

TO:

ATTENTION:

CC:

FROM: NOSE CREEK WATERSHED PARTNERSHIP TECHNICAL COMMITTEE

SUBJECT: NOSE CREEK WATERSHED WATER MANAGEMENT PLAN CLARIFICATION

DATE: MAY 10, 2010

Technical Memorandum

Re: Runoff Volume Targets and Analysis Method

It has been brought to the attention of the Technical Committee of the Nose Creek Watershed Partnership that some clarification is desirable with respect to the runoff volume targets of Table 8.1 on Page 13 of the 2008 Nose Creek Watershed Water Management Plan as well as with the computational methods to arrive at the estimated runoff volume for proposed development.

The runoff volume targets presented in Table 8.1 shall be interpreted as annual runoff volume targets. We understand that some consultants have only used precipitation over the period April to October; however, this is not appropriate. Continuous simulation modelling is to be carried out using total precipitation (i.e., both rainfall and snowfall) data.

The runoff volume estimates presented in the 2005 Nose Creek Basin Instream Flow Needs Study by Westhoff Engineering Resources, Inc. are based on flow monitoring records over the ice-free period of each year of record, which is approximately the period of April through October. No records were available for the winter months as equipment gets pulled to prevent damage during the frost period. However, based on flow monitoring records for small streams in the Calgary area, the contribution over the winter months is believed to be only about 5 to 10% of the total annual flow volume. In view of the fact that the average runoff in the main stem of Nose Creek and West Nose Creek over the period April through October are only about 6.1 mm and 9.6 mm, respectively, we believe that the "missing" winter contribution is adequately accounted for in the ultimate annual runoff volume targets of 11 mm and 17 mm, respectively.

The continuous simulation must therefore account for ongoing variations in soil moisture conditions and available storage within stormwater ponds and/or other storage units such as cisterns. This requires that snowmelt be included in the continuous simulation. Losses due to sublimation may be included in the analysis; however, the consultant shall provide information to support the assumed sublimation rates.

If you have any questions please contact the Nose Creek Watershed Partnership Coordinator:

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