

MODULE 1 – GENERAL

Slide 1 WELCOME

Welcome to the Final Estimates Level 1 course, Module 01 - General, offered through the Construction Training Qualification Program. This Final Estimates training course consists of 8 modules and covers the preparation of final estimates by field personnel. This CBT contains audio and interactive elements. An alternate version is available on the resources page. To begin, select the start button or press Shift+N on your keyboard.

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This is a computer based training course, which means that you are responsible for comprehending the information provided by each module and evaluating your own progress with the help of the intermittent test questions. If you can answer all the questions correctly, you are much more likely to be successful when taking the final exam.

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When you have completed the computer based training course, check the CTQP website for available Construction Training Qualification's Program (CTQP) Proctors and register to take the Final Estimates Level 1 exam. Only after you have passed the Level 1 exam with a score of 70% or better will you become CTQP qualified in Final Estimates Level 1.

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Let's begin with the first module.

In this module, you will become familiar with the Department of Transportation's management of construction projects. Later modules will include more detailed explanations of work methods, calculation explanations and procedures.

Slide 5 INTRODUCTION

One of the principal functions of the Department of Transportation is to carry out construction and improvement of transportation facilities to ensure adequate service to the public. While most of the transportation projects are accomplished by private contractors, the management of these programs involves specific DOT responsibilities, including:

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Planning and Programming -- studies of improvement needs, determination of priorities and establishment of construction programs consistent with financial capabilities;

Design -- geometric and structural design of roadways and bridges, and preparation of detailed plans and specifications for individual projects;

Contract Administration -- preparation of contract documents, advertisements for bids, evaluation of contractors' proposals and award of contracts;

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Construction Management -- inspection and testing of construction work as it progresses to ensure that workmanship and materials are in conformance with the plans and specifications; and

Contractor Payments -- measurement and payment for work performed through monthly progress estimates and a final estimate on completion of each project.

Department personnel assigned to the construction phase of a project are usually involved in both construction management and contractor payments. Although this course is limited to guidance of contractor payments, all personnel must also be familiar with responsibilities and procedures for construction management.

Slide 8 KNOWLEDGE CHECK

Now to test your knowledge. You will now be asked review questions based on the information in this CBT. You may choose your answer by selecting the corresponding button or by pressing the corresponding letter on your keyboard.

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- 1) True or false. A major function of the DOT is to carry out the construction and improvement of transportation facilities so the public is provided with adequate transportation service.

A. True

B. False

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- 2) Multiple choice. For the DOT, the management of Construction projects involves the following specific responsibilities:
 - A. Planning, Programming and Design
 - B. Contract Administration
 - C. Contractor Payments
 - D. Contract Management

E. All of the above

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3) True or false. Contractors are paid for the work performed through progress and final estimates.

- A. True
- B. False

Slide 12 CONTRACT DOCUMENTS

To know how to properly pay the Contractor for the work performed, you must read the contract. The purpose of a contract is to guide both the Contractors and Department personnel in the performance of the work and how it should be paid. The contract must be clearly understood because it is important to the preparation of final estimates. Contracts for road and bridge construction projects consist of several contract documents fulfilling different specific purposes.

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These contract documents include:

- **Contract Plans** (including revisions during construction, plan notes and estimates quantities)
- **Standard Plans**
- **Standard Specifications**
- **Supplemental Specifications and Developmental Specifications**
- **Special Provisions and Technical Special Provisions**
- **Contract Proposal Form;**
- **Supplemental Agreements**
- **Work Orders and**
- **Joint Project Agreement (JPA)/Locally Funded Agreements (LFA)**

You are probably familiar with most, or all of these documents, so we will discuss them only briefly now.

Slide 14 CONTRACT PLANS

The Contract Plans provide detailed pictorial instructions for the road or bridge construction, such as alignment, grades, ITS and lighting, drainage, right-of-way, traffic control, and landscaping. Sometimes special notes are placed on the plan sheets to call attention to a particular construction item or to unusual conditions of measurement and construction of work. Such plan notes govern both the Standard and Supplemental Specifications.

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The plans also include a summary of estimated quantities for each project. These estimated quantities are for individual bid items as determined by the designers and serve as a basis for contractors' competitive bidding.

Slide 16 STANDARD PLANS

The Standard Plans provide guidelines and technical drawings for Design and Construction personnel on how items should be constructed.

These standards are developed by the Department for Designers and made available for Design, Construction, Maintenance, and Utility operations on the State Highway System.

Slide 17 STANDARD SPECIFICATIONS

The Standard Specifications for Road and Bridge Construction are the directions, provisions, and requirements that the Contractor must follow to perform the work required and are applicable to all Department Contracts. This document is considered an integral part of the "contract package" and describes (1) the general relationships between the Department and Contractors;

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(2) construction details for all the major work items; (3) Specifications and criteria for materials incorporated in the work; and (4) method of measurement and basis of payment for completed work. It is published bi-annually, each January and July, and can be found electronically under the Program Management Office's Website.

Slide 19 SUPPLEMENTAL SPECIFICATIONS AND DEVELOPMENTAL SPECIFICATIONS

Sometimes certain sections of the Standard Specifications need to be revised. Supplemental Specifications identify and describe approved additions or deletions to the Standard Specifications, applicable to all Contracts. These are published as-needed and included within the workbook of the Standard Specifications it is replacing.

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For example, if a change is needed to Section 3-5 of the January 2017 Standard Specification, the Supplemental Specification 3-5 will be published within the January 2017 workbook. In case of discrepancies, the Supplemental Specifications always govern the Standard Specifications.

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Developmental Specifications are created around a new process, procedure, or material and are used on several contracts to monitor their performance before being considered for incorporation in the Standard or Supplemental Specifications.

Slide 22 SPECIAL PROVISIONS AND TECHNICAL SPECIAL PROVISIONS

Special Provisions often are included with the contract documents for individual projects. These may describe a situation unique to a particular project, or they may modify a requirement set forth in the Standard or Supplemental Specifications.

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Technical Special Provisions are technical in nature, prepared, signed, and sealed by an Engineer registered in the State of Florida other than the State Specifications Engineer and are applicable to specialty items of work.

Slide 24 COORDINATION OF CONTRACT DOCUMENTS

In case of discrepancies among the previously mentioned contract documents in regard to measurement and payment for work, the order of precedence shown below should apply. This is also listed in the Standard Specifications.

1. SPECIAL PROVISIONS
2. TECHNICAL SPECIAL PROVISIONS
3. CONTRACT PLANS
4. STANDARD PLANS
5. DEVELOPMENTAL SPECIFICATIONS
6. SUPPLEMENTAL SPECIFICATIONS
7. STANDARD SPECIFICATIONS

Slide 25 CONTRACT PROPOSAL FORM

The Contract Proposal form is the method which Contractor's submit their bids. It is the official form or the electronically generated bid item sheets on which the Department requires formal bids to be prepared and submitted for the work proposed.

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The information contained within the proposal form will vary depending the type of contract that is being bid. For example, conventional projects will contain all the pay items within the project with corresponding quantities. The Contractor will provide the prices.

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However, Design Build contracts are unique because they allow Contractors and Designers to team up together to both design and construct a project. The exact pay items and corresponding quantities are not known, but enough information concerning the scope of work has been provided by the Department so that a bid can be provided. The total quantity for this proposal will be 1 lump sum.

Slide 28 SUPPLEMENTAL AGREEMENTS (SA)

Supplemental Agreements are documents used to authorize work different from that shown in the original plans and contract. Supplemental Agreements can be used to clarify the Specifications or to pay for unforeseen work. They can also be used for payment to settle contract claims or settlements of dispute.

Slide 29 WORK ORDERS (WO)

Work Orders are similar to Supplemental Agreements but can't be used in all instances. They are typically used to include additional unforeseen work into the original contract and to do minor changes.

Slide 30 LOCALLY FUNDED AGREEMENTS (LFA)

Locally Funded Agreements are a type of contract included within a project between the Department and another government or private entities. The work could include a utility agreement to relocate or install utility infrastructure. It could also include grant funded projects for other municipalities. For more information on other types of LFAs and definitions, see *Procedure 350-020-300*, *Procedure 350-020-301*, or the *Construction Project Administration Manual (CPAM), Section 8.12*.

Slide 31 KNOWLEDGE CHECK

Now let's test your knowledge of Contract Documents.

- 1) Multiple choice. Which of the following is NOT officially considered to be a "Contract Document"?
 - A. Supplemental Agreements and Work Orders
 - B. Field Records
 - C. Standard Specifications
 - D. Construction Project Administration Manual (CPAM)
 - E. Answers B & D**

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- 2) Multiple choice. Between the scheduled publishing of the Standard Specifications, what does the Department issue to identify and describe changes in the Standard Specifications?
 - A. Construction Project Administration Manual (CPAM)
 - B. Supplemental Specifications**
 - C. Work Orders
 - D. Supplemental Agreements

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- 3) Multiple choice. Select the correct sequence of documents in order of precedence, with the document highest in authority listed first.
- A. Contract Plans, Development Specifications, Standard Specifications, Special Provisions, Technical Special Provisions, Supplemental Specifications, Standard Plans.
 - B. Standard Plans, Special Provisions, Technical Special Provisions, Supplemental Specifications, Contract Plans, development Specifications, Standard Specifications.
 - C. Special Provisions, Technical Special Provisions, Contract Plans, Standard Plans, Development Specifications, Supplemental Specifications, Standard Specifications.**
 - D. Supplemental Specifications, Special Provisions, Contract Plans, Development Specifications, Standards Specifications, Technical Special Provisions, Standard Plans.
 - E. None of the above.

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- 4) True or false. Special provisions are contract documents that may describe a situation unique to a specific project or modify a requirement set forth in the Specifications.
- A. True**
 - B. False

Slide 35 WHAT IS FINAL ESTIMATES?

So, now that we have reviewed the documents that have authority within a project, let's discuss final estimates. What is final estimates? Contrary to the name, it encompasses far more than just the final or last payment to the Contractor. Final estimates is the entire payment process to the Contractor. But let's think about this.

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In order to properly pay the Contractor on the last payment, all the payments before it must be approved, well documented and tracked. So Final Estimates actually begins prior to construction of the project and continues throughout the project duration. Throughout this training we will discuss the proper methods for measuring and documenting quantities used in the estimate process. Let's discuss the two different types of payments.

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Payments to contractors normally are based on measured units of work accomplished for each bid item and the established unit price for each item. The specifications provide for two types of payments to Contractors; they are progress estimates and a final estimate.

Slide 38 PROGRESS ESTIMATES

First, progress estimates are regularly scheduled payments made to contractors on a monthly basis. Procedures for preparing progress estimates are not included in this training course since they are covered in the Department's Construction Project Administration Manual or otherwise referred to as CPAM. This procedure is discussed more thoroughly in Final Estimates, Level 2 Training.

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The CPAM gives detailed instruction in the responsibilities and procedures for supervising construction projects. It provides guidelines for the roles of construction personnel, specific management tasks of inspecting, sampling and testing for the various materials and work items as well as the preparation and documentation of quantities for Final Estimates.

Slide 40 FINAL ESTIMATE

When all work has been completed by the contractor and the final inspection and acceptance has been made by the Engineer, a progress estimate needs to be processed to pay all monies owed to the Contractor prior to the offer of final payment. This estimate is processed at the Resident's Office. Submittal of the final estimate documentation to the District Final Estimates Office (DFEO) is within 30 days after final acceptance. Review of the final estimates documentation will be done by the District Final Estimates Office.

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The CPAM sets forth methods and procedures for preparing and submitting a final estimates documentation to the District Final Estimates Office (DFEO). Much of the content of this Final Estimates Level I course is based on this manual. You should keep CPAM available as a reference for procedures but always check the special provisions and specifications for legal requirements on any project.

Slide 42 KNOWLEDGE CHECK

Now let's test what you have learned about estimates.

- 1) Multiple choice. Which of the following documents sets forth the Department's methods and procedures for preparing and submitting a final estimate?
 - A. Construction Inspection Mathematics
 - B. Project Engineer Manual
 - C. Construction Project Administration Manual**
 - D. The Review & Administration Manual

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- 2) True or False. Progress payments are made to contractors on a monthly basis.
 - A. True**
 - B. False

Slide 44 CONCLUSION

This concludes the Final Estimates Level 1 course, Module 01 – General.
Please proceed to the next module. Thank you for your time and attention.