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Ref: **Talbot on the Trail Traffic Impact Study Addendum**

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Kingston 19519-1**

The original Talbot on the Trail Traffic Impact Study was completed in May 2020. Since then the site plan has been revised. The number of units has been reduced to 181 from 290. Therefore, site trip generation, future total traffic volumes and future queue lengths should be updated. Future total traffic operations have not been updated given the timing of the project and acceptable levels of service were identified in the original report. Better levels of service and shorter delays are expected as site trips are reduced.

1. Development Site Plan

As per the proposed site concept plan provided in Figure 4, the same three site access points will be provided as in the original report.

A sidewalk will be provided on both sides of Street A and Street B south of Street A, and on one side of Street B north of Street A, Street C, D and E. A boardwalk will connect the east side sidewalk of Street B south of Street A with Millennium Trail.

2. Development Land Use & Phasing

The proposed Talbot on the Trail development is to consist of 104 front loaded townhouse units, 76 back-to-back townhouse units, and 1 single family unit. The development will be completed and occupied by 2027.

3. Trip Generation

Trip generation rates have been determined from the Institute of Transportation Engineer's *Trip Generation Manual 10th Edition*. Based on the proposed land use and applicable ITE land use categories, the following have been employed:

- Back-to-back townhouse units – trip rates correspond to “multifamily housing (mid-rise)” (ITE land use code 221);
- Front loaded townhouse units – trip rates correspond to “multifamily housing (low-rise)” (ITE land use code 220);
- Single family unit – trip rates correspond to “single family detached housing” (ITE land use

code 210).

The applicable trip rates and corresponding trip estimates for the peak hours of the adjacent road are provided in Table 1.

Table 1: SITE TRIP GENERATION ESTIMATES

Land Use	Rate/ Estimate	Unit/ Size	AM PEAK HOUR			PM PEAK HOUR		
			In	Out	Total	In	Out	Total
Back-to-back townhouse	rate	unit	0.09	0.27	0.36	0.27	0.17	0.44
	estimate	76	7	20	27	20	13	33
Front loaded Townhouse	rate	unit	0.11	0.35	0.46	0.35	0.21	0.56
	estimate	104	11	37	48	37	22	59
Single family	rate	unit	0.19	0.56	0.74	0.62	0.37	0.99
	estimate	1	0	1	1	1	0	1
Total		290	18	58	76	58	35	93

The development is expected to generate 76 trips in the AM peak hour and 93 trips in the PM peak hour (both inbound and out bound trips).

The resulting site generated traffic volumes before and after Downes Avenue extension is built are illustrated in Figures 5 – 6 respectively. Given the relatively low volumes on Street A (i.e. 13- 41 vehicles per hour per lane), townhouse driveways fronting on the road is not an issue.

4. Total Traffic Projections

Future total traffic was calculated as the site generated traffic plus the future background traffic volumes for the 2027, 2032 and 2037 horizon years. The resulting future total volumes are illustrated in Figures 11 to 13 respectively.

5. Queue Length Analysis

The 95th percentile queue lengths were reviewed for the ultimate 2037 total conditions. The 95th percentile queues averaged from five SimTraffic runs are presented in Table 2. Each SimTraffic run was for duration of 60 minute with 15 minutes of seeding time.

Table 2: 2037 95th PERCENTILE QUEUE LENGTHS & STORAGE LENGTHS

INTERSECTION		95 th PERCENTILE QUEUE (m)		STORAGE LANE LENGTH (m)	
		AM	PM	EX./PROP.	RECOMMENDED
King St & Walton St	NBL	16.5	17.2	10	As existing
	NBR	17.6	17.9	20	As existing

INTERSECTION		95 th PERCENTILE QUEUE (m)		STORAGE LANE LENGTH (m)	
		AM	PM	EX./PROP.	RECOMMENDED
Talbot St & site access/Rollins entrance	EBL	7.7	6.8	15	15
	WBL	14.1	11.6	30	15
	NBL	4.8	8.2	40	15
	SBL	1.8	3.8	15	As proposed
	SBR	1.0	0.9	15	As proposed
Picton Main St & Talbot St/Lake St	EBL	29.7	46.6	25	45
	WBL	43.4	73.0	50	As existing
	NBR	38.3	37.1	35	As existing
	SBL	38.1	35.4	20	As existing

As indicated in Table 2, the analysis results stay the same as in the original report. Most of the existing/proposed turn lane storage lengths can accommodate future 2037 queue lengths 95 percent of the time except for the eastbound left turn lane and southbound left turn lane at the intersection of Picton Main Street with Talbot Street/Lake Street. It is recommended that the eastbound left turn lane on Picton Main Street at Talbot Street be extended to 45 m from the existing 25 m by reducing the existing parking lane through pavement marking. Although the southbound left turn lane is shorter than the desirable 40 m (existing 20 m), no changes are expected based on the County's latest reconstruction plan for the intersection.

The 30 m throat length on Street A at Talbot Street is sufficient for a minimum 15 m left turn lane storage length.

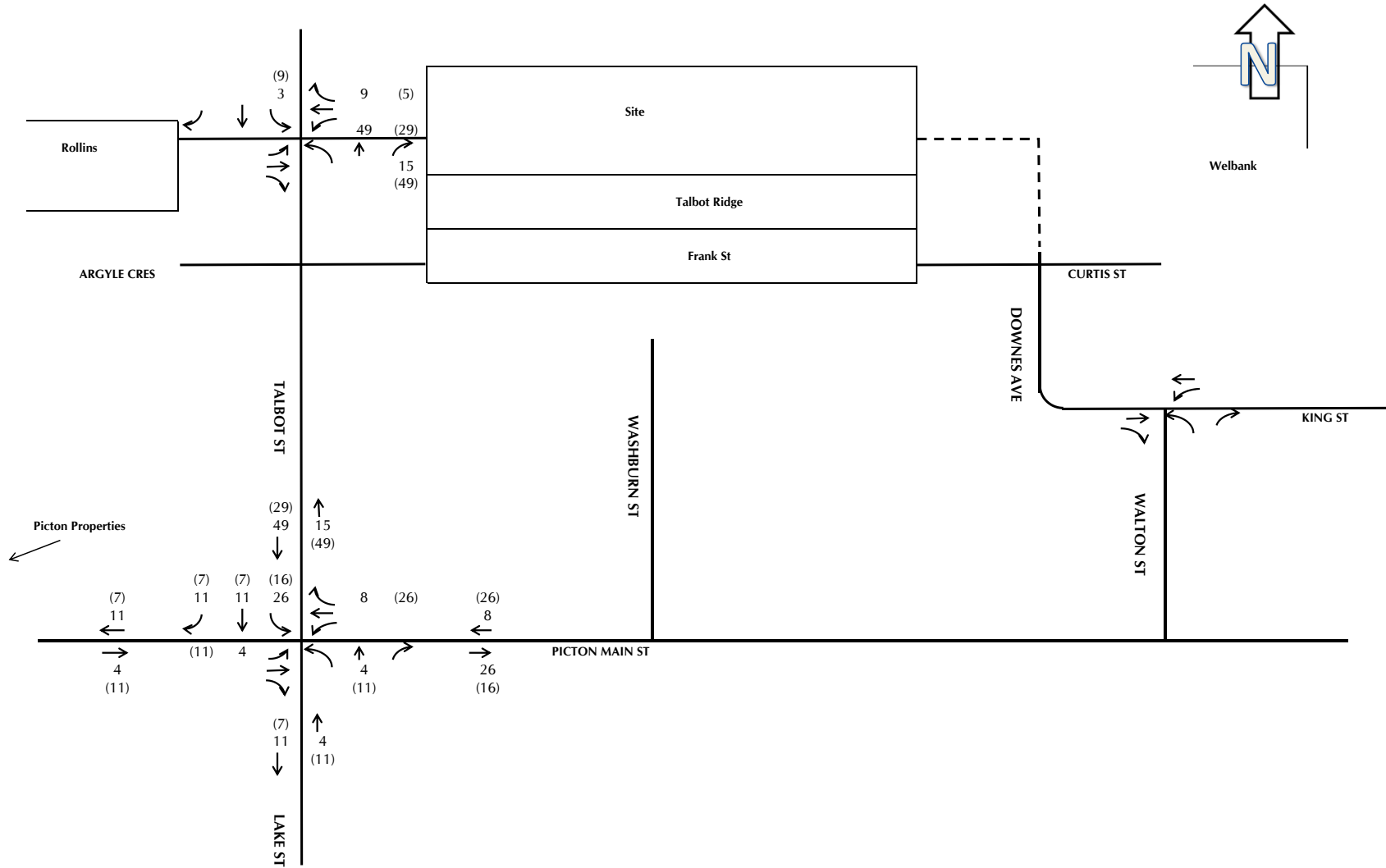
6. Summary

Despite the number of units has been reduced to 181 from the previous 290 in the revised site plan and the site will generate less traffic volumes, the findings/results of the original traffic impact study stay the same including the recommendation of extending the eastbound left turn lane on Picton Main Street at Talbot Street to 45 m from the existing 25 m by reducing the existing parking lane through pavement marking.

The 30 m throat length on Street A at Talbot Street is sufficient for a minimum 15 m left turn lane storage length. Given the relatively low volumes on Street A (i.e. 13- 41 vehicles per hour per lane), townhouse driveways fronting on the road is not an issue.



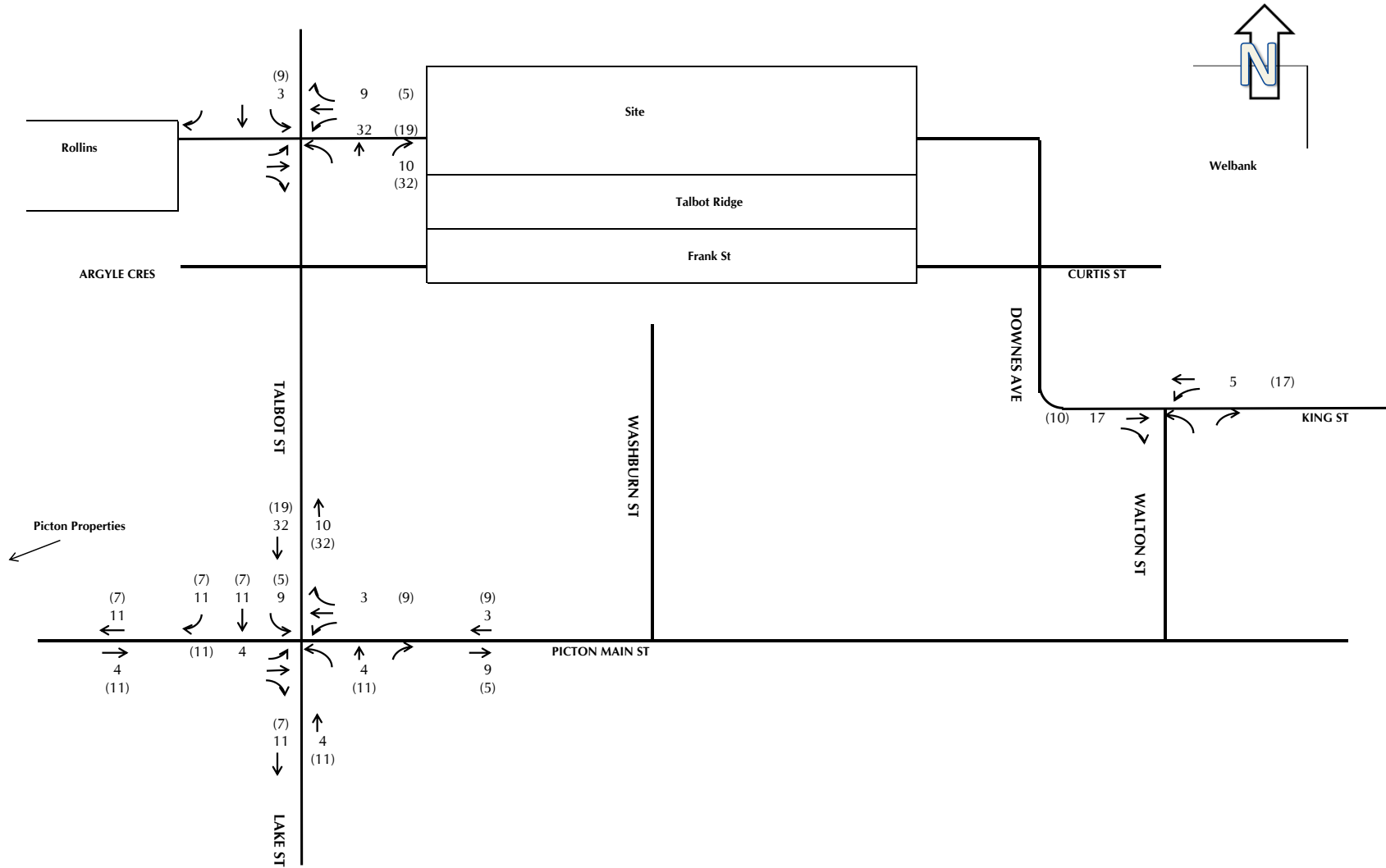
COUNTY OF PRINCE EDWARD
 TALBOT ON THE TRAIL DEVELOPMENT TRAFFIC IMPACT STUDY
 FIGURE 4 – SITE CONCEPT PLAN



100 (100) AM (PM) Peak Hour

Figure 5
 Before 2030 Site Generated Traffic Volumes
 Talbot on the Trail Development Traffic Impact Study
 County of Prince Edward





100 (100) AM (PM) Peak Hour

Figure 6
 2030 Site Generated Traffic Volumes
 Talbot on the Trail Development Traffic Impact Study
 County of Prince Edward

