



Ministry of
Transportation
and Infrastructure

ELECTRICAL AND TRAFFIC ENGINEERING MANUAL

Appendix 200.4

Developer Approval Process – Traffic Signals

Developer Information Sheet – Traffic Signals

A: How does a development approval application get processed and who is the contact?

The primary contact for a Developer is the District Development Technician (DDT). The DDT is responsible for ensuring that your application is processed, and all appropriate reviews and approvals are obtained from the various business units in the Ministry of Transportation and Infrastructure (Ministry). These business units consist of Traffic Engineering, Electrical and ITS Engineering, Electrical Maintenance, Highway Engineering, District Operations, Property Services and Pavement Markings.

B: What must I do to ensure my application is processed efficiently?

The sequence of events that must occur to successfully process your development approval application that includes new or modified traffic signals is as follows:

- 1) The Developer submits the Development Approval Application to the local Ministry District Office. The District Office assigns a DDT to administer the process.
- 2) Based on the Developer application, the DDT confirms whether a Traffic Impact Study (TIS) is required. The Terms of Reference for the TIS are prepared by the Developer, Traffic Engineering, and Planning departments, and then submitted to the DDT for acceptance.
- 3) The Developer arranges to have the TIS completed by a qualified Transportation Engineer or Engineering Firm and then returns it to the DDT.
- 4) The DDT arranges for the TIS to be reviewed by the Ministry Traffic Engineering and Planning groups. The DDT accepts the preliminary scope and extent of the works based on the TIS and Traffic Engineering input. The DDT may request the Developer to submit preliminary drawings at this stage.
- 5) The Developer notifies all Provincial agencies, local governments, and utilities that may be impacted by the development or may be planning construction, rehabilitation or maintenance activities in the subject area.
- 6) In situations where the project spans multiple jurisdictions the DDT arranges to confirm the jurisdictional boundaries with the municipality and receive a letter from the municipality agreeing to the boundaries.
- 7) Ministry departments may be required to recover costs from the Developer. If so, the Ministry department will provide these cost estimates to the DDT who will then advise the Developer of these charges.
- 8) The DDT advises the Developer that they may proceed with the civil design of the project. The Developer requests the existing record drawings from the DDT.
- 9) The Developer:
 - a) Arranges to have their Engineering Consultant prepare a civil design for the project showing the existing and proposed geometric improvements, turning movement analysis, existing and proposed guide, regulatory and warning signing, and existing and proposed pavement markings. The drawings shall be signed and sealed by a professional engineer.
 - b) Arranges to have their Traffic Consultant prepare a Traffic Engineering Checklist (TEC) and preliminary Signal Timing Sheet (STS) based on the signed and sealed civil design drawings.
 - c) Forwards the civil design drawings, preliminary STS and the TEC to the DDT.

Developer Information Sheet – Traffic Signals

- 10) The DDT forwards the TEC, preliminary STS, and civil design drawings to the Senior Traffic Operations Engineer and Highway Design Engineer who will either accept the documents or identify deficiencies and return them to the DDT. If the design is not accepted, the DDT advises the Developer to arrange for changes through their Engineering Consultant and resubmit to the DDT.
- 11) Once the documents are accepted, the DDT advises the Developer that they may proceed with the electrical design. Electrical designs proceeding beyond this point without a Ministry accepted TEC may result in additional costs to the Developer due to changes that may be required to meet Ministry standards.
- 12) The Developer arranges to have the electrical design completed by their Electrical Design Consultant based on the approved civil design drawings, preliminary STS and the accepted TEC. The Developer is responsible for providing a set of preliminary electrical drawings to the DDT for feedback prior to final submission.
- 13) The DDT forwards the electrical design drawings and digital files along with the TEC and preliminary STS to the Senior Traffic Operations Engineer and Ministry Electrical and ITS Engineering for acceptance. Once accepted, the Developer submits one full size copy of the signed and sealed electrical design drawings, including ACAD digital files, to the DDT.
- 14) Electrical and ITS Engineering initials the electrical design drawings for acceptance and returns the originals to the DDT. If the drawings are not accepted, the Developer revises the drawings and resubmits to the DDT for acceptance. Electrical and ITS Engineering distributes accepted drawings to the Manager, Electrical Services and Traffic Engineering.
- 15) Once the electrical drawings are accepted and returned to the DDT, the DDT returns the drawings to the Developer and advises the Developer to submit a final signed and sealed STS.
- 16) The Developer arranges to have a signed and sealed STS prepared by their Traffic Engineering Consultant. The DDT forwards this information to the Senior Traffic Operations Engineer for acceptance. Rejected timing plans are returned to the Developer for correction prior to proceeding to the next stage of the project.
- 17) Once accepted the Developer submits the signed and sealed STS along with all supporting documentation such as a site plan showing assumed measurements, Synchro files, digital copy of the timing sheet, digital file of the traffic volume count used in the analysis and any other assumptions used to prepare the STS.
- 18) The Developer submits to the DDT a Traffic Management Plan (TMP), construction schedule and Irrevocable Letter of Credit for the complete project construction. The Ministry will recover costs from the Developer for all Ministry associated costs for the development (traffic controller, signal commissioning, paint marking, ministry supplied materials, design review, etc.).
- 19) The DDT issues the appropriate construction permits. The permits issued are based on the current drawings and specifications submitted to the Ministry. Changes to the design during construction due to unforeseen circumstances or Developer initiated changes must be resubmitted to the Ministry for approval and modification of the construction permit. Development work not conforming to these requirements may have a stop work order issued until they comply.

Developer Information Sheet – Traffic Signals

- 20) The Developer arranges a pre-construction meeting with the appropriate parties as per the construction permit and then proceeds with the construction. The Developer then orders a traffic controller through the DDT. The DDT then orders the traffic controller from Electrical and ITS Engineering Senior Traffic Systems Control Technologist. The Developer then contacts the DDT who in turn contacts the Manager, Electrical Services to initiate electrical utility billing.
- 21) The Electrical Maintenance Contractor inspects, commissions, and energizes the traffic signal. The signal may be made operational prior to all other Developer works being completed.
- 22) The Developer advises the DDT when all remaining electrical and construction work is complete. The DDT advises the District Operations and the Manager, Electrical
- 23) Services that the site is ready for their inspection. The DDT reviews input from the above and advises the Developer of any required changes.
- 24) Once all changes have been completed and inspected, the Developer submits full size, signed and sealed civil and electrical record drawings (in AutoCAD format) as well as the associated digital files to the DDT. The DDT forwards civil drawings to Ministry District Operations and electrical drawings to Electrical and ITS Engineering for their acceptance. If drawings are not accepted the DDT advises the Developer who arranges for
- 25) corrections and resubmits to the DDT. Once the drawings are accepted, Electrical and ITS Engineering will forward drawings to the Manager, Electrical Services.
- 26) Once drawings are accepted by the Ministry, the DDT charges back all recoverable costs to the Developer.
- 27) The DDT releases the Developer's financial security for the completed project.

Getting a Traffic Signal into Operation to Meet Your Development Timetable

Every traffic signal requires a controller to operate the signal. New traffic signal controllers and modifications to existing for Ministry traffic signals are supplied exclusively by Ministry Electrical and ITS Engineering.

There may be up to a 8-week design, assembly, testing and delivery period for a new traffic signal controller. This 8-week period does not commence until Electrical and ITS Engineering has received the signed and sealed electrical design drawings, TEC, STS, and financial assurance. The controller delivery period should be considered when determining the activation date for the new or modified signal.

Developers applications are evaluated on a first-come, first-serve basis and processing time will depend upon current workload.

Developer Information Sheet – Traffic Signals

The following provisions shall form part of the Development Approval Permit:

- 1) All electrical work shall conform to the current edition of the Canadian Electrical Code including BC amendments.
- 2) The Manager, Electrical Services shall coordinate all Ministry electrical inspections.
- 3) All electrical fees and permits associated with the project are the responsibility of the electrical contractor.
- 4) All electrical work shall conform to the current Ministry Standard Specifications for Highway Construction available at:

<https://www2.gov.bc.ca/gov/content/transportation/transportation-infrastructure/engineering-standards-guidelines/standard-specifications-for-highway-construction>

- 5) All electrical designs shall conform to Ministry Electrical and Traffic Engineering Manual and associated Technical Bulletins and be accepted and signed by the Ministry Electrical Representative.
 - i) The Electrical and Traffic Engineering Manual can be viewed and downloaded at:

http://www.th.gov.bc.ca/publications/eng_publications/electrical/electrical_and_traffic_eng/Electrical_Signing_Design_Manual/tableofcontents.htm

- ii) Technical Bulletins can be viewed and downloaded at:

<https://www2.gov.bc.ca/gov/content/transportation/transportation-infrastructure/engineering-standards-guidelines/technical-bulletins/bulletins-traffic-electrical>

- 6) All geometric, paving marking and signing designs shall conform to the latest TAC Guidelines, B.C.
- 7) Supplement to TAC Guidelines, Ministry Pedestrian Crossing Manual and Ministry Sign and Pavement Marking Standards Manual.
- 8) All materials utilized in the construction of Ministry electrical installations shall be from the Ministry Recognized Products List, which can be downloaded at:

<https://www2.gov.bc.ca/gov/content/transportation/transportation-infrastructure/engineering-standards-guidelines/recognized-products-list>

- 9) Prior to commencement of any electrical construction, the electrical contractor shall contact the Manager, Electrical Services or his designate to establish an inspection schedule and to ensure that they are aware of construction standards, specifications and approved materials. The electrical contractor shall advise the Manager, Electrical Services of the intended start date a minimum of one week in advance.
- 10) The electrical contractor shall not access any Ministry electrical installation without prior approval from the Manager, Electrical Services.

Developer Information Sheet – Traffic Signals

- 11) The project will not be considered complete until a final acceptance inspection is completed by the Manager, Electrical Services or his designate.
- 12) The project will not be considered complete until all electrical utilities have been connected.
- 13) The project will not be considered complete until the Developer's Electrical Design Consultant has submitted a final set of signed and sealed record electrical drawings (including digital ACAD drawings) to the District Development Technician.
- 14) The project will not be considered complete until the appropriate electrical utility and cost sharing agreement information has been submitted and signed.
- 15) The electrical contractor will be notified in writing of any deficiencies within 14 days of the inspection.
- 16) The Developer's electrical contractor shall correct any deficiencies within 14 days of notification from the Manager, Electrical Services.
- 17) After 14 days, the Manager, Electrical Services will arrange to have the deficiencies completed and charged back to the Developer.