MATERIALS DIVISION

Virginia Department of Transportation

MEMORANDUM

GENERAL SUBJECT: **Materials Acceptance**	**NUMBER:** **MD 299-07**
SPECIFIC SUBJECT: **Materials Notebook Program**	**DATE:** **October 4, 2007**
DIRECTED TO: **District Administrators**	**SIGNATURE:** **Stanley L. Hite, PE** **Acting State Materials Engineer** *Signature on original copy of memorandum*

The Virginia Department of Transportation (VDOT)/Materials Division has modified the materials acceptance program to include alternate project delivery methods such as Design-Build, Public-Private Transportation Act and Locally Administered Programs. The procedure below defines responsibilities and procedures regarding the completion of the Materials Notebooks used for materials acceptance.

These changes are necessary because no current procedures exist that defines how the materials acceptance program interfaces with other alternate project delivery methods enumerated above.

The following changes listed below are being made to the VDOT/Materials Division Manual of Instructions:

Delete the third paragraph in Section 106.01(a) and insert the following:
See Chapter 7 for details in handling the materials acceptance and Materials Notebook program.

Replace Section 112.03 item (4) with: Certain materials outlined in Section 207 when used on certain projects outlined in Chapter 7

Delete Chapter II Table of Contents Sections 208 and 209. Delete Sections 208 and 209 of the Manual and reference Chapter 7 for all references to Sections 208 and 209.

Add Section 803.72 Form TL-142, Materials Notebook
The Materials Notebook shall be used to document evidence of proper materials acceptance procedures. For instructions, see Section 700.

Add Section 803.73 Form TL-142S, Materials Notebook Sample
The Materials Notebook Sample provides an example of what a completed Materials Notebook should look like.

Add TL Forms, Form TL-142, Materials Notebook and TL-142S, Materials Notebook Sample

Include the following as Chapter 7 in the VDOT/Materials Division Manual of Instructions:

SECTION 701 MATERIALS NOTEBOOK PROGRAM OVERVIEW/PURPOSE

All materials used on any project must be documented as approved materials meeting specifications and documented as to the quantities used. The Materials Notebook serves as the tool used for this purpose. The Materials Notebook is defined as a loose-leaf or electronic notebook used by a designated party to furnish the list of estimated quantities together with the specification designation for direct placement into a loose-leaf or electronic notebook. Depending on the type of project, the Materials Notebook will be developed differently in regard to time. For example, on a Design-Bid-Build project, the Materials Notebook is filled out from the contract document as a list of the estimated quantities of materials required for the execution of the contract before the beginning of work. On the other hand, for a Design-Build project, the Materials Notebook may be populated during the course of the project.

For the various types of projects, the responsibilities for completing the Materials Notebook, ensuring accuracy, testing materials and signing off on the notebook can change. Section 702.01 of this chapter defines these responsibilities per type of project.

The State Materials Engineer will determine whether or not to use a modified materials acceptance program, and will notify the District Materials Engineer of the basis for acceptance of each material listed, otherwise follow the Design-Bid-Build process. This notification will be by return copy of the Sources of Materials List, or by copy of the electrical system installation notice from the Asset Management Division, or by other similar means. This will show whether the material is to be inspected by Department personnel or by commercial agencies, and/or whether the material is to be accepted by sampling and laboratory test, visual inspection, Manufacturer's certification, Resident Administrator's certification, or by other means.

Copies of authorizations for fund expenditures will be received from the Programming and Scheduling Division. Copies of Program Approvals from FHWA, copies of letters to Districts requesting sketches, quantities, etc. when applicable, copies of the work sketches and quantities, and copies of Preliminary Engineering Authorizations will be received from Location and Design Division. Copies of Detailed Estimates (including those for State Force performing Work) on Federal-Aid projects just prior to submission to FHWA, Bid Tabulations, and other contract special provisions and documents where applicable will be received from the Construction Division. Forms C-5, Reporting, Starting and Completion of Projects, will be received from the District or Residency Office and placed in the project files. Copies of City-State Agreements where applicable will be received from the Urban Division. Copies of Purchase Orders for materials to be used in the above noted projects will be received from Administrative Services Division. If the project involves signalization work to be handled by the Regional Operations Division, and that Division orders materials specifically for use on a project, then a copy of the Purchase Order with the specific project number noted thereon will be received from the Asset Management Division.

Certification to FHWA

The District Administrator will certify to the FHWA using the Materials Notebook documents that only approved materials were used on the project. Final certification to FHWA will be made on Form TL-131, as outlined in Section 800.

SECTION 702 RESPONSIBILITIES FOR KEEPING MATERIALS NOTEBOOKS, MATERIALS NOTEBOOK TOOLS AND GENERAL INSTRUCTIONS

This Guideline covers procedures to be used in sampling, testing, inspecting, reporting, documenting, and certifying materials to be used in the following types of projects:

(a) Design-Bid-Build, Rest Areas, Minimum Plan and No Plan Projects, Federally-aided Highway Safety Improvement Projects, Traffic Signal and other Electrical Installations

(b) Design-Build, Public-Private Transportation Act (PPTA) and Local Assistance and Municipally Administered Projects

(c) State Forces performing Work

Sec. 702.01 Project Responsibilities

(a) Design-Bid-Build, Rest Areas, Minimum Plan and No Plan Projects, Federally-aided Highway Safety Improvement Projects, Traffic Signal and other Electrical Installations

The Materials Notebook for these projects are administered as a VDOT project. To begin the Materials Notebook process, the District Materials Engineer will fill out the estimated quantities in the Materials Notebook from the contract bid items. The Contractor will submit a C-25 form listing the sources of materials. The District Materials Engineer will review the C-25 to ensure only approved materials and materials sources are listed. The District Materials Engineer will complete the C-25 form by recording how the material is to be accepted. The completed C-25 form will be sent to the Inspector, Area Construction Engineer, Project Manager, the project inspector and the Contractor for their project records. As the project is initiated, the Contractor shall provide the project inspector documentation for all materials used on the project as contained in the approved C-25 to the project inspector. The project inspector will document the Materials Notebook as to conforming to specifications, actual quantities used and pertinent comments. Upon completion of the project, the Materials Notebook with all relevant materials documentation will be forwarded by the project inspector to the District Materials Engineer for review. The District Materials Engineer will review the documentation supplied and, if acceptable, will sign the Materials Notebook. The Materials Notebook will then be filed with the project records**.**

(b) Design-Build, Public-Private Transportation Act (PPTA) and Local Assistance and Municipally Administered Projects

A Contractor/Developer may implement a QA/QC Plan under several different project delivery scenarios, including Design-Build, Public-Private Transportation Act, Local Assistance, Municipally Administered, or traditional Design-Bid-Build contracting methods. In all cases, the project must be constructed in

accordance with standards and requirements related to construction, safety, quality assurance and quality control as required in the Contract Documents and Appendix 1, Table 105-4 as outlined in VDOT's guidance document for Minimum Quality Assurance and Control Requirements for Design-Build and Public-Private Transportation Act Projects, August 2007 (August 2007 QA/QC Guide). The objective of Table 105-4 is to identify and summarize minimum inspection, sampling and testing coverage and frequencies; verification and observation schemes, and documentation and reporting requirements to be included in Design-Builder/Contractor's Quality Assurance (QA) and Quality Control (QC) Plans ("QA/QC Plan"). The Department's Project Manager is responsible to review the Design-Builder/Contractor's QA/QC Plan for conformance with the requirements as set forth in the Contract.

The Design-Builder/Contractor will be responsible to identify to the Department any and all off-site fabricated materials from producers not in an existing Department QA/QC program. The inspection of project specific fabricated items will be accomplished by the Department using its own forces and/or Department agent. To facilitate these inspections, the Design-Builder/Contractor is responsible to promptly notify the Department of the intended fabricator and provide two copies of the Approved Shop Drawings. In addition, the Design-Builder/Contractor is responsible to submit a Source of Materials, Form C-25, for all materials for which the Department retains responsibility for testing as identified in Table 105-1, August 2007 QA/QC Guide.

The Design-Builder/Contractor's Quality Assurance Manager is responsible to maintain the Project's Materials Notebook, recording materials used, source of material and method of verification used to demonstrate compliance with Department standards. The Materials Notebook shall be reviewed on a monthly basis by the Department's Project Manager. The monthly review shall consist of spot checking at least 5 materials and their source documentation. Minimally, the Department Project Manager will review all components of the materials notebook during the first 2 months of commencement of Design-Builder/Contractor's planned or scheduled field operations to ensure all records are set up correctly.

Design-Builder/Contractor's QA and QC staff shall be responsible for Project documentation, testing and inspection; the Department's Project Manager will be responsible for ensuring that the Design-Builder/Contractor conforms to its approved QA/QC Plan and maintains appropriate Project documentation. The Department will also be responsible to administer Independent Assurance (IA) and Independent Verification (IV) sampling and testing of materials used during construction of the Project.

The Design-Builder is also responsible to establish quantities prior to commencing construction, and provide VDOT a total number of QC, QA, IA and IV tests required as a result of the quantities. Quantities, sampling and testing frequencies shall be provided in conjunction with Design-Builders Test Plan submittal and Preparatory Inspection Meeting requirement as set forth in Section 105.04 and Section 105.05, Requirements for Quality Control and Quality Assurance Plans on Design-Build Projects, August 2007. Obtaining this information will aid in appropriate staffing, project administration and receipt of an acceptable Materials Notebook upon project completion.

The VDOT Project Manager – District Responsible Change person (PMD, Area Construction Engineer or Permit Manager) is responsible for obtaining a completed Materials Notebook signed by the Contractor's Quality Assurance Manager (QAM). The Materials Notebook shall contain:

(1) Total Quantities of Materials Incorporated into the Project

An electronic and loose-leaf Materials Notebook will be submitted to the VDOT Area Construction Engineer containing as a minimum:

- the material description,
- the material supplier/manufacturer,
- the VDOT or other approved specification in which the material is in compliance and
- supporting documentation such as shipping tickets, test reports and certifications demonstrating conformance to specifications.

The Materials Notebook should be of similar design as outlined in Sections 702 and 703.

(2) Source of Materials

It is required that the Contractor/Design-Builder/Developer complete the Scheduling & Contract Division's Form C-25 (www.extranet.vdot.state.va.us/forms/ located in the Forms section) for use in documenting that a materials review had been completed with regard to the acceptability of the material, prior incorporating the material in the project. Completing this process will ensure that unacceptable or unapproved material has not been used on the project. The C-25 will be forwarded to the District Responsible Charge Person and the District Materials Engineer by the Contractor/Design-Builder/Developer.

The Contractor/Developer should not approve the use of material unless documentation or verification is received that the material is acceptable.

(3) Processing Material Certification Submittals

The Contractor/Design-Builder/Developer is responsible for securing documents and providing them to VDOT's Responsible Charge Person for review when the Materials Notebook is completed and signed by the Contractor's QAM. The Responsible Charge Person is to review the certification documents for obvious omissions (such as lack of certifications, test reports or shipping tickets, etc.). If the Contractor's submittal is incomplete, incorrect or is in need of clarification, the Responsible Charge Person will return the documents to the QAM for resolution of the problem. Upon correction of the deficiencies, the QAM will return the submittal to the Responsible Charge Person for review. Upon final acceptance of the Materials Notebook, the Materials Notebook will be retained in the project records.

(4) Signatures outlined in Sec. 702.19 shall be altered as follows:

(a) The Contractor/s/Design-Builder's/Developer's QAM shall prepare, review and sign the Materials Notebook in lieu of the signatures normally required by VDOT's projection inspection staff.

(b) The District Materials Engineer shall review and sign the Materials Notebook.

(c) The VDOT Responsible Charge person (PMD, Area Construction Engineer or Permits Manager) shall sign and certify the Materials Notebook for acceptance of the project.

(c) State Forces Performing Work

State Forces performing work shall only use approved QA/QC sources. Any material outside these sources must be approved by District Materials Engineer.

Sec. 702.02 Program Reference Tools - Defined

Various reference tools have been developed for the purpose of ensuring only approved materials are used on projects. A brief description of each tool is listed below.

Source of Materials Resource Document – This reference document contains a list of compiled materials, producers/manufacturers, distributors, etc... While not comprehensive, this listing is the most complete reference document available in defining how the material is to be accepted. This document is being revised on a continuing basis to keep the most current information available. Keeping this list current, however, is a challenge since manufacturers/distributors change products frequently or, at times, no longer provide products once supplied. Any changes/updates necessary in this document should be referred to the Virginia Department of Transportation/Materials Division/Materials Notebook Manager or the District Materials Notebook Manager.

Materials Notebook Reference Document – This reference document has contract line item numbers, item descriptions, material type or size, pay unit (cubic yard, ton, each, etc.), a specification section and the method of acceptance.

Approved Lists – This document contains a table of contents of various materials/suppliers/manufacturers that have been evaluated and shown to meet VDOT specifications/requirements. This list is updated frequently as dictated by changes in products/manufacturers/suppliers. Not all products, manufacturers or suppliers are on these lists. Approved Lists are developed when a specification is in place and there is deemed a need for such a list.

Special Products Evaluation List (SPEL) – This document contains many different products wherein no VDOT specification exists for this product. New products are submitted to the VDOT/Materials Division New Products Manager. A decision is made to determine if this product is actually "new" or if a specification/process currently exists to handle this product. If the decision is to add the product to the list, a VDOT/Materials Division Section takes charge of the evaluation. The evaluation may include field installations. During the evaluation, the status of the product usage is "pending". Once sufficient documentation exists to warrant a decision, the product is "accepted" or "rejected". Any "accepted" material can be used as a reference for project acceptance. Any "pending" product can be used as part of additional evaluations. Any "rejected" product should not be used on projects.

Blank Materials Notebook – This document is provided as a starting point in preparing a Materials Notebook.

Example of a Completed Materials Notebook – This document is provided for reference to see what a completed Materials Notebook looks like.

Reports/Forms – In order to standardize the documentation and review process, various reports and forms have been developed. While other non-standardized forms could be used for the documentation process, the existing reports/forms should be used to retain program consistency.

Sec. 702.03: General Instructions

A Materials Notebook must be kept on each project that will be accepted into the VDOT system, whether Federal Aid or State financed, except where noted in Sec. 702.01 of this Manual. The notebook must contain full information on all materials used in the project, whether covered by test report, inspection

report, certification and or mill analysis, catalog cuts, quality assurance program, approved list or visual inspection. The Source of Materials Letter (C-25) is a reference for the acceptance method of materials. Without complete information, the final certification to the Federal Highway Administration cannot be made. All entries must be legible, accurate, and complete and recorded on the pages provided for the specific material.

When materials are accepted by certification, the entry should be recorded on the proper page for that material with the item number, date, Certification Number (CT Number), description, quantity, and the name of the manufacturer or supplier entered in the appropriate columns. Some materials are accepted on the basis of "manufacturer's certification" and these materials do not require a CT Number. Entries for manufacturer's certification materials are the same as for "certification" materials, except "Mfg. Cert." is entered in the "COMMENTS" column and the “CT NO.” column is left blank. Do not confuse "manufacturer's certification" with "certification". For materials accepted on the basis of visual inspection, the Inspector shall enter all visual inspections on the proper page with complete data entered into each column. For a list of materials that may be accepted under this modified inspection procedure, see Section 207.

Materials accepted under quality assurance programs, such as asphalt concrete and central-mixed aggregates, normally will be received on the project without individual test reports or sample numbers. In these cases, it will be necessary to use the weigh tickets and Form TL102A Weigh Sheets (received with the shipments) as the quantity documents for purposes of determining the quantity received. Complete entries should be made with data entered into each column. Enter "QA" for Quality Assurance Program in the proper column.

Materials accepted under quality assurance programs, such as concrete pipe, corrugated metal pipe and concrete precast units will be received on the project without individual test reports or sample numbers. In these cases, the shipping ticket with the applicable certification statement will be accepted as the final test document. The material should be recorded in the appropriate notebook tab with the shipping ticket number being entered in the "SHIPPING TICKET NO." column.

Materials accepted under the Approved QA Suppliers Program will be received on the project with the shipping ticket with proper signature as certification that the materials have been approved for VDOT use. The material should be recorded in the appropriate section of the notebook with the shipping ticket number and "QA" being entered in the "COMMENTS" column along with complete data entered into each column referencing the CT Number, test report number, Approved List Number, or visual inspection in the appropriate column.

When any material is transferred to or from another project, a transfer statement should be entered in the "COMMENTS" column. This statement should consist of the word "TO" or "FROM" and the other project number. If material is being transferred to another project, the transferred quantity should be entered as a negative (-) number in the "COMMENTS" column along with the transfer statement. In order to avoid a double entry do not enter the same test report data twice. Materials transferred in from another project should be shown with complete data entered into each column along with the original test report number, CT Number, etc. The "ITEM NO." column refers to the line item number found in the contract.

At job completion, it will be necessary to send the entire Materials Notebook to the appropriate section as defined in Sec. 702.01 of the Manual of Instructions.

In collaboration with Materials Division, Innovative Project Delivery Division developed a guidance document which establishes Minimum Quality Assurance and Control Requirements for Design-Build and Public-Private Transportation Act Projects, August 2007 (August 2007 QA/QC Guide). One of the key goals of VDOT's Design-Build process is to transfer the responsibility for Quality Control (QC) and Quality Assurance (QA) performance of the project to the Design-Builder.

The Department Project Manager (PMD) must become familiar with this August 2007 QA/QC Guide as well as the Design-Builder's approved QA/QC Plan. This guidance document clearly outlines VDOT's primary responsibility as oversight. VDOT remains responsible for the independent assurance and independent verification testing, but the Design-Builder's approved QA/QC Plan is the backbone for which the Department will gauge compliance.

The quality assurance process is defined by the Request for Proposal, revisions to the Road and Bridge Standard Specifications and Design- Builder's approved QA/QC Plan. In combination, these provisions define authority, the process, and the documents to be submitted.

This section discusses the formulation of a product warranty for a constructed feature of the project, in contrast to a manufactured feature of the project. Extended warranties on constructed products are an evolving aspect of construction contracting.

In the design-build process, occasionally the Department may consider the use of extended product warranties in the contract provisions. Each product or component may have a different warranty term; for example, pavement 5 years, bridge joint 10 years, landscaping 2 years. The terms and conditions define what is warranted, how it is measured, when it is measured, who measures it, when a remedy is required, and how a remedy is to be administered. Upon project award, the Department Project Manager (PMD) must thoroughly review the contract provisions for context and understanding so that appropriate administrative measures may be followed to ensure project success, including project warranty provisions and/or PPTA concession terms and conditions.

Following this process will aid in the receipt of an acceptable Materials Notebook upon project completion.

Sec. 702.04 Summary of Estimated and Pay Quantities Tab

The summary of estimated and pay quantities will be shown in the front of the Materials Notebook and completed by the District Materials Section unless noted otherwise in Sec. 702.01. At project completion, the columns headed "Tested Quantity" and "Pay Quantity" must be completed except where noted in Sec. 702.01, so that a record of materials available for transfer might be known and in order to ensure that at least as much material was tested as incorporated in the project. It is **very important** that the tested quantity is **equal to or greater than the amount incorporated in the project and paid for**. It is important that all work orders involving additional materials be added to this section. All materials recorded in this section must have an entry in the appropriate section of the notebook with the complete data entered into each column.

Sec. 702.05 Aggregates

(a) Fine Aggregates Tab

The aggregates in this section will have been used in protective cover, mortars, and etc. Fine aggregates should conform to the requirements of the **VDOT Road & Bridge Specifications** Section 202 unless used in surface treatment.

(b) Select Material and Borrow Tab
Select material aggregates will require various values of California Bearing Ratio (CBR). In the "ACCEPTANCE METHOD" column record either the test report number if it was tested or "QA" if it was on a QA Program. Borrow will not have these requirements unless it is specified as select material of which there is a gradation specification and CBR requirement. Borrow is, typically, specified in terms of minimum CBR, not aggregate size.

(c) Dense Graded Materials Tab
These aggregates shall include 21A's, 21B's, and Cement Treated 21A's In the rare case that an aggregate is used in place of the previously mentioned aggregate, it shall be recorded in this section with a note in the "COMMENTS" column stating "paid as 21A's, 21B's or etc."

(d) Open-Graded Aggregates Tab
These aggregates shall include, but are not limited to crusher run, #57's, #8's, #25's, rip rap and other aggregates found in the **VDOT Road & Bridge Specifications** Section 203. Except for the aggregates listed in the preceding sections, all other aggregates shall be listed in this section whether the aggregate is incidental to an item or is a pay item. In the "ACCEPTANCE METHOD" column show the test report number if it was tested or show "MQA" if it was on a Modified QA Program.

Sec. 702.06 Asphalt

(a) Asphalt Concrete Mixtures Tab
All asphalt concrete mixtures received on the project shall be recorded in this section. These will include, but are not limited to, surface mixes (SM-9.0A, SM-9.0D, SM-9.0E, SM-9.5A, and SM-9.5D), intermediate mixes (IM-19.0A, IM-19.0D), base mixes (BM-25.0), curb mixes and asphalt concrete open-graded mixes. All material shall be recorded whether the material is paid for or not. Although not a common acceptable practice, if a different mix is used and paid for as another, this shall be recorded in the COMMENTS column as "Paid as SM-9.0A or etc."

(b) Liquid Asphalt Material Tab
All liquid asphalt material is to be recorded in this section.

Sec. 702.07 Hydraulic Cement Concrete Construction

(a) Hydraulic Cement Concrete Tab
Hydraulic cement concrete received on the project shall be recorded in this section. This material shall be broken down by class and manufacturer. In the "COMMENTS" column include the location of the concrete placement.

(b) Concrete Cylinders Tab
All job acceptance cylinders will be listed with pertinent data. Independent Assurance cylinders will be listed in the "INDEPENDENT ASSURANCE SAMPLE" section. The Independent Assurance sample is not pass/fail, but used as an oversight tool for FHWA requirements. Control cylinders broken in the field for form removal will not be listed. Permeability cylinders can be placed on same line as the corresponding compressive strength cylinders.

(c) Curing Materials and Protective Coatings Tab
All types of concrete curing materials and protective coatings will be shown on this page and include materials, such as, liquid membrane seal, burlap, polyethylene sheeting, waterproof paper, monomolecular film, linseed oil, silicone treatment, and spray-on surface finish, among others. In the "COMMENTS" column record the lab number.

Sec. 702.08 Concrete and Drainage Units

(a) Precast Units Tab
Items to be included in this section are drop inlets, manhole structures, storm water management structures, box culverts, end walls, sound wall panels, retaining wall panels and any other precast unit that is used on the project.

If units such as drop inlets or etc. are cast in place rather than precast, these should be listed as component materials in tabs outlined by Sec. 702.07 Hydraulic Cement Concrete Construction and not under precast units tab. In the COMMENTS column enter "cast in place".

(b) Masonry Units Tab
Items to be included in this section are bricks and concrete blocks.

(c) Prestressed Concrete Beams Tab
Items to be included in this section are prestressed concrete box beams, I beams, slabs or T beams.

Sec. 702.09 Traffic Engineering Materials

(a) Electrical Components Tab
Materials to be included in this section are electrical conduits, junction boxes, conductor cables, conduit, signal heads, luminaries, holophanes, loop detectors, etc.

(b) Signal & Light Poles, Sign Posts and Foundation Anchor Bolts Tab
Materials to be included in this section are signal, light and pedestrian poles, sign posts and foundation anchor bolts.

(c) Miscellaneous Traffic Control Devices Tab
Materials to be included in this section are loop sealants, jacked pipe sleeves, traffic barriers, message boards, electronic arrows, warning lights, barricades and any other traffic control device not listed above. In the ACCEPTANCE METHOD column show the test report number if it was tested, "QA" if was on a QA program, visual if this was how it was inspected, etc.

Sec. 702.10 Fencing and Posts Tab

Materials to be included in this section are all fencing materials used on the project. These shall include fencing fabrics and wires, posts and gates. Entries shall show the type (chain link, woven, barb, etc.) and material (vinyl coated, zinc coated, wood, etc.)

Sec. 702.11 Guardrail Tab

Materials to be included in this section are all guardrail materials. The linear feet of guardrail include the total amount of guardrail, including the length of terminal sections.

Sec. 702.12 Pavement Markings and Markers Tab

Materials to be included in this section are all pavement markings and markers. Pavement markings shall be broken down by class and type and shall show the linear footage (if applicable) of work completed. It is not necessary to show the material compositions for the markings.

Sec. 702.13 Piling Tab

Material shall be broken down by size and type. Types include cast-in-place concrete, precast concrete, prestressed concrete steel H-beam, sheet steel, steel shell, and timber, among others.

Sec. 702.14 Pipe, Pipe Arches and Arches

(a) Concrete Pipe Tab
Concrete pipe sizes will be filled in across the top of the page, with the smallest size to the left increasing to the largest size on the right. When the number of different sizes exceeds the number of spaces available, continue the sizes on the next consecutive page.

(b) Concrete Pipe End Sections Tab
Concrete pipe end sections will be listed by the number of sections received for each size. Concrete pipe end section sizes will be filled in across the top of the page, with the smallest size to the left increasing to the largest size on the right. When the number of different sizes exceeds the number of spaces available, continue the sizes on the next consecutive page.

(c) Corrugated Metal Pipe Tab
Corrugated metal pipe sizes will be filled in across the top of the page, with the smallest size to the left increasing to the largest size on the right. When the number of different sizes exceeds the number of spaces available, continue the sizes on the next consecutive page. When corrugated metal bands are used, show the quantity in the COMMENTS column.

(d) Corrugated Metal Pipe End Sections Tab
Corrugated metal pipe end sections will be listed by the number of sections received for each size. Corrugated metal pipe end section sizes will be filled in across the top of the page, with the smallest size to the left increasing to the largest size on the right. When the number of different sizes exceeds the number of spaces available, continue the sizes on the next consecutive page.

(e) Miscellaneous Pipe Tab
PVC, perforated, non-perforated, solid plastic pipe, etc. are to be recorded in this section. Pipe sizes will be filled in across the top of the page, with the smallest size to the left increasing to the largest size on the right. When the number of different sizes exceeds the number of spaces available, continue the sizes on the next consecutive page. If this pipe requires testing, record the test report number in the “REPORT NO. column. If it is from a QA supplier or manufacturer, show their name in the proper column along with the invoice no. and "QA" in the COMMENTS column.

Sec. 702.15 Utilities Tab

This includes all items that are used in water line, sewer line and gas line systems. Record the CT Number in the "CT NO." column along with complete data entered into each column.

Sec. 702.16 Steel

(a) Reinforcement Steel and Monitor Sample Tab
Material shall be separated by type, such as, deformed bars, epoxy coated bars, welded wire fabric, and prestressing tendons, among others. It is not necessary to list each size bar individually, but the total quantity of all material by type per test report. Reinforcement steel is accepted on manufacturer's certification (does not require a CT Number) and a Monitor Sample is required. A Monitor Sample is to be pulled in accordance with section 204.32 (e) 1 of the Manual of Instructions.

(b) Structural Steel and Structural Steel Protective Coatings Tab
This covers all structural steel delivered from the fabricator. If a description is necessary, it will be shown in the COMMENTS column. Items to be included in this section which are accepted on basis of manufacturer's mill analysis and fabrication inspection reports are beams, girders, overhead sign structures, bridge mounted sign structures, among others. Protective coatings and paint systems to be used on structural steel must be from Approved List 13. The proper protective coating systems documentation must be submitted for approval and a CT Number issued.

(c) Miscellaneous Steel Tab
This includes all steel (metal) items not covered elsewhere in the notebook.

Sec. 702.17 Miscellaneous Materials

(a) Miscellaneous Materials Tab
This section is to be used for items not covered elsewhere in this notebook. Materials such as epoxy resins, structural timber and lumber, waterproofing and damp proofing materials, bearing pads, joint material, among others should be entered into this section.

(b) Roadside Development – Seeding Tab
Use this sheet to record any seeding, lime and fertilizer data. Enter only one material type per line. In the column that shares the same name as the product record the quantity and unit of measurement (lb, tons, etc.). In the ACCEPTANCE METHOD column, show the test report number if it was tested, show Green or Blue Tag, or visual; whatever acceptance that the material dictates. Also, if the material comes through a QA program, note this in the COMMENTS column as “QA”.

(c) Roadside Development – Erosion Control Tab
Use this sheet to record any EC-2, EC-3, filter barrier, and temporary silt fence. In the column with that shares the same name as the product record the quantity and unit of measurement (L.F., S.Y., etc.). In the ACCEPTANCE METHOD column show the test report number if it was tested, the Approved List Number if applicable, or show "QA" if it was on a QA Program.

(d) Geotextile Fabrics Tab
Use this sheet to record all other types of geotextile fabrics. In the ACCEPTANCE METHOD column enter the appropriate CT Number, test report number if it was tested or show "QA" if it was on a QA Program.

(e) Visual Inspection Tab
Use this sheet to record all visually inspected materials that are not covered elsewhere in this notebook.

Sec. 702.18 Independent Assurance Samples Tab

All independent assurance samples and tests will be listed showing the results. This will include aggregate and asphalt concrete plant samples, hydraulic cement concrete test cylinders, reinforcing steel bars, embankment test and depth and density tests on necessary materials. These results will not be listed on other pages for the various types of materials.

Sec. 702.19 Inspection and Verification as indicated or modified herein

(a) Inspection by Area Construction Engineer and Construction Manager
Page should be signed by appropriate project staff to indicate inspection and/or verification of project.

(b) Review by District Materials Engineer
Page should be signed by the District Materials Engineer or designated representative to indicate a review was conducted.

(c) Area Construction Engineer Certification
Page should be signed by proper construction staff to validate the certifications.

(d) District Materials Engineer's Certification
Page should be signed by the District Materials Engineer or designated representative to validate the certification.

SECTION 703 CHAPTER VII - APPENDIX A

Included herein are lists of prequalified materials covered by standard specifications. Some are accepted based on the approved list, others require certification or testing, but must be on the prequalified list. To view the approved lists, access the following web address:

www.VirginiaDOT.org/business/materials-download-docs.asp

The following link will help provide useful information on acceptance methods found on a C-25:

http://www.virginiadot.org/business/resources/bu-mat-MAT.pdf
The following link contains information that will assist those responsible for testing and provides some of the items needed to complete a Materials Notebook.

http://www.virginiadot.org/business/resources/bu-mat-QuickReferenceMATERIAL_ACCEPTANCE.pdf

The blank Materials Notebook is the TL-142, a Sample Materials Notebook is the TL-142S. Both forms are located at: http://www.extranet.vdot.state.va.us/forms/

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Commissioner
Chief Engineer
Division Administrators
Resident Administrators
District Materials Engineers
District Construction Engineers
District Maintenance Engineers
Area Construction Engineers
Virginia Dept. of Minority Business Enterprise
Virginia Asphalt Association
Local Assistance Division
Virginia Ready-Mixed Concrete Association
Federal Highway Administration
Virginia Transportation Construction Alliance
Precast Concrete Association of Virginia
American Concrete Paving Association
NE Chapter, Southern Region