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2026-07-15
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RE: ALLISTON WOODS – TRAFFIC CALMING OPTIONS REVIEW

As part of the review of the proposed development, the Town of Fort Erie requested an additional assessment of traffic-calming opportunities within the internal road network. This assessment has been completed in accordance with the Town of Fort Erie Neighbourhood Traffic Calming Policy.

The purpose of traffic calming is to improve road safety by influencing driver behaviour, reducing vehicle operating speeds, enhancing pedestrian comfort, and reinforcing the intended function of local and collector roadways. Traffic calming measures are particularly effective within residential neighbourhoods where pedestrian activity is expected and where maintaining low operating speeds is desirable.

Based on the findings of the Traffic Impact Study, future traffic volumes generated by the proposed development are anticipated to remain within the operational capacity of the surrounding road network. Although traffic volumes do not warrant capacity-related roadway modifications, there are opportunities to incorporate traffic-calming measures that support the Town's transportation objectives and contribute to a safe and comfortable multimodal environment.

Traffic Calming

Various road users, including pedestrians, cyclists, automobiles, transit vehicles, trucks, and service vehicles, are intended to coexist in relative safety and harmony on urban residential roads. When problems related to high traffic speeds and high traffic volumes, poor roadway geometry, poor traffic operations, or any combination of these characteristics, are experienced, residential streets are no longer perceived as being pleasant or safe for all road users (e.g. pedestrians, cyclists, and even drivers).

Some problems can be addressed by correcting deficiencies in the arterial road network, which may eliminate speeding or short-cutting on residential streets. However, additional solutions may be required, including traffic calming.

Traffic calming is a contentious subject and should be addressed through a clear, concise, and transparent process that meets the needs and expectations of the community. This section outlines several measures that could be implemented along the study area roadways; however, if implemented, they should be initiated and carried out in consultation with the community.

The implementation of traffic calming should be well designed to minimize inconvenience to local services, such as garbage collection and snow plowing, and to residents. Also, there is value in incrementally adding traffic-calming measures to address local traffic issues while avoiding excessive nuisance to community travel. The following outlines proposed traffic calming measures for implementation if observed traffic behaviour requires intervention, along with additional measures that could be considered.

Area of Focus

The internal road network is intended to function as a low-speed residential street system serving local traffic generated by the development. The roadways have been designed for an operating speed of 50 km/h; however, they could be posted at 40 km/h to reinforce the local residential character. Pedestrian facilities will be provided throughout the development to support safe and convenient walking.

Morrison Avenue, Kraft Road North, Frey Avenue and Alliston Avenue are identified by Town staff as locations where additional traffic-calming measures should be evaluated. These roads are expected to see increased activity from future residential development and will serve as important connections between neighbourhood streets.

Given the local road function, anticipated traffic volumes, and the development's pedestrian-oriented nature, traffic-calming measures focused on speed management, pedestrian visibility, and roadway narrowing are considered appropriate.

Measures

The Town of Fort Erie Neighbourhood Traffic Calming Policy identifies several measures suitable for implementation on local and collector roadways. The applicability of these measures was reviewed relative to the proposed development.

Horizontal Deflection

Horizontal deflection measures introduce lateral shifts in vehicle travel paths through curb extensions, central islands, or roadway alignments, creating a subtle chicane effect.

These measures are highly effective in reducing vehicle operating speeds by requiring drivers to actively negotiate roadway curvature rather than travelling along long uninterrupted tangents. Horizontal deflection is identified by the Town as a primary traffic-calming measure and is applicable to local streets, collector roads, and urban arterials with posted speeds of 50 km/h or less.

The alignment of Kraft Road North and Bradford Avenue offers four (4) horizontal deflections. Horizontal deflections alter a vehicle's travel path and reduce the appearance of straight, continuous roadways. These design elements within the roadway alignment will discourage excessive speeds.

Speed Cushions

Speed cushions consist of raised pavement sections designed to slow passenger vehicles while allowing emergency vehicles and larger service vehicles to pass with minimal delay.

The proposed internal road network is expected to accommodate low-speed residential traffic and therefore meets the Town's criteria for implementing speed cushions. Speed cushions are identified as a primary traffic-calming measure in the Town's policy.

Should post-development monitoring identify operating speeds that exceed the intended roadway design speed, speed cushions may be installed at strategic locations along longer roadway segments within the development, such as Alliston Avenue and Morrison Avenue. Based on a preliminary assessment, we have identified up to four speed cushions that could be considered:

- Between block 62 and 61
- Between block 63 and 64
- Between units 20 and 5
- Between units 26 and 68, and
- Between blocks 71 and 72

The final placement should be coordinated with emergency services and municipal operations staff to ensure the placement does not impact driveways or roadway drainage infrastructure.

On-Street Parking

On-street parking provides a narrowing effect by reducing the perceived roadway width available to motorists. This treatment reduces vehicle operating speeds while also supporting visitor parking demand and enhancing residential streetscape activity.

The proposed road network has been designed to accommodate on-street parking opportunities where roadway widths permit. In addition to supporting parking demand, these spaces will provide a passive traffic-calming benefit by creating a more constrained driving environment. The roadways that currently permit on-street parking are as follows:

- Bradford Avenue
- Kraft Road North
- Alliston Avenue
- Rutherford Avenue

- Morrison Avenue
- Frey Drive
- Acton Avenue
- Ross Avenue

Raised Median Island

Raised median islands reduce the effective lane width available to motorists and provide visual narrowing along roadway corridors. Medians can also improve pedestrian safety by reducing crossing distances and providing refuge areas.

Where sufficient roadway width is available, raised median islands are recommended at key gateway locations entering the development and at selected locations approaching intersections. These treatments will reinforce lower-speed operating conditions and provide visual cues that drivers are entering a residential environment. Based on a preliminary assessment, we have identified raised medians could be considered at the collector roadways that connect the development to the external roadway network as follows:

- Kraft Road North between Garrison Road to Bradford Avenue
- Morrison Avenue between Spears Road to William Street

Enhanced Crossings

Enhanced pedestrian crossing treatments are recognized traffic-calming measures that improve pedestrian safety, visibility, and comfort while reinforcing pedestrian priority within residential neighbourhoods. These treatments are particularly effective at locations where pedestrian activity is expected to be concentrated, such as parks, schools, community facilities, and neighbourhood intersections.

In this regard, an enhanced crossing treatment should be considered along Alliston Avenue adjacent to the proposed public park once the park is constructed, where pedestrian activity is anticipated to be high amongst vulnerable road users.

A potential design solution could include a pedestrian crossover (PXO) with enhanced pavement markings, pedestrian signage, textured or coloured crossing treatments, and boulevard landscaping. If the roadway width allows, additional measures could include a raised or landscaped centre-median refuge. The median would allow pedestrians to cross the roadway in two stages, reducing exposure to vehicular traffic and improving crossing comfort for children, seniors, and other vulnerable users accessing the park. The presence of a centre median would also visually narrow the roadway, encouraging lower vehicle speeds and reinforcing the expectation that motorists yield to pedestrians. Based on a preliminary assessment, we have identified the following location that could be considered for a pedestrian crossover to enhance the crossing opportunity:

- Alliston Avenue at Acton Avenue, North Leg.

Roundabout

The Transportation Association of Canada (TAC) Canadian Roundabout Design Guide (2017) identifies roundabouts as most appropriate at intersections with moderate to high traffic volumes, balanced traffic flows, a history of correctable collision types (e.g., right-angle or left-turn collisions), or existing and projected operational deficiencies such as excessive delay or queuing under stop or signal control.

The traffic analysis completed for this study indicates that none of these conditions are present. The proposed internal road network is expected to function as a low-volume residential street system, with average daily traffic volumes below 1,200 vehicles per day. This is also below the Town's Traffic Calming Toolkit guideline of approximately 1,500 vehicles per day for considering a roundabout. As a result, traffic operations are expected to remain efficient under conventional intersection control, with minimal delay on the minor approaches. Consistent with TAC guidance, a roundabout would not be expected to provide meaningful operational or safety benefits over two-way stop control or, where warranted, all-way stop control.

Mini-roundabouts were also reviewed. While they can be suitable in constrained urban environments, their application within the subdivision is limited by vehicle accommodation requirements. Typical mini-roundabouts with inscribed circle diameters of 14 to 27 metres are generally suitable for passenger vehicles and medium-sized trucks but are inadequate for the turning requirements of larger design vehicles, including school buses, which typically require diameters in the range of 28 to 46 metres. Providing a larger mini-roundabout would increase right-of-way requirements and negatively affect the subdivision layout. Although the intersections of Morrison Road and Alliston Avenue and Rutherford Road and Kraft Road were identified as the most feasible locations, the additional land requirements and construction costs are not justified given the low traffic volumes and anticipated operating conditions.

In summary, roundabouts were not carried forward because the proposed intersections do not satisfy the operational, traffic volume, or safety conditions identified by TAC for their implementation. The low traffic volumes, lack of operational deficiencies, and geometric constraints associated with accommodating larger vehicles mean that conventional stop control is the most appropriate, cost-effective, and context-sensitive form of intersection control for the proposed residential road network.

Traffic Calming Plan

A staged traffic-calming approach is recommended for the proposed development, combining passive traffic-calming measures integrated into the roadway design with the ability to implement additional measures should post-development monitoring identify a need.

This phased approach aligns with the Town's Neighbourhood Traffic Calming Policy by prioritizing context-sensitive design measures integrated into the roadway network from the outset, while reserving more intrusive traffic-calming treatments for locations where future monitoring demonstrates a clear operational need.

At this stage, concerns regarding excessive vehicle speeds and cut-through traffic are largely perception-based, as no post-development traffic data is available to confirm the extent of these issues. Accordingly, the proposed traffic calming strategy focuses on implementing measures that inherently influence driver behaviour by creating a pedestrian-oriented street environment, improving pedestrian visibility and safety, and encouraging lower operating speeds through roadway design rather than relying on physical speed-control devices.

The recommended initial measures, including on-street parking, horizontal deflection, and enhanced pedestrian crossing facilities, are intended to create self-enforcing roadway conditions that promote appropriate vehicle speeds while improving the overall safety and comfort of all road users. These measures are consistent with modern transportation planning principles, which emphasize designing streets that naturally encourage driver compliance and increase awareness of pedestrians and cyclists.

Should post-development monitoring identify operating speeds, traffic volumes, or cut-through traffic patterns that exceed the intended design objectives, additional traffic-calming measures such as speed cushions or gateway median islands may be considered. However, prior to implementing any supplementary measures, appropriate engineering studies should be undertaken to evaluate existing conditions, quantify the extent of the identified concerns, and confirm that the proposed treatments are warranted, effective, and compatible with municipal operations, emergency services, roadway drainage, and maintenance requirements.

As such, more intrusive traffic-calming devices should be considered only after less restrictive design-based measures have been implemented and monitored, and where subsequent engineering analysis demonstrates a clear and measurable need for additional intervention. **Appendix A** includes the traffic calming plan.

Phase 1 – Initial Traffic Calming Measures

The first phase of traffic calming should be implemented during the initial road construction and subdivision build-out. These measures are embedded within the roadway design and are intended to establish a low-speed residential environment from the outset.

Key measures include:

- Horizontal deflection through the alignment of Kraft Road North and Bradford Avenue, which introduces changes in vehicle travel paths and discourages excessive speeds along otherwise straight roadway segments. It is noted that this measure is already constructed.
- On-street parking opportunities along designated roadways to provide passive roadway narrowing, support visitor parking demand, and create a more active residential streetscape.
- Enhanced pedestrian crossing treatments, including a pedestrian crossover (PXO) along Alliston Avenue adjacent to the proposed park, to improve pedestrian safety, reinforce pedestrian priority, and provide additional traffic calming through increased driver awareness by pedestrian signage, textured or coloured crossing treatments, and boulevard landscaping

Collectively, these measures are expected to establish the desired operating environment and encourage compliance with the intended residential roadway speeds.

Phase 2 – Monitoring and Additional Traffic Calming Measures

Following development occupancy, it is recommended that the Town review operating conditions, including vehicle speeds, traffic volumes, and any concerns related to shortcutting or cut-through traffic.

Should monitoring identify operating speeds exceeding the intended design objectives or evidence of undesirable traffic patterns, additional traffic-calming measures may be considered.

Potential measures include:

- Speed cushions at strategic locations along longer roadway segments, particularly on Alliston Avenue, to further reduce operating speeds while maintaining emergency vehicle access.
- Gateway median islands at key entrances to the community, including along Kraft Road North and Morrison Avenue, to reinforce the transition into a residential neighbourhood and provide additional visual narrowing. The median along Kraft Road North would, however, be subject to detailed design and would consider the need for signalization at the intersection with Garrison Road.

- Raised median island along Alliston Avenue at the proposed PXO to visually narrow the roadway, encouraging lower vehicle speeds and reinforcing the expectation that motorists yield to pedestrians

The implementation of these secondary measures should be informed by observed traffic conditions and coordinated with municipal operations and emergency services to ensure their effectiveness and compatibility with roadway operations.

Traffic Monitoring

A monitor-and-implement approach is recommended to verify transportation conditions as development progresses and to determine whether additional transportation system improvements or traffic-calming measures for Phase 2 are warranted. The monitoring program will provide an opportunity to compare observed traffic conditions with the forecasts presented in the Transportation Impact Assessment (TIA) and assess the effectiveness of the proposed transportation network under actual operating conditions.

Recognizing that the development will be constructed in phases, it is important that the timing of the monitoring program reflects representative neighbourhood operating conditions. Monitoring undertaken too early in the development process may be influenced by active construction, temporary on-street parking by trades, construction vehicles, and altered driver behaviour that are not indicative of long-term conditions. Accordingly, the monitoring program should be structured to ensure that the collected data reflect typical residential traffic patterns and that any conclusions regarding the need for transportation improvements or traffic-calming measures are based on representative operating conditions. Monitoring is proposed to be undertaken at two key milestones:

- Approximately 50% build-out/occupancy, to provide an interim assessment of transportation conditions and to verify that the observed traffic characteristics are generally consistent with the TIA forecasts. At this stage, the assessment shall document the extent of ongoing construction activity and account for the influence of construction-related traffic. The monitoring report shall distinguish temporary construction traffic from traffic generated by occupied residential units and identify any abnormal conditions that may influence the findings. The results shall be interpreted recognizing that an active construction environment may influence vehicle operating speeds, traffic patterns, and driver behaviour.
- Approximately 100% build-out/occupancy, to confirm ultimate transportation conditions once construction activities have substantially concluded and the roadway network is operating under representative long-term conditions. This assessment shall determine whether additional transportation improvements or traffic calming measures are warranted based on the fully developed community.

For the purposes of the monitoring program, build-out shall be based on occupied dwelling units or other mutually agreed-upon development milestones established through the subdivision agreement.

The monitoring program shall evaluate whether the observed transportation characteristics are consistent with the approved TIA forecasts and whether the transportation network continues to operate acceptably. If the monitoring identifies operational deficiencies or traffic calming concerns attributable to traffic generated by the development, the Applicant shall work with the Town to identify and implement appropriate mitigation measures, where warranted. The monitoring program shall include the following components.

Existing Data Review

Prior to undertaking field investigations, an inventory of available traffic data shall be completed to establish a baseline for comparison and supplement the monitoring program. Existing information may include:

- Traffic volume counts;
- Vehicle classification data;
- Turning movement counts;
- Spot speed studies;
- Collision history, where available; and
- Previous traffic studies or monitoring undertaken within the study area.

Data Collection Program

Traffic data shall be collected at locations agreed upon with the Town, with a focus on the roadway network and primary intersections. At a minimum, the monitoring program shall include:

- Turning movement counts at key study intersections during the weekday morning and afternoon peak hours;
- Automatic Traffic Recorder (ATR) counts to capture daily traffic volumes, vehicle classifications, and operating speeds on selected roadways;
- Spot speed studies, where traffic calming is being evaluated; and
- Field observations documenting intersection operations, queuing, pedestrian and cyclist activity, construction activity, temporary parking associated with construction, and any other operational issues observed during the data collection period.

Traffic Characteristics to be Evaluated

The monitoring program shall evaluate the following transportation characteristics, as applicable:

- Peak hour traffic volumes;
- Cut-through traffic;
- Traffic operations, including delays, queues, and levels of service;
- Vehicle operating speeds;
- The influence of construction-related traffic, where applicable; and
- The potential need for additional transportation infrastructure or traffic-calming measures.

Data Collection Period

To ensure representative operating conditions, traffic monitoring shall be undertaken during typical traffic conditions and shall:

- Be completed during the spring or fall seasons;
- Occur on weekdays (Tuesday through Thursday);
- Avoid statutory holidays, school breaks, abnormal weather conditions, and significant special events; and
- Be scheduled to minimize the influence of atypical construction activities where practical.

Each monitoring event shall consist of a focused data-collection program representative of standard municipal traffic-monitoring practice. Continuous ATR counts should generally be collected over a minimum of five days to capture weekday traffic patterns, supplemented by peak-hour turning movement counts and field observations. A continuous twelve-month monitoring period is not considered necessary provided the data is collected during representative operating conditions and appropriate seasonal considerations are incorporated into the analysis.

Sampling Methodology

Reliable traffic statistics depend on sound sampling procedures. Accordingly, the monitoring program shall incorporate an appropriate combination of short-duration and continuous traffic data collection, including:

- Multi-day ATR counts to establish temporal traffic patterns and daily traffic variability;
- Peak period turning movement counts to assess intersection operations; and
- Additional traffic surveys, where warranted, to supplement the analysis.

The monitoring reports shall document the data collection methodology, identify any abnormal conditions that may have influenced the results, including construction-related activities, and compare observed traffic conditions against the forecasts presented in the TIA.

Evaluation and Implementation

The monitoring results shall be reviewed in consultation with the Town to determine whether transportation conditions are generally consistent with the approved TIA. Where monitoring identifies deficiencies attributable to traffic generated by the development, the Applicant shall design and implement appropriate mitigation measures, subject to municipal approval. Potential improvements may include those identified in Phase 2 of the Traffic Calming Plan or other measures deemed appropriate based on the observed operating conditions.

The subdivision agreement shall stipulate that the Applicant is responsible for all costs associated with the traffic monitoring program, including traffic data collection, technical analysis, reporting, peer review (if required), and the design and implementation of any transportation improvements or traffic calming measures determined by the TIA to be warranted as a direct result of the development. Completion of the monitoring program shall not delay subdivision assumption or the completion of secondary works, including placement of the final asphalt surface.

Feel free to contact the undersigned with any questions or to discuss this further.

Yours very truly,

PARADIGM TRANSPORTATION SOLUTIONS LIMITED

Adam J. Makarewicz
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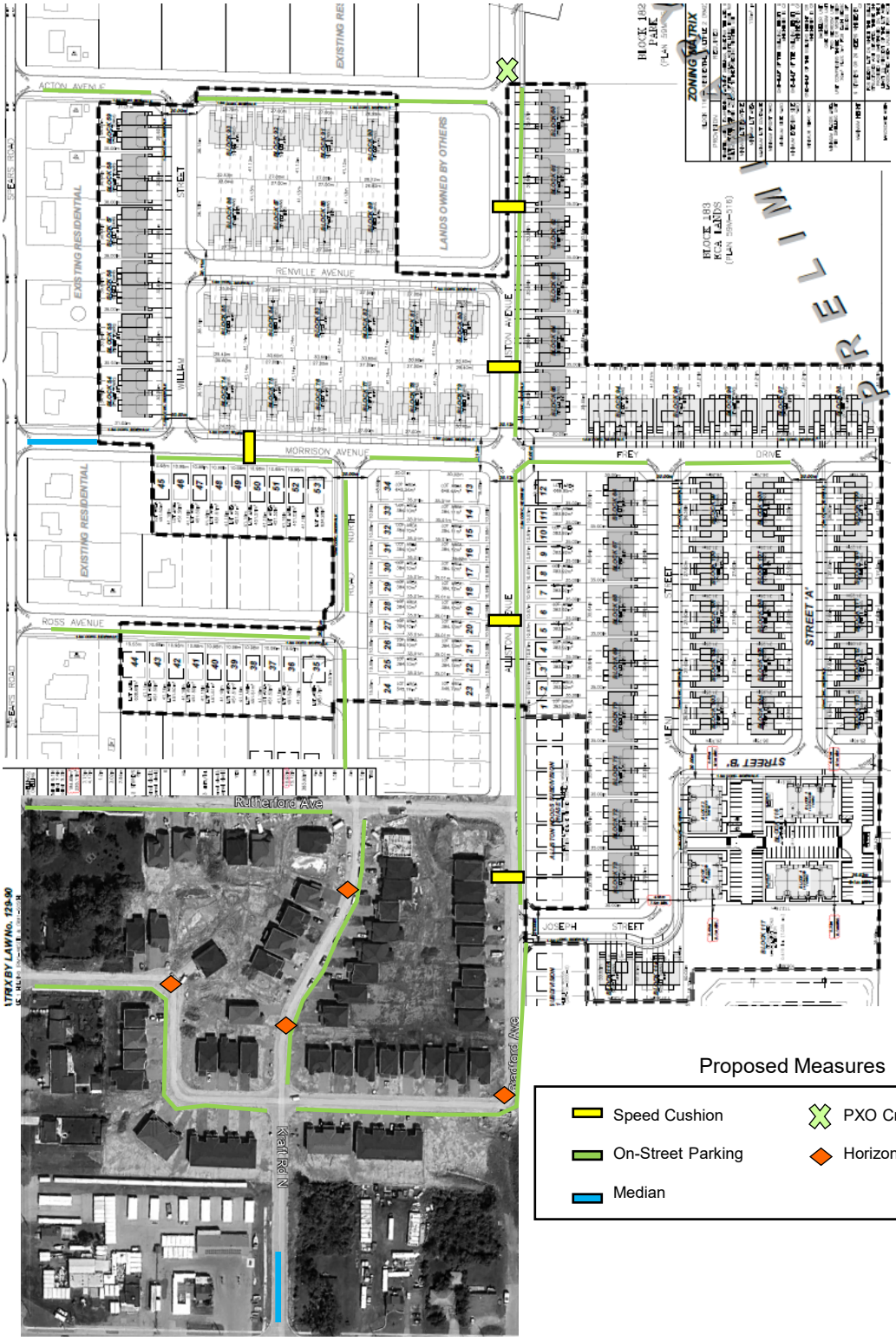
Senior Project Manager

Appendix A

TRAFFIC CALMING PLAN



NOT TO SCALE

Traffic Calming Plan

Appendix A