

Registrar of Regulations	Date/Time filed with Registrar of Regulations
<i>AUTHORIZATION TO FILE DOCUMENTS INCORPORATED BY REFERENCE BY DESCRIPTION</i>	

① Agency: *Virginia Department of Transportation (Commonwealth Transportation Board)*

② Regulation Numbers: N/A 24 VAC 30-92
 Title of Regulation: Secondary Street Acceptance Requirements

③ Effective Date of Regulation: December 2011

④ Name of Document Incorporated by Reference:
VDOT Materials Division Manual of Instructions, 2011

⑤ Attach a summary of the document incorporated by reference, including publication date and a copy of the cover page.
See attachments

⑥ Document available for inspection at the following location:
Va. Dept. of Transportation
Materials Division
1401 E. Broad St.
Richmond, Va. 23219
<http://www.virginiadot.org/business/materials-download-docs.asp>

⑦ Copy of referenced document may be procured from:
Va. Dept. of Transportation
Materials Division
1401 E. Broad St.
Richmond, Va. 23219
<http://www.virginiadot.org/business/materials-download-docs.asp>

⑧ Exemptions Claimed (Specific Reference):
 Administrative Process Act N/A
 Virginia Register Act N/A
Virginia Code Commission Regulations § 3.3 (B)(1) - document exceeds 500 pages and is generally available to the public

Request submitted by: Jo Anne P. Maxwell
Agency Regulatory Coordinator 11/28/2011
 Title Date

Approved: _____
Jane D. Chaffin, Registrar of Regulations Date

SUMMARY OF DOCUMENT INCORPORATED BY REFERENCE

Materials Division Manual of Instructions

The Manual of Instructions for the Materials Division (2011) outlines specifically the practices for field sampling, inspection, testing, and control of materials incorporated in the construction or maintenance of highways, structures, bridges, and incidentals. These instructions are to be followed in order to achieve uniformity in the control and use of materials throughout the State. It is comprised of nine chapters and totals 604 pages. It is available online from the following site: <http://www.virginiadot.org/business/materials-download-docs.asp>.

Chapter I - GENERAL INSTRUCTIONS.....1

SECTION 101 PURPOSE AND SCOPE OF MANUAL1

SECTION 102 MISSION AND GOALS OF MATERIALS DIVISION1

SECTION 103 INPUT CONCERNING MATERIALS DIVISION POLICY AND INSTRUCTIONS2

SECTION 104 RELATION OF MATERIALS DIVISION EMPLOYEES1

 Sec. 104.01 With Suppliers and Contractors1

 Sec. 104.02 With the Public.....2

SECTION 105 SAFETY PRECAUTIONS.....2

 Sec. 105.01 Department Employees Visiting Plants2

 Sec. 105.02 Nuclear Safety Precautions2

 Sec. 105.03 Nuclear Moisture-Density Gauges – General Administration.....3

 Sec. 105.04 Nuclear Moisture-Density Gauges – Operating and Emergency Precautions4

SECTION 106 GENERAL INFORMATION.....5

 Sec. 106.01 Information Required5

 Sec. 106.02 Sampling of Materials in the Field8

 Sec. 106.03 Compliance with Specifications8

107 SCALE PROGRAM8

 Sec. 107.01 Certification of Batch Test Weights8

 Sec. 107.02 Certification of Scales8

 Sec. 107.03 Deleted11

 Sec. 107.04 General Scale Requirements and Check Points.....11

 Sec. 107.05 Recordkeeping and Scale Certification Data System12

SECTION 108 BONDED WEIGHPERSON PROGRAM13

 Sec. 108.01 Surety Bond.....13

 Sec. 108.02 Certification of Weighperson13

 Sec. 108.03 General Guidelines for Weighperson14

 Sec. 108.04 Duties of Certified (Bonded) Weighperson.....14

 Sec. 108.05 Reconciling Weigh Documents.....15

 Sec. 108.06 Department Monitoring.....16

SECTION 109 Deleted.....16

SECTION 110 THE DISTRICT MATERIALS ENGINEER.....16

SECTION 111 DUTIES OF MATERIALS TECHNICIAN SUPERVISORS AND TECHNICIANS17

SECTION 112 OPERATIONS OF THE MATERIALS DIVISION17

 Sec. 112.01 Plant Testing and Inspection17

 Sec. 112.02 Laboratory Testing17

 Sec. 112.03 Visual Inspection.....18

SECTION 113 MATERIALS18

 Sec. 113.01 General.....18

 Sec. 113.02 Material Arriving Bearing Inspection Seals19

 Sec. 113.03 Material Arriving Without Evidence of Inspection20

 Sec. 113.04 Handling of Materials on Job20

 Sec. 113.05 Proper Sampling in the Field.....20

 Sec. 113.06 Information to be Submitted with Samples20

 Sec. 113.07 Procedure to be Followed when Material is Rejected20

SECTION 114 REQUESTS FOR TESTS AND SERVICES22

 Sec. 114.01 Performing Materials Tests and Services for Other State Agencies, Local Governmental Units, Other States, and Federal Agencies22

Sec. 114.02 Reciprocal Agreements where the Service is Performed Without Charge23
Sec. 114.03 Reciprocal Agreements for Services in which the Cost is Recovered/Paid.....23
SECTION 115 MATERIALS CERTIFICATION PROGRAM.....23
SECTION 116 MATERIALS TESTING REQUIREMENTS33
Weighing Inspection Report.....1
VDACS Report 11
VDACS Report 21
Nuclear Moisture - Density Gauges1
APPLICATION FOR VDOT MATERIALS TECHNICIAN CERTIFICATION2

CHAPTER II - METHODS AND FREQUENCIES OF SAMPLING.....	3
SECTION 201 GENERAL	3
SECTION 202 DEFINITION OF SAMPLES	4
Sec. 202.01 Investigation Samples	4
Sec. 202.02 General Samples.....	4
Sec. 202.03 Acceptance Samples.....	4
Sec. 202.04 Independent Assurance Samples	5
Sec. 202.05 New Products	5
Sec. 202.06 Materials Notebook Submittal.....	6
Sec. 202.07 Materials Project Records Retention.....	6
SECTION 203 SUBMISSION OF SAMPLES	7
Sec. 203.01 Packing of Samples	7
Sec. 203.02 Material Safety Data Sheet.....	7
Sec. 203.03 Identification of Samples	7
Sec. 203.04 Shipment of Samples.....	8
SECTION 204 SAMPLING MATERIALS	8
Sec. 204.01 Admixtures, Concrete.....	8
Sec. 204.02 Aggregates.....	8
Sec. 204.03 Aluminum Alloys.....	17
Sec. 204.04 Bearing Pads and Bedding Materials	17
Sec. 204.05 Asphalt Material, Liquid	17
Sec. 204.06 Asphalt Mixtures.....	22
Sec. 204.07 Brick.....	22
Sec. 204.08 Bronze and Copper Alloy.....	22
Sec. 204.09 Cement, Hydraulic	22
Sec. 204.10 Snow and Ice Control Materials.....	23
Sec. 204.11 Concrete, Hydraulic Cement	25
Sec. 204.12 Copper Sheet and Strip.....	25
Sec. 204.13 Curing Materials and Protective Coatings for Concrete.....	26
Sec. 204.14 Electrical Conduits, Fittings, and Boxes	27
Sec. 204.15 Epoxy Resins.....	28
Sec. 204.16 Fencing.....	28
Sec. 204.17 Fly Ash.....	30
Sec. 204.18 Guardrail, Steel Beam	31
Sec. 204.19 Joint Materials.....	32
Sec. 204.20 Landscape Materials (Roadside Development).....	33
Sec. 204.21 Lime	35
Sec. 204.22 Masonry Units, Concrete.....	36
Sec. 204.23 Monuments, Right-of-Way	40
Sec. 204.24 Paint	40
Sec. 204.25 Piling	40
Sec. 204.26 Pipe.....	41
Sec. 204.27 Reserved.....	52
Sec. 204.28 Poles and Posts.....	52
Sec. 204.29 Preservatives, Timber.....	54
Sec. 204.30 Reflective Materials	55
Sec. 204.31 Soils and Granular Materials.....	58
Sec. 204.32 Steel.....	59
Sec. 204.33 Structural Timber and Lumber	67
Sec. 204.34 Water	69
Sec. 204.35 Waterproofing and Dampproofing Materials	69
Sec. 204.36 Wire Rope and Wire Strand	70

SECTION 205 SUMMARY OF MINIMUM ACCEPTANCE SAMPLING REQUIREMENTS71

SECTION 206 SUMMARY OF MINIMUM INDEPENDENT ASSURANCE SAMPLING REQUIREMENTS
108

 Sec. 206.01 Definitions.....108

 Sec. 206.02 Project Site Testing108

 Sec. 206.03 Plant Site Testing109

SECTION 207 SUMMARY OF MATERIALS SUBJECT TO MODIFIED INSPECTION AND ACCEPTANCE
 PROCEDURES.....122

 Sec. 207.01 Manufacturers’ and Producers’ Certifications.....122

 Sec. 207.02 Materials for General or Routine Construction124

 Sec. 207.03 Materials for Rest Area Construction.....130

 Sec. 207.04 Materials for Signalization and Electrical System Installation.....136

SECTION 208 - DELETED, Reference Manual of Instructions Chapter 7138

SECTION 209 – DELETED, Reference Manual of Instructions Chapter 7138

 Appendix A Concrete Pipe Plant Monitor Report A-1

 Appendix B Corrugated Metal Pipe Plant Monitor Report.....B-1

 Appendix C Reinforcing Steel Fabrication Shop.....C-1

 Appendix D Reinforcing Steel Epoxy Coating Plant Review..... D-1

 Appendix E Precast Concrete Plant Monitor ReportE-1

 Appendix F Pavement Marking Materials Inventory Ledger F-1

 Appendix G Polyethylene Pipe Plant Monitor Report..... G-1

 Appendix H Quality Control Plan Review Check List H-1

 Appendix I Virginia Department of Transportation/Materials Precast Concrete Repair Manual I-1

Chapter III - GEOTECHNICAL ENGINEERING	1
SECTION 301 Introduction	1
301.01 General.....	1
301.02 Types of Investigations.....	2
301.03 Geotechnical Reports.....	2
SECTION 302 GEOTECHNICAL DESIGN.....	2
302.01 General.....	2
302.02 Factors of Safety	3
302.03 Estimates for Geotechnical Work.....	3
SECTION 303 CONCURRENT ENGINEERING PROCESSES FOR DESIGN- BID- BUILD.....	3
303.01 Concurrent Engineering Milestones and Responsibilities.....	3
SECTION 304 TYPES OF GEOTECHNICAL INVESTIGATIONS	9
304.01 Preliminary Soils Survey	9
304.02 Final Soil Survey	9
304.03 Minor Structures	10
304.04 Major Structures	12
SECTION 305 QUALITY ASSURANCE/QUALITY CONTROL PROCEDURES.....	14
305.01 General.....	14
305.02 QA/QC for Soil Survey Reports.....	14
305.03 QA/QC for Minor Structures Reports.....	15
305.04 QA/QC for Major Structure Data Report	15
SECTION 306 PLANNING AND INVESTIGATION PROCEDURES.....	18
306.01 General.....	18
306.02 Office and Field Reconnaissance.....	18
306.03 Permission to Enter Property	22
306.05 Boring Stakeout and Elevation	24
SECTION 307 CLASSIFICATION OF SOILS - FIELD AND LAB.....	40
307.01 Field Description of Soils – Soil Boring Logs.....	40
SECTION 308 FIELD DESCRIPTION OF ROCK.....	46
308.01 General.....	46
308.02 Rock Core Descriptions.....	46
SECTION 309 FIELD INVESTIGATION METHODS.....	53
309.01 Types of Investigation Methods	53
309.02 Rock Investigation Methods	56
309.03 Other In-Situ Testing Methods	61
SECTION 310 SPECIAL DESIGNS	63
Sec. 310.01 Wick Drains	63
Sec. 310.02 Stone Columns.....	63
Sec. 310.03 Geotextiles	64
Sec. 310.04 Settlement Plates.....	64
SECTION 311 PLANT SAMPLING, TESTING, AND INSPECTION OF CENTRAL-MIXED AGGREGATE BASE, SUBBASE, AND SELECT MATERIAL	65
Sec. 311.01 General	65
Sec. 311.02 Equipment.....	65
Sec. 311.03 Approval of Job-Mix.....	66
Sec. 311.04 Documentation of Tonnage Material	66
Sec. 311.05 Sampling Central-Mixed Aggregates	66
Sec. 311.06 Sampling Material from the Road.....	69
SECTION 312 SAMPLING SOILS AND GRANULAR MATERIALS FOR CEMENT, ASPHALT, OR LIME STABILIZATION.....	70
SECTION 313 IDENTIFICATION AND SIZE OF SAMPLE TO BE SUBMITTED.....	70

SECTION 314 ROAD SAMPLING, TESTING, AND INSPECTION 71
 Sec. 314.01 Density Control..... 71
 Sec. 314.02 Depth Control..... 76
SECTION 315 UNIFORM GUIDE FOR CENTRAL-MIXED AGGREGATE QUALITY ASSURANCE AND
 CONTROL..... 78
 Sec. 315.01 Responsibility of Materials Division 78
 Sec. 315.02 Responsibility of Central-Mixed Aggregate Producer 81
SECTION 316 STABILIZED OPEN GRADED BASE MATERIAL..... 81
 Sec. 316.01 General..... 81
 Sec. 316.02 Frequency of Tests..... 82
 Sec. 316.03 Reports 82
SECTION 317 SUMMARY OF MINIMUM ACCEPTANCE SAMPLING REQUIREMENTS..... 82

Chapter IV - SAMPLING AND CONTROL OF HYDRAULIC CEMENT CONCRETE I

SECTION 401 GENERAL	1
Sec. 401.01 Equipment	1
Sec. 401.02 Materials	3
SECTION 402 AGGREGATE MOISTURE	3
Sec. 402.01 Physical Characteristics	3
Sec. 402.02 Methods of Determining Water Content	4
SECTION 403 WATER-CEMENT RATIO	5
SECTION 404 FINENESS MODULUS	5
SECTION 405 PROPORTIONING OF AIR-ENTRAINED CONCRETE	6
Sec. 405.01 General	6
Sec. 405.02 ACI Concrete Mix Design Utilizing Conventional Materials	7
Sec. 405.03 ACI Concrete Mix Design Utilizing Fly Ash	8
Sec. 405.04 ACI Concrete Mix Design Utilizing Granulated Iron Blast-Furnace Slag	8
Sec. 405.05 Allowable Field Adjustments	9
Sec. 405.06 Batch Weight Adjustments	9
Sec. 405.07 Remediation of Alkali Silica Reaction	9
SECTION 406 USE OF ADMIXTURES	10
SECTION 407 PLACEMENT AND CURING OF CONCRETE	12
Sec. 407.01 Adequate Moisture	12
Sec. 407.02 Proper Temperature	12
SECTION 408 CONSISTENCY OF CONCRETE	14
SECTION 409 DETERMINATION OF AIR CONTENT	15
SECTION 410 YIELD OF MIX	18
Sec. 410.01 Definition of Yield	18
Sec. 410.02 Method	18
Sec. 410.03 Sample	18
Sec. 410.04 Calculations	18
Sec. 410.05 Significance of Yield	19
SECTION 411 STRUCTURAL AND MISCELLANEOUS CONCRETE	19
Sec. 411.01 General	19
Sec. 411.02 Compressive Strength Specimens	19
SECTION 412 PAVEMENT CONCRETE	22
Sec. 412.01 General	22
Sec. 412.02 Flexural Strength Specimens	22
Sec. 412.03 Depth Tests	24
SECTION 413 PRESTRESSED CONCRETE	24
Sec. 413.01 General	24
Sec. 413.02 Pretensioning Strand and Use of Typical Curve	24
Sec. 413.03 Forming	25
Sec. 413.04 Sampling and Control of Concreting Operations	26
Sec. 413.05 Curing, Moist and Steam	26
Sec. 413.06 Stress Release	26
Sec. 413.07 Handling Precast Units	27
Sec. 413.08 Reports	27
Sec. 413.09 Shop Drawings and Special Requests	27
Sec. 413.10 Summary of General Outline of Duties of Prestressed Plant Inspector	28

SECTION 414 OVERLAY CONCRETE.....30
 Sec. 414.01 General.....30
 Sec. 414.02 Mobile Mixer Calibration – Latex Modified Concrete.....30
 Sec. 414.03 Testing.....33
 Sec. 414.04 Placement Procedures34
SECTION 415 SUMMARY OF IMPORTANT FACTORS36
SECTION 416 UNIFORM GUIDE FOR CONCRETE CONTROL37
 Sec. 416.01 Responsibility of Materials Division.....37
 Sec. 416.02 Responsibility of Concrete Producer.....42
SECTION 417 SUMMARY OF MINIMUM ACCEPTANCE SAMPLING REQUIREMENTS43
Inspection Report of Hydraulic Cement Concrete Plants.....1
Inspection Report on Plastic Concrete Testing Equipment, Procedures, and Records.....1
Strength Evaluation Graphic2
Concrete Mobile Calibration Data Sheet.....3

Chapter V - SAMPLING AND CONTROL OF ASPHALT CONCRETE2

SECTION 501 GENERAL2

 Sec. 501.01 General Responsibility of Materials Division4

 Sec. 501.02 Duties of the Project Inspector4

SECTION 502 PLANT SAMPLING, TESTING, AND INSPECTION OF ASPHALT MIXTURES6

 Sec. 502.01 Plant Equipment6

 Sec. 502.02 Inspection of Plant, Equipment, and Personnel7

 Sec. 502.03 Materials8

 Sec. 502.04 Approval of Job-Mix9

 Sec. 502.05 Documentation of Tonnage Material14

 Sec. 502.06 Sampling Asphalt Mixtures14

 Sec. 502.07 Material Acceptance19

 Sec. 502.08 Duties of Department’s Representative19

 Sec. 502.09 Responsibility of Asphalt Concrete Producer20

SECTION 503 ROAD SAMPLING, TESTING, AND INSPECTION OF ASPHALT PAVEMENTS ..21

 Sec. 503.01 General21

 Sec. 503.02 Density QC Testing (Contractor)22

 Sec. 503.03 Verification Density Testing (Department)24

 Sec. 503.04 Independent Assurance for Density (Department)26

 Sec. 503.05 Independent Assurance of Department Personnel (Department)28

 Sec. 503.06 Determination of VST/IA Requirements (Example)28

 Sec. 503.06 Depth Control (Department)30

SECTION 504 COLD ASPHALT MIXTURES31

SECTION 505 SUMMARY OF MINIMUM ACCEPTANCE SAMPLING REQUIREMENTS33

SECTION 601 – FUNDAMENTAL CONCEPTS OF PAVEMENT DESIGN AND EVALUATION.....	3
Sec. 601.01 Introduction.....	3
Sec. 601.02 Project Pavement Evaluations.....	4
SECTION 602 – FALLING WEIGHT DEFLECTOMETER TESTING AND ANALYSIS GUIDELINES.....	18
SEc. 602.01 Introduction.....	18
sec. 602.02 FWD Testing - Flexible Pavements.....	18
sec. 602.03 FWD Testing - Jointed Concrete Pavements.....	21
sec. 602.04 FWD Testing - Composite Pavements.....	26
sec. 602.05 FWD Testing - Continuously Reinforced Concrete Pavements.....	30
sec. 602.06 FWD Data Processing.....	34
SECTION 603 – PATCHING SURVEY GUIDELINES.....	36
Sec. 603.01 Patching Survey.....	36
SECTION 604 – GUIDELINES FOR USE OF THE 1993 AASHTO PAVEMENT DESIGN PROCEDURE.....	41
Sec. 604.01 Purpose.....	41
Sec. 604.02 Flexible Pavement Design.....	41
Sec. 604.03 Rigid Pavement Design.....	47
SECTION 605 – ASPHALT CONCRETE MIX SELECTION GUIDELINES.....	54
Sec. 605.01 Purpose Of Guidelines.....	54
Sec. 605.02 – Description Of Asphalt Concrete Mixes.....	54
Sec. 605.03 VDOT Asphalt Binders.....	58
Sec. 605.04 Asphalt Binder And Mix Selection – General Applications.....	59
Sec. 605.05 Asphalt Binder And Mix Selection – Specialized Locations.....	62
Sec. 605.06 Application Rates.....	62
Sec. 605.07 Typical Asphalt Base Mix Application Rates.....	63
SECTION 606 – PAVEMENT TYPE SELECTION PROCEDURES.....	65
Sec. 606.01 Introduction.....	65
Sec. 606.02 Pavement Type Selection.....	65
Sec. 606.03 Pavement Types.....	65
Sec. 606.04 Pavement Design.....	66
Sec. 606.05 Pavement Type Selection Procedures (PTSP).....	66
Sec. 606.06 Alternate Bidding.....	69
Sec. 606.07 How To Use The Procedures.....	70
SECTION 607 – LIFE CYCLE COST ANALYSIS.....	73
Sec. 607.01 Executive Summary.....	73
Sec. 607.02 Introduction.....	74
Sec. 607.03 Economic Analysis Components.....	75

Sec. 607.04 Cost Factors.....	76
Sec. 607.05 Overview Of LCCA Pavement Options.....	78
Sec. 607.06 Asphalt Pavement Construction/Reconstruction.....	79
Sec. 607.07 Jointed Concrete Pavement Construction/Reconstruction With Tied Portland Cement Concrete Shoulders.....	83
Sec. 607.08 Jointed Plain Concrete Pavement Construction/Reconstruction With Wide Lane (14 Feet) And Asphalt Concrete Shoulders.....	85
Sec. 607.09 Continuously Reinforced Concrete Pavement Construction/Reconstruction With Tied Portland Cement Concrete Shoulders.....	86
Sec. 607.10 Continuously Reinforced Concrete Pavement Construction/Reconstruction With Wide Lanes (14 Feet) And Ac Shoulders.....	88
Sec. 607.11 LCCA For Major Rehabilitation Projects.....	90
Sec. 607.12 Unit Costs And Measures.....	90
Sec. 607.13 Interpretation Of Results.....	91

CHAPTER VII - MATERIALS ACCEPTANCE AND MATERIALS NOTEBOOK PROGRAM

SECTION 701 MATERIALS NOTEBOOK PROGRAM OVERVIEW/PURPOSE VII-2
 Certification to FHWA VII-2

SECTION 702 RESPONSIBILITIES FOR KEEPING MATERIALS NOTEBOOKS, MATERIALS NOTEBOOK TOOLS AND GENERAL INSTRUCTIONS..... VII-3
 Sec. 702.01 Project Responsibilities VII-3
 Sec. 702.02 Program Reference Tools - Defined..... VII-5
 Sec. 702.03: General Instructions VII-6
 Sec. 702.04 Summary of Estimated and Pay Quantities Tab..... VII-8
 Sec. 702.05 Aggregates VII-8
 Sec. 702.06 Asphalt VII-9
 Sec. 702.07 Hydraulic Cement Concrete Construction VII-9
 Sec. 702.08 Concrete and Drainage Units VII-9
 Sec. 702.09 Traffic Engineering Materials VII-10
 Sec. 702.10 Fencing and Posts Tab VII-10
 Sec. 702.11 Guardrail Tab VII-10
 Sec. 702.12 Pavement Markings and Markers Tab VII-10
 Sec. 702.13 Piling Tab..... VII-10
 Sec. 702.14 Pipe, Pipe Arches and Arches VII-10
 Sec. 702.15 Utilities Tab VII-11
 Sec. 702.16 Steel VII-11
 Sec. 702.17 Miscellaneous Materials..... VII-12
 Sec. 702.18 Independent Assurance Samples Tab..... VII-12
 Sec. 702.19 Inspection and Verification as indicated or modified herein..... VII-12

SECTION 703 - APPENDIX A VII-13

CHAPTER VIII - REPORTS AND FORMS3

SECTION 801 GENERAL.....3

 Sec. 801.01 Description..... 3

 Sec. 801.02 Distribution..... 3

 Sec. 801.03 Numbering Reports..... 3

SECTION 802 STOCKING AND ORDERING OF FORMS.....4

SECTION 803 USE OF FORMS (BY NUMBER)5

 Sec. 803.01 Form TL-3, Tag Envelope (For Sample Cards)..... 5

 Sec. 803.02 Form TL-9, Notice of Shipment of Pipe, Brick, Block, Etc. 5

 Sec. 803.03 Form TL-10, Notice of Shipment of Sample for Test (Commercial)..... 5

 Sec. 803.04 Form TL-11, Notice of Shipment of Sample for Test (Soil and Local Materials)..... 6

 Sec. 803.05 Form TL-13, Notice of Shipment of Concrete Cylinder..... 6

 Sec. 803.06 Form TL-13A, Notice of Shipment of Concrete Cylinder 6

 Sec. 803.07 Form TL-15, Notice of Transfer of Material 6

 Sec. 803.08 Form TL-18, Geological Specimen Label 7

 Sec. 803.09 Form TL-21, Report of Hydraulic Cement 7

 Sec. 803.10 Form TL-22, Report on Sample of Coarse Aggregate 7

 Sec. 803.11 Form TL-22A, Report on Sample of Concrete Aggregate..... 7

 Sec. 803.12 Form TL-22B, Report on Sample of Fine Aggregate 7

 Sec. 803.13 Form TL-23, Report on Neoprene Elastomers..... 7

 Sec. 803.14 Form TL-24, Report on Sample of Liquid Membrane Seal..... 7

 Sec. 803.15 Form TL-25, Report on Sample of Steel..... 7

 Sec. 803.16 Form TL-26, Report on Structural Concrete..... 7

 Sec. 803.17 Form TL-26A (TL-26), Coding Form – Report of Structural Concrete..... 8

 Sec. 803.18 Form TL-27, Statement of Hydraulic Cement Concrete Mix Design 8

 Sec. 803.19 Form TL-28A Coding Form – Concrete Batch Report..... 8

 Sec. 803.20 Form TL-29, Report on Sample of Concrete Pipe 9

 Sec. 803.21 Form TL-30, Report on Epoxy Products 9

 Sec. 803.22 Form TL-31, Report on Particle Size Analysis..... 9

 Sec. 803.23 Form TL-32, Report on Sample of Soil 9

 Sec. 803.24 Form TL-33, Report on Soil, Direct Shear Test..... 9

 Sec. 803.25 Form TL-34, Report on Soil, Unconfined Compression Test..... 10

 Sec. 803.26 Form TL-35, Report on Sample of Soil Cement..... 10

 Sec. 803.27 Form TL-36, Report on Soil Consolidation Test 10

 Sec. 803.28 Form TL-37, Report on Soil Triaxial Test..... 10

 Sec. 803.29 Form TL-38, Report of Profile Evaluation 10

 Sec. 803.30 Form TL-39, Report on Sample of Geotextile Fabrics 10

 Sec. 803.31 Form TL-43, Report on Sample of Bituminous Materials 10

 Sec. 803.32 Form TL-44, Laboratory Data Sheet – Tensile Strength Ratio..... 10

 Sec. 803.33 Form TL-47, Report on Sample of Miscellaneous Material 10

 Sec. 803.34 Form TL-50, Report on Asphalt Concrete Mixtures..... 10

 Sec. 803.35 Form TL-51, Report on Coefficient of Permeability 11

 Sec. 803.36 Form TL-52, Report on Dense Graded Aggregate..... 11

 Sec. 803.37 Form TL-52A, Central Mix Aggregates – Test Results Input Form..... 11

 Sec. 803.38 Form TL-52C, Central Mix Aggregates Test Results Input Form Monitor Phase..... 11

 Sec. 803.39 Form TL-53, Report of Nuclear Control Strip Roller Pattern..... 11

 Sec. 803.40 Form TL-54, Report of Nuclear Control Strip Field Density..... 11

 Sec. 803.41 Form TL-55, Report of Nuclear Test Section Field Density..... 12

 Sec. 803.42 Form TL-56, Asphalt Nuclear Density Thin Lift Worksheet, Roller Pattern..... 12

 Sec. 803.43 Form TL-58, Asphalt Nuclear Density Thin Lift Worksheet, Control Strip Target Density 12

 Sec. 803.44 Form TL-59, Asphalt Nuclear Density Test Section..... 12

 Sec. 803.45 Form TL-60, Asphalt Nuclear Density Worksheet, Roller Pattern/Sawn Plugs, and Control Strip Target Density 12

 Sec. 803.46 Form TL-60A, Report on Asphalt Mixtures Bulk Specific Gravity SMA Field Cores 12

 Sec. 803.47 Form TL-61, Quarterly Inventory and Evaluation of Safety Procedures 12

 Sec. 803.48 Form TL-100A, Asphalt Concrete Test Results Input Form..... 12

Sec. 803.49 Form TL-100C, Asphalt Concrete Test Results Input Form Monitor Phase Form TL-100C ... 13

Sec. 803.50 Form TL-101A, Report on Legal Load Determination 13

Sec. 803.51 Form TL-102A, Weighpersons Daily Summary 13

Sec. 803.52 Form TL-103, Surety Bond Form 13

Sec. 803.53 Form TL-105, Report of Job Acceptance Depth Tests 13

Sec. 803.54 Form TL-106, Report on Concrete Cores 14

Sec. 803.55 Form TL-107, Confirmation of Test Results 14

Sec. 803.56 Form TL-109, Inspection Report 14

Sec. 803.57 Form TL-121, Equipment Receipt 15

Sec. 803.58 Form TL-122, Nuclear Gauge Transferral Receipt 15

Sec. 803.59 Form TL-124, Report of Nuclear Embankment Densities 15

Sec. 803.60 Form TL-125, Report of Field Density of Soil 15

Sec. 803.61 Form TL-125A, Worksheet for One-Point Proctor 16

Sec. 803.62 Form TL-127, Statement of Asphalt Concrete or Central-Mix Aggregate Job Mix Formula... 16

Sec. 803.63 Form TL-127A, Job Mix Input Form – Central-Mix Aggregate 16

Sec. 803.64 Form TL-127B, Asphalt Concrete Job Mix Input Form 17

Sec. 803.65 Form TL-131, Certification of Materials 17

Sec. 803.66 Form TL-136, Report of Independent Assurance Depth and Density Tests 17

Sec. 803.67 Form TL-137, Report for Settlement Plate 18

Sec. 803.68 Form TL-138, District Quality Review Checklist..... 18

Sec. 803.69 Form TL-139, Report on Flat and Elongated Test, ASTM D4791 when run in accordance with
VTM-121..... 18

Sec. 803.70 Form TL-140A/B/C/D, Asphalt Concrete Density Quality Assurance (QA) Test Report..... 18

Sec. 803.71 Form TL-141A/B, Asphalt Concrete Density Independent Assurance (IA) Test Report 19

Sec. 803.72 Form TL-142, Materials Notebook 19

Sec. 803.73 Form TL-142S, Materials Notebook Sample..... 19

SECTION 804 REPORTS BY COMMERCIAL TESTING LABORATORIES 19

SECTION 805 SAMPLE FORMS 19

SECTION 806 MISCELLANEOUS MATERIALS RECORDS AND REPORTS 19

Chapter IX - TECHNICAL TABLES AND RELATED DATA

On the following pages will be found additional tables and data that may be used as reference for problems relating to materials and construction, and to other subjects herein.