DAVID PLUMMER & ASSOCIATES
TRAFFIC ENGINEERING • CIVIL ENGINEERING • TRANSPORTATION PLANNING

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January 24, 2022

Mr. David M. Aaron
Arkadia Property Group
10205 Collins Avenue
Suite 901
Bal Harbour, FL 33154
201.723.2339
da@arkadiapropertygroup.com

RE: 1840 Alton Road Traffic Statement - #22106

Dear Mr. Aaron,

The proposed project is located at 1840 Alton Road in Miami Beach, Florida (see Attachment A for the site plan). The project proposes to replace an existing gas station with a mixed-use project consisting of 17,181 SF of office space, 2,698 SF of retail space, and one residential unit. Access to the site will be provided via a two-way driveway located along Alton Road. The driveway will provide access to the ground floor parking and loading area as well as access to the upper level of the parking garage. A maneuverability analysis was performed at the project's entrance and loading areas (see Attachment B). To limit conflicts between the loading and ground floor parking area, the ground floor parking area will have assigned parking and will be restricted to office or residential parking via a mechanical arm gate with a card reader. Retail parking and the remaining residential and office parking will be provided on the second floor of the site's parking garage. Additionally, a mechanical arm gate with a card reader (for residents and office vehicles) and ticket dispenser (for retail vehicles and visitors) will be positioned at the entrance ramp to the second-floor parking area.

Trip Generation

The proposed project trip generation was calculated based on the rates / equations published by the Institute of Transportation Engineers (ITE) *Trip Generation Manual,* 11th Edition. This manual provides gross trip generation rates and/or equations by land use type. These rates and equations estimate vehicle trip ends at a free-standing site's driveway. (Trip generation worksheets are available in Attachment C.)

The proposed development plan incorporates residential, office, and retail land uses, which can satisfy the work trip and retail needs for some residents, employees, and visitors without making a trip off-site. An internalization matrix was developed to establish the appropriate number of internal project trips. Internal capture rates used are also included in Attachment C.

ITE research shows that a certain percent of retail and gas station trips are "*pass-by*" trips. These are described as trips "attracted from the traffic passing the site on an adjacent street." These are not new trips, but trips already using the existing roadway network that stop at the proposed use and go back to their original path. Pass-by trips for this use were established based on guidelines provided in the Institute of Transportation Engineers (ITE) *Trip Generation Handbook*, 3rd Edition and the Institute of Transportation Engineers (ITE) *Trip Generation Manual,* 11th Edition. US census data states that 28% of the area uses alternative modes of transportation (6.7% transit, 12% walk, and 9.3% bike). For a more conservative analysis and consistent with the City of Miami Beach standards, only a 20% deduction was taken for other modes of transportation. Trip generation calculations were performed for a typical weekday, as well as, AM and PM peak hours of the adjacent street (see Attachment C). The existing and proposed project trip generation calculations are summarized in Exhibit 1.

Exhibit 1
Project Trip Generation Summary

Proposed

Proposed ITE Land Use Designation[1]	Number of Units	Daily Vehicle Trips	AM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips		
			In	Out	Total	In	Out	Total
Multifamily Housing (Low-Rise) *Land Use Code: 220*	1 Unit	82	0	1	1	1	0	1
General Office Building *Land Use Code: 710*	17,181 SF	250	32	4	36	7	32	39
Strip Retail Plaza (<40k) *Land Use Code: 822*	2,698 SF	344	4	3	7	15	15	30
Total Gross Trips		**676**	**36**	**8**	**44**	**23**	**47**	**70**
Internalization[2]	AM 9.1% PM 2.9%		-2	-2	-4	-1	-1	-2
Other Modes of Transportation[3]		20.0%	-7	-1	-8	-6	-13	-19
Passby (Retail)[4]		45.0%	0	0	0	-5	-5	-10
Net Proposed Trips			**27**	**5**	**32**	**11**	**28**	**39**

[1] Based on ITE Trip Generation Manual, 11th Edition.

[2]Based on ITE Trip Generation Handbook, 3rd Edition.

[3]Based on US census data for census tract 43.04 and local characteristics, capped at 20% per City request.

[4]Based on two ITE studies the average pass-by rate for shopping centers <40k SF is 66%, a 45% reduction was used for a more conservative analysis.

Existing

Existing ITE Land Use Designation[1]	Number of Units	Daily Vehicle Trips	AM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips		
			In	Out	Total	In	Out	Total
Convenience Store/Gas Station *Land Use Code: 945*	4,594 SF	2,866	93	93	186	111	111	222
Total Gross Trips		**2,866**	**93**	**93**	**186**	**111**	**111**	**222**
Other Modes of Transportation[3]		20.0%	-19	-19	-38	-22	-22	-44
Passby (Gas Station)[2]	AM 60% PM 56%		-44	-44	-88	-50	-50	-100
Net Existing Trips			**30**	**30**	**60**	**39**	**39**	**78**

[1] Based on ITE Trip Generation Manual, 11th Edition.

[2]Based on the appendix of the ITE Trip Generation Manual, 11th Edition.

[3]Based on pedestrian / cyclist data for US Census tract 43.04 & local characteristics, capped at 20% per City request.

Trip Difference

	Daily Vehicle Trips	AM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips		
		In	Out	Total	In	Out	Total
Proposed	**676**	**27**	**5**	**32**	**11**	**28**	**39**
Existing	**2,866**	**30**	**30**	**60**	**39**	**39**	**78**
Difference	**-2,190**	**-3**	**-25**	**-28**	**-28**	**-11**	**-39**

The results of the trip generation analysis show that the proposed development will generate 2,190 less daily trips, 28 less AM peak hour trips, and 39 less PM peak hour trips when compared to the existing use.

Gate Queuing Analysis

As previously stated, mechanical arm gates will be located at the entrance to the ground floor parking area and at the entrance ramp to the second floor of the site's parking garage. Queuing analyses were performed at these gates to determine if the anticipated queue at the mechanical arm gates will extend past the parking garage entrance and back-up onto Alton Road during the AM peak hour of the adjacent street (critical inbound hour). Exhibit 2 shows the trip generation for the AM and PM peak hour at the ground floor and parking ramp mechanical arm gates.

Exhibit 2
Project Trip Generation

Proposed ITE Land Use Designation[1]	Number of Units	Daily Vehicle Trips	AM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips		
			In	Out	Total	In	Out	Total
Multifamily Housing (Low-Rise) *Land Use Code: 220*	1 Unit	82	0	1	1	1	0	1
General Office Building *Land Use Code: 710*	17,181 SF	250	32	4	36	7	32	39
Strip Retail Plaza (<40k) *Land Use Code: 822*	2,698 SF	344	4	3	7	15	15	30
Total Gross Trips		**676**	**36**	**8**	**44**	**23**	**47**	**70**
Internalization[2]	AM 9.1% PM 2.9%		-2	-2	-4	-1	-1	-2
Other Modes of Transportation[3]		20.0%	-7	-1	-8	-6	-13	-19
Net Proposed Trips			**27**	**5**	**32**	**16**	**33**	**49**

[1] Based on ITE Trip Generation Manual, 11th Edition.

[2]Based on ITE Trip Generation Handbook, 3rd Edition.

[3]Based on US census data for census tract 43.04 and local characteristics, capped at 20% per City request.

The queuing analysis used the single-channel waiting line model with Poisson arrivals and exponential service times. The analysis is based on the coefficient of utilization (ρ) which is the ratio of the average arrival rate of vehicles to the average service rate.

$$\rho = \frac{Average\ Demand\ Rate}{Average\ Sevice\ Rate}$$

The average service rate corresponds to the time it will take a vehicle to conservatively pass through the mechanical arm gate. If the coefficient of utilization is greater than 1, then the calculation will yield an infinite queue length.

The required queue storage (M) is determined using the following equation:

$$M = \left[\frac{\ln P(x > M) - \ln Q_M}{\ln \rho}\right] - 1$$

In this equation, *P(x > M)* is set at 5% to yield a 95% confidence that the queue will not back-up onto the adjacent street.

The project is providing 8 parking spaces on the ground floor for office and residential parking. Exhibit 3 shows the demand at the ground floor mechanical arm gate during the AM peak hour of the adjacent street. The processing rate for the mechanical arm gate was based on the time it takes a vehicle to conservatively pass through the mechanical arm with a card reader. A processing rate of 4.25 seconds per vehicle (0.07 minutes per vehicle) was used for the ground floor mechanical arm gate. This data was collected at a parking garage with a similar mechanical arm gate (see Attachment D). Exhibit 4 shows the queuing analysis for the ground floor parking mechanical arm gate.

Exhibit 3: Demand at Ground Floor Mechanical Arm Gate

8 Parking Spaces on Ground Floor:	8 / 44 total parking spaces = **.18**
27 Inbound Vehicle Trips:	27 * .18 = **5 Inbound Vehicle Trips**

Exhibit 4: Ground Floor Mechanical Arm Gate Queuing Calculations

Q = Processing rate = $\frac{60\ min/hr}{0.07\ min/process} = 847.06\ process/hr$

q = Demand Rate = 5 $\frac{veh}{hr}$

N = Service Positions = 1 lane

ρ = Utilization factor = $\frac{q}{(NQ)} = \frac{5\ veh/hr}{1 \times 847.06\ process/hr} = 0.0059$

Q_m = Table Value = 0.0059

M = queue length which is exceeded 5% of the time [P(x>M)]

$M = \frac{\ln P(x>M) - \ln(Q_m)}{\ln(\rho)} - 1 = \frac{\ln(0.05) - \ln(0.0059)}{\ln(0.0059)} - 1 = -1.41$, *Say no vehicles on queue*

The result of the ground floor mechanical arm gate analysis shows that during the AM peak hour of the adjacent street there is no queue expected at the entrance of the mechanical gate. Therefore, the queue should not extend past the entrance storage length and spill back onto Alton Road.

The project is providing 36 parking spaces on the second parking level for retail, office, and residential parking. The retail vehicles will use the ticket dispenser, while the office and residential vehicles will use a card reader. Exhibit 5 shows the demand at the mechanical arm gate at the ramp entrance during the AM peak hour of the adjacent street. The processing rate for the mechanical arm gate was based on the time it takes a vehicle to conservatively pass through the mechanical arm with a card reader and ticket dispenser. As the processing time for the mechanical gate differs when accessed via a card reader or ticket dispenser, a weighted average was taken of the card reader (4.25 sec) and ticket dispenser (7.31 sec) processing times to determine the average processing rate at the mechanical arm gate. This data was collected at a parking garage with a similar mechanical arm gate (see Attachment D). The weighted average was based on the card reader and ticket dispenser distribution, which is 91% card reader and 9% ticket dispenser. A weighted processing rate of 4.53 seconds per vehicle (0.08 minutes per vehicle) was used for the second-floor parking ramp mechanical arm gate. Exhibit 6 shows the processing rate calculations for the mechanical arm gate at the ramp to the second floor of the parking garage. Exhibit 7 shows the queuing analysis for the mechanical arm gate at the ramp to the second floor of the parking garage.

Exhibit 5: Demand at Ramp to Second Floor Mechanical Arm Gate

36 Parking Spaces on Second Floor:	36 / 44 Total Parking Spaces = **.82**
27 Inbound Vehicle Trips:	27 * .82 = **22 Inbound Vehicle Trips**

Exhibit 6: Ramp to Second Floor Mechanical Arm Gate Processing Rate

20 Inbound Office/Residential:	20 / 22 Total Inbound = **.91**
2 Inbound Retail:	2 / 22 Total Inbound = **.09**
Weighted Processing Time	
91% Card Reader:	0.91 * 4.25 sec = **3.87 sec**
9% Ticket Dispenser:	0.09 * 7.31 sec = **0.66 sec**
Total	**= 4.53 sec**

Exhibit 7: Ramp to Second Floor Mechanical Arm Gate Queuing Calculations

Q = Processing rate = $\frac{60\ min/hr}{0.08\ min/process} = 794.70\ process/hr$

q = Demand Rate = $22\ \frac{veh}{hr}$

N = Service Positions = 1 lane

ρ = Utilization factor = $\frac{q}{(NQ)} = \frac{22\ veh/hr}{1 \times 794.70\ process/hr} = 0.0277$

Q_m = Table Value = 0.0277

M = queue length which is exceeded 5% of the time [P(x>M)]

$M = \frac{\ln P(x>M) - \ln(Q_m)}{\ln(\rho)} - 1 = \frac{\ln(0.05) - \ln(0.0277)}{\ln(0.0277)} - 1 = -1.16$, *Say no vehicles on queue*

The result of the ramp mechanical arm gate analysis shows that during the AM peak hour of the adjacent street there is no queue expected at the entrance of the mechanical arm gate. Therefore, the queue should not extend past the entrance storage length and spill back onto Alton Road.

Conclusions

The results of the trip generation analysis show that the proposed development will generate 2,190 less daily trips, 28 less AM peak hour trips, and 39 less PM peak hour trips when compared to the existing use. Therefore, the effects of the project on the adjacent roadway network will be *de minimis*.

The results of the mechanical arm gate queuing analyses show that during the AM peak hour of the adjacent street (critical inbound hour), no queue is expected at the ground floor and ramp to second floor mechanical arm gates. Therefore, the queue should not extend past the entrance storage length and spill back onto Alton Road.

We stand ready to provide any support needed for this project. Should you have any questions or comments, please call me at (305) 447-0900.

Sincerely,

Juan Espinosa, PE
Vice-President – Transportation

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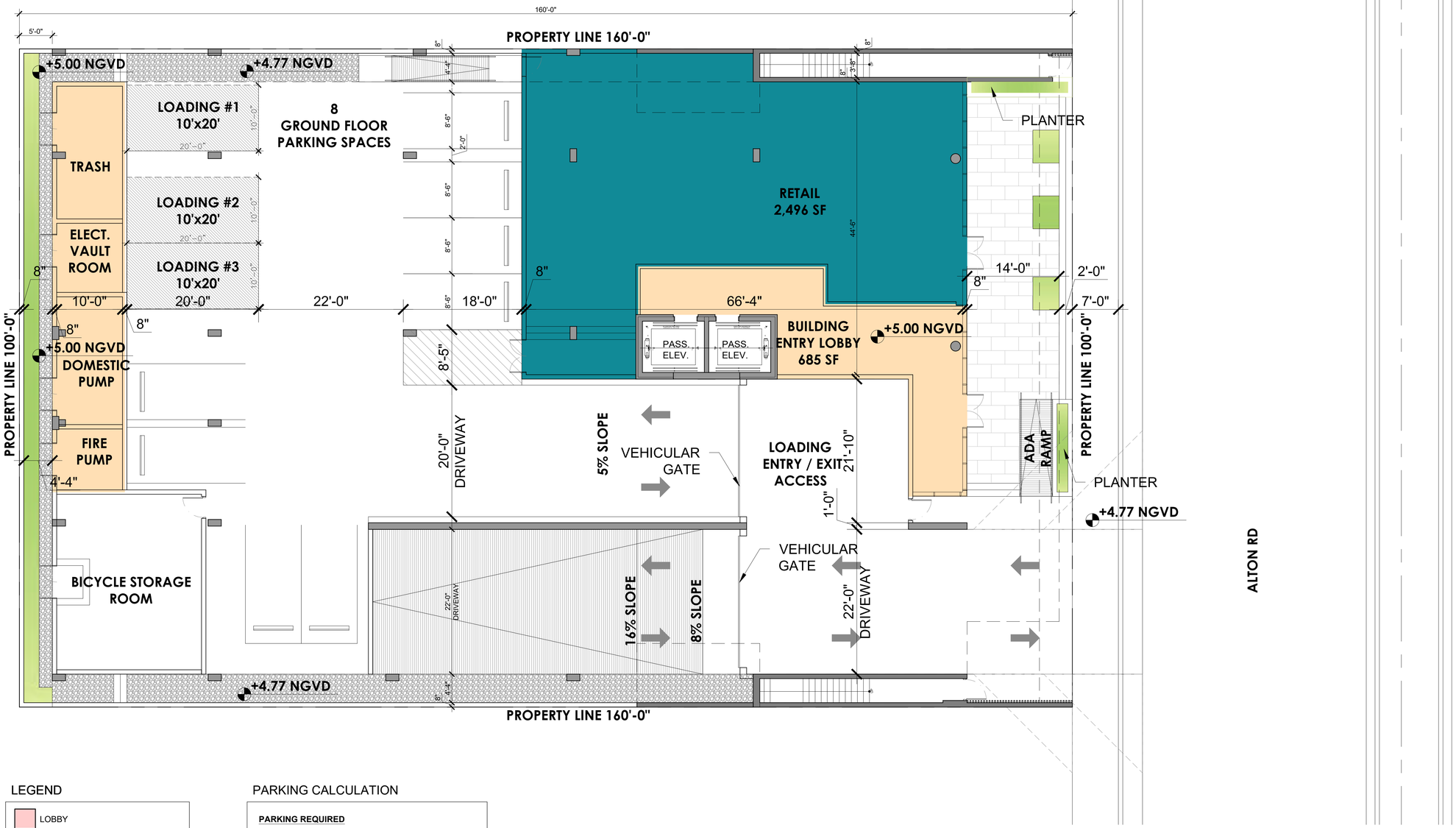
Attachment A

Site Plan



LEGEND

- LOBBY
- OFFICE
- RESIDENTIAL UNIT
- RETAIL
- SERVICE

PARKING CALCULATION

PARKING REQUIRED

RESIDENTIAL: 2 SPACES
RETAIL: LESS THAN 3,500 SF = 0 P.S.
OFFICE: 8,623 SF + 8,498 SF = 17,121 SF / 400 = 43 P.S.

PARKING PROVIDED

RESIDENTIAL: 2 SPACES
RETAIL: 2,496 SF = 0 P.S.
OFFICE: 8,623 SF + 8,498 = 17,121 SF / 400 = 43 P.S. - 5% WITH ALTERNATIVE PARKING REDUCTION INCENTIVE = 42 P.S.

NOTE:
PER SEC 130-40. (b) ALTERNATIVE PARKING INCENTIVES:
Bicycle parking short-term: The minimum off-street parking requirements may be reduced by one off-street parking space for every ten short-term bicycle parking spaces provided off-street, not to exceed 15 percent of the off-street parking spaces that would otherwise be required. Notwithstanding the foregoing, in no case shall the proximity of an available bike share program be counted in any ways towards private property parking reductions.

1 GROUND FLOOR
SCALE: 1/8" = 1'-0"

PLAN NORTH

Rev.	Date	Rev.	Date

P.B. FIRST SUBMITTAL

PB22-0480

MIXED USE -
COMMERCIAL - RESIDENCE

1840 ALTON RD
MIAMI BEACH, FLORIDA 33139

Owner:

PRIVATE

Landscape Architect:
Name
Address
Address
Tel:
Email

Consultant:
Name
Address
Address
Tel:
Email

Consultant:
Name
Address
Address
Tel:
Email

Architect:
Kobi Karp Architecture and Interior Design, Inc.
571 NW 28th Street
Miami, Florida 33127 USA
Tel: +1(305) 573 1818
Fax: +1(305) 573 3766

STATE OF FLORIDA
KOBI KARP
AR0012578
REGISTERED ARCHITECT
Lic. # AR0012578

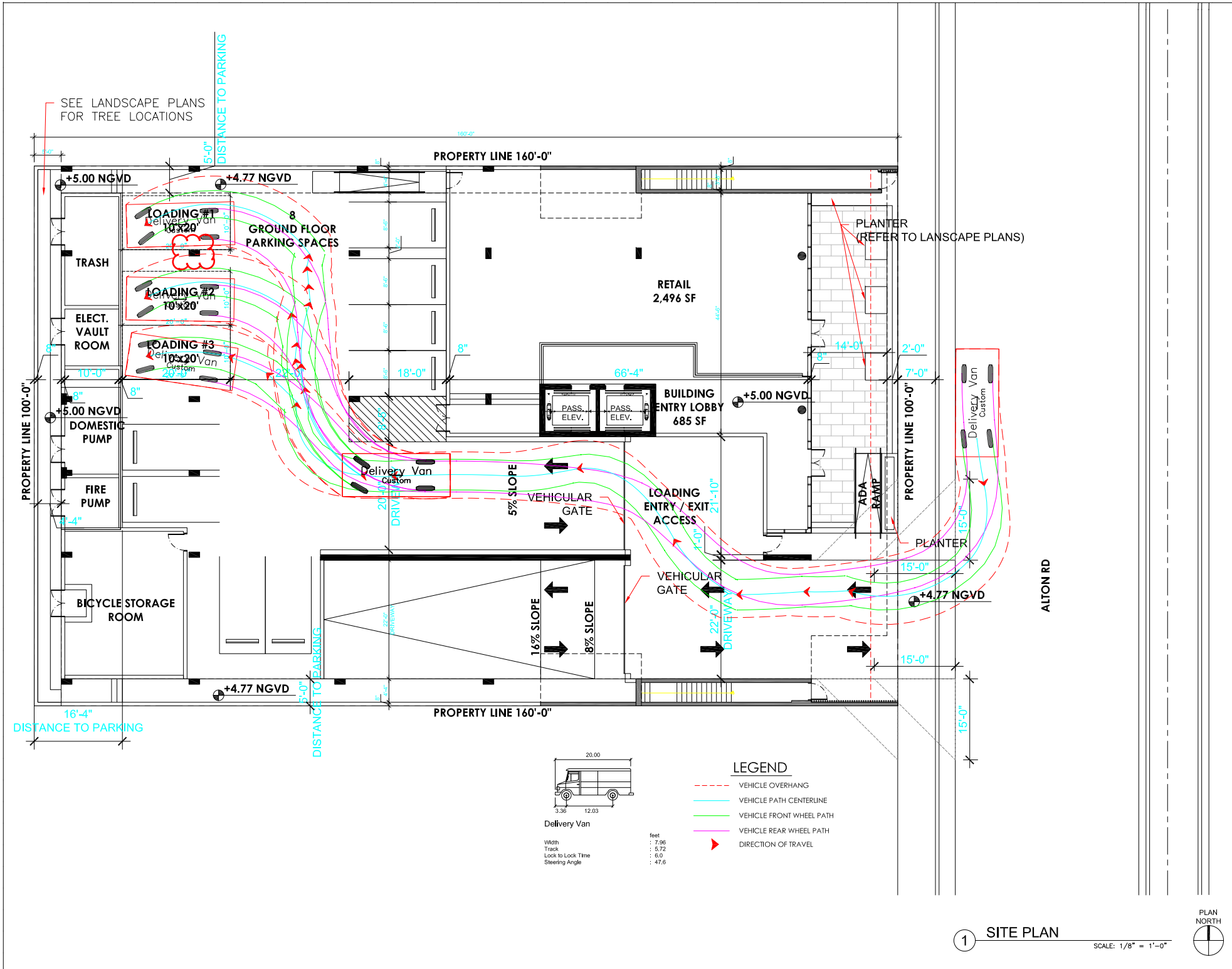
K O B I
K A R P

GROUND FLOOR

Date 12-21-2021	Sheet No. A3.00
Scale	
Project 2199	

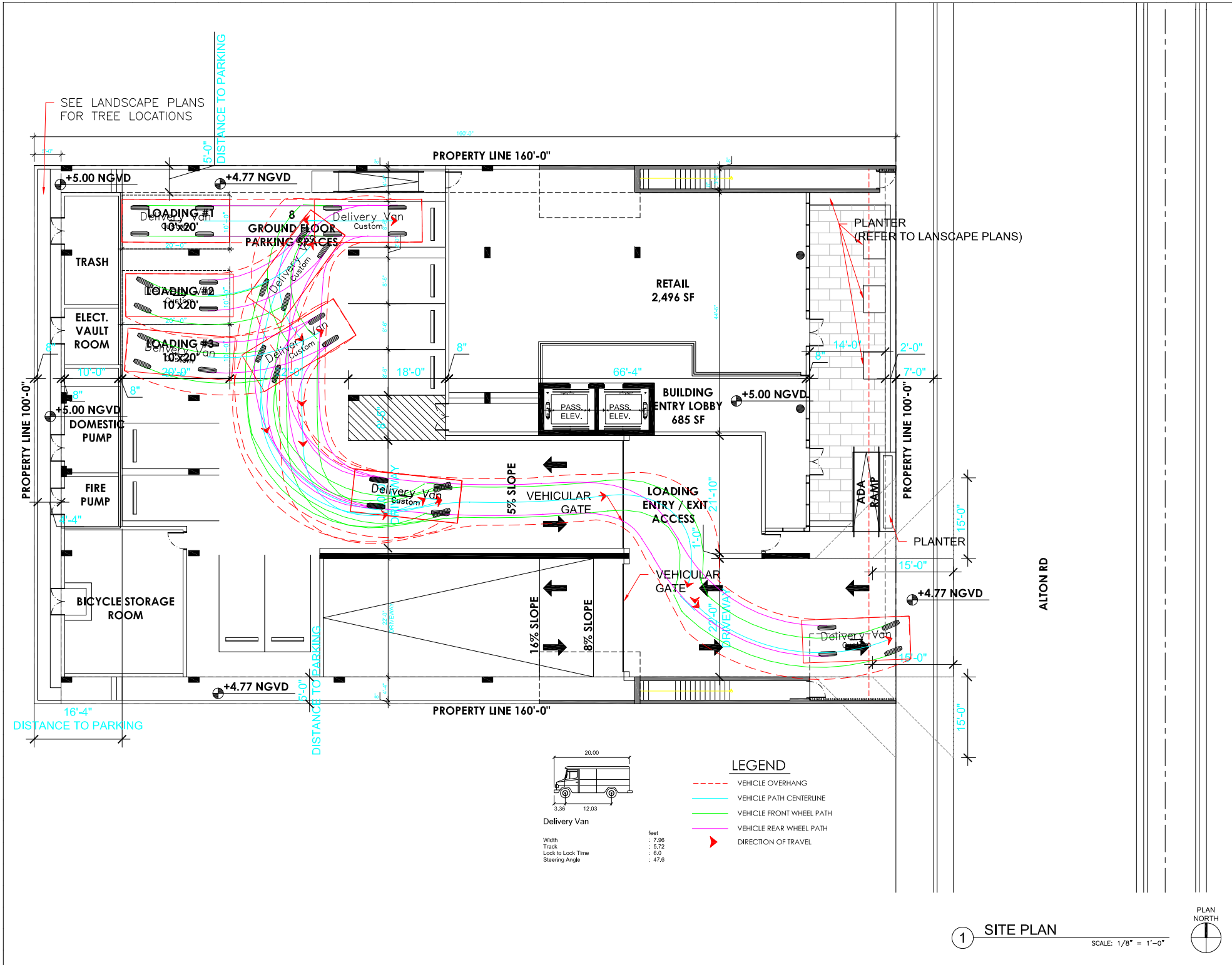
Attachment B

Maneuverability Analysis



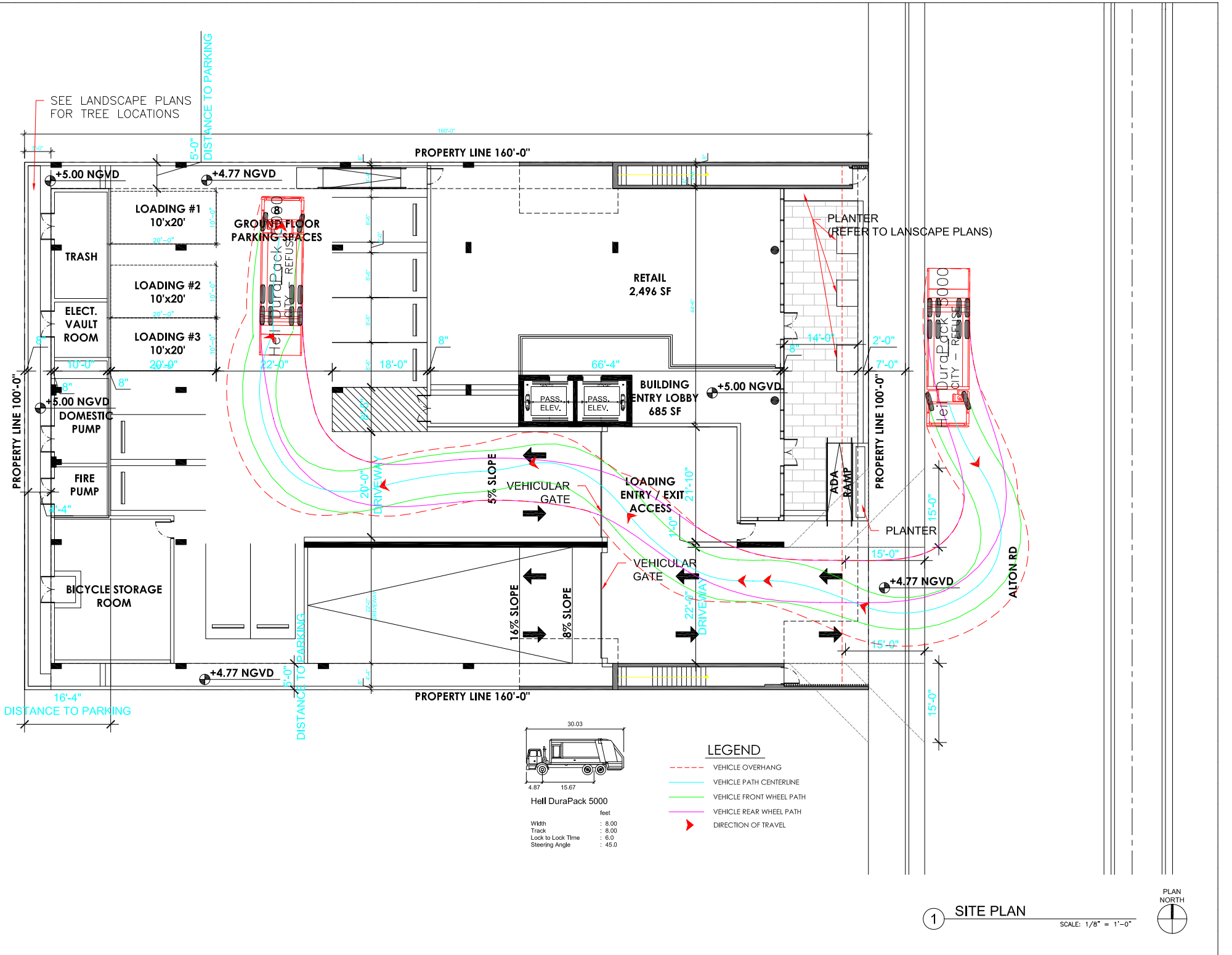
1 SITE PLAN

SCALE: 1/8" = 1'-0"



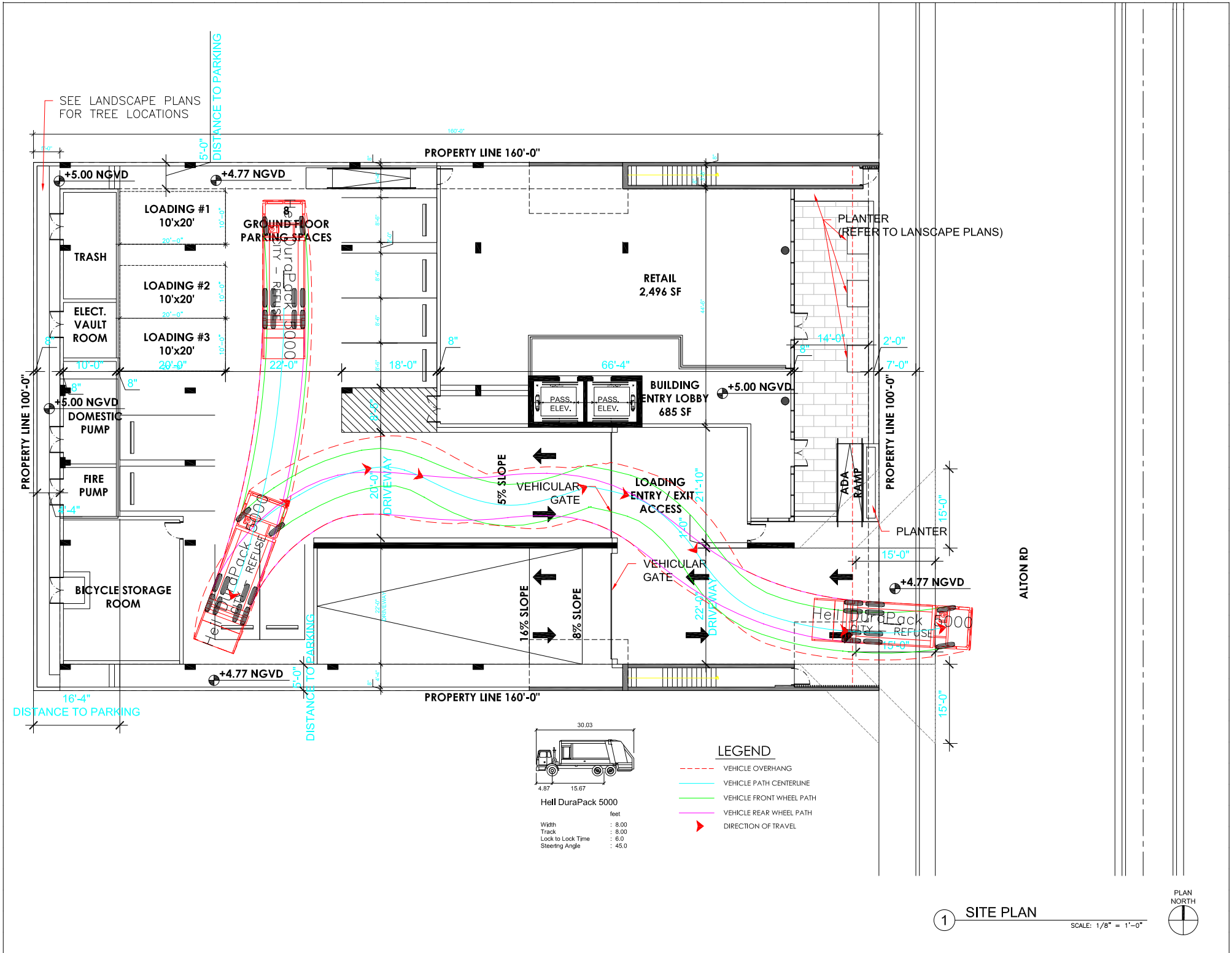
1 SITE PLAN

SCALE: 1/8" = 1'-0"



1 SITE PLAN

SCALE: 1/8" = 1'-0"



1 SITE PLAN

SCALE: 1/8" = 1'-0"

Attachment C

Trip Generation

Scenario - 1

Scenario Name: Existing Pumps
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 0
Analyst Note:
Warning: The time periods among the land uses do not appear to match.

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
945 - Convenience Store/Gas Station - VFP (2-8)	General Urban/Suburban	1000 Sq. Ft. GFA	4.59	Weekday	Average	1433	1433	2866
Data Source: Trip Generation Manual, 11th Ed					624.20	50%	50%	
945(1) - Convenience Store/Gas Station - VFP (2-	General Urban/Suburban	1000 Sq. Ft. GFA	4.59	Weekday, Peak Hour of Adjacent Street Traffic,	Average	93	93	186
Data Source: Trip Generation Manual, 11th Ed					40.59	50%	50%	
945(2) - Convenience Store/Gas Station - VFP (2-	General Urban/Suburban	1000 Sq. Ft. GFA	4.59	Weekday, Peak Hour of Adjacent Street Traffic,	Average	111	111	222
Data Source: Trip Generation Manual, 11th Ed					48.48	50%	50%	

Scenario - 2

Scenario Name: Proposed
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 0
Analyst Note:
Warning: The time periods among the land uses do not appear to match.

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
220 - Multifamily Housing (Low-Rise) - Not Close	General	Dwelling Units	1	Weekday	Best Fit (LIN)	41	41	82
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				T = 6.41(X) + 75.31	50%	50%	
220(1) - Multifamily Housing (Low-Rise) - Not	General	Dwelling Units	1	Weekday, Peak Hour of	Average	0	0	0
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban			Adjacent Street Traffic,	0.40	24%	76%	
220(2) - Multifamily Housing (Low-Rise) - Not	General	Dwelling Units	1	Weekday, Peak Hour of	Average	0	0	0
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban			Adjacent Street Traffic,	0.51	63%	37%	
710 - General Office Building	General	1000 Sq. Ft. GFA	17.18	Weekday	Best Fit (LOG)	125	125	250
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				Ln(T) =0.87Ln(X) + 3.05	50%	50%	
710(1) - General Office Building	General	1000 Sq. Ft. GFA	17.18	Weekday, Peak Hour of Adjacent Street	Best Fit (LOG)	32	4	36
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				Ln(T) =0.86Ln(X) + 1.16	88%	12%	
710(2) - General Office Building	General	1000 Sq. Ft. GFA	17.18	Weekday, Peak Hour of	Best Fit (LOG)	7	32	39
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban			Adjacent Street Traffic,	Ln(T) =0.83Ln(X) + 1.29	17%	83%	
822 - Strip Retail Plaza (<40k)	General	1000 Sq. Ft. GLA	2.70	Weekday	Best Fit (LIN)	172	172	344
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				T = 42.20(X) + 229.68	50%	50%	
822(1) - Strip Retail Plaza (<40k)	General	1000 Sq. Ft. GLA	2.70	Weekday, Peak Hour of	Average	4	3	7
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban			Adjacent Street Traffic,	2.36	60%	40%	
822(2) - Strip Retail Plaza (<40k)	General	1000 Sq. Ft. GLA	2.70	Weekday, Peak Hour of	Best Fit (LOG)	15	15	30
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban			Adjacent Street Traffic,	Ln(T) =0.71Ln(X) + 2.72	50%	50%	

AM Peak Hour Trip Generation and Internalization

1840 Alton Road 22106

Residentail (Low Rise) Land Use 220 1 Unit		Office Land Use 710 17,181 Sq Ft		Retail Land Use 822 2,698 Sq Ft		
In	**Out**	**In**	**Out**	**In**	**Out**	
0	**1**	**32**	**4**	**4**	**3**	44 ITE Trips

UNBALANCED INTERNALIZATION

	2%		*3%*			
	0	U	*1*			
0%				*1%*		
0		U		*0*		
	1%			*17%*		
	0	U		*1*		
2%					*14%*	
0		U			*0*	
			28%	*32%*		
			1	1 *1*		
4%					*29%*	
1			1		*1*	

Residentail (Low Rise		Office		Retail		
In	**Out**	**In**	**Out**	**In**	**Out**	
0	**1**	**32**	**4**	**4**	**3**	44 Vehicle Trips

BALANCED INTERNALIZATION

	0		*0*			
0				*0*		
	0			*0*		
0					*0*	
			-1	*-1*		
		-1			*-1*	

0	0	-1	-1	-1	-1	-4 Internal
0	1	31	3	3	2	40 External Trips
	0.0%		*5.6%*		*28.6%*	*9.1%* % Internal
				0	0	0 0% Passby
0	**1**	**31**	**3**	**3**	**2**	**40**
0	0					0 -20.0% Transit/Pedestrian (Residential)
		-6	-1	-1	0	-8 -20.0% Transit/Pedestrian (Office & Retail)
						*Transit for Miami Beach capped at 20%
0	**1**	**25**	**2**	**2**	**2**	**32 Net New External Trips**

PM Peak Hour Trip Generation and Internalization

1840 Alton Road 22106

Residentail (Low Rise) Land Use 220 1 Unit		Office Land Use 710 17,181 Sq Ft		Retail Land Use 822 2,698 Sq Ft		
In	**Out**	**In**	**Out**	**In**	**Out**	
1	**0**	**7**	**32**	**15**	**15**	70 ITE Trips

UNBALANCED INTERNALIZATION

	4% 0	0	57% 4			
4% 0		0		2% 1		
	42% 0	0			10% 2	
46% 0		0				26% 4
			20% 6	1	8% 1	
		31% 2		0		2% 0

Residentail (Low Rise)		Office		Retail		
In	**Out**	**In**	**Out**	**In**	**Out**	
1	**0**	**7**	**32**	**15**	**15**	70 Vehicle Trips

BALANCED INTERNALIZATION

	0	0				
0			0			
	0				0	
0						0
			-1		-1	
		0				0

0	0	0	-1	-1	0	-2 Internal
1	0	7	31	14	15.0	68 External Trips
	0.0%		*2.6%*		*3.3%*	*2.9%* % Internal
1	**0**	**7**	**31**	**14**	**15**	**68**
0	0					0 -20.0% Transit/Pedestrian (Residential)
		-1	-6	-3	-3	-13 -20.0% Transit/Pedestrian (Office & Retail)
1	0	6	25	11	12	*Transit for Miami Beach capped at 20%
				-5	-5	-10 -45% Passby (Retail)
1.0	**0.0**	**6.0**	**25.0**	**6.0**	**7.0**	**45 Net New External Trips**

COMMUTING CHARACTERISTICS BY SEX

United States® Census Bureau

Note: This is a modified view of the original table produced by the U.S. Census Bureau. This download or printed version may have missing information from the original table.

	Census Tract 43.04, Miami-Dade County, Florida	
	Total	Male
Label	Estimate	Estima
Workers 16 years and over	1,577	8
MEANS OF TRANSPORTATION TO WORK		
Car, truck, or van	56.2%	57.(
Drove alone	49.3%	48.1
Carpooled	6.9%	8.(
In 2-person carpool	6.0%	8.(
In 3-person carpool	1.0%	0.(
In 4-or-more person carpool	0.0%	0.(
Workers per car, truck, or van	1.07	1.
Public transportation (excluding taxicab)	6.7%	9.(
Walked	12.0%	7.1
Bicycle	9.3%	13.(
Taxicab, motorcycle, or other means	9.9%	7.1
Worked from home	5.9%	5.1
PLACE OF WORK		
Workers 16 years and over who did not work from home	1,484	8
VEHICLES AVAILABLE		
PERCENT ALLOCATED		

Table Notes

COMMUTING CHARACTERISTICS BY SEX

Survey/Program: American Community Survey
Year: 2019
Estimates: 5-Year
Table ID: S0801

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities, and towns and estimates of housing units for states and counties.

Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

When information is missing or inconsistent, the Census Bureau logically assigns an acceptable value using the response to a related question or questions. If a logical assignment is not possible, data are filled using a statistical process called allocation, which uses a similar individual or household to provide a donor value. The "Allocated" section is the number of respondents who received an allocated value for a particular subject.

2019 ACS data products include updates to several categories of the existing means of transportation question. For more information, see: Change to Means of Transportation.

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see ACS Technical Documentation). The effect of nonsampling error is not represented in these tables.

The 12 selected states are Connecticut, Maine, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and Wisconsin.

Workers include members of the Armed Forces and civilians who were at work last week.

The 2015-2019 American Community Survey (ACS) data generally reflect the September 2018 Office of Management and Budget (OMB) delineations of metropolitan and micropolitan statistical areas. In certain instances, the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB delineation lists due to differences in the effective dates of the geographic entities.

Estimates of urban and rural populations, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Explanation of Symbols:

> An "**" entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
> An "-" entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution, or the margin of error associated with a median was larger than the median itself.
> An "-" following a median estimate means the median falls in the lowest interval of an open-ended distribution

An "-" following a median estimate means the median falls in the lowest interval of an open-ended distribution.

An "+" following a median estimate means the median falls in the upper interval of an open-ended distribution.
An "***" entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
An "*****" entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
An "N" entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
An "(X)" means that the estimate is not applicable or not available.

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Technical Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

OFFICE OF THE PROPERTY APPRAISER

Summary Report

Generated On : 1/19/2022

Property Information	
Folio:	02-3233-012-0170
Property Address:	1840 ALTON RD Miami Beach, FL 33139-1505
Owner	ALTON ROAD SUPREME SERVICES INC
Mailing Address	1840 ALTON ROAD MIAMI BEACH, FL 33139-1505
PA Primary Zone	6400 COMMERCIAL - CENTRAL
Primary Land Use	2626 SERVICE STATION : SERVICE STATION - AUTOMOTIVE
Beds / Baths / Half	0 / 0 / 0
Floors	1
Living Units	0
Actual Area	Sq.Ft
Living Area	Sq.Ft
Adjusted Area	4,594 Sq.Ft
Lot Size	16,000 Sq.Ft
Year Built	1997

Assessment Information			
Year	2021	2020	2019
Land Value	$4,200,000	$3,080,000	$2,800,000
Building Value	$270,777	$274,204	$265,013
XF Value	$32,689	$33,102	$33,517
Market Value	$4,503,466	$3,387,306	$3,098,530
Assessed Value	$3,216,417	$2,924,016	$2,658,197

Benefits Information				
Benefit	Type	2021	2020	2019
Non-Homestead Cap	Assessment Reduction	$1,287,049	$463,290	$440,333

Note: Not all benefits are applicable to all Taxable Values (i.e. County, School Board, City, Regional).

Short Legal Description

ISLAND VIEW SUB PB 6-115
LOTS 5 & 6 BLK 12
LOT SIZE 16000 SQ FT
OR 17439-4212 0696 4

Taxable Value Information	2021	2020	2019
County			
Exemption Value	$0	$0	$0
Taxable Value	$3,216,417	$2,924,016	$2,658,197
School Board			
Exemption Value	$0	$0	$0
Taxable Value	$4,503,466	$3,387,306	$3,098,530
City			
Exemption Value	$0	$0	$0
Taxable Value	$3,216,417	$2,924,016	$2,658,197
Regional			
Exemption Value	$0	$0	$0
Taxable Value	$3,216,417	$2,924,016	$2,658,197

Sales Information

Previous Sale	Price	OR Book-Page	Qualification Description
06/01/1996	$0	17439-4212	Sales which are disqualified as a result of examination of the deed
05/01/1996	$0	00000-00000	Sales which are disqualified as a result of examination of the deed
09/01/1991	$0	00000-00000	Sales which are disqualified as a result of examination of the deed
01/01/1978	$135,000	10049-0924	Sales which are qualified

Version:

Attachment D

Queuing Documentation

Scenario - 2

Scenario Name: Proposed
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 0
Analyst Note:
Warning: The time periods among the land uses do not appear to match.

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
220 - Multifamily Housing (Low-Rise) - Not Close	General	Dwelling Units	1	Weekday	Best Fit (LIN)	41	41	82
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				T = 6.41(X) + 75.31	50%	50%	
220(1) - Multifamily Housing (Low-Rise) - Not	General	Dwelling Units	1	Weekday, Peak Hour of	Average	0	0	0
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban			Adjacent Street Traffic,	0.40	24%	76%	
220(2) - Multifamily Housing (Low-Rise) - Not	General	Dwelling Units	1	Weekday, Peak Hour of	Average	0	0	0
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban			Adjacent Street Traffic,	0.51	63%	37%	
710 - General Office Building	General	1000 Sq. Ft. GFA	17.18	Weekday	Best Fit (LOG)	125	125	250
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				Ln(T) =0.87Ln(X) + 3.05	50%	50%	
710(1) - General Office Building	General	1000 Sq. Ft. GFA	17.18	Weekday, Peak Hour of Adjacent Street	Best Fit (LOG)	32	4	36
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				Ln(T) =0.86Ln(X) + 1.16	88%	12%	
710(2) - General Office Building	General	1000 Sq. Ft. GFA	17.18	Weekday, Peak Hour of	Best Fit (LOG)	7	32	39
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban			Adjacent Street Traffic,	Ln(T) =0.83Ln(X) + 1.29	17%	83%	
822 - Strip Retail Plaza (<40k)	General	1000 Sq. Ft. GLA	2.70	Weekday	Best Fit (LIN)	172	172	344
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				T = 42.20(X) + 229.68	50%	50%	
822(1) - Strip Retail Plaza (<40k)	General	1000 Sq. Ft. GLA	2.70	Weekday, Peak Hour of	Average	4	3	7
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban			Adjacent Street Traffic,	2.36	60%	40%	
822(2) - Strip Retail Plaza (<40k)	General	1000 Sq. Ft. GLA	2.70	Weekday, Peak Hour of	Best Fit (LOG)	15	15	30
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban			Adjacent Street Traffic,	Ln(T) =0.71Ln(X) + 2.72	50%	50%	

location, a 5% probability of back-up onto the adjacent street is judged to be acceptable. Demand on the system for design is expected to be 110 vehicles in a 45-minute period. Average service time was expected to be 2.2 minutes. Is the queue storage adequate?

Such problems can be quickly solved using Equation (8–9b) given in Table 8-10 and repeated below for convenience.

$$M = \left[\frac{\ln P(x > M) - \ln Q_M}{\ln \rho}\right] - 1$$

where:

M = queue length which is exceeded p percent of the time
N = number of service channels (drive-in positions)
Q = service rate per channel (vehicles per hour)
$\rho = \dfrac{\text{demand rate}}{\text{service rate}} = \dfrac{q}{NQ}$ = utilization factor
q = demand rate on the system (vehicles per hour)
Q_M = tabled values of the relationship between queue length, number of channels, and utilization factor (see Table 8.11)

TABLE 8-11
Table of Q_M Values

ρ	$N = 1$	2	3	4	6	8	10
0.0	0.0000	0.0000	0.0000	0.0000			
0.1	.1000	.0182	.0037	.0008	.0000	0.0000	0.0000
.2	.2000	.0666	.0247	.0096	.0015	.0002	.0000
.3	.3000	.1385	.0700	.0370	.0111	.0036	.0011
.4	.4000	.2286	.1411	.0907	.0400	.0185	.0088
.5	.5000	.3333	.2368	.1739	.0991	.0591	.0360
.6	.6000	.4501	.3548	.2870	.1965	.1395	.1013
.7	.7000	.5766	.4923	.4286	.3359	.2706	.2218
.8	.8000	.7111	.6472	.5964	.5178	.4576	.4093
.9	.9000	.8526	.8172	.7878	.7401	.7014	.6687
1.0	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

$\rho = \dfrac{q}{NQ} = \dfrac{\text{arrival rate, total}}{(\text{number of channels})(\text{service rate per channel})}$
N = number of channels (service positions)

Solution

Step 1: $Q = \dfrac{60 \text{ min/hr}}{2.2 \text{ min/service}} = 27.3$ services per hour

Step 2: $q = (110 \text{ veh}/45 \text{ min}) \times (60 \text{ min/hr}) = 146.7$ vehicles per hour

Step 3: $\rho = \dfrac{q}{NQ} = \dfrac{146.7}{(6)(27.3)} = 0.8956$

Step 4: $Q_M = 0.7303$ by interpolation between 0.8 and 0.9 for $N = 6$ from the table of Q_M values (see Table 8-11).

Step 5: The acceptable probability of the queue, M, being longer than the storage, 18 spaces in this example, was stated to be 5%. $P(x > M) = 0.05$, and:

$$M = \left[\frac{\ln 0.05 - \ln 0.7303}{\ln 0.8956}\right] - 1 = \left[\frac{-2.996 - (-0.314)}{-0.110}\right] - 1$$

$= 24.38 - 1 = 23.38$, say 23 vehicles.

Shops at Merrick Park
Aurora Parking Garage

Garage Entrance Processing Time

Date: 2-May-17
Time: 5 - 6 pm

Car	Processing Time (sec)	Transaction Type	Car	Processing Time (sec)	Transaction Type
1	6.32	T	21	6.92	T
2	9.57	T	22	6.27	T
3	7.47	T	23	6.58	T
4	6.18	T	24	6.16	T
5	8.54	T	25	4.64	C
6	6.61	C	26	3.84	C
7	4.2	C	27	3.43	C
8	6.6	T	28	7.18	C
9	10.66	T	29	3.74	C
10	9.94	T	30	7.23	T
11	4.77	C	31	3.2	C
12	6.51	T	32	3.11	C
13	6.33	T	33	7.17	T
14	5.4	T	34	9.4	T
15	6.28	T	35	5.84	C
16	3.24	C	36	3.57	C
17	3.37	C			
18	7.97	T			
19	3.04	C			
20	6.07	T			

T= Ticket Dispenser
C= Card Reader

Ticket Dispenser Average	7.31 sec
Card Reader Average	4.25 sec
Combined Average	6.04 sec