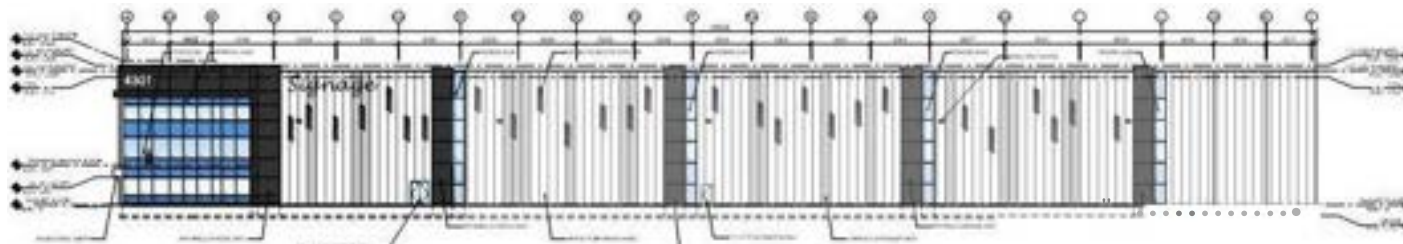
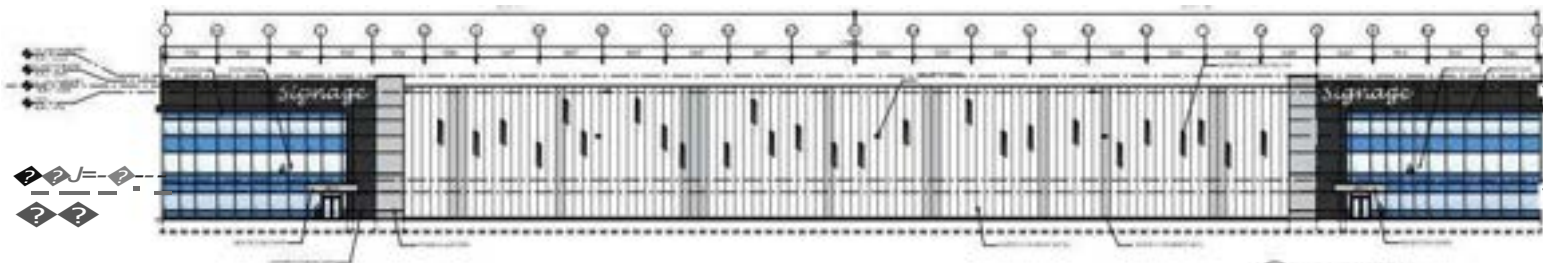


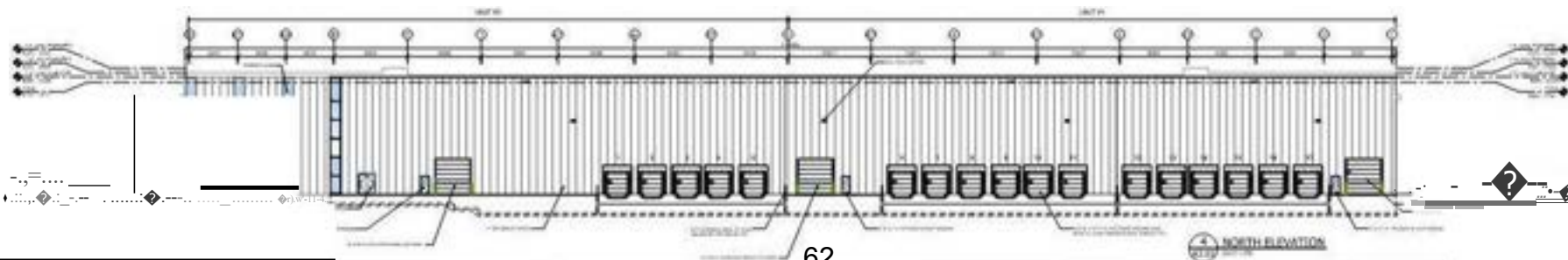
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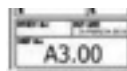
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1 SOUTH ELEVATION



2 NORTH ELEVATION



APPENDIX 3 - CONCEPTUAL SITE RENDERING



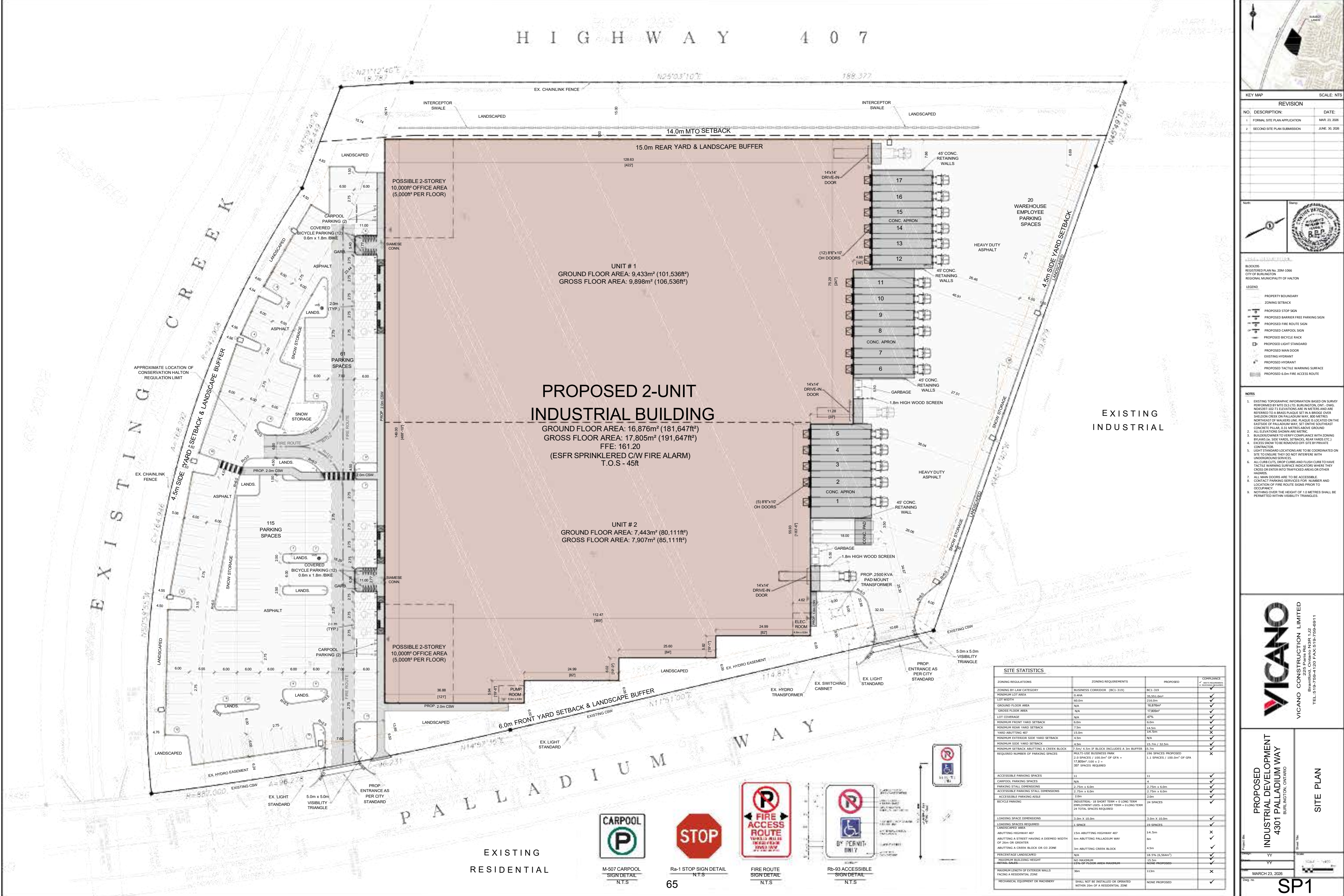
SOUTHWEST



SOUTHEAST



NORTHEAST



REVISION		
NO.	DESCRIPTION	DATE
1	FORMAL SITE PLAN APPLICATION	MAR. 23, 2026
2	SECOND SITE PLAN SUBMISSION	JUNE. 30, 2026



LEGEND	
	PROPERTY BOUNDARY
	ZONING SETBACK
	PROPOSED STOP SIGN
	PROPOSED BARRIER-FREE PARKING SIGN
	PROPOSED FIRE ROUTE SIGN
	PROPOSED CARPOOL SIGN
	PROPOSED BICYCLE RACK
	PROPOSED LIGHT STANDARD
	PROPOSED MAN DOOR
	PROPOSED HYDRANT
	PROPOSED TACTILE WARNING SURFACE
	PROPOSED 6.0m FIRE ACCESS ROUTE

- NOTES
- EXISTING TOPOGRAPHIC INFORMATION BASED ON SURVEY PERFORMED BY MTE CONSULTING, BURLINGTON, ONT. - DWG. NO.4397-102-11 ELEVATIONS ARE IN METERS AND ARE REFERRED TO A BRASS PLATE SET IN A BRICK OVER SHELTON CREEK ON PALLADIUM WAY, 800 METRES NORTHEAST OF WALKERS LINE. PLATE IS LOCATED ON THE EASTSIDE OF PALLADIUM WAY, SET ON THE SOUTHEAST CORNER OF PLATE, 0.11 METRES ABOVE GROUND.
 - ALL ELEVATIONS SHOWN ARE METRIC.
 - BUILDER/OWNER TO VERIFY COMPLIANCE WITH ZONING BYLAW (IN: SIDE YARDS, SETBACKS, REAR YARDS ETC.) EXCESS SNOW TO BE REMOVED OFF-SITE BY PRIVATE CONTRACTOR.
 - LIGHT STANDARD LOCATIONS ARE TO BE COORDINATED ON SITE TO ENSURE THEY DO NOT INTERFERE WITH UNDERGROUND SERVICES.
 - ALL CURB CUTS, DRIVE CURBS AND FLUSH CURBS TO HAVE TACTILE WARNING SURFACE INDICATORS WHERE THEY CROSS OR ENTER INTO TRAFFICED AREAS OR OTHER HAZARDS.
 - ALL MAIN DOORS ARE TO BE ACCESSIBLE.
 - CONTACT PARKING SERVICES FOR NUMBER AND LOCATION OF FIRE ROUTE SIGNS PRIOR TO OCCUPANCY.
 - NOTHING OVER THE HEIGHT OF 1.0 METRES SHALL BE PERMITTED WITHIN VISIBILITY TRIANGLES.

SITE STATISTICS	
ZONING REGULATIONS	ZONING REQUIREMENTS
ZONING BY-LAW CATEGORY	BUSINESS CORRIDOR (BCI-319)
MINIMUM LOT AREA	0.4HA
LOT WIDTH	24.0m
GROUND FLOOR AREA	N/A
GROSS FLOOR AREA	N/A
LOT COVERAGE	N/A
MINIMUM FRONT YARD SETBACK	4.5m
MINIMUM REAR YARD SETBACK	7.5m
YARD ABUTTING 407	15.0m
MINIMUM EXTERIOR SIDE YARD SETBACK	4.5m
MINIMUM SETBACK ABUTTING A CREEK BLOCK	7.5m / 4.5m IF BLOCK INCLUDES A 3m BUFFER
REQUIRED NUMBER OF PARKING SPACES	MULTI-USE BUSINESS PARK 2.0 SPACES / 100 sqm OF GFA = 17,856sq / 100 x 2 = 357 SPACES REQUIRED

COMPLIANCE	
BCI-319	35,551.0sqm ²
17,856sqm ²	47%
14.5m	14.5m
14.5m	14.5m
N/A	15.2m / 32.5m
5.7m	5.7m
195 SPACES PROPOSED	1.1 SPACES / 100 sqm ² OF GFA

COMPLIANCE	
11	11
N/A	2.75m x 6.0m
2.75m x 6.0m	2.75m x 6.0m
2.0m	2.0m
24 SPACES	24 SPACES
3.0m x 10.0m	3.0m x 10.0m
19 SPACES	19 SPACES
15m ABUTTING HIGHWAY 407	14.5m
6m ABUTTING PALLADIUM WAY	6m
3m ABUTTING CREEK BLOCK	4.5m
N/A	18.5% (6,564m ²)
NO MAXIMUM	NONE PROPOSED
15% OF FLOOR AREA MAXIMUM	NONE PROPOSED
36m	113m
SHALL NOT BE INSTALLED OR OPERATED WITHIN 20m OF A RESIDENTIAL ZONE	NONE PROPOSED

PROPOSED INDUSTRIAL DEVELOPMENT 4301 PALLADIUM WAY BURLINGTON, ONTARIO

Project No. YY

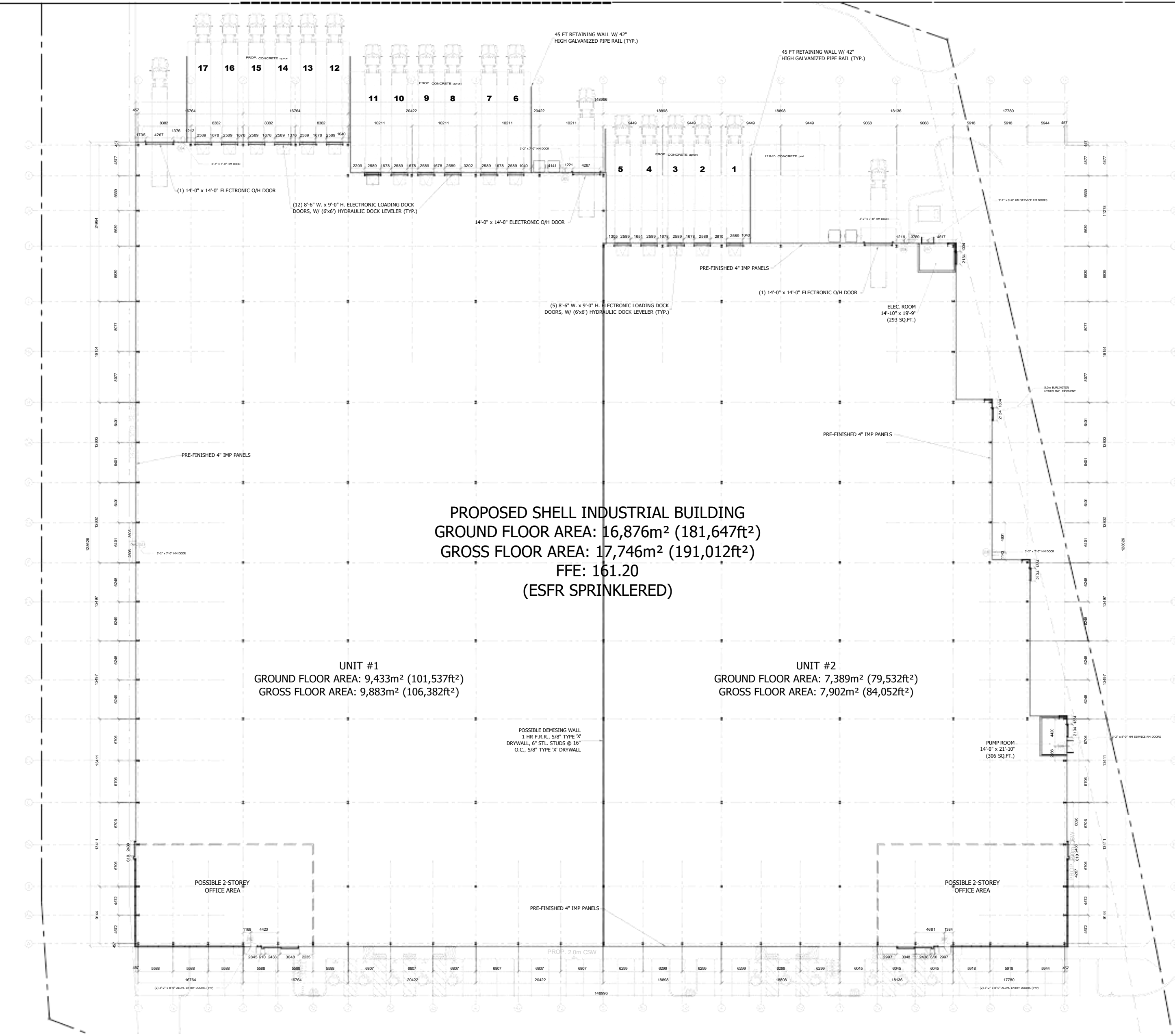
Date: MARCH 23, 2026

Dwg. No.

VICANO CONSTRUCTION LIMITED
225 Paris Rd.
Burlington, Ontario N3R 1J2
TEL: 519-759-4120 FAX: 519-759-4011

SITE PLAN





PROPOSED SHELL INDUSTRIAL BUILDING
GROUND FLOOR AREA: 16,876m² (181,647ft²)
GROSS FLOOR AREA: 17,746m² (191,012ft²)
FFE: 161.20
(ESFR SPRINKLERED)

UNIT #1
GROUND FLOOR AREA: 9,433m² (101,537ft²)
GROSS FLOOR AREA: 9,883m² (106,382ft²)

UNIT #2
GROUND FLOOR AREA: 7,389m² (79,532ft²)
GROSS FLOOR AREA: 7,902m² (84,052ft²)



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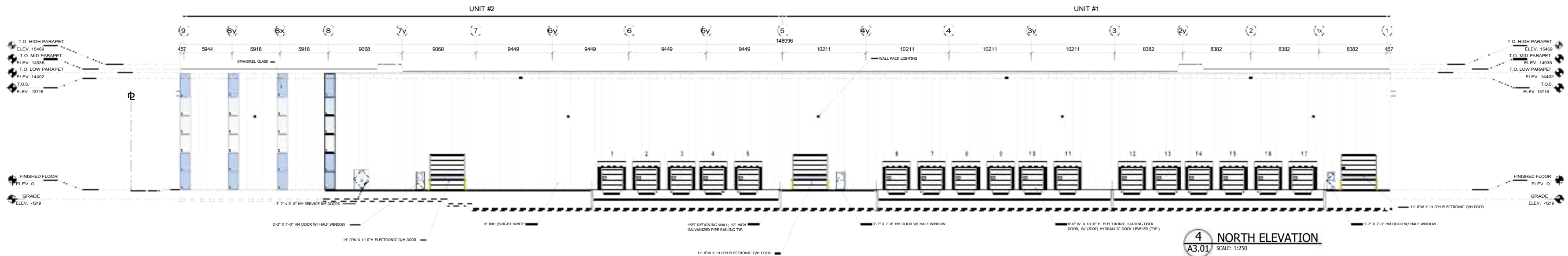
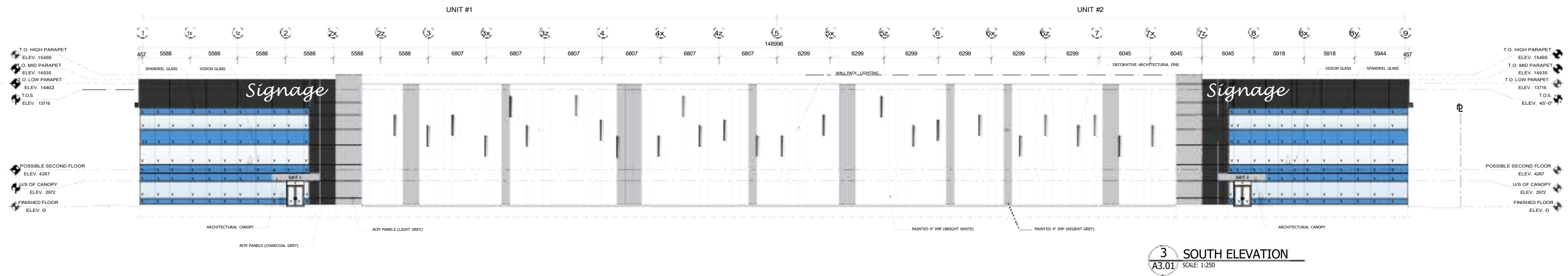
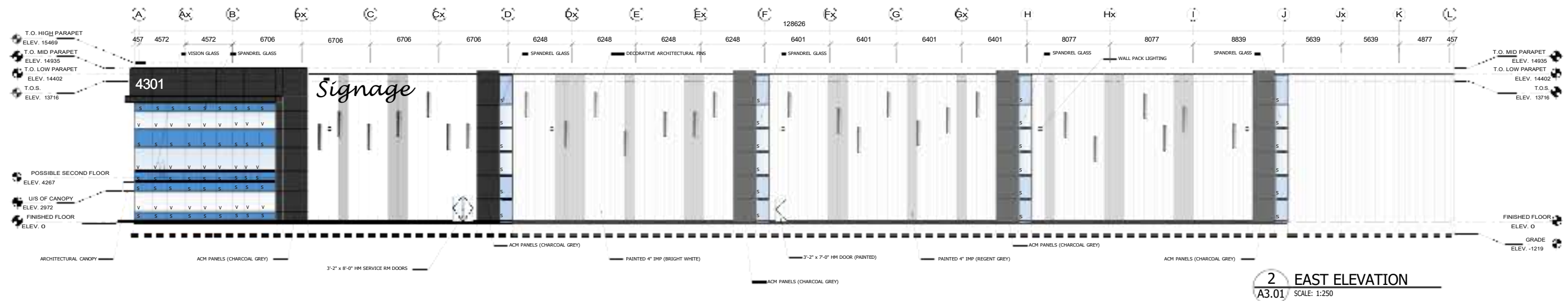
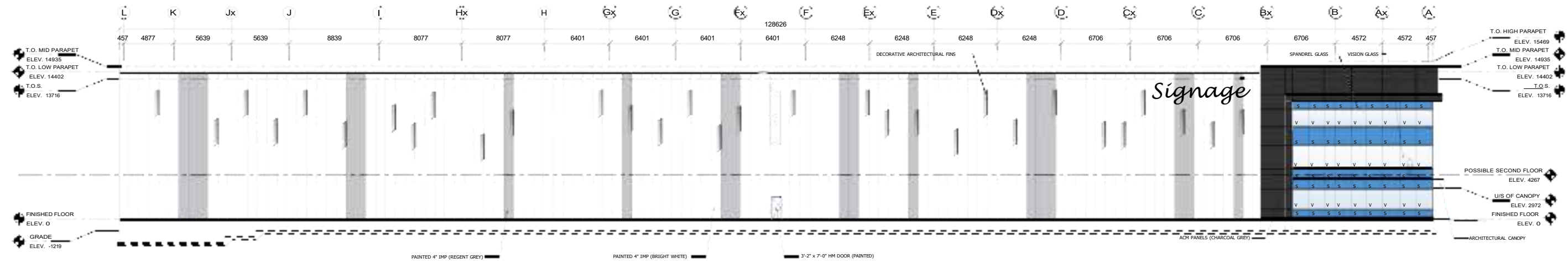


DESIGN: 100-07500/NO.0422
REVISED: 04/22
DRAWING DATE:



PROPOSED INDUSTRIAL SHELL BUILDING
300 PALADINO DRIVE
BURLINGTON, ONTARIO

ARCHITECTURAL FLOOR PLAN



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NO.	REVISION	DATE	BY	CHECKED
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3	ISSUED FOR PERMIT	2026-03-30	AL	AL
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19	ISSUED FOR PERMIT	2026-03-30	AL	AL
20	ISSUED FOR PERMIT	2026-03-30	AL	AL

ISSUED FOR PERMIT
DATE: 2026-03-30
BY: AL
CHECKED: AL



PROPOSED INDUSTRIAL SHELL BUILDING
1000 LACOMBE AVE.
BURLINGTON, ONTARIO
ELEVATIONS

PROJECT NO.:
DATE: 26-MARCH-2026
A3.00



SOUTHWEST

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3. NO CONSTRUCTION TO BEGIN UNTIL APPROVED PERMIT IS IN HAND FROM THE CITY, AND REVIEWED BY THE ARCHITECT FOR APPLICABLE COMMENTS.

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ISSUED FOR:
OPTION/RELEASE:
RELEASE DATE:

VICANO CONSTRUCTION LIMITED
Burlington, Ontario N7R 1J2
TEL: (905) 709-4320 FAX: (905) 709-4051

J.A. BUTLER
Professional Engineer
C.E. OF O.

PROPOSED INDUSTRIAL
SHELL BUILDING
8875 ANGLIA WAY
BURLINGTON, ONTARIO

RESERVATIONS

I

PROJECT No:

I

PLOT DATE:
26-MARCH-2026

SHEET No:

A3.02

69

2026-06-29
Project: 260094

Yaw Yawson
Manager, Development Planning
Vicano Developments Limited
Suite 301-84 Market Street
Brantford ON N3T 2Z7

RE: 4301 PALLADIUM WAY, CITY OF BURLINGTON, TWO-UNIT INDUSTRIAL DEVELOPMENT, TRANSPORTATION BRIEF

Vicano Developments Limited retained Paradigm Transportation Solutions Limited to prepare a Transportation Brief, Parking Study, and Access and Circulation Review for a proposed two-unit industrial building at 4301 Palladium Way in the City of Burlington. **Figure 1** (attached) illustrates the site location.

Appendix A contains the pre-study consultation material and responses from the City of Burlington and Ministry of Transportation Ontario (MTO). The scope of work includes a trip generation estimate for the site, AutoTURN analysis, and a parking generation and capacity analysis for the Palladium Way intersections at Appleby Line and Walker's Line.

Development Concept

Site Description

Within the preliminary development concept, Unit 1 contains 9,898 m² of gross floor area (GFA) and is proposed for manufacturing use. Within Unit 1, approximately 929 m² is identified as ancillary office space supporting the primary manufacturing use. Unit 2 contains 7,907 m² GFA, proposed for warehousing use. Within Unit 2, approximately 929 m² is identified as ancillary office space supporting the primary warehousing use. In total, the development contains 17,805 m² GFA, with up to 1,858 m² of ancillary office use. **Figure 2** (attached) illustrates the site plan.

A total parking supply of 196 at-grade spaces is proposed (1.10 spaces per 100 m² GFA). The site plan includes 24 bicycle parking spaces (0.13 spaces per 100 m² GFA).

Vehicle access is proposed via two driveways to Palladium Way: one for general traffic and one primarily for heavy vehicles to the service side of the building (loading zones). Build-out is anticipated to occur by 2031, timing is subject to market conditions.

Vehicle Circulation

Heavy vehicle and site circulation have been assessed using AutoTURN swept path analysis software. Three design vehicles were used in the analysis:

- ♦ Pumper Fire Truck;
- ♦ Halton Front-End Collection waste vehicle; and
- ♦ WB-20 Tractor Trailer.

Appendix B contains the AutoTURN swept path analysis. No conflicts with the proposed on-site geometry are noted.

Transportation Demand Management Program

To help manage the site's transportation and parking impacts, a Transportation Demand Management (TDM) program is proposed. The following TDM measures are included in the site plan or will be provided by the site operator as part of the TDM program:

Walking

- ♦ An internal pedestrian link is proposed, which connects the main entrances to Palladium Way. All on-site sidewalks will conform to City of Burlington and Accessibility for Ontarians with Disabilities Act (AODA) design standards.

Parking

- ♦ Four carpool parking spaces are proposed. These spaces are located near the main entrances to the individual units.

Cycling

- ♦ The site plan includes 24 bicycle parking spaces (0.13 spaces per 100 m² GFA). Bicycle parking spaces are weather protected and are provided near the main entrances to the building.

Wayfinding, Travel Planning, Education / Promotion

- ♦ Travel planning resources will be provided to employees and will be posted on-site in common areas such as main entrances (individualized marketing, active transportation maps, community resources, transit schedules).
- ♦ The site operator will encourage employees to carpool and manage the supply of the four provided carpool parking spaces. These spaces are located near building entrances; and
- ♦ The site operator(s) should consider joining Smart Commute Halton to promote sustainable transportation modes.



Summary

The site's TDM plan combined with its location relative to existing transit and cycling networks, can assist in mitigating the site's transportation and parking impacts on the adjacent road network, promote a strong and vibrant economy, and create a livable community that has a balanced transportation network for all users.

Area Context

Road Network

The characteristics of the roads and intersections in the study area are described below. Reference was made to the City of Burlington *Official Plan, Schedule O-1 Transportation Facilities – Urban Area*.¹

- ♦ **Palladium Way** is an east-west industrial connector with a three-lane urban cross-section, providing one travel lane in each direction and a centre two-way left-turn lane. The road has a posted speed limit of 60 km/h.
- ♦ **Appleby Line** is a north-south major arterial road with a six-lane urban cross-section, providing three travel lanes in each direction and a centre median. The road has a posted speed limit of 70 km/h north, and 60 km/h south, of the intersection with Palladium Way.
- ♦ **Walker's Line** is a north-south urban avenue from the northerly limits of Urban Burlington to the Queen Elizabeth Way. North of the intersection with Palladium Way, the road has a two-lane rural cross section, providing one travel lane in each direction. To the south of Palladium Way, the road has a four-lane urban cross-section, providing two travel lanes in each direction and a centre median. The road has a posted speed limit of 60 km/h. Truck trips are restricted on Walker's Line year-round between the northerly limits of Urban Burlington and Dundas Street.²

Walking

Pedestrian travel within the study area is facilitated by sidewalks on both sides of Palladium Way, Appleby Line, and on Walker's Line, south of Palladium Way. Multiple pedestrian connections exist between the sidewalks on Palladium Way and the Alton Village neighbourhood.

Pedestrian signal heads, with push buttons and delineated crosswalks are provided at the signalized Palladium Way intersection with Appleby Line.

¹ City of Burlington, *Burlington's Official Plan: Schedule O-1 Classification of Transportation Facilities – Urban Area, July 2025 Office Consolidation*, (Burlington: City of Burlington, 2025).

² City of Burlington, *Integrated Mobility Plan*, (Burlington: City of Burlington, 2023).



Cycling

The existing cycling infrastructure includes painted bike lanes along Appleby Line, Palladium Way, and Walker's Line. Multi-use paths are provided on the south side of Palladium Way and through Palladium Park and Doug Wright Park.³ A bike repair station is located on the southwest corner of the Appleby Line and Palladium Way intersection.

Figure 3 (attached) illustrates the existing cycling network for the area.

The City of Burlington *Cycling Master Plan's Proposed Network* identifies Palladium Way and Walker's Line as part of the spine network with protected bikeways. Intersection improvements are shown at the Appleby Line and Palladium Way and the Walker's Line and Palladium Way intersections.⁴

Transit

Burlington Transit operates the public transit system in the City. **Figure 4** (attached) illustrates the existing transit network⁵ near the subject site. There are no transit routes that directly service the site, however four transit routes are within proximity:

- ♦ **Route 6 – Headon** travels from the Burlington GO Station to the Highway 407 GO Carpool parking lot. This route operates seven days a week from the early morning until late evening. The headway is approximately 30 minutes from 6 AM to 6 PM for weekday for trips, whereas the headway is either 30 or 60 minutes on weekends
- ♦ **Route 11 – Sutton-Alton** travels from the Appleby GO Station to the Highway 407 GO Carpool parking lot. This route operates seven days a week from the early morning until late evening. The headway is ranges from 15 to 20 minutes from 6 AM to 6 PM. for weekday for trips, whereas the headway is either 30 or 60 minutes on weekends
- ♦ **Route 48 – Millcroft** travels from the Haver Community Centre to Corpus Christi Secondary School. This route operates on weekdays from September to June with two routes in each direction per day.
- ♦ **Route 51 – Burlington Northeast** operates in a loop from the Burlington GO Station. This route operates on weekday and Saturday nights with three trips per day. Weekday and weekend headways operate in the order of approximately 60 minutes.

The closest bus stops are located at the Thomas Alton Boulevard and Hopkins Drive intersection. The walking time to these stops is less than fifteen minutes and can be accessed using the existing sidewalk infrastructure.

As development progresses along Palladium Way, Burlington Transit may consider expanding service to these employment lands if demand supports it.

³ City of Burlington, *Cycling Plan*, (Burlington: City of Burlington, 2018).

⁴ Ibid.

⁵ Burlington Transit, *Schedules and Maps*, (Burlington: Burlington Transit, 2025).



Traffic Volumes

Existing traffic counts were collected by Pyramid Traffic Inc. on Tuesday, April 21, 2026. **Figure 5** (attached) illustrates the base year weekday AM and PM peak hour volumes.

Appendix C contains the existing count data and signal timing data.

Traffic Operations

The study area intersection operations were evaluated using Synchro 12 software and Highway Capacity Manual (HCM) 2000 procedures. The key parameters used in the analysis include:

- ♦ Existing lane configurations;
- ♦ Heavy vehicle percentages as derived from existing traffic count data;
- ♦ Conflicting pedestrian crossing volumes as derived from existing traffic count data;
- ♦ Calculated intersection Peak Hour Factors (PHF), which facilitates an assessment of the busiest 15-minute period within the peak hour; and
- ♦ Synchro default values for all other inputs.

Based on the Halton Region *Transportation Impact Study Guidelines*⁶, the following criteria indicate critical conditions and signify that mitigation measures may need to be considered, when:

- ♦ v/c ratios for through or shared through/turning movements that exceed 0.85 at a signalized intersection;
- ♦ v/c ratios for exclusive turning movements that exceed 0.95 at a signalized intersection;
- ♦ The 95th percentile queues for an individual movement that are projected to exceed the available turning lane storage; and
- ♦ LOS, based on average delay per vehicle on individual movements, which exceeds LOS D for unsignalized intersections.

Table 1 summarizes the level of service conditions. The study area intersections are operating at acceptable levels of service with all movements within capacity.

Appendix D contains the detailed Synchro 12 reports.

⁶ Halton Region, *Transportation Impact Study Guidelines*, (Oakville: Halton Region, 2015).



TABLE 1: EXISTING TRAFFIC OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																	
				Eastbound				Westbound				Northbound				Southbound				Overall	
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach		
AM Peak Hour	Walker's Line & Palladium Way	TWSC	LOS Delay V/C Q	B 14.03	C 0.10	> 2	> 15	D 17.20	C 0.06	> 1	> 16	A 8.01	A 0.09	> 0	> 0	A 8.02	A 0.10	> 0	> 1	A 8.03	
			Stor. Avail.	30.29	-	> 15	55.49	-	> 15	45.45	-	> 15	30.30	-	> 15						
	Appleby Line & Palladium Way/Harrison Crescent	TCS	LOS Delay V/C Q	D 39.44	D 0.06	> 10	> 37	D 36.11	C 0.01	> 4	> 35	A 3.13	A 0.22	> 3	> 6	A 6.06	A 0.23	> 5	> 7	A 6.07	
			Stor. Avail.	80.61	-	> 15	60.53	-	> 15	95.89	-	> 15	70.65	-	> 15						
PM Peak Hour	Walker's Line & Palladium Way	TWSC	LOS Delay V/C Q	C 16.00*	B 0.07	> 2	> 13	D 25.53	C 0.22	> 6	> 22	A 8.03	A 0.11	> 0	> 1	A 8.00*	A 0.11	> 0	> 1	A 8.00	
			Stor. Avail.	30.30	-	> 15	55.32	-	> 15	45.44	-	> 15	30.30	-	> 15						
	Appleby Line & Palladium Way/Harrison Crescent	TCS	LOS Delay V/C Q	D 44.52	D 0.13	> 16	> 42	D 43.45	D 0.09	> 12	> 42	A 4.13	A 0.24	> 4	> 6	A 7.08	A 0.30	> 6	> 41	A 7.08	
			Stor. Avail.	80.51	-	> 15	60.36	-	> 15	95.89	-	> 15	70.64	-	> 15						

MOE - Measure of Effectiveness

LOS - Level of Service

Delay - Average Delay per Vehicle in Seconds

V/C - Volume to Capacity Ratio

Q - 95th Percentile Queue Length (m)

Stor. - Existing Storage (m)

Avail. - Available Storage (m)

* - Value between 0.00 and 0.01

TCS - Traffic Control Signal

TWSC - Two-Way Stop Control

< / > - Shared with through movement

Trip Generation and Assignment

ITE Trip Generation

The Institute of Transportation Engineers (ITE) publication, *Trip Generation Manual*⁷ was referenced to estimate the vehicular site trips generated by the proposed development. Specifically, the trip rates for Land Use Code (LUC) 140 – Manufacturing and LUC 150 – Warehouse were used to estimate the vehicle trips generated.

No modal split adjustments have been applied to the trip generation estimate to account for active transportation or transit-oriented trips.

Table 2 summarizes the estimated trip generation for the development. The subject site is forecast to generate approximately 76 and 89 new vehicle trips during the AM and PM peak hours, respectively. Of these, 5 AM peak hour trips and 4 PM peak hour trips are forecast to be heavy vehicle trips.

⁷ Institute of Transportation Engineers, *Trip Generation Manual*, 12th ed., (Washington DC: ITE, 2025).



TABLE 2: ESTIMATED SITE GENERATED TRAFFIC

Land Use	Trip Type	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
LUC 140 – 106.54k sq. ft.	Passenger	39	12	51	16	42	58
	Truck	2	1	3	1	1	2
LUC 150 – 85.11k sq. ft.	Passenger	16	4	20	7	20	27
	Truck	1	1	2	1	1	2
Total Generation		58	18	76	25	64	89

LUC 140: AM – $T = 0.51(X)$ | PM – $T = 0.84(X) - 29.93$

LUC 150: AM – $T = 0.10(X) + 13.43$ | PM – $T = 0.11(X) + 19.62$

Trip Distribution and Assignment

Table 3 summarizes the estimated trip distribution. The distribution is based on a review of existing travel patterns. The patterns capture the typical commuter patterns reflective of the surrounding residential and commercial area. This was used rather than Transportation Tomorrow Survey (TTS) data as the traffic analysis zone containing the subject site (TTS Zone 5122) contains residential parcels to the south. This would skew the distribution results and would be less representative of the site's employment trip distribution. The methodology was confirmed with City and MTO staff during pre-consultation. The distribution to each origin/destination has been rounded to the nearest five percent. **Figure 6** illustrates (attached) the site generated traffic volumes.

TABLE 3: ESTIMATED TRIP DISTRIBUTION

Origin/Destination	AM Peak Hour		PM Peak Hour	
	In	Out	In	Out
North via Appleby Line	30%	40%	40%	35%
South via Appleby Line	40%	35%	35%	35%
North via Walker's Line	10%	10%	10%	10%
South via Walker's Line	15%	15%	15%	15%
West via Palladium Way	5%	0%	0%	5%
Total	100%	100%	100%	100%



Traffic Conditions

Traffic Forecast

A five-year horizon (2036) from the estimated build-out of the site (2031) has been used to assess intersection operations. The likely future traffic volumes near the subject site are estimated to consist of:

- ♦ Increased non-site traffic (generalized background traffic growth); and
- ♦ Traffic generated by the subject site.

A generalized background growth rate of two percent per annum was used. Additionally, five nearby developments were identified for inclusion in the traffic forecast. These developments include:

- ♦ **3399 Appleby Line**, a proposed industrial building with a total floor area of approximately 17,652 m². The site traffic volumes are based on the TIS⁸ for the site;
- ♦ **3402-3416 Appleby Line**, a proposed industrial building with a total floor area of approximately 30,234 m². The site traffic volumes are based on the TIS⁹ for the site;
- ♦ **4103 Palladium Way**, a proposed retirement home with 115 units, a long-term care facility with 256 beds, a medical office with approximately 150 m² of GFA, a pharmacy with approximately 100 m² GFA, and a day care with approximately 705 m² GFA. The site traffic volumes are based on the TIS¹⁰ for the site;
- ♦ **4721 Palladium Way**, a proposed Islamic Place of Worship with a small office component. The site traffic volumes are based on the TIS¹¹ for the site;
- ♦ **4853 Palladium Way**, a proposed set of 10 employment blocks with approximately 24,498 m² of GFA. The site traffic volumes are based on the TIS¹² for the site;
- ♦ **4853 Thomas Alton Boulevard**, a proposed 612-unit residential development. The site traffic volumes are based on the TIS¹³ for the site; and

⁸ Paradigm Transportation Solutions Limited, *3399 Appleby Line, City of Burlington, Transportation Impact Study*, (Cambridge: Paradigm, 2022).

⁹ JD Northcote Engineering Inc., *3402-3416 Appleby Line, City of Burlington, Traffic Impact and TDM Study*, (Barrie: JD Northcote, 2023).

¹⁰ GHD Limited, *4103 Palladium Way, Traffic Impact Study, Better Life Development*, (Mississauga: GHD, 2024).

¹¹ Paradigm Transportation Solutions Limited, *4721 Palladium Way, Transportation Impact Study & TDM Options Report*, (Cambridge: Paradigm, 2017).

¹² Paradigm Transportation Solutions Limited, *Block 23 20M-1034, 4853 Palladium Way, Transportation Impact Study*, (Cambridge: Paradigm, 2016).

¹³ Paradigm Transportation Solutions Limited, *4853 Thomas Alton Boulevard, Transportation Impact Study, Parking Study & TDM Options Report*, (Cambridge: Paradigm, 2016).



- ♦ **4883 Thomas Alton Boulevard**, a proposed single-storey commercial development with a total of 1,888 m² of gross floor area for restaurant, retail, and daycare uses. The site traffic volumes are based on the TIS¹⁴ for the site.

Appendix E contains the forecast background development traffic volumes. **Figure 7** and **Figure 8** (attached) illustrate the background and total traffic volumes, respectively.

Traffic Operations

Table 4 and **Table 5** summarize the five-year operational results for background and total traffic, respectively.

In summary, the study area intersections are forecast to operate at acceptable levels of service under background and total traffic conditions. Although, the westbound left-turn movement at the intersection of Walker's Line and Palladium Way is forecast to operate at LOS F with a v/c ratio greater than 1.00 and have a 95th percentile queue length that exceeds its storage length during the PM peak hour. This movement becomes critical under background traffic conditions (without site generated traffic). The additional turn lane storage required to accommodate the 95th percentile queue can be provided within the existing two-way left-turn lane on Palladium Way.

Appendix F and **Appendix G** contain the detailed Synchro 12 reports for background and total traffic conditions, respectively.

¹⁴ Paradigm Transportation Solutions Limited, *4883 Thomas Alton Boulevard, Transportation Impact Study*, (Cambridge: Paradigm, 2025).



TABLE 4: FIVE-YEAR BACKGROUND TRAFFIC OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Walker's Line & Palladium Way	TWSC	LOS	B	C	>	C 18	D	B	>	C 23	A	A	>	A 0	A	A	>	A 1	A 5
			Delay	14	19	>		25	15	>		8	0	>		9	0	>		
			V/C	0.03	0.13	>		0.45	0.07	>		0.01	0.09	>		0.03	0.10	>		
			Q	1	3	>		17	2	>		0	0	>		1	0	>		
Appleby Line & Palladium Way/Harrison Crescent	TCS	Stor.	30	-	>	55	-	>	45	-	>	30	-	>						
		Avail.	29	-	>	38	-	>	45	-	>	29	-	>						
		LOS	D	C	>	D 35	C	C	>	C 30	A	A	>	A 6	B	B	>	B 12	B 11 0.57	
		Delay	38	30	>		31	30	>		6	6	>		11	12	>			
V/C	0.61	0.08	>	0.10	0.02		>	0.44	0.27		>	0.14	0.32		>					
Q	35	13	>	8	6		>	22	30		>	11	43		>					
Walker's Line & Palladium Way	TWSC	Stor.	80	-	>	60	-	>	95	-	>	70	-	>						
		Avail.	45	-	>	52	-	>	73	-	>	59	-	>						
		LOS	C	B	>	B 14	F	C	>	F 73	A	A	>	A 1	A	A	>	A 0	D 25	
		Delay	17	14	>		89	18	>		8	0	>		8	0	>			
V/C	0.00*	0.09	>	1.01	0.26		>	0.03	0.12		>	0.00*	0.12		>					
Q	0	2	>	85	8		>	1	0		>	0	0		>					
Appleby Line & Palladium Way/Harrison Crescent	TCS	Stor.	30	-	>	55	-	>	45	-	>	30	-	>						
		Avail.	30	-	>	-30	-	>	44	-	>	30	-	>						
		LOS	D	C	>	D 40	D	C	>	D 36	A	A	>	A 7	B	B	>	B 14	B 16 0.74	
		Delay	48	34	>		38	33	>		9	7	>		12	14	>			
V/C	0.73	0.18	>	0.49	0.09		>	0.54	0.28		>	0.14	0.43		>					
Q	52	19	>	28	13		>	24	38		>	11	69		>					
PM Peak Hour	Walker's Line & Palladium Way	TWSC	Stor.	80	-	>	60	-	>	95	-	>	70	-	>					
			Avail.	28	-	>	32	-	>	71	-	>	59	-	>					

MOE - Measure of Effectiveness

LOS - Level of Service

Delay - Average Delay per Vehicle in Seconds

V/C - Volume to Capacity Ratio

Q - 95th Percentile Queue Length (m)

Stor. - Existing Storage (m)

Avail. - Available Storage (m)

* - Value between 0.00 and 0.01

TCS - Traffic Control Signal

TWSC - Two-Way Stop Control

< / > - Shared with through movement



TABLE 5: FIVE-YEAR TOTAL TRAFFIC OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Walker's Line & Palladium Way	TWSC	LOS Delay V/C Q Stor. Avail.	B 15 0.03 1 30 29	C 20 0.15 4 - -	> > > > > >	C 18	D 28 0.49 19 55 36	B 15 0.08 2 - -	> > > > > >	D 26	A 8 0.01 0 45 45	A 0 0.09 0 - -	> > > > > >	A 0	A 9 0.04 1 30 29	A 0 0.10 0 - -	> > > > > >	A 1	A 5
	Appleby Line & Palladium Way/Harrison Crescent	TCS	LOS Delay V/C Q Stor. Avail.	D 38 0.62 37 80 43	C 30 0.08 13 - -	> > > > > >	D 35	C 30 0.09 8 60 52	C 30 0.02 6 - -	> > > > > >	C 30	A 6 0.50 25 95 70	A 6 0.27 31 - -	> > > > > >	A 6	B 12 0.14 11 70 59	B 12 0.34 44 - -	> > > > > >	B 12	B 12 0.59
	Palladium Way & West Site Driveway	TWSC	LOS Delay V/C Q Stor. Avail.	A 8 0.01 0 15 15	A 0 0.20 0 - -	> > > > > >	A 0	A 0 0.12 0 - -	> > > > > >	A 0						B 12 0.03 1 - -	> > > > > >	B 12	A 1	
	Palladium Way & East Site Driveway	TWSC	LOS Delay V/C Q Stor. Avail.	A 8 0.00* 0 15 15	A 0 0.21 0 - -	> > > > > >	A 0	A 0 0.12 0 - -	> > > > > >	A 0						B 13 0 0 - -	> > > > > >	B 13	A 0	
PM Peak Hour	Walker's Line & Palladium Way	TWSC	LOS Delay V/C Q Stor. Avail.	C 18 0.00* 0 30 30	B 14 0.09 2 - -	> > > > > >	B 15	F 104 1.06 95 55 -40	C 18 0.29 9 - -	> > > > > >	F 83	A 8 0.03 1 45 44	A 0 0.12 0 - -	> > > > > >	A 1	A 8 0.00* 0 30 30	A 0 0.12 0 - -	> > > > > >	A 0	D 30
	Appleby Line & Palladium Way/Harrison Crescent	TCS	LOS Delay V/C Q Stor. Avail.	D 48 0.75 57 80 23	C 33 0.20 20 - -	> > > > > >	D 40	D 37 0.48 28 60 32	C 32 0.09 13 - -	> > > > > >	C 35	B 11 0.59 27 95 68	A 8 0.29 41 - -	> > > > > >	A 8	B 13 0.14 11 70 59	B 15 0.45 69 - -	> > > > > >	B 15	B 17 0.76
	Palladium Way & West Site Driveway	TWSC	LOS Delay V/C Q Stor. Avail.	A 8 0.00* 0 15 15	A 0 0.10 0 - -	> > > > > >	A 0	A 0 0.26 0 - -	> > > > > >	A 0						B 13 0.13 3 - -	> > > > > >	B 13	A 1	
	Palladium Way & East Site Driveway	TWSC	LOS Delay V/C Q Stor. Avail.	A 8 0.00* 0 15 15	A 0 0.13 0 - -	> > > > > >	A 0	A 0 0.26 0 - -	> > > > > >	A 0						B 14 0.01 0 - -	> > > > > >	B 14	A 0	

MOE - Measure of Effectiveness

LOS - Level of Service

Delay - Average Delay per Vehicle in Seconds

V/C - Volume to Capacity Ratio

Q - 95th Percentile Queue Length (m)

Stor. - Existing Storage (m)

Avail. - Available Storage (m)

* - Value between 0.00 and 0.01

TCS - Traffic Control Signal

TWSC - Two-Way Stop Control

< / > - Shared with through movement



Remedial Measures

The site driveway intersections with Palladium Way are forecast to operate at acceptable levels of service. No geometric changes or traffic control improvements are required at the proposed driveway intersections. The existing centre two-way left-turn lane is sufficient to accommodate turning movements. Stop control on the driveway approaches to Palladium Way is an appropriate form of traffic control.

The following section examines the potential need for traffic control improvements at the intersection of Walker’s Line and Palladium Way.

Traffic Signal Control

The need for traffic control improvements is assessed using the Ontario Traffic Manual (OTM Book 12) signal warrant¹⁵ procedures. The signal warrants detail three cases. Case 1 applies when the threshold exceeds 200%, in which case a signal is undoubtedly warranted. Case 2 applies when the threshold falls between 100% and 199%, where a signal might be warranted. Case 3 applies when the threshold is less than 100%, indicating that a signal is unlikely to be warranted.

Table 6 summarizes the OTM signal warrants for the Palladium Way and Walker’s Line intersection. Based on the volume warrant analysis under total traffic conditions, traffic control signals are not warranted. No change to the existing form of traffic control is recommended at this time. **Appendix H** contains the warrant analysis.

TABLE 6: OTM WARRANT SUMMARY

Intersection	OTM Warrant				Case
	1A	1B	2A	2B	
Palladium Way and Walker’s Line	58%	93%	41%	177%	Case 3 No

¹⁵ Ontario Ministry of Transportation, *Ontario Traffic Manual Book 12: Traffic Signals*, (Toronto: Queen’s Printer for Ontario, 2024).

Parking

The municipal parking requirements for this development are governed by City of Burlington Zoning By-law 2020¹⁶ with the subject site designated as BC1-319 (Business Corridor).

Parking Supply

The site's proposed vehicular parking supply is 196 spaces (1.10 spaces per 100 m² GFA).

On site bicycle parking is provided in the form of 24 short-term bicycle parking spaces (0.13 spaces per 100 m² GFA). In lieu of a bicycle storage room for the required long-term bicycle parking, all 24 short-term bicycle parking spaces are weather protected and located near the main entrances.

Required Bicycle Parking Supply

The minimum bicycle parking requirements under Burlington City-Wide Parking Standards Review¹⁷ are as follows:

- ♦ **Industrial:** 2 short-term spaces plus 1 space per 1,000 m² gross floor area.
- ♦ **Employment Uses:** 2 short-term spaces plus 1 space per 1,000 m² gross floor area and 1 long-term space per 1,000 m² gross floor area

Based on these rates, a minimum bicycle parking supply of 24 bicycle parking spaces, comprised of 22 short-term and 2 long-term bicycle parking spaces are required. With 24 proposed short-term and zero proposed long-term bicycle parking spaces, the bicycle parking supply meets the requirement, but is deficient in long-term bicycle parking spaces.

In correspondence with the City, Transportation Planning noted that they would accept the proposed parking supply if all 24 short-term bicycle parking are weather protected and remain near the main entrances. This is illustrated on the site plan.

Required Vehicular Parking Supply

The minimum parking rates for the proposed development under Zoning By-law 2020¹⁸ require 2 vehicular spaces per 100 m² of gross floor area.

Table 7 summarizes the minimum required vehicular parking standard calculations.

The zoning by-law mandates a minimum vehicular parking supply of 357 spaces. With 196 proposed vehicular parking spaces, the site's parking supply is below the zoning by-law requirement by 161 parking spaces.

¹⁶ City of Burlington Zoning By-law 2020, § part 16.

¹⁷ IBI Group, *Burlington City-Wide Parking Standards Review*, (Burlington: IBI Group, 2017).

¹⁸ Ibid.



TABLE 7: ZONING BY-LAW 2020 VEHICULAR PARKING SUMMARY

Land Use	GFA	Rate	Weekday
Multi-Unit Business Park	17.81k m ²	2 spaces per 100 m ² GFA	357 spaces
Supply			196 spaces
Surplus/Deficit			-161 spaces

Forecast Parking Demand

The Institute of Transportation Engineers (ITE) *Parking Generation Manual*¹⁹ was referenced to estimate the peak hour vehicular parking demands generated by the development. Specifically, the trip rates for Land Use Code (LUC) 140 – Manufacturing and LUC 150 – Warehouse were used to estimate the forecast parking demand. **Table 8** summarizes the estimated parking demand for the development. The higher of the average parking rate and the fitted parking rate was used to remain conservative.

The site's parking demand is estimated at approximately 130 spaces. With 196 spaces proposed, the planned parking supply exceeds the expected demand. This results in an estimated surplus of about 66 spaces.

TABLE 8: ITE VEHICULAR PARKING SUMMARY

Land Use	GFA	Weekday
LUC 140 Manufacturing	106.54k sq. ft.	98 spaces
LUC 150 Warehouse	85.11k sq. ft.	31 spaces
Total	190.8 k sq. ft.	129 spaces
Supply		196 spaces
Surplus/Deficit		+67 spaces

$LUC\ 140: P = 0.92(X)$ | $LUC\ 150: P = 0.37(X)$

P represents forecast weekday (Monday-Friday) demand in parking spaces; *X* represents 1,000 sq. ft. GFA.

Summary

The site proposes 196 vehicular parking spaces and 24 bicycle parking spaces. The zoning by-law mandates a total of 357 vehicular parking spaces. The proposed parking supply results in a deficit of 161 spaces compared to zoning by-law requirements. The bicycle parking supply meets minimum parking supply requirements.

¹⁹ Institute of Transportation Engineers, *Parking Generation Manual*, 6th ed., (Washington DC: ITE, 2023).



Based on the parking demand forecasts (129 spaces), the planned parking supply (196 spaces) should adequately serve the demand with a surplus of approximately 67 spaces.

Conclusions and Recommendations

Based on the investigations carried out, it is concluded that:

- ♦ **Existing Traffic Conditions:** The study area intersections are currently operating at acceptable levels of service with all movements within capacity.
- ♦ **Heavy Vehicle Circulation:** All design vehicles assessed can navigate through their indented areas of the site without any geometric conflicts.
- ♦ **Site Trip Generation:** The proposed development is forecast to generate 76 and 89 vehicle trips during the weekday AM and weekday PM peak hours, respectively. It is also noted that the development generates 5 and 4 heavy vehicle trips during the weekday AM and weekday PM peak hours (included within the trip generation for all vehicles).
- ♦ **Future Background and Total Traffic Conditions:** The study area intersections are expected to operate at acceptable levels of service under both background and total traffic conditions. The exception is the westbound left-turn movement at Walker's Line and Palladium Way, which is forecast to operate at LOS F with a v/c ratio greater than 1.00 and have a 95th percentile queue length that exceeds its storage. Additional queue storage can be accommodated by the existing centre two-way left-turn lane.
- ♦ **Traffic Control Signal Warrant:** A traffic control signal is not warranted at the intersection of Walker's Line and Palladium Way.
- ♦ **Parking:** The site's proposed parking supply (196 spaces) is less than the City's Zoning requirements. The site's parking generation is forecast to be approximately 129 spaces based on ITE parking generation data, resulting in an estimated surplus of approximately 67 spaces. The excess parking capacity provides flexibility to absorb potential variations in demand over time or modest changes in site usage without the need for additional parking.

Based on the findings of this study, it is recommended that the development be considered for approval. No external roadway improvements, including traffic control measures or turn lanes, are required on the study area roadways.

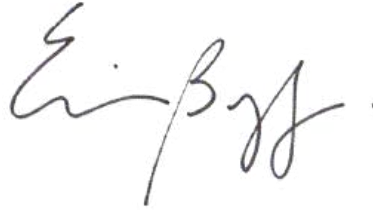


Yours very truly,

PARADIGM TRANSPORTATION SOLUTIONS LIMITED



Scott Catton
C.E.T.
Operations Principal, Golden Horseshoe

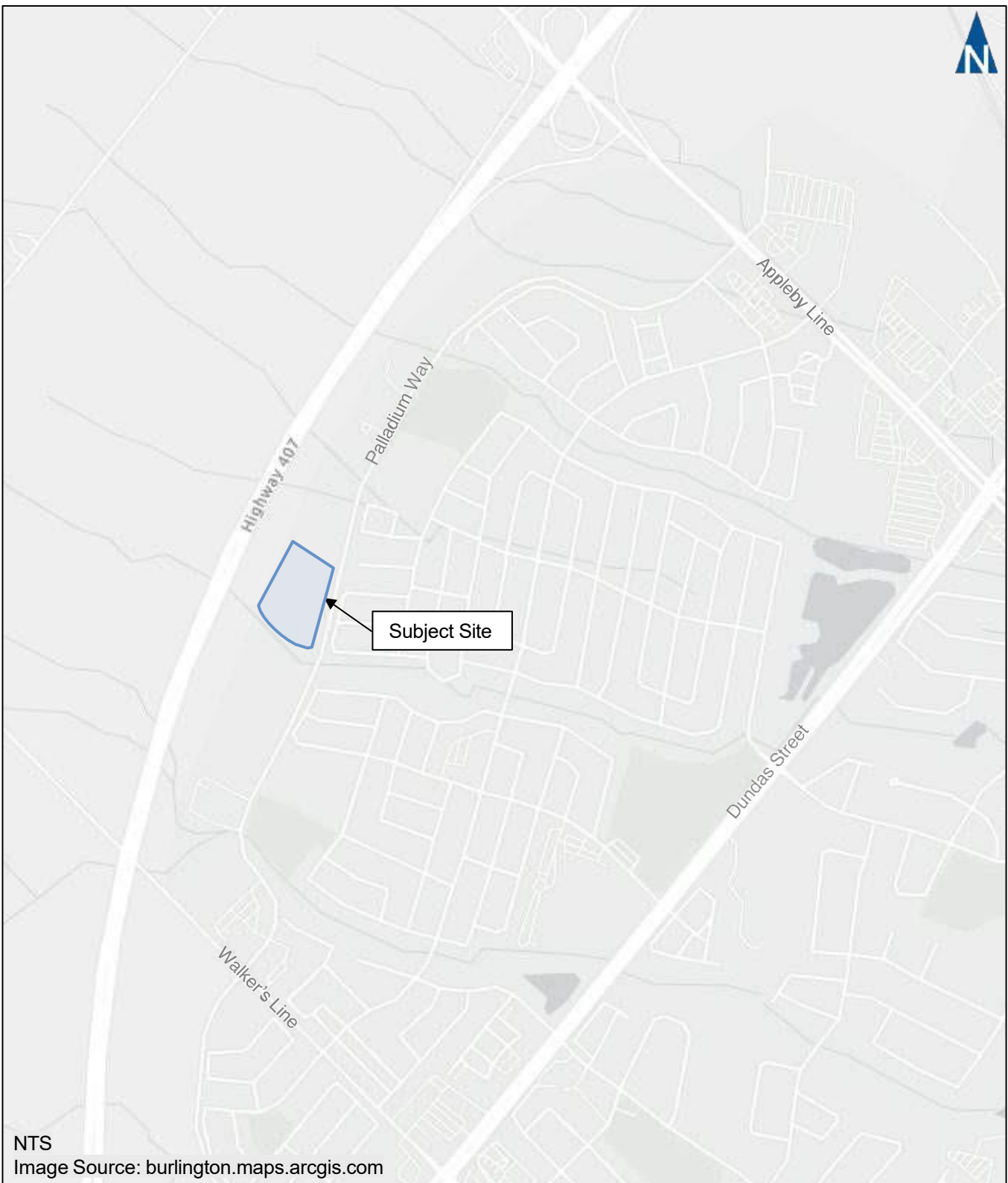


Erica Bayley
P.Eng.
Executive Principal, Business Development



Attachments





Site Location

4301 Palladium Way, TB
260094

Figure 1



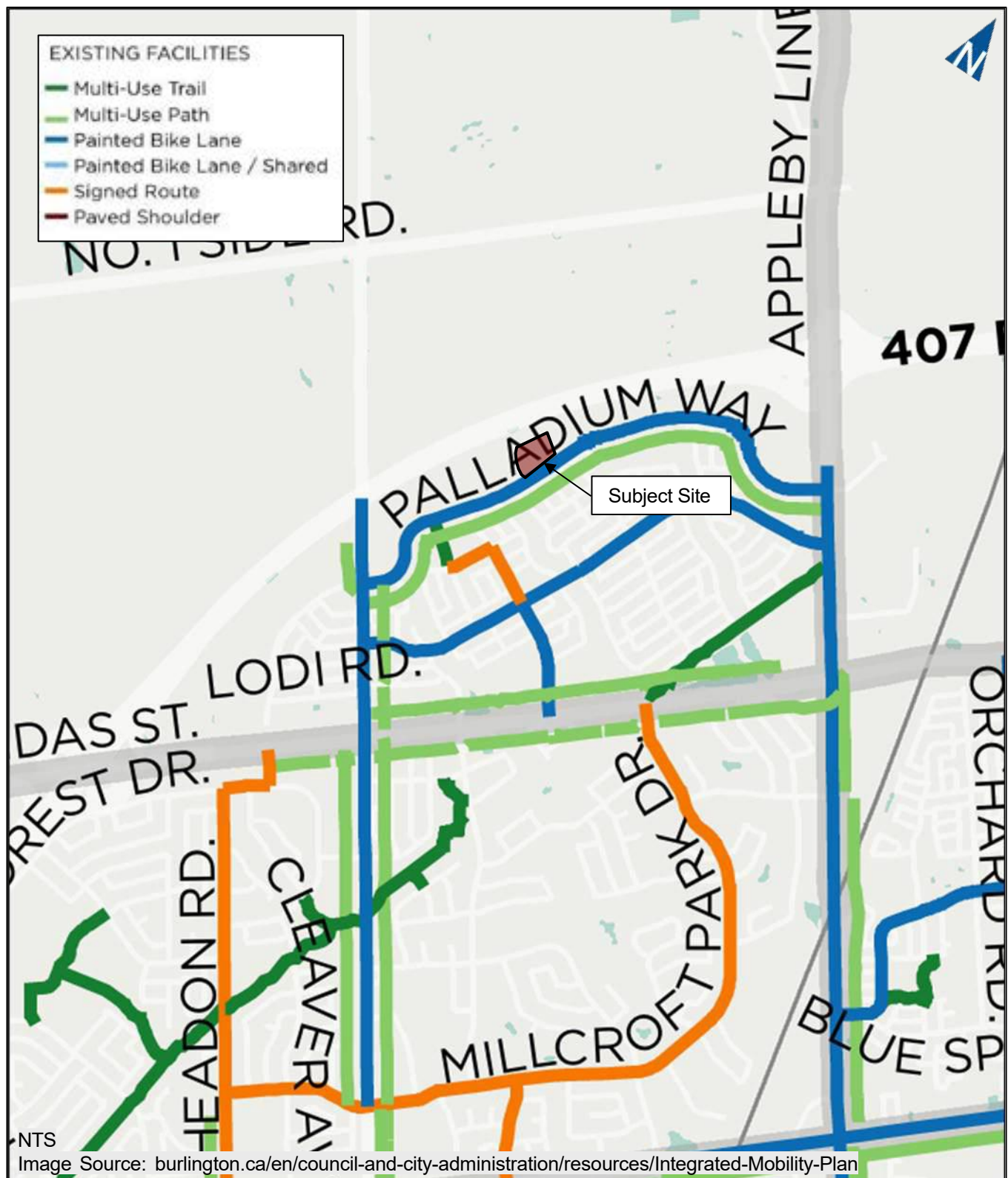
NTS



4301 Palladium Way, TB
260094

Site Concept Plan

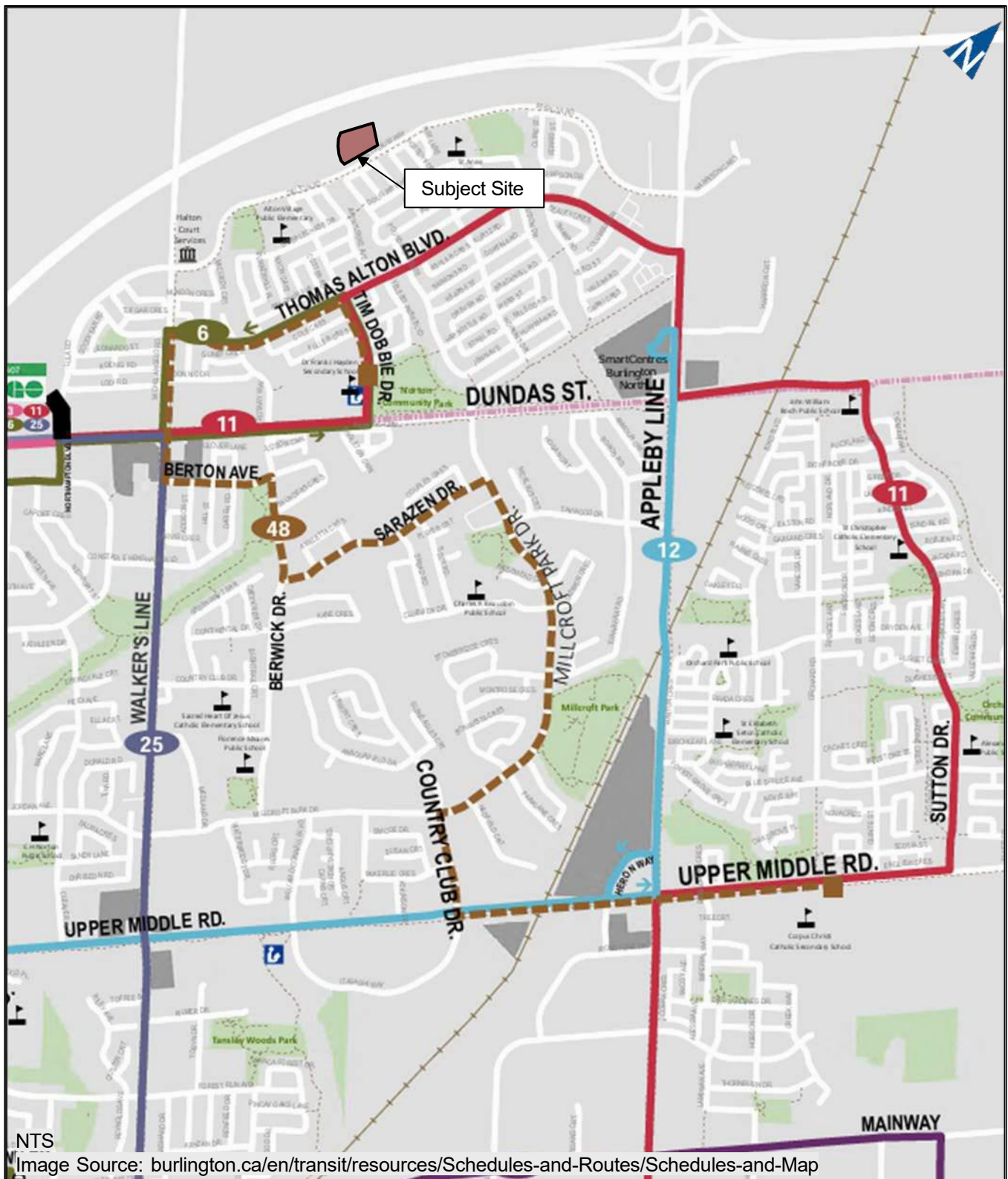
Figure 2



Existing Cycling Network

4301 Palladium Way, TB
260094

Figure 3



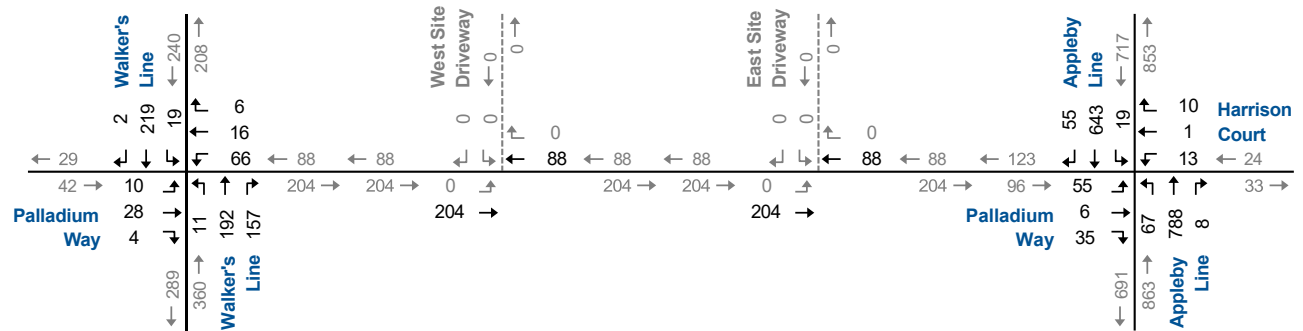
Existing Transit Network

4301 Palladium Way, TB
260094

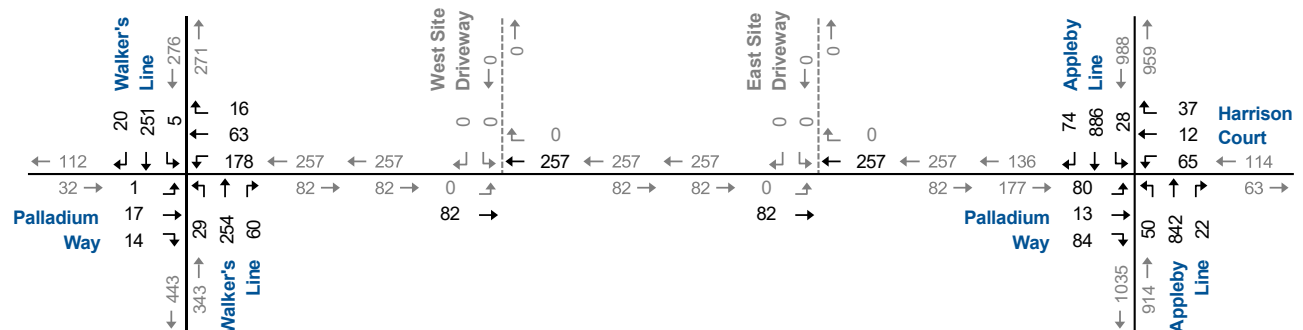
Figure 4



AM Peak Hour



PM Peak Hour



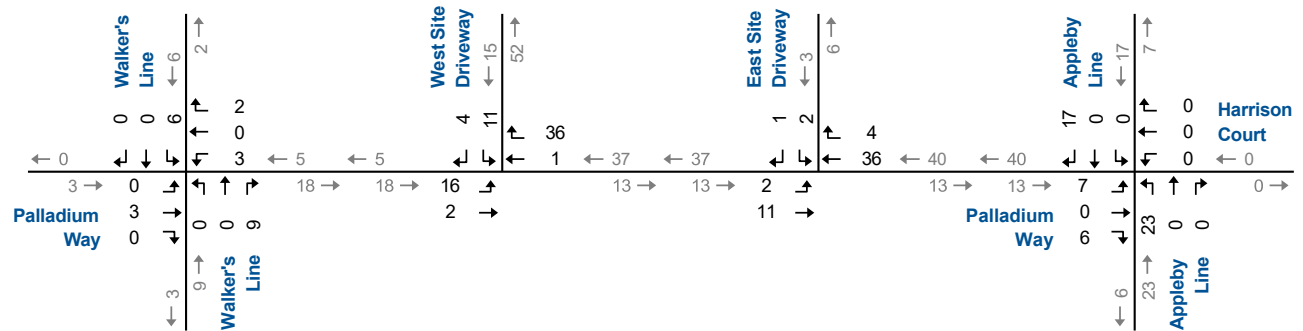
Existing Traffic Volumes

4301 Palladium Way, TB
260094

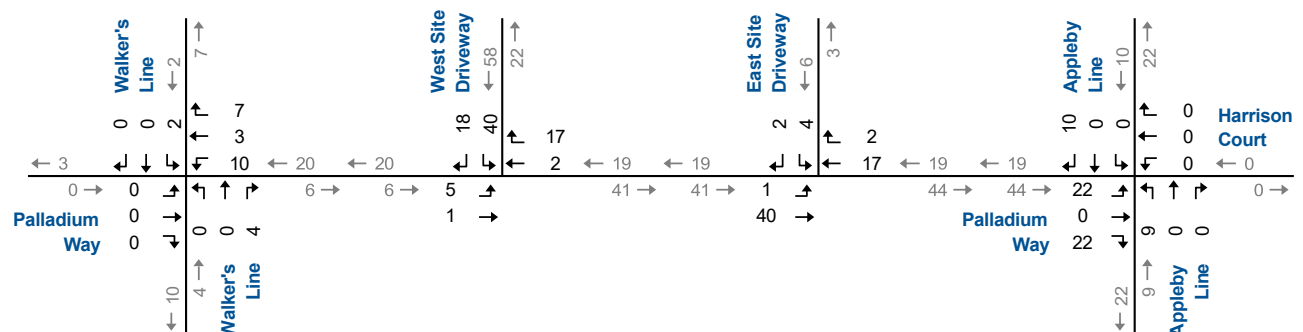
Figure 5



AM Peak Hour



PM Peak Hour

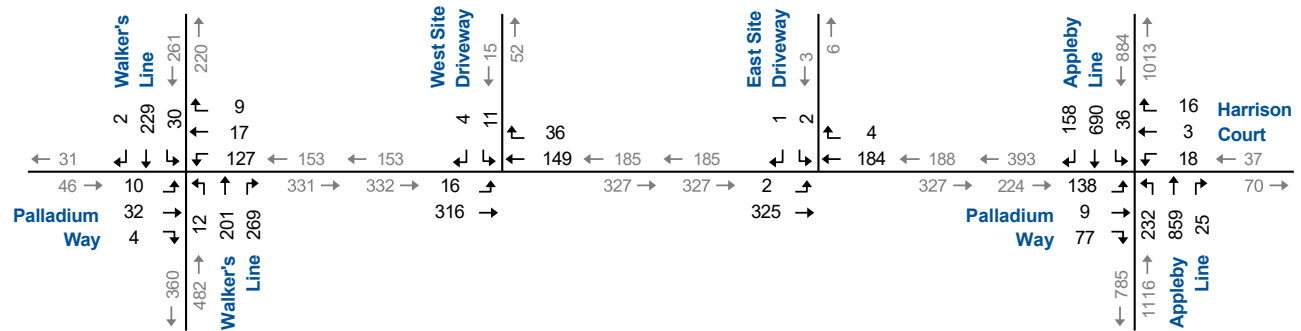


Site Generated Traffic Volumes

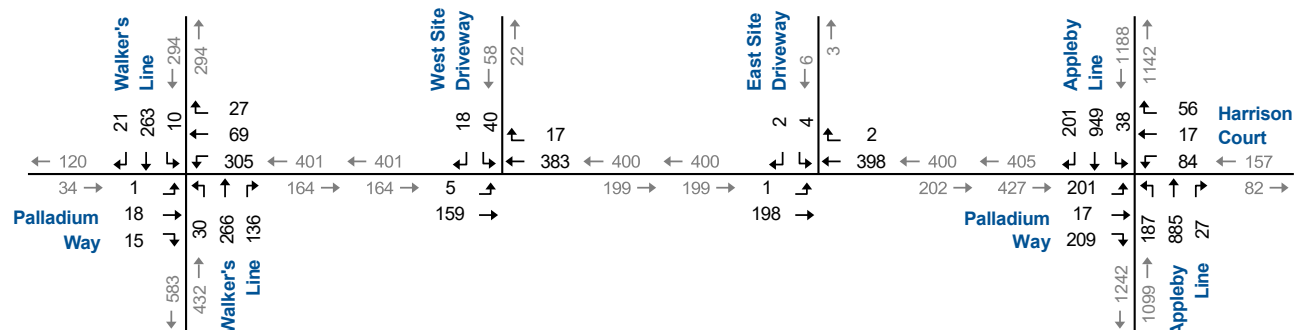




AM Peak Hour



PM Peak Hour



Five-Year Total Traffic Volumes

4301 Palladium Way, TB
260094

Figure 8

Appendices



Appendix A

Pre-Study Consultation



From: [Chen, Enosh](#)
To: [Drew Cobean](#)
Cc: [Scott Catton](#); [Lucas, Sandra](#); [Mailbox, Transportation Planning](#)
Subject: Re: (260094) 4301 Palladium Way, City of Burlington
Date: March 9, 2026 08:17:23
Attachments: [image001.png](#)
[Outlook-logo.png](#)

Hi Drew,

Thanks for your email.

Transportation Planning are currently reviewing the Terms of Reference. Thank you for your patience.

Kind regards,

Enosh Chen

Transportation Planning Technologist

Transportation Services Department

(905) 335 7600 ext. 7162

enosh.chen@burlington.ca



Our working hours may be different.

You are not obligated to reply outside of your typical working hours.

From: Pillay, David (MTO) <David.Pillay@ontario.ca>
Sent: Thursday, March 5, 2026 3:54 PM
To: Drew Cobean <dcobean@ptsl.com>; Chen, Enosh <Enosh.Chen@burlington.ca>
Cc: Scott Catton <scatton@ptsl.com>
Subject: RE: (260094) 4301 Palladium Way, City of Burlington

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Drew,

Thanks for reaching out, we do not have any concerns regarding the terms of reference.

Thank you,

David Pillay

Corridor Management Planner, Peel/Halton | Highway Corridor Management
Section

Ministry of Transportation | Ontario Public Service

416-508-8745

From: Drew Cobean <dcobean@ptsl.com>

Sent: March 5, 2026 3:29 PM

To: Enosh.chen@burlington.ca; Pillay, David (MTO) <David.Pillay@ontario.ca>

Cc: Scott Catton <scatton@ptsl.com>

Subject: RE: (260094) 4301 Palladium Way, City of Burlington

**CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you
recognize the sender.**

Hi All,

Just following up to confirm if the proposed terms of reference are acceptable.

Thanks,

Drew Cobean

Transportation Consultant



Paradigm Transportation Solutions Limited

5A-150 Pinebush Road, Cambridge ON N1R 8J8

dcobean@ptsl.com | (226) 220-3786 | www.ptsl.com

From: Drew Cobean

Sent: February 19, 2026 2:04 PM

To: 'Enosh.chen@burlington.ca' <Enosh.chen@burlington.ca>; Pillay, David (MTO)
<david.pillay@ontario.ca>

Cc: Scott Catton <scatton@ptsl.com>

Subject: (260094) 4301 Palladium Way, City of Burlington

Greetings,

Paradigm has been retained to conduct a Transportation Brief for a proposed two-unit industrial building at 4301 Palladium Way in the City of Burlington.

The lands along Palladium Way are nearing full build-out with 4301 Palladium Way

being one of the last parcels to be developed.

Within the preliminary development concept, Unit 1 contains 9,995 m² of gross floor area (GFA) and is proposed for manufacturing use. Unit 2 contains 7,773 m² GFA, proposed for warehousing use. In total, the development contains 17,728 m² GFA. The site is proposed to be served by a parking supply of 195 vehicular parking spaces and 20 bicycle parking spaces.

Vehicle access is proposed via two driveways to Palladium Way: one for general traffic and one for heavy vehicles (loading zones).

Based on the pre-consultation comments a traffic brief has been requested as the site is forecast to generate less than 100 peak hour vehicle trips. We would like to prepare the brief with the following scope, subject to your comments:

PROPOSED TRAFFIC BRIEF TERMS OF REFERENCE

Analysis Periods:

- Weekday AM peak hour; and
- Weekday PM peak hour.

Trip Generation:

- ITE Trip Generation Data, 12th Edition estimates using appropriate Land Use Codes.
- No modal split reductions.
- Preliminary calculations based on the proposed land uses forecast 78 and 89 future AM and PM peak hour trips, respectively. Of these, 7 AM and 4 PM are forecast to be heavy vehicle trips.

Land Use	GFA	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
LUC 140 - Manufacturing	9,995 m ²	42	14	56	17	43	60
LUC 150 - Warehouse	7,773 m ²	17	5	22	8	21	29
Total Trip Generation		59	19	78	25	64	89

Site Traffic Distribution:

- Existing Traffic Patterns/TTS.

Traffic Operations

- Detailed traffic operations are not proposed to be conducted due to the site's low trip generation. A qualitative assessment of the traffic impacts will be provided.

Truck Turning Assessment

- Site access and circulation will be analyzed using AutoTURN for appropriate design vehicles (Fire Truck, Tractor Trailer, and Garbage truck).

Parking Study

- The estimated parking demand will be determined using ITE Parking Generation Data, 6th Edition, and the required number of on-site parking spaces will be identified.

Letter Report:

- Report documenting the study methodologies, findings, conclusions, and recommendations.

Thanks,

Drew Cobean

Transportation Consultant



Paradigm Transportation Solutions Limited
5A-150 Pinebush Road, Cambridge ON N1R 8J8
dcobean@ptsl.com | (226) 220-3786 | www.ptsl.com

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Transportation Planning reviewed the draft Terms of Reference provided by Paradigm Transportation Solutions Limited. Transportation Planning's comments are noted in blue.

The City of Burlington follows Halton Region's 2015 Transportation Impact Study Guidelines (hereafter "TIS Guidelines").

Greetings,

Paradigm has been retained to conduct a Transportation Brief for a proposed two-unit industrial building at 4301 Palladium Way in the City of Burlington.

The lands along Palladium Way are nearing full build-out with 4301 Palladium Way being one of the last parcels to be developed.

Within the preliminary development concept, Unit 1 contains 9,995 m² of gross floor area (GFA) and is proposed for manufacturing use. Unit 2 contains 7,773 m² GFA, proposed for warehousing use. In total, the development contains 17,728 m² GFA. The site is proposed to be served by a parking supply of 195 vehicular parking spaces and 20 bicycle parking spaces.

Vehicle access is proposed via two driveways to Palladium Way: one for general traffic and one for heavy vehicles (loading zones).

Based on the pre-consultation comments a [transportation](#) brief has been requested as the site is forecast to generate less than 100 peak hour vehicle trips. We would like to prepare the brief with the following scope, subject to your comments:

PROPOSED [TRANSPORTATION](#) BRIEF TERMS OF REFERENCE

[Development Description and Study Area:](#)

- [The Consultant shall provide a description of development proposal and surrounding area based on 3.1 of the TIS Guidelines, including:](#)
 - [The most up-to-date site plan.](#)
 - [Phasing plan for the development \(if applicable\).](#)
 - [Proposed access points and allowed movements \(e.g., right-in/right-out\).](#)
 - [Existing and planned facilities: roadways, pedestrian facilities, cycling facilities, and transit facilities.](#)
 - [For transit-related questions, please reach out to Tony at \[Tony.Zhuang@burlington.ca\]\(mailto:Tony.Zhuang@burlington.ca\).](#)
 - [Study area intersections.](#)
 - [Proposed parking supply for bicycles and automobiles \(including accessible parking, compact vehicles, and electric vehicles\).](#)
 - [Proposed loading space\(s\).](#)

Analysis Periods:

- ~~Weekday AM peak hour; and~~
- ~~Weekday PM peak hour.~~
- The Transportation Consultant shall incorporate the following:
 - Horizon Years (as per 3.2.1 of the TIS Guidelines) – 5 years after full build-out.
 - Peak Hours (as per 3.2.2 of the TIS Guidelines) – Please identify the appropriate peak hours.

Trip Generation:

- ITE Trip Generation Data, 12th Edition estimates using appropriate Land Use Codes.
- No modal split reductions.
- Preliminary calculations based on the proposed land uses forecast 78 and 89 future AM and PM peak hour trips, respectively. Of these, 7 AM and 4 PM are forecast to be heavy vehicle trips.
- Please refer to 3.5 of the TIS Guidelines.

Land Use	GFA	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
LUC 140 - Manufacturing	9,995 m ²	42	14	56	17	43	60
LUC 150 - Warehouse	7,773 m ²	17	5	22	8	21	29
Total Trip Generation		59	19	78	25	64	89

- Please provide the equations used to estimate the number of trips, along with the variables that were selected.
- Please provide trip generation calculations for both vehicles and trucks.
 - Please update the table so that it displays trips by vehicles and trucks separately.

Site Traffic Distribution:

- Existing Traffic Patterns/TTS.
 - Please refer to 3.5 of the TIS Guidelines.
 - The Consultant shall identify the 2022 TAZs that were used.
 - For traffic movement or data questions, please reach out to Josip at Josip.Kafadar@burlington.ca.

Trip Assignment:

- Please refer to 3.5 of the TIS Guidelines.

Evaluation of Site Generated Traffic:

- As required by 3.6 of the TIS Guidelines, “the evaluation of impacts shall be conducted for all of the time periods of each horizon year. The existing volumes, existing plus background growth and existing plus background growth plus site-generated traffic by direction and by turning movement should be included, as well as the scenarios with and without any relevant major transportation system improvements.”

Traffic Operations:

- Detailed traffic operations are not proposed to be conducted due to the site's low trip generation. A qualitative assessment of the traffic impacts will be provided.
 - Transportation Planning require the following intersections to be analyzed in detail: (1) Palladium Way / Appleby Line; and (2) Palladium Way / Walker's Line.

Truck Turning Assessment:

- Site access and circulation will be analyzed using AutoTURN for appropriate design vehicles (Fire Truck, Tractor Trailer, and Garbage truck).
- Please provide vehicle movement drawings for both site accesses.

Parking Study:

- The estimated parking demand will be determined using ITE Parking Generation Data, 6th Edition, and the required number of on-site parking spaces will be identified.
 - Please provide the equation or reported statistics used to estimate demand.
 - Transportation Planning require the Consultant to calculate parking demand for each proposed use separately (i.e., manufacturing and warehousing).
- In addition to the ITE Parking Generation Manual (6th Edition), the Consultant may use proxy site surveys to justify reduced parking requirements. The City's minimum requirements related to proxy site surveys are as follows:
 - The Consultant shall select at least two (2) comparable proxy sites in urban Burlington. For each proxy site, the Consultant shall provide the rationale for why it was selected and whether it is comparable to the subject site, including information such as:
 - Existing land uses (including the GFA for each use),
 - Vacancy status (number of occupied vs. unoccupied units),
 - Surrounding context and transportation conditions (e.g., surrounding land uses, roadway characteristics, and availability of on-street parking), and
 - The Consultant shall explain why the parking demands would be similar between the proxy site and the subject site.
 - In addition to identifying the appropriate proxy sites, the Consultant shall explain the planned methods for conducting the surveys. Key information includes:
 - Dates and times,
 - Survey timing and intervals (e.g., time periods for surveying and 15-minute intervals),
 - Survey area, and
 - Survey type.
 - Prior to undertaking the surveys, proxy sites and methods selected by the Consultant shall be reviewed and approved by Transportation Services. Transportation Services may provide more prescriptive guidelines depending on the information provided by the Consultant.
 - The Consultant shall provide a summary of survey results and analyses to support the proposed parking supply for the subject site:
 - Key information to include in this section:

- Total on-site parking supply (e.g., make note of any compact parking spaces or accessible parking spaces),
- Peak utilization rate (i.e., parking demand relative to total parking capacity),
- Observed parking demand for both peak and off-peak hours (e.g., on-street parking, off-street parking, illegal parking, adjusted peak parking demand, and observed duration of peak hours), and
- Peak parking demand ratio (e.g., parking demand per unit of occupied GFA).
- The Consultant shall project future parking demand for the subject site to evaluate whether the proposed parking supply will be sufficient to accommodate the demand.

Mitigative Measures

- Please refer to 3.9 of the TIS Guidelines for the following: (1) required roadway and traffic signal improvements, and (2) preliminary cost estimates.
 - For questions about traffic signals, please contact Steve at Steve.Vrakela@burlington.ca.
- Transportation Demand Management and Implementation Strategy: the Consultant shall propose a list of TDM measures, along with a description of how each TDM measure is context-sensitive and effective, the responsible proponent for the implementation of the TDM measure, location (e.g., on-site vs. off-site), and anticipated effectiveness.
 - Quantify the effectiveness of proposed TDM measures by referencing studies (peer-reviewed studies are preferred).

Conclusions and Recommendations:

- Please provide a summary as per 3.10 of the TIS Guidelines.

Appendices:

- The following section is intended to include any information referenced in the Transportation Brief, which may include but is not limited to:
 - Approved Terms of Reference,
 - Traffic data,
 - Data related to the parking surveys and analyses,
 - Synchro reports,
 - ITE Trip Generation (variables and graphs),
 - ITE Parking Generation (variables and graphs),
 - TTS 2022 data (query forms and additional calculations, if applicable), and
 - Any assumptions applied to the analyses.

Letter Report:

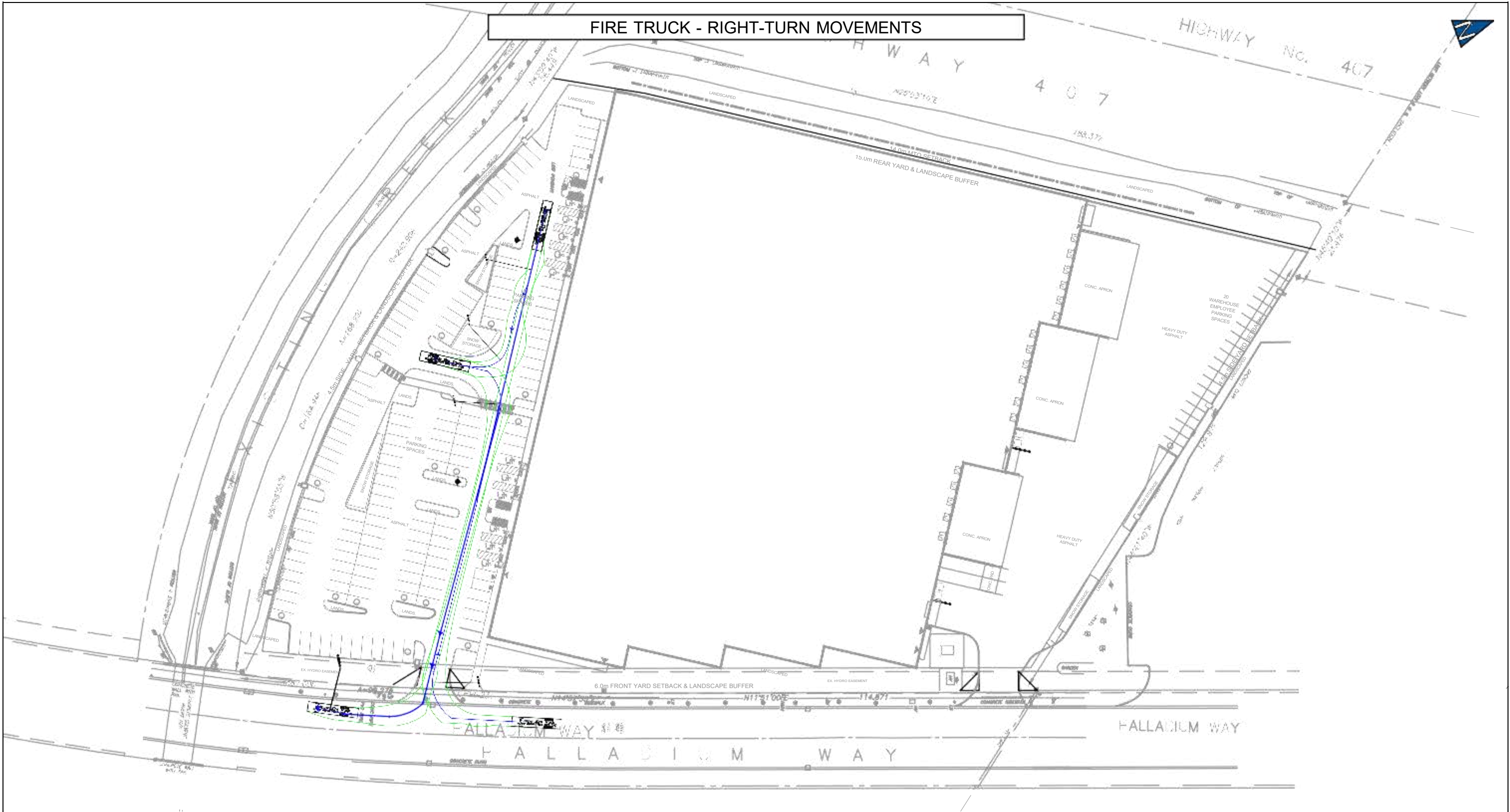
- Report documenting the study methodologies, findings, conclusions, and recommendations.
- The Consultant shall submit digital files for analyses, including Synchro working files, as per 4.0 of the TIS Guidelines.

Appendix B

AutoTURN Assessment



THIS AUTOTURN SWEEP PATH ANALYSIS HAS BEEN PREPARED USING BASE PLANS PROVIDED BY OTHERS. THE PRACTITIONER HAS NOT INSPECTED THE ACCURACY AND/OR THE COMPLETENESS OF THESE BASE PLANS AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.



NO.	DATE	INITIAL	REVISION DETAIL
02	AUG 2026	SC	LEFT-IN / LEFT-OUT MOVEMENTS SEPARATED FROM RIGHT-TURN MOVEMENTS
01	JUNE 2026	DC	LEFT-IN / LEFT-OUT MOVEMENTS

DESIGN VEHICLE:

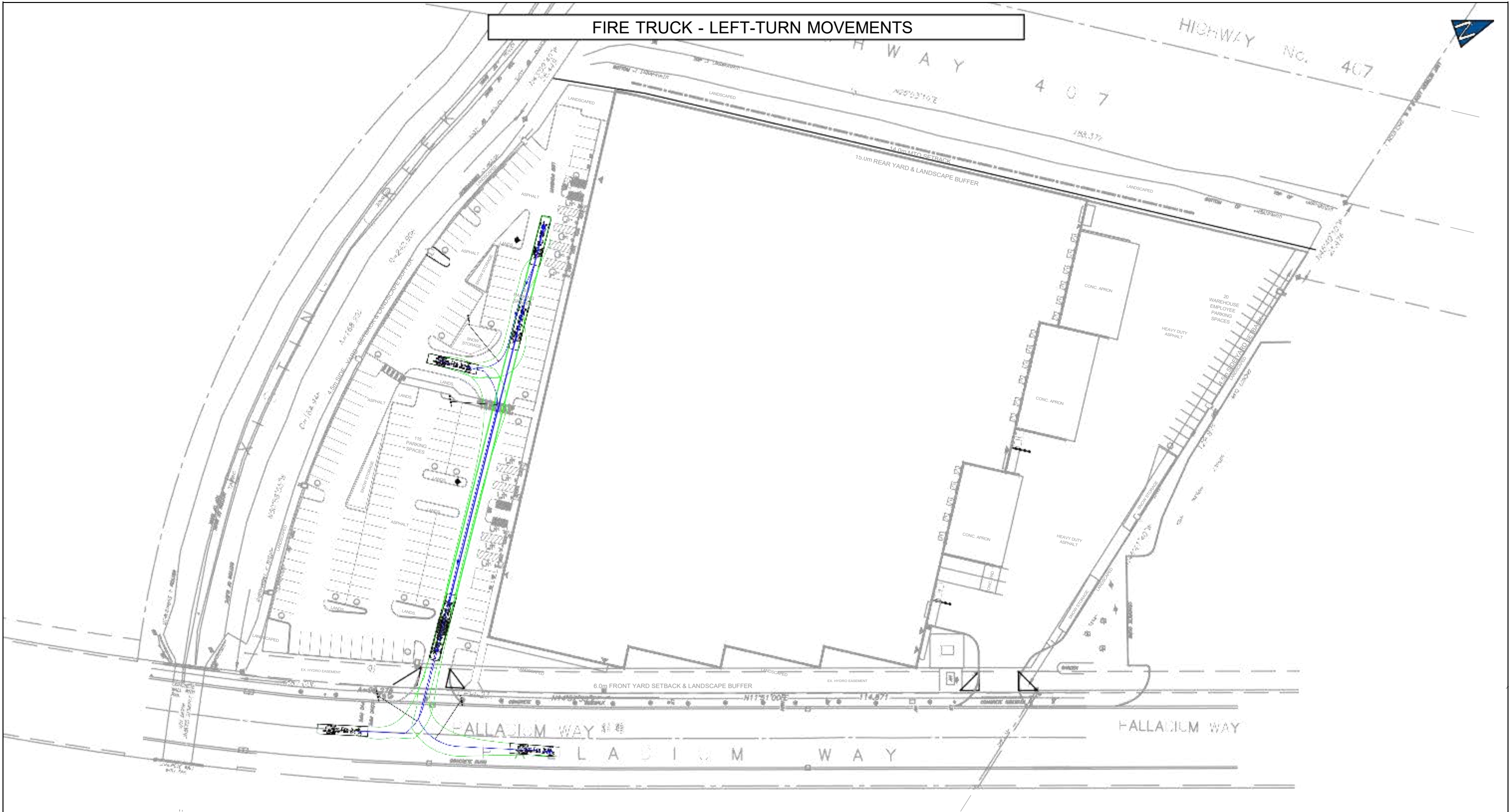
Pumper Fire Truck

Width	: 2.59
Track	: 2.59
Lock to Lock Time	: 6.0
Steering Angle	: 106°

AUTOTURN ASSESSMENT
4301 PALLADIUM WAY
CITY OF BURLINGTON

PROJECT NO.: 260094	DATE: MAY 2026	SCALE: 1:1000	DRAWING NO.: 01
DESIGN: DC	DRAWN: DC	CHECK: SC	

THIS AUTOTURN SWEEP PATH ANALYSIS HAS BEEN PREPARED USING BASE PLANS PROVIDED BY OTHERS. THE PRACTITIONER HAS NOT INSPECTED THE ACCURACY AND/OR THE COMPLETENESS OF THESE BASE PLANS AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.



02	AUG 2026	SC	LEFT-IN / LEFT-OUT MOVEMENTS SEPARATED FROM RIGHT-TURN MOVEMENTS
01	JUNE 2026	DC	LEFT-IN / LEFT-OUT MOVEMENTS
NO.	DATE	INITIAL	REVISION DETAIL

DESIGN VEHICLE:

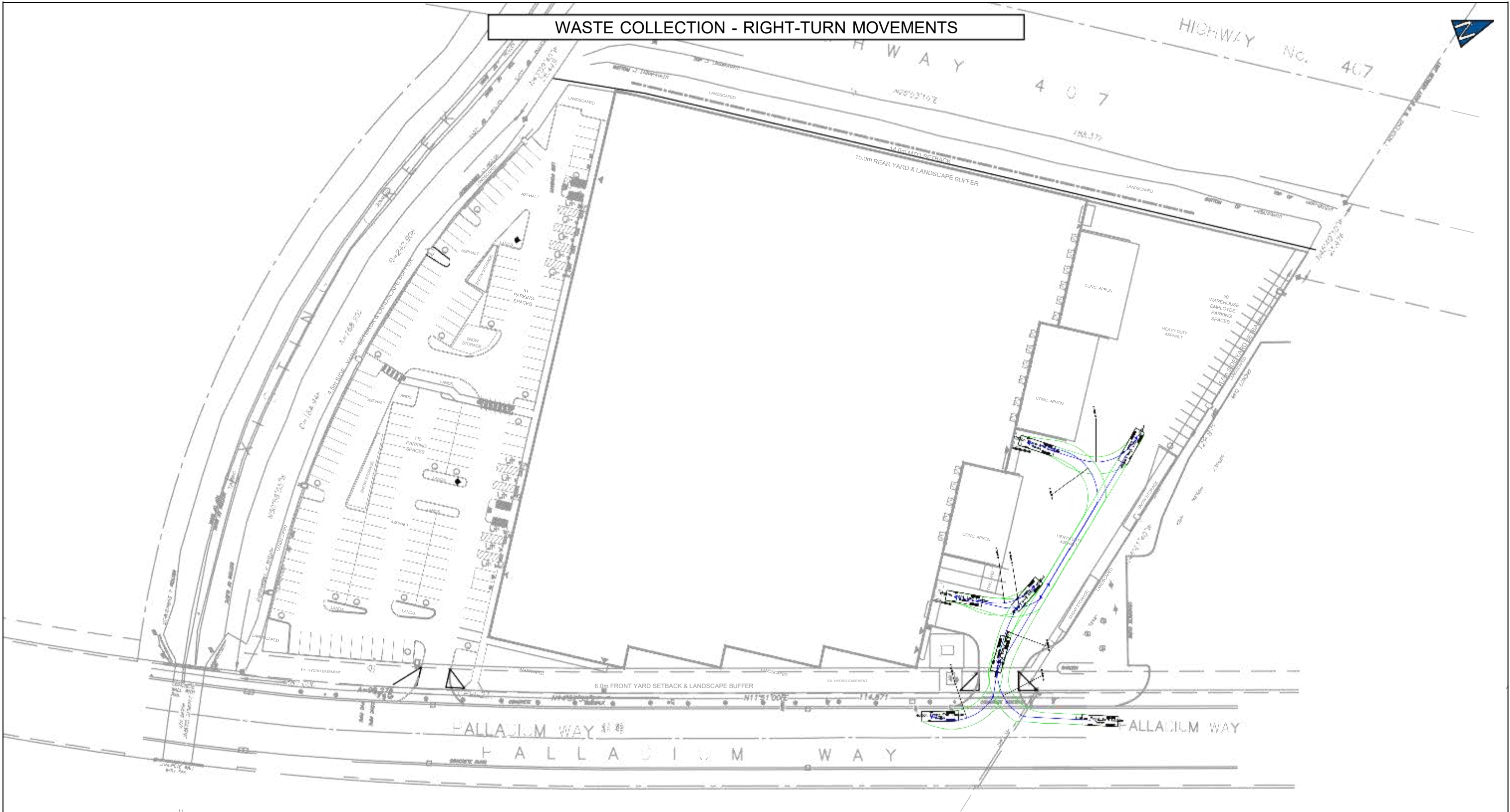
Pumper Fire Truck

Width	: 2.59
Track	: 2.59
Lock to Lock Time	: 6.0
Steering Angle	: 107.8

AUTOTURN ASSESSMENT
4301 PALLADIUM WAY
CITY OF BURLINGTON

PROJECT NO.: 260094	DATE: MAY 2026	SCALE: 1:1000	DRAWING NO.: 02
DESIGN: DC	DRAWN: DC	CHECK: SC	

THIS AUTOTURN SWEEP PATH ANALYSIS HAS BEEN PREPARED USING BASE PLANS PROVIDED BY OTHERS. THE PRACTITIONER HAS NOT INSPECTED THE ACCURACY AND/OR THE COMPLETENESS OF THESE BASE PLANS AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.



NO.	DATE	INITIAL	REVISION DETAIL
02	AUG 2026	SC	LEFT-IN / LEFT-OUT MOVEMENTS SEPARATED FROM RIGHT-TURN MOVEMENTS
01	JUNE 2026	DC	LEFT-IN / LEFT-OUT MOVEMENTS

DESIGN VEHICLE:

Halton Front End Loader

Width : 2.70 meters
Track : 2.70 meters
Lock to Lock Time : 6.0 seconds
Steering Angle : 25.0 degrees

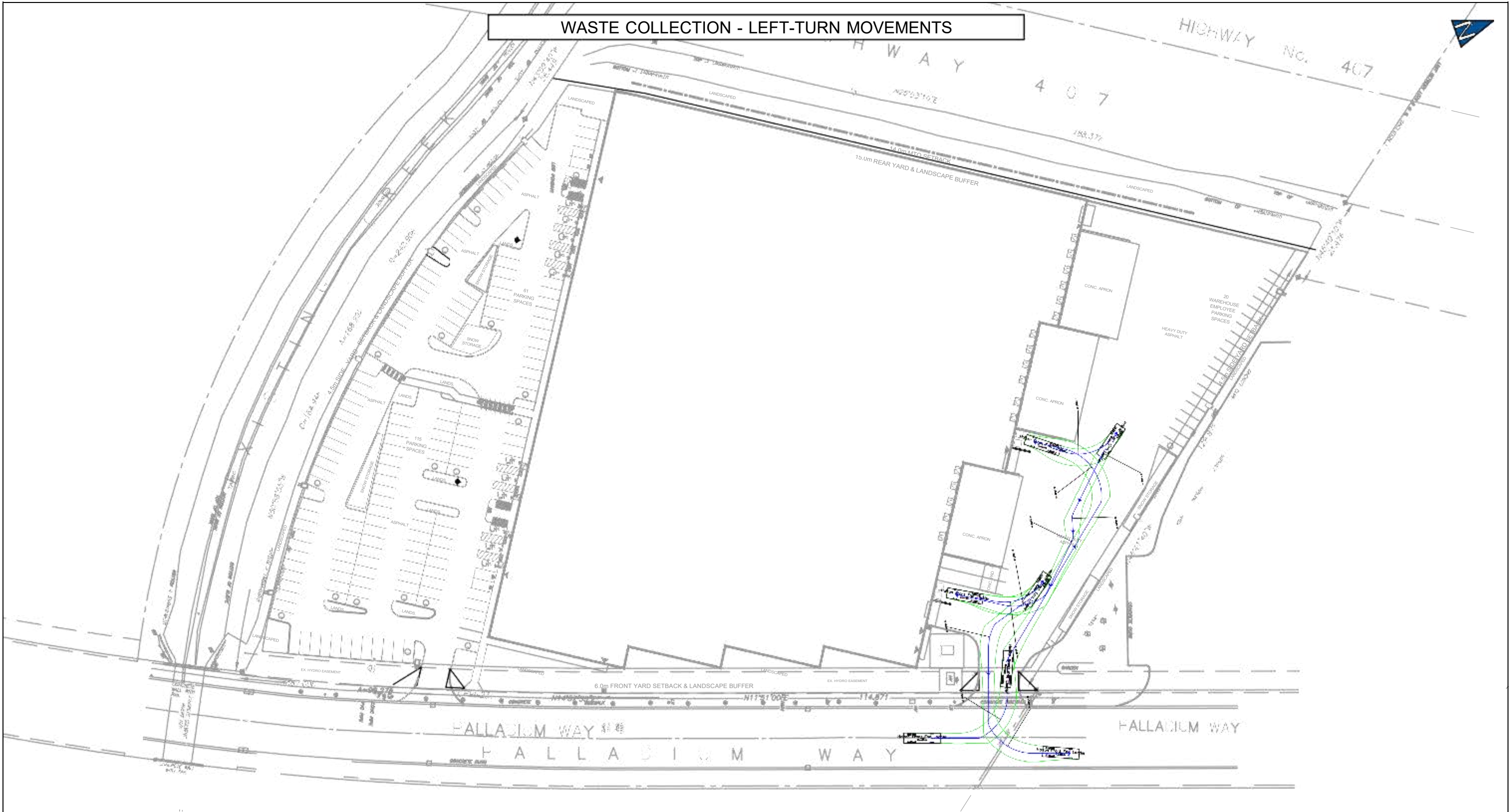
AUTOTURN ASSESSMENT

4301 PALLADIUM WAY

CITY OF BURLINGTON

PROJECT NO.: 260094	DATE: MAY 2026	SCALE: 1:1000	DRAWING NO.: 03
DESIGN: DC	DRAWN: DC	CHECK: SC	

THIS AUTOTURN SWEEP PATH ANALYSIS HAS BEEN PREPARED USING BASE PLANS PROVIDED BY OTHERS. THE PRACTITIONER HAS NOT INSPECTED THE ACCURACY AND/OR THE COMPLETENESS OF THESE BASE PLANS AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.



02	AUG 2026	SC	LEFT-IN / LEFT-OUT MOVEMENTS SEPARATED FROM RIGHT-TURN MOVEMENTS
01	JUNE 2026	DC	LEFT-IN / LEFT-OUT MOVEMENTS
NO.	DATE	INITIAL	REVISION DETAIL

DESIGN VEHICLE:

Halton Front End Loader

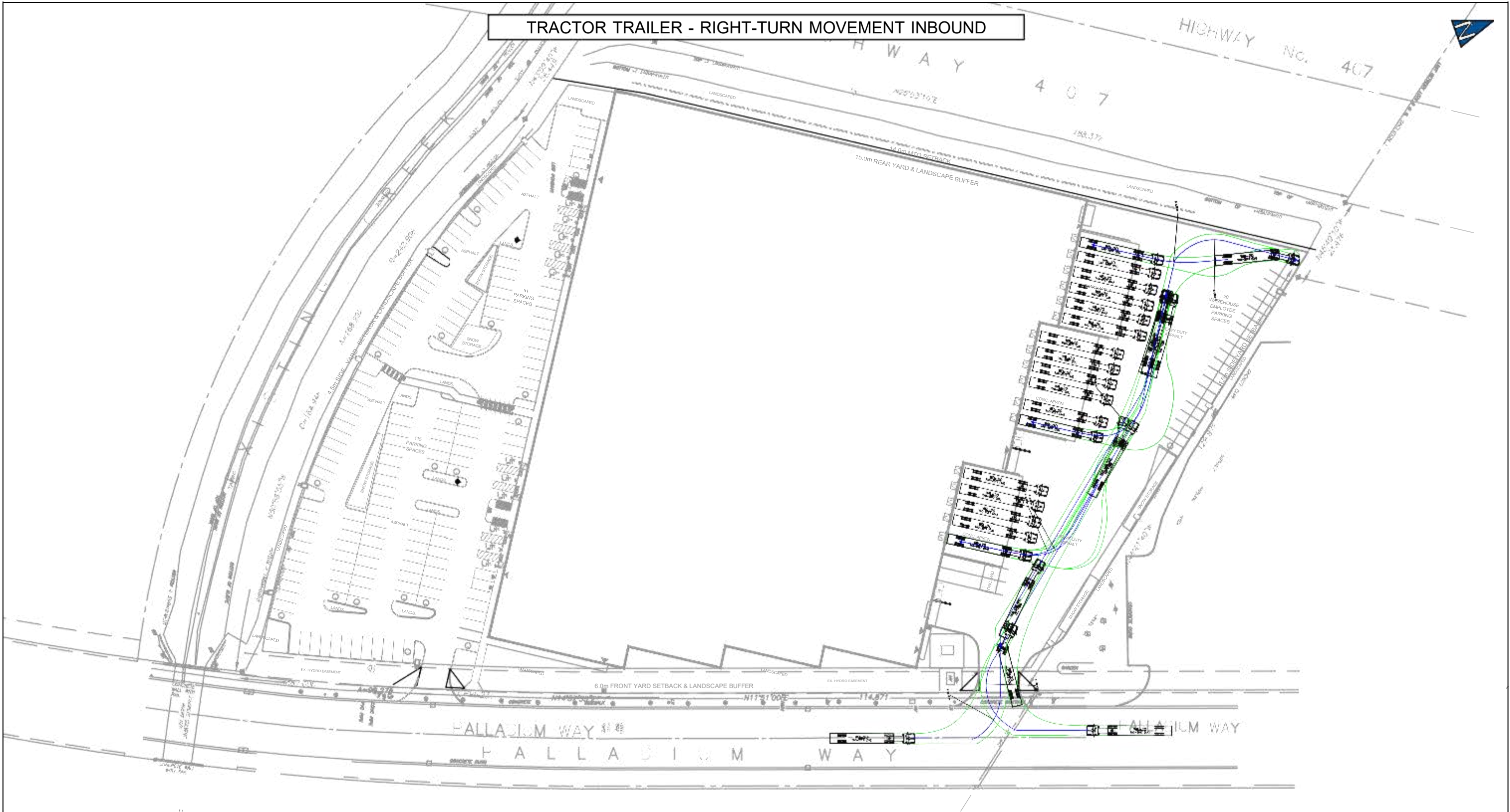
Width	: 2.70
Track	: 2.70
Lock to Lock Time	: 6.0
Steering Angle	: 25°

109

AUTOTURN ASSESSMENT
4301 PALLADIUM WAY
CITY OF BURLINGTON

PROJECT NO.: 260094	DATE: MAY 2026	SCALE: 1:1000	DRAWING NO.: 04
DESIGN: DC	DRAWN: DC	CHECK: SC	

THIS AUTOTURN SWEEP PATH ANALYSIS HAS BEEN PREPARED USING BASE PLANS PROVIDED BY OTHERS. THE PRACTITIONER HAS NOT INSPECTED THE ACCURACY AND/OR THE COMPLETENESS OF THESE BASE PLANS AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.



02	AUG 2026	SC	LEFT-IN / LEFT-OUT MOVEMENTS SEPARATED FROM RIGHT-TURN MOVEMENTS
01	JUNE 2026	DC	LEFT-IN / LEFT-OUT MOVEMENTS
NO.	DATE	INITIAL	REVISION DETAIL

DESIGN VEHICLE:

WB-20

Tractor Width : 2.60

Tractor Length : 2.60

Tractor Track : 2.60

Trailer Width : 2.60

Trailer Length : 2.60

Trailer Track : 2.60

Lock to Lock Time : 6.0

Steering Angle : 28.2

Articulating Angle : 70.0

110

AUTOTURN ASSESSMENT
4301 PALLADIUM WAY
CITY OF BURLINGTON

PROJECT NO.: 260094

DATE: MAY 2026

SCALE: 1:1000

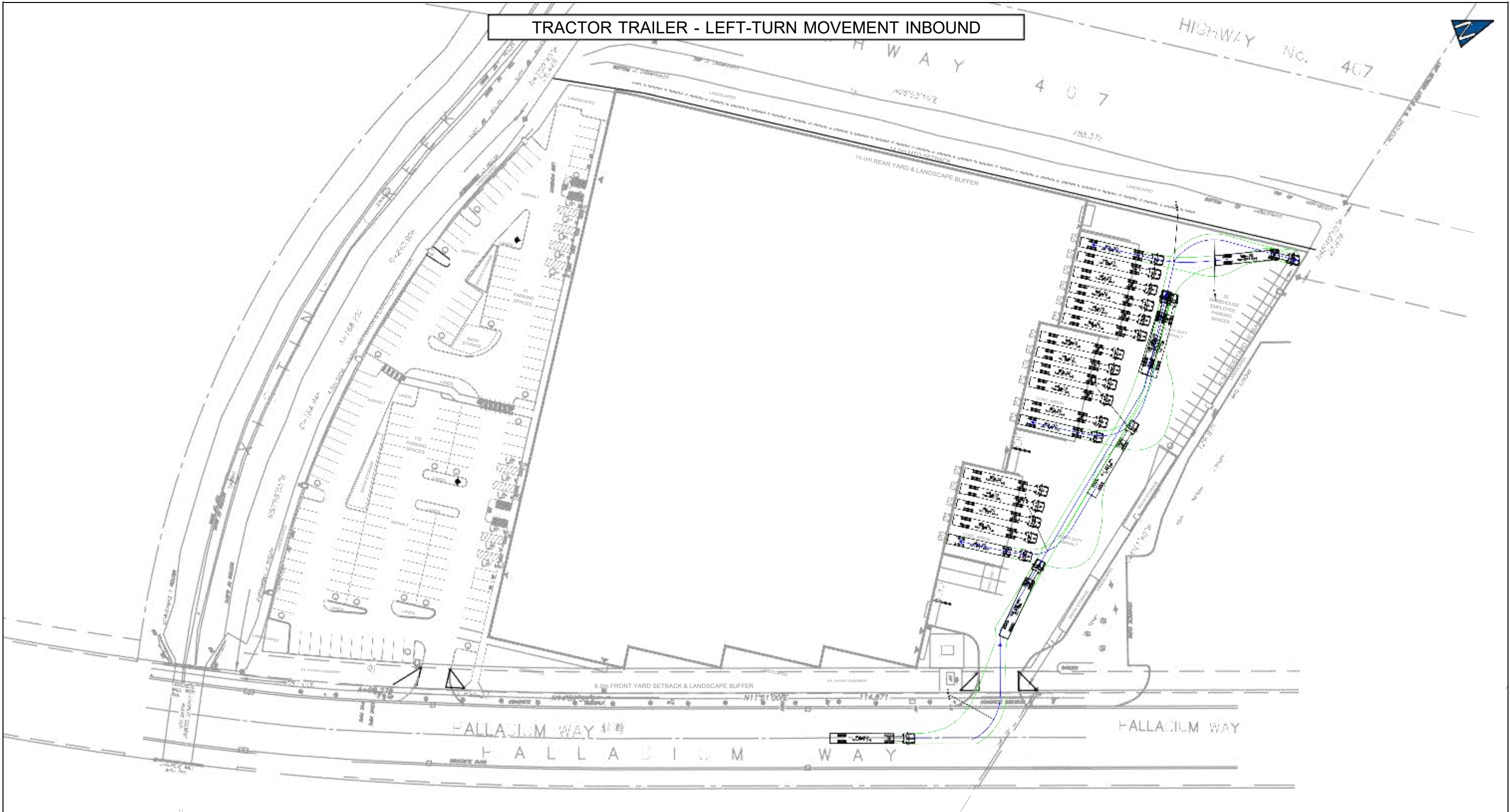
DRAWING NO.: 05

DESIGN: DC

DRAWN: DC

CHECK: SC

THIS AUTOTURN SWEEP PATH ANALYSIS HAS BEEN PREPARED USING BASE PLANS PROVIDED BY OTHERS. THE PRACTITIONER HAS NOT INSPECTED THE ACCURACY AND/OR THE COMPLETENESS OF THESE BASE PLANS AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.



02	AUG 2026	SC	LEFT-IN / LEFT-OUT MOVEMENTS SEPARATED FROM RIGHT-TURN MOVEMENTS
01	JUNE 2026	DC	LEFT-IN / LEFT-OUT MOVEMENTS
NO.	DATE	INITIAL	REVISION DETAIL

DESIGN VEHICLE:

WB-20

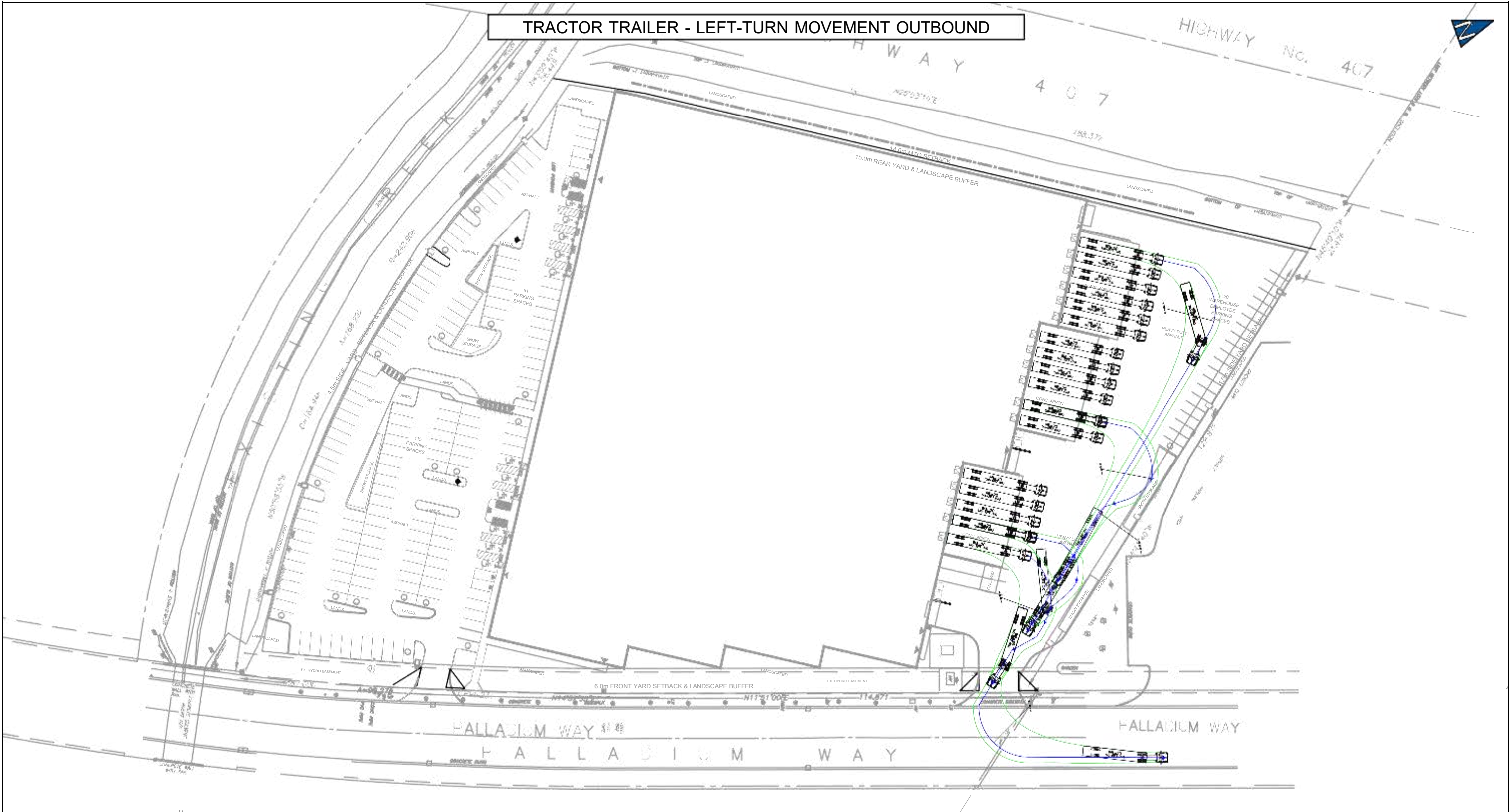
Tractor Width	: 2.60	Lock to Lock Time	: 6.0
Tractor Height	: 2.60	Steering Angle	: 38.2
Tractor Track	: 2.60	Articulating Angle	: 70.0
Trailer Track	: 2.60		

111

AUTOTURN ASSESSMENT
4301 PALLADIUM WAY
CITY OF BURLINGTON

PROJECT NO.: 260094	DATE: MAY 2026	SCALE: 1:1000	DRAWING NO.: 06
DESIGN: DC	DRAWN: DC	CHECK: SC	

THIS AUTOTURN SWEEP PATH ANALYSIS HAS BEEN PREPARED USING BASE PLANS PROVIDED BY OTHERS. THE PRACTITIONER HAS NOT INSPECTED THE ACCURACY AND/OR THE COMPLETENESS OF THESE BASE PLANS AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.



NO.	DATE	INITIAL	REVISION DETAIL
02	AUG 2026	SC	LEFT-IN / LEFT-OUT MOVEMENTS SEPARATED FROM RIGHT-TURN MOVEMENTS
01	JUNE 2026	DC	LEFT-IN / LEFT-OUT MOVEMENTS

DESIGN VEHICLE:

WB-20

Tractor Width	: 2.60	Lock to Lock Time	: 6.0
Tractor Length	: 2.60	Steering Angle	: 28.2
Tractor Track	: 2.60	Articulating Angle	: 70.0
Trailer Track	: 2.60		

113

AUTOTURN ASSESSMENT
4301 PALLADIUM WAY
CITY OF BURLINGTON

PROJECT NO.: 260094	DATE: MAY 2026	SCALE: 1:1000	DRAWING NO.:
DESIGN: DC	DRAWN: DC	CHECK: SC	08

Appendix C

Existing Traffic Data



Palladium Way @ Appleby Line

Morning Peak Diagram

Specified Period

From: 7:00:00

To: 9:00:00

One Hour Peak

From: 7:45:00

To: 8:45:00

Municipality: Burlington

Site #: 0000000002

Intersection: Appleby Line & Palladium Way

TFR File #: 2

Count date: 21-Apr-2026

Weather conditions:

Clear/Dry

Person(s) who counted:

Pyramid Traffic Inc

** Signalized Intersection **

Major Road: Appleby Line runs N/S

North Leg Total: 1570

North Entering: 717

North Peds: 0

Peds Cross: $\times$

Heavys	0	16	1	17
Trucks	2	8	1	11
Cars	53	619	17	689
Totals	55	643	19	

Heavys 19

Trucks 13

Cars 821

Totals 853

East Leg Total: 57

East Entering: 24

East Peds: 0

Peds Cross: $\times$

Heavys	Trucks	Cars	Totals
0	3	118	121

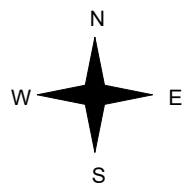


Palladium Way

Heavys	Trucks	Cars	Totals
1	0	54	55
0	1	5	6
0	0	35	35
1	1	94	



Appleby Line



Cars	Trucks	Heavys	Totals
9	0	1	10
1	0	0	1
12	0	1	13
22	0	2	

Harrison Crt



Cars	Trucks	Heavys	Totals
29	2	2	33

Peds Cross: $\times$

West Peds: 0

West Entering: 96

West Leg Total: 217

Cars	666	Cars	64	758	7	829
Trucks	8	Trucks	1	13	0	14
Heavys	17	Heavys	0	17	1	18
Totals	691	Totals	65	788	8	

Peds Cross: $\times$

South Peds: 1

South Entering: 861

South Leg Total: 1552

Comments

Palladium Way @ Appleby Line

Mid-day Peak Diagram

Specified Period

From: 11:00:00

To: 14:00:00

One Hour Peak

From: 12:00:00

To: 13:00:00

Municipality: Burlington

Site #: 0000000002

Intersection: Appleby Line & Palladium Way

TFR File #: 2

Count date: 21-Apr-2026

Weather conditions:

Clear/Dry

Person(s) who counted:

Pyramid Traffic Inc

** Signalized Intersection **

Major Road: Appleby Line runs N/S

North Leg Total: 707

North Entering: 366

North Peds: 0

Peds Cross: $\times$

Heavys	2	17	0	19
Trucks	0	11	0	11
Cars	20	296	20	336
Totals	22	324	20	

Heavys 17

Trucks 10

Cars 314

Totals 341

East Leg Total: 160

East Entering: 112

East Peds: 0

Peds Cross: $\times$

Heavys	Trucks	Cars	Totals
5	1	93	99

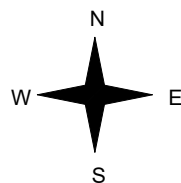


Palladium Way

Heavys	Trucks	Cars	Totals
1	1	24	26
0	0	11	11
1	3	70	74
2	4	105	



Appleby Line



Cars	Trucks	Heavys	Totals
27	2	1	30
15	0	0	15
67	0	0	67
109	2	1	

Harrison Crt



Cars	Trucks	Heavys	Totals
47	0	1	48

Peds Cross: $\times$

West Peds: 1

West Entering: 111

West Leg Total: 210

Cars	433	Cars	58	263	16	337
Trucks	14	Trucks	1	7	0	8
Heavys	18	Heavys	3	15	1	19
Totals	465	Totals	62	285	17	

Peds Cross: $\times$

South Peds: 3

South Entering: 364

South Leg Total: 829

Comments

Palladium Way @ Appleby Line

Afternoon Peak Diagram

Specified Period

From: 15:00:00

To: 18:00:00

One Hour Peak

From: 16:30:00

To: 17:30:00

Municipality: Burlington

Site #: 0000000002

Intersection: Appleby Line & Palladium Way

TFR File #: 2

Count date: 21-Apr-2026

Weather conditions:

Clear/Dry

Person(s) who counted:

Pyramid Traffic Inc

** Signalized Intersection **

Major Road: Appleby Line runs N/S

North Leg Total: 1946

North Entering: 988

North Peds: 0

Peds Cross: $\times$

Heavys	0	6	0	6
Trucks	0	6	0	6
Cars	74	874	28	976
Totals	74	886	28	

Heavys 10

Trucks 8

Cars 940

Totals 958

East Leg Total: 177

East Entering: 114

East Peds: 0

Peds Cross: $\times$

Heavys	Trucks	Cars	Totals
0	0	128	128

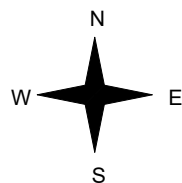


Palladium Way

Heavys	Trucks	Cars	Totals
0	0	79	79
0	0	13	13
0	0	84	84
0	0	176	



Appleby Line



Cars	Trucks	Heavys	Totals
37	0	0	37
12	0	0	12
64	0	1	65
113	0	1	

Harrison Crt



Cars	Trucks	Heavys	Totals
63	0	0	63

Peds Cross: $\times$

West Peds: 1

West Entering: 176

West Leg Total: 304

Cars 1022

Trucks 6

Heavys 7

Totals 1035



Cars	42	824	22	888
Trucks	0	8	0	8
Heavys	0	10	0	10
Totals	42	842	22	

Peds Cross: $\times$

South Peds: 3

South Entering: 906

South Leg Total: 1941

Comments

Palladium Way @ Appleby Line

Total Count Diagram

Municipality: Burlington
Site #: 0000000002
Intersection: Appleby Line & Palladium Way
TFR File #: 2
Count date: 21-Apr-2026

Weather conditions:
Clear/Dry
Person(s) who counted:
Pyramid Traffic Inc

**** Signalized Intersection ****

Major Road: Appleby Line runs N/S

North Leg Total: 9936
North Entering: 4783
North Peds: 1
Peds Cross: $\times$

	Heavys	Trucks	Cars	Totals
North	3	6	356	365
East	102	58	4084	4244
South	1	1	172	174
West	106	65	4612	4783

	Heavys	Trucks	Cars	Totals
North	145	67	4941	5153
East	2	0	394	403
South	5	5	380	391
West	187	72	653	910

East Leg Total: 1057
East Entering: 666
East Peds: 1
Peds Cross: $\times$

	Heavys	Trucks	Cars	Totals
North	8	11	855	874

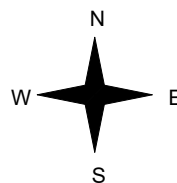


Palladium Way

	Heavys	Trucks	Cars	Totals
North	8	4	336	348
East	0	2	90	92
South	8	3	438	449
West	16	9	864	889



Appleby Line



	Cars	Trucks	Heavys	Totals
North	187	2	2	191
East	72	0	0	72
South	394	4	5	403
West	653	6	7	666

Harrison Crt



	Cars	Trucks	Heavys	Totals
North	380	6	5	391

Peds Cross: $\times$
West Peds: 6
West Entering: 889
West Leg Total: 1763

	Cars	Trucks	Heavys	Totals
North	4916	65	115	5096
East	427	5	5	437
South	4418	61	135	4614
West	118	3	4	125



Appleby Line

	Cars	Trucks	Heavys	Totals
North	427	5	5	437
East	4418	61	135	4614
South	118	3	4	125
West	4963	69	144	5176

Peds Cross: $\times$
South Peds: 16
South Entering: 5176
South Leg Total: 10272

Comments

Palladium Way @ Walkers Line

Morning Peak Diagram

Specified Period

From: 7:00:00

To: 9:00:00

One Hour Peak

From: 7:45:00

To: 8:45:00

Municipality: Burlington

Site #: 0000000001

Intersection: Walkers Line & Palladium Way

TFR File #: 1

Count date: 21-Apr-2026

Weather conditions:

Clear/Dry

Person(s) who counted:

Pyramid Traffic Inc

** Non-Signalized Intersection **

Major Road: Walkers Line runs N/S

North Leg Total: 446

North Entering: 240

North Peds: 0

Peds Cross: $\times$

Heavys	0	1	0	1
Trucks	0	1	1	2
Cars	2	217	18	237
Totals	2	219	19	



Heavys 1

Trucks 3

Cars 202

Totals 206

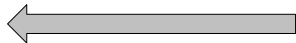
East Leg Total: 292

East Entering: 88

East Peds: 0

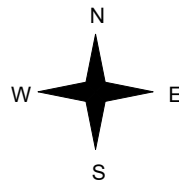
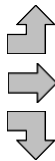
Peds Cross: $\times$

Heavys	Trucks	Cars	Totals
0	0	24	24



Palladium Way

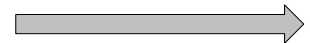
Heavys	Trucks	Cars	Totals
1	0	7	8
0	0	28	28
0	0	4	4
1	0	39	



Walkers Line

Cars	Trucks	Heavys	Totals
5	1	0	6
16	0	0	16
64	1	1	66
85	2	1	

Palladium Way



Cars	Trucks	Heavys	Totals
200	3	1	204

Peds Cross: $\times$

West Peds: 0

West Entering: 40

West Leg Total: 64

Cars	285	Cars	6	190	154	350
Trucks	2	Trucks	0	2	2	4
Heavys	2	Heavys	0	0	1	1
Totals	289	Totals	6	192	157	



Peds Cross: $\times$

South Peds: 1

South Entering: 355

South Leg Total: 644

Comments

Palladium Way @ Walkers Line

Mid-day Peak Diagram

Specified Period

From: 11:00:00

To: 14:00:00

One Hour Peak

From: 12:00:00

To: 13:00:00

Municipality: Burlington

Site #: 0000000001

Intersection: Walkers Line & Palladium Way

TFR File #: 1

Count date: 21-Apr-2026

Weather conditions:

Clear/Dry

Person(s) who counted:

Pyramid Traffic Inc

** Non-Signalized Intersection **

Major Road: Walkers Line runs N/S

North Leg Total: 270

North Entering: 130

North Peds: 0

Peds Cross: $\nlessgtr$

Heavys	0	0	0	0
Trucks	1	5	0	6
Cars	4	109	11	124
Totals	5	114	11	



Heavys 2

Trucks 3

Cars 135

Totals 140

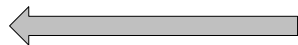
East Leg Total: 229

East Entering: 121

East Peds: 3

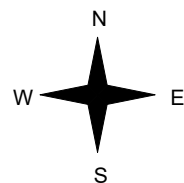
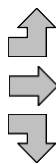
Peds Cross: $\nlessgtr$

Heavys	Trucks	Cars	Totals
0	2	22	24



Palladium Way

Heavys	Trucks	Cars	Totals
0	1	1	2
0	1	7	8
0	0	4	4
0	2	12	



Walkers Line

Cars	Trucks	Heavys	Totals
2	0	0	2
11	1	0	12
102	1	4	107
115	2	4	

Palladium Way



Cars	Trucks	Heavys	Totals
104	2	2	108

Peds Cross: $\nlessgtr$

West Peds: 0

West Entering: 14

West Leg Total: 38

Cars	215	Cars	7	132	86	225
Trucks	6	Trucks	0	2	1	3
Heavys	4	Heavys	0	2	2	4
Totals	225	Totals	7	136	89	



Peds Cross: $\nlessgtr$

South Peds: 3

South Entering: 232

South Leg Total: 457

Comments

Palladium Way @ Walkers Line

Afternoon Peak Diagram

Specified Period

From: 15:00:00

To: 18:00:00

One Hour Peak

From: 16:30:00

To: 17:30:00

Municipality: Burlington

Site #: 0000000001

Intersection: Walkers Line & Palladium Way

TFR File #: 1

Count date: 21-Apr-2026

Weather conditions:

Clear/Dry

Person(s) who counted:

Pyramid Traffic Inc

** Non-Signalized Intersection **

Major Road: Walkers Line runs N/S

North Leg Total: 547

North Entering: 276

North Peds: 0

Peds Cross: $\nlessgtr$

Heavys	0	0	0	0
Trucks	0	0	0	0
Cars	20	251	5	276
Totals	20	251	5	



Heavys 0

Trucks 2

Cars 269

Totals 271

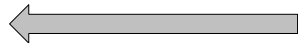
East Leg Total: 338

East Entering: 256

East Peds: 1

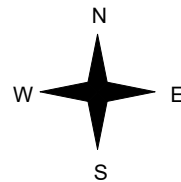
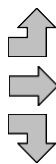
Peds Cross: $\nlessgtr$

Heavys	Trucks	Cars	Totals
0	0	99	99



Palladium Way

Heavys	Trucks	Cars	Totals
0	0	1	1
0	0	17	17
0	0	14	14
0	0	32	



Walkers Line

Cars	Trucks	Heavys	Totals
16	0	0	16
63	0	0	63
176	1	0	177
255	1	0	

Palladium Way



Cars	Trucks	Heavys	Totals
82	0	0	82

Peds Cross: $\nlessgtr$

West Peds: 0

West Entering: 32

West Leg Total: 131

Cars	441	Cars	16	252	60	328
Trucks	1	Trucks	0	2	0	2
Heavys	0	Heavys	0	0	0	0
Totals	442	Totals	16	254	60	



Peds Cross: $\nlessgtr$

South Peds: 2

South Entering: 330

South Leg Total: 772

Comments

Palladium Way @ Walkers Line

Total Count Diagram

Municipality: Burlington
Site #: 0000000001
Intersection: Walkers Line & Palladium Way
TFR File #: 1
Count date: 21-Apr-2026

Weather conditions:
Clear/Dry
Person(s) who counted:
Pyramid Traffic Inc

**** Non-Signalized Intersection ****

Major Road: Walkers Line runs N/S

North Leg Total: 2939
North Entering: 1489
North Peds: 0
Peds Cross: $\nlessgtr$

	Heavys	Trucks	Cars	Totals
North	0	3	1	4
West	1	14	2	17
East	58	1350	60	1468
Totals	59	1367	63	



	Heavys	Trucks	Cars	Totals
North	11	17	1422	1450

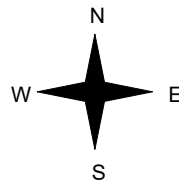
East Leg Total: 1956
East Entering: 1108
East Peds: 12
Peds Cross: $\nlessgtr$

Heavys	Trucks	Cars	Totals
1	3	315	319



Palladium Way

Heavys	Trucks	Cars	Totals
1	1	31	33
0	3	113	116
2	0	46	48
3	4	190	



Walkers Line

Cars	Trucks	Heavys	Totals
65	3	0	68
188	2	0	190
828	7	15	850
1081	12	15	

Palladium Way



Cars	Trucks	Heavys	Totals
823	9	16	848

Peds Cross: $\nlessgtr$
West Peds: 0
West Entering: 197
West Leg Total: 516

	Cars	Trucks	Heavys	Totals
West	2224	21	20	2265



	Cars	Trucks	Heavys	Totals
West	69	0	1	70
East	1326	13	10	1349
South	650	4	15	669
Totals	2045	17	26	

Peds Cross: $\nlessgtr$
South Peds: 10
South Entering: 2088
South Leg Total: 4353

Comments

Intersection Name: Appleby Ln @ UMR	TS ID: 795	Line No: 9	Model: ACS/3	IP address: 172.22.143.2	Controller Make: Econolite			
Type of Operation: 8 Phase Semi-Actuated								
*-Start from Main Menu								
No	Date			Description	Prepared by			
	Y	M	D		MA			
1								
3	2017	2	3	Amber and All red Changed as per OTM12				
PHASE DESCRIPTION								
Ph1				Ph5	NBLT - Appleby Ln			
Ph2	NB - Appleby Ln			Ph6	SB - Appleby Ln			
Ph3				Ph7				
Ph4	EB - Palladium Way			Ph8	WB - Harrison Cres			
CONFIGURATION (PHASE SEQ): PHASE IN USE/EXCLUSIVE PED (MM) *- 1 - 2								
Phase:	1	2	3	4	5	6	7	8
Phase in Use	_____	X	_____	X	X	X	_____	X
Exclusive PED	_____	_____	_____	_____	_____	_____	_____	_____
CONTROLLER TIMING DATA - VEHICLE TIMING *- 2 - 1								
Phase:								
Timing Plan: 1	1	2	3	4	5	6	7	8
Minimum Green		8		8	7	8		8
Walk		7		7		7		7
Ped. Clearance		19		27		19		27
Pedestrian Carry Over								
Vehicle Extension		3		3	3	3		3
MAX 1		45		30	15	45		30
MAX 2		45		30	15	45		30
Yellow Change		3.7		3.3	3	3.7		3.3
Red Clearance		2.7		3.8	1	2.7		3.8
Phase Minimum:	1	33.4	1	42.1	5	33.4	1	42.1
PHASE DATA - VEHICLE AND PEDESTRIAN RECALLS *- 2 - 8								
Phase:	1	2	3	4	5	6	7	8
Lock Detector								
Vehicle Recall								
Pedestrian Recall		X				X		
MAX Recall		X				X		
Min Recall								

[illegible]

TIME BASE DATA - TIME OF YEAR EVENTS

*** - 5 - 5**

Events	Exception Day		MON/ MON	DOW/ DOW	WOM/ Year	Day Plan
New Year's Day	1	Fixed	1	1	0	3
Family Day	2	Float	2	2	3	3
Good Friday	3	Float	4	6	1	3
Victoria Day	4	Float	5	2	3	3
Canada Day	5	Fixed	7	1	0	3
Civic Day	6	Float	8	2	1	3
Labour Day	7	Float	9	2	1	3
Thanksgiving	8	Float	10	2	2	3
Christmas Day	9	Fixed	12	25	0	3

Appendix D

Existing Traffic Operations



Lanes, Volumes, Timings
1: Walker's Line & Palladium Way

4301 Palladium Way TB
Base Year AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	28	4	66	16	6	11	192	157	19	219	2
Future Volume (vph)	10	28	4	66	16	6	11	192	157	19	219	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	55.0		0.0	45.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.6		7.6	7.6		7.6	7.6		7.6	7.6		7.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.980			0.960			0.932			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1597	1862	0	1752	1744	0	1656	3316	0	1719	3571	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1597	1862	0	1752	1744	0	1656	3316	0	1719	3571	0
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		147.5			146.9			247.3			131.4	
Travel Time (s)		8.9			8.8			14.8			7.9	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	13%	0%	0%	3%	0%	17%	9%	1%	2%	5%	1%	0%
Adj. Flow (vph)	12	33	5	77	19	7	13	223	183	22	255	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	38	0	77	26	0	13	406	0	22	257	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	32.8%											
Analysis Period (min)	15											
	ICU Level of Service A											

HCM Unsignalized Intersection Capacity Analysis
1: Walker's Line & Palladium Way

4301 Palladium Way TB
Base Year AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	28	4	66	16	6	11	192	157	19	219	2
Future Volume (Veh/h)	10	28	4	66	16	6	11	192	157	19	219	2
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	12	33	5	77	19	7	13	223	183	22	255	2
Pedestrians	1											
Lane Width (m)	3.6											
Walking Speed (m/s)	1.2											
Percent Blockage	0											
Right turn flare (veh)												
Median type	None						None					
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	454	732	130	535	642	203	257			406		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	454	732	130	535	642	203	257			406		
tC, single (s)	7.8	6.5	6.9	7.6	6.5	7.2	4.3			4.2		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.5	2.3			2.2		
p0 queue free %	97	90	99	80	95	99	99			98		
cM capacity (veh/h)	433	340	902	384	383	759	1255			1128		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3		
Volume Total	12	38	77	26	13	149	257	22	170	87		
Volume Left	12	0	77	0	13	0	0	22	0	0		
Volume Right	0	5	0	7	0	0	183	0	0	2		
cSH	433	371	384	442	1255	1700	1700	1128	1700	1700		
Volume to Capacity	0.03	0.10	0.20	0.06	0.01	0.09	0.15	0.02	0.10	0.05		
Queue Length 95th (m)	0.6	2.5	5.5	1.4	0.2	0.0	0.0	0.4	0.0	0.0		
Control Delay (s/veh)	13.6	15.8	16.7	13.6	7.9	0.0	0.0	8.3	0.0	0.0		
Lane LOS	B	C	C	B	A			A				
Approach Delay (s/veh)	15.3		15.9		0.2			0.7				
Approach LOS	C		C									
Intersection Summary												
Average Delay	3.2											
Intersection Capacity Utilization	32.8%			ICU Level of Service					A			
Analysis Period (min)	15											

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	6	35	13	1	10	67	788	8	19	643	55
Future Volume (vph)	55	6	35	13	1	10	67	788	8	19	643	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	60.0		0.0	95.0		0.0	70.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5		7.5	7.5		7.5	7.5		7.5	7.5		7.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		1.00		1.00								
Frt		0.871			0.864			0.999			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1615	0	1671	1505	0	1752	4978	0	1626	4928	0
Flt Permitted	0.750			0.730			0.341			0.331		
Satd. Flow (perm)	1397	1615	0	1283	1505	0	629	4978	0	567	4928	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			10			3			20	
Link Speed (k/h)		60			50			60			70	
Link Distance (m)		206.1			104.0			227.8			194.9	
Travel Time (s)		12.4			7.5			13.7			10.0	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	17%	0%	8%	0%	10%	3%	4%	13%	11%	4%	4%
Adj. Flow (vph)	57	6	36	13	1	10	69	812	8	20	663	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	57	42	0	13	11	0	69	820	0	20	720	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		7.0	8.0		8.0	8.0	
Minimum Split (s)	42.1	42.1		42.1	42.1		11.0	33.4		33.4	33.4	
Total Split (s)	31.0	31.0		31.0	31.0		13.0	54.0		41.0	41.0	
Total Split (%)	36.5%	36.5%		36.5%	36.5%		15.3%	63.5%		48.2%	48.2%	
Maximum Green (s)	23.9	23.9		23.9	23.9		9.0	47.6		34.6	34.6	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.0	3.7		3.7	3.7	
All-Red Time (s)	3.8	3.8		3.8	3.8		1.0	2.7		2.7	2.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.1	7.1		7.1	7.1		4.0	6.4		6.4	6.4	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	27.0	27.0		27.0	27.0			19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effect Green (s)	9.6	9.6		9.6	9.6		67.4	66.2		57.3	57.3	
Actuated g/C Ratio	0.11	0.11		0.11	0.11		0.79	0.78		0.67	0.67	
v/c Ratio	0.36	0.20		0.09	0.06		0.12	0.21		0.05	0.22	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay (s/veh)	41.0	15.9		34.0	19.3		3.4	3.6		8.5	7.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	41.0	15.9		34.0	19.3		3.4	3.6		8.5	7.3	
LOS	D	B		C	B		A	A		A	A	
Approach Delay (s/veh)		30.4			27.3			3.6			7.4	
Approach LOS		C			C			A			A	
Queue Length 50th (m)	8.8	1.0		2.1	0.2		2.2	12.6		1.3	17.5	
Queue Length 95th (m)	19.1	10.5		7.2	4.5		5.8	20.1		4.9	26.9	
Internal Link Dist (m)		182.1			80.0			203.8			170.9	
Turn Bay Length (m)	80.0			60.0			95.0			70.0		
Base Capacity (vph)	392	479		360	430		617	3880		382	3330	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.15	0.09		0.04	0.03		0.11	0.21		0.05	0.22	

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 85

Offset: 34 (40%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.36

Intersection Signal Delay (s/veh): 7.0

Intersection LOS: A

Intersection Capacity Utilization 49.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: Appleby Line & Palladium Way/Harrison Crescent

#2  Ø2 (R) 54 s		#2  Ø4 31 s	
#2  Ø5 13 s		#2  Ø8 31 s	
#2  Ø6 (R) 41 s			

HCM Signalized Intersection Capacity Analysis
2: Appleby Line & Palladium Way/Harrison Crescent

4301 Palladium Way TB
Base Year AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	6	35	13	1	10	67	788	8	19	643	55
Future Volume (vph)	55	6	35	13	1	10	67	788	8	19	643	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.1	7.1		7.1	7.1		4.0	6.4		6.4	6.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.87		1.00	0.86		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1615		1670	1504		1752	4976		1626	4928	
Flt Permitted	0.75	1.00		0.73	1.00		0.34	1.00		0.33	1.00	
Satd. Flow (perm)	1398	1615		1283	1504		629	4976		566	4928	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	57	6	36	13	1	10	69	812	8	20	663	57
RTOR Reduction (vph)	0	33	0	0	9	0	0	1	0	0	7	0
Lane Group Flow (vph)	57	9	0	13	2	0	69	819	0	20	713	0
Confl. Peds. (#/hr)			1	1								
Heavy Vehicles (%)	2%	17%	0%	8%	0%	10%	3%	4%	13%	11%	4%	4%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	8.0	8.0		8.0	8.0		63.5	63.5		53.8	53.8	
Effective Green, g (s)	8.0	8.0		8.0	8.0		63.5	63.5		53.8	53.8	
Actuated g/C Ratio	0.09	0.09		0.09	0.09		0.75	0.75		0.63	0.63	
Clearance Time (s)	7.1	7.1		7.1	7.1		4.0	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	131	152		120	141		545	3717		358	3119	
v/s Ratio Prot		0.01			0.00		0.01	c0.16			0.14	
v/s Ratio Perm	c0.04			0.01			0.09			0.04		
v/c Ratio	0.44	0.06		0.11	0.01		0.13	0.22		0.06	0.23	
Uniform Delay, d1	36.4	35.1		35.2	34.9		2.9	3.3		5.9	6.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.3	0.2		0.4	0.0		0.1	0.1		0.3	0.2	
Delay (s)	38.7	35.3		35.6	35.0		3.0	3.4		6.2	6.9	
Level of Service	D	D		D	C		A	A		A	A	
Approach Delay (s/veh)		37.2			35.3			3.4			6.8	
Approach LOS		D			D			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			7.2				HCM 2000 Level of Service			A		
HCM 2000 Volume to Capacity ratio			0.26									
Actuated Cycle Length (s)			85.0				Sum of lost time (s)			17.5		
Intersection Capacity Utilization			49.0%				ICU Level of Service			A		
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings
1: Walker's Line & Palladium Way

4301 Palladium Way TB
Base Year PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	17	14	178	63	16	29	254	60	5	251	20
Future Volume (vph)	1	17	14	178	63	16	29	254	60	5	251	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	55.0		0.0	45.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.6		7.6	7.6		7.6	7.6		7.6	7.6		7.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.931			0.970			0.971			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1769	0	1787	1843	0	1687	3477	0	1805	3570	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	1769	0	1787	1843	0	1687	3477	0	1805	3570	0
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		147.5			146.9			247.3			131.4	
Travel Time (s)		8.9			8.8			14.8			7.9	
Confl. Peds. (#/hr)			2	2					1	1		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	7%	1%	0%	0%	0%	0%
Adj. Flow (vph)	1	19	16	200	71	18	33	285	67	6	282	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	35	0	200	89	0	33	352	0	6	304	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	39.0%											
Analysis Period (min)	15											
ICU Level of Service A												

HCM Unsignalized Intersection Capacity Analysis
1: Walker's Line & Palladium Way

4301 Palladium Way TB
Base Year PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	17	14	178	63	16	29	254	60	5	251	20
Future Volume (Veh/h)	1	17	14	178	63	16	29	254	60	5	251	20
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	1	19	16	200	71	18	33	285	67	6	282	22
Pedestrians					1		2					
Lane Width (m)					3.6		3.6					
Walking Speed (m/s)					1.2		1.2					
Percent Blockage					0		0					
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	567	724	154	566	702	177	304				353	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	567	724	154	566	702	177	304				353	
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.2				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3				2.2	
p0 queue free %	100	94	98	47	80	98	97				100	
cM capacity (veh/h)	332	343	869	374	353	841	1218				1216	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3		
Volume Total	1	35	200	89	33	190	162	6	188	116		
Volume Left	1	0	200	0	33	0	0	6	0	0		
Volume Right	0	16	0	18	0	0	67	0	0	22		
cSH	332	474	374	400	1218	1700	1700	1216	1700	1700		
Volume to Capacity	0.00*	0.07	0.53	0.22	0.03	0.11	0.10	0.00*	0.11	0.07		
Queue Length 95th (m)	0.1	1.8	22.7	6.3	0.6	0.0	0.0	0.1	0.0	0.0		
Control Delay (s/veh)	15.9	13.2	25.1	16.6	8.0	0.0	0.0	8.0	0.0	0.0		
Lane LOS	C	B	D	C	A				A			
Approach Delay (s/veh)	13.3	22.5		0.7		0.2						
Approach LOS	B	C										
Intersection Summary												
Average Delay	7.1											
Intersection Capacity Utilization	39.0%			ICU Level of Service					A			
Analysis Period (min)	15											

* Value less than 0.01.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	13	84	65	12	37	50	842	22	28	886	74
Future Volume (vph)	80	13	84	65	12	37	50	842	22	28	886	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	60.0		0.0	95.0		0.0	70.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5		7.5	7.5		7.5	7.5		7.5	7.5		7.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		1.00		1.00			1.00				1.00	
Fr _t		0.871			0.887			0.996			0.988	
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1651	0	1770	1685	0	1703	5067	0	1805	5077	0
Fl _t Permitted	0.723			0.691			0.248			0.304		
Satd. Flow (perm)	1360	1651	0	1284	1685	0	444	5067	0	578	5077	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		88			39			6			17	
Link Speed (k/h)		60			50			60			70	
Link Distance (m)		206.1			104.0			227.8			194.9	
Travel Time (s)		12.4			7.5			13.7			10.0	
Confl. Peds. (#/hr)			3	3			1					1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	0%	0%	2%	0%	0%	6%	2%	0%	0%	1%	0%
Adj. Flow (vph)	83	14	88	68	13	39	52	877	23	29	923	77
Shared Lane Traffic (%)												
Lane Group Flow (vph)	83	102	0	68	52	0	52	900	0	29	1000	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		7.0	8.0		8.0	8.0	
Minimum Split (s)	42.1	42.1		42.1	42.1		11.0	33.4		33.4	33.4	
Total Split (s)	37.0	37.0		37.0	37.0		12.0	63.0		51.0	51.0	
Total Split (%)	37.0%	37.0%		37.0%	37.0%		12.0%	63.0%		51.0%	51.0%	
Maximum Green (s)	29.9	29.9		29.9	29.9		8.0	56.6		44.6	44.6	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.0	3.7		3.7	3.7	
All-Red Time (s)	3.8	3.8		3.8	3.8		1.0	2.7		2.7	2.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.1	7.1		7.1	7.1		4.0	6.4		6.4	6.4	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	27.0	27.0		27.0	27.0			19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)	11.8	11.8		11.8	11.8		77.1	74.7		65.9	65.9	
Actuated g/C Ratio	0.12	0.12		0.12	0.12		0.77	0.75		0.66	0.66	
v/c Ratio	0.52	0.38		0.45	0.22		0.12	0.24		0.08	0.30	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay (s/veh)	52.3	15.1		49.6	18.8		3.9	4.3		8.8	8.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	52.3	15.1		49.6	18.8		3.9	4.3		8.8	8.2	
LOS	D	B		D	B		A	A		A	A	
Approach Delay (s/veh)		31.8			36.3			4.3			8.2	
Approach LOS		C			D			A			A	
Queue Length 50th (m)	15.3	2.4		12.6	2.3		2.0	15.9		1.9	28.0	
Queue Length 95th (m)	28.7	16.1		24.5	12.1		5.7	25.3		6.3	41.2	
Internal Link Dist (m)		182.1			80.0			203.8			170.9	
Turn Bay Length (m)	80.0			60.0			95.0			70.0		
Base Capacity (vph)	406	555		383	531		443	3787		380	3349	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.20	0.18		0.18	0.10		0.12	0.24		0.08	0.30	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 40 (40%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay (s/veh): 9.9

Intersection LOS: A

Intersection Capacity Utilization 54.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: Appleby Line & Palladium Way/Harrison Crescent

 Ø2 (R)  63 s		 Ø4 37 s	
 Ø5 12 s	 Ø6 (R)  51 s	 Ø8 37 s	

HCM Signalized Intersection Capacity Analysis
2: Appleby Line & Palladium Way/Harrison Crescent

4301 Palladium Way TB
Base Year PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	13	84	65	12	37	50	842	22	28	886	74
Future Volume (vph)	80	13	84	65	12	37	50	842	22	28	886	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.1	7.1		7.1	7.1		4.0	6.4		6.4	6.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.87		1.00	0.89		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	1650		1766	1686		1703	5068		1805	5079	
Flt Permitted	0.72	1.00		0.69	1.00		0.25	1.00		0.30	1.00	
Satd. Flow (perm)	1360	1650		1284	1686		445	5068		578	5079	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	83	14	88	68	12	39	52	877	23	29	923	77
RTOR Reduction (vph)	0	78	0	0	34	0	0	2	0	0	6	0
Lane Group Flow (vph)	83	24	0	68	18	0	52	898	0	29	994	0
Confl. Peds. (#/hr)			3	3			1					1
Heavy Vehicles (%)	1%	0%	0%	2%	0%	0%	6%	2%	0%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	11.8	11.8		11.8	11.8		74.7	74.7		65.0	65.0	
Effective Green, g (s)	11.8	11.8		11.8	11.8		74.7	74.7		65.0	65.0	
Actuated g/C Ratio	0.12	0.12		0.12	0.12		0.75	0.75		0.65	0.65	
Clearance Time (s)	7.1	7.1		7.1	7.1		4.0	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	160	194		151	198		404	3785		375	3301	
v/s Ratio Prot		0.01			0.01		0.01	c0.18			c0.20	
v/s Ratio Perm	c0.06			0.05			0.09			0.05		
v/c Ratio	0.52	0.13		0.45	0.09		0.13	0.24		0.08	0.30	
Uniform Delay, d1	41.4	39.5		41.1	39.3		3.5	3.9		6.4	7.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.8	0.3		2.1	0.2		0.1	0.1		0.4	0.2	
Delay (s)	44.3	39.8		43.2	39.5		3.7	4.0		6.9	7.9	
Level of Service	D	D		D	D		A	A		A	A	
Approach Delay (s/veh)		41.8			41.6			4.0			7.8	
Approach LOS		D			D			A			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			10.8				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.33									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)			17.5		
Intersection Capacity Utilization			54.8%				ICU Level of Service			A		
Analysis Period (min)			15									

c Critical Lane Group

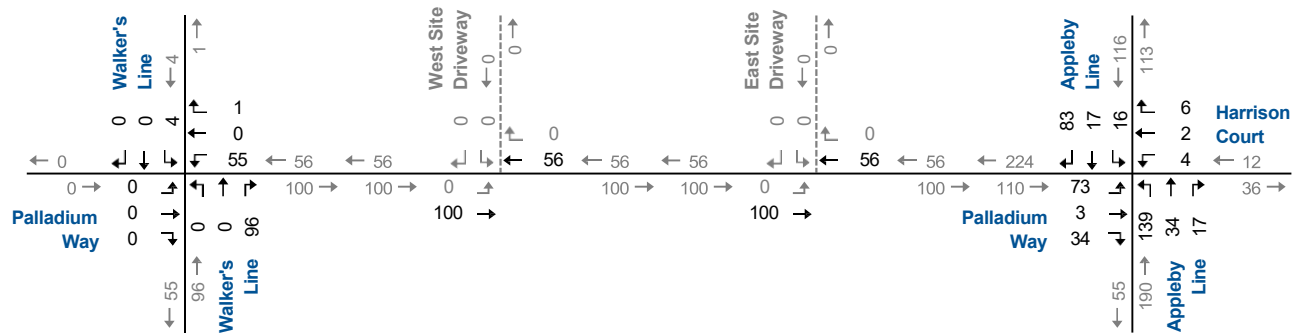
Appendix E

Background Development Traffic

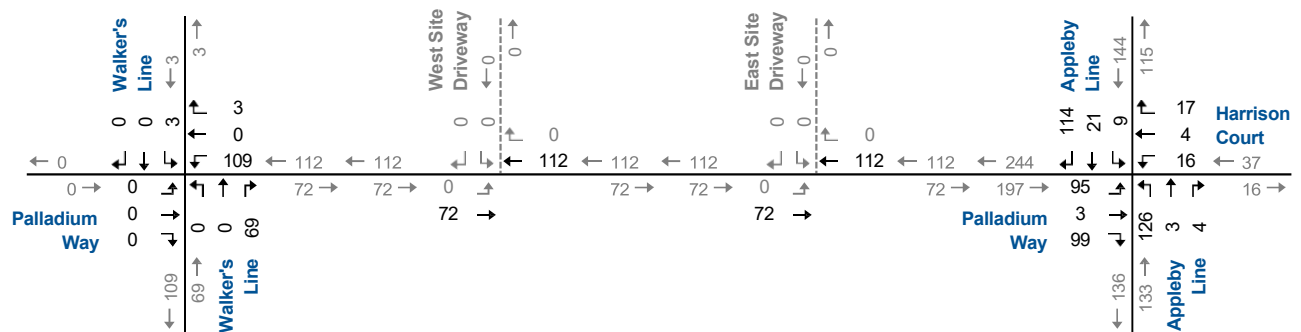




AM Peak Hour



PM Peak Hour



Background Development Traffic Volumes

Appendix F

Background Traffic Operations



Lanes, Volumes, Timings
1: Walker's Line & Palladium Way

4301 Palladium Way TB
Background AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	29	4	124	17	7	12	201	260	24	229	2
Future Volume (vph)	10	29	4	124	17	7	12	201	260	24	229	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	55.0		0.0	45.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.6		7.6	7.6		7.6	7.6		7.6	7.6		7.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.981			0.957			0.915			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1597	1864	0	1752	1734	0	1656	3252	0	1719	3571	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1597	1864	0	1752	1734	0	1656	3252	0	1719	3571	0
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		147.5			146.9			247.3			131.4	
Travel Time (s)		8.9			8.8			14.8			7.9	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	13%	0%	0%	3%	0%	17%	9%	1%	2%	5%	1%	0%
Adj. Flow (vph)	12	34	5	144	20	8	14	234	302	28	266	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	39	0	144	28	0	14	536	0	28	268	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	40.1%											
Analysis Period (min)	15											
	ICU Level of Service A											

HCM Unsignalized Intersection Capacity Analysis
1: Walker's Line & Palladium Way

4301 Palladium Way TB
Background AM

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	10	29	4	124	17	7	12	201	260	24	229	2	
Future Volume (Veh/h)	10	29	4	124	17	7	12	201	260	24	229	2	
Sign Control	Stop			Stop			Free			Free			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	
Hourly flow rate (vph)	12	34	5	144	20	8	14	234	302	28	266	2	
Pedestrians	1												
Lane Width (m)	3.6												
Walking Speed (m/s)	1.2												
Percent Blockage	0												
Right turn flare (veh)													
Median type	None						None						
Median storage (veh)													
Upstream signal (m)													
pX, platoon unblocked													
vC, conflicting volume	486	887	135	625	737	268	268	536					
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	486	887	135	625	737	268	268	536					
tC, single (s)	7.8	6.5	6.9	7.6	6.5	7.2	4.3	4.2					
tC, 2 stage (s)													
tF (s)	3.6	4.0	3.3	3.5	4.0	3.5	2.3	2.2					
p0 queue free %	97	88	99	55	94	99	99	97					
cM capacity (veh/h)	403	274	895	321	335	687	1243	1008					
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3			
Volume Total	12	39	144	28	14	156	380	28	177	91			
Volume Left	12	0	144	0	14	0	0	28	0	0			
Volume Right	0	5	0	8	0	0	302	0	0	2			
cSH	403	301	321	392	1243	1700	1700	1008	1700	1700			
Volume to Capacity	0.03	0.13	0.45	0.07	0.01	0.09	0.22	0.03	0.10	0.05			
Queue Length 95th (m)	0.7	3.3	16.7	1.7	0.3	0.0	0.0	0.6	0.0	0.0			
Control Delay (s/veh)	14.2	18.7	25.1	14.9	7.9	0.0	0.0	8.7	0.0	0.0			
Lane LOS	B	C	D	B	A	A							
Approach Delay (s/veh)	17.7			23.4			0.2	0.8					
Approach LOS	C			C									
Intersection Summary													
Average Delay				4.9									
Intersection Capacity Utilization				40.1%	ICU Level of Service					A			
Analysis Period (min)				15									

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	9	71	18	3	16	209	859	25	36	690	141
Future Volume (vph)	131	9	71	18	3	16	209	859	25	36	690	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	60.0		0.0	95.0		0.0	70.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5		7.5	7.5		7.5	7.5		7.5	7.5		7.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		1.00		1.00								
Fr't		0.866			0.874			0.996			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1614	0	1671	1532	0	1752	4955	0	1626	4863	0
Flt Permitted	0.745			0.704			0.278			0.301		
Satd. Flow (perm)	1388	1614	0	1238	1532	0	513	4955	0	515	4863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		73			16			8			61	
Link Speed (k/h)		60			50			60			70	
Link Distance (m)		206.1			104.0			227.8			194.9	
Travel Time (s)		12.4			7.5			13.7			10.0	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	17%	0%	8%	0%	10%	3%	4%	13%	11%	4%	4%
Adj. Flow (vph)	135	9	73	19	3	16	215	886	26	37	711	145
Shared Lane Traffic (%)												
Lane Group Flow (vph)	135	82	0	19	19	0	215	912	0	37	856	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		7.0	8.0		8.0	8.0	
Minimum Split (s)	42.1	42.1		42.1	42.1		11.0	33.4		33.4	33.4	
Total Split (s)	31.0	31.0		31.0	31.0		13.0	54.0		41.0	41.0	
Total Split (%)	36.5%	36.5%		36.5%	36.5%		15.3%	63.5%		48.2%	48.2%	
Maximum Green (s)	23.9	23.9		23.9	23.9		9.0	47.6		34.6	34.6	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.0	3.7		3.7	3.7	
All-Red Time (s)	3.8	3.8		3.8	3.8		1.0	2.7		2.7	2.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.1	7.1		7.1	7.1		4.0	6.4		6.4	6.4	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	27.0	27.0		27.0	27.0			19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effect Green (s)	13.6	13.6		13.6	13.6		60.3	57.9		44.5	44.5	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.71	0.68		0.52	0.52	
v/c Ratio	0.61	0.26		0.10	0.07		0.43	0.27		0.14	0.33	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay (s/veh)	44.0	11.0		29.0	14.9		7.6	6.0		15.0	12.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	44.0	11.0		29.0	14.9		7.6	6.0		15.0	12.2	
LOS	D	B		C	B		A	A		B	B	
Approach Delay (s/veh)		31.5			22.0			6.3			12.3	
Approach LOS		C			C			A			B	
Queue Length 50th (m)	20.7	1.4		2.8	0.4		9.8	18.4		3.1	25.5	
Queue Length 95th (m)	35.4	13.2		8.2	5.5		21.7	30.1		11.1	43.1	
Internal Link Dist (m)		182.1			80.0			203.8			170.9	
Turn Bay Length (m)	80.0			60.0			95.0			70.0		
Base Capacity (vph)	390	506		348	442		509	3376		269	2577	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.35	0.16		0.05	0.04		0.42	0.27		0.14	0.33	

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 85

Offset: 34 (40%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay (s/veh): 11.3

Intersection LOS: B

Intersection Capacity Utilization 57.0%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 2: Appleby Line & Palladium Way/Harrison Crescent

 Ø2 (R) 54 s		 Ø4 31 s	
 Ø5 13 s	 Ø6 (R) 41 s	 Ø8 31 s	

HCM Signalized Intersection Capacity Analysis
2: Appleby Line & Palladium Way/Harrison Crescent

4301 Palladium Way TB
Background AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	9	71	18	3	16	209	859	25	36	690	141
Future Volume (vph)	131	9	71	18	3	16	209	859	25	36	690	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.1	7.1		7.1	7.1		4.0	6.4		6.4	6.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.87		1.00	0.87		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1615		1670	1531		1752	4954		1626	4861	
Flt Permitted	0.75	1.00		0.70	1.00		0.28	1.00		0.30	1.00	
Satd. Flow (perm)	1388	1615		1237	1531		514	4954		514	4861	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	135	9	73	19	3	16	215	886	26	37	711	145
RTOR Reduction (vph)	0	61	0	0	13	0	0	3	0	0	29	0
Lane Group Flow (vph)	135	21	0	19	6	0	215	909	0	37	827	0
Confl. Peds. (#/hr)			1	1								
Heavy Vehicles (%)	2%	17%	0%	8%	0%	10%	3%	4%	13%	11%	4%	4%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	13.6	13.6		13.6	13.6		57.9	57.9		44.6	44.6	
Effective Green, g (s)	13.6	13.6		13.6	13.6		57.9	57.9		44.6	44.6	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.68	0.68		0.52	0.52	
Clearance Time (s)	7.1	7.1		7.1	7.1		4.0	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	222	258		197	244		485	3374		269	2550	
v/s Ratio Prot		0.01			0.00		c0.05	0.18			0.17	
v/s Ratio Perm	c0.10			0.02			c0.25			0.07		
v/c Ratio	0.61	0.08		0.10	0.02		0.44	0.27		0.14	0.32	
Uniform Delay, d1	33.2	30.4		30.5	30.1		5.3	5.3		10.3	11.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.7	0.1		0.2	0.0		0.6	0.2		1.1	0.3	
Delay (s)	37.9	30.5		30.7	30.1		5.9	5.5		11.4	11.9	
Level of Service	D	C		C	C		A	A		B	B	
Approach Delay (s/veh)		35.1			30.4			5.6			11.9	
Approach LOS		D			C			A			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			11.3				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			85.0				Sum of lost time (s)			17.5		
Intersection Capacity Utilization			57.0%				ICU Level of Service			B		
Analysis Period (min)			15									

c Critical Lane Group

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	18	15	295	66	20	30	266	132	8	263	21
Future Volume (vph)	1	18	15	295	66	20	30	266	132	8	263	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	55.0		0.0	45.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.6		7.6	7.6		7.6	7.6		7.6	7.6		7.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.931			0.966			0.950			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1769	0	1787	1835	0	1687	3407	0	1805	3570	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	1769	0	1787	1835	0	1687	3407	0	1805	3570	0
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		147.5			146.9			247.3			131.4	
Travel Time (s)		8.9			8.8			14.8			7.9	
Confl. Peds. (#/hr)			2	2					1	1		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	7%	1%	0%	0%	0%	0%
Adj. Flow (vph)	1	20	17	331	74	22	34	299	148	9	296	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	37	0	331	96	0	34	447	0	9	320	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 48.0% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
1: Walker's Line & Palladium Way

4301 Palladium Way TB
Background PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	18	15	295	66	20	30	266	132	8	263	21
Future Volume (Veh/h)	1	18	15	295	66	20	30	266	132	8	263	21
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	1	20	17	331	74	22	34	299	148	9	296	24
Pedestrians					1		2					
Lane Width (m)					3.6		3.6					
Walking Speed (m/s)					1.2		1.2					
Percent Blockage					0		0					
Right turn flare (veh)												
Median type	None								None			
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	603	842	162	637	780	225	320				448	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	603	842	162	637	780	225	320				448	
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.2				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3				2.2	
p0 queue free %	100	93	98	0	77	97	97				99	
cM capacity (veh/h)	300	292	859	328	317	784	1201				1122	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3		
Volume Total	1	37	331	96	34	199	248	9	197	123		
Volume Left	1	0	331	0	34	0	0	9	0	0		
Volume Right	0	17	0	22	0	0	148	0	0	24		
cSH	300	419	328	367	1201	1700	1700	1122	1700	1700		
Volume to Capacity	0.00*	0.09	1.01	0.26	0.03	0.12	0.15	0.00*	0.12	0.07		
Queue Length 95th (m)	0.1	2.2	85.1	7.7	0.7	0.0	0.0	0.2	0.0	0.0		
Control Delay (s/veh)	17.0	14.4	88.9	18.2	8.1	0.0	0.0	8.2	0.0	0.0		
Lane LOS	C	B	F	C	A				A			
Approach Delay (s/veh)	14.5	73.0		0.6		0.2						
Approach LOS	B	F										
Intersection Summary												
Average Delay	25.1											
Intersection Capacity Utilization	48.0%			ICU Level of Service			A					
Analysis Period (min)	15											

* Value less than 0.01.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	179	17	187	84	17	56	178	885	27	38	949	191
Future Volume (vph)	179	17	187	84	17	56	178	885	27	38	949	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	60.0		0.0	95.0		0.0	70.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5		7.5	7.5		7.5	7.5		7.5	7.5		7.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		1.00		1.00			1.00				1.00	
Fr _t		0.863			0.886			0.996			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1636	0	1770	1683	0	1703	5068	0	1805	5014	0
Flt Permitted	0.708			0.503			0.178			0.289		
Satd. Flow (perm)	1332	1636	0	935	1683	0	319	5068	0	549	5014	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		195			58			7			55	
Link Speed (k/h)		60			50			60			70	
Link Distance (m)		206.1			104.0			227.8			194.9	
Travel Time (s)		12.4			7.5			13.7			10.0	
Confl. Peds. (#/hr)			3	3			1					1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	0%	0%	2%	0%	0%	6%	2%	0%	0%	1%	0%
Adj. Flow (vph)	186	18	195	88	18	58	185	922	28	40	989	199
Shared Lane Traffic (%)												
Lane Group Flow (vph)	186	213	0	88	76	0	185	950	0	40	1188	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		7.0	8.0		8.0	8.0	
Minimum Split (s)	42.1	42.1		42.1	42.1		11.0	33.4		33.4	33.4	
Total Split (s)	37.0	37.0		37.0	37.0		12.0	63.0		51.0	51.0	
Total Split (%)	37.0%	37.0%		37.0%	37.0%		12.0%	63.0%		51.0%	51.0%	
Maximum Green (s)	29.9	29.9		29.9	29.9		8.0	56.6		44.6	44.6	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.0	3.7		3.7	3.7	
All-Red Time (s)	3.8	3.8		3.8	3.8		1.0	2.7		2.7	2.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.1	7.1		7.1	7.1		4.0	6.4		6.4	6.4	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	27.0	27.0		27.0	27.0			19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effect Green (s)	19.2	19.2		19.2	19.2		69.7	67.3		54.0	54.0	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.70	0.67		0.54	0.54	
v/c Ratio	0.73	0.45		0.49	0.21		0.53	0.28		0.14	0.43	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay (s/veh)	53.4	9.1		43.8	12.8		11.8	7.4		16.0	14.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	53.4	9.1		43.8	12.8		11.8	7.4		16.0	14.8	
LOS	D	A		D	B		B	A		B	B	
Approach Delay (s/veh)		29.8			29.4			8.1			14.8	
Approach LOS		C			C			A			B	
Queue Length 50th (m)	33.9	2.8		15.4	2.8		11.1	24.1		3.6	45.6	
Queue Length 95th (m)	52.1	19.1		28.1	13.0		24.2	38.5		11.4	68.7	
Internal Link Dist (m)		182.1			80.0			203.8			170.9	
Turn Bay Length (m)	80.0			60.0			95.0			70.0		
Base Capacity (vph)	398	625		279	543		353	3410		296	2732	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.47	0.34		0.32	0.14		0.52	0.28		0.14	0.43	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 40 (40%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay (s/veh): 15.1

Intersection LOS: B

Intersection Capacity Utilization 73.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 2: Appleby Line & Palladium Way/Harrison Crescent

#2 	#2 
Ø2 (R)	Ø4
63 s	37 s
#2 	#2 
Ø5	Ø8
12 s	37 s
#2 	
Ø6 (R)	
51 s	

HCM Signalized Intersection Capacity Analysis
2: Appleby Line & Palladium Way/Harrison Crescent

4301 Palladium Way TB
Background PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	179	17	187	84	17	56	178	885	27	38	949	191
Future Volume (vph)	179	17	187	84	17	56	178	885	27	38	949	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.1	7.1		7.1	7.1		4.0	6.4		6.4	6.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.89		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	1635		1766	1683		1703	5066		1805	5013	
Flt Permitted	0.71	1.00		0.50	1.00		0.18	1.00		0.29	1.00	
Satd. Flow (perm)	1331	1635		935	1683		319	5066		549	5013	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	186	18	195	88	18	58	185	922	28	40	989	199
RTOR Reduction (vph)	0	158	0	0	47	0	0	2	0	0	25	0
Lane Group Flow (vph)	186	55	0	88	29	0	185	948	0	40	1163	0
Confl. Peds. (#/hr)			3	3			1					1
Heavy Vehicles (%)	1%	0%	0%	2%	0%	0%	6%	2%	0%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	19.2	19.2		19.2	19.2		67.3	67.3		54.0	54.0	
Effective Green, g (s)	19.2	19.2		19.2	19.2		67.3	67.3		54.0	54.0	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.67	0.67		0.54	0.54	
Clearance Time (s)	7.1	7.1		7.1	7.1		4.0	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	255	313		179	322		343	3409		296	2707	
v/s Ratio Prot		0.03			0.02		c0.05	0.19			0.23	
v/s Ratio Perm	c0.14			0.09			c0.31			0.07		
v/c Ratio	0.73	0.18		0.49	0.09		0.54	0.28		0.14	0.43	
Uniform Delay, d1	38.0	33.8		36.0	33.2		7.4	6.6		11.4	13.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.0	0.3		2.1	0.1		1.6	0.2		0.9	0.5	
Delay (s)	47.9	34.1		38.2	33.3		9.0	6.8		12.4	14.3	
Level of Service	D	C		D	C		A	A		B	B	
Approach Delay (s/veh)		40.5			35.9			7.1			14.2	
Approach LOS		D			D			A			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			16.3			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				17.5		
Intersection Capacity Utilization			73.9%			ICU Level of Service				D		
Analysis Period (min)			15									

c Critical Lane Group

Appendix G

Total Traffic Operations



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	32	4	127	17	9	12	201	269	30	229	2
Future Volume (vph)	10	32	4	127	17	9	12	201	269	30	229	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	55.0		0.0	45.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.6		7.6	7.6		7.6	7.6		7.6	7.6		7.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.982			0.950			0.914			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1597	1866	0	1752	1708	0	1656	3248	0	1719	3571	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1597	1866	0	1752	1708	0	1656	3248	0	1719	3571	0
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		147.5			146.9			247.3			131.4	
Travel Time (s)		8.9			8.8			14.8			7.9	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	13%	0%	0%	3%	0%	17%	9%	1%	2%	5%	1%	0%
Adj. Flow (vph)	12	37	5	148	20	10	14	234	313	35	266	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	42	0	148	30	0	14	547	0	35	268	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	41.2%											
Analysis Period (min)	15											
	ICU Level of Service A											

HCM Unsignalized Intersection Capacity Analysis
1: Walker's Line & Palladium Way

4301 Palladium Way TB
Total AM

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	10	32	4	127	17	9	12	201	269	30	229	2	
Future Volume (Veh/h)	10	32	4	127	17	9	12	201	269	30	229	2	
Sign Control	Stop			Stop			Free			Free			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	
Hourly flow rate (vph)	12	37	5	148	20	10	14	234	313	35	266	2	
Pedestrians								1					
Lane Width (m)								3.6					
Walking Speed (m/s)								1.2					
Percent Blockage								0					
Right turn flare (veh)													
Median type								None	None				
Median storage (veh)													
Upstream signal (m)													
pX, platoon unblocked													
vC, conflicting volume	502	912	135	646	757	274	268	547					
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	502	912	135	646	757	274	268	547					
tC, single (s)	7.8	6.5	6.9	7.6	6.5	7.2	4.3	4.2					
tC, 2 stage (s)													
tF (s)	3.6	4.0	3.3	3.5	4.0	3.5	2.3	2.2					
p0 queue free %	97	86	99	51	94	99	99	96					
cM capacity (veh/h)	388	263	895	304	324	681	1243	998					
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3			
Volume Total	12	42	148	30	14	156	391	35	177	91			
Volume Left	12	0	148	0	14	0	0	35	0	0			
Volume Right	0	5	0	10	0	0	313	0	0	2			
cSH	388	287	304	393	1243	1700	1700	998	1700	1700			
Volume to Capacity	0.03	0.15	0.49	0.08	0.01	0.09	0.23	0.04	0.10	0.05			
Queue Length 95th (m)	0.7	3.8	18.9	1.9	0.3	0.0	0.0	0.8	0.0	0.0			
Control Delay (s/veh)	14.6	19.7	27.6	14.9	7.9	0.0	0.0	8.7	0.0	0.0			
Lane LOS	B	C	D	B	A	A							
Approach Delay (s/veh)	18.5	25.5		0.2		1.0							
Approach LOS	C	D											
Intersection Summary													
Average Delay	5.4												
Intersection Capacity Utilization	41.2%			ICU Level of Service					A				
Analysis Period (min)	15												

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	138	9	77	18	3	16	232	859	25	36	690	158
Future Volume (vph)	138	9	77	18	3	16	232	859	25	36	690	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	60.0		0.0	95.0		0.0	70.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5		7.5	7.5		7.5	7.5		7.5	7.5		7.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		1.00		1.00								
Frt		0.865			0.874			0.996			0.972	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1614	0	1671	1532	0	1752	4955	0	1626	4848	0
Flt Permitted	0.745			0.700			0.270			0.301		
Satd. Flow (perm)	1388	1614	0	1231	1532	0	498	4955	0	515	4848	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		79			16			8			74	
Link Speed (k/h)		60			50			60			70	
Link Distance (m)		206.1			104.0			227.8			194.9	
Travel Time (s)		12.4			7.5			13.7			10.0	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	17%	0%	8%	0%	10%	3%	4%	13%	11%	4%	4%
Adj. Flow (vph)	142	9	79	19	3	16	239	886	26	37	711	163
Shared Lane Traffic (%)												
Lane Group Flow (vph)	142	88	0	19	19	0	239	912	0	37	874	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		7.0	8.0		8.0	8.0	
Minimum Split (s)	42.1	42.1		42.1	42.1		11.0	33.4		33.4	33.4	
Total Split (s)	31.0	31.0		31.0	31.0		13.0	54.0		41.0	41.0	
Total Split (%)	36.5%	36.5%		36.5%	36.5%		15.3%	63.5%		48.2%	48.2%	
Maximum Green (s)	23.9	23.9		23.9	23.9		9.0	47.6		34.6	34.6	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.0	3.7		3.7	3.7	
All-Red Time (s)	3.8	3.8		3.8	3.8		1.0	2.7		2.7	2.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.1	7.1		7.1	7.1		4.0	6.4		6.4	6.4	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	27.0	27.0		27.0	27.0			19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effect Green (s)	14.0	14.0		14.0	14.0		59.9	57.5		43.8	43.8	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.70	0.68		0.52	0.52	
v/c Ratio	0.63	0.27		0.09	0.07		0.48	0.27		0.14	0.34	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay (s/veh)	44.4	10.4		28.6	14.7		8.5	6.1		15.6	12.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	44.4	10.4		28.6	14.7		8.5	6.1		15.6	12.5	
LOS	D	B		C	B		A	A		B	B	
Approach Delay (s/veh)		31.4			21.7			6.6			12.7	
Approach LOS		C			C			A			B	
Queue Length 50th (m)	21.8	1.4		2.8	0.4		11.3	18.7		3.2	26.4	
Queue Length 95th (m)	36.9	13.4		8.1	5.5		24.6	30.6		11.3	44.3	
Internal Link Dist (m)		182.1			80.0			203.8			170.9	
Turn Bay Length (m)	80.0			60.0			95.0			70.0		
Base Capacity (vph)	390	510		346	442		502	3356		265	2536	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.36	0.17		0.05	0.04		0.48	0.27		0.14	0.34	

Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 85

Offset: 34 (40%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay (s/veh): 11.7

Intersection LOS: B

Intersection Capacity Utilization 59.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 2: Appleby Line & Palladium Way/Harrison Crescent

 Ø2 (R) 54 s		 Ø4 31 s	
 Ø5 13 s	 Ø6 (R) 41 s	 Ø8 31 s	

HCM Signalized Intersection Capacity Analysis
2: Appleby Line & Palladium Way/Harrison Crescent

4301 Palladium Way TB
Total AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	138	9	77	18	3	16	232	859	25	36	690	158
Future Volume (vph)	138	9	77	18	3	16	232	859	25	36	690	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.1	7.1		7.1	7.1		4.0	6.4		6.4	6.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.87		1.00	0.87		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1615		1670	1531		1752	4954		1626	4848	
Flt Permitted	0.75	1.00		0.70	1.00		0.27	1.00		0.30	1.00	
Satd. Flow (perm)	1388	1615		1230	1531		498	4954		514	4848	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	142	9	79	19	3	16	239	886	26	37	711	163
RTOR Reduction (vph)	0	66	0	0	13	0	0	3	0	0	36	0
Lane Group Flow (vph)	142	22	0	19	6	0	239	909	0	37	838	0
Confl. Peds. (#/hr)			1	1								
Heavy Vehicles (%)	2%	17%	0%	8%	0%	10%	3%	4%	13%	11%	4%	4%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	14.0	14.0		14.0	14.0		57.5	57.5		43.8	43.8	
Effective Green, g (s)	14.0	14.0		14.0	14.0		57.5	57.5		43.8	43.8	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.68	0.68		0.52	0.52	
Clearance Time (s)	7.1	7.1		7.1	7.1		4.0	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	228	266		202	252		479	3351		264	2498	
v/s Ratio Prot		0.01			0.00		c0.06	0.18			0.17	
v/s Ratio Perm	c0.10			0.02			c0.28			0.07		
v/c Ratio	0.62	0.08		0.09	0.02		0.50	0.27		0.14	0.34	
Uniform Delay, d1	33.0	30.1		30.1	29.8		5.6	5.4		10.8	12.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.2	0.1		0.2	0.0		0.8	0.2		1.1	0.4	
Delay (s)	38.3	30.2		30.3	29.8		6.4	5.6		11.9	12.4	
Level of Service	D	C		C	C		A	A		B	B	
Approach Delay (s/veh)		35.2			30.1			5.8			12.4	
Approach LOS		D			C			A			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			11.7				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			85.0				Sum of lost time (s)			17.5		
Intersection Capacity Utilization			59.1%				ICU Level of Service			B		
Analysis Period (min)			15									

c Critical Lane Group

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	16	316	149	36	11	4
Future Volume (vph)	16	316	149	36	11	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5			7.5	7.5	7.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.974		0.966	
Flt Protected	0.950				0.964	
Satd. Flow (prot)	1770	1863	1800	0	1735	0
Flt Permitted	0.950				0.964	
Satd. Flow (perm)	1770	1863	1800	0	1735	0
Link Speed (k/h)		60	60		50	
Link Distance (m)		251.0	140.3		83.1	
Travel Time (s)		15.1	8.4		6.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	2%	2%	2%
Adj. Flow (vph)	17	343	162	39	12	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	343	201	0	16	0
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization	26.6%			ICU Level of Service A		
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis
3: Palladium Way & West Site Driveway

4301 Palladium Way TB
Total AM

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	316	149	36	11	4
Future Volume (Veh/h)	16	316	149	36	11	4
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	343	162	39	12	4
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	201				559	182
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	201				559	182
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				98	100
cM capacity (veh/h)	1371				484	861
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	17	343	201	16		
Volume Left	17	0	0	12		
Volume Right	0	0	39	4		
cSH	1371	1700	1700	544		
Volume to Capacity	0.01	0.20	0.12	0.03		
Queue Length 95th (m)	0.3	0.0	0.0	0.7		
Control Delay (s/veh)	7.7	0.0	0.0	11.8		
Lane LOS	A			B		
Approach Delay (s/veh)	0.4		0.0	11.8		
Approach LOS				B		
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			26.6%		ICU Level of Service	A
Analysis Period (min)			15			

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	325	184	4	2	1
Future Volume (vph)	2	325	184	4	2	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5			7.5	7.5	7.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.997		0.955	
Flt Protected	0.950				0.968	
Satd. Flow (prot)	1770	1863	1814	0	1050	0
Flt Permitted	0.950				0.968	
Satd. Flow (perm)	1770	1863	1814	0	1050	0
Link Speed (k/h)		60	60		50	
Link Distance (m)		140.3	216.6		61.2	
Travel Time (s)		8.4	13.0		4.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	75%	100%	2%
Adj. Flow (vph)	2	353	200	4	2	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2	353	204	0	3	0
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 27.1%				ICU Level of Service A		
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis
4: Palladium Way & East Site Driveway

4301 Palladium Way TB
Total AM

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	325	184	4	2	1
Future Volume (Veh/h)	2	325	184	4	2	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	353	200	4	2	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	204				559	202
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	204				559	202
tC, single (s)	4.1				7.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				4.4	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1368				357	839
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	2	353	204	3		
Volume Left	2	0	0	2		
Volume Right	0	0	4	1		
cSH	1368	1700	1700	442		
Volume to Capacity	0.00*	0.21	0.12	0.00*		
Queue Length 95th (m)	0.0	0.0	0.0	0.2		
Control Delay (s/veh)	7.6	0.0	0.0	13.2		
Lane LOS	A			B		
Approach Delay (s/veh)	0.0		0.0	13.2		
Approach LOS				B		
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			27.1%		ICU Level of Service	A
Analysis Period (min)			15			
* Value less than 0.01.						

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	18	15	305	69	27	30	266	136	10	263	21
Future Volume (vph)	1	18	15	305	69	27	30	266	136	10	263	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	55.0		0.0	45.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.6		7.6	7.6		7.6	7.6		7.6	7.6		7.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt		0.931			0.958			0.949			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1769	0	1787	1820	0	1687	3403	0	1805	3570	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	1769	0	1787	1820	0	1687	3403	0	1805	3570	0
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		147.5			146.9			247.3			131.4	
Travel Time (s)		8.9			8.8			14.8			7.9	
Confl. Peds. (#/hr)			2	2					1	1		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	7%	1%	0%	0%	0%	0%
Adj. Flow (vph)	1	20	17	343	78	30	34	299	153	11	296	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	37	0	343	108	0	34	452	0	11	320	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	48.7%											
Analysis Period (min)	15											
ICU Level of Service A												

HCM Unsignalized Intersection Capacity Analysis
1: Walker's Line & Palladium Way

4301 Palladium Way TB
Total PM

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	1	18	15	305	69	27	30	266	136	10	263	21	
Future Volume (Veh/h)	1	18	15	305	69	27	30	266	136	10	263	21	
Sign Control	Stop			Stop			Free			Free			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	
Hourly flow rate (vph)	1	20	17	343	78	30	34	299	153	11	296	24	
Pedestrians					1		2						
Lane Width (m)					3.6		3.6						
Walking Speed (m/s)					1.2		1.2						
Percent Blockage					0		0						
Right turn flare (veh)													
Median type	None								None				
Median storage (veh)													
Upstream signal (m)													
pX, platoon unblocked													
vC, conflicting volume	617	851	162	644	787	227	320				453		
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	617	851	162	644	787	227	320				453		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.2				4.1		
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3				2.2		
p0 queue free %	100	93	98	0	75	96	97				99		
cM capacity (veh/h)	286	288	859	324	314	781	1201				1117		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3			
Volume Total	1	37	343	108	34	199	253	11	197	123			
Volume Left	1	0	343	0	34	0	0	11	0	0			
Volume Right	0	17	0	30	0	0	153	0	0	24			
cSH	286	414	324	376	1201	1700	1700	1117	1700	1700			
Volume to Capacity	0.00*	0.09	1.06	0.29	0.03	0.12	0.15	0.00*	0.12	0.07			
Queue Length 95th (m)	0.1	2.2	94.6	8.8	0.7	0.0	0.0	0.2	0.0	0.0			
Control Delay (s/veh)	17.6	14.5	103.7	18.4	8.1	0.0	0.0	8.3	0.0	0.0			
Lane LOS	C	B	F	C	A				A				
Approach Delay (s/veh)	14.6			83.3	0.6				0.3				
Approach LOS	B			F									
Intersection Summary													
Average Delay	29.5												
Intersection Capacity Utilization	48.7%			ICU Level of Service						A			
Analysis Period (min)	15												

* Value less than 0.01.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	201	17	209	84	17	56	187	885	27	38	949	201
Future Volume (vph)	201	17	209	84	17	56	187	885	27	38	949	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	60.0		0.0	95.0		0.0	70.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5		7.5	7.5		7.5	7.5		7.5	7.5		7.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		1.00		1.00			1.00				1.00	
Fr _t		0.861			0.886			0.996			0.974	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1632	0	1770	1683	0	1703	5068	0	1805	5009	0
Flt Permitted	0.708			0.470			0.172			0.289		
Satd. Flow (perm)	1332	1632	0	874	1683	0	308	5068	0	549	5009	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		213			58			7			59	
Link Speed (k/h)		60			50			60			70	
Link Distance (m)		206.1			104.0			227.8			194.9	
Travel Time (s)		12.4			7.5			13.7			10.0	
Confl. Peds. (#/hr)			3	3			1					1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	0%	0%	2%	0%	0%	6%	2%	0%	0%	1%	0%
Adj. Flow (vph)	209	18	218	88	18	58	195	922	28	40	989	209
Shared Lane Traffic (%)												
Lane Group Flow (vph)	209	236	0	88	76	0	195	950	0	40	1198	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		7.0	8.0		8.0	8.0	
Minimum Split (s)	42.1	42.1		42.1	42.1		11.0	33.4		33.4	33.4	
Total Split (s)	37.0	37.0		37.0	37.0		12.0	63.0		51.0	51.0	
Total Split (%)	37.0%	37.0%		37.0%	37.0%		12.0%	63.0%		51.0%	51.0%	
Maximum Green (s)	29.9	29.9		29.9	29.9		8.0	56.6		44.6	44.6	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.0	3.7		3.7	3.7	
All-Red Time (s)	3.8	3.8		3.8	3.8		1.0	2.7		2.7	2.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.1	7.1		7.1	7.1		4.0	6.4		6.4	6.4	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	27.0	27.0		27.0	27.0			19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effect Green (s)	20.9	20.9		20.9	20.9		68.0	65.6		52.2	52.2	
Actuated g/C Ratio	0.21	0.21		0.21	0.21		0.68	0.66		0.52	0.52	
v/c Ratio	0.75	0.46		0.48	0.19		0.58	0.29		0.14	0.45	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay (s/veh)	53.0	8.8		42.1	12.0		13.9	8.2		16.8	15.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	53.0	8.8		42.1	12.0		13.9	8.2		16.8	15.8	
LOS	D	A		D	B		B	A		B	B	
Approach Delay (s/veh)		29.6			28.2			9.1			15.9	
Approach LOS		C			C			A			B	
Queue Length 50th (m)	38.0	3.6		15.1	2.8		12.6	25.6		3.8	48.7	
Queue Length 95th (m)	57.0	20.1		27.6	12.6		27.1	40.7		11.4	69.3	
Internal Link Dist (m)		182.1			80.0			203.8			170.9	
Turn Bay Length (m)	80.0			60.0			95.0			70.0		
Base Capacity (vph)	398	637		261	543		341	3326		286	2644	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.53	0.37		0.34	0.14		0.57	0.29		0.14	0.45	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 40 (40%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay (s/veh): 16.0

Intersection LOS: B

Intersection Capacity Utilization 75.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 2: Appleby Line & Palladium Way/Harrison Crescent

 #2 Ø2 (R)		 #2 Ø4	
63 s		37 s	
 #2 Ø5		 #2 Ø8	
12 s		37 s	
 #2 Ø6 (R)			
51 s			

HCM Signalized Intersection Capacity Analysis
2: Appleby Line & Palladium Way/Harrison Crescent

4301 Palladium Way TB
Total PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	201	17	209	84	17	56	187	885	27	38	949	201
Future Volume (vph)	201	17	209	84	17	56	187	885	27	38	949	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.1	7.1		7.1	7.1		4.0	6.4		6.4	6.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.89		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	1633		1766	1683		1703	5066		1805	5008	
Flt Permitted	0.71	1.00		0.47	1.00		0.17	1.00		0.29	1.00	
Satd. Flow (perm)	1331	1633		874	1683		308	5066		549	5008	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	209	18	218	88	18	58	195	922	28	40	989	209
RTOR Reduction (vph)	0	168	0	0	46	0	0	2	0	0	28	0
Lane Group Flow (vph)	209	68	0	88	30	0	195	948	0	40	1170	0
Confl. Peds. (#/hr)			3	3			1					1
Heavy Vehicles (%)	1%	0%	0%	2%	0%	0%	6%	2%	0%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	20.9	20.9		20.9	20.9		65.6	65.6		52.3	52.3	
Effective Green, g (s)	20.9	20.9		20.9	20.9		65.6	65.6		52.3	52.3	
Actuated g/C Ratio	0.21	0.21		0.21	0.21		0.66	0.66		0.52	0.52	
Clearance Time (s)	7.1	7.1		7.1	7.1		4.0	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	278	341		182	351		331	3323		287	2619	
v/s Ratio Prot		0.04			0.02		c0.05	0.19			0.23	
v/s Ratio Perm	c0.16			0.10			c0.33			0.07		
v/c Ratio	0.75	0.20		0.48	0.09		0.59	0.29		0.14	0.45	
Uniform Delay, d1	37.1	32.6		34.8	31.9		8.3	7.3		12.3	14.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.9	0.3		2.0	0.1		2.7	0.2		1.0	0.6	
Delay (s)	48.0	32.9		36.8	32.0		11.0	7.5		13.3	15.4	
Level of Service	D	C		D	C		B	A		B	B	
Approach Delay (s/veh)		40.0			34.6			8.1			15.3	
Approach LOS		D			C			A			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			17.3				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)			17.5		
Intersection Capacity Utilization			75.8%				ICU Level of Service			D		
Analysis Period (min)			15									

c Critical Lane Group

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	5	159	383	17	40	18
Future Volume (vph)	5	159	383	17	40	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5			7.5	7.5	7.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.994		0.957	
Flt Protected	0.950				0.967	
Satd. Flow (prot)	1770	1900	1869	0	1724	0
Flt Permitted	0.950				0.967	
Satd. Flow (perm)	1770	1900	1869	0	1724	0
Link Speed (k/h)		60	60		50	
Link Distance (m)		251.0	140.3		83.1	
Travel Time (s)		15.1	8.4		6.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	0%	1%	2%	2%	2%
Adj. Flow (vph)	5	173	416	18	43	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	173	434	0	63	0
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	31.2%			ICU Level of Service A		
Analysis Period (min)	15					

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	159	383	17	40	18
Future Volume (Veh/h)	5	159	383	17	40	18
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	173	416	18	43	20
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	434				608	425
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	434				608	425
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				91	97
cM capacity (veh/h)	1126				457	629
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	5	173	434	63		
Volume Left	5	0	0	43		
Volume Right	0	0	18	20		
cSH	1126	1700	1700	500		
Volume to Capacity	0.00*	0.10	0.26	0.13		
Queue Length 95th (m)	0.1	0.0	0.0	3.2		
Control Delay (s/veh)	8.2	0.0	0.0	13.2		
Lane LOS	A			B		
Approach Delay (s/veh)	0.2		0.0	13.2		
Approach LOS				B		
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization			31.2%		ICU Level of Service	A
Analysis Period (min)			15			

* Value less than 0.01.

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	1	198	398	2	4	2
Future Volume (vph)	1	198	398	2	4	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5			7.5	7.5	7.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999		0.955	
Flt Protected	0.950				0.968	
Satd. Flow (prot)	1770	1900	1871	0	1311	0
Flt Permitted	0.950				0.968	
Satd. Flow (perm)	1770	1900	1871	0	1311	0
Link Speed (k/h)		60	60		50	
Link Distance (m)		140.3	216.6		61.2	
Travel Time (s)		8.4	13.0		4.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	0%	1%	100%	50%	2%
Adj. Flow (vph)	1	215	433	2	4	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1	215	435	0	6	0
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	31.1%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
4: Palladium Way & East Site Driveway

4301 Palladium Way TB
Total PM

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	198	398	2	4	2
Future Volume (Veh/h)	1	198	398	2	4	2
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	215	433	2	4	2
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	435				651	434
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	435				651	434
tC, single (s)	4.1				6.9	6.2
tC, 2 stage (s)						
tF (s)	2.2				4.0	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1125				366	622
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	1	215	435	6		
Volume Left	1	0	0	4		
Volume Right	0	0	2	2		
cSH	1125	1700	1700	424		
Volume to Capacity	0.00*	0.13	0.26	0.01		
Queue Length 95th (m)	0.0	0.0	0.0	0.3		
Control Delay (s/veh)	8.2	0.0	0.0	13.6		
Lane LOS	A			B		
Approach Delay (s/veh)	0.0		0.0	13.6		
Approach LOS				B		
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			31.1%		ICU Level of Service	A
Analysis Period (min)			15			

* Value less than 0.01.

Appendix H

Traffic Control Signal Warrant



Signal Justification Calculation for Forecast Volumes (OTM Book 12 - Justification 7)



Horizon Year: Five-Year Total Traffic
Municipality: City of Burlington

Project Number: 260094

Major Street: Walker's Line
Minor Street: Palladium Way

North/South?: Y

Number of Approach Lanes: 2 or more
Tee Intersection? N
Flow Conditions: Restricted
PM Forecast Only? N

Warrant Results		
200% Satisfied	No	Case 1: Signal is undoubtedly warranted
100% Satisfied	No	Case 2: Signal might be warranted
Case 3: Signal warrant is unlikely		

Time Period	Major Street Walker's Line						Minor Street Palladium Way						Peds Crossing
	Northbound			Southbound			Eastbound			Westbound			
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right	
AM Peak Hour	12	201	269	30	229	2	10	32	4	127	17	9	1
PM Peak Hour	30	266	136	10	263	21	1	18	15	305	69	27	2
Average Hourly Volume	11	117	101	10	123	6	3	13	5	108	22	9	1

Warrant	AHV
1A - All	526
1B - Minor	159
2A - Major	367
2B - Cross	133

Warrant 1 - Minimum Vehicular Volume

1A	Approach Lanes	1		2 or more		Average Hourly Volume
	Flow Conditions	Free	Restricted	Free	Restricted	
					X	
	All Approaches	480	720	600	900	526
% Fulfilled						58.4%

1B	Approach Lanes	1		2 or more		Average Hourly Volume
	Flow Conditions	Free	Restricted	Free	Restricted	
					X	
	Minor Street Approaches	120	170	120	170	159
% Fulfilled						93.2%

Warrant 2 - Delay To Cross Traffic

2A	Approach Lanes	1		2 or more		Average Hourly Volume
	Flow Conditions	Free	Restricted	Free	Restricted	
					X	
	Major Street Approaches	480	720	600	900	367
% Fulfilled						40.8%

2B	Approach Lanes	1		2 or more		Average Hourly Volume
	Flow Conditions	Free	Restricted	Free	Restricted	
					X	
	Traffic Crossing Major Street	50	75	50	75	133
% Fulfilled						177.3%

URBAN DESIGN BRIEF

Purpose:

Site Plan Approval Application

Subject Property:

4301 Palladium Way, Burlington ON

Prepared for:

Vicano Developments Limited

Prepared by:

Cynthia Baycetich, Planner, MCIP, RPP
CB Planning

Date:

April 15, 2026



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1.0 INTRODUCTION & PURPOSE

This Urban Design Brief has been prepared in support of the Site Plan Approval Application proposed by Vicano Developments Limited for the development of the lands municipally known as 4301 Palladium Way in Burlington (referred to as the "site"). The development consists of a two-unit industrial building comprising 16,876 square metres of ground floor area.

The Site is within the Urban Area as shown on Map 1 of the Regional Official Plan (ROP) for the Halton Planning Area Regional Municipality of Halton (2024). The site is located outside of the Built Boundary and within the Regional Urban Boundary (Map 1h), and also part of the Employment Area (Map 1H). The ROP identifies that lands within the Urban Boundary will be in accordance with the local Official Plans and Zoning By-laws.

As identified in Section 72 of the ROP the goal of the Region's Urban Area, Employment Area is to manage growth in a manner that fosters complete communities, enhances mobility across the Region, addresses climate change, and improves housing affordability, sustainability and economic prosperity. Section 76 identifies that the range of permitted uses and the creation of new lots within the Urban Area will be in accordance with Local Official Plans and Zoning By-laws. All development, however, shall be subject to the policies of the ROP.

The Region's policy for Employment Areas aims to facilitate and promote intensification and higher densities to support a more compact, transit-oriented built form while minimizing surface parking. It also seeks to provide an appropriate range and balance of employment uses including industrial, office, retail, and institutional, to meet long-term needs. Additionally, the policy directs the location of employment uses and protects lands designated for these purposes.

The ROP identifies policies for Employment Areas that promote intensification and increased densities in both new and existing locations. These areas are intended to serve as focal points for growth and development within the City by facilitating compact, transit-supportive built form and minimizing surface parking.

The site is within the Business Corridor designation under Schedule C of both the City of Burlington Official Plan (1997) and the 2020 Official Plan. The site is zoned Business Corridor (BC1-319) under the City's Zoning By-law 2020. The Objectives of the Business Corridor Designation, Part III, 3.4.1 (a-f), permit a broad range of employment uses, including prestige office and industrial uses, while promoting high development standards to ensure compatibility with adjacent non-industrial uses. In addition, a number of site plan design considerations for new and/or expanding Business Corridor

developments, as outlined in Part 111, Section 3.4.2(f) and Section 6.0 of Part 11, are addressed in Section 4.0 of this report.

DESIGN POLICIES and GUIDELINES

The subject site and proposed development are informed by multiple layers of urban design policies and guidelines. This Urban Design Brief has considered the Regional Official Plan, the City of Burlington Official Plan, the City's Site Plan Guidelines, and the Alton Central East Community Urban Design Study and Guidelines. In addition, comments provided by Planning Staff through the Site Plan Review Committee on February 10, 2026, have been reviewed and incorporated into this assessment.

PURPOSE

This Brief provides an overview of the relevant policies applicable to the proposed development, with a focus on key urban design considerations and the regulatory context outlined above. The proposed development is guided by the following design objectives to ensure conformity with the City's Urban Design Principles and objectives:

- Ensuring compatibility in that the scale, height, and massing of the building are appropriate within the surrounding area context;
- Positioning a high-profile industrial employment site with excellent visibility beside Highway 407;
- Promoting a visually positive experience for both pedestrian and vehicles with an overall high quality urban and architectural design;
- Maintaining appropriate separation and buffering from adjacent lands, including nearby residential use located east across Palladium Way;
- Site organization, loading, servicing, and circulation areas to minimize visual and operational conflicts with surrounding roads and properties to ensure new development is designed to be functional, safe, and compatible with the planned and existing character of the area; and,
- Enhancing the visual quality of the site through landscape buffering, planting and site edge treatment, and the highest quality of design in building materials realizing that the private realm shapes the quality of the public realm and helps define the character of the neighbourhood promoting an attractive streetscape environment; and,
- Supporting environmentally responsible design practices, including careful consideration of naturalized design along the creek and landscape integration throughout the site that will not result in adverse impacts on adjacent lands.

PROPOSAL

The proposed prestige industrial development consists of a multi-use business park, including a two-unit industrial building with a ground floor area of 16,876 square metres (181,647 square feet), which includes potential two-storey office components within each unit. The development provides 196 on-site parking spaces and 20 loading spaces.

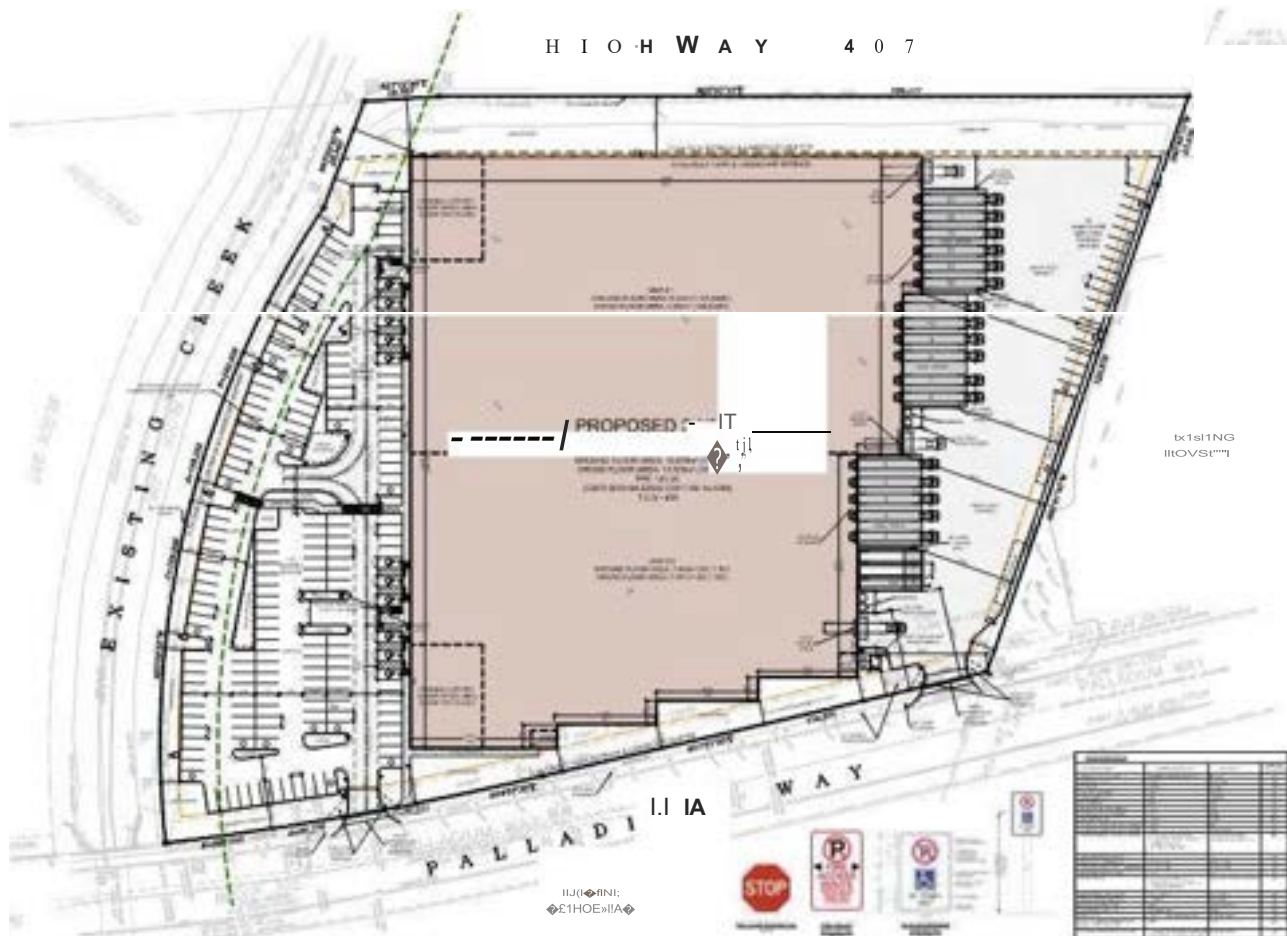


Figure:1 Proposed Site Plan

Source: Vicano Developments Limited, Revision 2, 03/23/2026

2.0 EXISTING SITE CONDITIONS AND SURROUNDING CONTEXT

The site is located within the Alton Village in the north-central portion of the City. It is approximately 3.6 hectares/8.8 acres in size and located on the west side of Palladium Way north of Walkers Line, south of the Appleby Line and immediately adjacent to Highway 407. The site is currently vacant and has approximately 211.0m of frontage along Palladium Way. The existing topography is generally flat, with no significant grade changes. Vegetation on the site consists primarily of grassy ground cover and scattered

scrub brush toward the rear of the property. There are no significant views or vistas affected by the proposed development.

The community context of the area surrounding the Site is described as follows:

North: Directly north are existing industrial and employment uses. Approximately 1.3km away is the Highway 407 interchange at Appleby Line providing a high level of accessibility to the Site from other areas of the City and the broader geographic region.

South: Abutting the site to the south is an existing creek and a vacant property on the other side.

East: To the east is a residential subdivision of low-rise, single detached homes.

West: Immediately west is Highway 407.

SITE PHOTOS

The following photos depict the location, current Site conditions and surrounding land uses.



Aerial view of the site looking North.



Aerial view of the site looking South.



View of the site from the east, looking west across Palladium Way.



View of the site looking east across Hwy 407.

3.0 RELATIONSHIP OF THE SITE TO SURROUNDING LANDS

The site layout reflects the operational requirements for a two-unit large scale industrial building while maintaining appropriate separation between building elements, circulation areas for site functionality, and property boundaries.

The proposed building is situated at the centre of the site and maintains the requirements of the Business Corridor zoning notwithstanding number of parking spaces, rear yard and length of maximum length of exterior wall facing a residential zone. A future minor variance application will be submitted to seek approval for these noted deficient provisions.

Service areas, loading functions, and circulation routes are organized to support the operational needs of a prestige facility while minimizing visual exposure from surrounding roads and nearby properties. Loading docks and service areas are generally oriented away from the front portion of the site. This configuration reduces the visibility of operational areas from Palladium Way and supports a more orderly site arrangement.

Access to the site continues to be provided from Palladium Way (Street A), which functions as a major employment collector road, characterized by employment uses and a parkway-like streetscape and is designed to accommodate the vehicular movements associated with employment and industrial uses.

The proposed development maintains appropriate separation from surrounding lands including the creek to the south. Existing vegetation, building setbacks, and proposed landscape buffering help reduce the visual prominence of the facility when viewed from surrounding lands. The proposed development reinforces this established employment character envisioned for these lands with extensive landscaped edges to soften and enhance views.

Residential dwellings located east of Palladium Way remain physically separated from the site by the width of the arterial roadway and the building setback along the site frontage. This separation helps maintain an appropriate interface between employment and residential uses.

Supporting materials prepared for the project, include Landscape Plan and Details, Elevations, and conceptual Site Rendering included as Appendices within this Brief.

The proposed building footprint measures approximately 17,805 square metres of potential gross floor area, creating a large-format building form consistent with the operational requirements of industrial warehouse facilities.

From an urban design perspective, the building massing reflects the functional requirements of contemporary industrial development. Large-format industrial buildings are a defining characteristic of employment areas and are typically designed with large floor plates to accommodate specialized equipment and operational processes.

The building facade incorporates an office component clad in upgraded ACM panels, complemented by a combination of insulated metal wall panels in white and enhanced grey, selected for their durability and thermal performance commonly associated with premium industrial facilities. Decorative architectural fins are thoughtfully integrated to add visual interest. The elevations are primarily solid, with strategic areas of glazing that reflect the facility's operational function while reinforcing the prestigious character of the Business Corridor. A glass curtain wall at the office portion further enhances the street-facing frontage, creating a refined appearance consistent with existing industrial developments along Palladium Way.

There are established employment uses within the immediate area. Notably, the Bos & Co. facility located at 4551 Palladium Way and Neelands at 4131 Palladium Way represents a prominent office within the employment area, already part of the established visual context. In this regard, consideration has been given to how the

proposed design elements will reinforce a cohesive and continuous urban design vision as individual lots develop toward full build-out. The proposed building is consistent with the functional requirements and built form expectations associated with employment area development.

4.0 APPLICABLE POLICIES AND CONTEXT

CITY OF BURLINGTON OFFICIAL PLAN - 1997, (Updated July 2025)

The proposed development seeks to apply the key objectives of The City of Burlington Official Plan (OP). As previously noted, the Site Plan considerations identified in Part III f) of the OP indicates the following site design and development factors shall be considered for new and/or expanding Business Corridor uses:

- i. off-street parking shall be located away from adjacent uses;
- ii. loading areas shall be located to avoid conflict between pedestrian and vehicular traffic away from adjacent uses and adjoining roads;
- iii. outdoor storage areas shall be fenced and/or screened;
- iv. the number and location of vehicular access points shall be limited to minimize impacts on adjacent uses;
- v. lighting shall be directed to minimize impacts on adjacent uses;
- vi. the proposal provides convenient access to public transit services;
- vii. the proposal includes features to promote public safety;
- viii. off-street parking areas, loading areas and site service areas shall be screened and landscaped; and
- ix. urban design considerations contained in Part II, Section 6.0

PART II - FUNCTIONAL POLICIES

Design, as outlined in Section 6.0 of the Official Plan, is a fundamental component of the planning process, emphasizing the organization and visual quality of built form and open spaces to achieve a cohesive, attractive, and functional urban environment. As development and intensification continue within Burlington, there is an increasing public expectation for high-quality architecture and strong visual coherence across the urban landscape. In this context, urban design considerations are becoming an increasingly important factor in the evaluation and approval of development applications, ensuring that new growth contributes positively to the overall character and livability of the city.

The City of Burlington is committed to achieving high-quality urban design and applies approved Design Guidelines to guide development. These guidelines are used throughout the development review process to ensure that proposals are consistent with the City's overall vision and design objectives.

Overall, the Official Plan's design policies promote an efficient, attractive, and compact urban form that enhances community well-being. Key objectives include the preservation and integration of natural and cultural heritage features, respect for existing neighbourhood character, the development of well-designed communities with strong pedestrian and transit connections, the creation of high-quality public realm spaces, the encouragement of consistent yet diverse architectural expression, the integration of urban design principles into all planning decisions, and the promotion of sustainable development practices.

CITY OF BURLINGTON SITE PLAN APPLICATION GUIDELINES - (Updated 2019)

The City's Site Plan Guidelines indicate that there are existing Urban Design Guidelines for specific Areas - Alton Community being one. The following summarizes the principles, objectives & policies of urban design guidelines for the City, adopted in 1994. The OP received Region of Halton approval, with modifications on March 5, 1997 (some outstanding deferrals remain). Development proposals will be assessed against the OP guidelines. The following sections of the guidelines speak to the development criteria and identifies the following for development proposals:

11.3 Principles of Urban Design

Urban design involves subjective matters related to the visual character, aesthetics and compatibility of land use and to the qualitative aspects of development. The tangible elements of urban form, being the built environment and open space, shall be designed in an efficient and attractive manner to enhance the well-being of residents and reflect the Official Plan vision. Urban design principles are primarily a guideline.

11.4 Objectives of Urban Design

- new developments shall be designed to preserve, enhance and connect natural features (eg. woodlots, watercourses, existing topography, Niagara Escarpment)
- encourage preservation, restoration and enhancement of identified heritage features
- urban design measures may be required for existing distinctive locations, neighbourhoods, or gateways into the city or parts of the city

Section 1.0 of the guidelines identifies Site Plan Approval as the primary mechanism for ensuring that development is in compliance with City zoning and development standards, in accordance with the provisions of Section 41 of the *Planning Act*. This process is intended to ensure safe, functional, and orderly development while also supporting high standards of design, efficient land use, and effective servicing.

CITY OF BURLINGTON -ALTON CENTRAL EAST COMMUNITY URBAN DESIGN and GUIDELINES

The Alton Central East Urban Design Study and Guidelines set out the required site design and technical standards in Section 3.0, which address key elements of site planning to facilitate a successful Site Plan Approval application process.

The proposed development seeks to apply the key objectives of the Alton Central East Community Urban Design Study and Guidelines as they apply to the Business Corridor area located along Highway 407.

The Community Vision of the Alton Central East Community is that of a visually attractive, 'urbanized', and pedestrian-oriented community consisting of a number of distinct neighbourhoods with Employment areas forming a strong presence along the community's northern boundary. A Community Design Plan was created to articulate this vision and guide future development.

The proposed development carefully incorporates the design objectives and guidelines of the Alton Design Study and the Official Plan to achieve the overall general vision for the City.

Section 3.0 of the Alton Central East Guidelines indicates that urban design considerations for this area should *minimize negative visual impact on adjacent land uses, creating attractive streetscapes and promoting a positive presence within the community*.

The following Objectives apply:

1. To design site plans which balance the functional needs of these areas with their role in defining the streetscape.
2. To minimize the presence of parking areas long the street edge.
3. To design built form that creates a consistent and attractive edge to the abutting roadways.
4. To design attractive interfaces with adjacent land uses.
5. To ensure vehicular and pedestrian access and connections are designed in a safe and efficient manner.
6. To design the following intersections as 'Employment Gateways': Street A and Walkers Line, Appleby Line and Dundas Street.

More specifically, the following section identifies the specific Guidelines that have been identified as key components in the community and proposed considered in designing the proposed development.

This section demonstrates how the proposed design has been guided by the design policies and guidelines in Section 3 noted in respect to the following design considerations in the site planning.

Section 3.1 Business Corridor applies to the site also relative to Sections 7.3.2 and 7.3.3. that should be carefully considered during site planning with attention to a visually attractive streetscape design to create a positive visual presence in the community include:

- Buildings should be situated close to the front property line to reinforce the street edge.
 - ✓ The proposed development is set close to the front property line. The building is oriented in north/south direction to allow for ease of movement of people and vehicles into the public realm.
- On the employment side, building setbacks along Street 'A' shall be combined with a 6.0m wide continuous and fully landscaped buffer.
 - ✓ The front yard setback is shown at 6.0m with a continuous and fully landscape buffer.
- Design of the landscaped buffer should be coordinated with the Streetscape on the south side of Street A. The landscaped buffer should include a single row of deciduous canopy trees, to form, in conjunction with the street trees within the boulevard, a staggered double row of trees.
 - ✓ The landscape plan includes a staggered double row of trees, integrating existing and proposed plantings to form a continuous tree line. As the trees mature, they will establish a continuous canopy along the building frontage.
- The landscape buffer may also include gentle berms, low walls, piers and decorative fencing, coordinated to provide a consistent and attractive edge along Street A, and to lend a common element to this area where building designs may vary.
 - ✓ Continuous foundation planting is provided to soften the building facade and the areas adjacent to parking and truck traffic. This planting extends in front of parking and loading areas to offer effective screening, while maintaining a balanced and cohesive streetscape along the entire frontage.
- The scale, massing and design of buildings along Street A should be based on pedestrian scaled elements and details.
 - ✓ The office portion along the facade will feature large windows to create an inviting atmosphere and enhance safety through visibility. Building entrances will be recessed beneath facade overhangs, providing adequate protection from the elements. The contemporary architectural building design and exterior building materials, proposed development demonstrates compatibility in that the height, massing, scale is appropriately pedestrian scaled.
- Canopies and signage should be pedestrian scaled along Street A.

- ✓ The Palladium Way frontage features upgraded materials, while pedestrian entrances are oriented internally within the site. These entrances are complemented by pedestrian-scale canopies and signage along the side of the building.
- Attractive facades shall be provided along Street A. These facades should be developed with a higher degree of detailed elements and may include building elements consistent with or complementary to the predominant architectural style of the community.
 - ✓ A thoughtful and attractive facade incorporates sustainable high quality building materials including architectural fins to enhance visual interest and break up large blank wall areas, complemented by alternating grey and white insulated metal panels. A glass office component further elevates the street-facing frontage, creating a refined appearance consistent with surrounding industrial developments along Palladium Way. Choice of materials both texture and colour will create a contextual design that is visual appealing, that is respectful of and will compliment the surrounding public realm and provide for a strong visual tie and seamless view visible from the street for an overall aesthetic of the area.
- Vehicular entrances to the Business corridor shall be located and designed to ensure safe and convenient access. These areas should be coordinated with the landscape buffer along the property line to promote a visually attractive streetscape. Entrances should be sufficiently lit and signed to ensure ease of orientation.
 - ✓ The site has been designed for optimal site functionality and circulation to minimize conflict between vehicles and pedestrians. Adequate site access is provided as follows:

A full movement driveway on the north side of the proposed building for tractor trailer movements.

A full movement driveway on the south side of the proposed building for auto vehicles and smaller delivery vehicles and is a designated fire route; Each of the two entrances complies with the 7.6-metre minimum driveway width and includes appropriate curbing to support safe and efficient site access. A 2.0-metre-wide concrete sidewalk enhances pedestrian safety and ease of movement. Additionally, a continuous landscaped buffer with coordinated lighting is provided to ensure adequate illumination and clear wayfinding at the entrances. Site lighting has been designed to regulated specifications to ensure appropriate lighting levels are provided for improved visibility, safety and contributes to the overall aesthetics and functionality of the site and to minimize impacts n adjacent uses. Details about the type and location of outdoor lighting is shown on the Site Photometrics Plan included in this submission.

These accesses have been located to provide safe and convenient access for site functionality and efficient circulation in-and-out to Palladium Way and to the surrounding road network.

- Parking areas should be located away from Street A. Their visual impact should be minimized as much as possible through their configuration, the use of landscape buffers and grading.
 - ✓ Parking areas on the southwest side are screened with a double row of shrubs and trees. Large shrubs, conifers, and a meadow grass mix are provided to naturalize the area and help manage stormwater runoff. Appropriate setback and transition on the creek side has been prioritized. Landscape islands have been incorporated incorporate soft and hard landscaping (grass, shrubs, trees, perennials) in order to minimize the amount of paved areas. Bicycle parking is also accounted for. On the truck side, additional tree planting provides balance, with dense vegetation along the north property line to effectively screen truck activity.
- Loading, service, garbage and storage areas shall be located away from Street A. Similarly their visual impact should be mitigated through their configuration, the use of landscaping and grading. Side yards should be considered as priority locations for these elements.
 - ✓ The two garbage areas are proposed on the north side of the site and they are screened by wood fencing. Garbage and recycling collection will be managed privately and shown as areas on the proposed Preliminary Site Development Plan have been located away from pedestrian areas, screened from public street views and accessible within truck turning movements. The same concept applies for site servicing/utility equipment; enclosed and positioned out of the way so there is not any interference. Proposed dedicated loading areas are at the rear of perimeter buildings for safety and directed from public view as much as possible.

3.1.2 Highway 407

- Buildings should be located to be visible from Highway 407, wherever possible.
 - ✓ The building is appropriately setback 14.5 metres from the rear property line.
- The scale, massing and design of buildings along the Highway 407 frontage should be based on simple bold massing appropriate to the perception of the community from the high speed roadway.
 - ✓ The building presents a simple rectangular massing defined by clean lines and a cohesive plane to ensure a strong visual presence from a distance along the highway.

- Buildings along Highway 407 should be designed with attractive facades. Architectural elements, details and signage should be scaled to be viewed from the high speed roadway. Accordingly, the landscape buffer should be scaled in proportion to the buildings, and include a simple palette of bold plant material arranged in large groupings.
 - ✓ The landscape plan shows a continuous row of staggered grouping of a variety of deciduous trees in variety along the rear facade.
- Along the Highway 407 edge, building setbacks shall be combined with a landscape buffer to screen loading, parking and storage areas.
 - ✓ The berm along Highway 407 provides the primary screening, with proposed tree plantings enhancing and reinforcing this effect.

In addition, and in accordance with the specific Guidelines of Section 6.1, a naturalized landscape and planting design has been proposed to complement the existing character alongside the creek while reducing maintenance requirements.

Landscape design plays an important role in mitigating the visual presence of the expanded building and reinforcing the Site's edge condition along Palladium Way and especially along the creek.

Another important guideline section is (7.1.1.3) in that Palladium Way (Street A) functions as a major Employment Collector and a key organizing element, helping define the interface between employment and residential areas. Its character is reinforced by adjacent parks and schools, creating a strong "green" identity.

The intent of the guideline is to maintain a clear and cohesive streetscape despite varied land uses, consistent and coordinated design elements are required. These include decorative lighting, unified signage, integrated trail markers, continuous landscaped buffers, and a consistent pattern of street trees. Additional features such as uniform fencing, coordinated planting, pedestrian connections, and cohesive treatments along frontages and flankage lots further contribute to a recognizable and high-quality streetscape.

As described above, the proposed development incorporates many of these elements. A consistent and coordinated landscape treatment is proposed along the site frontage, including tree planting and dense vegetation to strengthen the property's visual edge. This includes staggered tree planting with a mix of deciduous and coniferous species, creating layered vegetation over time and establishing a continuous landscaped buffer along the Business Corridor.

Foundation planting and landscape beds are proposed adjacent to the building facade and site entrances in order to soften the appearance of the expanded building mass and improve the visual quality of the streetscape interface. Additional landscape buffering is

provided along property boundaries, within the rear yard setback of the site and internal circulation areas to enhance visual screening and appeal.

Overall, thoughtful consideration of the organization of the site in terms of circulation, parking, building placement and orientation, landscape islands, pedestrian crossings. The use of high-quality building materials and well-designed landscaping will visually enhance the site with natural beautification and architectural attractiveness.

Sustainable design will be implemented at both the site and building levels. Landscaping will incorporate drought-tolerant species to support water conservation, while the building will utilize energy-efficient exterior materials with clear sustainability benefits. Additional sustainable construction practices and operational strategies will be explored during the detailed design stage.

The street edge is appropriate and will enhance the experience and feel of the development including functionality and aesthetics as the planned development integrates well with the existing street character creating a welcoming private realm to experience as part of the overall quality of the site for all users.

The proposed development will make a positive contribution to the streetscape of Palladium Way and supports the vision for employment uses including office, industrial and related uses to be accommodated on these lands.

5.0 SUMMARY

Based on the information contained within this Brief, the proposed development will provide a high-quality design that complies with the intent of the policies pertinent to this development as set out in the guiding land use documents. In this manner, the proposed development has been designed to integrate appropriately within the surrounding employment area while maintaining separation from nearby residential properties.

The design of the proposed building responds to the operational requirements of a prestige industrial building while maintaining compatibility with the broader employment area context. The proposed building height and massing reflect the functional characteristics of contemporary industrial development and are consistent with the scale and form of development anticipated within lands designated Business Corridor within the Official Plan.

The site layout provides appropriate setbacks, internal circulation, and separation distances to ensure that loading, servicing, and truck movements are largely contained within the interior of the site, minimizing visual and functional impacts on surrounding lands. The proposed development is contextually appropriate, with strong connectivity

and high-quality contemporary design elements. Attractive landscaping throughout the site enhances continuity, reinforces the character of the street and community, and contributes to a development that is safe, sustainable, and functional.

As demonstrated through this Urban Design Brief, the proposed development maintains appropriate relationships with surrounding lands and contributes to the orderly development of the Alton Community. The proposed design effectively addresses and implements the important design objectives and is appropriate.

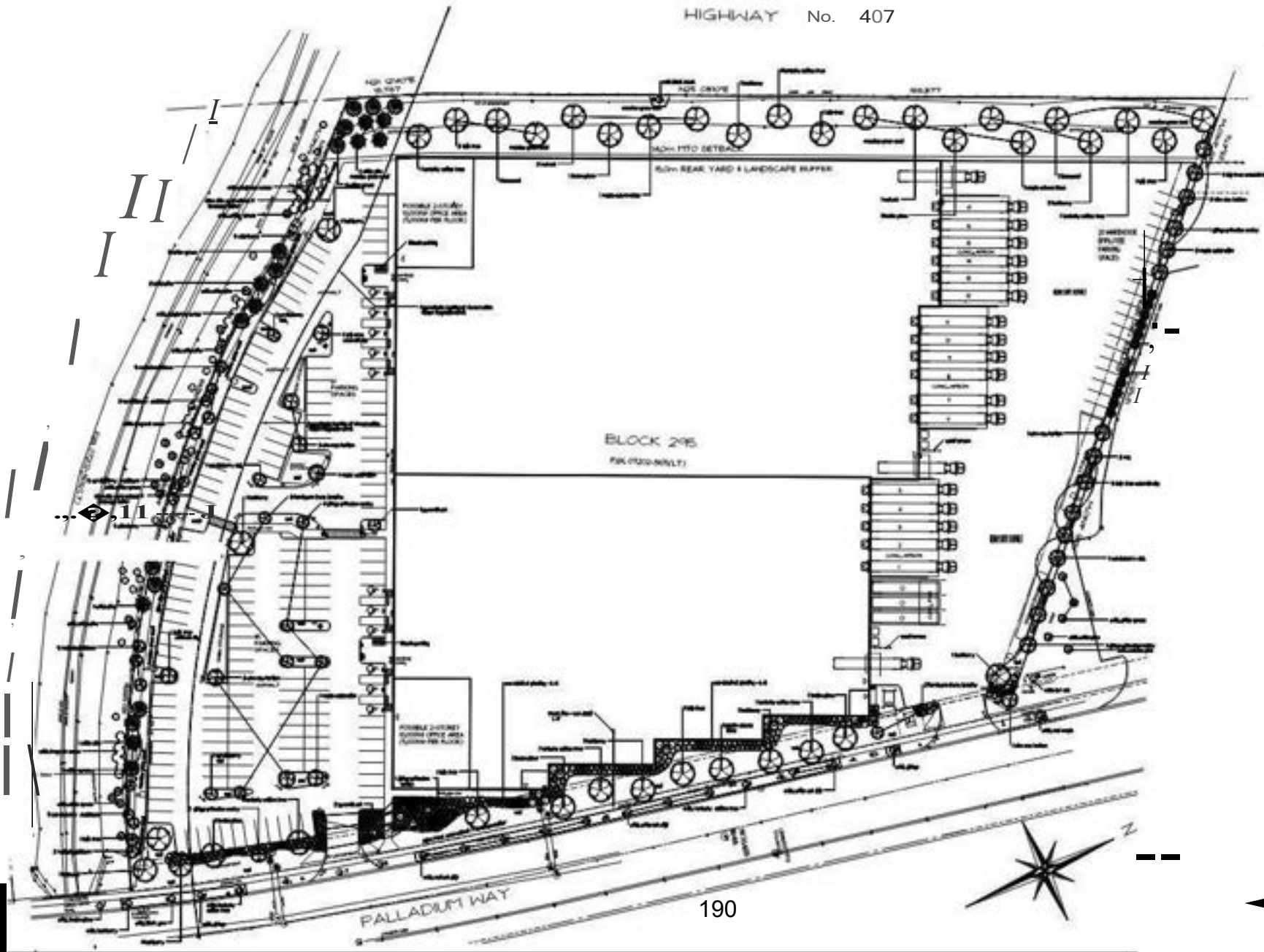
Yours truly,



Cynthia Baycetch
Planner, MCIP, RPP
CB Planning



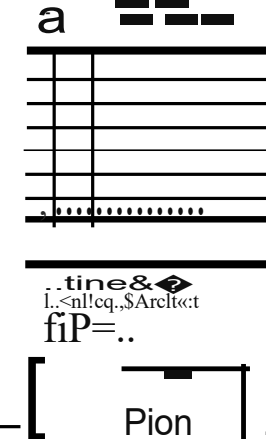
APPENDIX 1 - PROPOSED LANDSCAPE PLAN & DETAILS



James McCracken
Landscape Architect
1990-1991

**Landscape
Plan**

Vicono Developments
Limited
Proposed
Industrial Development
401 Palladium Way,
Burlington, ON

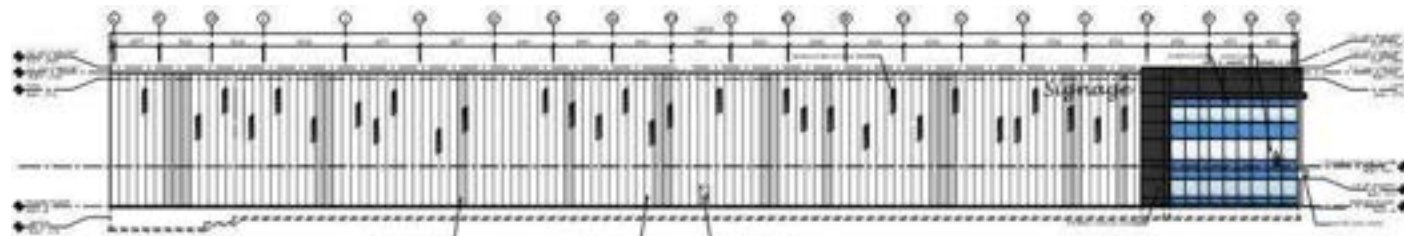
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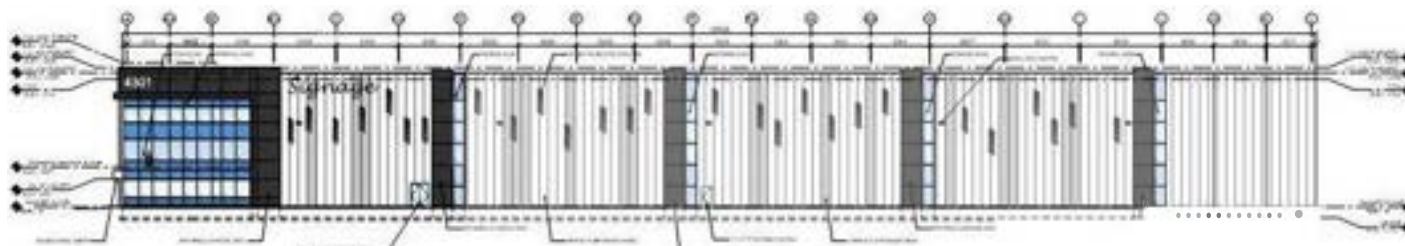
Vicano Developments
Limited
Proposed
Industrial Development
4801 Polkadam Hwy,
Burlington, OH

DATE	10/26/20
TIME	09:06
LOCATION	
UNIT	L-2
REMARKS	

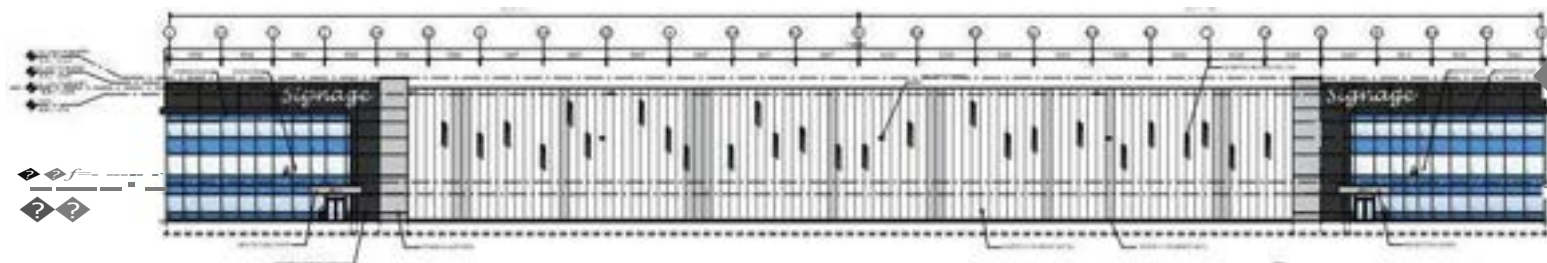
APPENDIX 2 - PROPOSED ELEVATIONS



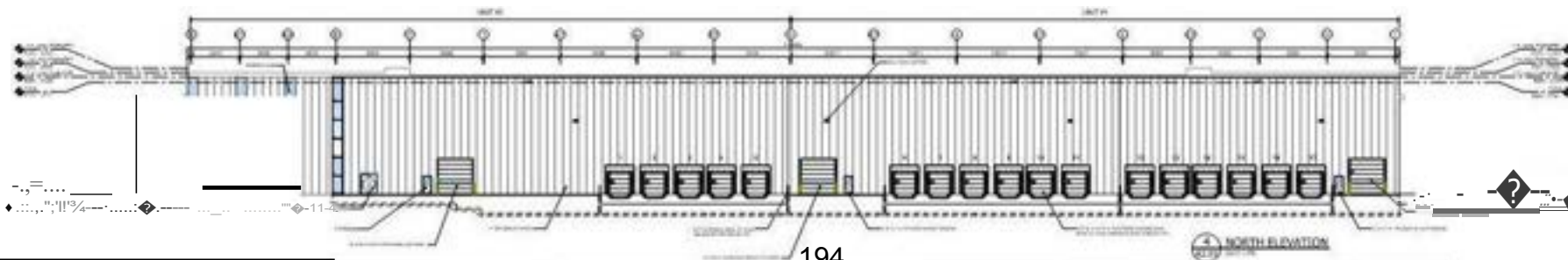
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REVISIONS



APPENDIX 3 - CONCEPTUAL SITE RENDERING



SOUTHWEST



SOUTHEAST



NORTHEAST