

 MARYLAND DEPARTMENT OF TRANSPORTATION  
**STATE HIGHWAY ADMINISTRATION**

**CONSTRUCTION DIRECTIVE 07220.100.12e**

**REVISED: 5/17/2021**

**FORM(S):**

Field Document Reviewer (FDR) can include an attachment of any supplement documentation, as per Directive 07220.100.22, which aid in their Audit procedures to their IDR input for the day of an Audit, and eMCMS will generate a record of each audit performed in the system.

**SUBJECT:**

eMCMS Documentation and Review of Pay Quantities for Construction Projects in Preparation for Final Acceptance and Final Payment.

The requirements of this Directive supersede the Construction Guide procedures. The Construction Guide will be revised at a later date to incorporate the changes.

**A. SPECIFICATION:**

TC-7.06 FINAL ACCEPTANCE AND FINAL PAYMENT

**B. PURPOSE:**

The MCMS Legacy system support is ending on 12/31/21 and all projects moving forward will be required to utilize eMCMS (electronic Maryland Construction Management System) to Document and enter Pay Quantities for Construction Projects Several projects have been uploaded into eMCMS before 12/31/21 and have split records in which all records for that project before the first digital record is created within eMCMS shall follow the previous CONSTRUCTION DIRECTIVE 07220.100.12 for documentation and review. The first IDR generated in eMCMS for these projects on the date changed from the Legacy MCMS to eMCMS system shall express that date, between hard copy and electronic IDR acceptance.

**C. POLICY:**

Original Source Document: The Approved Inspector's Daily Report (IDR) generated, from the User's input and approved by an Authorized Approver, by the eMCMS program.

**D. PROCEDURE:**

- 1) Responsibility of District Engineer or Director (DE/D):
  - a) The DE/D will document, record, and audit the estimate and final field quantities.
  - b) The DE/D will complete the Summary of Final Quantities, Semi-final and Final Estimates, and the Final Closeout Package.

- 2) Appointment of Field Document Reviewer (FDR):
  - a) Each DE/D will appoint one or more staff members to audit pay quantities and other contract documents while the project is in progress and when the Contract Documents are turned in by the Project Engineer (PE) (represented as the Resident Engineer (RE) in eMCMS) to the DE/D.
  - b) The FDR will be responsible to the DE/D.
- 3) Duties of the FDR:
  - a) Audit estimate quantities for progress payments prepared by CPE
  - b) Audit CPE's Final Quantities in preparation for submission of Summary of Final Field Quantities to the DE/D.
  - c) Review other Contract Documents as directed by the DE/D.
- 4) Guideline for FDR: The DE/D will require the FDR to follow guidelines listed below when making an audit: The FDR will supply eMCMS with user input to generate an IDR that describes the checks performed and corrections made, or that need to be made by field staff, that includes the attachment of an OOC10 form.
  - a) Check to verify that measurements and payments for each Contract Item is per Contract Documents.
  - b) To ensure the accuracy of the Final Field Quantities generated by eMCMS by cross-referencing a random sampling of items in the Summary of Final Quantities against corresponding IDR AUI.
  - c) Check for each item being documented in accordance with procedures outlined in Construction Guide and this Construction Directive.
  - d) Random sample a minimum of ten (10) percent of items and check the accuracy of computations. When corrections are needed:
    - i) Download a copy of the Original Digital sketch.
    - ii) Make any corrections in red.
    - iii) Make necessary entries to minus out the incorrect payment and input the correct payment. Attach the marked-up sketch to the user input screen under the item with the correct payment and include a description of the correction made.
- 5) When checking hardcopies date and initial all checks and make corrections in red. Use the eMCMS audit features for online audits. When correcting a hard copy, draw one single line through the original entry without obliterating that entry and then insert the correction. Erasures and alterations are prohibited. Parts of pages or entire pages may be marked "VOID". Remove no page or parts of pages from any hard copy. The FDR will initial and date all corrections or entries. Use eMCMS for online audits. Authorized changes or additions to field quantities must be made using eMCMS. FDR will be included in the project Personnel for each project they are responsible for the auditing of eMCMS input. The FDR should only submit "Semi-final" and "Final" estimates for projects.
- 6) Audit estimate and final quantities with the auditing tools in eMCMS and/or by field visits to projects as work progresses. As a minimum, conduct audits at approximately ten (10) percent completion to ensure proper procedures are being implemented, at approximately fifty (50) percent completion and during the final construction phase - (OR) - as necessary to ensure compliance with Directives and Procedures.
- 7) Spot Checks of Progress Estimates:
  - a) FDR will make random spot checks of Progress Estimates.

- b) The FDR has full authority to examine all project records and documentation.
  - c) The FDR will spot-check project documents to verify quantities entered on the progress estimate.
  - d) The FDR will document each visit or audit to projects on form OOC10 to be included with their user input into eMCMS along with descriptions of checks performed and any corrections that were made or have to be made by CPE and field staff. All hardcopies checked or corrected shall be initialed in red. Initials must be adjacent to all entries reviewed. For online audits utilize the audit features of eMCMS.
- 8) eMCMS Document Retention: Digital documentation is retained in the eMCMS database located under the appropriate MDOT Office. Access can be gained to these records through User Credentials, which can be acquired through the eMCMS database administrators.
- 9) eMCMS personnel record: The eMCMS program shall maintain a record of all parties assigned to each project within that project's database.
- 10) Setting up and Changes to the Item Ledger/Summary of Final Field Quantities: CPE will utilize eMCMS to prepare an Item Summary Sheet for each item with item number, description, unit, unit price, and all other information required on the Item Summary sheet. Work on the Summary of Final Field Quantities will proceed concurrently with the contract progress and, as each item of work is completed, the necessary final measurements, sketches when necessary, and computations will be completed and included within the user input to generate an IDR for that reporting day (12:00 AM to 11:59:59.99PM). The CPE must verify all work shown on the plans is included in the item summaries. In addition, field changes, Green Line and Red Line Revisions must be added to the appropriate item of work. This is done so the DE/D and FDR will be able to immediately identify changes to the plans and relate those changes to the As-Built" Plans. Change Orders manually input into eMCMS by each district.
- 11) Additional Work Request: When Additional Work is encountered, it shall be documented and processed through the Change Order Process.
- 12) Verification of Change Orders: The CPE will check to verify the information on the approved Change Order coincides with: Item No., negotiated price, quantity, and dollar amount of the Change Orders entered into eMCMS.
- 13) Final Field Measurements and Degree of Precision: Final field Measurements and computations of quantities that are input into eMCMS are original documentation for final pay quantities. Record and input measurements and quantities into eMCMS to generate an IDR, and when sketches are required include an attachment of that sketch to the user input, sign (physical before scanning or digitally) before attaching to user input. All unit price pay quantities must be carried out to two (2) decimals regardless of the precision used in measurements and computations. Lump-Sum items must be posted as a percent to one (1) decimal. The degree of precision applies to estimated and final pay quantities entered into eMCMS.
- 14) Cross-Reference Payment Entries: eMCMS will generate Final Field quantities that include a cross-reference to the IDR number of the Summary Sheet for the entry on the quantity on the item Ledger/Summary of the Final Field Quantities.

- 15) For Item Where tickets are Used as a Basis of Payment: For items where tickets are used as a basis of payment (I.e., Liquid asphalt material, HMA, WMA, Stone, etc.) cross-reference the quantity entries to the ticket number range and the file that contains the tickets that document the quantities.
- 16) Reconciliation of Item Ledger Quantities/Final Quantities: Reconcile discrepancies between the Final Field Quantities and the estimated quantities as the Items are completed and the final field quantities become available. When an item is satisfactorily completed and the final field quantities agree with the item ledger quantities no adjustment will be necessary. When there is a discrepancy, between the final field quantities and the item ledger quantities make an entry in eMCMS to subtract all previously estimated pay quantities and enter the final pay quantities as another entry into eMCMS for the program to generate a Final Field Quantity Summary Sheet. The Item Ledger and Final Field Quantities must agree for each item in eMCMS. The estimate (Progress, semi-final, or final) will then be calculated and processed by eMCMS.
- 17) Expediting Final Payment by CPE: Review Final Payments to the Contractor for work done by the Contractor and subcontractors as the work progress and before submitting final field quantities to the DE/D Office.
- 18) Disputed Final Field Quantities: Make every good faith effort to resolve Contractor disputes concerning final field measurements and quantities for work done by the Contractor and subcontractors before submitting the eMCMS Summary of Final Quantities to the DE/D.
- 19) District Engineer or Director Review: Conduct final review of the Summary of Final Field Quantities in a timely sequence that will provide final quantities to the Contractor at as early a date as possible, but no later than 60 days as specified in TC-7.06 (a.) (3). When submitting final quantities for Contractors review, any changes to total items quantities other than those shown on the last progress estimate must be identified with the reason for changes.
- 20) Disputed Quantities: Final quantities disputed by the Contractor must be submitted to the DE/D in the time allowed by TC-7.06 (b) (1) & (2) with detailed documentation.
- 21) Timely Closeout of Contract: All parties are expected to work together to expedite the timely Final Acceptance and Final Payment for the Contract.
- 22) Overruns/Underruns: Submit an explanation for any individual item that overruns or underruns by an amount greater than \$5,000.00. Explanations for any overrun/underruns covered by a Change Order are not required.
- 23) Issue of Final Reports: - FHWA Contracts
  - a) Non-Exempt Contracts: For FHWA to issue a Final Report on Non-Exempt contracts, FHWA must have a completed Form OOC3 District Engineers Certification of Completion of Work, a State Materials Certification, and the explanation of overruns/underruns as noted in T. Forward all documents to FHWA as a package with a Letter of Transmittal to the FHWA Division Engineer.
  - b) Exempt Contracts: OOC must have a completed Form OOC3 District Engineers Certification of Completion of Work, a State Materials Certification, Regional Construction Engineers Final Inspection Report, and the explanation of overruns/underruns as noted in T. The Director, Office of Construction will then issue a Memorandum of Action with a copy to FHWA.

- c) V. Filing Records at District Office: Keep all Hard copy original source document records in the District Office neat and orderly. File these documents in folders by date of the IDR or under Item number for audits by either State or Federal Auditors and all eMCMS original Documentation shall be store virtual on a server in MDOT Office(s) with access giving to State and Federal Auditors through personal eMCMS credentials.
  
- 24) Retention Period for Project Documentation: (Five (5) Years)
  - a) State-Funded with no Federal-aid involved: The eMCMS Summary of Final Field Quantities, all approve IDRs, and Hardcopy original source documents (“As-Built”, tickets, material clearance documents, etc.) shall be stored on the server at TSO (digital Documents) and the corresponding District Office (hard copies) must be retained for at least five years after the date of final payment is made.
  - b) Federal-Funded: The five (5) year retention period begins on the date on which the Federal Highway Administration (FHWA) has cleared the Final Voucher and closed in Federal FMIS. The listing of the Final Voucher clearance dates from FHWA for each contract will be provided by the Administration’s Division Manager, Capital Programs Division @ 410-545-5789 for the status of the Final Voucher clearances.



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**APPROVED:**



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