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October 1, 2010

Mr. Jeremy Vink
Planner
Township of Woolwich
Engineering & Planning Services
24 Church Street West
P.O. Box 158
Elmira, Ontario
N3B 2Z6

Dear Mr. Vink:

**HUNDER DEVELOPMENT LTD. - PROPOSED HUNSBERGER PIT
PART OF LOT 5 & 6, EAST OF GRAND RIVER, BROKEN FRONT CONCESSION
CROOK'S TRACT, WOOLWICH TOWNSHIP**

Further to your e-mail of September 23, 2010, you indicated that Woolwich Planning staff has made a determination that during the operation of Phases 2 and 3 of the proposed Hunsberger Pit that "a flashing light must be installed with those signs to warn the traffic on Hunsberger Road".

1.0 TRAFFIC BEACONS

We have consulted with our traffic engineer and the MTO Ontario Traffic Manual (OTM) Book 12 does not prescribe to the use of 'hazard identification beacons' for such use. I would draw to your attention the following information which is cited from pages 61-63.

*3.11 Flashing Beacon Signals
General*

Flashing beacons may be used at locations where full traffic control signals are not justified but where, due to lack of visibility or other hazards, regulatory or cautionary signs alone are not sufficient. Either flashing red or flashing amber indications may be shown, the red indicating that all approaching traffic must stop before proceeding and the amber indicating that traffic may proceed with caution provided that the way is clear. The red flashing beacon is always used in conjunction with a stop sign.

Beacons should be used with considerable discretion because over-use of these devices may lead to their disregard by motorists.

Given the MTO recommendation that the use of such beacons "should be used with considerable discretion", we would therefore expect that such use must fall into one of the above noted categories, and not used arbitrarily or without justification.

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Based on the above, it is therefore important to determine whether the crossing of Hunsberger Road during the operation of Phases 2 and 3 would meet these tests.

- “Due to a lack of visibility ...” : As specifically noted in our correspondence to you dated May 25, 2010 as our response to the peer review comments (Item #17), the sight line distances along Hunsberger Road to the east (>750 metres) and west (280 metres) exceed MTO minimum standards. Therefore, approaching vehicles will have more than sufficient time to observe trucks initiating a crossing. Second, it should be noted that minimum sight distances are used to accommodate vehicles entering onto a roadway, but this scenario only involves the direct crossing of the road.
- “...or other hazards” : The following section within OTM Book 12 is entitled ‘Hazard Identification Beacons’, and provides an explanation as to appropriate situations where their use would be assigned. As such, it is our position that the crossing of Hunsberger Road by haul trucks does not constitute such a hazard. The vehicles using this crossing will be typical licensed haul trucks that all drivers are accustomed to observing on any local and Regional roads. Second, given that the crossing will be operational for only 2 of the 9 phases, and that it is our expectation that the primary users of Hunsberger Road are Golf Course Road residents, the users of Hunsberger Road will clearly be aware and familiar with the crossing while in operation.
- “Regulatory or cautionary signs alone are not sufficient”: At this time, we are supportive of the use of “cautionary signs” as the primary tool and are unaware of how their use would not be sufficient.

3.11 Flashing Beacon Signals Con't Hazard Identification Beacons

Hazard beacons include those used for reinforcement of signs for obstructions in or immediately adjacent to the roadway or as a supplement to advance warning and regulatory signs such as KEEP RIGHT, STOP or SIGNALS AHEAD. They are also used as visual warning on pedestrian crossovers.

Beacons with flashing amber indications may be used to emphasize the need for caution. Studies can be used to determine the justification for hazard beacons based on problems identified at the intersection, collision experience and where one of the following conditions exist:

- *A physical obstruction in the roadway*
- *A sharp curve in the roadway*
- *A major intersection that is hidden by a sharp curve or severe grade*
- *A divided highway (median) begins*

Based on the above, it is therefore important to determine whether the crossing of Hunsberger Road during the operation of Phases 2 and 3 would meet these tests.

- “Problems identified at the intersection”: At this time, the private crossing does not exist, but given that the crossing will exceed minimum sightline distances, the road is flat and straight at the designated crossing, and the existing traffic volume is very low (+/-70 vehicles/day as determined by Township staff), there is no justification to assume future problems will be arise.

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- “Collision experience”: Since the private crossing does not exist, there is no site specific experience or history at this location to base any assumptions upon.
- “Where one of the following conditions exist....” None of the OTM examples are present.

Therefore, as noted above, the use of Hazard Identification Beacons has been defined to be used in specific situations, none of which will exist during the operation of Phases 2 and 3. The Hunder scenario of intermittent trucks crossing with significant sight lines, does not constitute a hazard.

3.11 Flashing Beacon Signals Con’t Intersection Control Beacons

General

An intersection control beacon consists of either 20 cm or 30 cm diameter lenses with continuously flashing red or amber indications. Applications include overhead beacons mounted on suspension wire at the centre of an intersection and visual assistance where stop signs are not conspicuous, the sightlines to the major road are poor or because the driver has not needed to stop for some distance and may not be expecting to have to do so. Flashing beacons may be used when two major high speed roads intersect in a rural area or when collision history suggests additional treatments are required. It is generally intended that intersection control beacons operate on a continuous basis (aside from power failures, mechanical problems or other unforeseen events).

As noted above, the use of Intersection Control Beacons also provides examples when their installation would be warranted. In terms of the Hunder site, we would note the following:

- “Where stop signs are not conspicuous”: This does not apply because there are no stop signs on this traveled portion of Hunsberger Road.
- “Sightlines to the major road are poor”: This does not apply and we would refer you again to our correspondence dated May 25, 2010.
- “Because the driver has not needed to stop for some distance and may not be expecting to have to do so”: This also does not apply since the total length of Hunsberger Road is <1.5 kilometres.
- “Two major high speed roads intersect in a rural area”: Obviously this is not a situation at-hand since neither Hunsberger Road nor the private pit crossing would be defined as major high speed roads.
- “..... or when collision history suggests additional treatments are required”: Since the private crossing does not exist, there is no site specific experience or history at this location to base any assumptions upon.

3.11 Flashing Beacon Signals Con’t 3-Way and 4-Way Overhead Red/Amber Flashing Beacons

These types of beacons are used where stop conditions are required on the side roads and caution conditions are required on the main road but traffic control signals are not justified. The beacons are used in conjunction with geometric or visibility conditions that require reinforcement of the normal usage of stop signs and where side road traffic may have difficulty turning due to a limited sight distance.

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These types of overhead beacons should be positioned to aim along each approach of the intersection with the red beacons facing the side road(s) and the amber beacons facing the main road. Stop signs must be located on the side road approaches.

The Hunder scenario might best fall under this signal option where stop conditions are required on the side road and caution conditions are warranted on the main road. However:

- “*where stop conditions are required on the side roads*”: This does not apply to Hunder as it is recommended for public side roads, not private entrance/exits.
- “... in conjunction with geometric or visibility conditions that require reinforcement of the normal usage of stop signs...”: As noted previously, none of these situations are present with the Hunder application.

We conclude that the request of Woolwich Planning Staff for “a flashing light must be installed with those signs to warn the traffic on Hunsberger Road”, clearly does not fall within MTO parameters and especially since the installation of such beacons is strictly to be used judiciously (“used with considerable discretion”) since their over-use may lead to their disregard by motorists. Therefore the use of such beacons must be reserved only for situations that have most significant traffic hazards, none of which will exist on Hunsberger Road.

2.0 TRUCK ENTRANCE SIGN

MTO OTM Book 6 provides a section pertaining to Truck Entrance signs (page 122, 123), and notes that truck entrances can be hazardous to drivers, particularly when drivers are required to exercise caution and slow down to accommodate fully loaded trucks requiring more acceleration time. Truck entrances for temporary sites, such as construction or quarry sites, pose an additional hazard, because drivers may not be anticipating large, slow-moving vehicles merging with the traffic at these locations. TRUCK ENTRANCE signs are therefore required to provide advance warning of truck entrances to drivers, so that they are prepared to react to the associated hazards.

To accommodate such situations, it is recommended that the oversize TRUCK ENTRANCE sign (Wc-108) should be used where posted speed is 70 km/hr or greater. Furthermore, the educational TRUCK ENTRANCE tab sign (Wc-8t) may be attached to the TRUCK ENTRANCE sign (Wc-108) to convey in words the meaning of the truck entrance symbol. An educational tab is normally used when a new sign is first introduced in an area until motorist familiarity with the symbol is established.

The Manual also provides guidance (Table 12) to determine if a truck entrance sign is required on the basis of inadequate sight distances. For a two lane road posted 80 km/hr, the minimum sight line distance established is 150m. As noted above, sightlines to the east exceeds this 5 times over and to the west by 130m, being almost double the required distance.

Notwithstanding that the sight lines are significantly exceeded and that slow-moving vehicles won't be merging with the traffic but rather simply crossing the road, it is our recommendation that the larger TRUCK ENTRANCE sign (Wc-108) be erected along with the educational TRUCK ENTRANCE tab, (Wc-8b).

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3.0 SITE PLANS

Please note that the initial submission included the Site Plans which contained the following General Note 4 to provide traffic safety on Hunsberger Road:

4. AN INTERNAL ACCESS POINT WILL BE LOCATED TO CROSS HUNSBERGER ROAD AS SHOWN, AND THIS ACCESS WILL ONLY BE FOR DIRECT CROSSING FROM PHASE 2 AND 3 TO THE MAIN PIT AREA.
 - ON BOTH SIDES OF HUNSBERGER ROAD, THE ENTRANCES WILL BE HARD SURFACED FOR A MINIMUM DISTANCE OF 30.0 METRES TO ENSURE THAT SAND/GRAVEL FROM THE OPERATION IS NOT TRACKED ONTO HUNSBERGER ROAD,
 - THE INSTALLATION OF STOP SIGNS AND PAINTED STOP BAR SHALL BE INSTALLED ON BOTH SIDES OF THE CROSSING,
 - THE INSTALLATION OF A NOTIFICATION SIGN POSTED ON BOTH SIDES OF THE CROSSING STATING; “CAUTION – ROAD USED BY PEDESTRIANS AND CYCLISTS”,
 - THE INSTALLATION OF TRUCK CROSSING SIGNS ON HUNSBERGER ROAD ADVISING MOTORISTS, PEDESTRIANS AND CYCLISTS OF THE POTENTIAL OF CROSSING TRUCKS.

Regarding your comment related to confirmation of the road base at the crossing, I would refer you to the last bullet point of the General Note 4 which states:

- PRIOR TO EXTRACTION OF PHASE 2 AND AFTER EXTRACTION OF PHASE 3, GEOTECHNICAL BOREHOLES ARE TO BE DRILLED WITHIN THE SUBJECT PORTION OF HUNSBERGER ROAD AND IF ANY SIGNIFICANT DEFICIENCIES ARE NOTED, THE LICENSEE SHALL REPAIR THE ROAD AT THEIR COSTS. FURTHERMORE, IF ANY VISUAL IMPACT IS CAUSED TO THE ROAD DURING THE EXTRACTION PERIOD, THEY SHALL ALSO UNDERTAKE THE NECESSARY REPAIRS TO TOWNSHIP STANDARDS.

4.0 SUMMARY

Given the proposed traffic safety features incorporated into the Site Plans, we would highlight that the use of trucks crossing from the proposed Phases 2 and 3 over Hunsberger Road provides a triple level of safety including:

- The design speed is 10 to 20 km over the posted speed and therefore the prescribed minimum sight-line distances are also over-designed.
- The sightlines for the crossing exceed the minimum levels.
- Trucks will not be entering the road, but only crossing Hunsberger Road.

Notwithstanding these traffic safety features, the Township may wish to explore other options to reduce perceived conflicts. Given Hunsberger Road's short length (1.5 km), that it primarily only serves the Conestoga Estates subdivision, is part of the Grand Valley Trail and used by pedestrians and cyclists, Township might wish to explore the reduction of the posted speed limit to 70 km/hour.

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I trust that our position is clear on this matter. Should you have any questions, please do not hesitate to call.

Yours truly

IBI GROUP

A handwritten signature in black ink, appearing to read "D. Sisco". The signature is fluid and cursive, with a large initial "D" and a long, sweeping underline.

David R. Sisco, BA, MCIP, RPP
Associate, Principal – Planning

DRS/baw

cc: Bob Hunsberger