

CHAPTER 7

QUALITY MANAGEMENT

7.1 PURPOSE

The purpose of the **Quality Management Training and Qualification Program** is to set a specific level of knowledge and physical skills for the persons responsible for quality control on Florida Department of Transportation highway and bridge construction projects.

7.2 AUTHORITY

Part 23, Section 637 of Federal Regulations, Quality Assurance Procedures for Construction

Sections 20.23 (3)(a), 334.048(3) Florida Statutes (F.S.)

Sections 5, 6 and 105, FDOT Standard Specifications for Road and Bridge Construction

7.3 BACKGROUND

When the Federal Highway Administration (FHWA) sent out changes to **23 CFR 637** on June 29, 1995, there was a provision for states to have the Contractor be responsible for quality control on transportation construction projects. This became known as the **Contractor's Option**. Florida elected to implement **23 CFR 637** using the **Contractor's Option**. Florida has referred to this new quality-monitoring program as "QC 2000". This chapter contains courses and qualification requirements needed to more fully explain the obligations of the Department, Consultant and Contractor Quality Management personnel responsible for Quality Control (QC) and Quality Assurance on the Department's transportation construction projects.

7.4 COURSES AND QUALIFICATIONS

7.4.1 Quality Control Manager Qualification Requirements

All trainees seeking Quality Control Manager qualification must:

- (A) Pass the QC Manager Examination.

- (B) Have at least one of the following Level II CTQP Training Qualifications: Asphalt Paving Level II, Asphalt Plant Level II, E.C.I. Level II, Concrete Field Level II (full ACI-CTCI Certification), Concrete Laboratory Technician Level II, Aggregate Laboratory Testing Technician, and LBR Technician. No other CTQP Qualifications (Level I or II) satisfy this requirement.

(See **Attachment 7 – 2**) for flowchart.

7.4.1.1 Quality Control Manager Training Course

This course shall consist of a two (2) day training class with a written exam. Subjects to be covered are listed in **Attachment 7 - 3**.

The Quality Control Manager Course is designed to ensure that the Contractors' Quality Control Managers as well as key Department personnel gain a working understanding of the key program elements. This course will also explain how to develop a QC Plan, how the Department handles QC Plans and what happens when a QC Plan is disapproved. The target audience for this course is Contractor Quality Control Managers and Department Project Engineers and Materials Section Heads.

7.4.1.1.1 Quality Control Manager Course Prerequisites

~~—A course in Construction Math Self-Study. The is a prerequisite~~s for the Quality Control Manager Course ~~are:~~.

~~Construction Math Self-Study~~

7.4.1.1.2 Quality Control Manager Written Exam

There will be a written exam for the Quality Control Manager Course. It will be closed book and will have 50 questions. The examinations are electronically graded by the State Construction Training Administrator. The passing grade for this examination ~~shall be~~ is 70%. Two weeks should be allowed for grading and posting of the examination results.

7.5 Suspension of a Quality Control (QC) Manager

7.5.1 Background

The Department began training and qualifying QC Managers in November, 2001. **Construction Training and Qualification Program (CTQP)** qualified QC Managers were required on Department construction projects that include Contractor Quality Control (CQC) Specifications let after July 1, 2002.

Through the **Construction Project Administration Manual (CPAM), Chapter 13.1**, the Project Administrator has the ability to initiate a **Deficiency Letter (DL)** as a direct result of deficient project quality control plan (**Specification 105**). While a **DL** may document deficient Prime Contractor quality control plan, it does not have an effect on the QC Manager's CTQP qualification.

This procedure details how the Department can document and (if necessary) suspend a QC Manager that is not correctly performing required duties.

7.5.2 Causes for Letters of Warning

The Prime Contractor has responsibility for quality control under Contractor Quality Control (CQC) contract specifications. Although the Department has a contractual relationship with the Prime Contractor, the Department also has a responsibility to ensure CTQP qualified technicians are correctly performing their duties. While quality control is a contractual responsibility of the Prime Contractor, it is the direct responsibility of the QC Manager to ensure compliance with **Specification 105**.

The Project Administrator has a mechanism to document Prime Contractor deficient performance (see **CPAM Manual, Chapter 13.1**). When the Resident Engineer sends a **DL** that is directly related to a deficient quality control plan due to the QC Manager's failure to properly apply the specifications and Quality Control procedures, a letter of warning (or suspension) must also be sent to the QC Manager.

7.5.3 QC Manager Suspension Process

Letters of warning written to a QC Manager could lead to qualification suspension in accordance with the following three (3) step system:

1st Letter - Documented letter of warning from the State Construction Training Administrator.

If no other letters are issued within one (1) year (365 days), then the record of the 1st letter of warning shall be deleted from the QC Manager's qualification record.

2nd Letter - Documented letter of warning from the State Construction Training Administrator within one year of the 1st letter of warning (see **Attachment 7-1**).

If no other letters are issued within one year (365 days), then the record of the 1st and 2nd letter shall be deleted from the QC Manager's qualification record.

3rd Letter - Suspension of qualification in the TQDBS by the State Construction Training Administrator.

Should the need arise to send a 3rd letter within 365 calendar days of the 2nd letter of warning, the QC Manager's CTQP qualification shall be suspended. The State Construction Training Administrator shall inform the CTQP Manager to suspend the QC Manager's qualification in the TQDBS via letter or e-mail. The suspension shall be for one calendar year (365 days). This decision may be appealed to the Director, Office of Construction. The Director, Office of Construction's decision is final.

Prior to having the qualification reinstated, the technician must meet all initial QC Manager qualification requirements including passing the QC Manager's examination.

One copy of the suspension letter shall be given to the QC Manager, one copy to the manager's supervisor (or prime contractor's representative), one copy sent to the State Construction Training Manager, and the original shall be retained in the project files. This suspension shall apply to the QC Manager qualification only.

7.6 QUALIFICATION REQUIREMENTS BY JOB FUNCTION AND IMPLEMENTATION SCHEDULE

Job functions for Quality Control Manager qualification with the scheduled implementation date are contained in **Attachment 7 - 4**.

7.7 REQUALIFICATION

Due to frequent changes in specifications, materials and processes, **Certificates of Qualification** are issued for 60 months. In order to maintain qualification, managers must be requalified. Requalification for QC Manager will require the applicant to pass a written exam. In order to be requalified, the QC Manager must have a **CTQP Level II** qualification as outlined in the original QC Manager qualifications requirements subsection of this procedure.

An application for requalification should begin after 54 months. Extensions past the 60-month expiration date will not be granted. Applicants who let their QC Manager qualification expire will be required to pass a written exam. Fees for requalification shall be the same as qualification.

7.8 Tasks by Responsible Office

7.8.1 Resident Construction Office

Ensure that the State Construction Training Administrator is copied on **Deficiency Letters** that are quality control related.

Ensure that State Construction Training Administrator is copied on letters that tell the Contractor to remove the QC Manager for reasons stated in **Specification 8.5**.

7.8.2 State Construction Office

Maintain a database of warning and suspension letters.

Notify the CTQP Manager when a suspension letter has been issued. Notification shall have the QC Manager name, [Technician Identification Number\(TIN\)](#), and effective suspension date.

7.9 DEPARTMENT RESPONSIBILITIES

Responsibilities for this qualification program are distributed among the State Construction Office, State Materials Office and are listed in **CTQM Chapter 1**. There are no additional Department responsibilities.

Attachment 7 - 1

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

(SAMPLE LETTER)

(DATE)

QC Manager's Name, TIN
Address

This is a letter advising you that the Department has received written documentation that you are not performing your duties as a CTQP qualified QC Manager. This is the:

- 1st Letter of Warning
- 2nd Letter of Warning
- Qualification Suspension Letter

This letter is being issued as a result of a:

- Deficiency letter dated: _____ from: _____
- Letter dated: _____ from the (PROJECT ADMINISTRATOR)

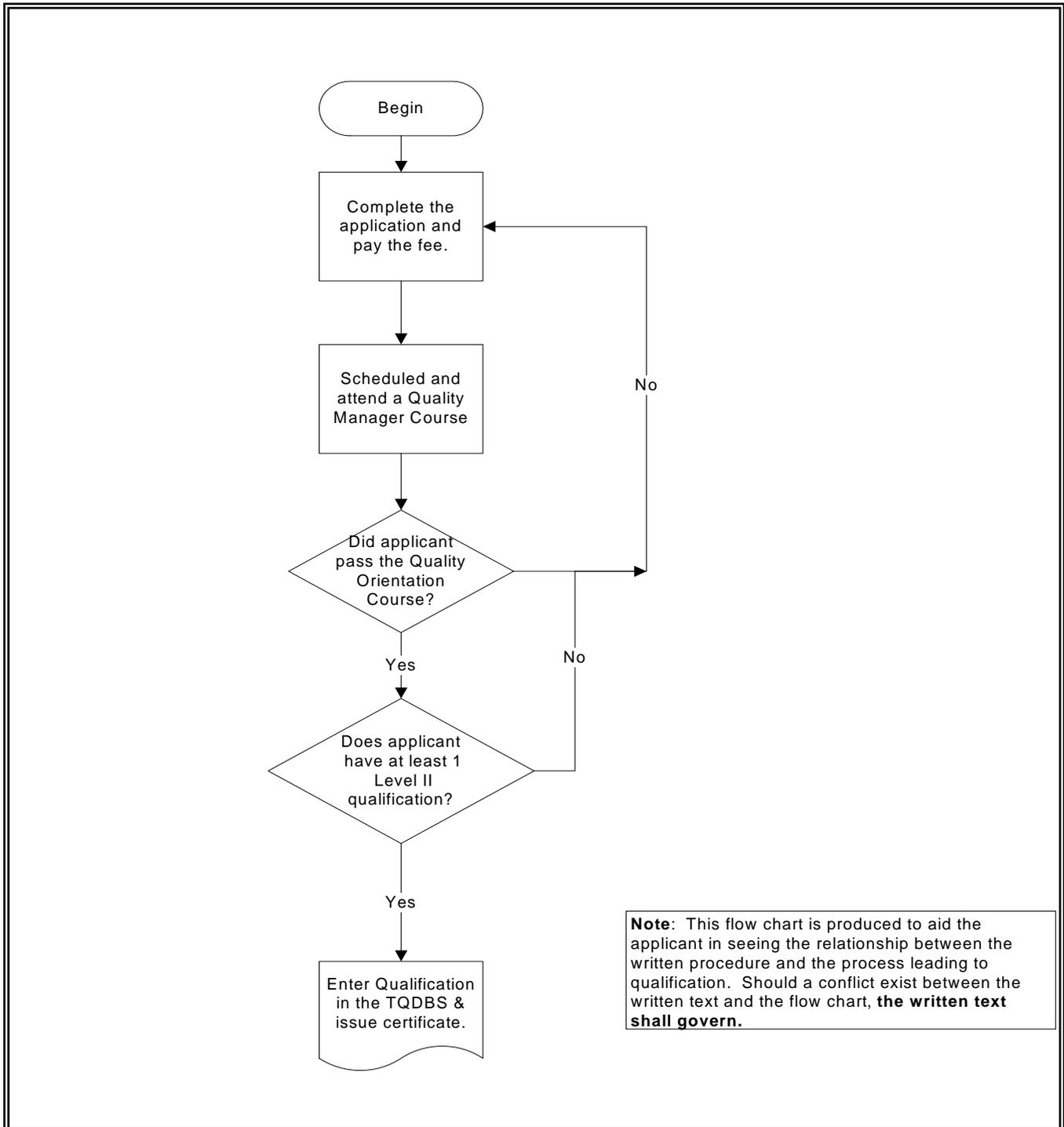
Please refer to the State Construction Training and Qualification Manual (CTQM) should you have any questions about this letter or subsequent forms of action.

Sincerely,

State Construction Training Administrator

cc: Prime Contractor
Resident Engineer
CTQP (suspension letter only)
District Construction Engineer

Attachment 7 - 2 Quality Control Manager Qualification Flow Chart



Attachment 7 - 3

Quality Control Manager Training Course

This course shall consist of a two-day training class with a written examination (usually one hour, multiple choice). Subjects to be covered in this course may include but are not limited to:

Brief History of Quality Assurance in Florida

Statistical Concepts

Quality Control Plan

- Purpose and Importance
- Roles & Responsibilities
- QC Program/Manual/Plan
- QC Plan Development Guidelines
- QC Plan FAQ's
- QC Plan Exercise

Standard Specifications

- CQC Specifications
- Reporting Requirements

QC Manager Role & Responsibilities

- General Role & Responsibilities
- Pre-Bid Planning
- Contract Document Interpretation
- Administration of QC & Work Plan
- Evaluating QC Performance
- Administering the Inspection Program
- Records Management
- QC Manager & Owner Communication

Attachment 7 - 4

CTQP Qualification by Job Function

Quality Control Manager:

This is the individual responsible for quality for Contractor who is identified in the Quality Control Plan to perform analysis and control of the quality of the product, can determine the coordination of production operations, quality pay factors and understands the intent of statistically based quality control specifications (consistency, variability, data interpretation and random sampling). Department employees targeted for this qualification are Project Administrators and Materials Section Heads.

All persons acting as Quality Control Manager on behalf of the Contractor that work on a project let after July 1, 2002 with the QC Manager **Specification 5-8** must be CTQP QC Manager qualified. All persons designated as the Department's Project Administrator representative that work on a project let after July 1, 2002 with the QC Manager specification 5-8 must have passed the CTQP QC Manager exam.