

**MARYLAND STATE HIGHWAY ADMINISTRATION  
OFFICE OF MATERIALS TECHNOLOGY**

**QUALITY ASSURANCE PROGRAM**

**A. OVERVIEW**

The Maryland State Highway Administration (MD SHA) has developed a Quality Assurance Program that assures the materials and workmanship incorporated into each Federal-aid highway construction project on the National Highway System are in conformity with the requirements of the approved plans and specifications, including approved changes.

The MD SHA Quality Assurance Program (QAP) outlines policies, procedures, and guidelines to cover six core elements: Acceptance Program, Material Certification Program, Technician Certification Program, Independent Assurance Program, Laboratory Qualification Program, and Dispute Resolution, as required by the Code of Federal Regulation (CFR), 23 CFR 637 — *Construction Inspection and Approval Subpart B—Quality Assurance Procedures for Construction*. MD SHA maintains qualified staff to administer its QAP.

**B. PURPOSE**

The purpose of this document is to confirm SHA Quality Assurance Program, managed by the Office of Materials Technology (OMT), has all the core elements of the Quality Assurance Regulation, 23 CFR 637 and describe how SHA is compliant with the requirements of 23 CFR 637 .

**C. POLICY, PROCEDURES AND PROCEDURES**

**1. ACCEPTANCE PROGRAM**

The Material Quality Assurance Process Manual is published online at a centralized location for tasks, QA acceptance procedures and frequencies for the evaluation of material quality. The Material Quality Assurance Process Manual does not supersede any official specification but is intended to summarize the Quality Assurance (QA) processes by material category. The Material Quality Assurance Process Manual is available online at: <https://www.roads.maryland.gov/mdotsha/pages/Index.aspx?PageId=284>

**2. MATERIALS CERTIFICATION PROGRAM**

MD SHA has a materials certification program that is managed, in part, through implementation of a single electronic Materials Management System (MMS). The MMS is a tool for project personnel, contractors, and producers of materials to coordinate materials information and the materials quality process throughout the construction project life cycle. The benefits of the MMS include identification and review of sources and materials used on projects, promotion of information sharing and knowledge transfer among key SHA stakeholders, notification and tracking of potential material discrepancies and timely resolution, and material certification reporting.

OMT prepares and submits material certifications to the FHWA MD Division Administrator for each construction project which is subject to FHWA construction oversight activities. The MMS user login page is available online at: <https://materials.sha.maryland.gov/>. An MMS User's guide has been prepared and is made available to MMS users.

**3. TECHNICIAN CERTIFICATION PROGRAM**

The Mid-Atlantic Region Technician Certification Program (MARTCP) has been developed for technicians performing Quality Control/Quality Assurance (QC/QA) testing on SHA projects in various material disciplines. Brochures, guidance, and policy documents that have been developed to provide information related to MARTCP, such as course descriptions, certification renewals, application links, fees and contacts can be accessed at the link provided below. In addition, MARTCP training

materials/manuals and training schedules are made available online through the link.  
<https://www.roads.maryland.gov/mdotsha/pages/Index.aspx?PageId=53>.

#### **4. INDEPENDENT ASSURANCE PROGRAM**

MD SHA has an Independent Assurance (IA) Program that evaluates the qualified sampling and testing personnel, and the testing equipment. Independent assurance samples and tests or other procedures are performed by qualified sampling and testing personnel employed by MD SHA. The program covers sampling procedures, testing procedures, and testing equipment. The IA program has a schedule of frequency for IA evaluation based on a system basis. Testing Technicians, requiring evaluation, are evaluated a minimum of once year, with the goal of the technician having obtained 3 satisfactory Independent Assurance Audits in the required 5-year period. Included in the evaluations are technicians in production plants performing quality control tests that are used in acceptance decisions. Since MD SHA uses the system approach to the IA Program, the Agency provides an Annual Report to the FHWA Maryland Division Office summarizing the results of Maryland's IA Program.

#### **5. LABORATORY CERTIFICATION PROGRAM**

MD SHA maintains a centralized material testing laboratory. MD SHA requires contractor, vendor and the SHA centralized laboratory providing construction material testing services used in the acceptance decision on MD SHA projects to be a qualified/accredited laboratory that is compliant with the American Association of State Highway and Transportation Officials (AASHTO) R-18 *Standard Recommended Practices for Establishing and Implementing a Quality Management System for Construction Materials Testing Laboratories*. All laboratories performing construction materials testing for MD SHA must meet the laboratories' management requirements and technical requirements set forth in AASHTO R-18. The contractor or vendor laboratory shall be approved by OMT prior to the performance of any testing related to MD SHA projects.

MD SHA also reserves the right to perform random audits and visit the laboratory facility of the Contractor or Sub-Contractor to conduct an audit of the testing completed. The Contractor shall ensure that the AASHTO records as well as the individual assignment records are available for review at the time of such audits.

#### **6. DISPUTE RESOLUTION**

Since the results of quality control sampling and testing may be used in the acceptance program, MD SHA has a procedure to resolve disputes resulting from discrepancies between the results of verification sampling and testing by OMT and the quality control sampling and testing performed by the Producer. The process begins with a verification of the written dispute provided by the Producer or Project Engineer. Once verified, a series of verification testing is performed on split samples to determine any sampling/testing errors. If the verification tests do not resolve the dispute, then OMT and the Producer will each employ an AASHTO accredited third-party laboratory to perform testing using splits of the original sample. The detailed process can be found in the *SHA Standard Specification for Construction and Materials, section 915.02.03 Dispute Resolution*.

<https://www.roads.maryland.gov/ohd2/2023%20Standard%20Specifications%20for%20Construction%20and%20Materials.pdf#page=914>

#### **D. SUMMARY**

MD SHA maintains qualified staff to administer its Quality Assurance Program, which is designed to meet the requirements of 23 CFR 637.