About this template

This document outlines the information and level of detail required in a Preliminary Road Design Report when prepared by the Applicant for submission to the City during the Design Studies stage. This document describes the necessary steps for submitting a Preliminary Road Design Report and outlines the required structure and necessary design considerations.

Purpose of the Preliminary Road Design Report

The purpose of a Preliminary Road Design Report is to resolve key road design issues within arterial and primary collector right-of-ways prior to the submission of detailed servicing drawings. The need to complete a Preliminary Road Design Report, if applicable to a development application, is identified and included as a condition of Draft Plan Approval. Potential triggers of a Preliminary Road Design Report can include the requirement for external roadworks or connections to arterials and primary collectors. Issues surrounding road layouts internal to a subdivision, such as turning circles, sightlines and right-of-way treatment features, should have already been flagged in the Initial Proposal Report and discussed prior to draft plan approval.

Mandatory Road Design Consultation

Prior to beginning preparation of a Preliminary Road Design Report the Applicant must meet with City Staff to discuss the road design. This consultation with the Transportation Division is mandatory and will be arranged through the File Manager. Preliminary Road Design Reports will not be accepted if this meeting has not taken place.

The road design consultation meeting provides applicants with a valuable opportunity to discuss and share information about the direction of the design prior to undertaking their report. The City provides available background information and previous design work, and discusses design scope, parameters, opportunities and constraints. The Applicant should bring available base information to the meeting to support discussion. This pre-design consultation assists the Applicant in decision-making and potentially save considerable time and effort for both the Applicant and the City.

Typical Preliminary Road Design Report Considerations

Every Preliminary Road Design Report contains pre-design information such as grades, elevations, alignments and cross-sections for the proposed ultimate road profile. In addition, every road design incorporates a unique blend of design considerations that must be dealt with to ensure the proposed profile is appropriate, safe and constructible. The following sections describe some potential design considerations typical to Preliminary Road Design Reports. This is by no means an exhaustive list and additional design considerations may be identified at the mandatory Transportation consultation meeting.
Preparing a Preliminary Road Design Report

There are 3 main components of a Preliminary Road Design Report: Cover Letter, Plan & Profile Drawings, and Cross-section Drawings. The drawings illustrate all considerations affecting the design with rationale outlined in the covering letter report. Typical considerations to include in each of the three components of a Preliminary Road Design Report are listed below.

1. **Cover Letter:** provides qualifying information to support the proposed ultimate road profile illustrated in the design report drawings. It should note the date of the meeting and summarize the main points of discussion. The cover letter should also provide discussion of any large scale implications of the proposed ultimate profile, for example; cost considerations, construction staging, integration with other services, utilities or pathway systems, poor soil conditions, etc.

2. **Plan & Profile Drawings:** these baseline drawings should illustrate the following elements:
   - Existing Centreline Road Profile
   - Proposed Centreline Road Profile – include sightlines and basic road geometrics. For further design information refer to standards outlined in the Transportation section of the Design Specifications and Requirements Manual.
   - Elevations, Slopes and Chainages

3. **Cross-section Drawings:** these baseline drawings clearly illustrate the following base elements:
   - Existing and Proposed Road Cross-sections – any proposed alignment shifts should be clearly identified and referenced in the cover report.
   - Elevations, Slopes and Chainages

**Additional Design Considerations:** Each road project is unique and there may be additional design elements to consider besides those listed here. The intent is not to complete detailed design of these elements but address integration, safety and constructability. The following are examples of design considerations that should be clearly illustrated on the baseline Plan & Profile and Cross-section drawings when applicable.

   - Driveways – Include locations, grades and material.
   - Underground Infrastructure – existing and proposed sewers, watermains, utilities etc.
   - Surface Features – Include hydro poles, hydrants, bell pedestals, etc.
   - Potential Roadside Hazards – for example; curbs on highways, hydro poles close to road, etc.
   - Drainage – clearly illustrate existing ditches, drainage elevations, overland flow routes and direction of flows.
   - Right-of-way Limits – existing and proposed
   - Interim Conditions – Indicate any interim conditions required and explain the implications in the covering report.
   - Construction Staging Limits – if ultimate profile to be constructed in phases.
   - Plus – number of lanes, bike lanes, curbs, sidewalks, medians/islands.

**Submitting Preliminary Road Design Reports**

All Preliminary Road Design Reports must be submitted to the City in both paper and electronic formats as part of a complete **Design Studies Package**. Two paper copies are required with road design drawings prepared on standard A1 size sheets. Electronic copies are submitted in .pdf format on a CD-ROM together with any other reports required for inclusion in the Design Studies Packages as conditions of Draft Plan Approval.

**Resources**

- Design Specifications and Requirements Manual