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Halifax Regional Municipality
Attn. Carl Purvis, Planning Applications Program Manager
40 Alderney Drive
Dartmouth, NS B2Y 2N5

Re. Traffic Impact Statement - 32 Dutch Settlement Road, Lantz

Mr. Purvis:

EDM Planning Services is pleased to submit this Traffic Impact Statement (TIS) regarding the replacement of a building at 32 Dutch Settlement Road, Lantz, Nova Scotia. The TIS is required for any changes to the property where the approval is subject a Development Agreement under Halifax's Regional Municipality's Land Use By Laws.

Background

American Iron and Metal is replacing two buildings with a single building for their vehicle parts yard at their facility, Kenny U-Pull, at 32 Dutch Settlement Road in Lantz, Nova Scotia. The activity at the site will remain exactly the same - as a used car parts inventory yard. Figure 1 shows the site in the surrounding area along Dutch Settlement Road.



Figure 1: Elmsdale and Surrounding Area including 32 Dutch Settlement Road. (Source: Google Maps)

The property is located at 32 Dutch Settlement Road, Lantz, Nova Scotia. Dutch Settlement Road is a 2-lane, 2-way rural cross section with ditches on either side and runs southeast-northwest and is classified as a collector road with a posted speed limit of 70 km/hr. The closest intersection is the intersection of Old Trunk Road and Dutch Settlement Road about 180 metres to the southwest of the Site and a second intersection between Highway #277 and Dutch Settlement Road about 500 metres to the northeast. This highway at the Site carries vehicles between Elmsdale and Lantz/Carroll's Corner on Route 277.

Highway Description

The route affected by the proposed building replacement is Dutch Settlement Road, which turns from Old Trunk Road into Highway #277 or Dutch Settlement Road. The highway runs northeast-southwest and provides a connection from Elmsdale to Lantz/Carroll's Corner/Gays River. This road runs parallel to Trunk #2 and Highway #102 and generally serves local traffic and traffic running to Cook's Brook and Middle Musquodoboit.

The road is a standard Nova Scotia collector road with one lane in each direction with gravel shoulders and ditches on both sides. There are houses generally on each side of the road, however it is a rural setting with large frontages along the road and space between each house and driveway accesses. Following are photos of the road approaches of the Site.



Figure 2: Photo Layout



Photo #1 - View looking southwest from the site along Dutch Settlement Road.



Photo #2 - Looking Northeast from the site along Dutch Settlement Road.



Photo #3 - Looking Northeast along Old Trunk Road toward the site. Note the intersection of Old Trunk Road and Dutch Settlement Road to the left.



Photo #4 - Looking southwest along Dutch Settlement Road toward the site from the intersection with Highway #227.



Photo #5 - View looking northeast on Dutch Settlement Road at the entrance driveway to the site.

Trip Generation

Nova Scotia Department of Transportation and Infrastructure Renewal conducted traffic counts in the area, however, no traffic counts were done for this specific section of the highway. See the table below for NSTIR's adjacent highway traffic. The adjacent section of Highway 277 travelling east and west just before Gays River and traffic travelling from Trunk 2 to Highway 277 has been counted at two different times in 2016 for the first highway section and in 2013 for the last highway section. The difference between these two values should be included as traffic that passes by the site. The TIR traffic counts for annual average daily traffic is that 70 vehicles per day use this stretch of highway in each direction in front of the subject

**HIGHWAY: 277 SECTION: 010 LENGTH: 10.41
TK 2 (LANTZ) TO MILFORD RD (CARROLLS CORNER)**

Date	Location	C	TC	HFX	916	810	
06/10/2009	1 KM EAST OF TK 2		TC	HFX			
13/10/2011	1 KM EAST OF TK 2		TC	HFX	949	880	
12/09/2013	1 KM EAST OF TK 2 (WESTBOUND)		VC	HFX	5	437	W
12/09/2013	1 KM EAST OF TK 2 (EASTBOUND)		VC	HFX	5	417	E
22/10/2015	1 KM EAST OF TK 2		TC	HFX	872	820	
29/06/2016	1 KM EAST OF TK 2 (WESTBOUND)		VC	HFX	3	852	W
29/06/2016	1 KM EAST OF TK 2 (EASTBOUND)		VC	HFX	3	816	E

**HIGHWAY: 277 SECTION: 015 LENGTH: 2.74
MILFORD RD (CARROLLS CORNER) TO RTE 224 (GAYS RIVER)**

Date	Location	C	VC	HFX	11	804	930	W
15/11/2007	2.5 KM WEST OF RTE 224 (WESTBOUND)		VC	HFX				
15/11/2007	2.5 KM WEST OF RTE 224 (EASTBOUND)		VC	HFX	11	800	920	E
06/10/2009	2.5 KM WEST OF RTE 224		TC	HFX	1812	1610		
13/10/2011	2.5 KM WEST OF RTE 224		TC	HFX	1728	1600		
12/09/2013	2.5 KM WEST OF RTE 224 (EASTBOUND)		VC	HFX	6	834	740	F
12/09/2013	2.5 KM WEST OF RTE 224 (WESTBOUND)		VC	HFX	6	875	770	W
22/10/2015	2.5 KM WEST OF RTE 224		TC	HFX	1742	1640		

Traffic counts on Highway #277. (Source: NSTIR)

property (Eastbound - 740 - 670 and Westbound - 770 - 700). The records indicate that the counts in each direction are equivalent using the most recent traffic counts for this section of highway.

Traffic generated from the approximately 60 homes that are located between these two sections can be added to the counts. Using Institute of Transportation Engineer's Trip Generation, 10th Edition, Single Family Houses add 9.52 trips per day per unit or 572 trips per day on average. That would be 286 trips per day in each direction. Based on the traffic counts, that are even in each direction (southwest and northeast) on Dutch Settlement Road, traffic using the site is estimated to follow this trend and be evenly distributed. This assumption is carried through this calculation.

Kenny U-Pull undertook vehicle visits during the period of January 2 to December 31, 2018. A summary of these records indicate that during the weekdays an annual average of 57 vehicles visited the site and during the weekend an annual average of 122 vehicles per day were recorded. These records show that 46% of traffic was generated during weekends, and all traffic used the site outside of peak times for the AM and PM traffic peaks for the road.

Traffic Summary for AIM (Kenny U-Pull)

Information summarized from data recorded by Kenny's U-Pull from January 2 to December 31, 2018

Actual Traffic at Kenny's U-Pull, 32 Dutch Settlement Road, Lan	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
Maximum Traffic (Daily High, vehicles per day)	190	187	142	100	90	88	214
Number of Days (days)	51	49	48	51	51	52	52
Total Traffic (vehicles)	6589	5618	2830	2783	2616	2824	3362
Average Annual Daily Traffic (vehicles per day)	129	115	59	55	51	54	65
Largest Single Day Traffic (vehicles per day)	214 Good Friday		Average of all weekdays (vehicles per day)				57
Annual Average Daily Traffic (all days) (vehicles per day)	75 All days		Average of all weekdays (vehicles per day)				122

Summary: The maximum use of the facility is during weekends, averaging about 122 vehicles per day, while during the weekdays, the average traffic is about 57 vehicles per day.

The building replacement is not intended to increase traffic, but rather to provide better facilities. Creating a better visitor experience will undoubtedly increase visits, therefore a modest increase has been incorporated into the traffic into the site of 50%, suggesting an increase in total vehicle visit counts from 57 vehicles to 86 vehicles per day.

The total traffic in each direction would be 442 vehicles per day (286 + 70 + 86). This value would be slightly different on the weekend. Use of the subject property is increased, however, traffic generated from other sources is reduced. Traffic generated as a result of the subject property would be off peak from the traffic generated at peak times during morning and afternoon.

The capacity of a two way, two lane road is estimated to accommodate 1000 vehicles per day in each direction without considering additional safety measures. The road will accommodate this estimated traffic in its current state.

Transit and Pedestrians

There are no sidewalks in this area, but a gravelled shoulder is located on both sides of the road. There is no public transit in this area.

Stopping Site Distance and Access Review

An adequate stopping site distance is critical to the safe use of the driveway to the replacement building. The driveway is intended to remain in the same location as the previous driveway entrance. Further, the house located on the north side of the driveway is intended for removal. The stopping site distance for the existing driveway was checked in comparison to Transportation Association of Canada's (TAC) Geometric Design Guide for Canadian Roads.

HRM's Municipal Design Guidelines outlines the stopping sight distance consistent with the TAC Manual. From the TAC Manual, the stopping sight distance for a 70 km/hr road calculates to 110 m. The actual sight distance from either direction is in excess of 200 m (specifically, 200 m from the south and 500 m from the north), satisfying the stopping safety requirement for cars and trucks.

Site Generated Traffic

The ITE Trip Generation Manual, 9th Edition is typically used to estimate traffic generated at facilities. In this case, the Manual does not have trip generation rates specifically for auto salvage yards/used auto parts. A general light industrial facility could be used but is not specific to the use. As previously reported, the facility tracked traffic generated by the facility from January 2 to December 31, 2018, as summarized in the Traffic Summary.

Trip Distribution

The majority of the trips generated by the site will be light trucks and cars, generated outside of the peak AM and PM peak hour periods, having less of an impact on existing traffic in the area.

Conclusions and Recommendations

- The Traffic Impact Statement has provided a high level overview of the proposed replacement of support buildings for Kenny U-Pull auto salvage yard facility at 32 Dutch Settlement Road in Lantz, Nova Scotia.
- The report includes an estimate of existing traffic volume and an estimate of site generated trips based on actual values and projected use generation rates for replacement of 90 square metres of building with 495 square metres of building.
- Although there is no projected increase in vehicles as the expansion will continue the same activity with improved facilities, however, for this purpose, a modest increase of 29 vehicles per day or 50% based on the expansion is allotted in using the site above the current 57 vehicles per day.
- Traffic accessing this driveway will have stopping sight distances of 200 metres in the southwest direction and 500 metres in the northeast direction, sufficient for cars and trucks for the Dutch Settlement Road speed designation.
- The current two-way, two-lane road is sufficient to handle the anticipated traffic for the site building expansion and no infrastructure upgrades are recommended to the roadway network.
- Given the scale of the proposed development, the building replacement is expected to have minimal impacts on the operational capacity of Dutch Settlement Road and surrounding intersections.

Sincerely,
EDM Planning Services Ltd.
Originally Signed

Tim Veinot, MBA, P.Eng.

