Digital Signatures Update

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Engineering Systems Support Branch

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Digital Signatures Update

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Digital Signatures Overview

- April, 2010 Mr. John Barton put together an Electronic Signature Workgroup to:
  - Develop and publish, under administrative signature, procedures and security for the use of electronic signatures within TxDOT.
  - Recommend any needed TxDOT manual changes to the appropriate divisions.
  - Develop and carry out an initial training effort, either regionally or through the use of webinars.

- The Electronic Signature Workgroup members:
  - Chuck Steed, PE (CHS)
  - Dacio Marin, PE (BRG) (Chair)
  - Elias Rmeli, PE (BWD)
  - John J. Mora (TSD)
  - Ray Thomasian, PE (DES)
  - Sandra Sinton, PE (DES)
  - Susan Tutt (GSD)
Digital Signatures Overview

• TSD researched several other DOT’s workflow for digitally signing/sealing plan sets.

• TSD worked with Bentley Systems Inc. (BSI) to arrive at a viable solution that offered both a means to electronically sign/seal plan sets and a way to validate electronic signatures are from a trusted and reliable source.

• TSD worked with TxDOT Information Security personnel to assist with direction and advice on selecting Digital ID provider.
The workgroup chose the BWD and CHS districts to pilot TSD-CADD’s digital signature PS&E submission process.

In late November, 2010, the workgroup submitted recommendation to Mr. Barton per his directive.

Mr. Barton issued an executive memo to all D/D/O/Rs in December, 2010 informing all of the availability to perform electronic signing and sealing of plan sheets.
Digital Signatures Requirements

- TxDOT will be using VeriSign Inc. as Digital ID provider for engineers.
- TxDOT will be using Adobe Professional 8.0 or 9.0, for applying digital signatures.
- All plan sets will be submitted in PDF file format.
TxDOT Proposed Workflow

• Plan sets to be created and drawn using Bentley MicroStation. (Current workflow.)

• Engineer’s seal to be placed on sheet files using MicroStation’s Place Cell. (Current workflow.)

• Once plan sets are final, create PDFs of each sheet using MicroStation’s PDF plot option.

• Once all PDFs are created, engineers will create a PDF Portfolio (package) of plan set using Adobe Professional 8.0, or 9.0.
TxDOT Proposed Workflow

- Engineer’s to place digital signatures on PDF plan sheets inside PDF Portfolio using Adobe Professional’s Digital Signature Tool.

- PDF Portfolio to be submitted to TxDOT’s Design Division via the TxDOT Drop Box for review and final approval.

- Once final design is approved by Design Division, PDF Portfolio to be submitted to General Services Division for inclusion in Plans Online.
PDF Portfolio Examples
Helpful Tools

- TSD and Design Division collaborated on new standard sheet cells that will be used in conjunction with Digital Signature process.

- TSD created several PDF Batch Sequences to work specifically with the newly created standard sheet cells.

- TSD has created several video clips and instructional document to aid the learning of the Digital Signature process.
Training Tools

TSD Digital Certificate Web Page Link
Training Tools

Digital Signature
Instructional Video Example

07_Move_and_Resize_Signature.Fields.wmv
Electronic PS&E Submission Tips

- All PDF plan sheets must be electronically signed and sealed, and not scanned.
- PDF Portfolio naming convention: *Letting Month Letting Year_CSJ_County Name.pdf.* (Example: 0911_049601022_Knox.pdf).
- Plan Sheet naming convention: *CSJ (Sheet Number)-Description.pdf.* (Example: 0923-09-053 (001)-Title Sheet.pdf).
- The Index of Sheets must be a separate plan sheet from the Title Sheet.
- General Notes and E&Q plan sheets can be scanned as one PDF, or individual PDFs.
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Current Status

- New Adobe Acrobat Professional version (Adobe Pro X).
- TSD-CADD researching, testing, and configuring new security settings for Adobe Pro X.
- Working on both new User and Reviewer Manuals to support new Adobe Pro X.
- Will be creating new batch sequences to support new Adobe Pro X.
- Will be creating new training videos to support new Adobe Pro X.
Digital Signatures

Questions?

Thank you!