

NHI Course 132012

**Soils and Foundations
Workshop**

Instructor's Guide

April 2002

**NHI COURSE 132012
SOILS AND FOUNDATIONS WORKSHOP
INSTRUCTOR'S GUIDE**

TABLE OF CONTENTS

	<u>Page</u>
1.0 Introduction	1
2.0 Course Organization	1
3.0 Recommended Class Size	2
4.0 Visual Aids/Room and Equipment Needs (Instructional Methods)	3
5.0 Host State Participation	4
6.0 Target Audience	5
6.1 Pre-Training Competencies	5
7.0 Overall Course Learning Objectives	6
8.0 Potential Instructors	6
9.0 Course Agenda	7
10.0 Course Presentation	
Lesson 1	
Topic 1 – Introduction to Soils and Foundations Workshop	1-1-1
Topic 2 – General Overview of Geotechnical Input to Highway Projects	1-2-1
Lesson 2	
Topic 1 – Site Investigation and Sampling Methods	2-1-1
Topic 2 – Layout of Subsurface Investigation for a Bridge Foundation	2-2-1
Lesson 3	
Basic Soil Properties for Foundation Design	3-1
Lesson 4	
Laboratory Testing for Foundation Design	4-1
Lesson 5	
Topic 1 – Slope Stability	5-1-1
Topic 2 – Solutions to Slope Instability	5-2-1

**NHI COURSE 132012
SOILS AND FOUNDATIONS WORKSHOP
INSTRUCTOR'S GUIDE**

Lesson 6		
Topic 1 – Embankment Settlement		6-1-1
Topic 2 – Treatment for Embankment Settlement Problems		6-2-1
Lesson 7		
Topic 1 – Spread Footing Design–Bearing Capacity		7-1-1
Topic 2 – Spread Footing Design-Settlement		7-2-1
Lesson 8		
Topic 1 – Deep Foundation Design-Load Capacity		8-1-1
Topic 2 – Deep Foundation Design-Pile Groups		8-2-1
Lesson 9		
Topic 1 – Construction Control Considerations-Instrumentation		9-1-1
Topic 2 – Construction Control Considerations-Foundations		9-2-1
Topic 3 – Construction Control Considerations-Pile Load Testing		9-3-1
Lesson 10		
The Foundation Investigation Report		10-1
Lesson 11		
Course Summary, Review, and Critique		11-1
11.0	Student Exercises	12-1