

# E-Delivery “Oops!”



## How to Make a Successful Project Submittal

G. Britton Hardy, P.E.

With assistance from:

Richard McCall & Jason Spilak

## Start Early !

**PROFESSIONALS' ELECTRONIC DATA DELIVERY SYSTEM  
DELIVERY MANIFEST DOCUMENT**

**PROJECT SUMMARY**  
Project ID: 255769-1-52-01  
Project Manager: William Reynolds  
Delivery Description: Traffic Signal replacement on SR 600 (Hillsborough Ave.) at 22nd St.

**DELIVERY SUMMARY**  
Project Key: 25ADDF5F-4EF6-397C-2A34-70BE91E572B  
Project Root Folder: C:\E\Projects\25576915201  
Date: 2008/06/13 Time: 10:54:12.382  
Number of project files: 360  
Total number of bytes in project files: 48,419,313  
Total number of signature files: 5

**SIGNATURE BLOCK**  
As authorized by Section 668.004, Florida Statutes, I am signing below to adopt the MANIFEST FILE HASH CODE listed below as an electronic signature for certain electronic files that I intend to sign. I intend this electronic signature to have the same force and effect as if I had printed and manually signed the referenced electronic file(s). The MANIFEST FILE HASH CODE listed below is the electronic signature of the manifest file, which contains a list of files along with their SHA-1 hash codes. The manifest file is defined as signed if its SHA-1 hash code matches the MANIFEST FILE HASH CODE listed below. An electronic file listed in the signed manifest file is defined as signed if its listed SHA-1 hash code matches the file's computed SHA-1 hash code.

- Start early with e-delivery submittal
- All phases of submittal should be e-delivery format
- Check with District for specific requirements

- Have and USE a QC process from the start of the project through the project's completion.
- Have electronic delivery trained staff involved in the delivery process.



## Common Errors in E-Delivery

- **FINISH the design - STOP modifying the plans when preparing Plans for submittal to District Specifications**
- **Next, get the CD/DVD correct**
  - Properly label the CD/DVD as required by CADD Production Criteria Handbook {8.4.7}
  - Make sure the CD/DVD authenticates in PEDDS

## Supporting Paperwork

- **Plans to District Specifications Submittal requires only the following:**

- Signed Delivery Manifest
- One copy each (Signed but not sealed) of each signature document
- Completed copy of the Compliance Certification Checklist Report (CCCR)



- **Plans to Tallahassee Submittal requires the following:**

- **Signed** Delivery Manifest
- 4 originals of each Signature Document (**Signed & Sealed**)

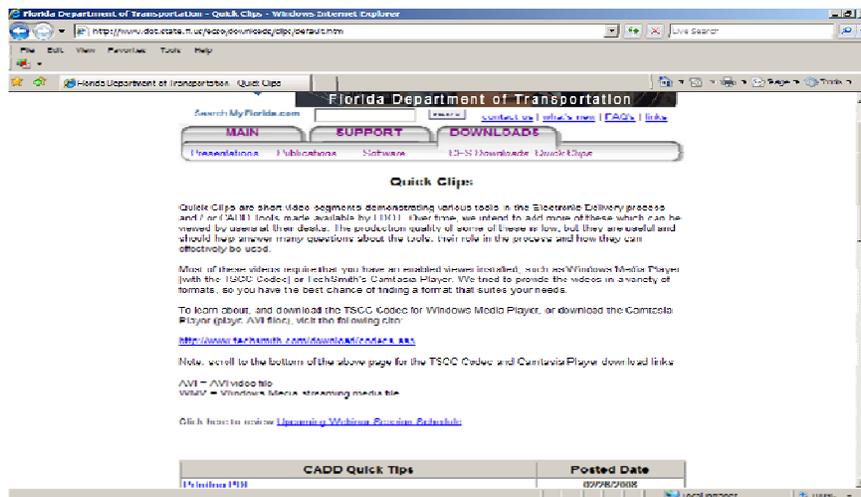
## References Used for E-Delivery



- **Plans Preparation Manual (PPM)**
- **CADD Production Criteria Handbook (CPCH)**
- **Basis of Estimates (BOE)**
- **CADD Manual**
- **E-Delivery Training Guide**

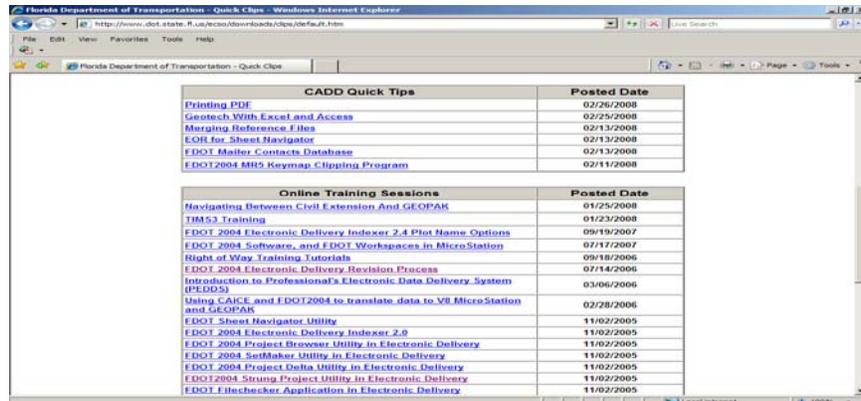
All are available online at **FDOT Engineering and CADD Support**

## Training for E-Delivery



- Quick Clips are available anytime online

- Quick Clips are available for the modules in EDI (Electronic Delivery Indexer)
- Also available are PEDDS and CADD Quick tips



CADD Quick Tips	Posted Date
<a href="#">Printing PDF</a>	02/26/2008
<a href="#">Geotech With Excel and Access</a>	02/13/2008
<a href="#">Merging Reference Files</a>	02/13/2008
<a href="#">EOL for Sheet Navigator</a>	02/13/2008
<a href="#">EDOT Master Contacts Database</a>	02/13/2008
<a href="#">EDOT2004 MHS Keymap Clipping Program</a>	02/11/2008

Online Training Sessions	Posted Date
<a href="#">Navigating Between Civil Extension And GEOPAK</a>	01/25/2008
<a href="#">TMS3 Training</a>	01/23/2008
<a href="#">EDOT 2004 Electronic Delivery Indexer 2.4 Plot Name Options</a>	09/19/2007
<a href="#">EDOT 2004 Software and EDOT Workspaces in MicroStation</a>	07/17/2007
<a href="#">Right of Way Training Tutorials</a>	09/18/2006
<a href="#">EDOT 2004 Electronic Delivery Revision Process</a>	07/14/2006
<a href="#">Introduction to Professional's Electronic Data Delivery System (PEDDS)</a>	03/06/2006
<a href="#">Using CAICE and EDOT2004 to translate data to V8 MicroStation and GEOPAK</a>	02/28/2006
<a href="#">EDOT Sheet Navigator Utility</a>	11/02/2005
<a href="#">EDOT 2004 Electronic Delivery Indexer 2.0</a>	11/02/2005
<a href="#">EDOT 2004 Project Browser Utility in Electronic Delivery</a>	11/02/2005
<a href="#">EDOT 2004 Setbacker Utility in Electronic Delivery</a>	11/02/2005
<a href="#">EDOT 2004 Project Delta Utility in Electronic Delivery</a>	11/02/2005
<a href="#">EDOT 2004 Strong Project Utility in Electronic Delivery</a>	11/02/2005
<a href="#">EDOT Flitechecker Application in Electronic Delivery</a>	11/02/2005

## Training Resources for E-Delivery

- District level training



- Contact FDOT Project Managers or District CADD Manager.
- Contact the Plans, Specifications & Estimates (PS&E) section which processes E-Delivery submittals

- Web based training

- Online Training Sessions (download videos)
  - Available for CADD basics, E-Delivery software modules including Setmaker, Filechecker, etc.
- Webinar Online Training Sessions (interactive)
  - Scheduled as live GoTo Meetings during the year with Tallahassee Central Office CADD staff
  - Prior sessions also available as downloadable video

- Other Training Available

- FDOT Sponsored Training
  - Periodically, especially with major new software releases, there will be training held either at the District(s) or at Central Office (Turnpike in Orlando or the Tallahassee office)
- Additional Training
  - Some sponsored training is available during the year at various locations on topics including general CADD including E-Delivery
  - Despite current AutoDesk rumors, existing projects will be accepted in current format

## Most Common “Oops” for E-Delivery



- Starting too late
- Design revisions during delivery
- Lack of QC
- Failure to read the information provided
- Failure to review CADD Production Criteria Handbook (CPCH )

- Unfamiliar with PPM, BOE, CADD Manual, etc.
- Using old delivery software
- Apparent failure to QA/QC data
- Break down or lack of communication between the consultant and FDOT
- We cannot help you if you don't ask



## Suggestions for Successful E-Delivery

- Start the E-Delivery format process early.
- QC entire process and add Journal notes on the delivery CD/DVD.
- Use all the available references and manuals. Call the District if you don't know where to locate manuals. Don't wait until the last moment.



- Get training, view the online video clips, and study the help files for each software.
- Contact your District office Project Manager (or Plans, Specifications & Estimates office) for questions on policies and requirements.

Questions ?



# Where Does Quality Control Come From?

G. Britton Hardy, P.E.  
District Roadway Design Engineer  
FDOT District 7

## Quality Control is a Dream!

- **Some day we will receive a set of plans for mailing and:**
  - There will be no ADA violations in the plans
  - The quantities will be correctly calculated
  - There will no bidding or constructability issues
  - There will be no errors & omissions by the EOR
  - There will be no reason for the Director of Transportation Development to call the consultant about the lack of QA/QC in plans production

## **QC should NOT be a Nightmare**

- **Do not go into the dark basement of apathy!**
- **Do not take the wide, smooth path speeding toward a rocky cliff!**
- **Do not look away from the obvious danger!**
- **Do not try to stare down the charging Rhino!**
- **Deal with the Design Issues thoroughly!**
- **Deal with the Design Issues in Detail!**

## **A Design Issue Example**

- **Inappropriate pay items on a project**
- **What do we mean “inappropriate”?**
  - Unsuitable Pay Items used for proposed construction work.
  - You don't wear boxing gloves if the plan is to button your shirt!

## Other Design Issue Examples

- **Including Pay Item work efforts in 102-1, Lump Sum Maintenance of Traffic**
  - Including asphalt tonnage for temporary pavement
  - Including flowable fill cubic yards to speed lane reopening for MOT
- **Overbuild for Cross Slope correction**
  - No Run-off-Road accidents due to cross slope
  - Roadway longitudinal grade is >2%

## More Design Issue Examples

- **Designer's fail to read Standard Specifications regarding proposed work**
  - Pay Item numbers indicate specification use
  - Some specifications do not address the designer's intent for the work
  - Specifications covering certain work effort already cover issues associated with specific work
  - Designer authored notes often conflict with Standard Specifications
- **Do NOT paraphrase specifications using Plan Notes!**

## Reminders...

- Review plans for drainage conflicts (structures/pipes, etc.) with retaining/MSE walls during the plans development process
- Verify guardrail type (i.e. Thrie Beam vs. W-Beam) and associated pay item(s) during quality control back-checks and reviews
- Verify both traffic and/or temporary retaining walls will not be in conflict with installation needs (spacing) of pile driving operations (equipment).

## Reminders...

- Verify use of any foreign steel on Federal Fund projects and secure proper "Buy America" waiver(s) from FHWA prior to the letting process. Current policy has very low threshold limits and must be tabulated during the construction administration process
- Review ADA criteria especially for those flat areas landing(s) adjacent to the pedestrian buttons. They typically warrant a graded approach and many situations require reconstruction of sidewalk to allow for smooth transitions. Quantities of sidewalk must be accounted for these adjustments

## Reminders...

- Verify the geodetic data NGVD 1929 vs. NAVD 1988 used – Differences considerable when two surveys are provided but are different geodetic data
- Quality Control is emphasized within the **design** development and plans review phases of all projects
- Insure all pay items necessary for construction activities are included within TRNS\*PORT; Construction Plans; and the Computation Booklet
- Temporary/Permanent Reflective Pavement Markers (RPM's), temporary striping and pedestrian signals for multiple lane shifts and construction phases need to be included in quantities for the contract

## Reminders...

- Quality control is emphasized within the **design** development and **plans review** phases of all projects to ensure all pay items necessary for construction activities are included (this is not an error!)
- Review construction plans for hazardous materials involvement and secure necessary input from Intermodal Systems Development (aka: PD&E). Plan notes and/or prior field reconnaissance are typically mandatory requirements. Suspect sites may include but are not limited to: Landfills, Gas (Service) Stations, "Used Auto Parts Yards", Etc.

## Reminders...

- Review current design plans for Intelligent Transportation Systems (ITS) infrastructure due to potential conflicts and to avoid these to the extent practical. FDOT ITS infrastructures are prominent on Interstate Systems (I-4, I-275, and I-75) and principal arterials (US 19, Fowler Ave., Etc.) and these conflicts must be reviewed by the ITS Management Group
- Review the possible removal of asphalt expansion joints on rigid pavement projects. District Seven has developed a design detail to replace these asphalt expansion joints with a concrete slab to avoid recurring maintenance challenges.

## Reminders...

- Review the “support of excavation” necessary to construct items called for in the highway plans. Excavations such as: Deep pipe culverts or box culverts adjacent to the right of way line or structure foundations; a Bridge pier adjacent to a mechanically stabilized earth wall (MSE). Critical walls also need to be accounted for within the construction MOT plans.
- Verify the need for lighting during the construction duration. Such temporary lighting systems must be called for in the plans and associated payment method included

## **What can be gained?**

- **No Quality, No Peace**
- **Know Quality, Know Peace**

## **What's the Point?**

- **Constructability and Biddability issues abound on projects**
- **These two issues are preventable in quality design projects**
- **These generally result in a costly Supplemental Agreement**
- **Can lead to Premium Costs and Errors & Omissions claim**

## Can there be a Rebirth of Quality Control or Is it Dead?

- **Rebirth is Possible, we are not too Late**
  - Quit Being Lazy
  - Set the example for your Staff
  - Mentor and Teach your Staff
  - Trust, but Verify

## Who is Responsible for Quality?

- **Every person in the Design Chain**
  - **Drafting Technician** (primary)
  - **Designer/Engineer** (trusted)
  - **Engineer of Record** (sign & seal)
  - **Project Manager** (supervisory)
  - **Principal** (*hiring authority*)

## **How can we Sustain Quality Control?**

- **Make the project YOUR project**
  - Take ownership of your work
  - Take pride in your work
  - Become a Craftsman at your Tasks
  - Mentor your subordinates
  - Pass your knowledge to others
- **Keep the issues out of the client's and the Principal's hands**

**Good Judgment comes from  
Experience**

**Experience comes from Bad  
Judgment**

### The Question is....

- Do you want the Office Manager of your company getting phone calls about your performance?
- SURVEY SAYS:

# NO!