

Engineering Policy EP172

Electronic Signature Policy for Engineering Drawings

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1 Policy statement

The Department of Transport and Main Roads is committed to a full digital delivery model for engineering design, consistent with the *Queensland Government's Building Information Modelling Strategy*. The use of electronic signatures on all engineering drawings will be the department's default position unless otherwise approved by Transport and Main Roads on a project by project basis.

Electronic signature in this context translates to signing engineering drawings electronically to certify the design represented by the drawing in the form of text.

Utilisation of electronic signatures effectively replaces existing wet ink signature requirements on engineering drawings when submitted to the department and will be deemed equivalent to a wet ink signature provided it meets the criteria stipulated.

An electronic signature on an engineering drawing submitted to the department will:

- include the signatory's full name to represent their signature
- where required, signify that the Registered Professional Engineer of Queensland (RPEQ) has certified the design respective to their discipline, and
- be located in the designated spaces on the document.

An example of an accepted electronic format is the RPEQ Number, Name and Date (RPEQ #12345, John Smith, 01/01/2020), located in the allocated area within the title block of a drawing.

2 Applicability

This policy applies to departmental staff, consultants, contractors or any other service providers involved in production of engineering drawings produced for departmental infrastructure.

From the date this policy is approved, it will replace any previous direction or policy relating to the requirements for wet ink signatures on engineering drawings created for Transport and Main Roads.

3 Context

The department depends upon the integrity of all engineering drawings produced for its infrastructure.

Certification (or 'sign off') of departmental engineering drawings has consisted of each drawing being reproduced in hardcopy form, with space allocated within the drawing title block for physically wet ink signing a drawing, such as by appropriate RPEQ practitioners for their discipline.

These requirements have been set out in the department's *Drafting and Design Presentation Standards Manual* (DDPSM).

The DDPSM requires that each engineering drawing must include the names and wet ink signatures, as relevant, of the person responsible for:

- producing the engineering drawing
- carrying out the design considering all areas of engineering, and
- certifying the design for each area of engineering, as relevant.

Increasingly, reliance upon hardcopy drawings is diminishing as digital drawings or design models become commonplace. It is now possible for drawings to be digitally developed, amended, and approved with no requirements for hardcopy, and therefore no necessity for 'wet ink' signatures.

Whilst there is no direct legal or regulatory requirement explicitly portraying the use of signatures on engineering drawings or models, common law contemplates that signatures and certifications (including a RPEQ) may be in an electronic format.

At common law, a person's signature is interpreted by Crown Law as:

"...the writing, or otherwise affixing, a person's name, or a mark to represent his name, by himself or by his authority...with the intention of authenticating a document as being that of, or as binding on, the person whose name or mark is so written or affixed."

Therefore, the department is satisfied that a 'signature' also encompasses an electronic signature and that engineering drawings may therefore be electronically signed, as common law supports this view.

4 Integrity of certification

The requirement to securely track and retain the certification process related to a drawing is still valid, as stipulated in the DDPSM.

Under this policy, the department will accept electronic signatures. It is the responsibility of the signatory (and the signatory's organisation to which they belong) to embed and utilise a secure process in the production of engineering drawings to ensure fraudulent activity is avoided at time of certification, particularly when inserting electronic signatures.

In the event that validity of information received is challenged during the life of the drawing, the signatory (and the organisation to which they belong) is accountable and will be called upon to provide traceability of the issued information.

Under the *Electronic Transactions (Queensland) Act 2001*, production of a document by electronic communication requires a chain of evidence by:

- consenting to the production, by an electronic communication, of an electronic form of the document
- recording the transaction in its original form (originator, date / time sent and received), and
- providing a reliable way of maintaining the integrity of the information contained in the document.

It is the receiver's responsibility for the recording and retention of the transaction information as well as the documents being transacted.

Electronically signed engineering drawings will be accepted by the department in a Portable Document Format (PDF) via electronic transaction. The format of these transactions is yet to be defined, but examples include:

- email attachments
- SharePoint, and
- various forms of cloud drives, such as Dropbox, OneDrive etc.

It is the responsibility of the department (the custodian) to ensure integrity of the received documentation is retained using records management processes that are in accordance with:

- *Public Records Act 2002*
- *Electronic Transactions (Queensland) Act 2001*

- Queensland Disposal Authority Number 474 (QDAN 474), which sets out the retention period of service function records, such as drawings, and
- Various internal policies:
 - Transport and Main Roads' *Records Management Policy*
 - *Digitisation and Disposal Policy*
 - *Digital Recordings and Images Policy*, and
 - *Information Asset Custodianship Policy*.

5 Objectives and benefits

The objective of this policy is to enable the use of electronic signatures as acceptable forms of certification for engineering drawings, as well as eliminate the need for hardcopy versions of engineering drawings.

The benefits of implementing this policy include:

- providing a transparent and cost-effective method of ensuring certification is obtained
- removes current administration burden of the wet ink signature process
- removes current administration burden of double handling hardcopy format engineering drawings for records management, and
- reduction of environmental impacts and costs in hardcopy paper purchase and storage.

6 Definitions

| Terms, abbreviations and acronyms | Definitions |
|------------------------------------|---|
| Certified / Certification | <ul style="list-style-type: none"> • The drawing presented conforms to the <i>Drafting and Design Presentation Standards</i> and is complete. • An appropriately qualified RPEQ is satisfied that technical calculations and technical production of the drawing have been carried out competently. • From the information available and using engineering judgment, an appropriately qualified RPEQ is satisfied that the drawing produced is fit for the purpose. |
| Electronic signature (e-signature) | <p>Electronic signatures (e-signatures) refer to any electronic process that indicates acceptance of an agreement or a record. An e-signature is any letters, characters, or symbols manifested by electronic or similar means and executed or adopted by a party with an intent to authenticate a writing.</p> <p>Examples of e-signatures, as provided by Queensland Government Customer and Digital Group, include but are not limited to the following:</p> <ul style="list-style-type: none"> • a typed name at the end of an email message • a digitised version of a manuscript signature i.e. scanned image of the wet signature; signing on a touch screen • a digitised fingerprint i.e. digitised image of a fingerprint • a biometric scan like a fingerprint, iris, vocal signature • the combination of the username, a pin number or password |

| Terms, abbreviations and acronyms | Definitions |
|-----------------------------------|--|
| | <ul style="list-style-type: none"> • clicking or ticking an 'I Agree' or 'Purchase Now' button or box on a computer screen, and • a digital signature which uses encryption and decryption technology alongside a Public Key Infrastructure (PKI). |
| Employee, agency or contractor | All temporary and permanent staff, consultants, contractors, students or any other person who provides services on a paid or voluntary basis to the Department of Transport and Main Roads. |
| RPEQ | Registered Professional Engineer of Queensland |
| Wet ink signature | A physical signature with blue ink on a physical (hard copy) version of an engineering drawing. |

7 Consultation

In production of this policy, Crown Law was consulted to determine the department's obligations under current legislation. Crown Law advice noted that there are currently no signature requirements for engineering drawings specifically. Ongoing consultation will be required with practitioners during implementation, both internal to the department as well as the wider industry.

In addition to initial internal stakeholder liaison, the following external parties are considered appropriate groups to seek formal feedback from, as they represent the vast majority of professional engineers within Australia for all disciplines:

- Consult Australia
- Engineers Australia, and
- Board of Professional Engineers Queensland.

8 Related documentation

- *Drafting and Design Presentation Standards* (DDPSM)
<https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Drafting-and-design-presentation-standards>
- Technical Specification MRTS50 *Specific Quality System Requirements*
<https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Specifications/1-Overarching-Specifications>
- *Digital Signatures Guideline*
<https://www.qgcio.qld.gov.au/documents/digital-signatures-guideline>
- *Electronic Transactions (Queensland) Act 2001*
<https://www.legislation.qld.gov.au/view/pdf/2013-08-29/act-2001-042>
- *Public Records Act 2002*
<https://www.legislation.qld.gov.au/view/pdf/inforce/current/act-2002-011>

9 References

- *Drafting and Design Presentation Standards* (DDPSM)
<https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Drafting-and-design-presentation-standards>
- Crown Law advice - CP5/TMR240/2928/MAA

10 Review

Road Design Unit of the Engineering and Technology Branch is responsible for the review of this policy.

