

2018 CDOT Field Materials Manual Introduction

The purpose of this manual is to provide an official guide to CDOT Field Materials Technicians, whether the individuals are CDOT personnel or consultant, for the sampling and testing of materials on construction projects and the subsequent documentation. It is not the intent to publish a complete summary of all sampling and testing methods and procedures. Further applicable information may be found in either the referenced AASHTO or ASTM documents.

The testing frequency as shown in the Owner Acceptance (OA) Frequency Guide Schedule for Minimum Materials Sampling, Testing, and Inspection is considered to be the minimum necessary to have the degree of control desired. The Sampling and Testing Procedures have in many cases been modified to make them more applicable to Field testing conditions. Further unauthorized modifications should not be attempted. If a valid reason exists, a shortage of tests can be explained and the work accepted. However, improper test procedures cannot be explained nor accepted.

The testing frequency as shown in the Independent Assurance (IA) Frequency Guide Schedule for Evaluation of OA Sampling and Testing is to be established by the Region Materials Engineer.

It is not our intention to discourage efforts to find better or faster methods of testing. Many of the Colorado Procedures are the result of suggestions from field materials personnel. However, before using a procedure other than that listed, it must be approved by the Materials Advisory Committee (MAC) and the FHWA. In addition, the procedure used must be the same as that specified in the project specifications. If this rule is not followed, the acceptance or rejection action cannot be supported and may result in legal rulings against the Division in cases of litigation.

The Frequency Guide Schedule for Minimum Materials Sampling, Testing, and Inspection current at the time of contract advertisement shall apply during the full course of that particular project.

We realize the critical importance of materials and the associated personnel, whether they are Process Control (PC) from the contractor, Owner Acceptance (OA) from CDOT, or Independent Assurance (IA) to any construction project. It is our intent to create a Field Materials Manual (FMM) that always reflects the most current and best procedures, and is as user friendly as possible. Please take the time to review and read this publication, and provide us with the Colorado Procedure (CP) Comment Form or the FMM & CDOT Materials Forms Comment / Correction Form at any time.

It is critical to follow the *Documentation for SMM / LIMS – Project Materials to Final Materials* or the *Documentation for Design-Build Quality Assurance Program - Project Materials to Final Materials* which is applicable for the vast majority of CDOT projects.

Though the CDOT Field Materials Manual (FMM) has been available in both a published print format and on the CDOT web site; future FMM's may only be available electronically as CDOT is moving toward a paperless work environment. CDOT is also implementing electronic signatures to facilitate the timely transmission of documents and project closure. Any changes prior to the issuance of the 2019 FMM will be conveyed through a CDOT Materials Bulletin.



William Schiebel
CDOT Materials Engineer

- NOTE 1:** A centralized location for all CDOT Materials related documents and publications is at:
<http://www.codot.gov/business/designsupport/materials-and-geotechnical/>
- NOTE 2:** **Materials Advisory Committee (MAC) information:**
<http://intranet/business/committees/MAC>
- NOTE 3:** General correspondence (letters and envelopes), large packages, bulk mail samples of materials, and nuclear gauges should be addressed to or delivered to:
Attn: (Individual's Name), CDOT, 4670 North Holly Street, Unit A, Denver, CO 80216-6408
- NOTE 4:** If you have any questions concerning this manual please contact:
[Editor @ \(303\) 398-6566](mailto:Editor@3033986566).

2018 CDOT Field Materials Manual Dedication

Front Cover: The photos on the cover and the spine of the 2018 CDOT Field Materials Manual are from the Cimarron Project in Colorado Springs.

Special Thanks to: Jim Wickland for creating the front cover design. Leslie Kochis for rewriting the new chapter Documentation for SMM / LIMS Projects based on an additional year of actual implementation of the new processes. Jay Goldbaum for writing the new chapter Documentation for Design – Build Projections.

FMM Documents: A special thank you is extended to the members and participants of the MAC Meetings and the associated task forces who are constantly striving to improve testing methodology and CDOT specifications so that the roads in Colorado are progressively built better and are safer for the public.

Listed Revisions, Additions, and Deletions

Changes from the 2017 FMM: Changes of significance within a particular CP or chapter will contain a “- 18” at the end of the title to coincide with this FMM. Changes to specific text from the previous year will have a solid black side-bar in either the left or right applicable margin. The revised Sections &/or Subsections:

- QA Procedures Chapter: changes due to SiteManager® Materials and audit cycles to Biennial
- Documentation for SMM / LIMS: This is a significant revision to the 2017 FMM chapter based on the continued implementation of SiteManager® Materials project experience. It has moved to the primary Documentation position.
- Documentation for Design - Build QA Program: This chapter has moved to the secondary position. There were several changes within the Tables.
- Documentation – CDOT Maintenance or Local Agency: This chapter will be significantly revised for the 2019 FMM to emphasize documentation requirements for Local Agency projects and any CDOT project that is not a SMM / LIMS or Design Build.
- Special Notice to Contractors: Select textural clarifications, the addition of CDOT Maintenance as an APL category on page 10, revision of terminology and information presented on page 18.
- OA Schedule and IA Schedule: no black-bars in the margins due to space constraints
- CP 10: changes to 6.8, 6.12
- CP 11: name change of Part II, Sub-Part 2 to Epoxy Coaters of Reinforcing Steel
- CP 12B: addition of Section 11 & 12
- CP 12C: a new chapter
- CP 13: Subsection 4.2
- CP 15: text change to Section 1, 2, Subsection 3.8, 3.10, and the example
- CP 52: Subsection 2.1, 2.3, 3.2.1, 4.2 (1)C, Note 3
- CP 55: Subsection 7.3, 9.1, 9.2, 9.3, 11.4, 13.3
- CP 62: Subsection 2.3, 2.3.1, 2.4.1, 2.5, 2.6, 3.4
- CP 69: 8.4, 9.5.1, 9.5.2
- CP 76: Date on checklist.
- CP 77: Subsection 7.9, 11,7
- CP 78: Subsection 10.4, 10.6
- Chapters 200: Significant changed from page 1 to page 22.
- Chapter 300: Page 3, Chapter 400: page 16,
- Chapter 500: Item 503. Item 504, page 2.
- Chapter 600: Page 13, Chapter 700: page 1.
- Chapter 800: Page 8, Subsection 2.4 (pages 9-11)
- JSA: 1 test addition
- Inspections: Protocol for Round Robin Materials Testing: pages 9 & 10, also: Pages 12, 13, 14
- Appendix: Pages 2, 7, 37 (Instructions for Manually Developing the Field Sheet Numbers)
- Appendix: Appendix C (Statewide Roster) always has changes

2018 Field Materials Manual (FMM) Colorado Procedure (CP) Comment Form

Mail or Fax to: Colorado Department of Transportation
Materials & Geotechnical Branch
Documentation Unit
4670 North Holly Street, Unit A
Denver, Colorado 80216-6408
FAX: (303) 398-6504

Name _____ Phone No. (_____) _____ Date _____
Company or CDOT Office _____

CP No. _____ **Section No.** _____

Comments : _____

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Thank you for your help in making the CDOT Field Materials Manual a better publication by notifying us of errors or points of confusion that require clarity.

