

Writing Technical Special Provisions for FDOT Projects



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State Specifications and Estimates Office

Why should I be excited about writing a Technical Special Provision?

- ◆ I get to use my laptop  or to type in MS Word instead of 2 monitors with Micro  tion.
- ◆ I never get to write  specification since Central Office hogs all that work .
- ◆ So I can contribute to something **BOLD** and *Innovative*.



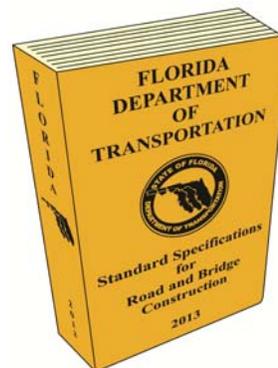
Writing Technical Special Provisions for FDOT Projects

- ◆ What?
- ◆ When?
- ◆ Why?
- ◆ How written?
 - ✓ Best Practices
 - ✓ Don'ts
 - ✓ Examples
- ◆ How processed?
- ◆ Where?



What is a Technical Special Provision?

- ◆ a.k.a. “Tech Spec” or “TSP”
- ◆ From the *FDOT Standard Specifications for Road and Bridge Construction* (Article 1-3)
 - ✓ Specifications, of a technical nature, prepared, signed, and sealed by an Engineer registered in the State of Florida other than the State Specifications Engineer or his designee, that are made part of the Contract as an attachment to the Contract Documents.



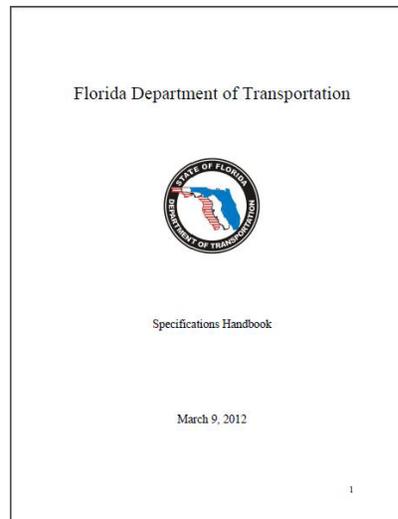
What is a Technical Special Provision?

- ◆ Restated....
 - ✓ Specifications of a true **technical** nature, for work **not included in FDOT specifications**, that are signed and sealed by a Florida PE (either FDOT or Consultant), and included as appendices in a **contract specifications package**.
- ◆ Key word is **TECHNICAL**
 - ✓ No general approach language
 - ✓ No general administrative language
- ◆ All TSPs are project specific.
- ◆ TSPs supplement the FDOT contract, while “standing on their own”.



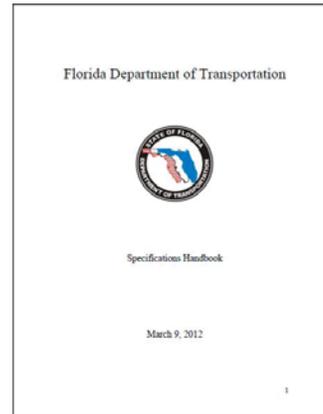
When is a TSP needed?

- ◆ From the *FDOT Specifications Handbook* (Subsection 2-2.3)
 - ✓ Use a TSP if an implemented Division II or III specification does not address or cannot be modified to address the needs of the project. Coordinate with the District Specifications Office to determine if a TSP is needed.



Why is a TSP needed?

- ◆ From the *FDOT Specifications Handbook* (Subsection 3-1)
 - ✓ A TSP must complement the plans, specifications, and other contract documents and not create any conflicts. A TSP must describe the work to be performed, identify the material requirements, describe the construction or installation requirements, and state how the item will be measured and paid.



How is a TSP written? – Best Practices

- ◆ Do your homework
 - ✓ Research the applicable *FDOT Standard Specifications* and *Design Standards* first
 - ✓ Don't reinvent the wheel – check with FDOT Specifications
 - ✓ Research means and methods with the FDOT technical experts and contractors
 - ✓ Research products with the FDOT technical experts and vendors/manufacturers



How is a TSP written? – Best Practices

- ◆ From the *FDOT Specifications Handbook* (Subsection 3-1)
 - ✓ The format and style of a TSP should resemble as much as possible the format and style of implemented specifications. Prepare TSPs in accordance with the **Style Guide for Specifications** and **Specifications Format Template**.

Specifications and Estimates / Specifications
Specification Package Preparation Aids

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SAMPLE Specifications Package	This link provides access to a SAMPLE Specifications Package, the PDF file of an electronically signed and sealed package. It demonstrates a completed Table of Contents, the consecutive numbering of a package, and how to incorporate an individually signed and sealed Technical Special Provision, all ready for incorporation into a PISE submittal.
SAMPLE Supplemental Specifications Package	This link provides access to a SAMPLE Supplemental Specifications Package, prepared for the same project, as the pdf file of an electronically signed and sealed package. It demonstrates how to modify an original Specifications Package, ready for incorporation into a Revision.
Style Guide for Formatting Specifications	This link provides many helpful hints on formatting specifications prepared for incorporation into FDOT projects. Topics covered include AASHTO Format, Organization of Specs, Formatting Issues, Abbreviations and Symbols, Numerals, Punctuation and Grammar, Capitalization, Tables, Wording in Active Voice, Word Processing Hints, etc. These guidelines are also applicable to the preparation of Technical Special Provisions.
Specifications Development Formatting Guidelines	This link provides important information on how to apply the FDOT document template when creating and formatting Specifications.
Specifications Format Template	Right-click on this link and click on "Save Target As" to save the Specifications format template to your computer. The template contains the styles necessary for the formatting of the Specifications Package.

2013 Design Training Expo

How is a TSP written? – Best Practices

- ◆ Provide definitions at the beginning of the TSP, if needed and if they are not already included in Article 1-3 of the *Standard Specifications*.
- ◆ Follow the AASHTO Format
 - ✓ Description
 - ✓ Materials
 - ✓ Construction Requirements
 - ✓ Method of Measurement
 - ✓ Basis of Payment
- ◆ Make acceptance of materials and products clear (certification, testing, etc.)

How is a TSP written? – Proprietary Products

- ◆ If justified in accordance with the upcoming FDOT proprietary products process, proprietary products may be specified in a TSP if they are not sole source.
- ◆ And....if a TSP can be written to allow multiple proprietary products, calling out specific product names or models is not necessary.
- ◆ New proprietary products process is anticipated to be added to the Specifications Handbook and implemented this year.
- ◆ Contact the District Specifications Office prior to use.



How is a TSP written? – Proprietary Products

- ◆ Utilities are different....
 - ✓ The utility owner may provide justification for requiring specific products in TSPs.
 - ✓ A preferred list of vendors or products may be used if the costs for utility work are non-reimbursable.
- ◆ Coordinate with the District Utilities Office prior to use.



How is a TSP written? –Top 10 Do Not's

- ◆ 1. Do not override or duplicate an implemented specification. A TSP is not a *TRUMP CARD*.
- ◆ 2. Do not modify or duplicate Sections 1 through 9 of the *FDOT Standard Specifications*.
- ◆ 3. Do not copy and paste from a previously used TSP without reviewing and reconciling the language vs. the applicable FDOT specifications.
- ◆ 4. Do not use sketches, pictures or drawings in a TSP – that's what Plans are for.
- ◆ 5. Do not require bidders to submit documents or data with the bid.



How is a TSP written? –Top 10 Do Not's

- ◆ 6. Do not use statements such as, "If a conflict exists, the more stringent requirement prevails." NEVER rely on the governing order of documents to substitute for vaguely written specifications.



How is a TSP written? –Top 10 Do Not's

- ◆ 7. Do not reference the Qualified Products List or the Approved Product List.
- ◆ 8. Do not require a patented or proprietary product or process with the term “or equal.”
- ◆ 9. Do not inadvertently require a proprietary product by copying and pasting from a manufacturer’s specification.
- ◆ 10. Do not specify a contractor's warranty or increase the terms of a standard manufacturer’s warranty.



Common Issues – Warranties

- ◆ Do not specify contractor warranties.
 - ✓ Not readily enforceable.
 - ✓ Covered by FDOT Standard Specifications and Value Added specifications for Design-Build projects.
 - ✓ Often turn into maintenance – other procurement methods are available if maintenance is required.
- ◆ Do not increase the time or terms of manufacturer warranties.
 - ✓ Difficult to track and enforce after Final Acceptance.
 - ✓ Covered by FDOT Standard Specifications and standard manufacturer warranties.



Common Issues – Examples

- ◆ Article 560-13 is deleted and the following substituted: (Seven pages of TSP text followed)
- ◆ Manufacturer's recommendations, not in conflict with the cleaning and painting requirements, specified herein and Sections 560 and 561 shall also apply.
- ◆ Except to the extent that more stringent requirements are written directly into the Contract Documents, the following regulations and standards have the same force and effect, and are made a part of the Contract Documents by reference, as if copied directly into the Contract Documents, or if as published copies were bound herein. Where there is a conflict in these regulations and standards, the more stringent requirement shall govern.



Common Issues – Examples

- ◆ Provide 10 year minimum warranty for adhesive and painting system. Increase paint coating thickness if required for warranty.
- ◆ Special product warranty – Provide written warranty, signed by the manufacturer of primary membrane lining materials, agreeing to, within warranty period, replace/repair defective materials and workmanship including significant leakage, abnormal aging or deterioration of materials, and other failures of membrane lining to perform as required.



Common Issues – Examples

- ◆ Use the best quality oil based paint with no lead content manufactured by Sherwin-Williams, Benjamin Moore, or Pittsburgh Paints or approved equal that will provide an effective UV resistance to polyurethane foam substrate. Prime and each of the two top coats shall have 2.0 mil minimum dry film thickness.
- ◆ Dye shall be a water-activated, green color or equivalent, as supplied by American XXXXXXXXX Company, YYYYYYY, Texas (800-CALL-THEM).
- ◆ Subject to compliance with specification requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to the following: B.F. Goodrich, Staff Industries, Inc., Watersaver International, Ltd., Environmental Protection, Inc.



Common Issues – Examples

- ◆ Performance Requirements: The system provided solution shall have the following capabilities as demonstrated via stand alone and system testing:

System Specifications	
Measurement Technique	CRDS
Measurement Cell Temperature Control	Within 0.002 °C
Measurement Cell Pressure Control	Within 0.003 atm
Sample Temperature	-10 to 45 °C
Sample Flow Rate	< 0.4 slm at 760 Torr, no filtration required
Sample Pressure	300 to 1000 Torr (40 to 133 kPa)
Sample Humidity	< 99 % R.H. non-condensing @ 40 °C, no drying required
Temperature	10 to 35 °C (operating) -10 to 50 °C (storage)
Humidity (ambient)	< 99 % R.H. non-condensing
Accessories	Pump (external, included), keyboard (included), mouse, LCD monitor (optional)
Outputs	RS-232, Ethernet, USB, analog (optional) 0 – 10 V
Fittings	¼" Swagelok *
Dimensions	17" w x 9.75" h x 17.5" d (43.2 x 25 x 44.5 cm) including feet, not incl. small external pump module, 7.5" w x 4" h x 11" d (19 x 10.2 x 28 cm)
Installation	Benchtop or 19" rack mount chassis
Weight	56 lbs (25.4kg), includes external pump
Power Requirements	100 - 240 VAC, 47 - 63 Hz (auto-sensing), < 260 W start-up (total); 110 W (analyzer), 35 W (pump) at steady state



Common Issues – Examples

- ◆ FDOT Standard Specifications for Road and Bridge Construction, (2000), as amended, may apply to this Technical Special Provision.
- ◆ It is the intent of this Section to require an installation, complete in every detail, whether or not indicated on the Drawings or specified herein. The Contractor shall be responsible for all details, devices, accessories and special construction necessary to properly furnish, install, adjust and place in continuous satisfactory service and complete the work in an acceptable manner.



How is a TSP processed?

- ◆ Submit to the District for review and approval at Phase III plans submission, or sooner.
- ◆ District Approval
 - ✓ Central Office approval is not required; Central Office will review and advise if requested by the District
 - ✓ Legal must review and approve all TSPs



Where can get more info on TSPs?

- ◆ District Specifications Engineers
 - ✓ Access to library of TSPs
- ◆ State Specifications Section
 - ✓ Provide guidance on formatting, etc.
- ◆ Contact Info
 - ✓ <http://www.dot.state.fl.us/specificationsoffice/staff.shtm>



THANK YOU!

QUESTIONS?

