



Technical Services

Advisory

TOPIC Digital Signature-Documents Requiring Professional Of Record Seal	NUMBER TSB16-01(A)	SUPERCEDES OR RESCINDS
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Topic

The purpose of this advisory is to provide guidance for Professionals of Record (POR) and others digitally signing documents for Highway Division Construction projects to expedite the flow of digital document routing and acceptance through the entire process. Digital Signatures are to be used by all ODOT PORs and others to digitally sign documents and data for all documents defined in [TSB11-02\(D\)](#) as requiring a POR seal. This will increase efficiencies by reducing resources, time, and paper.

Advisory Information (in use by Professional of Record)

BACKGROUND

ODOT is currently updating business processes that are adapting to new technologies that have become available. For those employees who have been required to seal (sign) their work, the prior process was to print the document, affix a “wet” signature, stamp it and finally, scan the document back into a digital document (e.g. a PDF document). Digital signatures offer three advantages over wet signing physical documents:

- The author can be verified as having signed the document
- The signer cannot deny having signed the document
- The signature is valid until the document is modified.

This Technical Services Advisory moves ODOT to digitally signing (sealing) electronic files produced by Professionals of Record (POR). Digitally signing electronic documents replaces the prior business process noted above.

GUIDANCE

Any changes/updates in Technical Services Directives or Bulletins (Manuals, Standard Specifications and Drawings) take precedence over information in Advisories.

This advisory provides a list of the types of final work products requiring a digital signature by a POR and others ([TSB11-02\(D\)](#)). More specific guidance on the work products of technical disciplines will be provided by the [Professional of Record Guidance](#), through the Technical Leadership Team and various discipline leadership teams.

DEFINITIONS

Digital Signatures means a type of electronic signature, authorized by ORS84.001 to 84.061, that transforms a message through the use of an algorithm or series of algorithms that provide a key pair, private and public, for signer verification, document security, and authentication.

Professional of Record (POR) includes all licensed professionals that, by the conditions of their professional license, are required to sign and seal their final professional work products. The final work product may include, but is not limited to, final design plans, technical reports, final calculations, and specifications.

Wet Signature is typically a hand written stylized version of the signer's name on a physical document.

EXPLANATION

A digital signature is to an electronic document as a handwritten signature is to a paper one and much more. A digital signature provides signer authentication, document authentication, possible document encryption, and efficiency.

Instead of using pen (wet signature) and paper, a digital signature uses digital keys to attach the identity of the signer to the document and record a binding commitment to the content of the document. Digital signatures enable "authentication" of digital documents assuring the recipient of a digital document of both the identity of the sender and the integrity of the document. A digital signature provides "who" signed the digital file. A time stamp of that digital signature provides when the digital file was signed.

A robust digital signature system must be capable of creating a signature that is

- Unique to the person using it
- Is capable of verification
- Is under the sole control of the person using it
- Is linked to the document in such a way that if any part of the document is altered, the digital signature is rendered invalid

A digital signature provides a greater degree of security than a handwritten signature.

The recipient of a digitally signed document can verify both that the document originated from the person whose signature is attached and that the document has not been altered either intentionally or accidentally since it was signed. Furthermore, secure digital signatures cannot be repudiated.

A significant benefit to the agency is in the reduction of paper handling and maintaining the data in a digital format. Signing documents digitally will enable and greatly facilitate the development of an Engineering Data Management System resulting in greater project delivery efficiency.

Digital signature technology has undergone thorough research and development over the last decade; it is not an emerging technology. Digital signatures have been accepted in several national and international standards developed and accepted by many corporations, banks and government agencies.

1) List of work products requiring a digital signature of a POR

Final Pictorial Representations	Final Text Documents	Final Calculations
Project Plans	Reports	Hand-written calculations
Drawings	Narratives	Spreadsheets
Details	Design Memos	Design software output
Standard Drawings	Design Exceptions and Deviations	Graphs
Sketches	Standard Drawing Baseline Report	Calculation books
Tables and Data Sheets	E-Mails or conversation records documenting professional direction	
Maps and Plats	Project specifications and special provisions	

2) List of items NOT requiring a digital signature

Products that are clearly marked as Draft, Preliminary, Not for Construction, Review Copy, Subject to Change, or similar wording to indicate it is not intended to be a final product. Lab testing and monitoring data do not require a POR seal.

3) Currently, some counties are not accepting digitally signed field surveys. In this

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situation, wet signatures will be allowed.

RESPONSIBILITY:

Chief Highway Engineer

ACTION:

Establish procedures and provide guidance and training needed to implement this directive. Monitor implementation of directive and procedures and take action to correct non-compliance or make improvements. Revise advisory and procedures as needed to remain compliant with Oregon statutes, rules, and the legal interpretations of licensing boards.

Discipline Leadership Teams

Prepare discipline specific guidance and coordinate with leadership teams responsible for disciplines with similar skills. Review discipline specific guidance not less than annually to ensure that it is kept up to date.

Managers

Ensure this advisory is distributed to and discussed with employees. Distribute and communicate related procedures, guidelines, and revisions to this Directive to employees, consultants and contractors. Establish quality control/assurance procedures to ensure implementation of this advisory and other discipline specific guidance. Recommend changes to Chief Highway Engineer.

Employees

Comply with this advisory and related procedures and guidelines. Take questions and issues to manager or supervisor for resolution.

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Target Audience

This guidance will primarily affect Surveyors, Designers, Engineers, Landscape Architects, Engineering Geologists and others digitally signing documents for Highway Division Construction projects.

Contact Information

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