Specifications for Subsurface Explorations

Planned Revisions
SSE Revisions

• **Investigation** – A detailed inquiry or systematic examination

• **Exploration** - The act or an instance of exploring
SSE Revisions

History

• Specifications for Subsurface Investigations, August 1977

• Specifications for Subsurface Investigations, February 1984

• Specifications for Subsurface Investigations, November 1995 (Update issued September 1996)
SSE Revisions

Changes from 1977 to 1984

• Added definitions:
  – Agreement
  – Direct Costs
  – Indirect Costs
  – Net Fee
  – Subconsultant
SSE Revisions

Changes from 1977 to 1984

- Included a “General Requirements” section with soils consultant qualifications
- Boring depth requirements for embankments taller than 10 feet
- The engineer or the consultant…
- Identify who is responsible for traffic maintenance
- Foundation Borings renamed Structure Subsurface Borings
SSE Revisions

Changes from 1977 to 1984

- No more CBR testing
- Moisture-density relation removed
- “Symbols shall be shown per soil classification chart (pressure adhesive symbols obtainable from most drafting supply stores)”
- Plot stratigraphic columns on cross section contour
- Include descriptions of bedrock, visual soil classification, and organic content in soil profile
SSE Revisions

Changes from 1977 to 1984

- TRB changed to AASHTO
- Include: disclaimer, where information can be inspected, and a generalized interpretation of findings
- *Specific* Treatment Recommendations
- No longer requiring set of plans sent to test lab for filing
- Appendices showing ODOT Soil Classification and sample soil plans and test data display
SSE Revisions

Changes from 1984 to 1995

- Reorganize into more logical format and making “loose-leaf” for ease in making future revisions and updates
- Converting to metric units (with English in parentheses)
- Changing the method of payment to an actual cost plus net fee
SSE Revisions

Changes from 1984 to 1995

- Requiring accreditation by the AASHTO AMRL or A2LA
- Policy for the sealing or backfill of boreholes
- Computer access to test forms, drawings, and symbols
- Minor revisions made in September 1996
SSE Revisions

Changes from 1984 to 1995

- **Office** and Field Reconnaissance
- Utilize previous borings
- Minor boring depth and location clarifications and adjustments
- What to do if drums or tanks are encountered
SSE Revisions

Changes from 1984 to 1995

• Address investigation of wet or soft subgrades, widening of existing roads, proposed underground utilities
• Rule of thumb on structure boring depth in soil (stress increase<10% of effective)
• Scour
SSE Revisions

Changes from 1984 to 1995

- Borings for culverts, retaining walls, and noise barriers
- Reference to “Manual of Uniform Traffic Control Devices”
- Type NX core barrel preferred
- “…not all samples need to be tested.”
SSE Revisions

Changes from 1984 to 1995

• Cardboard core boxes are OK
• No more “Determination of Running Sand”
• More detail on ground water observation well
• Location accuracy: nearest 1 ft ⇛ 0.33 ft
SSE Revisions

Changes from 1984 to 1995

- Moisture on every soil sample not required
- At least 1 “classification test” for each distinct soil strata or critical location
- Some different types of bedrock
- A different bedrock hardness description
- RQD and rock strength testing defined
SSE Revisions

Changes from 1984 to 1995

• Removed disclaimer
• More detail and organization for soil profile and report presentation, but content generally the same
• Include property damage report
• Update plan examples (metric)
• Remove Typical Soil Consultant Invoice

Ohio Department of Transportation, Office of Geotechnical Engineering

SSE Revisions

Proposed Changes from 1995 to 2006

- Back to English (metric)
- Integrate with PDP
- Incorporate and make reference to inventories and risk assessment procedures
- Update exploration methods (CPT, geophysical, etc.)
- Update exploration requirements (MSE walls, high mast tower lighting, etc.)
SSE Revisions

Proposed Changes from 1995 to 2006

- SPT calibration and correction
- GPS coordinates
- Make consistent with GBs
- Update lab and in-situ testing methods
- Instrumentation specifications
SSE Revisions

Proposed Changes from 1995 to 2006

- Standardize lab test data presentation format
- Bedrock – Consider adopting Cartographic Standard for Geologic Map Symbolization
- Boring numbering standard
- Electronic deliverables for database
SSE Revisions

Proposed Changes from 1995 to 2006

• Standardized deliverables
  – Report format
  – Boring logs
• Revise/clarify soil profile/structure foundation plan details
• Create landslide exploration plan standard
SSE Revisions

Proposed Changes from 1995 to 2006

Questions?

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