

# Memorandum



05 November 2019  
Project: 190595/180225  
5A-150 Pinebush Road  
Cambridge ON N1R 8J8

## To

Monirul Islam  
Transportation Planner  
**Regional Municipality of Waterloo**

## From

Rajan Philips, M.Sc., P.Eng.  
Senior Transportation Engineer  
**Paradigm Transportation Solutions Limited**

## **RE: TRANSPORTATION IMPACT STUDY, SHANTZ STATION ROAD GRAVEL PIT – REGIONAL MUNICIPALITY OF WATERLOO STAFF REVIEW COMMENTS**

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Paradigm Transportation Solutions Limited completed a Transportation Impact Study (TIS) for a Gravel Pit extraction located on Forester Road between Shantz Station Road and Village View Road in the Township of Woolwich. The TIS Report was completed in April 2019.

The Region of Waterloo Transportation Planning staff and Transportation Engineering staff have provided comments on the TIS report, while indicating that a resubmission of the TIS Report is not required.

We note the following for clarification on the comments provided by Regional staff, including staff recommendation to implement a northbound acceleration lane on Shantz Station Road at the proposed driveway, in addition to the northbound deceleration lane as recommended in the TIS report.

### **Transportation Planning**

1. Level of Service Analysis: We use HCM 2010 and HCM 2000 procedures in Synchro analysis for TIS studies, however, we have updated the Synchro files in the current TIS to HCM 2010 procedures.
2. Peak Hour Factor (PHF): The terminology was used not in the normal sense, but to explain the conversion of average hourly truck traffic volume to AM/PM peak hour traffic volumes for analysis.
3. PCE Conversion: CCG values (2.5 and 3.5) were used to be more conservative than the general HCM/MTO value of 2.0.
4. 5 & 6. Sight Distance Measurements: Sight Distance measurements were undertaken on Shantz Station Road, on 14 November 2018, using a Measuring Wheel. As noted in

the TIS, the vertical curve (crest) on the road to south of the site disrupts the line of sight for northbound vehicles. This is an existing road condition and is mitigated at the subject site driveway by providing a northbound deceleration lane. No line of sight issue was noticed to the north of the site.

7. Northbound Acceleration Lane: Regional Transportation staff recommendation for a northbound acceleration shoulder lane on Shantz Station Road is based on the understanding that truck routes to/from the subject site could likely change over time as there is plausibility for current and future aggregate demand occurring in areas to the north of the site.

However, Capital Paving has confirmed that the largest portion of aggregate produced from the subject pit will be asphalt stone and sand, which is used in asphalt production and will be shipped entirely to Capital's asphalt plant in Puslinch Township, south of Highway 7. In addition, Capital's other contract work sites are also located to the south of Highway 7, either east towards Guelph or west towards Kitchener.

In contrast, Capital Paving has no contract sites to the north at present and significant future contracts to the north are not anticipated during the lifetime of the subject pit. The distribution of Capital's market areas was recognized at the Pre-Study Conference (17 January 2019), and based on this distribution it was decided (a) not to include the intersection of Shantz Station Road and St. Charles Street for analysis in the TIS; and (b) to provide only the NBRT Deceleration Lane on Shantz Station Road at the subject driveway.

Based on these considerations, it would be appropriate to provide only the NBRT Deceleration Lane on Shantz Station Road at the subject driveway.

## Traffic Systems

8. Highway 7 (Victoria Road) & Shantz Station Road Intersection: The application for the proposed aggregate operation has been reviewed by the Ministry of Transportation Ontario (MTO). MTO has not indicated any concern with the proposed haul route including the intersection of Highway 7 and Shantz Station Road. However, MTO has indicated that Ministry should not be held responsible for the potential closure of Shantz Station Road associated with the construction of new Highway 7. Capital Paving has indicated agreement with MTO's request and has included this condition on the Site Plan for the aggregate pit.

A functional design, cost estimate and letter of credit for the Gravel Pit access will be provided, as required, to the Region of Waterloo following the issuance of the pit licence.

We trust that this Memo addresses the comments on the April 2019 TIS Report. Please let us know if you need additional information or clarification from us.



Yours very truly,

**PARADIGM TRANSPORTATION SOLUTIONS LIMITED**

A handwritten signature in black ink, appearing to read 'Rajan Philips', written over a faint horizontal line.

**Rajan Philips**  
M.Sc., P.Eng.  
Senior Transportation Consultant

