

February 29, 2024

By Email

Elisa and Mike Zablotny
 74 Shanahan Road
 Penetanguishene, ON
 L9M 1N9

Re: Feasibility of Severance of Lot from 74 Shanahan Road

The purpose of this letter is to support the severance of a lot fronting on Poyntz street from the existing lands at 74 Shanahan Road. The new and existing lot would comply with the existing R1 zoning setback requirements. It is understood that the proposed lot will be developed with a single family home and attached two car garage. The garage will be serviced by a driveway off Poyntz. Two (2) parking spaces are being provided in the garage. The grading design will consider the required access to the garage off Poyntz.

Zoning

A summary of how the retained and severed lot meets the zoning requirements is found below:

	R1 Zone Standards	Retained	Severed
Min Lot Frontage	15.0m	16.82m	19.0m
Min Lot Area	460m ²	588.9m ²	470.3m ²
Min Front Yard	6.0m	7.88m	1.2m
Min Interior Side Yard	1.2m	~1.2m	1.2m
Min Rear Yard	7.5m	12.52m	7.5m
Max Height	11.0m	<11.0m	11.0m
Max Lot Coverage	35%	~25%	~38%+4% Deck

* The retained lot has a garage meeting Table 4.1.2.2 allowing for a setback of 0.5m to the interior side lot line; also a shed meeting the same table allowing for a 1.2m setback from the rear lot line.

It is understood that the preferred development of the lot will require a minor variance to reduce the front yard setback from the required 6.0m down to 1.2m. This setback is representative of other homes on the street and provides consistency within the neighbourhood. The finished floor of the home will be up above street level to allow for garage access and allow for in garage parking ensuring compliance with parking requirements of the zoning by-law. This will require fill in the front yard and Town right-of-way to allow for safe egress of the garage and driveway. A reduced setback minimized the fill required for the lot.

The preferred single family dwelling will also slightly exceed the allowable max lot coverage. The proposed home and attached garage is 1932 ft² or 179.5m². In order to ensure the retained lot fully complies with the zoning by law the severed lot was reduced and will require relief in the form of a minor variance for lot coverage.

Parking

As per the zoning by-law section 5.3, 2 parking spaces are required for a single family dwelling. The proposed site layout allows for two parking spaces in the garage which is permitted in the zoning by-law.

Water and Sanitary Servicing

Servicing of the severed parcel will require an easement on the retained parcel. The easement would be located in between the existing house and garage and would be 2.0m wide. A local contractor visited the site to determine feasibility of the required servicing.

It was determined that a 4" sewer pipe and a 1" water line would be directionally drilled through the easement and connected into the existing sewers/mains on Shanahan Road. A quote for the work is attached to this letter.

Should Poyntz Street be upgraded in the future by the Town, it would be beneficial to have a water service installed for this severed lot so that should the water service be replaced in the future it could be connected to Poyntz and not run back through the easement.

Stormwater

Stormwater will be directed towards the north by way of swales along property lines. These swales will promote infiltration into the native soils. Soakaway pits will be constructed at the rear corners of the house to absorb roof water. Yard drains will also be provided in the side yard swales and connected to the soak away pits to allow for further infiltration. Flows in excess of the soakaway pit capacity will be directed along the northeast property line of the retained lot. This swale exists currently in a river rock state along the residence.

The proposed soakaway pits will handle the majority of the excess stormwater. The soils in the area per the Ontario Soils Survey Report No 29 For Simcoe County shows the site as Tis-Vasl a combination of loamy sand and should provide good drainage.

Based on the Town of Penetanguishene Land Development Engineering Policy, the 100 year storm in the area for a 24hr period is 5.12mm/hr (see attached document). This will be used as the target infiltration across the severed lot. The Stormwater Management Planning and Design Manual was referenced in sizing the soakaway pit.

Equation 4.2: Maximum Allowable Soakaway Pit Depth

$$d = PT \div 1000$$

where:

- d** maximum allowable depth of the soakaway pit (m)
- P** percolation rate (Table 4.4) (mm.h)
- T** drawdown time (24-48 h) (h)

Table 4.4: Minimum Soil Percolation Rates

Soil Type	Percolation Rate (mm/h)
sand	210
loamy sand	60
sandy loam	25
loam	15

$$d = 60 * 24 / 1000$$
$$d = 1.44 \text{m}$$

Equation 4.3: Required soak away pit area

$$A = V_{\text{water}} / (D_d n)$$

where:

V_{water} Volume of water to be stored (m^3) – $5.12 \text{mm} * 470 \text{m}^2$

D_d designed depth of soakaway pit(m) – 1.0 m

n Assumed porosity (%) – 40% for 50mm clear stone

$$A = (0.00512 * 470) / 1.0 * .04$$

$$A = 6 \text{ m}^2$$

A soakaway pit 2.0m wide and 3.0m long at a depth of 1m constructed with 50mm clear stone is required to service the development. It is recommended to place two pits one at each rear corner of the dwelling unit. The proposed pits will be 1.5m wide and 2.5m long at a depth of 1.0m.

Sightline Assessment

The proposed driveway will be constructed ~40m northeast of the John Street and Poyntz Street intersection. Poyntz Street is a through road with a 50km/hr speed limit. John Street is stop controlled (yield controlled heading south) and is also posted at 50 km/hr. Poyntz street in front of the severed driveway slopes at a grade of roughly 2% with the crest point ~100m northeast of the driveway. The grade southeast of John street increases and the sag point is located >100m southeast of the John Street intersection.

Based on the Ontario's Ministry of Transportation (MTO) outlines specific sight-distance geometry criteria to ensure safe vehicular movement to and from intersecting roadways and to ensure that through traffic on the adjacent roadway will have adequate time and space for manoeuvrability and braking. Based on an assumed speed of 60km/ hr (10km/hr above the posted limited) on Poyntz Street, the minimum required stopping sight-distance is approximately 80m as referenced from MTO Geometric Design Standards for Ontario Highways Manual, Figure E3-6 (refer to Attached chart).

From a review of existing site conditions and sight-lines from the vantage point of the proposed driveway, as well as the intersections at John Street, visibility is noted to be adequate, since there are no notable obstructions that would detrimentally impede sightlines and the crest and sags of through road are located more then 80m away from the proposed driveway and nearest intersection. Based on these observations, sight-distance from the proposed site access location is noted to be satisfactory.

Slope and Grading

The existing slope off Poyntz Street is ~40%, the grade change from the existing back of sidewalk to the proposed rear property line is 6.2m. The slope can be accommodated by constructing an engineered fill pad for the foundation, building the garage and main floor of the house at approximately the same grade as that of the existing sidewalk. The

driveway will be graded with a valley to ensure storm water will run away from the sidewalk and home. Storm water will be directed northwest around the home via swales. All fill placed to support the foundation shall be placed in 0.2m lifts and compacted to 100% SPMDD. All fill placed in the front yard shall be placed in 0.3m lifts and compacted to 95% SPMDD to ensure no settlement occurs. A retaining wall will be constructed along the northeast property line allowing access from the front yard to rear yard of the home. Grading details are provided on the submitted plans.

Based on the proposed 1.2m setback, the proposed finished grades at the rear of the house will be 1.5-2.0m higher than existing, fill will be needed in the rear yard per the proposed grading plan which ensures storm water is directed away from the home towards the rear property line. Any increase in the front yard setback will inevitably increase fill requirements as the slope continues towards the rear lot line.

If you have any questions or require additional information, please contact the undersigned at 519-386-4857; or by email at kim@moorefieldex.ca.

Sincerely,



Kim Pilon, P.Eng.

cc:

**RAINFALL INTENSITY, DURATION, FREQUENCY VALUES
PREPARED BY THE HYDROMETEOROLOGY DIVISION, CANADIAN CLIMATE CENTRE (08/80)**

Climate	Station Name	Year	5 min	10 min	15 min	30 min	1 hr	2 hr	6 hr	12 hr	24 hr
6115820	Orillia T.S.	1965	8.1	11.2	12.2	16.3	16.5	16.5	29.7	38.9	68.9
6115820	Orillia T.S.	1966	5.1	6.3	7.1	13.2	18.6	23.6	27.9	28.7	38.9
6115820	Orillia T.S.	1967	9.1	15.7	21.1	35.5	44.7	53.1	57.7	57.9	58.7
6115820	Orillia T.S.	1969	5.6	11.2	18.2	17.8	17.9	18.0	33.5	38.9	41.7
6115820	Orillia T.S.	1970	5.6	7.6	9.4	12.2	15.5	26.4	29.7	30.0	45.7
6115820	Orillia T.S.	1971	6.3	9.4	12.2	15.2	17.5	20.3	22.9	31.2	33.5
6115820	Orillia T.S.	1972	6.6	8.4	8.9	16.5	20.8	24.4	24.4	36.6	69.8
6115820	Orillia T.S.	1973	10.2	12.4	15.5	16.8	21.6	24.1	28.7	37.3	37.8
6115820	Orillia T.S.	1974	13.0	22.1	27.7	29.5	35.8	40.4	65.5	72.4	72.4
6115820	Orillia T.S.	1975	5.6	8.9	10.7	17.5	19.8	26.9	31.5	33.5	35.6
6115820	Orillia T.S.	1976	7.6	10.9	15.7	23.9	27.4	28.7	38.6	62.4	42.4
6115820	Orillia T.S.	1977	4.6	7.1	10.7	14.0	14.5	16.6	26.7	31.0	38.6
6115820	Orillia T.S.	1978	11.4	12.1	12.5	17.1	18.2	25.0	34.8	35.2	35.2
6115820	Orillia T.S.	1979	8.6	12.2	16.2	31.1	42.0	52.2	103.4	103.7	104.0
Mean Extreme			7.7	11.1	13.8	19.8	23.7	28.3	40.4	44.1	48.5
Standard Deviation			2.4	3.9	5.2	7.0	9.6	11.5	20.9	20.1	18.4
Years of Record			14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00

Return Period in Years	5 min	10 min	15 min	30 min	1 hr	2 hr	6 hr	12 hr	24 hr
2	7.3	10.6	13.1	18.8	22.3	26.7	37.4	41.3	45.9
5	10.1	14.9	18.9	26.7	33.1	39.6	60.9	63.9	66.5
10	11.9	17.8	22.7	31.9	40.2	48.1	76.4	78.8	80.2
25	14.2	21.5	27.5	38.5	49.2	58.9	96.0	97.4	97.4
50	15.9	24.2	31.1	43.4	55.9	66.9	110.6	111.7	110.2
100	17.6	26.9	34.7	48.3	62.6	76.8	125.0	125.7	123.0

Return Period Rainfall Rates Expressed as mm/hr With 50% Confidence Limits	5 min	10 min	15 min	30 min	1 hr	2 hr	6 hr	12 hr	24 hr
2	87.9±4.9	63.3±3.9	52.2±3.5	37.5±2.4	22.33±1.60	13.34±0.95	6.24±0.58	3.44±0.28	1.91±0.13
5	120.8±9.4	89.6±7.5	75.4±6.6	53.3±4.5	33.10±3.08	19.79±1.84	10.15±1.12	5.32±0.54	2.77±0.25
10	142.7±13.2	106.9±10.5	90.8±9.3	63.8±6.3	40.23±4.31	24.05±2.59	12.74±1.57	6.57±0.75	3.34±0.34
25	170.2±18.2	128.9±14.5	110.2±12.8	77.0±8.7	49.24±5.94	28.45±3.56	16.01±2.16	8.14±1.04	4.08±0.47
50	190.7±22.0	145.2±17.5	124.6±15.5	96.8±10.5	55.92±7.18	33.45±4.30	18.43±2.60	9.31±1.25	4.59±0.57
100	211.0±25.7	161.3±20.5	138.9±18.1	96.5±12.3	62.56±8.41	37.42±5.03	20.84±3.05	10.47±1.47	5.12±0.67

- A - Minimum Stopping Sight Distance, Table E3-1.
- A₁ - Distance travelled in 3 s, Table E3-2.
- B - Safe Sight Distance for P vehicle, crossing 2-lane highway from stop.
- C - Safe Sight Distance for P vehicle, turning left into 2-lane highway across P vehicle approaching from left.
- D - Safe Sight Distance for P vehicle to turn left into 2-lane highway and attain assumed operating speed before being overtaken by P vehicle approaching in same direction at design speed.
- E - Safe Sight Distance for P vehicle to turn right into 2-lane highway and attain assumed operating speed before being overtaken by P vehicle approaching in same direction at design speed.

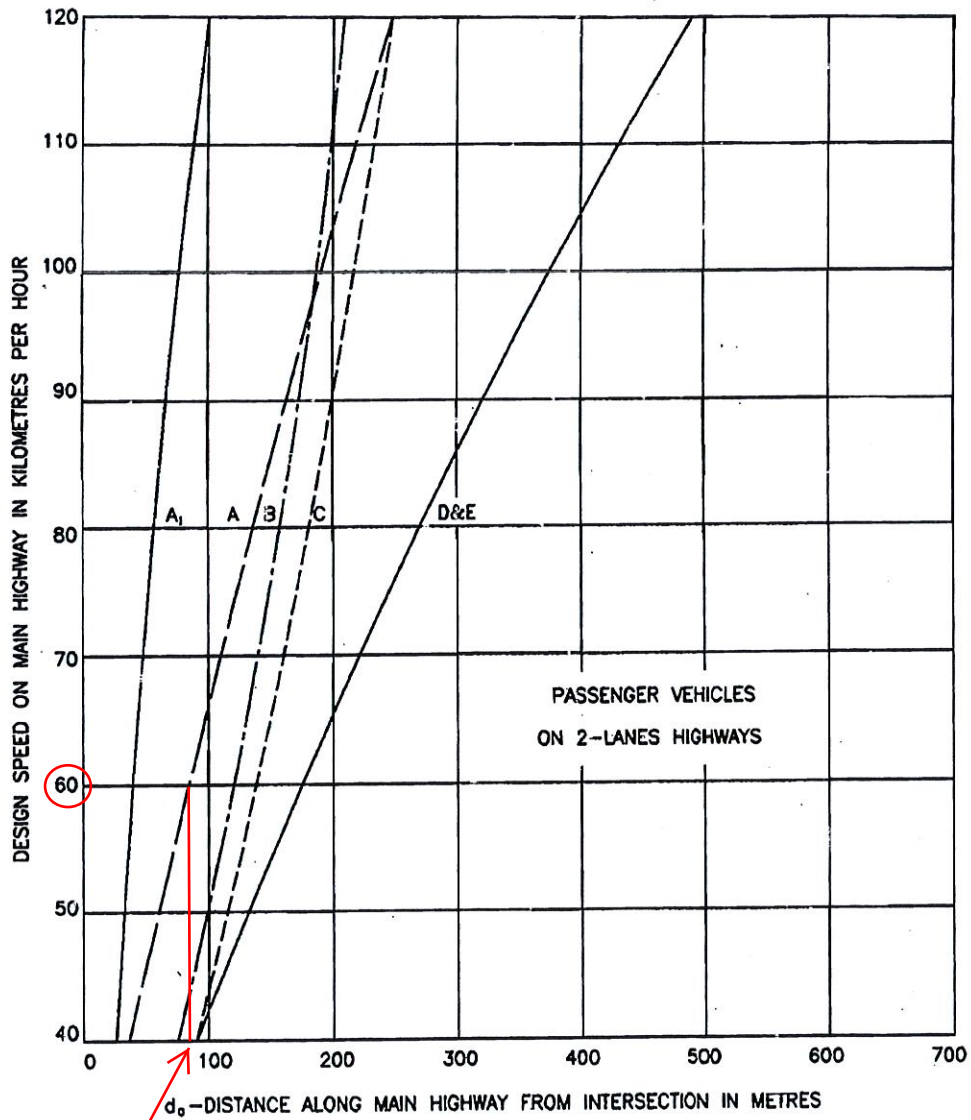


Figure E3-6

Sight Distance Requirements for Stopping Crossing and Turning Movements

Condition A: Minimum stopping sight distance is approx. 80m for 60km/h design speed.