas of slope stability engineering, soil reinforcing and ground improvement. He has developed design methods, including those for geosynthetic reinforced slopes and walls, that are being used worldwide. He co-developed software for the USCOE, FHWA, and private industry. Commercial software he co-developed, namely *MSEW*, *ReSSA*, *FoSSA*, *ReSlope* and *GeoCoPS*, has been used in the design of major structures. He was involved as an expert in forensic studies of failed MSE walls. Dr. Leshchinsky has taught numerous short courses on MSE walls and slopes worldwide as well as NHI courses to State DOT's. In 2010 he received the *Martin S. Kapp Foundation Engineering Award*, ASCE: "For his innovative contribution to the unified method of design and analysis of earth retaining

structures and slopes as well as implementation of such technology through computer software and continuing education”.

James G. Collin, PhD, P.E. has been teaching courses for the Federal Highway Administration and the National Highway Institute since 1995. Specifically, he has taught Designing with Geosynthetics for 13 years. He is also a certified instructor for the NHI courses on MSEW and RSS Design and Construction, Inspection of MSEW and RSS, and Earth Retaining Structures. Dr. Collin also teaches a one-day course on Segmental Retaining Wall Design for the National Concrete Masonry Association. He has also been involved with the development of four new courses: Shallow Foundations, Soil Slope and Embankment Design, Ground Improvement, and Slope Maintenance. Dr. Collin holds a Ph.D. from the University of California, Berkeley. His thesis, titled “Earth Wall Design” was the first to evaluate the effects of soil reinforcement stiffness on the internal stresses in MSE walls. In addition to his vast teaching experience, Dr Collin has worked for a major heavy construction company managing the design and construction of earth retaining structures. He has also worked for a manufacturer of geosynthetic reinforcement used in MSE walls and RSS. He has been the engineer of record for hundreds of reinforced soil slopes and MSE walls. He has conducted forensic analysis of over 100 MSE wall failures and written numerous articles on the subject.

Agenda

A detailed course agenda is provided separately. Here is an overview:

Class Times: Wednesday, Thursday & Friday, October 26-28, 2011: 8 AM - 5 PM

Through a combination of lectures, example problems, student exercises and discussion, this course covers the following topics:

- MSE wall systems, applications and description
- Site & project evaluation
- Construction methods
- Soil reinforcement principles
- System design properties
- Reinforced Soil Slopes: project evaluation
- Specifications and Contracting Methods
- Field Inspection and Monitoring
- Multiple student exercises dealing with MSE Walls and Reinforced Soil Slopes
- Design of reinforced slopes
- Hands-on exercises using ReSSA software, including one on global stability of MSE Walls

- Design of MSE Walls (ASD & LRFD) - including student exercises
- Seismic design of MSE Walls and Slope
- Design of Walls with Complex Geometries
- Hands-on exercises using MSEW software applying the AASHTO LRFD Specifications

Registration and General Information

Registration Fee: \$1,195 per person if registered by September 26th. After September 26th registration fee is **\$1,295**. Register at:

www.MSEW.com/shortcourses.htm

Registration Fee includes **extensive course notes/FHWA manuals**; lunch, and beverages and food at the morning and afternoon breaks.

Registration is limited due to the highly interactive nature of this course.

A 10% discount towards the purchase of [MSEW and ReSSA](#) software package will be available to all participants.

REGISTRATION DEADLINE: Tuesday, October 10, 2011. ***Late registrations will be accepted as long as the number of registrants has not exceeded the limit.*** Note: ***Should the number of registrants by October 12, 2011 be less than the minimum required, the course will be cancelled and you will receive full refund of your registration fee paid to ADAMA Engineering. Should the number of registrants exceed the minimum before October 12, we will notify you in real time so that you can make your final travel arrangements.***

REGISTRATION CONFIRMATION: A confirmation letter including a detailed course agenda will be emailed to you before October 14, 2011.

CANCELLATIONS and SUBSTITUTIONS: Refunds granted if request is received in writing by October 5, 2011. No refunds after October 5, but substitutions are permitted up to the first day of class.

ACCOMMODATIONS and TRANSPORTATION: Participants are responsible for making their own hotel and transportation arrangements.

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