

## References

### SOURCES USED

These are the sources quoted or paraphrased in this publication.

#### Joint and Multiservice Publications

- FM 5-430-00-1/AFJPAM 32-8013, Vol I. *Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations—Road Design*. 26 August 1994.
- FM 5-430-00-2/AFJPAM 32-8013, Vol II. *Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations—Airfield and Heliport Design*. 29 September 1994.
- TM 5-822-14/AFJMAN 32-1019. *Soil Stabilization for Pavements*. 25 October 1994.
- TM 5-822-5/AFM 88-7. *Pavement Design for Roads, Streets, Walks and Open Storage Areas*. 12 June 1992.
- TM 5-825-2/NAVFAC DM-21.3/AFJMAN 32-1014. *Flexible Pavement Design for Airfields*. 7 February 1997.

#### Army Publications

- FM 5-410. *Military Soils Engineering*. 23 December 1992.
- FM 5-428. *Concrete and Masonry*. 18 June 1998.
- FM 5-434. *Earthmoving Operations*. 30 September 1992.
- TM 5-349. *Arctic Construction*. 19 February 1962.
- TM 5-337. *Paving and Surfacing Operations*. 21 February 1966.

#### Other Military Documents

- AASHTO T 217-1986. *Standard Specifications for Transportation Materials and Methods of Sampling and Testing, Part II, 13th ed.*, 1986.
- ASTM C 39-96. *Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens*. 1996.
- ASTM C 70-79. *Standard Test Method for Surface Moisture in Fine Aggregate*. 1979.
- ASTM C 78-94. *Standard Test Method for Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)*. 1994.
- ASTM C 117-95. *Standard Test Method for Materials Finer than 0.075-mm (No. 200) Sieve in Mineral Aggregates by Washing*. 1995.
- ASTM C 127-88. *Standard Test Method for Specific Gravity and Absorption of Coarse Aggregate*. 1988.
- ASTM C 128-93. *Standard Test Method for Specific Gravity and Absorption of Fine Aggregate*. 1993.
- ASTM C 131-89. *Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine*. 1989.
- ASTM C 136-90. *Method for Sieve Analysis of Fine and Coarse Aggregates*. 1990.
- ASTM C 143-90a. *Standard Test Method for Slump of Hydraulic Cement Concrete*. 1990.
- ASTM C 150-97. *Standard Specification for Portland Cement*. 1997.
- ASTM C 192-90a. *Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory*. 1995.
- ASTM C 231-97. *Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method*. 1997.
- ASTM C 566-89. *Standard Test Method for Total Moisture Content of Aggregate by Drying*. 1989.

- ASTM C 617-94. *Standard Practice for Capping Cylindrical Concrete Specimens*. 1994.
- ASTM D 5-86. *Test Method for Penetration of Bituminous Materials*. 1986.
- ASTM D 75-87. *Practice for Sampling Aggregates*. 1987.
- ASTM D 140-88. *Practice for Sampling Bituminous Materials*. 1988.
- ASTM D 242-85. *Specification for Mineral Filler for Bituminous Paving Mixtures*. 1985.
- ASTM D 244-89. *Test Methods for Emulsified Asphalts*. 1989.
- ASTM D 422-90. *Standard Test Method for Particle-Size Analysis of Soils*. 1990.
- ASTM D 448-86. *Classification for Sizes of Aggregate for Road and Bridge Construction*. 1986.
- ASTM D 546-88. *Test Method for Sieve Analysis of Mineral Filler for Road and Paving Materials*. 1988.
- ASTM D 692-88. *Specification for Coarse Aggregate for Bituminous Paving Mixtures*. 1988.
- ASTM D 854-92. *Test Method for Specific Gravity of Soils*. 1992.
- ASTM D 1073-88. *Specification for Fine Aggregate for Bituminous Paving Mixtures*. 1988.
- ASTM D 1075-88. *Test Method for Effect of Water on Cohesion of Compacted Bituminous Mixtures*. 1988.
- ASTM D 1556-90. *Standard Test Method for Density of Soil in Place by the Sand-Cone Method*. 1990.
- ASTM D 1557-91. *Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup> [2,700 kN-m/m<sup>3</sup>])*. 1991.
- ASTM D 1559-89. *Test Method for Resistance to Plastic Flow of Bituminous Mixtures Using Marshall Apparatus*. 1989.
- ASTM D 1664-80. *Test Method for Coating and Stripping of Bitumen-Aggregate Mixtures*. 1980.
- ASTM D 1754-87. *Test Method for Effect of Heat and Air on Asphaltic Materials (Thin-Film Oven Test)*. 1987.
- ASTM D 1883-94. *Standard Test Method for CBR (California Bearing Ratio) of Laboratory-Compacted Soils*. 1994.
- ASTM 2042-81. *Test Method for Solubility of Asphalt Materials in Trichloroethylene*. 1981.
- ASTM D 2170-85. *Test Method for Kinematic Viscosity of Asphalts (Bitumens)*. 1985.
- ASTM D 2172-88. *Test Methods for Quantitative Extraction of Bitumen from Bituminous Paving Mixtures*. 1988.
- ASTM D 2216-90. *Method for Laboratory Determination of Water (Moisture) Content of Soil, Rock, and Soil-Aggregate Mixtures*. 1990.
- ASTM D 2217-85. *Standard Practice for Wet Preparation of Soil Samples for Particle-Size Analysis and Determination of Soil Constants*. 1985.
- ASTM D 2487-93. *Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System)*. 1993.
- ASTM D 2922-96. *Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)*. 1996.
- ASTM D 3017-96. *Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth)*. 1996.
- ASTM D 4318-95a. *Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils*. 1995.
- ASTM D 4552-87. *Practice for Classifying Hot-Mix Recycling Agents*. 1987.
- ASTM D 4643-87. *Method for Determination of Water (Moisture) Content of Soil by the Microwave Oven Method*. 1987.
- EM 385-1-1. *United States Army Corps of Engineers Safety and Health Requirements Manual*. 1996.
- NAVFAC DM-7.1. *Soil Mechanics*. 1986.
- NAVFAC DM-7.2. *Foundations and Earth Structures*. 1986.

## DOCUMENTS NEEDED

These documents must be available to the intended users of this publication.

### Department of the Army Forms

DA Form 2028. *Recommended Changes to Publications and Blank Forms*. 1 February 1974.

### Department of Defense Forms

- DD Form 1205. *Soil Moisture-Content Determination*. December 1999.  
DD Form 1206. *Grain-Size Analysis (Sieve Method)*. December 1999.  
DD Form 1207. *Grain-Size Distribution Graph—Aggregate Gradation Chart*. December 1999.  
DD Form 1208. *Special-Gravity Tests*. December 1999.  
DD Form 1209. *Liquid- and Plastic-Limits Determination*. December 1999.  
DD Form 1210. *Laboratory Compaction Characteristics of Soil (Compaction Test)*. December 1999.  
DD Form 1211. *Laboratory Soil-Compaction Test Graph*. December 1999.  
DD Form 1212. *Laboratory California Bearing Ratio (CBR) Test Data*. December 1999.  
DD Form 1215. *In-Place Density Determination—Sand-Cone Method*. December 1999.  
DD Form 1216. *Specific Gravity of Bituminous Mix Components*. December 1965.  
DD Form 1217. *Bituminous Mix Design—Aggregate Blending*. December 1965.  
DD Form 1218. *Marshall Method—Computation of Properties of Asphalt Mixtures*.  
December 1965.  
DD Form 1219. *Bituminous Mix Curves*. December 1965.  
DD Form 1793. *Determination of Asphalt Content (Dulin Rotarex Extractor) (LRA)*.  
February 1971.  
DD Form 1794. *Grain-Size Analysis (Hydrometer Method)*. December 1999.  
DD Form 2463. *California Bearing Ratio (CBR) Analysis*. December 1999.  
DD Form 2464. *Report of Foundation and Borrow Investigation*. December 1999.

## READINGS RECOMMENDED

These readings contain relevant supplemental information.

Bowles, Joseph E. *Engineer Properties of Soil and Their Measurement*, 2nd ed., McGraw-Hill Book Company, 1978.

*Flexible Pavement*, Special Text, USAES ST 5-330-8, February 1972.

Head, H.H. *Manual of Soil Laboratory Testing, Volume I, Soil Classification and Compaction Testing*, Pentech Press, 1984.

Head, H.H. *Manual of Soil Laboratory Testing, Volume II, Permeability, Shear Strength, and Compressibility Tests*, Pentech Press, 1984.

Head, H.H. *Soil Technicians' Handbook*, Pentech Press, 1989.

*Hot-Mix Asphalt Paving Handbook*, USACE UN-13, July 1991.

Ingles, O. G. and J. B. Metcalf. *Soil Stabilization*, John Wiley & Sons, 1973.

Liu, Cheng, and Jack B. Evett. *Soil Properties: Testing, Measurement, and Evaluation*, 2nd ed., Prentice Hall, 1984.

National Lime Association. *Fundamentals of the Stabilization of Soil with Lime*, Bulletin 332, 1987.

Ross, Steven S. *Highway Design Reference Guide*, McGraw-Hill Book Company, 1988.

Sowers, George B. and George F. Sowers. *Introductory Soil Mechanics and Foundations*, 3rd ed., The Macmillan Company, 1970.

The Asphalt Institute. *Introduction to Asphalt, MS-5*, 8th ed., 1986.

The Asphalt Institute. *Soils Manual for the Design of Asphalt Pavement Structures*, Manual No. 10, 2nd ed., 1978.

*The Unified Soils Classification System*, Technical Memorandum No. 3-357, USAEWES Geotech Lab.

Wallace, Hugh A. and J. Rogers Martin. *Asphalt Pavement Engineering*, McGraw-Hill Book Company, 1967.