







# NDOT Construction Working Group

## Electronic Documentation (EDOC)

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# Why EDOC?

Prior to EDOC, documentation of quantities for contractor payment was:

- Entered into “orange” field books by numerous construction crew members
- Open to human error leading to over and under payments to contractors
- Led to a large liability to the Department as errors were not often discovered until the job was being closed out
- Staff spent numerous hours auditing documentation to discover errors
- Led to contractors maintaining overpayments and/or financing underpay for lengthy periods of time





# EDOC Approval and Timeline

- Technology Investment Request and Budget legislatively approved in 2011
- Request for Information (RFI) advertised in Nov. 2011
  - Industry standard for software procurement
  - Provides the Department with technological information to build and fine tune the Request for Proposal (RFP)
- RFP advertised and due to Dept. May 2012
- Project kicked off with InfoTech March 2013
- March 2013 to January 2015 working to define and deploy system
- January 2015 system fully deployed





# Strategies for EDOC

- Electronic submission of construction documentation
- Electronic document routing and approvals through e-signatures
- Digital document management in a secure environment allowing document distribution to project stakeholders through mobile devices
- Real-time sharing among stakeholders of construction documentation including quantities
- Construction Division determined documentation of quantities as most vital element to program – implement first with intent to implement additional functionality in the future:
  - Materials, Document Control, Civil Rights, E-bidding





# Benefits of EDOC

- Increased Efficiency – saves manpower
- Minimization of data entry error – accurate accounting
- Increased accuracy of pay estimates/contractor payments – minimize under and over payments
- Automation and streamlining of business processes and workflows
- Alignment of business processes among Districts
- Increased fiscal responsibility and accountability
- Electronic Signature for expedited routing of contract documents





# Efficiencies of EDOC's

## Quantities:

- Are uploaded into system directly from Ebidding at contract award time
- Are tracked by the Inspectors at the time of placement and uploaded into the system automatically
- Cannot exceed thresholds set in the system without a contract modification – eliminates overpayments
- Are not paid until all material certifications are received
- Can be viewed by the contractor at any time (if they have software)





# Efficiencies of EDOC's

- Docusign has reduced Change Order processing by at least 4 weeks or more
- Contract documentation can be viewed remotely
- System provides for tracking of staff who input information into system and/or “who’s court the ball is in”
- Time to close out contracts has decreased by 80% because system, not staff, balance quantities





# Need for Software Updated

- AASHTOWare FieldManager was implemented across DOT's in 1997
- AASHTOWare Construction & Materials is first upgrade of system since 1997
- FieldManager will no longer be supported, software will sunset in July 2019
- Risks of unsupported software includes inability to process contractor payments





# Need for Software Updated

- “Construction” module replaces FieldManager with a higher level of functionality
- “Materials” modules provides functionality for integrating materials tracking and laboratory information management
  - Paper based material system is replaced for Construction Crews *and* Materials Division
- Server based system is replaced with web based, cloud hosted system – reduces Dept’s Information Technology Division staff support





# Additional Functionality

- AASHTOWare is an enterprise wide solution for DOT's
- Functionality modules for the Dept. include (but is not limited to):
  - Cost Estimation
  - Electronic Bidding
  - Bid Analysis
  - Civil Rights & Labor
- \$2.5M expense is to implement
- Maintenance fees for Construction & Materials is \$250,000
- Cloud hosting yearly fee is \$245,000  
TRANSLATION: Four employees salary





# QUESTIONS?





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