PARSONS

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8 December 2014 OUR REF: TO3186TOA

RioCan Management Inc.
Yonge Eglinton Centre
2300 Yonge Street
Suite 500
P.O. Box 2386
Toronto, ON M4P 1E4

Attention: Stuart Craig
Vice President of Planning & Development

Dear Stuart:

Re: Tanger Retail Outlets - Phase 2 Addendum #1 to Phase 1 CTS/TIS

1. Introduction

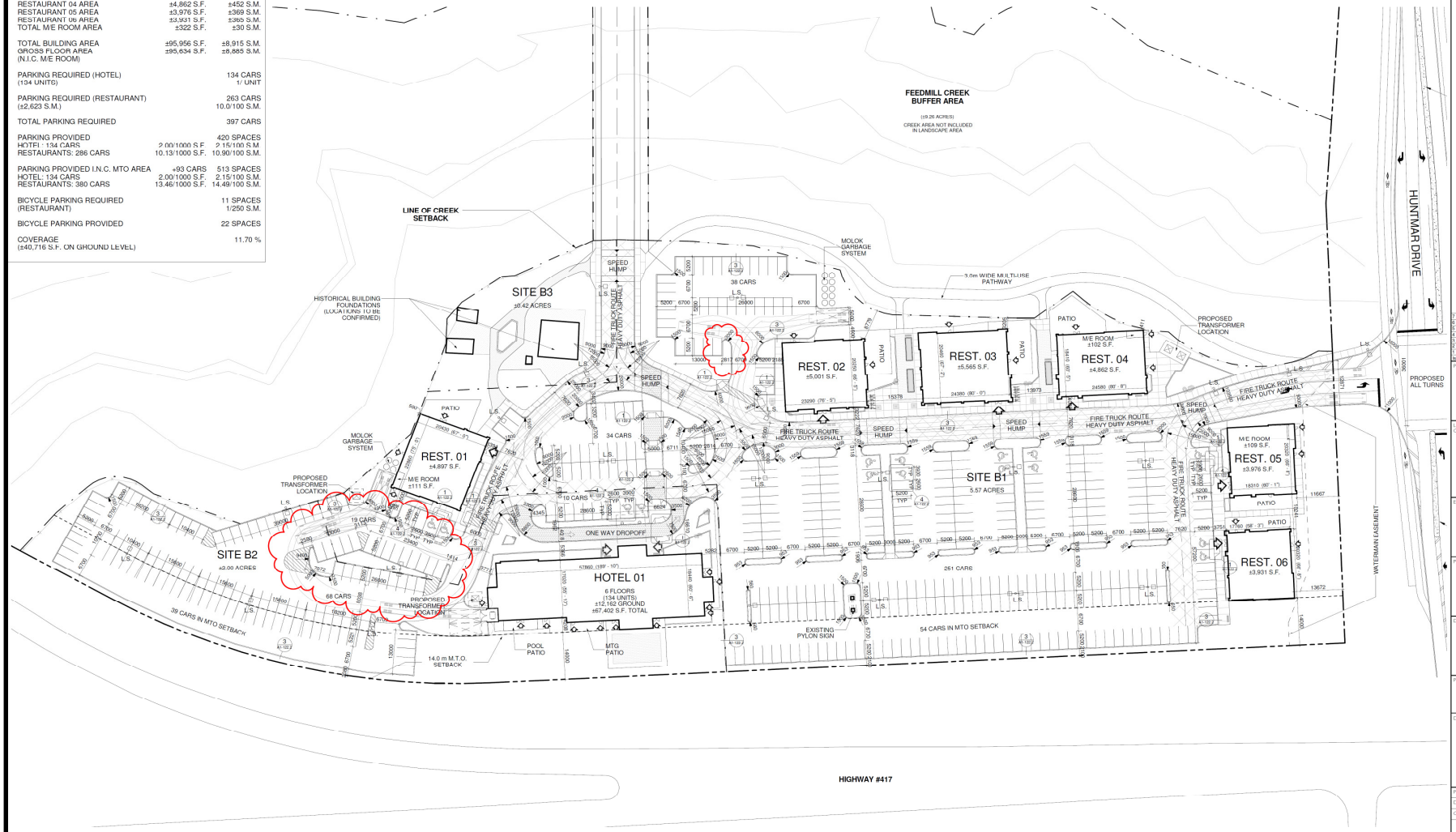
From the information provided, the proponent is intending to submit a Site Plan Application for Phase 2 of the Tanger Retail Outlets, which will consist of a 134 room hotel and approximately 30,000 ft^2 of restaurant type land uses. The proposed site is located south of the existing Feedmill Creek and west of Huntmar Drive. Access to the proposed site will be provided via a proposed full-movement connection to Huntmar Drive and a new bridge over the Feedmill Creek, providing a two-way link between the subject site and the recently completed Phase 1 Tanger Retail Outlet, which in itself has a signalized full-movement connection to Campeau Drive. The site's local context is depicted as Figure 2 and the proposed Site Plan is depicted as Figure 1.

As extensive work has recently been completed for the Phase 1 of the Tanger Retail Outlets by Parsons (formerly Delcan), which included the subject site's (Phase 2) traffic generation in the projected impact analysis, this letter is an Addendum to the approved Tanger Retail Outlet Community Transportation Study/Transportation Impact Study. The purpose of this Addendum letter is to update projected traffic to/from the subject site, based on a more refined/up-to-date Phase 2 Site Plan, and it addresses the following:

- Any changes in land uses and any related changes in traffic generation;
- The type of traffic control and turn lane requirements for any on-site intersections and the proposed driveway connection to Huntmar Drive;
- On-site circulation/layout; and
- Pedestrian/Bicycle network connectivity.

STATISTICS

TOTAL SITE B AREA	±7.99 ACRES	±3.23 H.A.
SITE B1 AREA	±5.59 ACRES	±2.26 H.A.
SITE B2 AREA	±1.98 ACRES	±0.80 H.A.
SITE B3 AREA	±0.42 ACRES	±0.17 H.A.
HOTEL 01 AREA	±67,402 S.F.	±6,236 S.M.
RESTAURANT 01 AREA	±4,897 S.F.	±455 S.M.
RESTAURANT 02 AREA	±5,001 S.F.	±465 S.M.
RESTAURANT 03 AREA	±5,565 S.F.	±517 S.M.
RESTAURANT 04 AREA	±4,862 S.F.	±452 S.M.
RESTAURANT 05 AREA	±3,976 S.F.	±369 S.M.
RESTAURANT 06 AREA	±3,931 S.F.	±365 S.M.
TOTAL M/E ROOM AREA	±322 S.F.	±30 S.M.
TOTAL BUILDING AREA	±95,956 S.F.	±8,915 S.M.
GROSS FLOOR AREA (N.I.C. M/E ROOM)	±95,634 S.F.	±8,885 S.M.
PARKING REQUIRED (HOTEL) (134 UNITS)		134 CARS 1/ UNIT
PARKING REQUIRED (RESTAURANT) (±2,623 S.M.)		263 CARS 10.0/100 S.M.
TOTAL PARKING REQUIRED		397 CARS
PARKING PROVIDED		420 SPACES
HOTEL: 134 CARS	2.00/1000 S.F.	2.15/100 S.M.
RESTAURANTS: 286 CARS	10.13/1000 S.F.	10.90/100 S.M.
PARKING PROVIDED I.N.C. MTO AREA	+93 CARS	513 SPACES
HOTEL: 134 CARS	2.00/1000 S.F.	2.15/100 S.M.
RESTAURANTS: 380 CARS	13.46/1000 S.F.	14.49/100 S.M.
BICYCLE PARKING REQUIRED (RESTAURANT)		11 SPACES 1/250 S.M.
BICYCLE PARKING PROVIDED		22 SPACES
COVERAGE (±40,716 S.F. ON GROUND LEVEL)		11.70 %



7	2014-12-05	ISSUED FOR COORDINATION	MK
6	2014-11-25	ISSUED FOR COORDINATION	MK
5	2014-11-19	ISSUED FOR COORDINATION	MK
4	2014-11-13	ISSUED FOR COORDINATION	MK
3	2014-11-10	ISSUED FOR COORDINATION	MK
2	2014-11-04	ISSUED FOR COORDINATION	MK
1	2014-10-03	ISSUED FOR COORDINATION	MK
Issue / Rev:	Date:	Issue / Revision:	By

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Project :
TANGER OUTLETS KANATA
KANATA, ONTARIO

Drawing Name :
SITE PLAN

Proj no.: 13.259
Date : 2014/DEC/5, 9:49:11 AM
Drawn by : FS
Scale : 1 : 500
Checked by : RD

Drawing No :
A1-122.1

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Figure 1: Proposed Site Plan

Figure 2: Local Context

2. Revised Projected Conditions

2.1 Land Use Changes

As depicted in the most recent Site Plan, a 134 room hotel and approximately 30,000 ft^2 of restaurant type land uses are proposed on the subject site depicted in Figure 1. In the original Community Transportation Study/Transportation Impact Assessment (CTS/TIS), the subject site was assumed to be a 200 room hotel and approximately 24,000 ft^2 of restaurant type land uses.

2.2 Projected Site Trip Generation

Based on the most recent Site Plan depicted in Figure 1, the following Table 1 summarizes the appropriate trip generation rates, which were obtained from the 9th Edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual, for the proposed hotel and restaurant land uses.

Table 1: ITE Trip Generation Rates

Land Use	Data Source	Trip Rates	
		AM Peak	PM Peak
Hotel	ITE 310	T = 0.53(X);	T = 0.60(X);
Sit-Down Restaurant (No Breakfast)	ITE 932	n/a;	T = 9.85 (X);

Notes: T = Average Vehicle Trip Ends
X = Gross Floor Area (ft^2)

As ITE trip generation surveys only record vehicle trips, appropriate adjustment factors were applied to attain estimates of person trips for the proposed development. To convert ITE vehicle trip rates to person trips, an auto occupancy factor and a non-auto trip factor were applied to the ITE vehicle trip rates. Our review of available literature suggests that a combined factor of approximately 1.3 is considered reasonable to account for typical North American auto occupancy values of approximately 1.15 and combined transit and non-motorized modal shares of less than 10%.

With recent changes to the City's Transportation Master Plan, modal share values identified in the original TIA report were adjusted to reflect a less transit-oriented area. The following Table 2 summarizes projected person trips by mode.

Table 2: Projected Person Trip Generation

Travel Mode	Mode Share	AM Peak (person trips/hr)			PM Peak (person trips/hr)		
		In	Out	Total	In	Out	Total
Auto Driver	**65%**	**36**	**25**	**61**	**179**	**130**	**309**
Auto Passenger	15%	8	6	14	41	30	71
Transit	15%	8	6	14	41	30	71
Non-motorized	5%	2	1	3	13	10	23
Total Person Trips	**100%**	**54**	**38**	**92**	**274**	**200**	**474**

As shown in Table 2, the resulting number of potential two-way vehicle trips for the proposed Phase 2 site is approximately 60 and 310 veh/h during the weekday morning and afternoon peak hours, respectively. For analysis purposes, it is important to consider that certain land uses divert existing commuter traffic to/from adjacent roadways. These trips are termed 'pass-by' trips and they do not add additional traffic to the study area road network. For the subject site, a 30% 'pass-by' rate was assumed for the restaurant portion of the site, which equates to approximately 70 veh/h during the weekday afternoon peak hour. This assumption is considered reasonable for restaurant type land uses.

Based on the foregoing, the resulting number of 'new' two-way vehicle trips for the proposed site is approximately 60 and 240 veh/h during the weekday morning and afternoon peak hours, respectively. This is approximately 15 veh/h fewer and 45 veh/h more during the weekday morning and afternoon peak hours, respectively, when compared to the original Phase 1 Tanger Retail Outlets CTS/TIS report. This amount of additional projected 'new' traffic equates to less than 1 'new' vehicle per minute, which is not considered a significant increase as it does not change the site or area's road network requirements.

2.3 Projected Traffic Distribution and Assignment

Based on the site distribution outlined in the original TIA and our knowledge of the surrounding area, the following distribution to/from the proposed site was assumed.

Inbound

- 70% to/from the north; and
- 30% to/from the south.

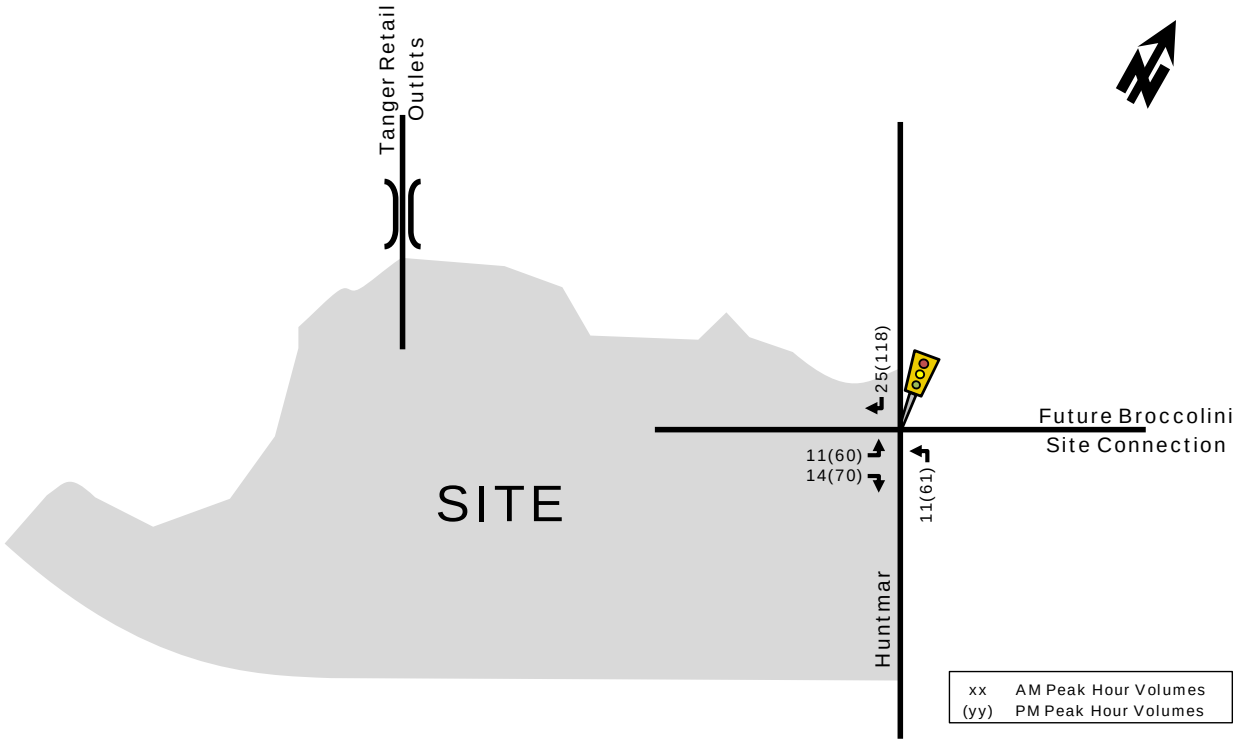
Outbound

- 45% to/from the north; and
- 55% to/from the south.

It should be noted that a new bridge will be the provided over the Feedmill Creek, providing a connection between the Phase 1 Tanger Retail Outlets to the north and the subject site. With this link, it is reasonable to assume that a portion of the traffic generated by the Phase 1 Tanger Retail Outlets will utilize the new bridge connection to take advantage of the subject site's signalized full-movement driveway connection to Huntmar Drive. Similarly, a portion of the traffic generated by the subject site will originate or be destined to the Phase 1 Tanger Retail Outlets and will travel between the two sites via the new bridge connection. For analysis purposes, it is reasonable to assume that the traffic between the two sites (projected to use the new bridge connection) will be similar. Therefore, a reduction in site generated traffic to account for 'multi-purpose' trips at the site's proposed driveway connection is not included in the subsequent analysis (i.e. any reduction in traffic at the site driveway connection, to account for trips between the subject site and the Phase 1 Tanger Retails Outlets taking advantage of the subject site's signalized connection to Huntmar Drive).

Based on the foregoing, the following Figure 3 depicts projected 'new' and 'pass-by' site-generated traffic.

Figure 3: 'New' and 'Pass-by' Site-Generated Traffic Volumes



3. Future Traffic Operations

3.1 Projected Intersection Operations

As mentioned previously, there has already been considerable transportation planning work completed for this area to assist in establishing the future study area road network, which includes a widened Huntmar Drive (4-lanes) and a multi-lane roundabout (recently constructed) at the Huntmar/Campeau intersection. As the transportation planning work included a high-level site traffic generation for the subject site (similar to the site-generated traffic summarized above), the future study area transportation network will have sufficient capacity to accommodate the projected traffic generated by the subject site. Therefore, area development and projected intersection operations have not been assessed herein, except for the proposed site connection to Huntmar Drive.

With respect to the operations of the proposed site driveway connection to Huntmar Drive, it is projected to operate acceptably provided signalized intersection control and auxiliary turn lanes are provided. The number, location and length of auxiliary turn lanes are depicted in the attached functional design plan. In addition, the attached SYNCHRO traffic analysis software output depicts a possible signal timing plan that is consistent with the area context (i.e. compatible with the adjacent Huntmar/Cyclone Taylor signal timing plan). The key recommended elements of the attached functional design plan are:

- Signalized intersection control;
- 40 m southbound left-turn lane plus 70 m taper;
- 45 m southbound right-turn lane plus 70 m taper;
- 30 m northbound left-turn lane plus 41 m taper (constrained by existing bridge location/width); and
- 10.5 m wide driveway connection (west leg) consisting of one inbound lane and two outbound lanes with storage provided to the first north-south circulation drive aisle.

It should be noted that the location of the subject Phase 2 driveway connection to Huntmar Drive will operate safe and acceptably with respect to sight lines and the provided stopping sight distances.

4. Site Plan Review

This section provides an overview of site access, internal circulation, and pedestrian/transit accessibility with respect to the proposed Site Plan, previously illustrated as Figure 1. It is noteworthy that the Site Plan has been through a number of iterations and Parsons has provided recommendations to improve the site's traffic operations throughout this process.

Parking

As depicted in Figure 1, a total of 515 parking spaces are proposed to serve the proposed site. This amount of parking exceeds the minimum requirement of 402 parking spaces with respect to the City's Zoning By-Law requirements for hotel and restaurant type land uses within the City's Urban/Greenbelt area (i.e. Area C, identified in Schedule 1 of the City's Zoning By-Law).

Site Circulation

With regard to on-site circulation, the proposed parking lot is laid out effectively, such that two-way traffic can be accommodated. The proposed drive aisle widths are noted as a minimum of 6.7 m throughout the site, which satisfies the City's By-Law requirements. The proposed parking space dimensioning is also noted as being satisfactory with respect to By-Law requirements.

It should be noted that with the new bridge connection linking the subject site and the Phase 1 Tanger Retail Outlets to the north, a significant volume of two-way traffic (i.e. 200 to 300 veh/h or 3 to 5 vehicles per minute) is projected to travel along the frontages of the proposed Restaurants 2, 3 and 4. As such, traffic calming measures (as depicted in Figure 1) should be implemented. In addition, all-way STOP control should be provided at the new bridge's intersection with the subject site's main east-west drive aisle.

As for heavy vehicles, truck turning templates have been applied to confirm sufficient turning radii for safe and efficient truck circulation will be provided on-site and at the site driveway connections for fire, garbage and delivery trucks.

Access Requirements

Based on projected site-generated traffic volumes, auxiliary turn lanes and traffic signal control is recommended at the site driveway connection to Huntmar Drive. Specific dimensioning and lane designations are depicted in the attached functional design plan. It should be noted that the attached

functional design plan is an interim solution and the current proposed northbound left-turn storage/taper is considered to be slightly substandard. However, as an interim solution, the proposed substandard auxiliary northbound left-turn lane is projected to operate acceptably. At the time when the Huntmar Bridge over the HWY 417 is widened to four lanes, auxiliary turn lane storage lengths and tapers can be revised/reconstructed at the subject site's driveway connection to Huntmar Drive.

Regarding the location of the proposed driveway connection, it has to be in-line with the future driveway connection to the adjacent (to the east) Broccolini site, so that both sites can benefit from a signalized all-movement driveway connection to Huntmar Drive.

With respect to the City's By-Law requirements/TAC geometric guidelines, the proposed location, width and throat length of the proposed driveway connection is considered acceptable.

Pedestrians
As shown in the proposed Site Plan, sidewalks and painted/raised pedestrian crossings are provided throughout the site. In addition, a multi-use pathway will be provided between the Feedmill Creek and the proposed Restaurants 2, 3 and 4, providing a connection between the new bridge over the Feedmill Creek and the future sidewalks along Huntmar Drive. As such, the proposed Site Plan provides good pedestrian connectivity to/from the adjacent road network/transit and the adjacent Phase 1 Tanger Retail Outlets.

Bicycles
A total of 12 bicycle parking spaces are proposed to serve the subject development, which is sufficient with respect to the City's minimum By-Law requirements. Bicycle parking should be provided close to the main building entrances and be located in well-lit areas.

5. Findings, Recommendations and Conclusions

Based on the foregoing analysis of the proposed Site Plan, the following transportation-related findings and recommendations are offered:

- The projected number of 'new' two-way vehicle trips for the proposed site is approximately 60 and 240 veh/h during the weekday morning and afternoon peak hours, respectively;
- Given the considerable amount of transportation planning work that has already been completed for the subject area to assist in establishing the design of the future adjacent road network and given the amount of additional projected 'new' traffic for the subject Phase 2 site equates to less than 1 'new' vehicle per minute, when compared to the original Phase 1 Tanger Retail Outlets report, future traffic conditions within the study area are projected to operate acceptably;
- Based on projected site-generated traffic volumes, auxiliary turn lanes and traffic signal control are recommended at the proposed site driveway connection to Huntmar Drive. It should be noted that the current design of the auxiliary northbound left-turn lane is considered slightly substandard due to the existing Huntmar Bridge location and width. However, when Huntmar Drive is widened to four lanes, the auxiliary turn lane storage lengths and tapers can be revised/reconstructed at the subject site's driveway connection to Huntmar Drive, if required;
- The location of the proposed site driveway connection and the future driveway connection to the adjacent Broccolini site need to be aligned so that both sites can benefit from a shared signalized all-movement driveway connection to Huntmar Drive

- The proposed parking stalls and drive aisles satisfy By-Law requirements in terms of dimensioning and the proposed total number of vehicle/bicycle parking also satisfies By-Law requirements; and
- The proposed location, width and throat length of the proposed driveway connection satisfies the City's By-Law requirements/TAC geometric guidelines.

The proposed development fits well into the context of the surrounding area, and its location and design serves to promote use of walking, cycling, and transit modes to the extent possible for a retail site.

Based on the foregoing, approval of the proposed Phase 2 Tanger Retail Outlets is recommended from a transportation perspective.

Prepared By:

Gordon R. Scobie, P.Eng.
Transportation Engineer
Ottawa Operations

SITE ACCESS 1

ACCESS 2

HWY 417

HUNTMAR DRIVE

LEFT-TURN LANE 30.00

LEFT-TURN TAPER 16.09

RIGHT-TURN LANE 30.00

RIGHT-TURN TAPER 41.56

LEFT-TURN LANE 30.00

LEFT-TURN TAPER 41.56

LEFT-TURN STORAGE LANE 30.00

LEFT-TURN TAPER 20.00

RIGHT-TURN LANE 37.47

RIGHT-TURN LANE 60.00

RIGHT-TURN LANE 37.48

RIGHT-TURN LANE 59.45

1.5m CONCRETE MEDIAN

1.5m CONCRETE MEDIAN

2.00m SDWK

2.00m CYCLE TRACK

1.20m BLVD.

3.50

3.75

DC

R=314.70 A=64.09 C=63.98 N75°50'20"W

R=282.50

N39°22'49"W 20.02

N13°27'10"E 10.50

N13°27'10"E 9.18

S76°32'50"E 4.74

20.69

78.82

T.O.B

No.	Description	By	Date (dd/mm/yy)

REVISIONS

TANGER PHASE 2

HUNTMAR DRIVE AT HWY 417

ROADWAY MODIFICATIONS

FUNCTIONAL DESIGN

PROPOSED INTERSECTION

Contract No. TO3186TOB

Dwg. No. 001

Sheet 1 of 100

Asset No. XXXX

Asset Group

Des. J.F. Chk'd. J.F.

Dwn. M.B. Chk'd. J.F.

Utility Circ. No. Index No.

Const. Inspector:

Scale: 0m 5.0m 10 20 HORIZONTAL

Lane Group	EBL	EBT	EBR	NBL	NBT	SBT	SBR	ø8
Lane Configurations								
Volume (vph)	60	0	70	61	400	400	118	
Lane Group Flow (vph)	0	63	74	64	421	421	124	
Turn Type	Perm	NA	Perm	Perm	NA	NA	Perm	
Protected Phases		4			2	6		8
Permitted Phases	4		4	2			6	
Detector Phase	4	4	4	2	2	6	6	
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	30.3	30.3	30.3	27.3	27.3	27.3	27.3	30.3
Total Split (s)	31.0	31.0	31.0	89.0	89.0	89.0	89.0	31.0
Total Split (%)	25.8%	25.8%	25.8%	74.2%	74.2%	74.2%	74.2%	26%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.3	6.3	6.3	6.3	6.3	6.3	
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	C-Max	C-Max	C-Max	C-Max	None
Act Effct Green (s)		11.9	11.9	100.0	100.0	100.0	100.0	
Actuated g/C Ratio		0.10	0.10	0.83	0.83	0.83	0.83	
v/c Ratio		0.47	0.34	0.08	0.28	0.28	0.10	
Control Delay		62.2	15.2	3.3	3.7	3.7	0.7	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		62.2	15.2	3.3	3.7	3.7	0.7	
LOS		E	B	A	A	A	A	
Approach Delay		36.8			3.6	3.0		
Approach LOS		D			A	A		
Queue Length 50th (m)		14.4	0.0	2.6	20.4	20.4	0.0	
Queue Length 95th (m)		27.8	13.6	6.7	37.1	37.1	3.9	
Internal Link Dist (m)		1577.3			1315.6	1390.4		
Turn Bay Length (m)				30.0			45.0	
Base Capacity (vph)		278	371	762	1486	1486	1284	
Starvation Cap Reductn		0	0	0	0	0	0	
Spillback Cap Reductn		0	0	0	0	0	0	
Storage Cap Reductn		0	0	0	0	0	0	
Reduced v/c Ratio		0.23	0.20	0.08	0.28	0.28	0.10	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.47	
Intersection Signal Delay: 7.3	Intersection LOS: A
Intersection Capacity Utilization 54.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: