February 12 ${ }^{\text {th }}, 2024$
Reference Number: 23400

Bernard Filice
Creditmills Development Group
421 Dorlan Road,
Oakville, ON
L6J 6B3

Dear Bernard Filice:
RE: Transportation Impact Study Brief Proposed Residential Development 1295 Sixth Line, Town of Oakville

LEA Consulting Ltd. (LEA) was retained by Creditmills Development Group to conduct a Transportation Impact Study Brief for the proposed residential development located at 1295 Sixth Line (herein referred to as the "subject site") in the Town of Oakville. The subject site is located at the southeast corner of Sixth Line and Culham Street. Figure 1-1 illustrates the location of the subject site.

Figure 1-1: Subject Site Location


Source: Google Earth, accessed January 2024
This letter will review the existing transportation infrastructure in the surrounding area, including the road, transit, and active transportation networks. As only 70 units are proposed on-site, it is anticipated that less

than 100 peak hour direction trips will be generated by the proposed development. Thus, a detailed traffic impact study is not necessary for the proposed development, and a TIS Brief shall suffice.

## 1 PROPOSED DEVELOPMENT

The proposed development consists of a six (6) storey residential building with 70 units. Access to the proposed development is via Sixth Line. In total, 80 parking spaces are proposed. A summary of the site statistics is provided in Table 1-1.

Table 1-1: Site Statistics

| Unit Type | Unit Count |
| :---: | :---: |
| One-Bedroom | 42 units |
| Two-Bedroom | 24 units |
| Three-Bedroom | 4 units |
| Total | 70 units |

Figure 1-1 illustrates the proposed site plan.
Figure 1-1: Proposed Site Plan


Source: Rick Brown \& Associates Inc., January 2024

## 2 EXISTING TRANSPORTATION NETWORK

This section will identify and assess the existing transportation conditions present in the study area, including the road, transit, cycling, and pedestrian network.

### 2.1 VEHICULAR CONNECTIVITY

The road network and lane configurations in the immediate surrounding area, as described in this section, are illustrated in Figure 2-1. All roadways are under the jurisdiction of the Town of Oakville.


Figure 2-1: Existing Road Network


Sixth Line is a north-south minor arterial road that runs from North Service Road east in the south to past the northern limit of the Town of Oakville. Within the study area, the road operates with a two-lane cross-section (one lane per direction). The posted speed limit along Sixth Line is $50 \mathrm{~km} / \mathrm{h}$. Cycling lanes are provided on both sides of the road. No on-street parking is permitted.

Culham Street is an east-west local road that runs from Sixth Line in the east to Oxford Avenue in the west. The road operates with a two-lane cross-section (one lane per direction). The posted speed limit along Culham Street is $50 \mathrm{~km} / \mathrm{h}$. On-street parking is permitted along the north side of Culham Street for up to three (3) hours maximum. No parking is permitted between 2:00 am to 6:00 am between November $15^{\text {th }}$ to April $15^{\text {th }}$.

### 2.2 TRANSIT CONNECTIVITY

The subject site is located in an area serviced by Oakville Transit. Two types of routes are operated, regular scheduled routes and school specials. The existing transit network within the vicinity of the study area is illustrated in Figure 2-2 and Figure 2-3. The subject site receives a Transit Score of 47/100, which is classified as "Some Transit" available nearby, when entered into the WalkScore ${ }^{1}$ application, indicating transit is convenient for some trips to and from the subject site.

[^0]
## EA

Figure 2-2: Existing Transit Network - Regular Schedules


Source: Oakville Transit, September 2021
Figure 2-3: Existing Transit Network - School Specials


Source: Oakville Transit, October 2023


Oakville Transit Route 13 Westoak Trails is a bus route generally operating in the east-west direction. Route 13 operates between Oakville GO and Bronte GO. The route operates seven days a week. During weekdays, the route operates between 6:10 am to 11:15 pm with 30-minute frequencies. The bus stops along the route are accessible.

Access Location: Oakville Transit Route 13 is accessible in the study area along Sixth Line immediately to the south of the subject site, as well as along Culham Street just west of the intersection of Culham Street and Sixth Line.

Oakville Transit Route 19 Glen Abby South is a bus route generally operating in the east-west direction. Route 19 operates between Oakville GO and Bronte GO. The route operates seven days a week. During weekdays, the route operates between 6:10 am to $9: 30 \mathrm{pm}$ with 30 -minute frequencies. The bus stops along the route are accessible.

Access Location: Oakville Transit Route 19 is accessible in the study area at the northeast corner of the intersection of Sixth Line and McCraney Street West, approximately 300 m north of the subject site.

Oakville Transit Route 71 White Oaks School Special is a bus route generally operating in the east-west direction. Route 71 operates between Sixth Line and Culham to Westoak Trails and Bronte during weekdays. The route operates based on current known start and finish times of the schools, with afternoon service departing from Sixth Line and Culham at 2:50 pm.

Access Location: Oakville Transit Route 71 is accessible in the study area at the southeast corner of the intersection of Sixth Line and Culham Street, just north of the subject site.

### 2.3 CYCLING NETWORK

Cycling facilities located nearby the subject site consist of bicycle lanes along Sixth Line and McCraney Street East, and a signed bike route along McCraney Street West. These bicycle lanes provide north-south and eastwest connectivity to and from the subject site.

The subject site receives a Bike Score of $60 / 100$, or "bikeable" when entered into the WalkScore ${ }^{2}$ application, indicating biking is convenient for some trips. The existing cycling network surrounding the subject site is illustrated in Figure 2-4.

[^1]

Figure 2-4: Existing Cycling Network


Source: Town of Oakville, accessed January 2024

### 2.4 PEDESTRIAN NETWORK

The area in which the subject site is located is walkable, with continuous sidewalks available on both sides of each street in the study area. However, given the limited amenities located within walking distance of the subject site, the subject site receives a WalkScore ${ }^{3}$ of $43 / 100$, or "Car Dependent", which indicates that most errands require a car.

As shown in Figure 2-5, a 20-minute walk from the subject site could permit an individual to reach several public schools, the Sheridan College Trafalgar Road Campus, the plaza located on the northwest corner of Sixth Line and Elm Road containing several restaurants and retail stores, the Oakville Golf Club, and Oakville Place, a shopping centre with several retail stores and restaurants.

[^2]

Figure 2-5: 20-Minute Walking Distance from Subject Site


Source: walkscore.com, 2024

## 3 TRIP GENERATION

The vehicular trip generation for the proposed development was determined using the trip generation rates for Multifamily Housing (Mid-Rise) (ITE LUC 221) from the Institute of Transportation Engineers (ITE) Trip Generation Manual, $11^{\text {th }}$ Edition. Table 3-1 summarizes the trip generation rate for the subject site.

The existing mode split was determined using 2016 Transportation Tomorrow Survey (TTS) data for homebased school trips and home-based work trips in traffic analysis zones (TAZs) 539-542. In total, 51\% of trips are expected to be auto trips, and 49\% of trips are expected to be non-auto trips. Detailed TTS data is provided in Exhibit A.


Table 3-1: Auto Trip Generation of the Subject Site

| Land Use | Description | Weekday AM Peak Hour |  |  | Weekday PM Peak Hour |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | In | Out | Total | In | Out | Total |
| ITE LUC 221 | Fitted Curve Formula - Person Trips | $\mathrm{T}=0.58(\mathrm{X})-16.32$ |  |  | $T=0.49(X)+5.76$ |  |  |
|  | Distribution - Person Trips (\%) | 23\% | 77\% | 100\% | 59\% | 41\% | 100\% |
| Multifamily Housing | Total ITE Person Trips | 5 | 19 | 24 | 24 | 16 | 40 |
|  | Site Interaction | 0 | 0 | 0 | 0 | 0 | 0 |
| (Mid-Rise)70 units | Total External Trips | 5 | 19 | 24 | 24 | 16 | 40 |
|  | External Non-Auto Trips (37\%) | 2 | 7 | 9 | 9 | 6 | 15 |
|  | Total Proposed Site Auto Trips | 3 | 12 | 15 | 15 | 10 | 25 |

The proposed site's peak hour direction trips are forecasted to be less than 100 . The subject site is not anticipated to have a significant impact on the surrounding road network.

## 4 PARKING REVIEW

### 4.1 BICYCLE PARKING REVIEW

The Town of Oakville Zoning By-Law 2014-014 was reviewed for bicycle parking requirements. The bicycle parking requirements for the proposed uses are summarized in Table 4-1.

Table 4-1: Zoning By-law 2014-014 Bicycle Parking Standards

| Land Use | Unit Count | Required Bicycle Parking |  | Proposed Supply |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Bicycle Parking Rate ${ }^{(1)}$ | Required Number of Bicycle Parking Spaces |  |
| Residential: <br> Apartment Dwelling | 70 units | 1.0 spaces per unit up to 30 spaces, 0.25 of which is designated as visitor bicycle parking spaces | 22 spaces | 30 spaces |
| Visitor |  |  | 8 spaces |  |
|  |  | Total | 30 spaces | 30 spaces |

(1) As per ZBL 2014-014 Section 5.4.1.b "In no circumstance shall the number of minimum bicycle parking spaces required on a lot be greater than $30 . "$

It is noted that as per the By-law, 0.25 of the bicycle parking spaces required per dwelling unit shall be designated as visitor bicycle parking spaces.

Based on the minimum bicycle parking requirements under the Town of Oakville Zoning By-law 2014-014, the proposed development is required to provide 30 bicycle parking spaces, consisting of 22 resident bicycle parking spaces and 8 visitor bicycle parking spaces. The development will satisfy this requirement by providing 30 bicycle parking spaces.

### 4.2 VEHICLE PARKING REVIEW

The subject site governed by the Town of Oakville Zoning By-law 2014-014 and are outlined in Table 4-2 alongside the proposed parking supply. It is noted that as per the rounding provision within the By-law, if the application of any ratio in the By-law results in a fraction of a parking space, then the minimum number of spaces required was increased to the next highest whole number if the fraction was greater than 0.25 .


Table 4-2: Zoning By-law 2014-014 Vehicle Parking Standards

| Town of Oakville Zoning By-law 2014-014 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Land Use |  | Number of Units | Minimum Requirements |  | Proposed Parking Supply |
|  |  | Parking Rate | Parking Spaces |  |
| Apartment Dwelling | Units Less than $75 \mathrm{~m}^{2}$ NFA |  | 51 | 0.75 per dwelling for unit | 39 | 80 |
| Visitor |  | 0.25 spaces per unit |  | 13 |  |  |
| Apartment Dwelling | Units Greater than 75 m$^{2}$ NFA | 19 | 1.25 per dwelling | 24 |  |  |
| Visitor |  |  | 0.25 spaces per unit | 5 |  |  |
|  |  |  | Total | 81 | 80 |  |

In total, 81 parking spaces are required. Within those 81 required parking spaces, 18 visitor parking spaces are required. Although the site is deficient by one (1) residential space, the deficiency is minor and should be considered acceptable. One (1) barrier-free parking space is required within the visitor parking spaces and has been provided.

## 5 LOADING REVIEW

Based on the Town of Oakville Zoning By-law 2014-014, there are no minimum loading space requirements. However, one (1) loading space is provided for the site. A Functional Design Review (FDR) has been prepared and is attached in Exhibit B.

## 6 TRANSPORTATION DEMAND MANAGEMENT (TDM)

Transportation Demand Management (TDM) refers to a set of strategies which strive towards a more efficient transportation network by influencing travel behaviour. Effective TDM measures can reduce vehicle usage and encourage people to engage in more sustainable methods of travel. There are several opportunities to incorporate TDM measures to promote alternate modes of transportation and support existing and future planned infrastructure. The recommendations should enhance non-single occupant vehicle trips for future residents of the subject site.

The following multimodal infrastructure strategies and TDM measures are recommended for consideration.

### 6.1 PARKING-BASED STRATEGIES

## Minimal Parking On-Site

As discussed in Section 4, 80 parking spaces are proposed for the subject site, which is deficient by one (1) space from the minimum requirements for the proposed development.
A purchased parking space, either separately or as part of the purchase of a residence, represents a fixed cost for future residents. Consequently, the more the space gets used, the more value the owner will perceive in their purchase. If the owner does not already own a car prior to their purchases, the perception that the parking space should be used can lead to two separate outcomes: (1) The owner will purchase a vehicle to occupy the spot, or (2) the owner will lease out the spot for somebody else to use.

By providing minimal on-site parking, the site will not encourage oversupplying parking and residents will be encouraged to take advantage of existing transit.

Unbundled Parking
The proposed development is considering providing unbundled parking, meaning that for each unit, parking spaces will be available for purchase separately from the unit. It is anticipated that parking spaces will be offered at a price point determined based on market conditions. This will facilitate residents to shift to other travel alternatives to reduce auto-dependency.

Provide Dedicated Pick-Up/Drop-Off (PUDO) Space
A dedicated pick-up/drop-off space is proposed on site to facilitate shared mobility, Wheeltrans Services, rideshare services, and taxis. These spaces will allow for short-term parking for the subject site and provide convenient access for residents to use without impeding the flow of traffic.

### 6.2 CYCLING-BASED STRATEGIES

Provision of Bicycle Parking Supply
Bicycle parking is proposed for the subject site. This will supplement the proposed vehicle parking supply. Short-term bicycle parking is provided on the ground floor near the building entrances and access to longterm bicycle parking will be provided in secure bike lockers on the basement level.

## Provision of Bicycle Repair Facilities

Providing basic equipment for keeping bicycles in good working condition can encourage residents to use the cycling networks in the vicinity of the subject site. Bicycle repair facilities include hand tools, tire gauges, and tire pumps. A bicycle repair station is proposed within the long-term bicycle parking, providing basic repair tools for residents to use for bicycle maintenance.

## Promote and Increase Cycling Awareness and Multi-modal Transport

It is recommended that information packages be provided to residents of the proposed development to help encourage active transportation and increase awareness of different travel alternatives. The package should include information regarding the environmental and health benefits of cycling, rules of the road, as well as maps of active transportation infrastructure available in the surrounding area.

### 6.3 PEDESTRIAN-BASED STRATEGIES

## Building Entrances Oriented Close to the Street

The proposed pedestrian entrances face the internal driveway with sidewalks providing safe and easy access to Sixth Line. This will provide convenient access for pedestrians, transit users, and cyclists via continuous sidewalks and feature landscaping to provide an overall comfortable and convenient pedestrian environment.

### 6.4 TRANSIT-BASED STRATEGIES

## Transit Incentive Program

As PRESTO becomes a dominant form of payment for transit throughout the Greater Toronto and Hamilton Area (GTHA), it is recommended that pre-loaded PRESTO cards be offered to units in their welcome package. This incentive, coupled with the site's proximity to transit, provides an opportunity for residents to experience the benefits of using adjacent transit facilities.

### 6.5 IMPACT OF TDM MEASURES

The proposed TDM measures are expected to further support the site's proposed parking strategy by increasing the convenience and attractiveness of taking transit, walking, or cycling to/from the subject site. The proposed TDM measures will help further reduce vehicle activity associated with the subject site and encourage a lifestyle that largely relies upon transit and active transportation. Table 6-1 summarizes the proposed strategies and the expected auto trip reductions.

Table 6-1: Summary of TDM Strategies

| Recommended TDM Measures | Benefits |
| :---: | :---: |
| Parking-Based Strategies |  |
| Minimal Parking On-Site | + Providing minimal parking encourages pedestrian activity at-grade <br> + Allows individuals to connect to transit or travel by bike/walking to nearby destinations. |
| Unbundled Parking | + Encourages residents to shift to other travel alternatives to reduce autodependency |
| Dedicated PUDO Space | + Provides convenient access for residents to use without impeding flow of traffic |
| Cycling-Based Strategies |  |
| Provision of Bicycle Parking Supply | + Support cycling as an alternative to SOV trips |
| Provision of Bicycle Repair Facilities | + Reduces barriers to cycling |
| Promote and Increase Cycling Awareness and Multi-modal Transport | + Encourages active transportation and increase awareness of active travel alternatives. <br> + Spreads awareness of the benefits of cycling |
| Pedestrian-Based Strategies |  |
| Building Entrances Oriented Close to the Street | + Encourages walking and improves the pedestrian realm |
| Transit-Based Strategies |  |
| Transit Incentive Program | + Provides financial incentive to utilize transit |

The combination of these TDM strategies listed above is expected to reduce the auto-dependency of residents and visitors in the subject development and encourage more sustainable travel habits.

Furthermore, it is recommended that ongoing monitoring and evaluation be undertaken to collect data and information regarding TDM performance measures. The key goal of performance measuring is to provide useful information on identifying successful program activities, improvements to existing programming, as well as the potential development of future programs. The owners should perform periodic evaluations to assess how well the TDM Programs are achieving the goal of reducing the number of single-occupant vehicle trips generated by the subject site. A baseline survey and annual monitoring for five (5) years onward is recommended to ensure effective monitoring.


## 7 CONCLUSIONS AND RECOMMENDATIONS

The proposed development consists of 70 residential units. The following conclusions are made based on the findings of this Transportation Impact Study Brief:

- The subject stie is located in an area serviced by Oakville Transit. The subject site is within walking distance to several routes providing connections to the Bronte GO and Appleby GO.
- Cycling facilities are provided within the study area to provide north-south and east-west connections throughout Oakville.
- The subject site is located in a walkable neighbourhood, with continuous sidewalks provided on streets within the study area. Some amenities are provided within walking distance, but most errands will require a car.
- The subject site is expected to generate up to 25 two-way vehicle trips during the weekday AM and PM peak hours. Given the minimal trips generated by the development, detailed capacity analysis is not necessary, and the proposed development is not anticipated to have a significant impact on the surrounding network.
- The proposed bicycle parking supply satisfies the minimum requirements from the Town's zoning bylaw.
- The proposed parking supply includes 80 vehicles spaces for residents and visitors which, although its deficient, is expected to meet the needs of the development.
- No loading spaces are required for the subject site however, one loading space is proposed.
- Several transportation demand management measures are proposed to reduce single-occupancy vehicle trips generated by the proposed development. This includes parking, cycling, transit, and pedestrian-based strategies.

Should you have any questions regarding this Transportation Impact Brief, please do not hesitate to contact the undersigned.

Yours truly,
LEA CONSULTING LTD.

Hocelyonl aleen
Project Manager, Transportation Engineer


Amelia Crichton, BURPI, B.A., Transportation Planner

Encl. Exhibit A: Detailed TTS Data
Exhibit B: Functional Design Review

## EXHIBITA

 ModeSplitM on Jan 082024 16:03:50 GMT-0500 (Eastern Standard Time) - Run Time: 2510ms
Cross Tabulation Query Form - Trip - 2016 v1.1
Row: Primary travel mode of trip - mode_prime
Column: 2006 GTA zone of origin - gta06_orig

Filters:
2006 GTA zone of origin - gta06_orig In 4031
and

Start time of trip - start_time In 600-900
Trip 2016
Table:
Transit excluding GO rail
Cycle
Auto driver
GO rail only
Joint GO rail and local transit
Auto passenger
School bus
Walk

| 4029 | 4030 | 4031 | 4036 |
| ---: | ---: | ---: | ---: |
| 211 | 23 | 151 | 85 |
| 0 | 47 | 162 | 23 |
| 1739 | 1711 | 1740 | 1440 |
| 93 | 61 | 85 | 89 |
| 23 | 161 | 107 | 71 |
| 204 | 132 | 192 | 348 |
| 159 | 30 | 74 | 0 |
| 510 | 246 | 144 | 310 |


| 4037 | 4038 Total |  | Percentage |  |
| ---: | ---: | ---: | ---: | :---: |
| 38 | 86 | 594 | $3 \%$ |  |
| 38 | 170 | 440 | $2 \%$ |  |
| 3370 | 1484 | 11484 | $63 \%$ |  |
| 324 | 34 | 686 | $4 \%$ |  |
| 198 | 19 | 579 | $3 \%$ |  |
| 643 | 353 | 1872 | $10 \%$ |  |
| 167 | 55 | 485 | $3 \%$ |  |
| 379 | 408 | 1997 | $11 \%$ |  |
| Total |  | 18137 | $100 \%$ |  |

## EXHIBITB <br> Functional Design Review

MINIMUM CENTERLINE RADIUS OF FIRE ACCESS ROUTE TO FOLLOW REQUIREMENTS AS BELOW:

ONTARIO BUILDING CODE 3.2.5.6 ACCESS ROUTE DESIGN
(1) A PORTION OF A ROADWAY PROVIDED AS A REQUIRED ACCESS ROUTE FOR FIRE DEPARTMENT USE SHALL:
(a) HAVE A CLEAR WIDTH NOT LESS THAN 6m,
(b) HAVE A CENTRELINE RADIUS NOT LESS THAN 12 m ,
(c) HAVE AN O/H CLEARANCE OF NOT LESS THAN 5 m
(d) HAVE TURNAROUND FACILITIES FOR ANY DEAD-END PORTION OF THE ACCESS ROUTE MORE THAN 90 m LONG
(e) BE CONNECTED WITH A PUBLIC THOROUGHFARE









[^0]:    ${ }^{1}$ https://www.walkscore.com/score/1295-sixth-line-oakville-on-canada

[^1]:    ${ }^{2}$ https://www.walkscore.com/score/1295-sixth-line-oakville-on-canada

[^2]:    ${ }^{3}$ https://www.walkscore.com/score/1295-sixth-line-oakville-on-canada

