

Digital Signatures

Presented by:

TxDOT

Technology Services Division (TSD)

Engineering Systems Support Branch

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Digital Signatures

Introduction:

- The Texas Board of Professional Engineers has approved the use of electronic seals and signatures as a means of signing and sealing plans.
- TxDOT's Design Division and Technology Services Division are currently working together on a total electronic solution for digitally signing and sealing plan sets.

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Early on:

- TSD researched several 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.

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Decisions Made:

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

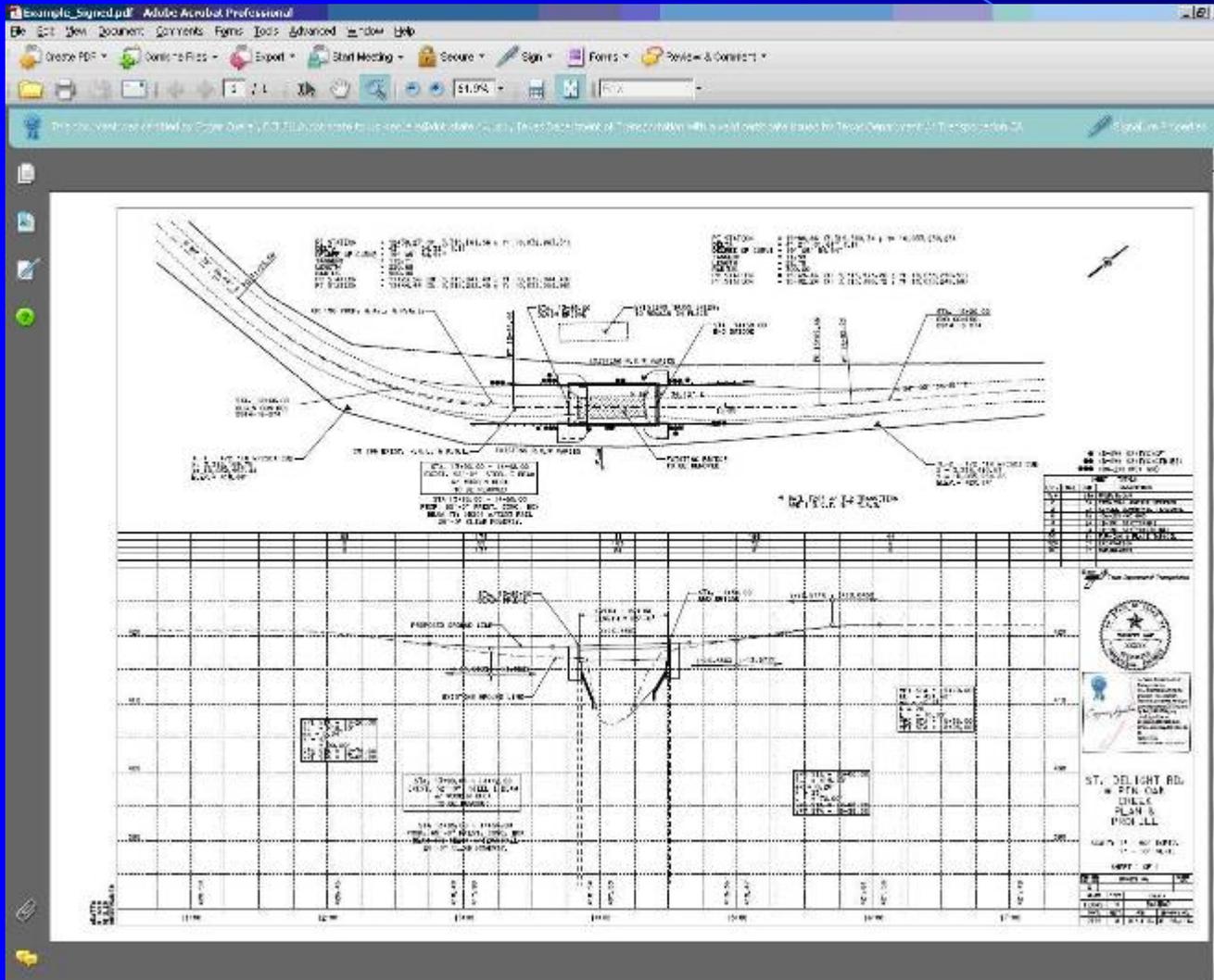
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TxDOT Proposed Workflow:

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

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Examples:



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TxDOT Proposed Workflow: (cont.)

- Once all PDFs are created and digitally signed, create a PDF Package of plan set using Adobe Professional 8.0, or above.
- PDF Package to be submitted to TxDOT's Design Division for review and final approval.
- Once final design is approved by Design Division, plans to be submitted to General Services Division for inclusion in Plans Online.

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Currently under Discussion:

- Digital Signatures
 - Sign Title Sheet only vs all sheets.
 - Process for multiple digital signatures.
- In-house plan submittal process options.
 - From within ProjectWise?
 - TxDOT Drop Box?
 - CD/DVD?
 - Shared Drive?
 - Email?

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Currently under Discussion: (Cont.)

- Plan review process.
 - Redlines - electronic or paper?
 - Digital Signatures - apply prior to or after plan review?
 - The addition or removal of plan sheets in set?
- In-house digitally sealed/signed plan set pilot project.
- Statewide Implementation Plan
 - Training.
 - Documentation/support.
 - Timeline for going completely digital.

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Down the Road:

- Consultant electronic plan submittal process.
 - Digital Signature validation.
 - TxDOT CADD Standards adherence.
 - TxDOT file format submittal adherence.
 - Plan set submissions
 - ProjectWise?
 - CD/DVD?
 - Portable Media Device?

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Conclusion:

- TxDOT is still in the planning process of a total electronic solution for plan submittal.
- Great strides have been made towards this solution, but still have some work to do.
- In the end, TxDOT's dedication to this process will not only save time and money, but will also be a major benefit to the environment.

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Thank you!