



February 23, 2016

Via: Email

Ms. Kelsey Lang
Planning Associate
Township of Guelph/Eramosa
P.O. Box 700
Rockwood ON N0B 2K0

Dear Ms. Lang:

**Re: Tri City Lands Ltd. - Spencer Pit Site Plans
Third Submission – Traffic Impact Assessment
Zoning By-Law Amendment Application ZBA 01/14 (Township File D14 TR)
6939 Wellington Road 124, Township of Guelph/Eramosa
Project No.: 300035544.0000**

We have completed our review of the GHD letter dated February 16, 2016, received as part of the submission for the above development.

Our current submission comments are listed in the table below (the “Re” refers to the number in previous submission. Comments on a drawing should be reflected on all drawings.

No.	Re	Comment
3.1	2.1	<i>The meeting did not occur to our knowledge and our review at that time focused on larger transportation issues. In fact, the County in correspondence dated July 2, 2014 also requested a meeting with the applicant and Region.</i>
		GHD identifies that a meeting occurred and agencies were invited. No further response required.
3.2	2.2	<i>GHD indicated that the road network shows over capacity conditions without the provision of additional through lanes on Wellington Road 124 at the Kossuth Road intersection for 2020 forecast traffic volumes, which they stated is a result of corridor growth along the two roads. They indicated that this condition will exist regardless, independent of whether the pit is allowed to proceed. Based upon their analysis, we concur that the road network will be at capacity.</i> <i>GHD indicated:</i> <i>“It has been demonstrated that the intersection can accommodate the pit entrance in the 2015 horizon year with reserve capacity available. This confirms</i>

No.	Re	Comment
		<p><i>that the local road network can fulfil its primary function of accommodating local development. The ability for roads to accommodate corridor traffic ... should be considered secondary as this traffic is highly unpredictable and subject to a variety of influences outside the immediate study area. Without the widening of Wellington Road 124, it is expected that corridor traffic will decline as the capacity of the road is reduced and these drivers respond by finding alternative routes or adjusting trips to another time of day... If this intersection begins to operate at over capacity, it is expected that the proposed site traffic will be accommodated on the adjacent road network through the displacement of corridor traffic.”</i></p> <p><i>There are a number of issues with the above. Firstly, we are now in 2016 and the road is projected to reach capacity by 2020 (in 4 years the intersection will be at capacity). The study projected out to 2020, but it is also common to have longer horizon years for aggregate studies.</i></p> <p><i>I would say that both roads are clearly higher in classification than a local road accommodating local development. In addition to carrying local traffic, they are County and Regional roads that carry more than local road traffic. The road network connectivity in this area is constrained with limited alternative routes. The assumption is that traffic will divert, where are they diverting to? If GHD believes their growth assumptions are too high, will the road network function with lower growth? Support should be provided that corridor traffic will decline as the capacity of the road is reached. In our opinion, traffic volumes will plateau as capacity is reached, but we would not expect a decline in corridor traffic.</i></p> <p><i>They indicated that “the applicant is responsible for certain intersection improvements including a southbound left turn lane and right turn lane on Wellington Road 124 into the Pit and traffic signal modifications, as for widening of Wellington Road 124, this is a County issue and is being dealt with through discussions with the County who have reviewed the traffic study and provided comments.”</i></p> <p><i>We concur that widening of Wellington Road 124 is a County concern and we would also say the Region should have input as well. We have not seen any comments from the Region. We have reviewed the County’s comments of November 6, 2015 and they indicate the following:</i></p> <p><i>“... the County of Wellington does not object in principal to the request for a fourth leg to be added to the Wellington Road 124 and Kossuth Road intersection to accommodate an entrance to the proposed Spencer Pit.</i></p> <p><i>Based on the attached peer review that was completed on your traffic impact study, the County will not approve an entrance until all comments have been addressed satisfactorily.</i></p> <p><i>The County will work with the proponent to determine the best design and type of intersection to meet both the proponent’s needs for an entrance as well as the long term needs of the forecast traffic volumes.”</i></p>

No.	Re	Comment
		<p><i>Subject to the County providing more current information, there still appears to be outstanding items in getting an entrance approved.</i></p> <p>GHD identified that they agree the roads are more than local roads. We concur with GHD that capacity along the corridor is a broader network item beyond the development level and not entirely associated with just the proposed development. Part of our concern is the limited connectivity of the road network and where traffic volumes can disburse to.</p> <p>The County of Wellington in their letter of November 6, 2015 indicates "... the County will not approve an entrance until all comments have been addressed satisfactorily.</p> <p>The County will work with the proponent to determine the best design and type of intersection to meet both the proponent's needs for an entrance as well as the long term needs of the forecasted traffic volumes. Details related to financial arrangements will be determined at a later time."</p> <p>The County is not objecting to a fourth leg being added to the intersection, but want an appropriate design and type of intersection. Development approval needs to be subject to satisfying County conditions.</p>
3.3	2.4	<p><i>GHD undertook a cursory review of sight lines and determined that there is approximately 180 m of sight distance available to the west and that under Transportation Association of Canada ("TAC") standards that a truck requires 130 to 170 m for stopping sight distance based upon a 90 km/h design. They also indicated that right turns on red for trucks can be prohibited.</i></p> <p><i>We request the reference to their calculations. Our review would have a stopping sight distance of about 160 m required for a vehicle based upon Figure 2.3.3.6 for a 90 km/h design speed. This figure is not truck specific. Allowing for trucks, based upon equation 2.3.3 and Table 2.3.3.2a, would result in an intersection sight distance of 212 m if utilizing a single unit truck and longer for a larger truck. This is greater than the available distance that GHD reports for a right turn from the driveway onto Wellington Road 124. Also right turns onto a two lane road would also consider sight distance required to turn right without being overtaken by a vehicle approaching from the left. This would result in a longer sight distance than stopping sight distance. Therefore, if the development is approved, we would also recommend that right turns be restricted on red from the driveway unless during the detailed design process, additional and appropriate sight distance is available.</i></p>

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		<p>GHD responded that the “stopping site distance was based on the required distance for a vehicle or truck on Highway 124 to come to a stop should a truck exit the pit onto the road.” They agree with the calculations provided using equation 2.3.3 and Table 2.3.3.2a, but would not apply as right turning vehicles from the pit would be stopped at the traffic light since right turns from the driveway would be restricted. GHD identifies that “more important is the available sight distance for a vehicle approaching the intersection to be able to see the traffic signals so they can come to a stop.” We concur that available sight distance is necessary to see the traffic signal based upon the appropriate criteria and that this will need to be addressed during the design stage.</p> <p>GHD then identify “the sight line distance shown on our previous drawings of 160 m is not be maximum sight distance provided for the driveway but was displayed to show that at a minimum the 160 m was available. The actual sight distance available to traffic exiting the site may be longer than 212 m based on the existing topography and right-of-way.” We don’t agree with the approach they used and they do not indicate whether there is 212 m. However, they have proposed that right turns on red will be restricted and as such the above becomes a mute point.</p> <p>As a condition of approval, right turns should be restricted from the driveway on red lights unless sightlines are provided to acceptable standards. Signalization of the intersection will be required upon site approval prior to construction of the driveway if the driveway is to be used for preparing the pit facilities. The appropriate by-law will need to be passed to restrict right turns on red from the driveway when the site plan is approved or the driveway built.</p>
3.4	2.5	<p><i>GHD concluded with “The analysis also shows the proposed pit traffic can be accommodated by the signalized intersection despite the high background growth used for the future analysis. The widening of Wellington Road 124 should be investigated by the County and the timing of such a capital improvement advanced to mitigate what is likely a pre-existing capacity deficiency. In the short term, constructing the improvements recommended in our traffic study will allow the additional entrance to the proposed pit to operate with acceptable v/c ratios and delays.”</i></p> <p><i>GHD analysis shows that with widening of Wellington Road 124 and turn lanes at the intersection, the intersection will function with excess capacity in 2020; however, their analysis demonstrates that with just the turn lane improvements, movements will be over capacity in 2020. Therefore, we cannot concur that with just their recommended improvements of turn lanes and modifications to the signals (which are a result of the additional turn lanes and/or widening of the road), that the road can accommodate the traffic.</i></p> <p><i>The County will need to accept over capacity conditions should only the turn lanes be added as the roadway is under their jurisdiction.</i></p>

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		<p>GHD identifies they “continue to be of the opinion that with the proposed turning lanes and modifications to the signal timings, the intersection of Highway 124 and Kossuth Road is expected to operate with acceptable v/c ratios of LOS until sometime in the future when the continued growth in corridor traffic will cause the intersection to reach capacity. As indicated by Burnside, we expect traffic to plateau as capacity is reached and then for the intersection to continue to operate at capacity during the peak hours.”</p> <p>We cannot support the statement that the operations will operate with acceptable volume to capacity ratios and level of service because the road traffic volume will plateau when capacity is reached. GHD’s traffic report shows over capacity movements for 2020 background conditions. This means that between now and 2020 the capacity of the road will be reached, not accounting for the pit traffic. Summarized in the table below is the movement operation at the intersection for 2020 background and total traffic volumes where the volume to capacity exceeds 1.0 from the GHD traffic report.</p> <table border="1"> <thead> <tr> <th></th> <th colspan="2">Weekday AM Peak Hour</th> <th colspan="2">Weekday PM Peak Hour</th> </tr> <tr> <th></th> <th>2020 Background</th> <th>2020 Total</th> <th>2020 Background</th> <th>2020 Total</th> </tr> </thead> <tbody> <tr> <td>Northbound Through</td> <td>1.0</td> <td>1.12</td> <td></td> <td></td> </tr> <tr> <td>Southbound Through</td> <td>1.03</td> <td>1.17</td> <td>1.1</td> <td>1.25</td> </tr> </tbody> </table> <p>As shown in the above table, the development does further reduce capacity on the road network. With widening through the intersection, movements will operate within capacity.</p> <p>The County’s position is that they will work with the applicant to determine the most appropriate set of improvements and do not object to the fourth leg. This intersection is in the County’s jurisdiction and as such the condition of approval should be that the applicant satisfies the County’s requirements.</p>		Weekday AM Peak Hour		Weekday PM Peak Hour			2020 Background	2020 Total	2020 Background	2020 Total	Northbound Through	1.0	1.12			Southbound Through	1.03	1.17	1.1	1.25
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Yours truly,

R.J. Burnside & Associates Limited



David Argue, P.Eng., PTOE
 Vice President, Transportation
 DA:mp

cc: Ms. Meaghen Reid, Township of Guelph/Eramosa (enc.) (Via: Email)
 Mr. Dan Currie, MHBC Planning (enc.) (Via: Email)
 Ms. Emily Elliott, MHBC Planning (enc.) (Via: Email)