



U.S. Department of Transportation  
**Federal Highway Administration**  
Office of Technology Applications  
Office of Engineering



# Soil Nail Walls

## *Demonstration Project 103*

This Demonstration Project is intended for Federal, State, and local government engineers involved in the design or construction of retaining walls; particularly walls in cut situations.

Technology implementation will be accomplished by classroom instruction and field assistance on introductory projects:

### ***Classroom Instruction***

- 2-Day workshop in design/construction

### ***Technical Assistance***

- Site assessment, design review, and construction troubleshooting

### ***Field Instruction***

- On-site inspection instruction

Soil nailing is a technique to reinforce and strengthen the existing ground. The use of soil nails in combination with a shotcrete construction facing and a final structural facing can be a cost effective alternate to other wall types in cut situations. The purpose of this Demonstration Project is to facilitate the implementation of soil nailing into routine transportation design and construction practice.

# Soil Nail Walls

A series of twenty-five, 2-day workshops will be offered on a regional basis. The workshop details follow:

## *Workshop—Day 1*

### **General Session and Overview**

- A general session intended for a wide audience including design engineers (geotechnical, structural, and roadway), project engineers, maintenance engineers, and inspectors. An introductory overview of soil nail technology will be presented for management.
- Maximum recommended class size of 50.
- Workshop topics include soil nailing primer, construction methods, inspection, wall performance monitoring, contracting methods, plans and guide specifications.

## *Workshop—Day 2*

### **Technical Specialty Session**

- A technical specialty session intended for geotechnical and structural engineers who will be involved in the design of soil nailed walls. Day 2 attendees are encouraged to also attend the Day 1 session as design decisions require an in-depth knowledge of soil nail wall construction techniques.
- Maximum recommended class size of 30.
- Workshop topics include soil nail wall design concepts, use of design charts, demonstration of computer software, and service load and LRFD design examples.



Innovation Through Partnerships  
Publication No. FHWA-SA-96-076



## ***General Information***

**Accommodations and Facilities**—Individual agencies, who host the workshop, will be responsible for designating a local course coordinator to secure a suitable classroom, supply all necessary visual aid equipment, and assist with other workshop details.

**Cost**—Free for Federal, State, and local government Transportation attendees. Attendance by non-Transportation agency personnel is at the discretion of the host agency.

**Workshop Materials**—FHWA technical manuals, FHWA SA-96-069—“Manual for Design and Construction Monitoring of Soil Nail Walls”, FHWA SA-93-068—“Soil Nailing Field Inspectors Manual”, and computer software.

In-depth technical assistance and field inspection instruction is available on a limited basis for agencies who are interested in implementing soil nail technology.

*For more information, contact the FHWA Division Office in your State or Richard Cheney, FHWA Office of Engineering, Washington, D.C., (202) 366-1568 or by e-mail address [richard.cheney@fhwa.dot.gov](mailto:richard.cheney@fhwa.dot.gov)*