

Technical Memorandum

To: Wally Dubyk, Transportation Project Manager

Date: November 11, 2025

From: Jake Berube, P.Eng. RSP₁

Parsons No.: 479603-01000

Cc: Pam Whyte, MCIP, RPP

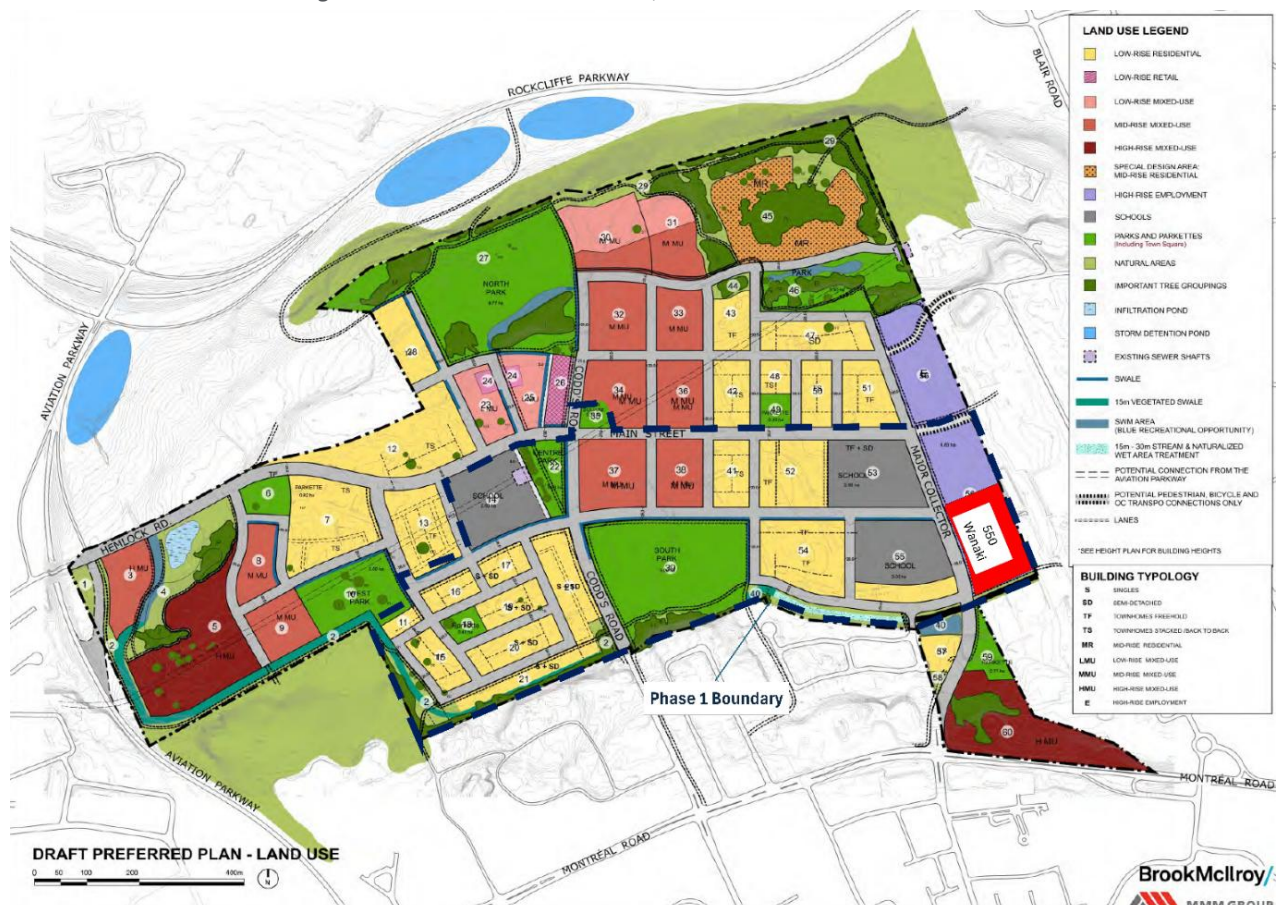
Subject: **550 Wanaki Road Official Plan and Zoning By Law Amendment**
Addendum to the Community Transportation Study

1.0 Background

Canada Lands Company (CLC) is currently seeking Official Plan and Zoning By-law Amendments for a portion of a property municipally known as 550 Wanaki Road in the Wateridge Village Community (Former CFB Rockcliffe). The property is located on the east side of the community.

Figure 1 illustrates the Land Use Plan for the Wateridge Village community, including the Phase 1 boundary (blue) and 550 Wanaki Road site (red). The *Community Transportation Study – Former CFB Rockcliffe* (2014) provides a comprehensive transportation analysis of Phase 1 and full build-out of Wateridge Village. More recent analyses include Wateridge Village Phase 4 Transportation Impact Assessment (Analysis) (IBI Group, February 2023), and Transportation Impact Assessment – Step 5: Final Report Wateridge Village – Phases 6, 7 & 8 (Arcadis, August 2024).

Figure 1: 550 Wanaki Road Site Context, Former CFB Rockcliffe Land Use Plan



The 550 Wanaki Road parcel is currently zoned for High-Rise Employment uses, where the CTS analysis had assumed 650 jobs within the Phase 1 employment lands and a total of 1,600 jobs by full buildout of all phases (excluding new jobs created by the school).

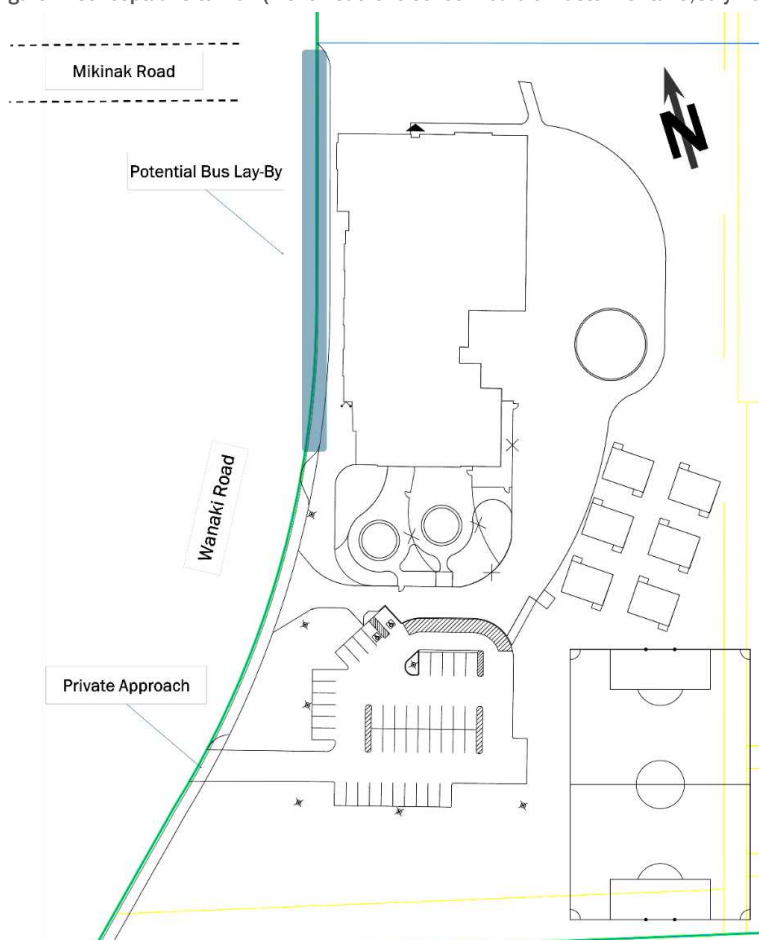
The proposal by CLC would see approximately half of these lands rezoned to permit a French Catholic Elementary School. The following analysis will include the trips generated by the elementary school while maintaining the former High-Rise Employment designation and quantity of forecasted jobs (assumed with increase density at other employment lands). This memo also comments on the operation of the proposed school in the context of the other two schools proposed along Mikinak Road. It is noteworthy that this school was originally accounted for as part of one of three schools for the community within the CTS study. This memo represents the relocated school site from 615 Mikinak Road to this site, located at 550 Wanaki Road. The other two school sites (shown in grey on **Figure 1** on the west side of Wanaki Road) are owned by the English Catholic and English Public School Boards however there are no known plans for their development at this time.

2.0 Conceptual Site Plan

Figure 2 illustrates the conceptual site plan for the proposed elementary school at 550 Wanaki Road. The school is anticipated to contain 16 classrooms and 6 portables for a total of 351 students. Approximately 30 staff are estimated at this time for the purposes of trip generation.

The site proposes to lay-up buses along Wanaki Road by expanding an existing bus lay-by constructed within the boulevard on the east side of Wanaki Road adjacent to the site. The proposed bus lay by is approximately 85m long (5-to-6 Type C buses, 11m bus length). A private approach is provided to the parking lot, which provides for staff and visitor parking, as well as an on-site pick-up drop-off loop. A total of 44 parking spaces are proposed within the parking lot. Waste pick-up has not been defined at this time.

Figure 2: Conceptual Site Plan (French Catholic School Board of Eastern Ontario, July 2025)

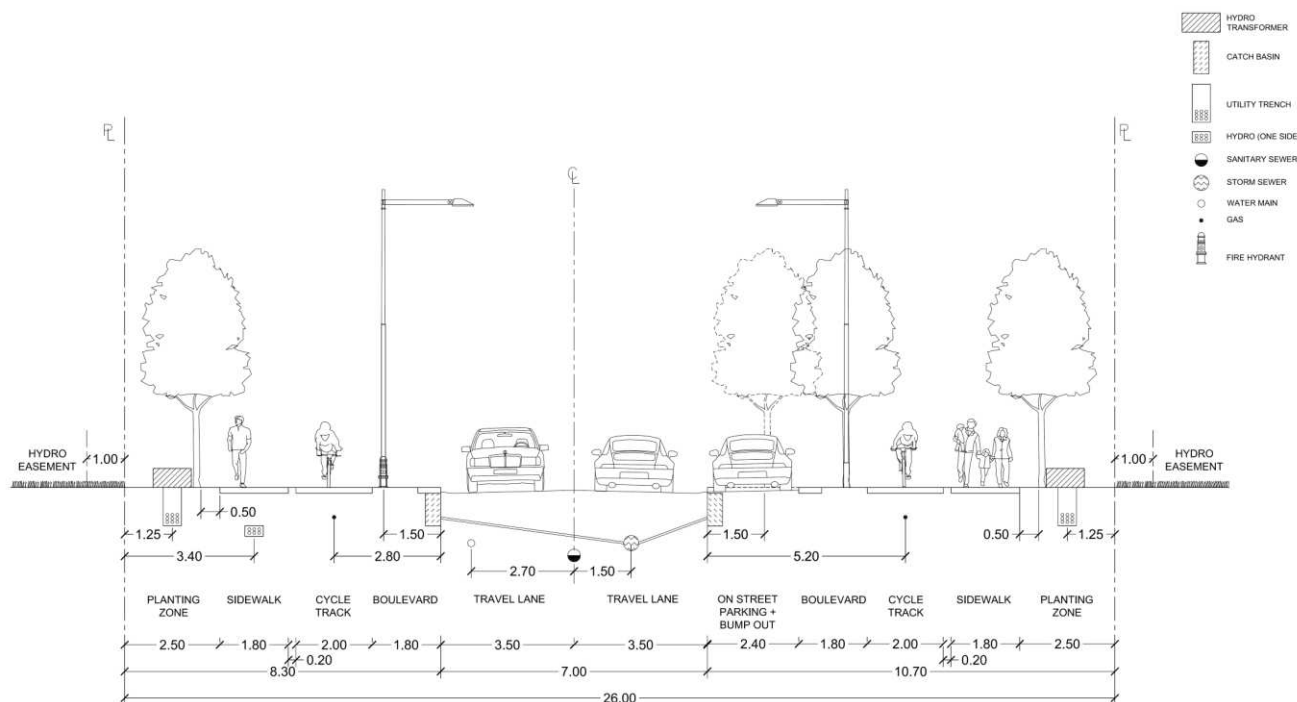


3.0 Transportation Context for Wanaki Road

Figure 3 illustrates the Wanaki Road cross-section (Former CFB Rockcliffe CTS, 2015) which highlights the street components within the 26m right of way. Wanaki Road is a 2-lane local road with an assumed speed limit of 50 km/h (unposted). It provides for a combined uni-directional cycle track and sidewalk on both sides of the roadway with a grass and paver boulevard. Fronting the 550 Wanaki site, a 47m long parking bay is provided on the east side of the roadway. The following additional transportation context is available:

- **Pedestrian Network:** 1.8m continuous concrete sidewalks connect to a MUP on the south side of Mikinak Road, and to sidewalks on Hemlock Road.
- **Cycling:** Unidirectional cycle tracks are provided in each direction of Wanaki Road, connecting to a MUP on the south side of Mikinak Road and unidirectional cycle tracks on Hemlock Road.
- **Transit:** Wanaki Road provides access to routes #17 (Local Route, Wateridge<>Parliament, 30-minute headways) and #25 (Frequent Service Route, Blair/Wateridge<>Millennium, 15-minute headways)
- **Street:** Wanaki Road is a 2-lane local street (GeoOttawa). The CTS identified Wanaki Road as a “Major Collector” connecting to Montreal Road.

Figure 3: Wanaki Road Cross Section, Facing North (Former CFB Rockcliffe Community Design Plan)



SECTION 1A - 26m ROW

4.0 Trip Generation Comparison

The following sections present a first-principles approach to forecasting site trips for an elementary school.

4.1 Elementary School

The proposed Elementary school will be composed of 16 classrooms with an estimated enrollment of 351 students and 30 staff. The policy for the Conseil des écoles catholiques du Centre-Est (CECCE) is that all elementary students beyond 1.6km, or there is a requirement to cross a major road (i.e. Montreal Road), will be provided school transportation.

A first principles approach to trip generation was utilized to determine site-generated trips based on the anticipated number of students and staff. Two sets of mode share percentages will be determined to differentiate the unique travel patterns between students and staff. Student mode shares were based on the TRANS 2020 Trip Generation Manual and are summarized below in **Table 1**.

Table 1: Elementary School Student Peak Hour Mode Share Breakdown

Travel Mode	TRANS 2020 Mode Share AM & PM	Proposed Mode Share AM & PM	Rationale
Auto Driver	0%	0%	-
Auto Passenger	22%	27%	Typical pick-up/drop-off activity was observed.
School Bus	48%	48%	Understood that students will be provided with school buses. Elementary students taking OC Transpo to school unlikely.
Transit	6%	0%	
Cycling	2%	5%	The school will likely attract students who live nearby and could be dropped off by parents on foot or by biking.
Walking	20%	20%	
Other	2%	0%	-
Total	100%	100%	

Based on Statistics Canada Data for Ottawa, the “average number of children in census family with children” (i.e. how many children families with children have) is 1.8, slightly under 2 students per family¹. Based on this, each parent drop-off/pick-up is anticipated to carry 1.8 students, or if 27% of all student trips are passengers, then this would be equivalent to 15% of student arrival by a vehicle. Using these assumptions, then the breakdown of new student arrivals based on the mode shares from **Table 1** multiplied by **351 students** is summarized in **Table 2**.

Table 2: Elementary School Student Peak Hour Trip Generation – AM / PM Peak Hours

Travel Mode	AM & PM Peak Mode Share	AM Peak (Person trips/hr)			PM Peak (Person trips/hr)		
		In	Out	Total	In	Out	Total
Auto Driver (Primary)	0%	0	0	0	0	0	0
Student Drop-Off and Pick-Up (Similar to Pass-by Trip)	27% (student trips) ¹	95	0	95	0	95	95
	15% (vehicles)	53	53	106	53	53	106
School Bus (Number of Students)	48%	168	0	168	0	168	168
Cycling	5%	18	0	18	0	18	18
Walking	20%	70	0	70	0	70	70
Total Person Trips (Students)	100%	351	0	351	0	351	351
Total Person Trips (Students and Drop-Offs)	-	404	53	457	53	404	457

1. Average of 1.8 students per parent drop-off, resulting in approximately 6%

The staff mode share percentages were obtained from the Former CFB Rockcliffe Redevelopment CTS and are shown below in **Table 3**. Based on our experience of similar schools, 30 staff (teachers and other support staff) were assumed for the purposes of this analysis. This analysis assumes that all staff arrive in the one-hour period before the arrival bell, then leave within 1 hour of this dismissal bell, which is considered conservative with regards to the trip person analysis.

¹ <https://www12.statcan.gc.ca/census-recensement/2021/dp-prof/details/page.cfm?Lang=E&SearchText=Ottawa&GENDERlist=1,2,3&STATISTIClist=1&DGUIDlist=2021A00033506,2021A000235&HEADERlist=0>

Table 3: Elementary School Staff Peak Hour Mode Share Breakdown

Travel Mode	Rockcliffe CTS Mode Share AM & PM
Auto Based Trips	45%
Auto Passenger	13%
Transit	30%
Non-Motorized	12%
Total Person Trips	100%

The mode shares from **Table 3** were then multiplied by the estimated number of staff to produce the corresponding projected trip generation, as summarized in **Table 4**.

Table 4: Elementary School Staff Peak Hour Trip Generation – AM / PM Peak Hours

Travel Mode	AM & PM Peak Mode Share	AM Peak (Person trips/hr)			PM Peak (Person trips/hr)		
		In	Out	Total	In	Out	Total
Auto Driver (Primary)	45%	14	0	14	0	14	14
Auto Passenger	13%	4	0	4	0	4	4
Transit	30%	8	0	8	0	8	8
Non-motorized	12%	4	0	4	0	4	4
Total Person Trips (Increase in Staff)	100%	30	0	30	0	30	30

The combined number of trips by mode share can then be calculated by summing **Table 2** and **Table 4**, resulting in **Table 5**.

Table 5: Total Elementary School Peak Hour Trip Generation – AM / PM Peak Hours

Travel Mode	AM Peak (Person trips/hr)			PM Peak (Person trips/hr)		
	In	Out	Total	In	Out	Total
Auto Driver	67	53	120	53	67	120
Auto Passenger	99	0	99	0	99	99
Transit	8	0	8	0	8	8
School Bus	168	0	168	0	168	168
Non-motorized	92	0	92	0	92	92
Total Person Trips	434	53	487	53	434	487

The proposed elementary school is anticipated to generate approximately 487 total person trips during both peak hours. These trips are expected to include 120 auto driver trips (106 trips are pick-up/drop-off), 99 passenger trips, 8 transit trips, 168 school bus trips, and 92 non-motorized trips. As previously mentioned, these trips are not new trips but rather relocated trips. The original CTS accounted for three new schools within their study, with the one originally proposed at 615 Mikinak Road being relocated to this site (550 Wanaki Road).

4.2 No Change in the Number of Jobs from CTS

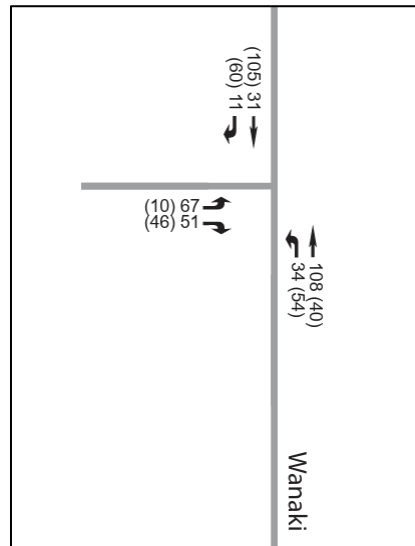
As previously mentioned, while this new school would be located within a formerly reserved parcel of land destined for office and employment uses, these jobs are forecasted increasing density on the remaining employment lands along Wanaki Road. For this reason, **no reductions in employment-based trip generation will be considered**.

With respect to the transportation implications, this would involve layering the new school traffic onto the total forecasted Wateridge traffic at the study area intersection, which would then account for the full commercial buildout and relocated school. However, as previously mentioned, since this school is not new to the CTS study, rather just a relocated facility, then the regional network traffic impacts are anticipated to be null from the original study.

Figure 4 provides an extract from the Wateridge Village – Phases 6, 7 & 8 TIA (Arcadis, August 2024). The figure depicts the 2035 full build-out peak morning and afternoon weekday hourly traffic at the Wanaki Road/Mikinak Road intersection. In general, the TIA forecasts approximately **140 vehicles/hour** in the northbound direction and **150**

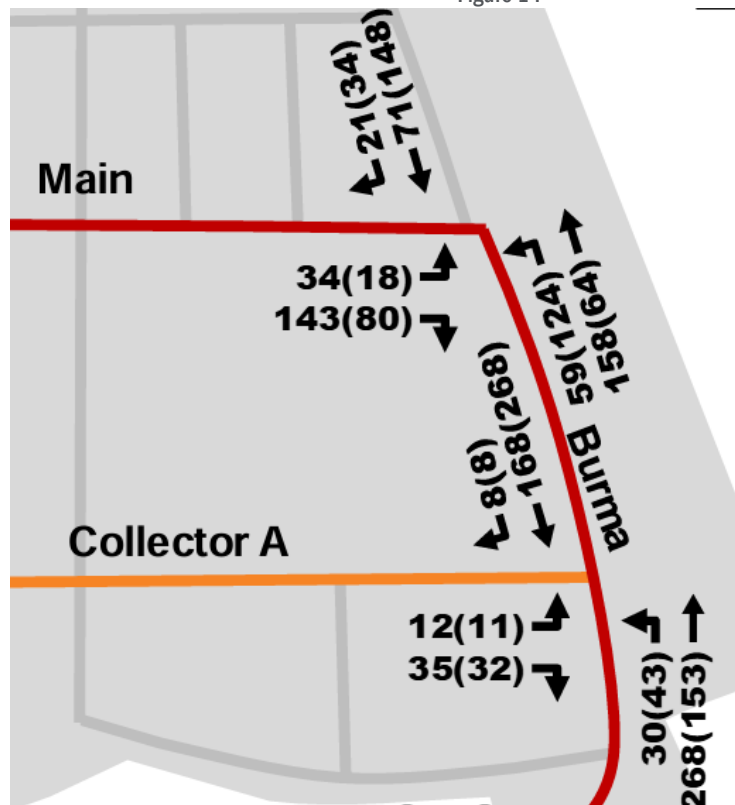
vehicles/hour in the southbound direction. The TIA also forecasted the Montreal Road / Wanaki Road intersection to operate with an overall LOS A in both the morning and afternoon peak hours.

Figure 4: Future Total Traffic (2035), AM (PM) Peak Hour, Arcadis Phase 6, 7, 8 TIA (2024)



For comparison purposes, the total traffic forecasted by the CTS for the same period is summarized in **Figure 5**. The CTS forecasted nearly 200 vehicles per hour in the northbound direction, and up to 300 vehicles per hour in the southbound direction south of Mikinak Road. The Montreal Road/Burma (Wanaki) Road intersection was forecast to operate with an overall LOS A-to-B, with critical movements in the LOS D-to-E range.

Figure 5: Community Transportation Study, Total Projected Peak Hour Traffic Volumes, AM (PM) Peak Hours
Figure 14



In summary, when the full general office build-out is completed, and the 550 Wanaki Road elementary school is developed, the following traffic patterns are forecasted:

- **In the morning peak hour**, a two-way increase of less than 120 vehicles per hour along Wanaki Road due to the addition of the proposed school site. This would align with the latest TIA forecasted traffic (**Figure 4**) with the traffic forecasted in the CTS (**Figure 5**). Therefore, Wanaki Road would be expected to operate as forecasted in the CTS. No additional adverse transportation implications would be anticipated on the network as a whole given this potential land use scenario.
- **In the afternoon peak hour**, the school peak hour and office peak hour would differ. The proposed 550 Wanaki Road elementary school would have a nominal impact on the afternoon peak hour coinciding with the office development. Therefore, Wanaki Road would operate as forecasted in the CTS.

Therefore, the addition of the school is anticipated to have a **negligible impact** to the overall transportation network. The following sections describe additional implications of having three schools on the same block. The office site would need to be designed considering the proximity of these schools and the potential for pick-up/drop-off spillover.

5.0 Site Circulation and Implications to Adjacent Street Network

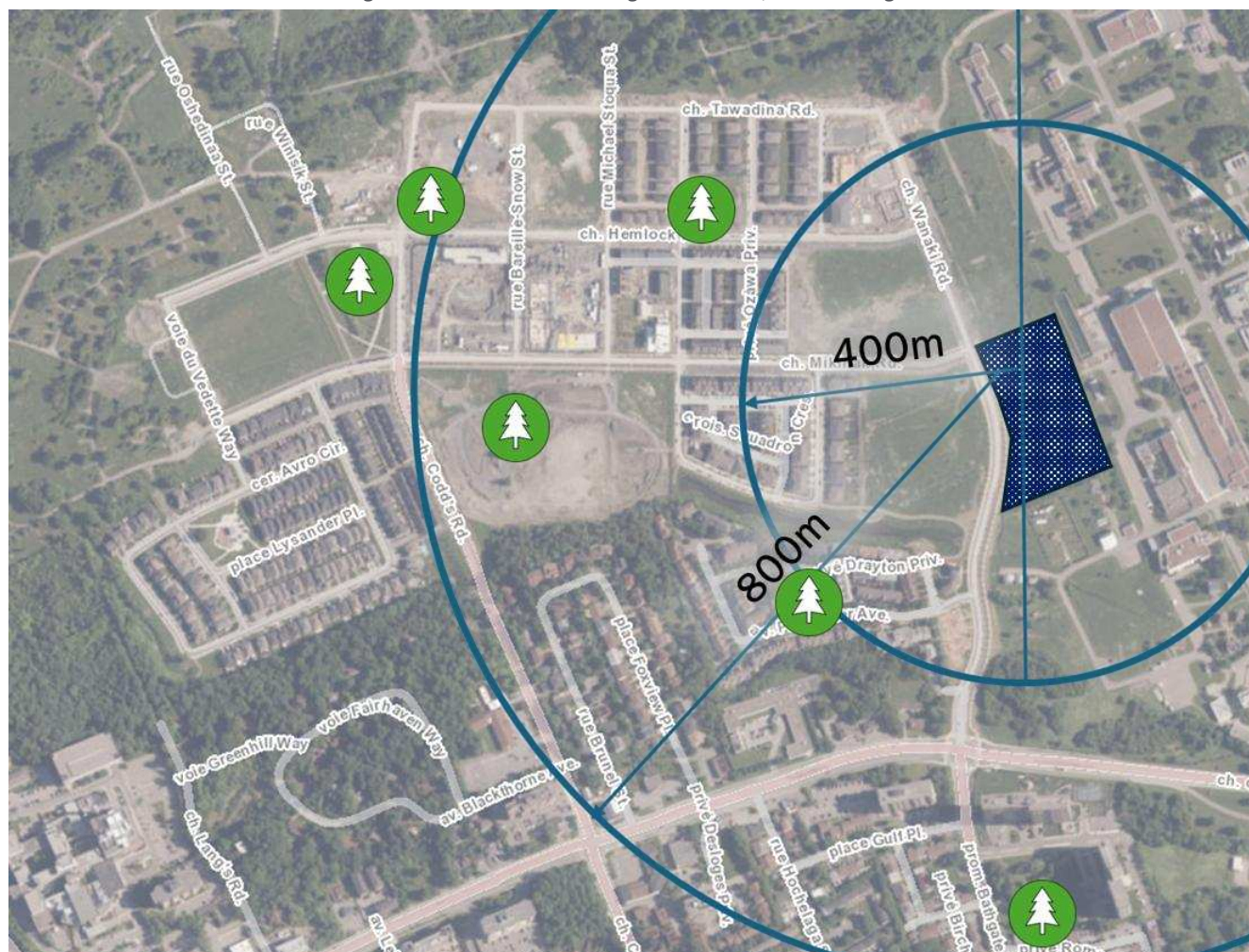
Student Circulation and Active Transportation Connections

The school is well connected within the Wateridge community by sidewalks, bikeways and pathways (**Figure 4**). The network of active transportation infrastructure connects to several parks in the neighborhood. The walking routes to the west of the site are generally direct. The policy for the Conseil des écoles catholiques du Centre-Est (CECCE) is that all elementary students beyond 1.6km or are required to cross a major road (i.e. Montreal Road) will be provided school transportation.

The east boundary of the site creates a barrier for active modes. While there are residential areas to the east, the National Research Council campus currently provides no connections into Wateridge Village from the east although the Campus Master Plan shows a pedestrian/cycling connection just north of this site as a future possibility. Any students, while being within walking and biking distance east of the site, would need to use Montreal Road to access the school, adding more than 2.0km to the trip. This would necessitate bus transportation or a private vehicle trip.

The proposed school site is anticipated to increase walking and biking trips in the surrounding streets. Given the location of the site, the majority of students would have to cross Wanaki Road, likely at Mikinak Road or a location further south. There is currently a planned marked crossing between Provender Avenue and the adjacent MUP to Squadron Crescent.





Figure 6: 400m and 800m Walking Distance Radii, Local Wateridge Parks



Bus Lay By Arrangement

School bus pick-up and drop-off are proposed on-street along Wanaki Road. The site has only one frontage to Wanaki Road, which limits the choices available for a bus lay-by. The existing parking bay on the east side of the road is approximately 45m long and 2.25m wide, which could be retrofitted to become the future bus lay-by area. The laybys may need to be widened to better accommodate school buses. School buses are normally classified into four different types as summarized in **Table 6**.

Table 6: Typical School Bus Types and Capacity

Bus Type	Type A	Type B	Type C	Type D
Example Image				
Passenger Capacity ¹	16-20	20-30	60-72	72-90
Typical Length ²	13 to 17.5 ft	10.8 to 21.7 ft	20.9 to 38.9 ft	27.3 to 39.11 ft
¹ https://www.rtoinsider.com/57015-ny-school-bus-electrification-road-map/ ² https://slideplayer.com/slide/15235762/				

A 48% school bus mode share would necessitate school bus transportation for 168 students. Assuming a variation of school bus types operating at 80% capacity, then approximately four school buses could satisfy the student demands. For example, at the upper range of each bus class, if three Type D buses and a Type B bus was used, then 139 ft would be required and the 45m existing layby equates to 147.6 ft, thus providing sufficient room. Note that three Type D buses

alone at 80% capacity could satisfy the student demands. Should additional space for buses as well as van transportation be required in the future, there is sufficient site frontage to expand the layby.

The current Wanaki Road arrangement provides for a minimal buffer between the street and combined cycle track/concrete sidewalk facility. School buses must not load and unload directly into the cycle track.

To accommodate school buses on street, the following will be required:

- Ensure the layby provides sufficient separation from the Mikinak Road intersection and Bus Stop #7101.
- Modifications to the boulevard space fronting the bus loading zone to provide a sufficient landing zone for school bus operations.
- Bus routes will need to enter northbound to lay-by with the bus door adjacent to the landing zone.
- Relocation of the cycle track into a position that does not interfere with school bus operation.
- It is recommended that the relocated cycle tracks and boulevard be extended further than the length of the layby to plan for future layby extensions if required (and to prevent having to relocate cycle tracks and boulevard space again in the future).

The dedicated bus lay-by provides a safe and efficient solution to providing school bus access given the site context and location. It separates boarding and alighting from through traffic, reduces queuing and overtaking risks, and improves overall network flow. The existing infrastructure can accommodate the design space required for bus operations given the above recommendations.

Parent Pick-up Drop-Off

Parent pick-up and drop-off is proposed to occur on-site. The location of the site access minimizes conflicts with the proposed bus lay-by area. A parking lot of 44 spaces is proposed for 30 staff and to accommodate pick-up and drop-off. Based on the trip generation, up to 20 stalls could be occupied by staff while the remainder would be occupied by parents/visitors. During the parent pick-up period, there is the potential for 50-to-60 parent vehicles on site. Wanaki Road and Mikinak Road does not provide for any on-street parking, as these roads have 7.0m of pavement curb-to-curb either than the current parking layby adjacent to the site.

Maintaining the existing site arrangement can result in a higher uptake of bus and active transportation due to insufficient capacity for parent vehicles. This can also lead to a sense of frustration from parent drivers who may park on Wanaki Road regardless of the implications.

A mitigation measure can be providing a secondary designated on-street layby for parent pick-up and drop-off.

Implications of a Third Elementary School

The Community Transportation Study assumed that the adjacent school sites would each have 500 students in total, which is maintained in the following analysis (**Figure 7**). Updated information about each of these sites and their potential future school uses beyond the likelihood of each being an elementary school has not been developed by the English Public or English Catholic School Boards. The Wanaki Road / Mikinak Road intersection will be a primary intersection for facilitating movement between the three schools and the adjacent transportation network for all modes.

The adjacent schools are anticipated to have the following operational requirements:

- School A – Southwest Quadrant:
 - Potentially one access to Wanaki Road, and one access to Mikinak Road.
 - The need to lay-up buses on Wanaki Road or on-site.
- School B – Northwest Quadrant:
 - Potentially one-to-two accesses on Wanaki Road, Mikinak Road or Hemlock Road.
 - The need to lay-up buses on Wanaki Road, Mikinak Road or Hemlock Road, or preferably on-site. There is an available lay-by on Mikinak Road.

The concentration of three elementary schools along Wanaki Road and Mikinak Road is expected to create localized increases in morning and afternoon activity, particularly during arrival and dismissal periods. While each school individually generates a modest number of vehicle trips, any overlap in timing may result in short-term congestion at

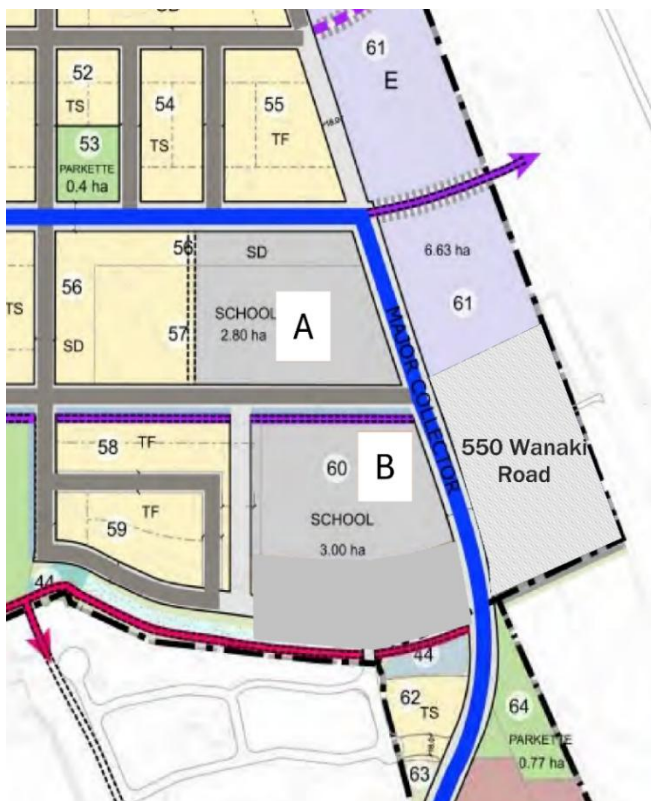
Wanaki Road/Mikinak Road, increased queuing near school access points and pick-up drop-off areas, and potential conflicts between students who walk and bike with other modes such as buses and parent vehicles. These effects will be most pronounced at the Wanaki Road/Mikinak Road intersection and along the adjacent curb lanes where buses and parent drop-offs occur.

From a network perspective, the cumulative impacts are anticipated to remain local in nature, with minimal effect on the broader collector and arterial network. There would be a negligible change in traffic as forecasted by the CTS, therefore the transportation network analysis of the CTS remains valid.

Potential Mitigation measures could include:

- School start and end times are staggered by a small off-set to reduce concurrent impacts while minimizing the overall window of peak activity. There would be a need to balance vehicle conflicts with students arriving by walking and biking.
- Promote active transportation by providing bike shelters for students and staff, and providing safe crossing opportunities at Wanaki Road and Mikinak Road.
- Management of the Wanaki Road and Mikinak Road curbsides so that informal street pick-up is discouraged on these streets.
- Locate accesses and bus lay-bys for the new schools in a strategic fashion to mitigate localized impacts. For example, the adjacent school (School B).
- Implement 'Community Safety Zones' fronting each school, with each frontage developing measures to reduce the operating speed of Wanaki Road and Mikinak Road to 30 km/h.

Figure 7: 550 Wanaki Road Context Relative Two Adjacent School Sites



6.0 SUMMARY OF FINDINGS

The 550 Wanaki Road elementary school is forecast to have a negligible additional implication on the broader transportation network in terms of vehicular performance. The elementary school land use change is expected to increase walking, cycling and school bus trips, as well as pick up and drop off activity during school start and end hours.

Although the school will replace some formerly proposed employment land, the quantity of jobs to be generated within Wateridge Village by full buildout is not anticipated to change (assumed that higher density will be provided elsewhere within the employment lands). Therefore, the new school would result in a net increase in traffic on Wanaki Road which would be within the traffic forecast tolerances of the CTS. The increase would primarily be during the morning peak hour when the school arrival time coincides with the typical office arrival time.

There are several transportation infrastructure modifications that will be required to facilitate the new elementary school at 550 Wanaki Road. These should be addressed during the Site Plan Control application and include:

- Developing a defined lay-by space for buses that does not interfere with the Mikinak Road/Wanaki Road intersection or OCT Stop #7101. This could involve locating the lay-by area to the south, which would require reconstructing the existing lay-by.
- Re-arranging the sidewalk and cycle track to accommodate the bus lay-by, such that there is sufficient space to prevent interference between boarding/alighting operations and the cycle track.

- Installing a new pedestrian crossover south of, or in the vicinity of, the proposed site access to provide an alternative east-west crossing of Wanaki Road.
- Implementing an all-way stop-controlled intersection at the Mikinak Road/Wanaki Road intersection, as recommended by the CTS, which can facilitate student crossings of Wanaki Road. Additional intersection improvements, such as a raised crossing or raised intersection should also be considered in the context of the surrounding land uses.
- Designating Wanaki Road as a school/community safety zone and implementing horizontal measures as necessary to achieve a 30 km/h speed limit.

Given the above analysis, the re-zoning of the 550 Wanaki Road property to permit an elementary school is supported from a transportation perspective.



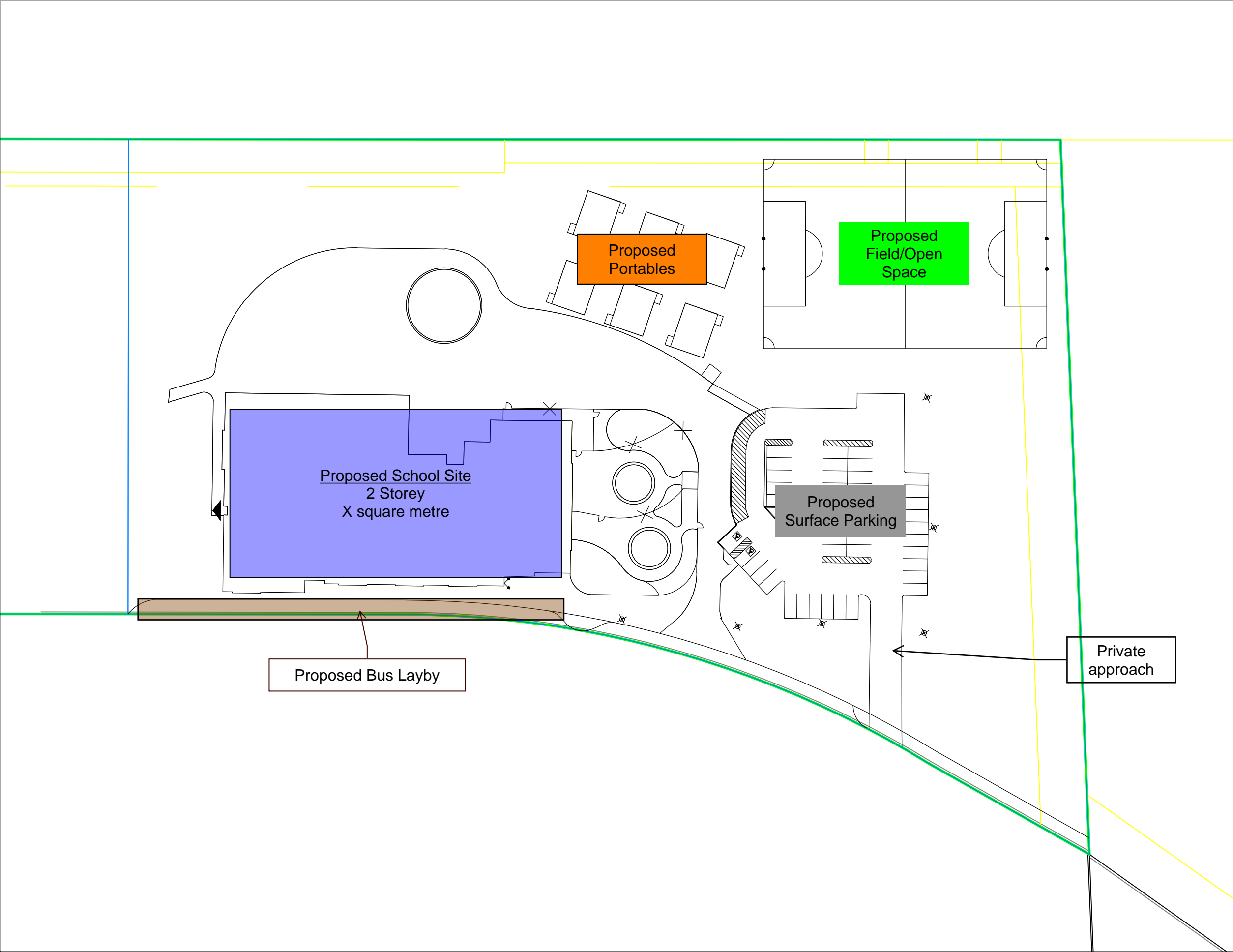
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	Revise	November 11, 2025	Juan Lavin, P.Eng	Austin Shih, P.Eng	Pam Whyte, MCIP, RPP

Appendix A

Site Plan



RÉV.1	2025.07.21	PRÉLIMINAIRE
NO	DATE	RÉVISION

LIEU :

WATERIDGE

BLOCK 26
GLOUCESTER, OTTAWA

PROJET :

PROJET DE NOUVELLE ÉCOLE

OPTIONS DE SITE

DESSINE PAR :

E.P.

FICHIER :	DATE:
CECCE_SITE_2025	2025.07.21

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