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## **Application for Engineering Drawing Review Supplementary Information**

The following is supplementary information meant to assist you in determining what supporting documentation needs to be submitted in support of your application.

### **Geotechnical Report**

The geotechnical report submitted must be signed and stamped by a Professional Engineer and cover the area being subdivided. If not, a supplementary geotechnical report may be requested prior to circulation of engineering drawings.

For Development Engineering, Transportation Services, the report must include trench and backfill recommendations as well as a recommended pavement structure.

For EPCOR Water Services the report must include a section dedicated to the suitability of soils at the depth of the water main installation for the thrust resistance using EPCOR's standard thrust blocks. The report must also address groundwater conditions and identify any areas where hydrant drain ports are required to be plugged.

For Drainage Services, the report must include recommendations on foundation drainage, roof leaders, trenching, bedding, backfilling, slope stability, surface grading, liner for SWMF, soil permeability and side slope stability for SWMF and need for sulphate resistant concrete pipe.

### **Slope Stability Report**

The slope stability report is required by Drainage Services in developments within top-of-bank areas and must include a slope stability assessment and top-of-bank set back requirements for drainage facilities.

### **Joint Restraint Calculations**

Joint Restraint Calculations are required by EPCOR Water Services for any location where a water main, regardless of size, will fall within disturbed soil due to top soil removal, adjacent sewer installation, or the placement of engineered fill that has not been pre-consolidated (i.e. with extra soil placed on top that is removed after sitting a minimum of 2-3 years).

### **Thrust Block Calculations**

Thrust Block Calculations are required by EPCOR Water Services for any location where soil bearing strengths are less than 72kPa, butterfly valve installations or other details using a thrust

wall, or non-standard details that require some form of thrust blocking (i.e. HDPE to PVC transitions). Details of the thrust block construction, layout with respect to the main and appurtenances and any special items that are needed for the thrust block to work such as collars and rebar, and formwork layout showing where the concrete's bearing areas will be against virgin soil and showing the calculated bearing areas must also be included.

### **Roundabout Design Submission Requirements**

It is recommended that roundabout designs be developed in accordance with Chapter 6 of [NCHRP Report 672 Guidelines](#).

1. Provide turning movements for the design vehicle and include:
  1. Speed vehicle is traveling
  2. Wheel path
  3. Swept path
  4. Fastest path and speed of vehicle (using design vehicle)

*Note:* Design vehicle for residential areas is a B-12 (bus). Roundabouts in industrial or commercial areas require a larger design vehicle to be used, depending on land use. Please contact Development Engineering *in advance* of submission to determine which vehicle is appropriate.

Indicate if the roundabout is intended be used as a bus turnaround and, if so, provide appropriate turning movements.

2. Provide within the drawing set, a single page to scale (suggested scale 1:200) and include the following information:
  1. All radii and grades for the inner circle and all outside radii
  2. Curve tables
  3. Dimension length of splitter islands
  4. Dimension inscribed circle diameter
  5. Dimension centre island diameter
  6. Dimension entry and exit widths
  7. Indicate entry angles
  8. Dimension circulatory roadway width
  9. Location and extent of truck apron
3. For any landscaping features within the roundabout, provide within the landscaping drawings:
  1. Provide location of any features exceeding 0.75 m in height
  2. Provide plant selection and indicate plant height and spread *at maturity*. Maximum plant height at maturity must not exceed 0.75 m.
  3. Provide stopping sight distance showing sight lines for features in centre. Refer to TAC Figure 2.3.3.6.

**Environmental Screening Report**

An Environmental Screening Report is required for any outfall or other construction within the area covered under the [North Saskatchewan River Valley Area Redevelopment Plan](#) (Bylaw 7188). This document must be submitted directly to Parks + Biodiversity.