

Chapter 28

Shop and Erection Drawings

The following are changes, additions or deletions to the January 2013, Topic #625-000-007, Plans Preparation Manual (PPM), for use on Turnpike projects only.

28.1 Introduction

Add the following paragraph

Typically FDOT Florida's Turnpike Enterprise Shop Drawing Review Office will provide the Contractor with the Shop Drawing Routing Chart (Exhibit 28-A) and Shop Drawing Procedures information package at the Preconstruction Conference. This information addresses requirements for the submission of Shop Drawings and an overview of the review and approval process. It may also include additional procedures to facilitate expeditious processing.

28.2 Drawing Submittals Required

Delete 4th paragraph and add the following

Material certifications, welding procedures and concrete mix designs are typically submitted by the Contractor to the Resident Engineer (CEI) who forwards the certifications to the State Materials Engineers in Gainesville. These items do not need to be submitted to the FDOT Shop Drawing Review Office for review and approval. For non-standards items, the Resident Engineer (CEI) will typically request approval by the EOR regarding applicability. Material certifications for items on the Qualified Product List (QPL) and/or Approved Product List (APL) is typically submitted by the Contractor to the Resident Engineer (CEI) thru **ProjectSolve**. This procedure will be defined during the preconstruction conference.

28.3 Contractor Information Required

Add the following to last sentence, paragraph 2

Identify Toll Gantry Structures by site location.

Delete last sentence of paragraph 5 and add the following

Approval of Shop/Erection Drawing will not constitute nor be considered grounds approval of a variation in which the project requirements are affected unless specifically so noted in the Engineer of Record and/or Department's approval comments as returned with the drawing submittal. This shall be incorporated by the Contractor on the shop drawing module page in **ProjectSolve** within the "Comment" area.

Add the following paragraphs

Contractor shall document as such on the shop drawing module page in **ProjectSolve** within the “Comment” area. Approval of Shop/Erection Drawings will not constitute nor be considered grounds for approval of a variation in which the project requirements are affected unless specifically so noted in the Engineer of Record and/or Department’s approval comments as returned with the drawing.

Any comments or markings provided by the Contractor shall be in blue or black ink. In the case there is no place for the stamp on the front, please stamp the back side of each sheet, indicating the page number (i.e., back of Page 1 of 6). Ensure that this page is also scanned in Portable Data Format (.pdf).

Submit Shop Drawings/Submittals electronically utilizing Florida’s Turnpike Enterprise Construction Management’s internet website, **ProjectSolve**. Assign a unique submittal number to Shop Drawing.

Shop drawings shall be in Portable Data Format (pdf), scanned using 300 dpi resolution and in 8-bit up to 24-bit color. Once the Contractor has uploaded the shop drawing to **ProjectSolve**, the Architect of Record and/or Engineer of Record will be notified via email that a shop drawing has been submitted for their review. The Resident Engineer (CEI) is copied on this email notification.

Shop drawings shall be no larger than 11” x 17” (plotted in 11” x 17” format), in order to facilitate electronic filing. For plotting requirements, please refer to *FDOT CADD Production Criteria Handbook*. Website is located at:

<http://www.dot.state.fl.us/ecso/downloads/publications/CriteriaHandBook>

If the shop drawings consist of samples, the Contractor shall submit three (3) samples for proper processing, in addition to the number of samples needed by the Contractor. The Contractor is required to stamp the samples and initiate the shop drawing review process through **ProjectSolve**, by uploading their transmittal letter and indicating in the “Comment” area on the shop drawing module page, that they have forwarded the samples to the Architect of Record and/or Engineer of Record via Overnight Courier Service. The Architect of Record and/or Engineer of Record shall confirm in the “Comment” area in **ProjectSolve** that they are in receipt of samples.

Once the shop drawing has been processed, FDOT Florida’s Turnpike Enterprise Shop Drawing Review Office will provide, if allotted number of samples are provided, one (1) sample original to Architect of Record and/or Engineer of Record, one (1) to Resident Engineer (CEI) and FDOT Florida’s Turnpike Enterprise Shop Drawing Review Office will retain one (1) for their files. Any remaining samples will be provided to the Contractor.

If samples include Manufacturer, Product Name and Product Number, it is acceptable for the Contractor to scan the data and upload to **ProjectSolve**. These pages need to be stamped. It will be at the discretion of the Department, if submissions of original samples are required. The

Contractor shall coordinate with the Florida's Turnpike Enterprise Architectural Department prior to the submission.

28.4 Submittals Requiring a Specialty Engineer

Replace last paragraph with the following

When a submittal requires a Specialty Engineer, the sealed prints and calculations will ultimately be retained by the Department electronically, as the official record Shop Drawing.

Add the following paragraph

Prior to Contractor scanning and uploading shop drawing to **ProjectSolve** ensure that the seal (rubber ink stamped or embossed) is legible in the scanned image. Failure to do so will constitute the submission as incomplete and shop drawing will be routed back to Contractor, Not Reviewed, and resubmittal will be required. It is acceptable for the Contractor and the Architect of Record and/or Engineer of Record to stamp the cover page of the calculations only and stamp each sheet of the shop drawing. Stamp in accordance with the Florida Board of Professional Engineers regulations.

28.5 Scheduling of Submittals

Add to following paragraph

Prior to the submission of any shop drawings, the Contractor shall submit a Shop Drawing/Submittal Item List. The list is to be submitted in electronic format (excel spreadsheet, which will be provided by the Resident Engineer (CEI) to General Contractor). For each planned submittal, define the following; description of item, structure identification number, bridge number, location, specification section numbers and roadway divisions. Reference Exhibit 28-B which depicts the review coordination of the shop drawing/submittal item list. The Contractor shall submit the list to the Resident Engineer (CEI).

28.6 Transmittal of Submittals

Delete sentences 5 and 6 in paragraph 1, replace with the following

Exhibits 28-A through 28-C shall be supplemented with the following Exhibits. These Exhibits are shown at the end of this chapter.

Exhibit 28-A Shop Drawing Routing Chart

Exhibit 28-B Flow Chart for Shop Drawing/Submittal Item List Coordination for Design Bid Build Projects

Exhibit 28-C Shop Drawing Review Office - Department's Review Office Distribution Chart

Replace 2nd paragraph with the following

The Special Provisions for the project may denote the procedure to be followed. Furthermore, the website URL, the Contractor shall utilize to electronically submit shop drawings and the procedure to be followed may also be defined during the preconstruction conference for the project. In the absence of such instructions as outlined within this Chapter generally applies.

28.6.1 General Submittal Requirements

Replace this section with the following

On projects where the Architect of Record and/or Engineer of Record is a Consultant to the Department, and unless otherwise directed at the project's preconstruction conference, the Contractor shall submit shop drawings directly to the Consultant utilizing **ProjectSolve**. On projects where the Department is the Architect of Record and/or Engineer of Record, the Contractor shall submit shop drawings directly to the Department utilizing **ProjectSolve**. All drawings shall be on sheets not larger than 11" x 17".

28.6.2 Requirements for Department EOR

Replace title with the following

28.6.2 Requirements for Department Architect of Record and/or Engineer of Record

28.6.3 Requirements for Consultant EOR (Full Services)

Replace title with the following

28.6.3 Requirements for Consultant Architect of Record and/or Engineer of Record (Full Services)

Add the following paragraphs

Architect of Record and/or Engineer of Record receives the shop drawing from the Contractor, electronically, through Construction management's website, **ProjectSolve**. It is the responsibility of the Architect of Record and/or Engineer of Record to verify that the Contractor's shop drawing submission has been submitted in complete format.

If the shop drawing is not submitted in complete format, the Architect of Record and/or Engineer of Record shall coordinate with the Resident Engineer (CEI) and/or Contractor accordingly. Architect of Record and/or Engineer of Record to make determination based on coordination with Resident Engineer (CEI)/Contractor, if shop drawing is incomplete and shall be routed back to the Contractor for resubmission. Architect of Record and/or Engineer of Record shall coordinate with FDOT Florida's Turnpike Enterprise's Shop Drawing Review Office accordingly, to close out shop drawing.

As the Architect of Record and/or Engineer of Record, when reviewing signed and sealed calculations and shop drawings, it is acceptable to incorporate the disposition stamp on the cover sheet of the calculations. Each sheet of the shop drawings must be stamped by the Architect of Record and/or Engineer of Record.

If submittal includes samples, Architect of Record and/or Engineer of Record incorporates disposition stamp and forwards all original samples to FDOT Florida's Turnpike Enterprise Review Office, via overnight courier.

Architect of Record and/or Engineer of Record shall notify the FDOT Florida's Turnpike Enterprise Production Project Manager if the shop drawing deviates from contract requirements.

Shop Drawings shall bear Architect of Record/Engineer of Record's code disposition stamp. The Department will continue to overview those shop drawings deemed "Critical". A project specific list of "Critical" shop drawings will be developed by FDOT Florida's Turnpike Enterprise Staff. Upon review of these shop drawings, the Department's reviewer will stamp, sign and date shop drawings.

Architect of Record and/or Engineer of Record submits the shop drawing submission through **ProjectSolve** to FDOT Florida's Turnpike Enterprise Shop Drawing Review Office for final processing back to the Contractor. The Resident Engineer (CEI), Construction Project Manager, Project Manager and the Architect of Record and/or Engineer of Record are also notified, via email when shop drawing has been final processed.

28.6.3.1 Review by Engineer of Record/Architect of Record Only

Replace title with the following

28.6.3.1 Review by Architect of Record and/or Engineer of Record Only

Replace this section with the following

Refer to Section 28.6.3 for Architect of Record and/or Engineer of Record's requirements. On projects where the Architect of Record and/or Engineer of Record is a Consultant to the Department and has been retained by the Department to review construction items without follow-up review by the Department, the Consultant will assume the responsibility of the owner's agent. The reviewing consultant is encouraged to communicate with fabricators, contractors, specialty engineers and the Department's Review Office to clarify concerns before returning the submittal to the Contractor. The reviewing Consultant shall also contact the Department's Review Office if unsure of the Department's position on certain issues during the review. Submittals should not be stamped "resubmit" if "approved as noted" will suffice. Submittals (unless otherwise noted below) shall have been submitted by the Contractor directly to the Consultant. Upon receipt of the submittal, the Consultant shall perform the review, note any comments on the sheets, indicate disposition by stamping the sheets as described hereinafter

and electronically submit shop drawings back to the FDOT Florida's Turnpike Enterprise Shop Drawing Review Office through *ProjectSolve*, for final processing back to Contractor.

28.6.3.2 Review by Engineer of Record and the Department

Replace title with the following

28.6.3.2 Review by Architect of Record and/or Engineer of Record and the Department

Replace the whole section with the following

On projects where the Architect of Record and/or Engineer of Record is a Consultant to the Department and has been retained by the Department to review construction items, submittals (unless otherwise noted below) shall have been submitted by the Contractor directly to the Consultant thru *ProjectSolve*. Upon receipt of the submittal, the Consultant shall perform the review, note any comments directly on the sheets, indicate the disposition by stamping the sheets and, submit to FDOT Florida's Turnpike Shop Drawing Review Office via *ProjectSolve*.

The Department will continue to overview those shop drawings deemed "Critical". A project specific list of "Critical" shop drawings will be developed by FTE Staff. Upon review of these shop drawings, the Department's reviewer will indicate the disposition by stamping the sheets, sign and date shop drawing.

28.6.5 Requirements for Architectural or Building Structures

Replace this section with the following

Shop drawings/submittals related to architectural or building structures shall follow the standard FDOT Florida's Turnpike Enterprise Shop Drawing Process as required within this chapter.

28.6.6 Requirements for Roadway Submittal Items

Replace with the following paragraph

Shop drawings/submittals related to Roadway plans such as lighting, attenuators, retained earth wall systems, etc. (except bridge items such as poles, bracket arms, or as noted below) shall be distributed in accordance to the Construction Project Administration Manual, (Topic No. 700-000-00 for the component involved or as otherwise directed at the preconstruction conference. Submittals related to bridge items shall have been submitted as required within this chapter.

28.6.8 Miscellaneous Requirements and Assistance

Replace with the following

For items not specified above or for which questions may arise as to submittal requirements, the Contractor should be advised to contact the Resident Engineer (CEI) or the appropriate Department Review Office.

28.7 Disposition of Submittals

NOTE: Where stated in the PPM, Engineer of Record, Replace with the following: Architect of Record and/or Engineer of Record.

Replace 3rd sentence, 2nd paragraph with the following

Stamps shall identify the approving groups, such as the Architect of Record/Engineer of Record – Consultant, the Department’s assigned commercial inspection agency and/or Department personnel, and the date.

Insert after 2nd sentence, 3rd paragraph

When the Consultant is the Architect of Record and/or Engineer of Record any comments provided, must be indicated in red. The Department’s assigned commercial inspection agency and/or the Department personnel. Any comments provided must be indicated in green.

Replace 2nd sentence, 3rd paragraph with the following

Consultant must declare any limitations to the extent of their review and approval by the terminology of their standard stamp and/or by additional written and “ballooned” notes on the submittal items, indicated in red.

Replace the 4th paragraph with the following

The consultant shall contact FDOT Florida’s Turnpike Enterprise Project Manager, who will coordinate with the Construction Project Manager to determine as to whether or not a Supplemental Agreement or Cost Savings Initiative Proposal (CSIP) is required. If either procedure is required to be initiated, the shop drawing shall not be reviewed until a decision is finalized.

Replace 5th paragraph with the following

When the Architect of Record and/or Engineer of Record receives a submittal which is not in accordance with the requirements of this chapter, the submittal will be returned to the Contractor, as “REVISE/RESUBMIT”, the Contractor shall be advised to resubmit immediately with the corrections or additions necessary.

Replace 1st sentence in 13th paragraph with the following

Exhibit 28-A depicts the submittal distribution flow of a shop drawing through *ProjectSolve*.

28.9 Distribution of Submittals

Replace 1st paragraph and Table 28.3 with the following

Refer to Exhibit 28-A for routing of a Shop Drawing with the use of ***ProjectSolve***.

Replace 2nd paragraph with the following

When precast/prestressed concrete components are involved, the Department's District Prestress Engineer is furnished an electronic copy. When structural steel components are involved, the Department's Assigned Commercial Inspection Agency (ACIA) is furnished an electronic copy. When mechanical/electrical components of movable bridges are involved, the Mechanical/Electrical Section of the State Structures Design Office (SSDO) is furnished an electronic copy.

Replace 4th paragraph with the following

When approval of a submittal is denied ("Resubmit" or "Not Approved"), distribution of the submittal shall be processed through ***ProjectSolve***.

28.11 Submittal Activity Record (Logbook)

Replace 1st paragraph with the following

FDOT Florida's Turnpike Enterprise Shop Drawing Review Office is the Final Review Office and maintains the Submittal Activity Record (Logbook), through Construction Management's website ***ProjectSolve***. A log is maintained for each project where shop drawings are submitted and maintained on a daily basis.

The following minimum data shall be entered on the Shop Drawing Module Page in ***ProjectSolve***:

1. Financial Project ID
2. Contract Number
3. Roadway Division/Specification Section
4. Description of Shop Drawing Entry
5. Date Submitted by Contractor to the Architect of Record and/or Engineer of Record
6. Date Submitted by Architect of Record and/or Engineer of Record to the FDOT Florida's Turnpike Enterprise Shop Drawing Review Office
7. Date Distributed by the Final Review Office to the Contractor
8. Architect of Record and/or Engineer of Record Disposition
9. FDOT Florida's Turnpike Enterprise Disposition (if reviewed, if not reviewed, the disposition on the shop drawing module page will be "Not Reviewed")

Add the following section

28.11.1 Shop Drawing Website

Shop Drawings can be tracked daily by utilizing ***ProjectSolve***. The purpose of ***ProjectSolve*** is to provide the Contractor, Resident Engineer (CEI), AOR/EOR, Project Managers, Construction Managers and Turnpike Management with up-to-date information/latest status of the Construction Project, whether it be related to shop drawings, RFIs, correspondence or MOT Lane Closure Notifications for every ongoing/active construction contract. It will serve as a tracking tool for project related documents and assist in expediting the construction process.

Visit the following website for Florida's Turnpike Enterprise general shop drawing requirements, guidelines and other helpful data.

http://design.floridasturnpike.com/prod_design/shopdrawings/shopdrawings.html

28.12 Archiving Record Shop Drawings

Replace this section with the following paragraphs

Prior to project completion, Florida's Turnpike Enterprise Shop Drawing Review Office will coordinate with the Resident Engineer (CEI) to ensure all shop drawings have obtained resolution. If not, the Shop Drawing Review Office will request the Resident Engineer (CEI) to provide clarification of resolution.

Upon completion and acceptance of the construction project by the Department (usually by receipt of a written Notice of Acceptance), FDOT Florida's Turnpike Enterprise Shop Drawing Review Office imports the shop drawings into the EDMS System. The Submittal Activity Record Logbook (Shop Drawing Status Report) and the Final Acceptance Letter is also imported into the system.

Replace the following exhibit

Exhibit 28-A
Shop Drawing Routing Chart

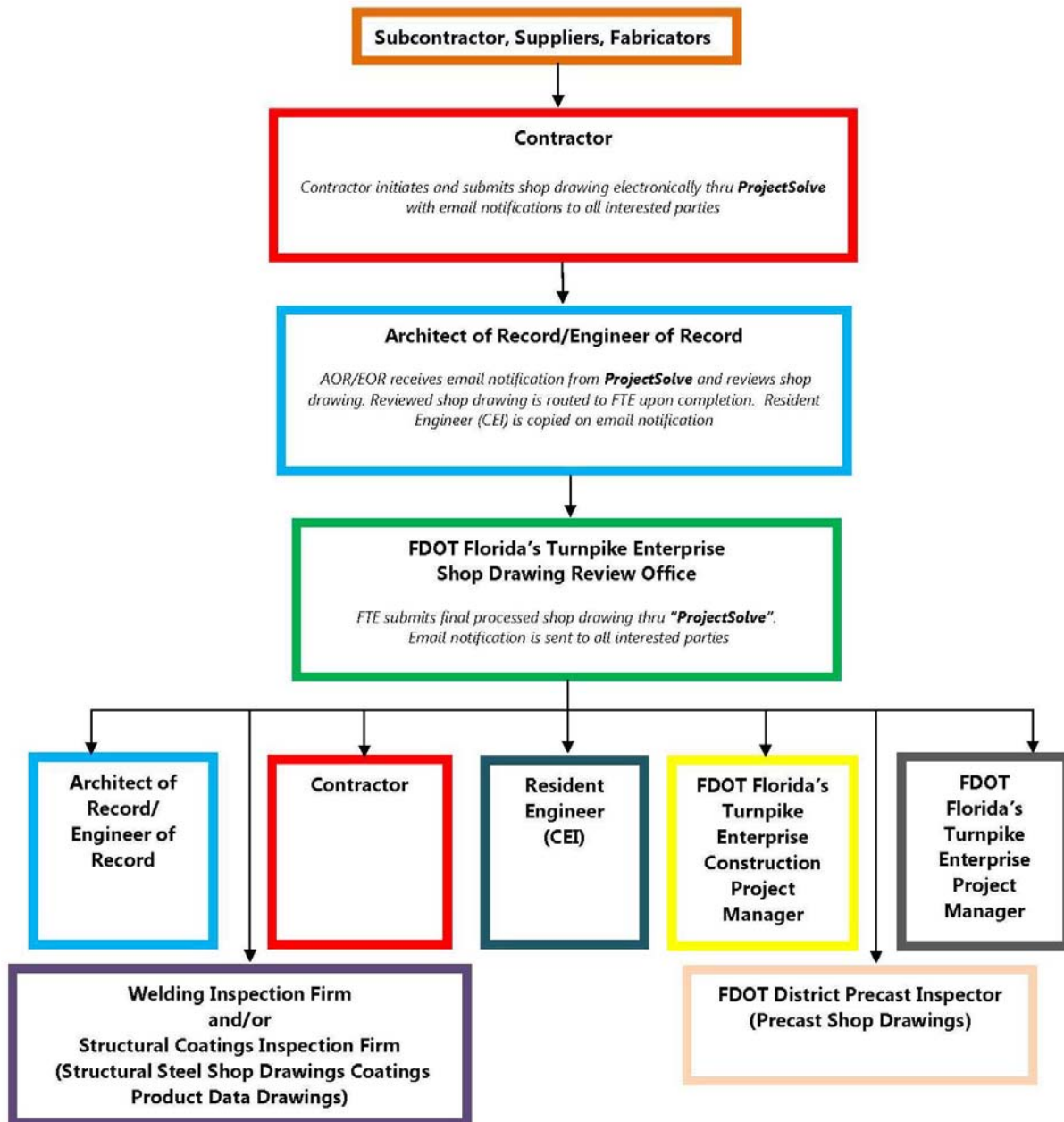
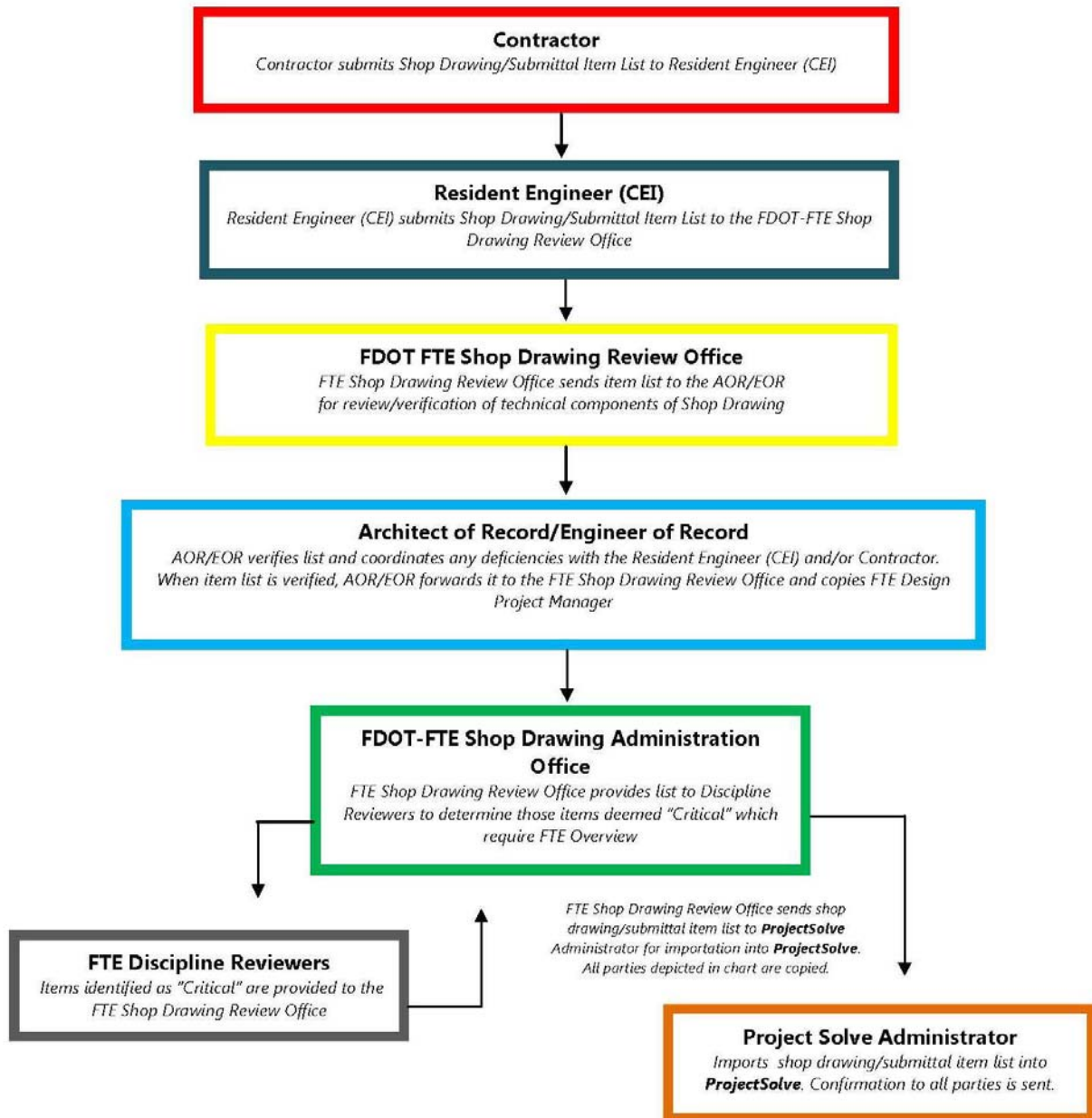
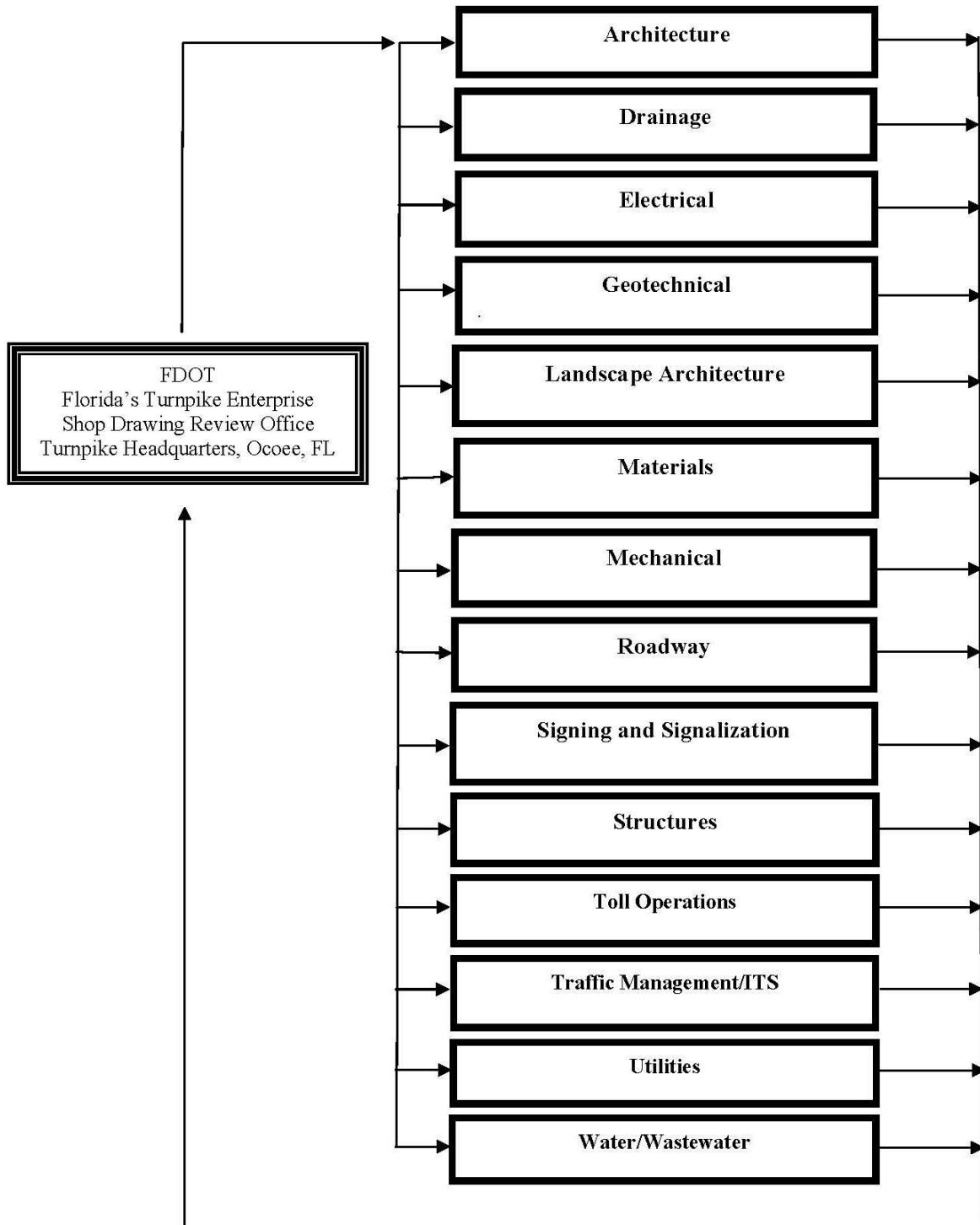


Exhibit 28-B
Flow Chart for Shop Drawing/Submittal Item List
Coordination for Design Bid Build Projects



Replace the following exhibit

Exhibit 28-C
Shop Drawing Review Office -
Department's Review Office Distribution Chart



Delete the following exhibit

Exhibit 28-D
Record Shop Drawing Transmittal