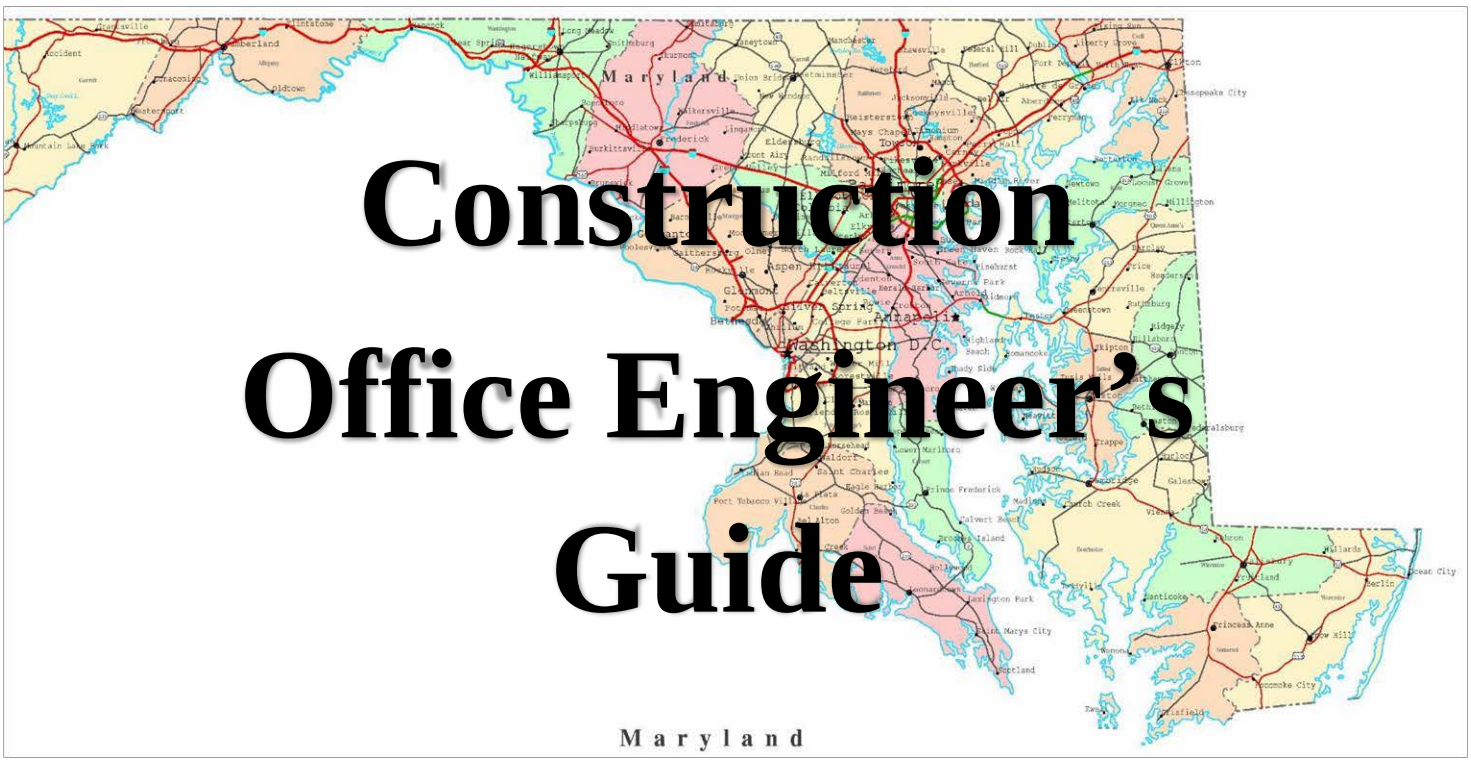
MARYLAND DEPARTMENT OF TRANSPORTATION

STATE HIGHWAY ADMINISTRATION

Office of Construction



Construction Office Engineer's Guide

OOC

OFFICE ENGINEER'S GUIDE

TO PROJECT DOCUMENTATION

ABSTRACT

The OFFICE ENGINEER's GUIDE is a reference for consistently performing step-by-step documentation procedures on highway, bridge, and facility projects.

(MDOT-SHA)

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INTRODUCTION

The OOC Office Engineer Guide is intended to supplement the OOC's Project Engineer and Construction Guides. This document provides short-cuts to information for setting up the project field office, as well as, step by step procedures for performing Office Engineer duties. Where possible, web links have been provided for quick access to other documents, including OOC Forms and a thorough MCMS guide.

CONTACT LIST – DISTRICT OFFICE AND EMERGENCY TELEPHONE NUMBERS

One of the first orders of business when setting up a field office is to post a copy of the latest Phone Directory for your specific District Office; OOC/CID Office; and Local Emergency Telephone Numbers. It is best to List Contact Names and e-mail addresses when possible.

GOVERNING ORDER OF CONTRACT DOCUMENTS TC-3.01

In the event of any discrepancy between the various Contract Documents, the Governing Order from highest to lowest is:

- Special Provisions*
- Design Plans
- Special Provisions Inserts*
- Standard Specifications for Construction and Materials (Latest Version that is relevant to the contract).

*Special Provisions and Special Provisions Inserts relative to the Contract are included in the IFB.

SPECIAL NOTE: General Provisions will govern over all Contract Documents unless expressly provided for in the Contract.

FILING SYSTEM

The filing system should be an orderly arrangement that will make all correspondence, construction reports, field records, materials test reports, right-of-way information, and utilities status quickly available. Practically all matters handled in the field office will fall into one of these groups and the subdivisions so formed can be expanded to fit a contract of any magnitude or complexity. The general principles outlined here are applicable whether the material is kept in file folders, loose-leaf binders, or envelopes. Job records must always be available for reference or inspection by District Office, OOC, CID, and FHWA personnel. More than one person should be able to produce these records. The following grouping of file items was prepared for a typical contract. The list should be expanded or reduced, as necessary, to fit a specific project. The files should be kept in numerical order with an appropriate index preceding the file or on the face of the drawer.

1. Administration Equipment File
2. Project Correspondence--(specific contract information)
3. Contractor's Correspondence--(initiated by the Contractor)
4. Contractor's Daily Reports
5. Contractor's RFI's
6. Contractor's Submittals/Log
7. Contractor's Schedule (CPM)
8. General Correspondence
9. Email Correspondence
10. Meetings
11. Insurance – prior to work starting
12. Accident/Incident Reports
13. Inspector's Daily Reports (IDR's – Per Estimate Breakdown)
14. Daily Logs (Per Estimate Breakdown)
15. Item Ledger
16. Sketch Book (Item Summary Book)
17. Weekly Time Report
18. Estimates
19. Field Books
20. Field Notes
21. Project Diary
22. Project Record Book
23. Monthly Summary of Time Charges
24. Contractor's Current Estimate
25. Estimate Worksheets
26. Change Orders
27. Affirmative Action Plan (AAP)
28. DBE Schedule of Participation Minority Business Enterprise (MBE), Disadvantaged / Business Enterprise (DBE), Women's Business Enterprise (WBE)
29. Subcontractor Approvals
30. Certified Payrolls w/Compliance Reports
31. On the Job Training (O.J.T.)
32. E/S Control Approval
33. Erosion and Sediment Control Reports (SHA)
34. Erosion and Sediment Control (MDE Reports) Field Sketch File
35. Transition Data
36. Catalog Cuts
37. Source of Supplies
38. Material Approvals, etc.
    a. Materials Received
    b. Approved Concrete/HMA mix designs
    c. Concrete Plant Reports
    d. Concrete Cylinder Break Test Results Log by Mix Design
    e. Material Test Reports
    f. Material Clearance
    g. Gradation Reports
    h. Soil Compaction--(Pipe)
    i. Soil Compaction-- - (Embankment)
    j. Soil Compaction--(Subgrade)
    k. Graded Aggregate Base Compaction
    l. HMA Core/Density Results
    m. HMA Plant Reports (Daily)
39. Right-of-Way (R/W) Correspondence
40. Right-of-Way (R/W) Plats
41. Utility Files (one for each known utility company)
42. Utility IDRs
43. Redline Revisions
44. Working Drawings—Correspondence
45. Structures (Pile data, etc.)
46. Traffic Control Plan (TCP)
47. Lane Closure Permits
48. MOT (Temp set up) Checklist
49. Partnering
50. Pending Change Order IDRs
51. Pile Driving Data (if applicable)
52. Redlines
53. Right of Way (R/W) Agreements
54. Shop Drawings
55. Signs
56. Subcontractor Approvals
57. Traffic Control Plans
58. Transmittals

SPECIAL NOTE: Materials Documentation # 38 Above:

It is recommended to create a separate Item File Folder for each Item Number. When Item sources are approved (refer to email notice that a source is submitted and approved or denied) print the MMS submission and file a copy in the Item File Folder for easy inspector reference (go to the Item File Folder and pull the submission report to determine if it is source approved and what is required for material clearance. This procedure may change when e-Construction is fully functional.

PLAN RACK

A plan rack is required by Specifications for storing certain project data that cannot be placed in the filing cabinet. The type and number of plans that pertain to the project will depend on the magnitude of that project. Small and infrequently used drawings may be preserved in better condition by folding and storing in the filing cabinet. A typical job will have the following drawings, and where bulk or frequent use makes folding impractical, these should be kept on the plan rack.

1. Construction Plans
2. Cross Sections
3. Right of Way Plats
4. Public Utility Plans
5. Working Drawings (Steel Details and Form Plans, Etc.)
6. MOT and Temporary Controls
7. Environmental / Storm Water Management
8. Landscape
9. Electric/Signals
10. Permanent Signing and Striping

REPORT AND RECORD PROCEDURES

As the project work progresses, the Project Engineer/Office Engineer must record the accomplishments and events of each day on the Daily Log and when necessary enter supplemental information in the Project Diary and Project Record Book. The Project Engineer or their representative must also record the quantities of work performed and their value in the Project Ledger. Information from these daily records is compiled and submitted in the current progress estimate. The start of work on a project must be reported promptly by the Project Engineer.

INSPECTOR'S DAILY REPORT

To facilitate field office work and compilation of Daily Logs, each Inspector will prepare, in duplicate, an IDR, submitting the original to the field office and retaining the duplicate. IDR's will include tracking the **actual start** and **finish dates** of Schedule Activities, Item Numbers and Descriptions, Dimensioned Sketches and Quantity Computations and the Work Location (stationing and offset from baseline of construction, etc.); types of labor and equipment and hours worked; any Materials Tickets received. Pertinent information such as instructions, problems, unusual weather conditions, noncompliance, reasons for delay, and idle equipment, should be noted. Supplemental documentation forms may be used for sketches or comments. Upon completion of the project, the original IDRs are to be submitted to the District Office for retention with the Sketch Book and other project records.

MBE IDR'S

All MBE IDR's need the following information recorded on an IDR:

- Contractor/ Subcontractors name and MBE Certification Number
- Foreman's name
- (O) or (R) next to equipment to indicate rented or owned
- When entering the IDR into MCMS put Foreman name and MBE Certification Number next to foreman in the Labor tab
- Put Contractor/ Sub name and MBE Certification Number in Item Remarks box while typing the narrative.
- Make copies of all MBE IDR's and file them in the filing cabinet.

OFFICE ENGINEER'S MANUAL

* Yellow = Pay	Green = No Pay

VERIFY INSPECTOR'S DAILY REPORTS (Steps)

Inspectors will submit completed IDR's to the Office Engineer (submittal time established by CPE)

- The CPE/Office Engineer will review all IDR's for correct and complete information in Heading and Footing
- Number IDR's accordingly (By Date and Assigned Inspector – Letter)
- Verifies that Manpower & Equipment is filled out completely and correctly
- Verifies the ***Start Date*** *and/or* ***End Date*** for a **Scheduled Activity** – and note schedule discrepancies.
- Verifies that Item Numbers are listed correctly for the work performed and that work is NOT incidental to any other items. When work is incidental and must be listed on IDR…note – No Pay Incidental.
- Verifies that IDR has a full description of work performed, verifies the location of work and pay quantity (note: No Pay when Incidental or Incomplete when applicable)
- Verifies that Pay Quantities are match the correct item unit per the IFB's schedule of items.
- Verifies Pay Units (i.e. Cubic Yards (CY), Square Yards (SY), Square Feet (SF) must have a sketch, formula and calculations of the quantity of work.
- Verifies that inspector has signed and Dated the IDR when submitted, including Time Charged and Hours per Category, visitors, material used & approval status, hours worked, and job mileage recorded.
    - *Verifies that Construction Project Engineer (CPE) has Reviewed and Initialed all IDR's.*
    - *Enters all relevant information into MCMS accordingly from each IDR.*
    - Hard copies to be kept in job files (Fire Proof File Cabinet).

FIELD OFFICE COMPUTER

*** Flash Drive Backups are recommended for all project records.**

On all projects field office computers will be required in the Invitation for Bids (IFB). The computer, via MCMS, will be used to document all contract records. It will always be necessary to retain all original documents, especially the IDR. All field personnel will continue to fill out an IDR. The information from the IDRs will be compiled on the computer. The computer program is designed to provide a daily log, an item ledger, progress percentages, and progress estimates on any given day of the month.

MCMS: *

*** Flash Drive Backups are recommended for all project records**

Use the Latest Version of MCMS – A User Manual is Available online (see link below) from the OOC and will be available in the future on Inspector's iPads/tablets for easy reference.

MCMS Library: https://onemdot/mdotsha/ooc/cid/MCMS%20Library/Forms/AllItems.aspx

- ☐ MCMS Set-up
- ☐ Inputting IDR Information
- ☐ Daily Construction Log
- ☐ Ledger
- ☐ MCMS Backups
- ☐ Over/Underruns
- ☐ Daily Time Charges

***SPECIAL NOTE**: While most projects are designated as "Calendar Day Projects", All Project Time should be recorded under the MCMS "Work Day" Format… The reasoning for this is that 2 years later, if the Contractor Files a Claim for Compensation Based on Lost Time, an MCMS report can be generated that identifies ALL NON-WORKING DAYS, clearly identifying any discrepancies in the Contractor's Claim.

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* Yellow = Final Payment	Green = Estimated

MCMS IDR Entry

- *** Flash Drive Backups are recommended for all project records**
- Right click on the MCMS Shortcut (icon)on the computer desktop and Click Open
- Click *Input* Tab, then click *Inspectors Daily Reports and* Select *Date* Then Select *Inspector*
- *Weather* is recorded on one (1) *Inspectors Daily Report (IDR)* each day and is always entered first
- Click on *Charge Day/ Non-Charge Day* depending on weather and job type
- *Weather and Charge Day* need to be entered before you can perform anything else
- When there is no *Item Number (#)* indicated on the inspector's IDR place comments under the *Inspectors Remarks* area at the bottom of the screen
- To insert an *Item Number* click *ADD*
- **Track** the **Actual Start** and **Finish Dates** of **Activities** as noted by the Inspector on their IDR
- Enter the recorded *Item Quantity Used*
- If no quantity is indicated, *click Estimated* in the Quantity Status Box
- If there is a quantity and it is a Final Payment *click Final in Quantity Status Box*
- When a payment is recorded as an *Estimated Quantity* (e.g., Class 1) click *Estimated* in the box
- All *Lump Sum Payment Items,* until the work is completed, are entered as *Estimated*
- Only Final Payments are visible in the *Sketch Book*
- Enter *item narratives* from IDRs in the Item Remarks Box.
- When you have entered all *Item* details, *Click Apply* and you may then add another item
- Add all items from the IDR as described above
- After adding all IDR items click on the open door with the arrow symbol in top right corner
- You can then add *Labor* i.e., Foreman, Skilled and Unskilled and Equipment
- *Work Time for Equipment must equal 8 hours or more*. If less than 8 hours are recorded make up the difference under *Idle* Equipment, then indicate the reason the equipment was Idle by selecting a description from the *drop-down box*.
- Enter the *Inspectors Time* in *Time Tab* under the appropriately numbered explanation (1-9)
- If the Inspector's hours are less than 8, enter additional hours under *Hours not worked with the proper reason noted.*

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*NOTE: Every Inspector is assigned *a letter designation* for the project and every calendar day that they turn in an IDR, starting with the *Notice to Proceed* (NTP) *Date*, their IDRs are numbered and recorded accordingly. NTP is day one (1) and numbers advance chronologically until the last day of the project. When IDR's are completed prior to NTP Date they start with a negative one (-
1) and continue to be tracked negatively until NTP.

CONSTRUCTION LOGS

After you enter all the IDR's for a day:

- Click on Reports
- Daily Construction Logs
- Enter the start and end dates of days that IDR's are completed
- Click on Accept, Print, then Sign

LOCKING OUT THE ESTIMATE

*** Flash Drive Backups are recommended for all project records**

- ☐ Verify that the Construction Project Engineer (CPE) and Contractor agree on quantities
- ☐ Make sure that the computer is connected to the Internet. Then, highlight the project and click the "Web Backup" button.
- ☐ Click on *MCMS* on the Desktop, *click Open*
- ☐ *Click on File*, then *Click on Lock Out Estimate*
- ☐ *Click "Yes"* when prompted then choose the Calendar Date.
- ☐ Verify that all IDR's are entered for the *Estimate Period*
- ☐ *Click on Lockout, OK, OK*
- ☐ To print a copy of Estimate, go to Reports, Progress Payments, Change to proper Estimate #
- ☐ Print 2 copies. 1 for Contractor and 1 for You. Have PE and Contractor sign
- ☐ To get Fax cover sheet go to Reports, Fax Cover Sheet, Change to Estimate, View Sheet, Print
- ☐ Follow all steps on Fax Cover Sheet (backup, transmit electronically, print item ledgers, fax)
- ☐ Before faxing print out the Monthly Graphical Report: Progress Reports, Graphical, View, Print
- ☐ To print out Item Ledgers go to Reports, Item Ledger Sheets, click all items, Single Estimate, Pick Estimate #, click View then Print
- ☐ Take the signed Estimate to D-3 Office
- ☐ Keep a copy of Estimate in the Files
- ☐ Print out another signed copy for the Material Clearance Package
- ☐ Put Item Ledgers for Estimate period in the files

ENTER OVER/UNDER RUN EXPLANATIONS

- ☐ Click Input Tab in MCMS
- ☐ Click Item Over/Under Runs Review Tab
- ☐ Click on area to write explanation on right side of screen
- ☐ Once that box has been highlighted type the explanation in the explanation box @ the bottom of the screen.
- ☐ To see the actual report, click on the Reports Tab, click Item Overrun/ Under Run Tab and it will show you the actual report.

Material Management System, MMS

- Log in, in bottom left corner select the project contract number and click on Source of Supply.
- Select correct Item Number. If there is a **Green Circle** with a check mark the Item is approved, if there is a **Red Circle** with an exclamation point it was denied and contractor must resubmit.
- When an Item is approved click on the green circle with the check mark and you can see the Service Providers, Documents and Acceptance Requirements. Both the *Documents Tab* and the *Acceptance Requirements Tab* will tell you what is needed for material clearance. Occasionally, the Documents Tab will differ from the Acceptance Tab. When that occurs the Documents tab usually goes into more detail.

To print out Monthly Material Clearance Status:

- Click on Reports, Material Clearance Status, Estimate #, OK, Print
- Include a copy of signed Estimate with Material Clearance Package

How to fill out Material Clearance Status Form:

- Rec. Column- Estimate Quantity from Locked Out Estimate. If it is a LS Item put a line through it
- Paid Column- Cost (O) + (OV) from the Locked-Out Estimate
- Item Complete- Are you done with item (Y) or (N)
- Document Attached- Do you need to provide a document (Y) or (N)
- Project Comments- Put a line through it no documents, if documents put Form 14, 4A, 4B, Cat Cut or whatever is called for in MMS System.

Acceptance Notes:

- Form 14- Fill out Form 14 (OMT14) make sure quantity on form is sufficient to cover paid quantity.
- 4A Cert- (TC 1.03 w/ test data). Certification on company letterhead that shows actual test data and signed by a company officer.
- 4B Cert-(TC 1.03 w/o test date). Same as 4A cert, but no test data required. Needs a note stating that it conforms to ASTM Standards or Meets SHA Standards.
- OMT Approval: If MMS calls for OMT Approval you will need a certification, either a 4A or 4B depending on what MMS calls for with an OMT Stamp on it or a stamp from an approved Producer. Sometimes the producer needs to send certs to an SHA Email and sometimes there needs to be a facility visit. Read what is required in MMS.
- Catalog Cut- A Document that has a coversheet showing either approved or approved as noted from OOTS. Should be a sample of one in the 800 Section of the Special Provisions if you have electrical work.
- Note 13- Compaction and Moisture Analysis. Send in compaction/ moisture test results (soil and aggregate) Form, MSMT 352.

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MATERIAL CLEARANCE PROCESS

- ☐ Review MMS for materials submittal and approvals prior to execution of work.
- ☐ Print Materials Clearance Status Report (MCSR)
- ☐ Review to verify that MCSR matches quantities in MCMS Monthly Estimate
- ☐ Verify that MCSR is filled out completely and correctly
- ☐ Attached required documentation noted in MMS to MCSR
- ☐ Send MCSR and documentation to Material's Engineer

MATERIALS MANAGEMENT SYSTEM (Copy of Manual should be available in the project field office – or use the link below).
https://onemdot/mdotsha/ooc/OOC_Forms_Docs/MMS%20User%20Manual%20Final.docx

Paving PROCESS

- ☐ Click on Office Files Folder on the desktop.
- ☐ Click on HMA Test Locator
- ☐ Enter information and click on 500 Tons for the Maximum Sublot Size
- ☐ You need a random core location sheet filled out for each area of work
- ☐ After all information (i.e. stations, width, thickness) click calculate
- ☐ Click print to print out the 5 core locations
- ☐ Click calculate again and print out 5 more for the contractor
- ☐ Mark out all core locations AFTER rolling operation complete
- ☐ Fill out 2- Core Sheets (1 for SHA and 1 for Contractor)
- ☐ Fill out OOC90 https://onemdot/mdotsha/ooc/OOC_Forms_Docs/OOC090.pdf Core Sheet to superpave@sha.state.md.us using asphalt tickets
- ☐ Get a box sample and mark box w/ mix number, date, project #, location, ticket #
- ☐ Keep a copy of Core Sheet(s), random core locator sheet(s) and OOC90 for office paper clipped
- ☐ Put a copy of Core Sheets, random core locator sheets and OOC90 in yellow envelope
- ☐ Mark envelope with Project #, Mix #, date, and each paper inside
- ☐ Email OOC90
- ☐ Put Project # in Subject and See attached OOC90 and core Sheet for (Project #) in email
- ☐ Take box sample, 5-SHA Cores and envelope with papers to drop box @ the approved and appropriate location.
- ☐ If no cores are cut you still need to fill out core sheet and OOC90 and send to the appropriate lab representative.
- ☐ On OOC90 and Core Sheet write: No cores due to low tonnage or whatever the reason.

CHANGE QUANTITIES FROM ESTIMATED TO FINAL

- ☐ Click on Input tab
- ☐ Click Final Contract Items Worksheet Tab
- ☐ Enter Item # that needs correcting or use drop down box
- ☐ If payment was previously made as Final-payment there will be a check in the Is Final Box
- ☐ If payment was previously made as estimate there will be no check
- ☐ If previously made as final and needs to be switched to estimated, uncheck box by clicking it
- ☐ If previously made as estimated and needs to be switched to final, check the box by clicking it

ADD ITEM PAYMENT HOLDS

- Click Input- Item Payment Holds
- Click on the status box in the top column for item to be held
- Select reason for the hold from the drop-down box that pops up, then click apply
- A gold key should be next to item number after it is held
- Continue with previous steps for each item to be held
- Click Save Item Changes box once all holds are complete
- X out of the window
- Go to Reports- Payment Holds to verify that it shows up on the report

REMOVE ITEM PAYMENT HOLDS

- Click Input- Item Payment Holds
- Click box that says, "Show only items with payment holds"
- Click box next to items that you want to release payment on
- Click Save Item Changes
- X out of the window
- Go to Reports- Payment Holds to verify that the items have been removed from the report.

NOTE: Some of the above procedures may change e.g., when e-Construction is fully implemented.

MATERIAL TICKETS

Inspectors will properly document material tickets and turn them into the Office Engineer.

- Proper documentation will include but not limited to the following:
- Contract Number
- Item Number & Item Description
- Location material was placed (stationing and offset) and what it was used for
- Tally of total tickets (if it's a tonnage or cubic yard item)
- Ticket # to Ticket #
- Inspector's signature
- Date received
- Office Engineer verifies that all tickets submitted by inspector are being used for the proper application and contain the items listed above
- Material tickets will be stored (separate from IDRs) per proper Item #'s (folders, envelopes, binders, etc.) in Fire Proof File Cabinet

NOTE: Some of the above procedures may change e.g., when e-Construction is fully implemented.

DAILY CONSTRUCTION LOGS

MCMS systematically includes the information below (Please note that the Contractor and PE/SHA Project Representative are required to sign Daily Construction Logs).

- "Location"—Provide relative to the MD State Route or road name on the second line followed by the Station and Offset within the approximate limits of work.
- "Description"—Describe work being done, such as Grade, Drain, and Pave Divided Highway, or rehabilitation of Existing Road, Resurfacing, or Bridges Over (whatever), etc.
- "Wind"- Give the intensity, which is more important than direction.
- "Soil or Grade Condition" and "Tide or Stream Stage"- Indicate which term applies by scratching out the term that is not applicable, and then fill in the proper description notation.
- "Temperature"—Note the temperature extremes (high and low) for the day. Important since temperature controls phases of some work items.
- "Remarks"—Explain the reason for each type of delay when it first occurs (revisions, verbal orders, etc.) Note: The use of the Partial Shutdown Construction Log is permissible when the contract is on partial shutdown and no work is being performed.
- "Labor"—Include operators of all equipment, listing each under the appropriate classification. Hours shown for labor are not the hours per individual worker, but are the total hours for the number of workers indicated.
- "Equipment"—List all types on the job, in use and idle. If space is available, use separate lines for idle equipment. Otherwise, working and idle equipment of the same type may be shown on the same line. "Hours" will be the total for the number of pieces of equipment indicated. Whenever equipment hours are shown in the "Idle" column, a "key number" must be inserted in the last column, using a different number to indicate each different reason for idleness. These reasons must then be explained under "Remarks" and identified by the appropriate "key number," for example: Broken down, Utility or Right-of-Way delay
- "Delays"—At the bottom of the "Remarks" Section, check the proper box for the duration of the delay. For details of the delay, refer below to the date when this delay first occurred. **Note the first day of each type of delay**, explain the reason for delay under "Remarks." No checkmark will indicate that there is no delay.
- "Paving Record" - List the item number for each entry.
- "Thickness"--Note the thickness specified for the unit of payment for the type of course being placed.
- "Description" - List items such as "Hot Mix Asphalt"". Identify the location of the paving.
- "Ratio" of Materials "Used" to "Required" - Is computed to at least two decimal places. In the last column under "Remarks," show the accumulated totals of quantities of paving item used / their ratios to date.
- "Work Done and Material Used"—Use the lower left-hand corner to describe the work done, other than paving, and identify it by item number, description, location, and quantity completed and where pertinent, note the quantity of material used.
- "Inspection Staff"—Note each worker's assignment or category of work.
- "Signatures"—Date the two signatures in the lower right-hand corner according to when they were signed, which may not always be the same as the date of the log.
- Unless directed otherwise, the Office Engineer should submit logs at the end of each week, in groups covering the week's work.
- Use the reverse side for extended remarks, explanations, and sketches. Write the word "over" in large letters at the lower left-hand corner of the sheet whenever the reverse side is used, so that attention will be called to the fact.

MONTHLY ESTIMATE PROCESS

- Follow the District's establish monthly cutoff date for the Monthly Estimate
  - **Standard Estimate Schedule**
    - **Districts 6 & 7 on the 7th of Each Month**
    - **Districts 3 & 5 on the 14th of Each Month**
    - **District 4 on the 21st of Each Month**
    - **District 1 & 2 on the 28th of Each Month**
- Print 'Rough Draft' of Estimate for CPE and Contractor's review
- Compare Item Ledger Sheets to Monthly Estimate
- Verify all material used for month has been previously submitted and approved (through MMS)
- Review all under/overrun items with justification(s), if applicable
- Verify all Change Orders have been uploaded into MCMS and are included in Estimate (if applicable)
- Submit Monthly Estimate electronically when all parties agree.
- Prime Contractor and CPE to sign hard copy of Monthly Estimate.
  1) **1 copy to Prime Contractor**
  2) **1 copy to field office files**
  3) **Original hard copy to District Office**
- Print and send Monthly Materials checklist and all back up documentation to respective lab for review and acceptance.

CERTIFIED PAYROLL PROCESS

- Establish separate folder for the Prime Contractor and each Subcontractor.
- Establish Payroll Log for the Prime Contractor and each Subcontractor.
- Verify that the payroll is submitted to field office within 14 days of week ending for Non – Federally Funded projects and 7 days for Federally Funded projects
- Verify each payroll includes Contractor's/Subcontractor's Name, Contract Number and FAP number (if applicable).
- Verify payroll number (each contractor to start with No. 1) and week ending of each payroll submitted prior to logging in
- Verify that there is a classification listed for each scope of work included in project (may add after contract award)
- Verify each employee (excluding Management) is paid at proper rate including overtime (OT) and Fringe Benefits are included (if applicable) per classification established in contract Prevailing Wage Rate.
- Compare Certified Payroll to Employee Payroll Compliance if applicable
- Have CPE (or Office Engineer) sign or initial 1st page of Certified Payroll when accepted.
- File and log in approved Certified Payroll in appropriate folder

PROJECT LEDGER (is created via MCMS)

A Project Ledger is maintained that records quantity entries for the date that the work is performed. The quantities are verified during IDR entries to ensure that proper items are noted in the Project Ledger.

SKETCH BOOK (is created via MCMS)

- Complete Sketch Book Title Sheet (OOC004). File it in front of the Sketch Book.
- Have each inspector sign the Sketch Book Signature Sheet (OOC005) upon arrival to project. Keep the original in front of the Sketch Book
- Set up Sketch Book by category (1000's, 2000's, 3,000's etc.)
- Print out Sketch Book sheets with item numbers and descriptions

At the start of work the Project/Office Engineer establishes a Sketch Book containing a supply of the necessary forms. The sheets, as completed, should be kept in a loose-leaf binder in orderly sequence and made available to the District Office for checking progress and conformity with standard procedures. The completed Sketch Book will include a title sheet, signature sheet, summaries, sketch and computation sheets, invoices, delivery tickets, and cross-sections as described in more detail below.
After the contract has been completed, the Project Engineer will submit the project Sketch Book to the District Office reflecting the "As Built" plans and that will completely substantiate quantities previously allowed the Contractor on current estimates and will also provide the basis for preparing the final estimate. Work on the Sketch Book should proceed concurrently with contract progress and, as each element of work is completed, the necessary final measurements, sketches, and computations should be made so that summarization and assembly will be the only Sketch Book work remaining after the contract is accepted for Maintenance. The completed Sketch Book should be submitted to the District Office within 15 days after final acceptance of the contract.

ENTER PARTNERING DATA

- ☐ Go to the Partnering Database Online
- ☐ Enter your Username and Password
- ☐ Click on your project (may need to enter it into the system the first time)
- ☐ Click on Evaluations
- ☐ Enter Start Date: 1st day of project or the day after the last partnering meeting
- ☐ Enter End Date: the day of the partnering meeting
- ☐ Select the Evaluator from the drop-down box (SHA, Contractor, Designer, etc.)
- ☐ Enter the Ratings from the Partnering Project Rating Form (1-4) and any comments
- ☐ After all is entered for each evaluation click Save Evaluation
- ☐ Change the Evaluator for the next Partnering Form and repeat the entering of the ratings
- ☐ After entering all the evaluations, click Statistical Data
- ☐ Select the proper evaluation period and enter the data as specified
- ☐ Once complete, click Reports
- ☐ Next to "Select a Report" select Evaluation Summary Report (PDF)
- ☐ Next to "Time Frame" select Single Evaluation Period
- ☐ Select the proper Evaluation Period
- ☐ Click View Report
- ☐ Print a copy for the files, save a copy to the Partnering Folder on the computer and send a copy with the progress/partnering meeting minutes.

PROJECT DIARY

The Office Engineer may have to refer to Project Engineer – Project Diary entries where records all pertinent items not otherwise documented in other project records are kept. The diary should be concise and should include all important information and verbal instructions relative to the contract that day. It should not contain routine matters that can be found in other records, such as numerical records of quantities or work completed or similar data. The diary should be a hardback, permanently bound book, and the entries in it should begin and end with the project, not with the calendar year. Therefore, it is preferable to use a book, which does not have spaces of predetermined size and is not divided off and marked for specific days of the year. The diary is not a personal item but is a project document. If properly detailed, it will often prove invaluable in settling claims. At the close of the project, the diary must be turned in to the District Office along with the Sketch Book and other permanent project documents.
Matters that should be noted are:

- Unusual weather conditions, which should be explained in greater detail than shown in the logs. If possible, give quantitative figures to indicate excessive amounts of rainfall or excessively high winds.
- All verbal instructions to the Contractor should give the date, specific person to whom the instructions were given, nature of the instructions, and whether there were any objections or comments on the part of the Contractor's representatives. Important verbal instructions should later be confirmed in writing.
- Noticeable developments concerning any important matter pertaining to the contract.
- Dates on which the Contractor's major equipment is moved onto or away from the job.
- Any incident, regardless of how trivial it appears at the time, which may later pertain to any claim the Contractor might present. All entries should be dated and signed. No space should be left to allow for alterations.

PROJECT RECORD BOOK

The Project Engineer is responsible for thoroughly documenting all construction data for the project. He or she will keep a hardback permanently bound field book identified as a "Project Record Book." One or more books will be kept for each project as required by its size. It is recommended that the file marked Project Record Book contain a single record book, or in the case of multiple record books, an index of the record books in use, by number. These books must be kept in the fireproof file until the completion of the contract, at which time they will be turned in to the District Office along with the Sketch Book and other project records. Records to be kept will include but will not be limited to the following:

- Checks of the Contractor's survey and layout work, including alignment, grade, and slope stakes for roadways.
- Checks of alignment, skew, span lengths, and critical elevations for structures.
- Records of samples of materials taken and sent in from the field to the laboratory.
- Results of compaction tests for embankment, subgrade, base and surface courses, trench backfill, and shoulders. For tests such as these on which complete reports of all test data, computations, and results are kept on other special forms, it will be necessary to record in the Project Record Book only the results of the tests and not the detailed data and computations from which the results were derived.
- Checks of thickness or depth of courses such as subbase, base and surface courses, HMA pavement courses, and stabilized shoulders.
- Results of slump tests.
- Results of air content tests.
- Records of concrete cylinder tests.
- Results of straight-edging of pavements and curbs.
- Records of checks that have been made on the number, size, and placement of reinforcing bars in structures.
- Records of temperatures of heated concrete when placed and of temperatures maintained during curing and
- within heated enclosures.
- Records of dates on which structure forms were stripped and cured and/or heating was discontinued.
- Records of any other job tolerances, yields, checks, or tests not otherwise documented.
- Where checks and test results have indicated inadequacies, what corrective measures were taken, together with the results obtained. All information noted above shall be completely identified by dates, times, locations by station and off-set, adequate descriptions, notations concerning results, and the identity of the person observing or performing the operation. It is intended that the Project Record Book supplement rather than replace the project diary, which must still be kept by the Project Engineer and ultimately filed in the District Office.

Reporting Procedures and Leave Guides

The following Reporting Procedures and Leave Guidelines apply to all Construction Inspection employees. These procedures and guidelines serve only as a clarification of the COMAR Title 11, TSHRS policies, and MOU's, and are not meant to replace them.

1. WORK HOURS

1.1. Work hours for CID field staff are determined by the Project Engineer and are usually based on the contractors' schedule.

2. REPORTING PROCEDURES FOR LATENESS AND UNSCHEDULED ABSENCES

2.1 All employees are expected to arrive on the job by their designated starting time. If an emergency arises **and an employee is unable to report to work on time, he/she must advise their supervisor (or designee)** at least 15 minutes prior to but no later than 15 minutes after their normal starting time. When calling to report a lateness or absence, employees may leave a detailed message on the project answering machine (see 2.3); however, they must continue to call until they personally speak to their supervisor or designee.

2.2 If an employee is unable to report to work for their normal workday, they must comply with the reporting procedures and guidelines for personal leave (Section 3) or sick leave (Section 4). An employee's failure to notify their supervisor or designee that they will be unable to report to work or failure to acquire the appropriate approval for leave from their supervisor or designee, is determined to be on unauthorized leave and the employee will be subject to disciplinary action.

2.3 When reporting a lateness or absence, the employee must advise their supervisor or designee of the reason for their lateness or absence and their anticipated time of arrival or return to work. If an employee is absent for more than one day, they must continue to report their absence daily until an expected date of return is established.

2.4 When an employee is unable to report their lateness or absence due to an emergency, it is still their responsibility to ensure the absence is reported as soon as practical.

2.5 Supervisors have the authority and responsibility for determining whether to excuse lateness or unscheduled absence. Employees will not be excused unless a satisfactory explanation is provided. Supervisors also have the authority to request verification for lateness or unscheduled absence.

2.6 If the lateness or unscheduled absence is excused, the employee will have the option of charging their time to vacation, personal or compensatory leave. If the reason is medically related, the employee may use sick leave. Upon employee's return to work, a "Request for Leave" form (DTS-31) must be completed and submitted to their supervisor for approval.

2.7 If leave is not available or if the lateness or absence is not approved by the employee's supervisor, time will be charged to leave without pay. Chronic lateness or unscheduled absences will result in disciplinary action being taken.

OFFICE ENGINEER'S MANUAL

- REFERENCE MATERIALS (see hyperlinks)
  - Standard Specifications - Construction and Materials
- https://www.roads.maryland.gov/pages/sscm.aspx?PageId=853&lid=SSP
  - IFB (Contract Bid Documents/Special Provisions)
  - Construction Guide https://onemdot/mdotsha/ooc/OOC_Forms_Docs/ConstructionGuide.docx?web=1
  - Construction Project Engineer's Manual
- https://onemdot/mdotsha/ooc/OOC_Forms_Docs/CPEM%20%20%2004-04-05%20%2003-03-10.doc
  - MCMS User Guide: https://onemdot/mdotsha/ooc/cid/MCMS%20Library/MCMS%20Manual/MCMSUserGuide.pdf
  - MMS Manual: Unabridged version: https://www.roads.maryland.gov/OMT/MMSGuideC.pdf
  - MMS Manual - Abridged for Construction: https://www.roads.maryland.gov/OMT/MMSGuideC.pdf
  - Construction Directives: https://onemdot/mdotsha/ooc/OOC_Forms_Docs/Forms/Directives.aspx
  - Construction Memorandums: https://onemdot/mdotsha/ooc/OOC_Forms_Docs/Forms/Memorandums.aspx
  - Book of Standards https://onemdot/mdotsha/ooc/Lists/Standards%20%20Specifications/DispForm.aspx?ID=1
  - Workplace Safety Guidelines: https://onemdot/mdotsha/ooc/OOC_Forms_Docs/07210.100.05.pdf#search=workplace%20safety%20guidelines
-
- FORMS (see hyperlinks)
  - OOC075 – Inspector's Daily Report (PDF): https://onemdot/mdotsha/ooc/OOC_Forms_Docs/OOC075.pdf
  - OOC075 – Inspector Daily Report (Excel): https://onemdot/mdotsha/ooc/OOC_Forms_Docs/OOC075E.xlsx?web=1
  - OOC038 – CUF Posting Chart: https://onemdot/mdotsha/ooc/OOC_Forms_Docs/OOC038.pdf
  - OOC039 - D/MBE Commercially Useful Function: https://onemdot/mdotsha/ooc/OOC_Forms_Docs/OOC039.pdf
  - OOC004 – Sketch Book Title Sheet: https://onemdot/mdotsha/ooc/OOC_Forms_Docs/OOC004.doc
  - OOC005 – Signature Sheet: https://onemdot/mdotsha/ooc/OOC_Forms_Docs/OOC005.doc
  - OOC006 – Summary of Final Quantities: https://onemdot/mdotsha/ooc/OOC_Forms_Docs/OOC006.dot
  - OMT085 – Portland Cement Concrete Test Results: https://onemdot/mdotsha/ooc/OOC_Forms_Docs/OMT085.docx

Meeting Documentation:

Always use a Sign-In-Sheet (sample page 18).
Progress Meeting Agenda (sample page 19)
Pre-Construction Agenda ((sample page 20-21)

Guide for Planning and Conducting Effective Meetings (use following hyperlink)
http://www.mdqi.org/images/stories/mdqi_documents/Partnering/partneringmeetingguiderevdec2011.pdf

OFFICE ENGINEER'S MANUAL

Meeting Sign-In Sheet

Meeting Subject: _____

Project Description: _____

Contract Number: _____Date of Meeting:_____

NAME (please print)	ORGANIZATION	PHONE NUMBER	EMAIL

OFFICE ENGINEER'S MANUAL

(S A M P L E) PROGRESS MEETING AGENDA

PROJECT: _____
DATE: _____

- ☐ Welcome
- ☐ Introductions (Name, Organization, Role on Project – use sign-in sheet) Project Overview/Description
- ☐ Safety Discussion
- ☐ Erosion and Sediment Control Materials
- ☐ Maintenance of Traffic Utilities
- ☐ General Contract Requirements
- ☐ Old Business / RFI Status / Unresolved Issues Current Project Issues
- ☐ Identify New Issues/Open Discussion
- ☐ Maintaining the Project Partnership- How are we doing as a Team? Assign Follow-up Items to an Individual (with a tentative response time) Next Meeting Date/Time/Place
- ☐ Closing

(S A M P L E) DETAILS FOR PRE-CONSTRUCTION MEETING

Equal Employment Opportunity

- ☐ Certified Payrolls
- ☐ Requirements on page
- ☐ Wage Rates on page
- ☐ Two-week due date or estimate may be withheld
- ☐ On-the-Job Trainee Program
- ☐ Number of trainees required
- ☐ A Manpower and Training Utilization (MTU) schedule must be submitted no later than the pre-construction meeting
- ☐ Affirmative Action Program % required___
- ☐ Copy available?
- ☐ MBE field meeting – PE to schedule
- ☐ Subcontractor approvals. No sub can work without prior approval.

Safety

- ☐ MOSHA regulations govern
- ☐ PE gives one warning of site hazard then calls MOSHA is not immediately corrected
- ☐ Night Work? Vehicle and site light requirements on IFB page ____
- ☐ Reference GP 7.05, 7.06

Right-of-Way

- ☐ Status of properties. Any new R.O.W.?
- ☐ Stay off private property unless written permission received.

Erosion and Sediment Control

- ☐ Sequence of operation submitted and approved?
- ☐ Jobsite meeting prior to work – PE to arrange.
- ☐ Contractor E&S Manager required, daily reports. Page____
- ☐ Quality Assurance ratings and penalties on page ____
- ☐ Any Stream/Permit restrictions?
- ☐ Reference GP

7.12 Materials

- ☐ Source of Supply approvals
- ☐ Material inspection
- ☐ No payment for materials unless from proper source and inspected.

Materials (cont.)

- Material Clearance
- Reference GP 6.01 thru 6.04
- Storage and handling: rebar, away from road, out of floodplain, mud.

Maintenance of Traffic

- Traffic control plan acceptance form
- Modifications to be submitted in writing
- Traffic control manager and emergency phone numbers to be submitted in writing prior to MOT work
- Lane closure restrictions, Page
- Holiday/weekend restrictions, Page
- Monthly letter required
- Night work restrictions
- Pre-traffic phase switch conference
- Reference GP 7.10

Utilities

- Utility companies that have representatives present should make their comments at this time.
- Notification of **MISS UTILITY (1-800-257-7777)**
- Test pitting to be requested by the contractor and approved by the PE.

General Contract Requirements

- Time Charge Specifications – how assessed.
- Insurance – No work until provided.
- Field Office – no deductible
- General liability
- Railroad – if needed
- General Specifications References:
- GP 4.05 – Site conditions
- GP 4.06 – Changes
- GP 5.14 – Claims – time frame for notification
- Progress Schedule – No work until approved
- Type A – CPM
- Type B – Bar Chart
- Submissions and shop drawings – Special provisions and Standard Specification TC 4.01 for directions.
- Extra work – must come from the district office
- Pre-pour, pre-pave, pre-erection meetings must be held by PE.

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MARYLAND STATE HIGHWAY ADMINISTRATION

OFFICE OF CONSTRUCTION

Record Submission Checklist

CONTRACT NUMBER FAP

PROJECT ENGINEER DATE SUBMITTED TO CF

☐ 1. Stop Time charges in MCMS. Open MCMS click Input>Contract Information>Time Charge tab>Last Charge Date. Fill in the date that time charges are to be stopped. Also make sure all other dates are correct in MCMS.

☐ 2 No Hanging Folders in boxes – Use manila folders for files and 3-ring press binders for IDR's, Logs, Ledger, and Item Summary Book. Secure tickets in envelopes, not in press binders. All tonnage tickets are signed with calculator tape. (Recycle binders for next project).

☐ 3. MCMS web backup has been completed. All three (3) flash drives in box.

☐ 4. All scanned and digital project documents (Word, Excel, pdf, txt, etc.) including pictures saved to flash drive. Label the media with Contract # and date of backup.

☐ 5 Invitation for Bids (IFB) COMPLETE with PRICES and SIGNATURES.

☐ 6 Approved Project Schedule and all updates.

☐ 7 **OOC04** Sketch Book - Completed Sketch Book Title Sheet. Verify dates.

☐ 8. **OOC05** Sketch Book - Inspector's Signature Page – must have all necessary signatures.

☐ 9. **OOC06** Sketch Book – Summary of All Final Quantities. Overruns/Underruns – Printed and placed in Sketch Book behind signature sheet with accurate explanations typed in MCMS. Set Dollar amount to $5000/25% Over and $5000/25% Under.

☐ 10. **OOC07** Sketch Book – Item Summary of Final Quantities. If you have an item, you need a sketch book sheet. All pages are to be signed by the Construction Project Engineer.

_____ 11. **OOC17** Item Ledger Sheet.

☐ 12. **OOC18** Final Inspection for Sign Structures.

☐ 13. **OOC26** Material Clearance – 30 Day Notice.
HMA Totals Sent to Lab? YES NO
Concrete Totals Sent to Lab? YES NO

☐ 14. **OOC54** Payroll Summary Report. Are there Payrolls disincentives to be applied?

☐ 15. **OOC61** E&SC Independent Quality Assurance.
_____ YES _____ NO _____ Not Required. LD's

☐ 16. **OOC75** Inspector's Daily Report.

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_____ 17. **OOC76** Daily Construction Log.

18. **OOC78** Monthly Summary of Time Charges. Printed, checked, corrected, if necessary, and signed

19. ADA Compliance Report received and in files. YES _____ NO _____ Not Required.

20. Contacted OOS Inspection Team upon bridge completion. _____ YES _____ NO _____ Not Required

21. Nutrient Management Plan. Completed, sent to OED-LOD. In files.
_____ YES _____ NO _____ Not Required.

22. **MDSPGP** Permit Compliance, Self Certification Form, has been signed by contractor and sent to appropriate address noted in IFB. A copy placed in the sketch book just behind the signature sheet.

23. **NPDES** National Pollutant Discharge Elimination System requirements have been met. Notice of termination has been submitted to OHD. A copy placed in the sketch book just behind the signature sheet.
_____ YES _____ NO _____ Not Required.

24. Notify Contract Finals of all material failures that require a Change Order for penalties and incentives.
YES NO _____ Not Required. HMA Concrete

25. Notify Contract Finals of any pending MOT Fines.
_____ YES _____ NO _____ Not Required. _____LD's _ Incentive Disincentive

26. Notify Contract Finals of any and all bonds and warranties. In files.
YES NO _____ Not Required. _____ Landscape _____ Thermoplastic _____ Other

27. **TWO** (2) Sets of As-Built (Green Line) Plans – Complete with addendums and Red Line revisions. In files.
YES NO _____ Not Required.

28. **THREE** (3) Sets of Storm Water Management As-Built Certifications submitted to Contract Finals.
YES NO Not Required.

29. PM-003 Data Collection Form to OMT for Pavement Items

Construction Project Engineer Signature Date

LEGIBLY PRINT NAME