Subject: Onboarding ITS Projects to the Ministry Fibre Network	
Date: April 12, 2021	**Author**: William Zhang, P.Eng.
	Reviewed: Brigid Canil, P.Eng.
Bulletin Number: TE-2021-01 **Bulletin Type: Requirement**	**Effective Date:** April 12, 2021

Audience	Standards Affected
Ministry Managers, Electrical Services; all holders of the Electrical and Traffic Engineering Manual; all Project Managers; all Design Consultants	Electrical & Traffic Engineering Manual

Background:

This document details policy relating to the Transportation Management Centre of British Columbia (previously Regional Transportation Management Centre) and its Intelligent Transportation System (ITS) network. The intent of the policy is to ensure that cybersecurity best practices are adhered to. This includes identifying possible cybersecurity risks and procedures to reduce exposure to such risk.

New ITS projects and devices that will be onboarded to the managed network shall follow the requirements determined by the Information Management Branch (IMB). To better coordinate fibre and logical design/integration, a process involving multiple disciplines within the project team must be established to ensure IM/IT considerations are met at appropriate phases.

Policy:

Projects and their respective disciplines shall follow the phases outlined in this document to ensure smooth and predictable onboarding for new ITS projects and devices to the Ministry Fibre Network.

Procedure:

Phase 1 – Identification of ITS Engineering and IMB Team Representatives

1)   The project manager shall identify the ITS Engineering and IMB team representatives.

   a. The ITS Engineering team representative shall be determined by the Manager, Electrical and ITS Engineering. The ITS Engineering team member will be responsible for providing guidance for the physical fibre design.

b. The IMB team representative shall be determined by the Client Business Consultant. The IMB team representative will be responsible for providing guidance for the network logical design.

Phase 2 – Identification of Stakeholders

2) The project shall clearly identify the internal and external stakeholders. Stakeholders typically include the occupants of the fibre cables and conduits in question.

a. Internal stakeholders can include: Ministry system users, IMB network team, District staff, etc. Existing Ministry ITS that are downstream and upstream from the point(s) of service interruption shall be identified and impact determined.

b. External stakeholders can include: Non-Ministry occupants of Ministry fibre cables and conduits, including private and public jurisdictions and agencies.

Phase 3 – Design Process

3) The designer shall provide adequate information to connect the new ITS or devices to the Ministry Fibre Network. Information must include, at a minimum: location, device specification, and network configuration details.

4) The designer shall request the fibre strand allocation from the ITS Engineering Representative. The designer may suggest use of particular strands, but the ITS Engineering Representative must provide their approval.

5) The designer and/or system integrator shall seek approval from the IMB Network Communications Architect for proposed network equipment, network topology design, IP addressing, subnet sizing, and connection to aggregate network point(s). ITS device naming and IP address shall be submitted as part of the design folder.

6) Physical connection details must be present on the electrical design drawings. The drawings must show sufficient detail, including strand occupants, and associated Ministry systems supported by the fibre.

7) Logical connection must be documented and updated on the Ministry Fibre Network Diagram. IMB is the owner of the Ministry Fibre Network Diagram.

Phase 4 – Contract Language and Procurement

8) Contract documents shall include a requirement for a fibre stakeholder registry, minimum service interruption notification windows, and stakeholder contacts. Responsibility for leading notification processes and managing changes shall be clearly presented in the contract.

9) The procurement of Ministry supplied network equipment shall be coordinated with IMB.

Phase 5 – Construction

10) The Construction Contractor shall notify and communicate with stakeholders in accordance with timelines specified in the contract.

11) The Construction Contractor and/or System Integrator shall include ITS and IMB Representative in commissioning and testing phases for ITS systems and devices. IMB shall provide final requirements for firmware versions for devices prior to the factory acceptance test (FAT) phase.

12) The Construction Contractor shall conduct Optical Time Domain Reflectometer (OTDR) tests at completion of fibre installation, and provide these results to the ITS Engineering Representative.

Phase 6 – Handover Documentation

13) At the completion of the project, the following documents should be handed over to the Ministry in a timely manner:

  a. As-built electrical design drawings
  b. Updated Ministry Fibre Network Diagram
  c. IP Port allocation spreadsheet

Information Management Branch Contact:

Felix Candela
Client Business Consultant
Information Management Branch
Phone: (778) 974-4690
Email: Felix.Candela@gov.bc.ca

Grant Ng
Network Communications Architect
Information Management Branch
Phone: (604) 209-4912
Email: Grant.Ng@gov.bc.ca

ITS Engineering Contact:

Mark Louttit, P.Eng.
Manager, Electrical and ITS Engineering
Transportation Systems and Road Safety Engineering
Phone: (236) 468-1970
Email: Mark.Louttit@gov.bc.ca