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Date: September 11, 2024
Our Ref: 143132
Subject: 2000 Williams Parkway – Minor Variance – Parking Assessment

Dear Ms. Vani,

Arcadis was retained to conduct transportation analysis in support of an application to sever a portion of the approximate 98.64-hectare property known municipally as 2000 Williams Parkway in the City of Brampton. The severed lands would consist of a 12.96-hectare parcel with frontage onto North Park Drive, Torbram Road, and Williams Parkway. The retained lands would consist of an 85.68-hectare parcel with frontage onto North Park Drive, Airport Road, and Williams Parkway. This is illustrated in Figure 1.

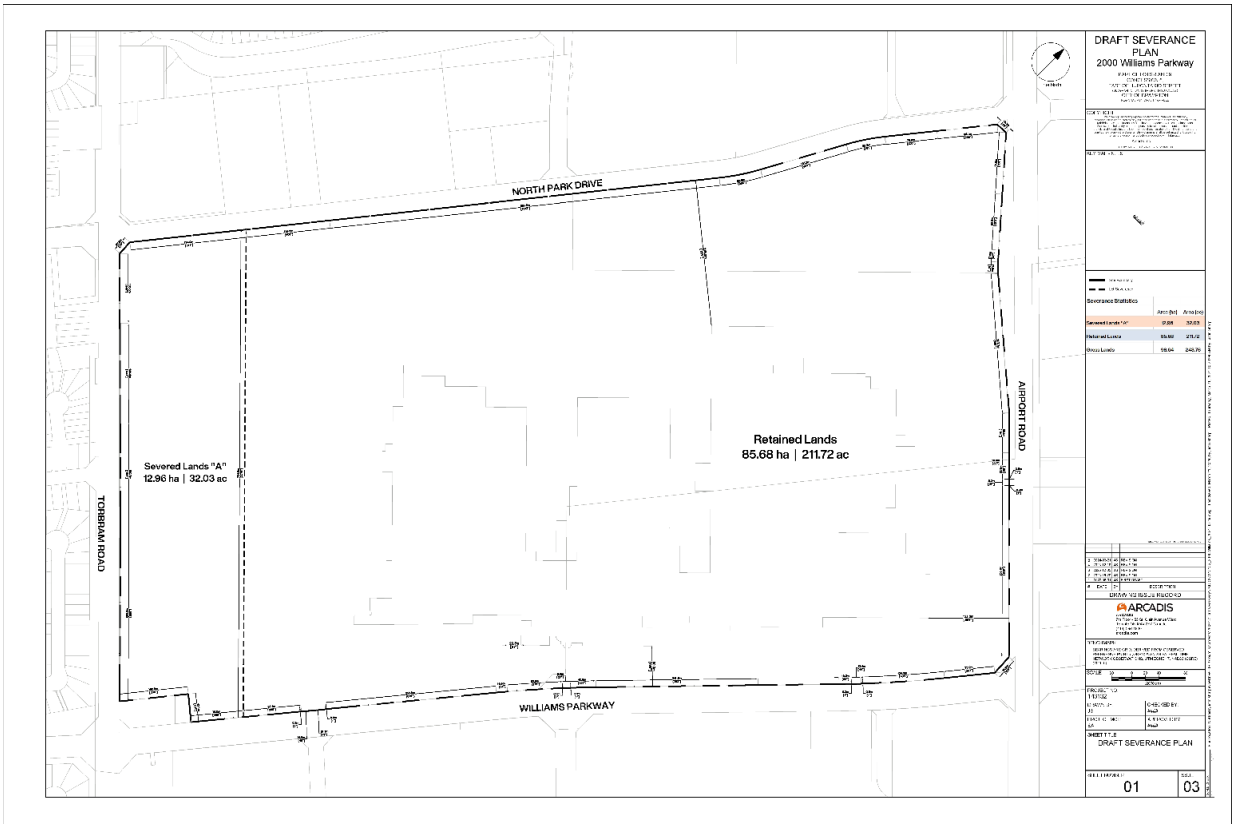

Figure 1 - Draft Severance Plan

Based on an assessment conducted in April 2024, we are of the opinion that, from a transportation perspective, both the severed lands and the retained lands can function independently. However, we now understand that a zoning by-law parking deficiency on the retained lands is expected. Therefore, the purpose of this letter is to determine if the remaining parking supply on the retained lands is sufficient to accommodate demand for the employment uses expected to remain.

The proposed site plan for the retained parcel is presented in Figure 2.

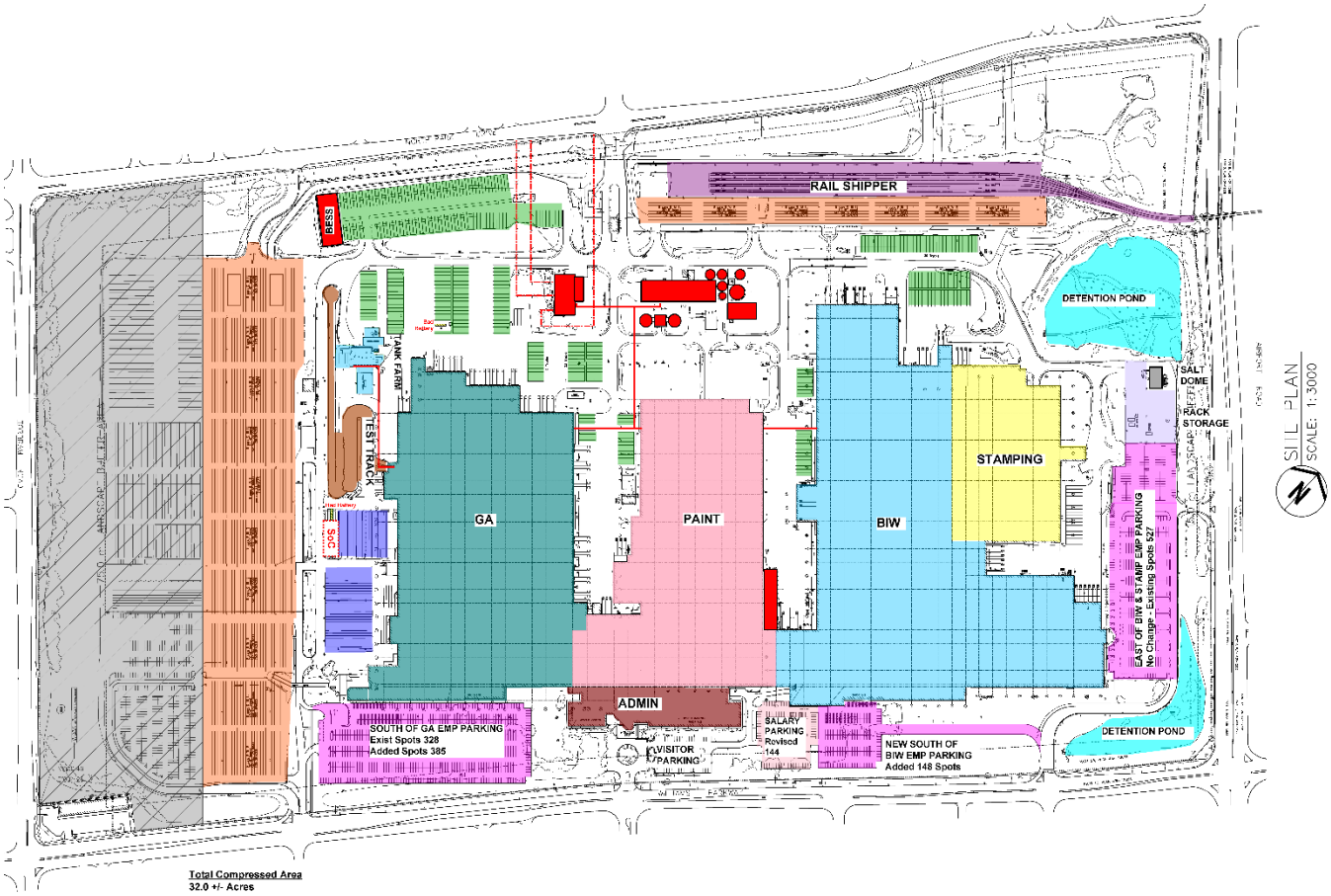

Figure 2 - Retained Parcel Site Plan

Zoning By-law Requirements

It is our understanding that parking requirements on the retained parcel are governed by a site-specific requirement of 1 parking space per 93 m^2 gross floor area (GFA) of use. As the retained parcel contains 246,636 m2 of GFA, the parking requirement would be 2,652 parking spaces. As 1,533 parking spaces are proposed to remain on the retained parcel, a zoning by-law deficiency of 1,119 spaces is expected. It should be noted that the 1,533 identified parking spaces refers to employee parking spaces only. As a small complement of separate visitor parking is proposed to be provided, the actual zoning by-law deficiency is expected to be less.

ITE Parking Generation

The parking demand to be generated by the proposed development is examined in this section. The parking demand rates from the publication **Parking Generation Manual – 6th Edition** (Institute of Transportation

Engineers, 2023) were used to estimate future parking demand with the proposed development. The proposed development will have a maximum of 1,494 employees during one shift (1,375 shift workers and 119 salary workers).

Based on the nature of the development, its location context, and the data quality, the fitted curve equation for Land Use Code 140: Manufacturing – General Urban / Suburban was used to calculate the estimated parking demand during the Weekdays (Monday- Friday).

The estimated parking demand for the proposed development and overlap allowance is presented in Table 1.

Table 1 Proposed Development Parking Demand Generation

2000 Williams Parkway, Brampton			
Manufacturing (140) – General Urban / Suburban – 1,494 Employees Per Shift			
Term	**Unit**	**Rate**	**Calculated Parking Demand**
Parking Generation Fitted Curve Equation	parking spaces / employees	P = 0.81(X) + 0.12	1,210
Average Rate	parking spaces / employees	0.81	1,210
Total			
Provided Parking Spaces			1,533
Required Parking Spaces with ITE Parking Demand			1,210
Overlap Allowance			**323 (21%)**

Based on the estimates presented in Table 1, the proposed development is expected to generate a parking demand of 1,210 parking spaces during the weekday. As 1,533 parking spaces are proposed, this suggests that sufficient parking to accommodate anticipated demand is expected with an anticipated operational surplus of 323 spaces. This is roughly equivalent to 21% of the outgoing shift remaining on the property once 100% of the incoming shift has arrived. Parking demand source data is presented in **Appendix A.**

Parking Demand Review

It is our understanding that the manufacturing uses on the retained parcel are presently undergoing re-tooling. As a result, the collection of parking occupancy observations on the retained parcel would not reflect typical operations. In lieu of observations, a first principles calculation was conducted to determine the anticipated parking demand on a typical operating day.

Based on information provided by the facility operator, staffing at the facility consists of 119 salaried staff who are present during typical business hours, and two shifts of up to 1,375 hourly staff who are present over the course of the manufacturing day. This suggests that, at a typical “mid-shift” moment assuming 100% attendance, employee parking demand is generated by 1,494 persons. In order to determine the actual number of vehicles to

be expected from these employees, 2016 Transportation Tomorrow Survey mode share information for work trips to the employment areas surrounding the retained parcel was consulted. This information is illustrated in Table 2.

Table 2 - TTS Survey Mode Share

Mode	Weekday AM Peak Hour	Weekday PM Peak Hour
Driver	86%	87%
Passenger	7%	6%
Transit	7%	5%
GO Transit	0%	0%
Walk	0%	2%
Cycle	0%	0%
Total	100%	100%

As shown in Table 2, 87% of work trips destined to the employment areas surrounding the retained parcel are expected to be by an automobile which requires a parking space[1].Based on 1,494 persons, anticipated parking demand is expected to be approximately 1,300 parking spaces. As 1,533 parking spaces are proposed, this suggests that sufficient parking to accommodate anticipated demand is expected with an anticipated operational surplus of 232 spaces. It should be noted that, as visitor parking is provided separately, the operational surplus is expected to be larger than noted in this analysis.

As a means to further verify the appropriateness of the proposed parking supply, analysis was conducted to determine if sufficient parking would be present during shift changes (the current facility has two shifts per day) when a portion of the outgoing shift remains on the property as the incoming shift arrives. Assuming that all 119 salaried staff remain on site (104 parking spaces occupied) during shift changes, approximately 1,642 hourly employees could be accommodated in the remaining 1,429 employee parking spaces. This is roughly equivalent to 15% of the outgoing shift remaining on the property once 100% of the incoming shift has arrived. Based on information provided by the facility operator regarding typical operations at sister facilities across North America, shifts are typically staggered such that there is a 60-minute period between the end of the outgoing shift and the start of the incoming shifts. The length of this gap suggests that the likelihood of a significant portion of the outgoing shift remaining on the property once the incoming shift has reached 100% attendance is low. This further suggests that sufficient parking to accommodate anticipated demand is expected to be provided.

Table 3 below summarizes the employee and parking numbers used to calculate the overlap allowance.

[1] Auto passenger trips are not included in this calculation, as they typically reflect instances where the respondent is dropped off by an individual continuing onwards to another location. In the event that the respondent was a passenger in an employee carpool, the parking demand would be captured in the Auto Driver response.

Table 3 Overlap Allowance Calculations

Parameter	Unit
Employees	
Maximum Hourly Employees 1 Shift	1,375 employees
Salary Employees	119 employees
Total Parking Spaces Needed Per Shift (*Current Facility has two shifts per day*)	1,494 parking spaces
Modal Split	
Considering 87% Auto Driver Modal Split for shift workers	1,197 parking spaces
Consider 87% Auto Driver Modal Split for salary employees	104 parking spaces
Total Parking Spaces Needed Per Shift with Modal Split	1,301 parking spaces
Total	
Provided Parking Spaces	1,533 parking spaces
Required Parking Spaces with Modal Split	1,301 parking spaces
Overlap Allowance	**232 parking spaces (15%)**

Summary

Arcadis was retained to conduct transportation analysis in support of an application to sever a portion of the approximate 98.64-hectare property known municipally as 2000 Williams Parkway in the City of Brampton. The severed lands would consist of a 12.96-hectare parcel with frontage onto North Park Drive, Torbram Road, and Williams Parkway. The retained lands would consist of an 85.68-hectare parcel with frontage onto North Park Drive, Airport Road, and Williams Parkway.

It is our understanding that parking requirements on the retained parcel are governed by a site-specific requirement of 1 parking space per 93 m^2 gross floor area (GFA) of use. As the retained parcel contains 246,636 m2 of GFA, the parking requirement would be 2,652 parking spaces. As 1,533 parking spaces are proposed to remain on the retained parcel, a zoning by-law deficiency of 1,119 spaces is expected.

Based on the ITE Parking Demand calculations, the proposed development is expected to generate a parking demand of 1,210 parking spaces during the weekday. As 1,533 parking spaces are proposed, this suggests that sufficient parking to accommodate anticipated demand is expected with an anticipated operational surplus of 323 spaces.

As the manufacturing uses on the retained parcel are presently undergoing re-tooling, the collection of parking occupancy observations on the retained parcel would not produce results which reflect typical operations. In lieu of observations, a first principles calculation was conducted to determine the anticipated parking demand on a

typical operating day. Based on 1,494 persons, anticipated parking demand is expected to be approximately 1,300 parking spaces. As 1,533 parking spaces are proposed, this suggests that sufficient parking to accommodate anticipated demand is expected with an anticipated operational surplus of 232 spaces. During shift changes, the likelihood of a portion of the outgoing shift remaining on the property after the incoming shift reaches full attendance such that the proposed parking supply would be fully utilized is low. This further suggests that sufficient parking to accommodate anticipated demand is expected to be provided.

It should be noted that, as visitor parking is provided separately, the operational surplus is expected to be larger than noted in this analysis.

Please do not hesitate to contact us should you require more information or clarification regarding our assessment.

Sincerely,
Arcadis Professional Services (Canada) Inc.

Andrae Griffith
Associate – Manager, Transportation Systems

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Appendix A

ITE Parking Demand Generation Source Data

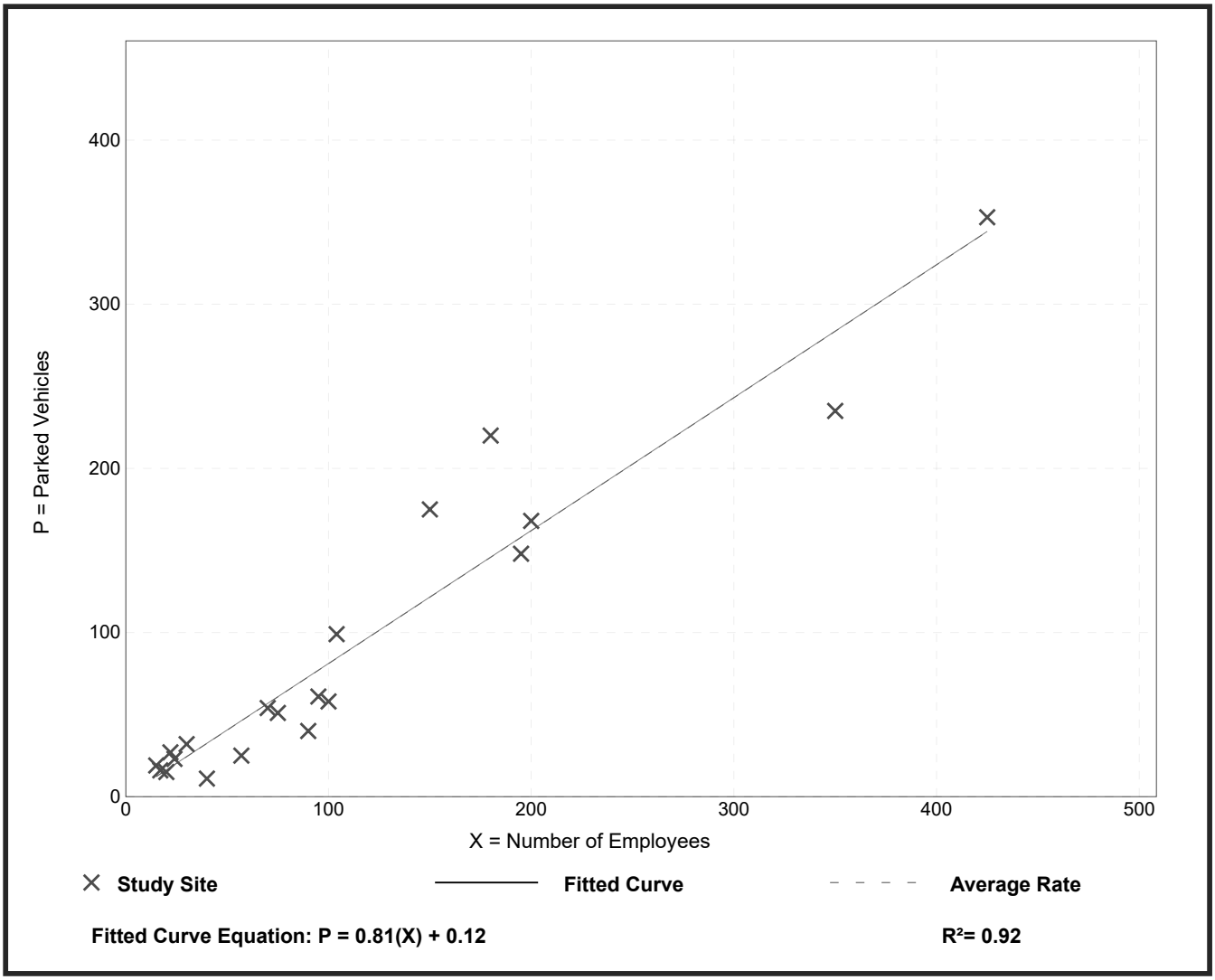
Manufacturing
(140)

Peak Period Parking Demand vs: **Employees**
On a: **Weekday (Monday - Friday)**
Setting/Location: **General Urban/Suburban**
Number of Studies: 20
Avg. Num. of Employees: 113

Peak Period Parking Demand per Employee

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
0.81	0.28 - 1.27	0.68 / 1.21	0.71 - 0.91	0.23 (28%)

Data Plot and Equation



Fitted Curve Equation: P = 0.81(X) + 0.12

R^2= 0.92