

SECTION 01400**QUALITY CONTROL TESTING****PART 1 GENERAL****1.01 SUMMARY**

- A. This Section includes controlling the quality of work including work of Subcontractors and suppliers and for assuring that the specified quality is achieved. Develop and maintain a quality control program which is responsive to the requirements of this specification section and which includes implementing procedures necessary to assure compliance with the requirements of the Contract.
- B. This Section also includes furnishing testing services for materials and equipment by independent testing companies and independent testing laboratories as specified herein and in other sections of Contract Documents.

1.02 RELATED SECTIONS

- A. Section 01200 – Coordination and Meetings
- B. Section 01300 – Submittals
- C. Section 02200 – Earthwork
- D. Section 03302 – Miscellaneous Cast-in-Place Concrete

1.03 CODES AND STANDARDS (NOT USED)**1.04 SUBMITTALS**

- A. Submit the following in accordance with Section 01300 – Submittals:
 - 1. Quality Control (“QC”) Program:
 - a. Submit an outline of the Quality Control Program within 20 working days after receipt of Notice to Proceed.
 - b. The Quality Control Program and those implementing procedures for the balance of work activities shall be submitted to the Authority for approval prior to commencement of the Work but no later than 60 days following receipt of Notice to Proceed, whichever occurs first.
 - 2. Qualifications of the QC Manager.
 - 3. Qualifications of testing companies and laboratories, and schedule for testing, prior

to starting testing services.

4. Electronic copies of written reports of tests and engineering data of materials and equipment proposed to be used in the Work within two (2) working days of each test performed.
5. Two (2) copies of a written report within two (2) working days of each test performed by laboratory personnel in field or in laboratory.

1.05 QUALITY ASSURANCE

A. Quality Control Program

1. The Quality Control Program shall explain the approach to on-site quality control, off-site quality control, the quality control organization, documentation of quality control activities, and provide all other information necessary to demonstrate to the Authority that quality control services will be provided that ensure compliance of the Work with the Contract Documents.
2. Identify the individuals responsible for the execution of the program and identify Subcontractors/Suppliers working to the Quality Control Program and those working to their own Quality Control Program.
3. The Quality Control Program shall apply to the control of quality throughout all areas of contract performance including the procurement, identification, stocking and issue of material; the entire process of construction; and the installation and testing of equipment.
4. Administration and management of the Quality Control Program shall be performed by a qualified on-site QC Manager acceptable to the Authority.
 - a. The QC Manager's duty is to manage and administer the Quality Control Program. The QC Manager shall be assigned for the duration of the Contract and any change is subject to Authority approval.
 - b. The QC Manager shall have authority to ensure that quality requirements are consistently maintained. The QC Manager shall:
 - i. Develop the Quality Control Program
 - ii. Review test results for compliance with specified standards
 - iii. Prepare inspection checklists
 - iv. Observe quality of work identified in the Quality Control Program

- v. Inspect stored materials
 - vi. Observe all site testing procedures
 - vii. Attend progress meetings of Section 01200 – Coordination and Meetings
- c. Written quality control inspection and test procedures shall be used for all operations. These procedures shall contain instructions for performing the required inspection or test, contain the accept/reject criteria for each inspection or test activity (i.e. applicable drawing, specification section, industry code or standard), shall establish the frequency for performing the inspection or test, and shall provide for recording the results of inspections and tests on checklists acceptable to the Authority. These procedures shall be kept current and shall be available at all locations where inspections and tests are to be performed. Payment will not be processed for an item of work until these procedures are submitted to and accepted by the Authority.

1.06 QUALIFICATIONS

- A. QC Manager shall have at least five (5) years of experience in quality control management and inspection on construction projects of similar complexity.
- B. Independent testing companies shall have been in business of providing quality control testing services of similar scope and complexity as the quality control services to be provided under this contract for the last five (5) consecutive years.
- C. Independent testing laboratories, with current certification from the Commonwealth of Massachusetts, shall perform all tests that require services of a laboratory to determine compliance with Contract Documents.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Furnish sample materials, personnel and facilities for testing activities.

1.08 PROJECT/SITE CONDITIONS (NOT USED)

1.09 DEFINITIONS (NOT USED)

1.10 TOLERANCE (NOT USED)

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION**3.01 APPLICATION****A. General**

1. Furnish independent companies to perform testing services of materials and equipment proposed to be used in Work and quality control tests made in the field, including:
 - a. Concrete materials and mix designs
 - b. Asphalt mixtures and mix designs
 - c. Gradation tests for embedment and backfill materials
 - d. Concrete in place
 - e. Asphalt in place
 - f. Moisture-density (Proctor) and relative density tests on:
 - i. Embedments
 - ii. Fills
 - iii. Backfill materials
 - g. In-place field density tests on:
 - i. Embedments
 - ii. Fills
 - h. Field welded joints
 - i. Insulating joints and test stations
 - j. All other tests and engineering data specified for the Authority's review of materials and equipment proposed to be used in the Work.
2. Notify the Authority 48 hours prior to inspections and laboratory testing services, so that the Authority may witness testing. All failed test areas shall be reworked and retested, by the Contractor, until passing results are obtained at no additional cost to the Authority.

B. Testing Services Furnished by the Authority:

1. The Authority reserves the right to hire its own testing laboratories for quality control tests made in field or laboratory on materials and equipment during and after their incorporation in the Work.

**** END OF SECTION ****