

**Capital Paving – Proposed Montrose Pit**

Part Lots 71, 74 & 75

Concession G.C.T.

Township of Woolwich

Region of Waterloo

**Re: Details of water taking associated with proposed washing operations**

1. Washing operations will take place in Area 1 only.
2. All water used for washing will be sourced from the on-site pond located in Area 1. Water used for washing will remain in Area 1. The washing facility will be a closed loop system which re-circulates the water used in processing.
3. There will be no off-site surface drainage from Area 1.
4. The washing operations will require a Permit To Take Water (PTTW) from the Ministry of Environment.
5. Washing operations:
  - a. Are seasonal and occur during the period of March 15<sup>th</sup> to November 15<sup>th</sup> in any given year.
  - b. Projected water taken (continuous pump to system) =
    - i. approx. 8,000 litres/minute
    - ii. approx. 5,760,000 litres/day
  - c. Maximum of 12 hours/day of water taking.
  - d. Maximum of 175 days/year of water taking.
  - e. Clear Pond Area will be approximately 0.75 hectares (7,500 m<sup>2</sup>)
  - f. Clear Pond Volume (water) will be approximately 12,000 m<sup>3</sup> (12 million litres)
  - g. Pond depth will be 2 metres in depth.
6. All water used (pumped) from the clear pond at the wash plant is re-circulated through the settling pond back to the clear pond.
7. There will be a minor amount of water losses from the system.
  - a. Water losses from the wash system will only occur as a result of an increase in the evaporation rate of the surface of washed aggregate in stockpiles versus unwashed piles or the surrounding surfaces.
  - b. A portion of the moisture contained in the washed aggregate stockpiles will also enter back into and recharge the groundwater system.
  - c. A portion of water could also leave the site as retained moisture remaining on the aggregate during loading and shipping on trucks.

8. Calculation of estimated water losses:

Low Range:

$$\begin{aligned}\text{Estimated Consumed Water (L/Day)} &= \text{Total handled water (L/Day)} \times 2\% \\ &= 5,760,000 \text{ L/Day} \times 2\% \\ &= 115,200 \text{ L/Day}\end{aligned}$$

High Range:

$$\begin{aligned}\text{Estimated Consumed Water (L/Day)} &= \text{Total handled water (L/Day)} \times 8\% \\ &= 5,760,000 \text{ L/Day} \times 8\% \\ &= 460,800 \text{ L/Day}\end{aligned}$$

Estimated actual water losses as a result of the Montrose Pit operations will be minor and will fall in the range of 115,200 L/day to 460,800 L/day.

The above calculations were completed based on the 2006, "Report on Water Consumption Study" prepared by Golder Associates(Golder) for the OSSGA with respect to water taking permits for aggregate washing operations.

On page 38 of the Golder report in the Conclusions section(point 8), the report states that "Depending on the studied site, consumed water was only 2% to 8% of the handled water i.e., water consumed in aggregate operations is only a small portion of the handled water. It can therefore be concluded that the sites that were studied, and the aggregate industry in general, are primarily handlers of water, with the bulk of handled water returned to the local hydrologic system (dewatering and infiltration) or recycled repeatedly through the wash plant."