

CHAPTER 20 – PLANS, SPECIFICATIONS AND ESTIMATES

20.1 OVERVIEW

The final engineering design process produces contract plans, specifications, and cost estimates (PS&E). These documents contain all the construction details, contract provisions, permits, agreements, and certifications required to advertise, award, and administer a construction contract. A Professional Engineer must prepare, sign, and seal the final Plans, Specifications, and Estimates according to *Florida Statutes and Rules*, including **Chapter 471 F.S.** and [Rule 61G15, F.A.C.](#)

The Local Agency and the District are responsible for the completeness of the contract plans package and the Contract File Index of documentation [**23 CFR 635.309(a)**]. If the project is a Project of Division Interest (PODI) or another category of FHWA oversight, FHWA may review and approve the PS&E before authorizing federal funds (per the project-specific oversight plan).

As discussed in **Chapter 19** of the *Manual*, the application of appropriate design criteria is dependent upon the LAP Project Classification, which are determined by three primary factors: 1) highway system location, 2) total project cost, and 3) bridge/structures scope components. In this Chapter, we will further define how the LAP project classifications- A, B, C, and D- also determine construction specifications, including materials testing requirements.

20.2 CONTRACT PLANS

For Local Agency ad-and-award projects, the Local Agency is responsible for the requirements for plan sheet size, guidelines for preparing contract plans, and review of the PS&E package. See **Chapter 19** for additional information on design criteria, standards and minimum requirements.

A record set of plans shall carry the seal, date and signature of a licensed Professional Engineer consistent with Florida Statutes and Rules.

20.3 SPECIFICATIONS

The specifications section of the PS&E include all the general directions, provisions, and requirements for the construction of the project. These requirements state the minimum

standards of performance for materials and workmanship executed under the contract. The specifications will also outline how the in-place work performance will be measured for subsequent payment.

20.3.1 Specifications for Local Agencies

Local Agencies develop and prepare construction specifications, as required by the LAP project classification.

- 1) Class A and B projects, and the structures component(s) of Class C projects require use of the **FDOT Standard Specifications for Road and Bridge Construction**. **FDOT Standard Specifications** are required for use on all State Highway System (SHS) and National Highway System (NHS) projects, and are recommended for use on all **Federal-Aid Highway Program** projects.

FDOT Standard Specifications are reviewed and approved bi-annually by the FHWA, Florida Division Office which designates its application for National Highway System (NHS) projects per **23 CFR 637.201-205**. NHS projects must meet FHWA's quality assurance criteria as defined in CFR. Since the state's process is the only process "approved" by FHWA, all NHS projects must use the FDOT's approved design criteria, specifications, and quality assurance program (**Construction Project Administration Manual, CPAM**).

FDOT Standard Specifications and modifications that change the **Standard Specifications** such as Special Provisions and Supplemental Specifications are available as electronic data files through the State Program Management Office, **Specs on the Web** application:

<https://www2.dot.state.fl.us/SpecificationsPackage/Utilities/Membership/login.aspx>. Modifications to specifications are further defined in **Section 20.3.3**.

- 2) For the Class C non-structural components and Class D construction projects, local agencies may use the **LAP Big Four** specifications (concrete, asphalt, earthwork & landscape). The **LAP Big Four** specifications are made available to local agencies via **Specs on the Web**:
<https://www2.dot.state.fl.us/SpecificationsPackage/Package/Workbook/LAPSpecificationSelection.aspx>.
- 3) For the Class C non-structural components and Class D construction projects, local agencies may also develop their own construction specifications for use on LAP projects, subject to the approval of the Districts Specifications Engineers. Contact

the District LAP Administrator for additional information on local agency specifications for use on off-system projects.

20.3.2 Federal and State Requirements General to Specifications Development

The following items highlight important aspects of specifications development. Each item listed is supported by either a state or federal requirement.

- A. All nonstandard pay items shall be covered in the special provisions.
- B. As defined in **Chapter 13**, include a Value Engineering incentive clause in the specifications. This clause encourages the contractor to propose changes in contract requirements to accomplish the project's functional requirements at less cost.
- C. A schedule of liquidated damages shall be included in the specifications.
- D. Traffic control design must comply with the Manual of Uniform Traffic Control Devices (**MUTCD**). Therefore, the requirements shall not be reduced by Special Provisions. A Special Provision may be prepared outlining traffic control requirements and including any pay items.
- E. Devices used on SHS and NHS in the State of Florida need to comply with the Department's [Approved Products List \(APL\)](#). If the device is not part of the APL, then the applicant must use the New Product Application Submittal. (**316.0745, F.S.**)
- F. Proprietary specifications of national, regional, or local trade associations should not be included in specifications.
- G. Trade names in specifications and on plans shall be avoided. Instead, specifications should be formulated to allow full opportunity for competition among equivalent materials, equipment, and methods. References in specifications and on plans to single trade-name materials will not be approved on Federal-aid contracts. If a project calls for a proprietary product, the Department's [Procedure No. 630-020-07](#) should be followed.
- H. Projects that are on the NHS are limited to warranty provisions for specific products or features and shall be approved by FHWA. Items of maintenance, including warranty bonds are not eligible for Federal-Aid

participation on all projects. Warranties off the NHS may not place an undue burden on the contractor and may not be substituted for adequate project inspections.

- I. **Form FHWA-1273.** Each set of specifications shall include **Form FHWA-1273, Required Contract Provisions, Federal-Aid Construction.**
- J. **Commitments.** When applicable, the Local Agency should have a commitment file containing a summary of commitments made during the development of the project. The file should be reviewed to ensure that the commitments are incorporated in the PS&E. These commitments typically involve right of way or environmental considerations.

20.3.3 Modifications to Specifications

Project specific Modified Special Provisions that revise implemented specifications to address project specific needs may be required:

- A. For the control of work, measurement, payment, and materials of features on a project not covered by the Standard Specifications or other general contract provisions.
- B. Where the FDOT Specifications are being amended or for a deviation from FDOT Specifications with regard to materials, construction details, measurement, and payment.

Technical Special Provisions address project specific needs and are used to specify something technical in nature not covered by the approved standard specifications. They are included as an attachment to the Specification Package. A Professional Engineer must also prepare, sign, and seal the Technical Special Provisions.

20.4 ESTIMATES

The Local Agency includes the engineer's estimate in the PS&E and prepares it using the pay items list and quantities as shown in the plans. Estimates of project costs are required under **216.3475, F.S.** and **2 CFR 200.110**. The engineer's estimate must be one of the last activities performed, as each component set of construction plans is reviewed along with the applicable specifications to develop the project estimate. The pay item list is compiled to cover all proposed contract work.

Multi-funded projects must identify quantities proportionate to the fund participation. In addition, participating (Federal funds) and non-participating (State/Local funds) may be split on each pay item with a running total of participating and non-participating funds. The Project Total is located on the last sheet of the Estimate and has a separate total for participating and non-participating costs.

20.5 FEDERAL CONSTRUCTION CONTRACTING REQUIREMENTS

In order to receive federal authorization for project construction phases, the PS&E package must be reviewed and approved by the Department and the [Local Agency Program Checklist for Construction Contracts Form No. 525-010-44](#) must be submitted to the Federal-Aid Office with the authorization request from the District LAP Administrator. The Department cannot submit the authorization request unless the Local Agency verifies that it has coordinated all potential permits and cleared or coordinated railroad, utilities, and right of way within the project limits (**23 CFR 635.307-309**).

FHWA posts a matrix of contract provisions relevant to both federally funded construction and service contracts located here:

<http://www.fhwa.dot.gov/construction/contracts/provisions.cfm>.

See **Chapter 22 Local Advertising and Award Procedures** and **Chapter 23 Construction Administration** for additional explanations, processes and requirements related to the advertisement, award, and administration of LAP construction contracts.

20.6 RESOURCES

[FDOT Standard Specifications](#)

[FDOT Florida Greenbook](#) or the Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways (Topic No. 625-000-015)

[FDOT Plans Preparation Manual](#) (Topic No. 625-000-007; Topic No. 625-000-008)

[FDOT Design Standards](#) (Topic No. 625-010-003)

[MUTCD](#) or the Manual on Uniform Traffic Control Devices

[APL](#) or the FDOT Approved Products List

[LAP Big Four Specifications](#)

[LAP Construction Checklist](#) (Topic No. 525-010-44)

[FHWA Form-1273](#)

[FHWA Construction Contracting Provisions Matrix](#)