



K. SMART ASSOCIATES LIMITED

CONSULTING ENGINEERS AND PLANNERS

KITCHENER • SUDBURY • CHATHAM • ENGLEHART • RAINY RIVER

85 McIntyre Drive
Kitchener, ON N2E 1H6

Tel: 519-748-1199
Fax: 519-748-6100

May 28, 2008

Ref. Num.: 08-055

Allen Bonnis, P. Eng.
General Manager
Nickel District Conservation Authority
Tom Davies Square, 1st Floor
200 Brady Street
Sudbury, ON P3E 5K3

Regarding: **Whitson River Tributary VIII (Hope Drain) Floodplain Study**
(Paquette Property)

K. Smart Associates Limited has been retained to determine the extents of the floodplain of the Hope Drain on lands owned by Norman Paquette, west of Regional Road 80 and south of Kenneth Drive.

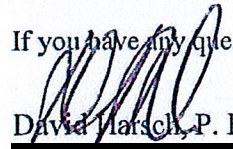
Floodplain mapping had been completed by S. A. Kirchhefer Limited in 1988; however, many improvements were made to the Hope Drain in 2006, including channel deepening and widening and channel relocation. As a result, the floodplain mapping from 1988 required updating. The original HEC 2 model used by Kirchhefer in 1988 was obtained and imported into HEC RAS. The channel cross sections were revised to reflect the current drainage channel as per the 2006 Hope Drain Report completed by K. Smart Associates Limited. To ensure the floodplain was accurately defined in the model, a topographical survey of the Paquette lands was completed.

The hydrology model developed by Kirchhefer in 1988 was calibrated against three separate storm events and the regional storm flow rate used by Kirchhefer in previous floodplain studies was deemed suitable and not updated as part of this study.

The updated model indicated the regional storm was contained by the banks of the improved channel across the Paquette lands and the floodplain does not encroach on the property. The maximum water surface elevation in the Hope Drain across the Paquette lands is 288.98 m. It is recommended that any future development of the Paquette lands limit construction of houses to 45 metres from the top of bank of the Hope Drain and that all openings in house foundations (door sills, window sills, stairs to basements) be constructed above elevation 289.30 m.

Two copies of the Hope Drain Floodplain Study Report are enclosed. Please review and provide comments or acceptance of the enclosed reports.

If you have any questions please feel free to call.


David Marsch, P. Eng.

K. Smart Associates Limited