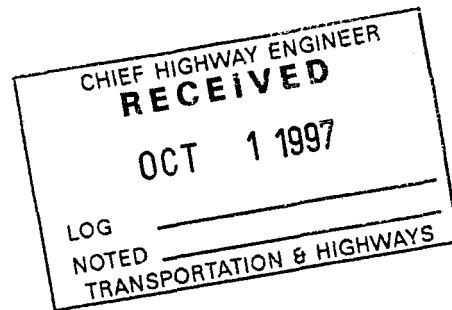


September 10, 1997

File: 195-20\TCIR

To: Distribution list



**Re: Technical Circular T-3/97
Ministry Policy on the Responsibilities of the Professional Engineer
with Respect to In-house Geometric Design**

Attached is Technical Circular (TC) T-3/97, Ministry Policy on the Responsibilities of the Professional Engineer with Respect to In-house Geometric Design. This TC was produced as a result of the June 1995 report by Frank Willis on the Ministry delivery process for engineering services which was commissioned by the Office of the Chief Highway Engineer.

With the recent Ministry restructuring, the policy applies exclusively with the authority of ministry regions for in-house design and with the responsibilities therein. The implementation of regional signing authority and the level of discretion delegated to districts in making design decisions rest with the Regional Manager, Engineering, or the regional position of equivalent responsibility for highway engineering.

Please circulate copies of this TC to all regional and district staff involved in in-house design. Copies can be printed directly from the LAN at:

FS_Public_Files@SVRHQ_HENG03@Servers/ROOT:STANDARD, file: TC397.DOC.
directory:Circular

If you have any question regarding this TC, please contact Don MacNab at (250) 387-7767 or Richard Voyer at (250) 387-7761, Engineering Branch.

Merv Clark
Chief Highway Engineer

Copies:

Dan Doyle, Assistant Deputy Minister, Highways Operations
Don MacNab, Senior Highway Engineer, Engineering Branch
John Shaw, Manager, Operations Policy

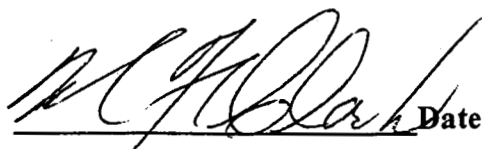
Technical Circular T-3/97¹

Ministry Policy on the responsibilities of the Professional Engineer with respect to In-house Geometric Design

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¹ Copies of this Technical Circular can be obtained from the L.A.N. at
FS_Public_Files@SVRHQ_HENG03@Servers/ROOT:STANDARD, file: TC397.DOC, dir.: Circular

Technical Circular T-3/97

Ministry Policy on the responsibilities of the Professional Engineer with respect to In-house Geometric Design

1. Purpose

The Engineers and Geoscientists Act outlines the practice of Professional Engineering and the responsibilities of the licensee for design supervision, the signing and sealing of design related documents, quality management and the designers role during construction.

The purpose of this Technical Circular is to outline Ministry's policy regarding the above mentioned topics with respect to in-house highway designs.

In situations where the Ministry Policy may be in conflict with the Act, the Act shall prevail.

2. Definitions

Throughout this document the reference to 'design' means 'geometric design' as opposed to geotechnical, structural (bridge) and electrical engineering design which are dealt with separately.

Highway design: is the process of applying engineering techniques and scientific principles for the purpose of defining and representing elements of a highway and the ancillary works such that they can be constructed.

The 'Act' means the Engineers and Geoscientists Act.

In this Technical Circular, the 'Engineer' means the Professional, member of the Association of Professional Engineers and Geoscientists, to whom the Ministry has assigned responsibility of carrying out, supervising and/or reviewing the detailed design of a specific highway project.

A "designate" is someone making decisions on behalf of the "Engineer" under his/her expressed permission and for whose decision the "Engineer" is accepting full responsibility by signing, dating and sealing the design documents.

"Supervision" means prepared by personally or under the supervision of the Engineer. The level of supervision can range from continuous supervision and direction of a designer to a review of the completed design, depending on the experience of the designer and the complexity of the project. The supervision must be sufficient that the Engineer can take professional responsibility for the design.

The "Regional Manager, Engineering" means the most senior Professional Engineer in the region who is responsible for the highway engineering in that region.

3. General Intent of the Policy

The intent of the Policy is to have every design that is carried out by the Ministry, executed under the supervision of a Professional Engineer who takes professional responsibility for this design. All design carried out within a region will be delegated and managed by the regional office. The policy is meant to give authority to the region, while also allowing it flexibility to establish appropriate procedures to deal with its particular organizational situation. The amount of regional supervision that is delegated will depend on the level of engineering and technical knowledge in highway design which is available in each District.

4. Policy

1. A design is required any time that the physical shape or size of an element of a highway or ancillary works is created or changed from that which was previously constructed. When, in doubt, the Regional Manager, Engineering shall determine if specific works constitutes a design.

2. All In-house design shall be done under the supervision of an Engineer who shall be professionally responsible for the design of the specific highway project.
3. The Regional Manager, Engineering shall be responsible to ensure that each in-house design within his/her region is carried out under the supervision of an Engineer, and shall establish procedures to do so.
4. The Engineer responsible for a design, shall determine the appropriate level of supervision which is suited to the particular design based on its complexity and the experience of the design team.
5. The Engineer shall, for the design being carried out under his/her direct supervision, sign, date, and/or seal: design criteria sheets, Ministry engineering and technical reports carried out under his/her supervision that support tender documents and, plans, and other material pertaining to the design.²
6. The Engineer shall prepare a quality management plan appropriate for the type and complexity of the design, as outlined in Technical Circular T-4/97 - In-house Grading Design Contract Quality Management.
7. The Engineer or an Engineer representing the regional design office shall conduct appropriate field reviews during construction of in-house designs in order to ascertain whether the project has been constructed substantially in accordance with the design. Any discrepancy shall be brought to the attention of the Ministry's representative managing the construction project and to the attention of the Regional Manager, Engineering.
8. Any changes to a Ministry design must be signed and sealed by an Engineer, member of the Association of Professional Engineers and Geoscientists of British Columbia, who is taking responsibility for the change

² Exempt from this requirement are documents and drawings that were not prepared specifically as part of the design but which are included in the tender documentation as background information separate from the design.