

## **Appendix “F” Noise Impact Review**

**J.E. COULTER  
ASSOCIATES  
LIMITED**

Consulting Engineers in  
Acoustics, Noise & Vibration

PRESIDENT  
John E. Coulter, B.A.Sc., P.Eng.

VICE-PRESIDENT  
Howard R. Patlik, C.E.T.

Suite 211  
1210 Sheppard Avenue East  
Toronto, Ontario M2K 1E3  
Tel: (416) 502-8598  
Fax: (416) 502-3473  
e-mail: [jcoulter@on.aibn.com](mailto:jcoulter@on.aibn.com)

---

**TRANSMITTAL RECORD**

**Date: September 15, 2008**

**To: AINLEY & ASSOCIATES LIMITED**

**Enclosing Herewith: LETTER**

**Via: Fax & MAIL - 705)-445-0968**

**Title: BRYNE DRIVE EXTENSION ENVIRONMENTAL ASSESSMENT  
CITY OF BARRIE  
NOISE IMPACT REVIEW**

**Comments:**

**Distribution: MR. REID MITCHELL**

**Per:F MAGNANTE**

**J.E. COULTER  
ASSOCIATES  
LIMITED**

Consulting Engineers In  
Acoustics, Noise & Vibration

PRESIDENT  
John E. Coulter, B.A.Sc., P.Eng.

VICE-PRESIDENT  
Howard R. Patlik, C.E.T.

Suite 211  
1210 Sheppard Avenue East  
Toronto, Ontario M2K 1E3  
Tel: (416) 502-8598  
Fax: (416) 502-3473  
e-mail: jcoulter@on.aibn.com

---

September 15, 2008

Ainley & Associates Limited  
280 Pretty River Parkway  
Collingwood, Ontario  
L9Y 4J5

Attention: Mr. Reid Mitchell

**Re: BRYNE DRIVE EXTENSION ENVIRONMENTAL ASSESSMENT  
CITY OF BARRIE  
NOISE IMPACT REVIEW**

Gentlemen:

At the request of Ainley & Associates Limited, J. E. Coulter Associates Limited has reviewed the proposed plans for the expansion of Bryne Drive in the City of Barrie for noise impacts.

The north and south portions of Bryne Drive are currently separated by mostly undeveloped land. The extensions proposed connects these two segments in one of four possible ways. The project is expected to be completed in the year 2010. Noise calculations are based on road volumes projected 10 years after the completion date to the year 2020 as per the MTO/MOE noise protocol. This projection period is used to allow for the roadway to reach a reasonable service level.

The noise from Highway 400 is expected to dominate at the receptors potentially affected by the Bryne Drive extension. The most current traffic count of Highway 400 (2005) is projected 15 years into the future at an estimated growth rate of 4%. This growth rate is typical of that encountered in the past along this section of Highway 400. Truck percentages are estimated at 8.25% heavy and 2.75% medium for Highway 400. The proposed 5-lane extension of Bryne Drive will result in a 2020 traffic volume of 25,000 AADT. Bryne Drive is expected to feed predominantly commercial development through this extension corridor. Truck percentages for Bryne Drive are estimated to be 6% heavy and 10% medium. The traffic volumes and truck percentages are summarized in Table 1, below.

TABLE 1 - 2020 TRAFFIC VOLUME PROJECTIONS				
Roadway	SAWDT (veh/Day)	Truck Percentage		Speed Limit (kph)
		Medium	Heavy	
Highway 400	161,724	8.25%	2.75%	100
Bryne Drive	25,000	10%	6%	60

Of the options considered, Option 4 is the only one that causes a detectable impact upon the sensitive receptors. Options 2, 3, and 5 would generate increases that for most people, are below the threshold of reliable detection upon the sensitive receptors.

Under Option 4, the most sensitive receptors are in a substantial subdivision located east off Thrushwood Drive (see Appendix A, Figure 1 for site plan). If this option is pursued, the sound levels at this residence will increase by 3dB (see Appendix B attached).

Option 1, which is the do-nothing option, and Options 2, 3, and 5 generate increases that range from only 0dB to 2dB.

All Options for the extension of Bryne Drive are well below the threshold for which noise mitigation might be considered (5dB).

We trust the above will assist in expediting this project's requirements. Should there be any questions, please do not hesitate to contact the undersigned.

Yours truly,

J. E. COULTER ASSOCIATES LIMITED



John E. Coulter, B.A.Sc., P.Eng.

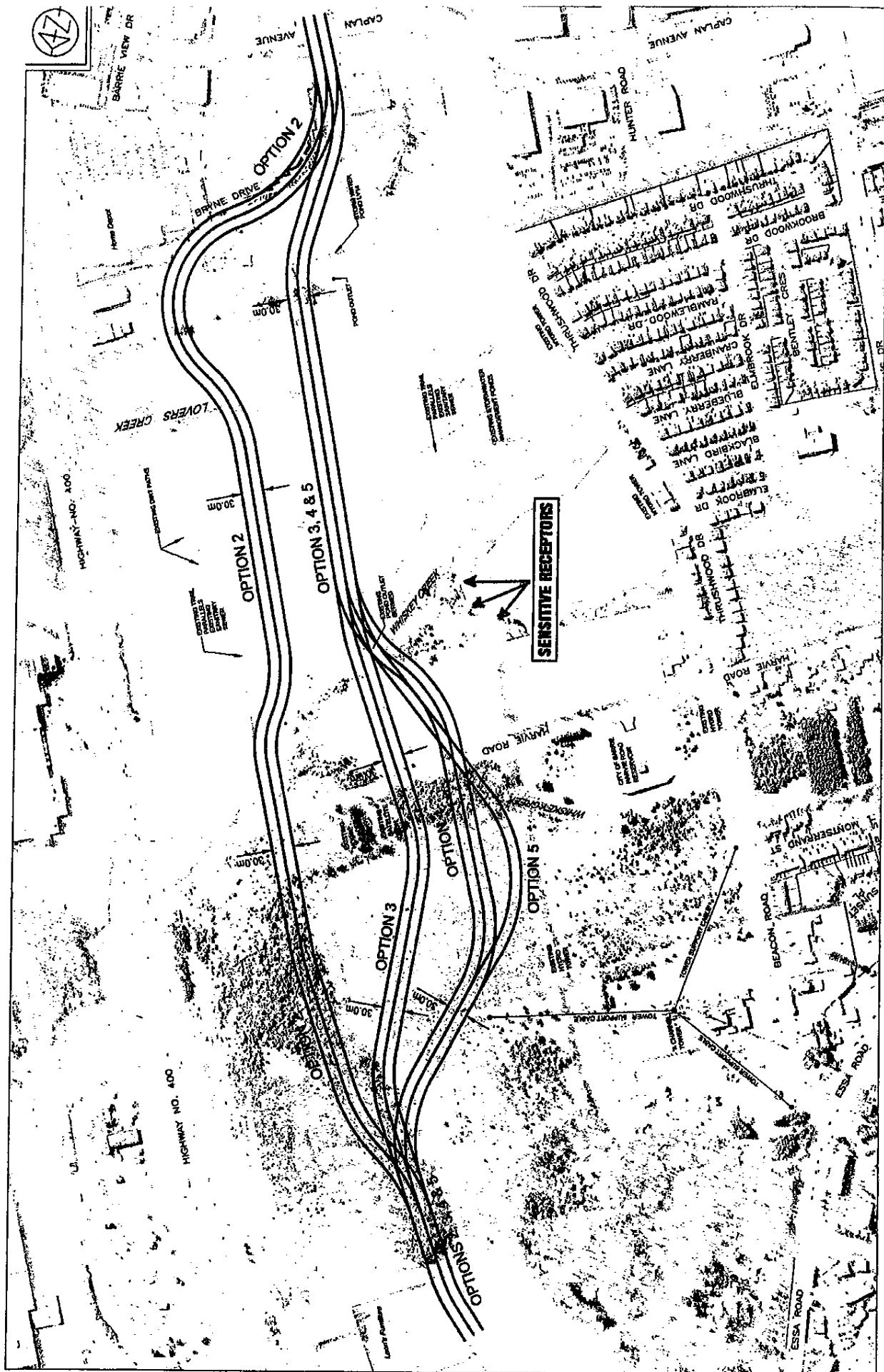


Sam Kulendran, B.A.Sc.



SK:jcc

Encl.



**FIGURE 1  
SITE PLAN**

**J.E. COULTER ASSOCIATES LIMITED**

**APPENDIX B - DEFINITIONS AND GLOSSARY OF TERMS**

**1 dB CHANGE**

For sounds presented to a listener, one immediately following the other, a 1 dB change is the smallest increment which can be reliably detected by most people. If the time delay between presentation of the sounds is more than a few seconds, the change is not reliably detected (i.e. the community is not sensitive to a 1 dB change occurring over 1 year's time). In environmental noise, a 1 dB change occurs with an increase in traffic of 25%.

**3 dB CHANGE**

An increase in the  $L_{eq}$  of 3 dB is reliably detected by most listeners, and is the smallest change considered significant by most planning authorities. It is the smallest change in the overall  $L_{eq}$  (all sounds combined) which can be reliably detected by standard noise monitoring techniques. A doubling of traffic in a community will cause a 3 dB change, if traffic is the only major noise source.

**5 dB CHANGE**

An increase in the overall  $L_{eq}$  of 5 dB represents a relatively significant impact in terms of overall  $L_{eq}$ , particularly if an area is already at or above daytime  $L_{eq}$  of 55.

**10 dB CHANGE**

A 10 dB increase in overall  $L_{eq}$  represents a doubling in the loudness of the sound, and represents a major impact on an urban community especially if the levels are already above 50  $L_{eq}$ .