



# Quality Assurance/Quality Control Manual For Contract Work



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## **1. INTRODUCTION**

This manual is written as a guide for General Contractors submitting a Quality Assurance/Quality Control (QA/QC) Program to the New Jersey Schools Development Authority (NJSDA). This Manual establishes the requirements of an acceptable QA/QC Program to be utilized for work performed under the direction of the NJSDA. The manual provides guidance to the NJSDA's Program Operations Team to ensure that Contractors produce a quality product.

An acceptable QA/QC Program must include the necessary supervision, control and testing to ensure the delivery of a project that meets all the contract requirements while producing a quality product. The information and guidance within this Manual applies to all NJSDA-managed construction projects and their phases, including Capital, Emergent, Environmental, Demolition, site work and remediation, when a QA/QC Program is contractually required. This manual also guides NJSDA review of submitted QA/QC Programs by contractors to ensure adherence to contract specifications. Attached for reference is a Checklist entitled "Accepting the Contractors QA/QC Plan Checklist" to be used as a guide in accepting the QA/QC Plan.

## **2. Reference Documents**

Contractors are referred to the "Quality Assurance/Quality Control" section of the relevant contract. That section provides as follows:

Quality Assurance/Quality Control-

"The Contractor shall have full responsibility for quality assurance and quality control through Final Completion of the Project. The Contractor shall prepare and submit to the Authority a detailed QA/QC Program at or prior to the Preconstruction Conference. The Authority or its designee shall review the Contractor's QA/QC Program and the Authority will either accept or reject the Contractor's QA/QC Program within (15) days of receipt. If the Authority rejects the Contractor's QA/QC Program the Contractor shall revise and resubmit the QA/QC Program to the Authority until it is accepted. Once the QA/QC Program is accepted, the Authority shall monitor the Contractor's compliance with the Program to ensure that the Work meets or exceeds the accepted QA/QC Program. As part of the Contractors QA/QC Program, the Contractor shall designate one (1) full-time employee whose responsibility it is to maintain and monitor the Contractor's compliance with its accepted QA/QC Program. If the Contractor's Work fails to meet the accepted QA/QC Program, the Authority will implement a course of action to address the Contractor's failure to comply with its QA/QC Program. The Authority's actions to verify the Contractor's compliance with its QA/QC Program shall not relieve the Contractor of its obligation to establish a QA/QC Program, comply with the QA/QC Program or meet the requirements of the Contract Documents. The Contractor's failure to comply with the requirements of this Section 4.5 shall be deemed an Event of Default under this Agreement. Such Event of Default may trigger Default remedies as stated in Section 11."

### 3. General Purpose of the QA/QC Plan and Program

Through the use of a QA/QC Program, the General or Prime Contractor strives to obtain a uniform, high quality level of workmanship throughout all phases of procurement, fabrication, construction and installation of equipment and facilities. To assure this end, the contractor shall employ the following principles in all work and services performed for the NJSDA:

- a. Assure the highest quality by maintaining supervised controls and written instructions governing quality control procedures and practices, and establish clearly defined responsibility and authority for compliance.
- b. Conform to all contractual requirements, specifications and applicable standards, including the General Contractor's submitted QA/QC Program and NJSDA's approval thereof. These requirements, specifications and standards include the compilation of accurate records, test certifications and other required documentation as required by the specifications and contract.
- c. Notify the NJSDA and/or its designee of quality deficiencies to immediately document the known deficiency and, when possible, immediately take corrective action to remedy the cause or condition. In cases where immediate corrective action is not possible, the contractor shall take corrective action in an appropriate timely fashion.

### 4. QA/QC Program Staffing and Organization

- 4.1 Organization - An effective QA/QC Program shall use levels of authority to implement and assure adherence to contract and specification requirements and criteria.

The NJSDA requires that the Contractor provide a Quality Control Manager (QCM). QCM must be physically present on the project site for the duration of the contract work. The QCM shall ensure that all work is compliant with the QA/QC Plan.

**Note: Where a conflict exists between the QA/QC Plan and the contract requirements, the contract requirements shall always prevail.**

At a minimum, an approved contractor QA/QC Plan provides for the following roles and responsibilities to ensure QA/QC adherence:

- 4.2 Specifically, the QCM:

- Formulates and implements the written procedures and instructions contained in the contractor's QA/QC Plan.

- Consults with project supervisory personnel to assure compliance with the quality control requirements of the contract.
- Coordinates the quality control efforts of subcontractors and suppliers to correspond with the overall QA/QC Plan.
- Provides direct feedback and advises the NJSDA or their representative, regarding the effectiveness and capability of the quality control organization, including, but not limited to, coordination, field engineering, office engineering, and accounting for NJSDA furnished property and/or equipment required for the completion of the project.
- Reviews submittals and coordinates approvals for contractor-furnished materials and equipment, conducts tests, and reviews subcontractor's work as required ensuring compliance with contract plans and specifications.
- The QCM has the Authority to require correction of non-compliant work that is either in progress or has been completed. The QCM shall inform the NJSDA of any such action(s) taken.

4.3 Contractor's Other Personnel – The QCM may utilize additional resources to achieve quality objectives. The accepted QA/QC Plan shall identify any person, trade personnel or testing firm that will assist the QCM for an identified scope of work. However, the NJSDA requirement for one (1) full-time, dedicated QCM employed by the Contractor remains in effect at all times.

The contractor employees must also be physically present on the job site for the duration of the contract during the QA/QC Plan they are designated to monitor. Other contractor's personnel shall assure specific Quality control functions in other areas, as required, to fully implement the QA/QC Plan.

## **5. Definable Features of Construction Work**

A definable feature of construction work is a task that is separate and distinct from other tasks, has separate control requirements, may be identified in its performance by different trades or disciplines, or may be the work of duplicate trades in different environments. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently multiple definable features under a particular specification section. The accepted QA/QC Plan will list the definable features of work specified in the contract and identify the person who is responsible for monitoring of the identified feature of work as it relates to quality.

## 6. Content of the QA/QC Plan

To address all construction operations, both onsite and offsite, including work by subcontractors, fabricators, suppliers and purchasing agents, the QA/QC Plan shall include, at minimum, the following:

- a. A description of the quality control organization, including a chart illustrating lines of authority for all aspects of work required for completion of the project. The quality control organization shall also include an acknowledgment that the QCM staff implements a Quality Control System which is discussed in detail in paragraph 7. Quality Control staff shall include a QCM who performs duties in tandem with those of the Project Superintendent and with direct reporting responsibility to an officer of the Contractor and/or an individual not directly responsible for production.
- b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a QCM function.
- c. A copy of the letter to the QCM signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the QCM, including authority to require correction of non-compliant work that is either in progress or has been completed. The QCM shall inform the NJSDA of any such action(s) taken. The QCM issues letters of direction to all other quality control representatives outlining duties, authorities and responsibilities.
- d. Procedures for scheduling, reviewing, certifying and managing submittals, including those of subcontractors, offsite fabricators, suppliers and purchasing agents.
- e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test (NOTE: All laboratory facilities must be approved by the NJSDA).
- f. Procedures for tracking preparatory, initial and follow-up control phases and control verification, and acceptance tests, including documentation.
- g. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures establish verification that identified deficiencies have been corrected.
- h. Reporting procedures, including proposed reporting formats for Primavera Contract Manager (PCM).

**Note:** All documentation for the QA/QC Plan, including all communications required by the QA/QC Plan, shall be provided in a form acceptable to the NJSDA.

## 7. Control of Onsite Construction

To ensure conformance to all applicable specifications and drawings with respect to the materials, workmanship, construction, finish, functional performance and identification, the QCM performs sufficient control phases and tests of all work, including that of subcontractors.

The QCM performs at least three phases of control for each definable feature of work, as follows:

1. Preparatory Inspection
2. Initial Inspection
3. Follow-up, Final or Mandatory Inspection Points (MIPs)

Before commencement of any new phase of work, the QCM informs, in advance, all parties concerned and makes arrangements for the Preparatory Inspection meeting with the NJSDA staff at the project site. The Preparatory meeting is scheduled on a specific date and time to discuss and establish the following:

- a. Methods, techniques and standards of workmanship to ensure that they are in compliance with the contract requirements, including the contract specifications and plans.
- b. Method of installation of individual items and any suggestions for modifications.
- c. Required testing before and after the installation of work in the presence of all required parties.
- d. Start date of discussed work, and include a list of all that attend the Preparatory Meeting.
- e. Any foreseeable challenges that may result and how to address them accordingly.
- f. Submission and approval of drawings and materials.
- g. Provision for the storage of materials and equipment to prevent damage from the elements and construction operations.
- h. Provisions for future inspections, including MIPs.
- i. Provide required documentation in the Daily Quality Control Report (DQCR) and include the following:
  - (1) A review of each paragraph of applicable specifications.
  - (2) A review of the contract drawings.

- (3) An inspection to assure that all materials and/or equipment that have been tested were submitted and approved.
- (4) Review of requirements that have been made to provide required control inspection and testing.
- (5) Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.
- (6) A physical examination of required materials, equipment and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.
- (7) A review of the appropriate activity hazard analysis to assure safety requirements are met.
- (8) Discussion of procedures for controlling quality of the work which include construction tolerances and workmanship standards for that feature of work.
- (9) An inspection to ensure that the portion of the plan for the work to be performed has been accepted by the Authority, DCA or any other local regulatory authority.
- (10) Discussion of the initial control phase, inspection or MIPs.
- (11) Instruction to applicable workers as it relates the acceptable level of workmanship required to meet contract specifications as discussed in paragraph (8).

7.1 Initial Inspection - An initial inspection is conducted after the first portion of a particular definable feature of work has been completed. The QCM documents in the DQCR that the Initial Inspection has been conducted for the specific feature of work to include all initial inspection findings. The conditions and findings to be documented shall include:

- a. The date, time and weather of the initial inspection.
- b. The particular phase of work and its location.
- c. The names of personnel who participated in and/or were present for the initial inspection.
- d. The checks, tests and measurements performed to ensure that the quality, tolerances and workmanship are in compliance with the contract requirements.
- e. Any remarks that may impact the definable feature's future quality.

- f. MIPS.
- g. An evaluation of work performed to ensure that it is in full compliance with contract requirements. Review of the minutes from the preparatory meeting. Include the possible need for any required or additional MIPS and/or the results or findings of the inspected MIPS.
- h. Verify adequacy of controls to ensure full contract compliance. Verify that required control inspection and testing equipment is calibrated and certified, if required.
- i. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as appropriate.
- j. Resolve all differences.
- k. Verify workers are performing safely. Include compliance with the safety plan and activity hazard analysis.
- l. The initial phase is repeated after each new crew works onsite, or any time acceptable specified quality standards are not being met.

7.2 Follow-up Inspections - Follow-up inspections, MIPS or daily checks are conducted to assure that control activities, including control testing, are providing continued compliance with contract requirements, until the definable feature of work is complete. These follow-up inspections ensure that the Contractor is not building upon nor concealing non-conforming work. Follow-up inspections are conducted as often as necessary to ensure that the construction is in accordance with the contract requirements. The DQCRs document the results of follow-up testing, inspections and corrective actions taken (if any) for a particular feature of work.

An example of a follow-up inspection is provided below:

“At 0830 hours on 12-14-2012, All Surface Inc. continued with the installation of VCT in Room 120 of Hallway C. At 0945 hours on 12-14-12, a follow-up inspection by the GC’s QCM found that All Surface Inc. had failed to use the correct Vinyl Tile color that was shown on Contract drawing A-12. The tile color submitted and approved was Armstrong Burnt Orange (ref. #1234) however, for Room 120; the workers were using the Armstrong Blue Bonnet (ref. #1235) that was used in Rooms 110 thru 119 per drawing A-12. The inspection revealed that the correct mastic was in use and since the mastic was still fresh the wrong color tiles were removed and the correct color tiles were installed with additional mastic as required. An area of 30’ x 30’ was eventually corrected. A follow-up inspection for proper adherence of the tile to the substrate has been schedule with Armstrong’s field rep. for this Thursday 12-16-12. Please note all environmental and surface preparation conditions remain

satisfactory for VCT installation with the buildings temperature at 72 F and heating system running properly for the duration of the install and cure period.”

7.3 Testing Procedures - The Contractor performs specified or required tests to verify that control measures are adequate to provide a product that conforms to contract requirements. Upon request, the Contractor furnishes to the NJSDA duplicate samples of test specimens for possible testing by the other authorities not limited to the NJSDA, DCA, County, City or municipality. Test specimens include, but are not limited to, operation and/or acceptance tests when specified. The Contractor procures the services of an Engineer-approved testing laboratory or establishes an approved testing laboratory at the project site.

The Contractor performs the following activities, and records and provides the following data:

- a. Verify that testing procedures comply with contract requirements.
- b. Verify that appropriate facilities and testing equipment are available and comply with testing standards.
- c. Check test instrument calibration data against certified standards.
- d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.
- e. Results of all tests taken, both passing and failing tests, are recorded on the DQCR for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test be given. If there is a specification requirement that must be approved by an Engineer, actual test reports may be submitted later with a reference to the test number and date taken. Any information of tests performed by an offsite or commercial test facility is documented in the DQCR. Results of these types of tests are documented as received by the QCM in the DQCR. A separate log is maintained by the QCM for these types of tests. An example of activities that would be referenced in this log would be soil compaction test, concrete break tests and asphalt density test(s).

Failure to submit timely test reports as stated above (and elsewhere) may result in nonpayment for related work performed and disapproval of the test facility for this contract.

7.4 Testing Laboratories - Testing laboratories under consideration for use are submitted to the NJSDA or their designee for approval prior to performing any onsite or offsite testing.

7.5 Furnishing or Transportation of Samples for Testing - The Contractor incurs all costs incidental to the transportation of samples or materials. Samples of materials for test

verification and acceptance testing by the NJSDA/DCA are to be delivered to an NJSDA-approved laboratory. Coordination for each specific test, exact delivery location and dates are conducted with the coordination of the NJSDA or their designee.

7.6 Completion Inspection - At the completion of all work or any increment thereof, the QCM conducts an inspection of the work and develops a "punch list" of items that do not conform to the approved drawings and specifications. Such lists of deficiencies are to be included in the DQCR documentation, as required, and include the estimated date by which the deficiencies shall be corrected. The QCM or staff conducts a second inspection to ascertain that all deficiencies have been corrected. Once these deficiencies have been remedied, the Contractor notifies the NJSDA or the appropriate authority that the project is ready for "Pre-Final" inspection.

7.7 Pre-Final Inspections - The QCM conducts a Pre-Final Inspection to verify that the project is complete and ready for use. The Contractor's QCM ensures that all items identified as needing completion or corrections have been addressed before requesting a final inspection. Any items noted on the Pre-Final Inspection are to be corrected in a timely manner. These inspections and any deficiency corrections required are to be completed within the time slated for completion of the entire work or any particular increment thereof. Should the project be divided into phases or increments, the inspections are to be completed on separate completion dates.

## **8. Final Acceptance Inspection**

The Contractor's QCM and designated personnel, in addition to the superintendent or other primary NJSDA/DCA or other management persons, the Design Consultant, Construction Manager and the District's Representative, attend the final acceptance inspection. Additional County/City personnel may also attend. Upon completion of the results from the Pre-Final inspection, the QCM schedules the final acceptance inspection. Notice is to be given to all participants at least 14 days before the final acceptance inspection and includes the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the contract, is complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection shall be cause to bill the Contractor for any additional inspection cost.

## **9. Documentation**

The Contractor shall maintain current records providing factual evidence that required quality control activities and/or tests have been performed. These records are to include the work of subcontractors and suppliers and to be on an acceptable form that includes, at a minimum, the following information:

- a. Contractor/subcontractor and their area of responsibility.

- b. Operating plant/equipment with hours worked, idle or down for repair.
- c. Work performed each day, its location and description, and by whom.
- d. Test and/or control activities performed with results and references to specifications/drawings requirements. The testing or control phase is to be identified (Preparatory, Initial and Follow-up). List deficiencies noted along with corrective action.
- e. Quantity of materials received at the site with statement as to acceptability, storage and reference to specifications/drawings requirements.
- f. Submittals reviewed, with contract reference, by whom and action taken.
- g. Offsite surveillance activities, including actions taken.
- h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.
- i. Instructions given or received, and conflicts in plans and/or specifications if applicable.
- j. Contractor's verification statement.

These records are to indicate a description of trades working on the project, the number of personnel working, weather conditions encountered and any delays encountered. These records are to cover both conforming and deficient features and to include a statement that equipment and materials incorporated in the work and workmanship comply with the contract (Verification statement). The original and one copy of these records, in report form, are to be furnished to the NJSDA daily within 24 hours after the date(s) covered by the report, except that reports need not be submitted for days on which no work is performed. At a minimum, one report is to be prepared and submitted for every 7 days of no work and on the last day of a no-work period. All calendar days are to be accounted for throughout the life of the contract. The first report following a day of no work shall be for that day only. Reports are to be signed and dated by the QCM. The report from the QCM is to include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

9.1 Notification of Non-compliance - The QCM is to notify the NJSDA of any detected non-compliance with the foregoing requirements. The Contractor is to take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, is to be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the NJSDA may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop-work orders shall be the subject of claim for extension of time or for excess costs or damages by the Contractor.

- 9.2 Drawing and Document Control - Contract drawings, work orders and change orders issued for construction will also be issued to the QCM. It is the responsibility of the QCM to maintain this technical information and keep it current and recorded as it is revised. No technical information is to be replaced or revised without receipt of a properly authorized change notice or, revision of the contract of any type, approved by the NJSDA or its designee.
- 9.3 Materials Certification - Copies of all certifications received will be maintained in the Quality Control folder and will be available to the NJSDA or its designee upon request or submitted as provided in the contract specifications.
- 9.4 Workmanship Inspection - Items which will be embedded in the concrete placements or areas which will be covered up by a following operation is to be inspected by the QCM. The QCM is to verify by signature that all items installed are in accordance with the contract drawings and specifications prior to the placement of concrete or covering. Any corrective action required is to be recorded.
- 9.5 Calibration of Equipment - All contractor-furnished measuring and test equipment is to be calibrated and maintained to traceable applicable standards. Records of these calibration certifications are to be maintained by the QCM and made available to the NJSDA or its designee upon request.
- a. Each instrument/equipment will be plainly and permanently numbered, and the equipment will be operated only by those persons directly responsible for the equipment or personnel under their cognizance.
  - b. Each piece of equipment is to be checked for accuracy as recommended by the manufacturer for frequency of calibration. A certified laboratory will conduct required testing and calibration of the equipment.
  - c. Measuring and test equipment dropped, damaged or believed to be inaccurate will be removed from service and re-calibrated.
- 9.6 Final Inspection and Test - Before final inspection or start of tests, all systems being inspected or tested are to be completed and accepted by the QCM. Upon QCM acceptance, the final inspection and test may proceed in accordance with the following steps:
- a. Verify that the test personnel have a working knowledge of the special characteristics of the instruments/equipment being used.
  - b. Note the inspection or test requirements and criteria for successful completion of the required inspection or test.

- c. Upon satisfactory verification of these requirements, the test may proceed. Each test or inspection reading is to be verified and documented by the QCM or his designee.
- d. The general requirement of final acceptance will include, but not be limited to, the following:
  - (1) General appearance
  - (2) Workmanship
  - (3) Cleanliness of areas and equipment
  - (4) Identification of equipment
  - (5) Painting and final finishes
  - (6) Removal of unused material and temporary facilities
  - (7) Condition of job files and completion of paperwork
  - (8) Final Acceptance by the District

9.7 Revision Policy - Activities, programs and procedures that are not covered in the QA/QC Plan, or proposals or additions to these standards set forth therein shall be discussed at a meeting held for that purpose at such time and place the QCM may elect. The QCM is to contact all parties involved, general contract representatives, vendors and/or any other stakeholder required. The QCM requests from the NJSDA, as the incorporation of any revisions that may be deemed necessary to comply with the QA/QC Plan. A record is to be kept of any such meetings together with the subject matter reviewed and will list all parties present. The QCM is to schedule any meetings to discuss any changes in the contract specifications where revisions, additions or deletions may be required. Accepted revisions to the contract documents or the QA/QC Plan are to be incorporated into the plan as a first revision, second revision or as agreed to by the GC and the NJSDA. An index page is to be updated to include all revisions to any record or document.

Once the QCM transmits the draft QA/QC Plan document to NJSDA for review and approval prior to, or at the pre-construction conference, NJSDA Program Operations PO must review document. The draft Manual shall include, at minimum, the procedures required for recording and documenting any receipt of goods and/or materials or equipment to be used for the construction of the schools facility project, testing of any goods and/or material, calibration and testing of any equipment as well as workmanship of each construction phase as outlined in the plans, specifications and contract documents.

NJSDA PO will review the contractor submitted QA/QC Plan against the "Contractor's QA/QC Plan Checklist" copy attached below. Each line shall be checked with a "Yes" or "No" answer acknowledging that the QCM has reviewed and confirmed the following:

- 1. The QA/QC Plan is to be submitted prior to or at the pre-construction conference. Indicate/confirm that it has been received.

2. The QCM for the proposed contract is clearly identified in the Plan. If there are going to be additional Quality Control responsibilities and functions that are delegated to other employees of the Contractor for specific fields or disciplines, they must be identified in the QA/QC Plan. These additional designated employees are to be considered quality control representatives. All QCM's or representatives must be clearly identified in the QA/QC Plan.
3. The Plan must indicate that the QCM has the full authority to stop any phases of work that are identified as non-conforming throughout the project life cycle.
4. The QA/QC Plan must indicate that any failure to implement any portion of the Plan must be documented by the QCM or other quality control representatives and will be deemed as a non-conformance of the contract documents, plans and/or specification.
5. The QA/QC Plan must reflect the NJSDA's Mission and Visions Statement and an acknowledgement to adhere to this policy.
6. The PO is to review and confirm that levels of authority of the QCM and quality control representatives are identified in a fashion to assure compliance with contract specifications and requirements.
7. The QA/QC Plan must be created to coincide with the contract documents. There must be a statement in the Plan that if there is any deviation from the contract documents that the contract documents shall prevail and the Plan will be revised accordingly.
8. The QCM previously identified must be a full time employee of the contractor dedicated to the project and must be on site through-out the life cycle of the project. Any quality control representatives identified must be on site the entire time that the discipline they are responsible for over-seeing until complete. There must be a statement in the QA/QC Plan indicating that those individuals referenced herein will be on site throughout their portion (or the entire project) at all times.
9. Review the QA/QC Plan to determine that the contractor has submitted a list of "definable work" as defined above.
10. The QA/QC Plan must list and identify any personnel who are to be responsible for monitoring any work completed on the project.
11. The QA/QC Plan must list and identify any personnel who will be responsible for monitoring and completed any inspections as required by the contract documents.

12. The contractor must identify in the QA/QC Plan the process and controls associated with maintaining documentation and records, including, but not limited to, the DQCR, inspection reports or any other documentation required by contract documents.
13. In the event of non-compliance work or identifiable materials or testing, the QA/QC Plan must outline the procedure for handling and documenting such non-compliance.
14. The PO must determine if the Contractor identified the means and methods for drawing and document control (such as controlled logs).
15. The PO needs to review the QA/QC Plan and determine if the Contractor properly identified the means and methods for materials certification (Tracking Mechanism).
16. The PO is to review and confirm that the contractor has properly identified the process and procedure for completing workmanship inspections and the reporting documentation relating thereto (Inspection Logs).
17. The PO is to review the QA/QC Plan to determine that the Contractor has properly identified and outlined the process for the calibration of equipment (Inspection Schedule).
18. The PO is to review the QA/QC Plan for confirmation that the Contractor has properly identified the process and procedure for tests required for the final inspection as well as the process and procedure for completing the final inspection.

The PO will use the checklist to confirm that they have reviewed the QA/QC Plan. Once approved, the QA/QC Plan is to be uploaded into Primavera Contract Manager. A copy of the fully completed checklist is to be attached to the document.

## **10. Recording Forms**

The Contractor's quality control personnel will perform all tests as indicated in the contract specifications using the appropriate American Society for Testing and Materials (ASTM), or other approved test methods. The following list reflects some of the reports that the Contractor's quality control personnel may intend to use. This list is not all-inclusive and may be revised and updated as conditions warrant. The Contractor's records will be available for review by the Authority.

- a. DQCR - To be completed daily by the subcontractors' quality control personnel covering the days' Quality Control Activities, approved by the contractor's QCM, and placed in the contractor's file.

- b. DQCR - To be used by the QCM to report the day's quality control activities of the Contractor and all subcontractors, and which is submitted to the Authority daily.
- c. Trip Report - Used to record activities covering offsite trips. Is to be submitted with the Contractor's DQCR.
- d. Testing Report Log – This will be used to control all information related to specification or Authority-based request for testing relating to quality, workmanship or final approval.



**Attachment A**

**Contractor's QA/QC Plan Checklist**

	<b>Yes</b>	<b>No</b>
Contractor submitted a QA/QC Plan prior to, or at, the pre-construction conference.	<input type="checkbox"/>	<input type="checkbox"/>
The Quality Control Manager for the proposed contract has been identified.	<input type="checkbox"/>	<input type="checkbox"/>
The Quality Control Manager has authority to stop any phase of non-conforming work.	<input type="checkbox"/>	<input type="checkbox"/>
The Contractor stated the requirement that failure to implement their QA/QC Plan would be deemed as a non-conformance and would be documented.	<input type="checkbox"/>	<input type="checkbox"/>
The Contractor's QA/QC plan reflects the SDA's Mission and Vision Statements.	<input type="checkbox"/>	<input type="checkbox"/>
The QA/QC Plan identifies the levels of authority to implement and assure compliance with contract specifications and requirements.	<input type="checkbox"/>	<input type="checkbox"/>
Has the QA/QC Plan acknowledged that in the event of a difference between the QA/QC Plan and the contract requirements, that the contract requirements shall prevail?	<input type="checkbox"/>	<input type="checkbox"/>
A minimum of one full time dedicated Quality Control Representative has been identified and will be provided.	<input type="checkbox"/>	<input type="checkbox"/>
Did the Contractor submit a listing of the definable work?	<input type="checkbox"/>	<input type="checkbox"/>
Did the Contractor identify the person who is responsible for monitoring the work?	<input type="checkbox"/>	<input type="checkbox"/>
Did the Contractor list the personnel associated with all inspections?	<input type="checkbox"/>	<input type="checkbox"/>
Did the Contractor identify the documentation process and the controls associated with maintaining records, including a daily quality control report?	<input type="checkbox"/>	<input type="checkbox"/>
Did the Contractor identify the process for notification and documentation of non-compliance work?	<input type="checkbox"/>	<input type="checkbox"/>
Did the Contractor identify the means and methods for drawing and document controls?	<input type="checkbox"/>	<input type="checkbox"/>
Did the Contractor identify the means and methods for materials certification?	<input type="checkbox"/>	<input type="checkbox"/>
Did the Contractor identify the means and methods for workmanship inspections?	<input type="checkbox"/>	<input type="checkbox"/>
Did the Contractor identify the means and methods for calibration of equipment?	<input type="checkbox"/>	<input type="checkbox"/>
Did the Contractor identify the means and methods for final inspection and tests?	<input type="checkbox"/>	<input type="checkbox"/>