

**Soil Mechanics and Engineering for Building Professionals
Las Vegas, NV – July 14, 2011**

8:30 – 10:30

Site/Soil Investigations and Soil Mechanics

**Soil investigation vs. no soil investigation or
Site specific information vs. no site specific information or
Reality vs. International Building Code (a no brainer!!!)**

- Site reconnaissance
- Geology and visual observations
- Test drilling and boring
- Test pits
- Establishing appropriate investigational methods (Pro's vs. Amateurs)
- Report formats – what to expect and why

Properties of Soil

- Formation of soils
- Types of soils
- Importance of recognizing soil properties

Soil/Structure Interaction (Project Performance Evaluation)

- Up front project design cost vs. project performance
- Up front project design cost vs. construction RFI's
- Up front project design cost vs. professional liability

10:30-10:45

Break

10:45 – 11:45

Foundation Backfill & Soil Compaction

- Definitions of soils
- Important engineering properties and characteristics
- Soil compaction (why and how)
- Field compaction quality control (minimal vs. appropriate)
- Typical set of moisture density curves
- Moisture and/or density control
- Equipment used for compaction
- Backfill – materials
- Specifications for compaction and backfill
- Typical procedures for building embankments
- Difficult site conditions

11:45 – 1:00

Lunch

1:00 – 2:00

Foundation Backfill & Soil Compaction (continued)

2:00 – 2:15

Break

2:15 – 4:15

In Situ Soil Improvement

- Mechanical modification of soil (air drying and/or moistening)
- Mechanical modification of in-situ soils (density improvement)
- Chemical modification of soil
- Expansive soils - optional treatments
- Use of recycled materials for fill
- Pre-loading surcharge with/without subsurface drains
- Dynamic compaction
- Compaction grouting
- Alternate foundation systems (geo-piers, helical piers, etc.)