

TRAFFIC IMPACT ANALYSIS

STARBUCKS ATLANTIC AVENUE
DELRAY BEACH, FL

PREPARED FOR:
BBB PLAZA ASSOCIATES LTD.

Kimley»Horn

Project # 140549000
December 3, 2020
CA 00000696
Kimley-Horn and Associates, Inc.
1920 Wekiva Way
West Palm Beach, Florida 33411
561/845-0665 TEL

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Prepared by:
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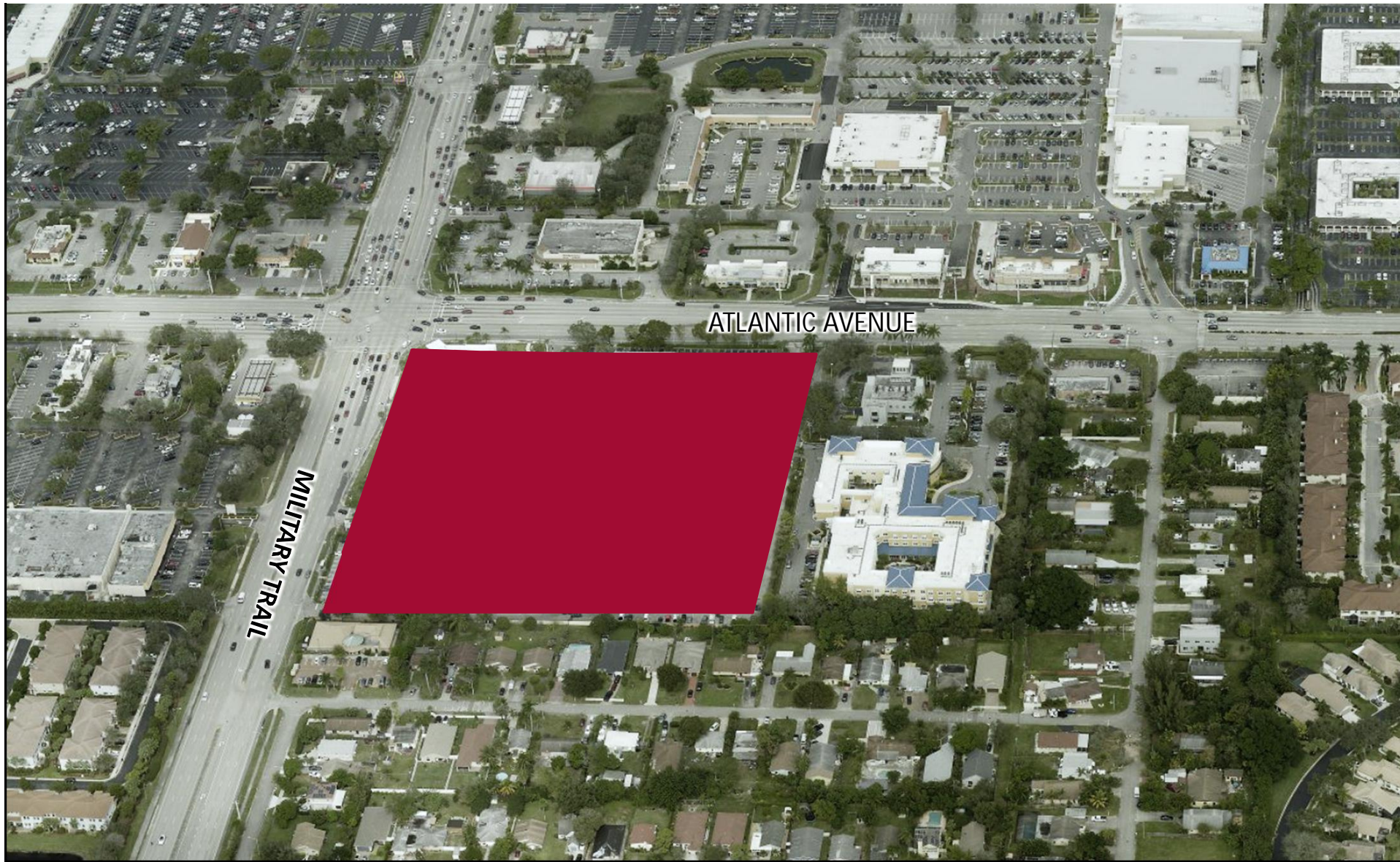
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Introduction

The Bed Bath and Beyond Plaza is located on the southeast corner of Atlantic Avenue & Military Trail in Delray Beach, Florida. The project site currently contains a mix of general commercial uses, pharmacy uses, and drive-in bank uses. It is proposed to demolish the existing drive-in bank and construct a coffee shop with drive-through. *Figure 1* illustrates the location of the project site. The Parcel Control Numbers (PCNs) for the project site are 12-42-46-13-00-000-7070 and 12-42-46-13-30-001-0000. The proposed site plan and PCN summary are included in *Appendix A*.

The purpose of this study is to evaluate the impacts of the proposed redevelopment on the surrounding roadway network and determine if adequate capacity is available to accommodate future traffic volumes using the criteria defined in *Article 12* of the *Palm Beach County Unified Land Development Code (ULDC)* for buildout in 2025. This report summarizes the data collection, project trip generation, project trip distribution, and capacity analysis.



LEGEND



PROJECT SITE

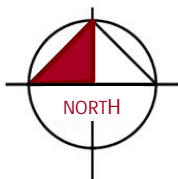


FIGURE 1
SITE LOCATION
STARBUCKS ATLANTIC AVENUE

Kimley»Horn

Project Traffic

Project traffic used in this analysis is defined as the vehicle trips expected to be generated by the project and the distribution and assignment of that traffic over the study roadway network.

Existing and Proposed Land Uses

The project site currently contains a mix of general commercial uses, pharmacy uses, and drive-in bank uses. It is proposed to demolish the existing drive-in bank and construct a coffee shop with drive-through.

Trip Generation

The trip generation potential for the proposed development program was calculated based on rates and equations published by Palm Beach County. As shown in *Table 1*, the proposed redevelopment is projected to generate an increase of 330 net new external daily trips, an increase of 82 net new external AM peak-hour trips (39 in, 43 out), and a decrease of 29 net new external PM peak-hour trips (-15 in, -14 out). Based on the impact analysis guidelines established in *Article 12* of the *Palm Beach County ULDC*, it was determined that the radius of development influence is one mile for Test 1 and Test 2 analyses.

Table 1: Trip Generation

Land Use	Intensity		Daily Trips	AM Peak Hour			PM Peak Hour		
				Total	In	Out	Total	In	Out
Existing Scenario >5 Years									
General Commercial	70.308	KSF	4731	66	41	25	419	201	218
Pharmacy + DT	13.215	KSF	1443	51	27	24	136	68	68
Drive-In Bank	5.85	KSF	585	56	32	24	120	60	60
		Subtotal	6759	173	100	73	675	329	346
Internal Capture									
General Commercial			230	5	4	1	14	9	5
Pharmacy + DT			69	3	3	0	4	3	1
Drive-In Bank			299	8	1	7	18	6	12
		Subtotal	598	16	8	8	36	18	18
Pass-By Capture									
General Commercial	43.6%		1962	27	16	11	177	84	93
Pharmacy + DT	50.0%		687	24	12	12	66	33	33
Drive-In Bank	47.0%		134	23	15	8	48	25	23
		Subtotal	2783	74	43	31	291	142	149
Driveway Volumes			6161	157	92	65	639	311	328
Existing Net New External Trips			3378	83	49	34	348	169	179
Proposed Scenario									
General Commercial	70.308	KSF	4731	66	41	25	419	201	218
Pharmacy + DT	13.215	KSF	1443	51	27	24	136	68	68
Coffee/Donut Shop w/ DT	2.5	KSF	2051	222	113	109	108	54	54
		Subtotal	8225	339	181	158	663	323	340
Internal Capture									
General Commercial			529	6	3	3	29	17	12
Pharmacy + DT			158	5	2	3	9	5	4
Coffee/Donut Shop w/ DT			687	11	6	5	38	16	22
		Subtotal	1,374	22	11	11	76	38	38
Pass-By Capture									
General Commercial	43.6%		1832	26	17	9	170	80	90
Pharmacy + DT	50.0%		643	23	13	10	64	32	32
Coffee/Donut Shop w/ DT	49.0%		668	103	52	51	34	19	15
		Subtotal	3143	152	82	70	268	131	137
Driveway Volumes			6,851	317	170	147	587	285	302
Proposed Net New External Trips			3,708	165	88	77	319	154	165
Trip Differential (Proposed - Existing)			330	82	39	43	-29	-15	-14
Radius of Development Influence:			1 miles						
Land Use	Daily	AM Peak Hour			PM Peak Hour				
General Commercial	Ln(T) = 0.68 *Ln(X)+5.57	0.94 trips/1,000 sf (62% in, 38% out)			Ln(T) = 0.74 *Ln(X)+2.89 (48% in, 52% out)				
Pharmacy + DT	109.16 trips/1,000 sf	3.84 trips/1,000 sf (53% in, 47% out)			10.29 trips/1,000 sf (50% in, 50% out)				
Coffee/Donut Shop w/ DT	820.38 trips/1,000 sf	88.99 trips/1,000 sf (51% in, 49% out)			43.38 trips/1,000 sf (50% in, 50% out)				
Drive-In Bank	100.03 trips/1,000 sf	9.5 trips/1,000 sf (58% in, 42% out)			20.45 trips/1,000 sf (50% in, 50% out)				

Traffic Distribution

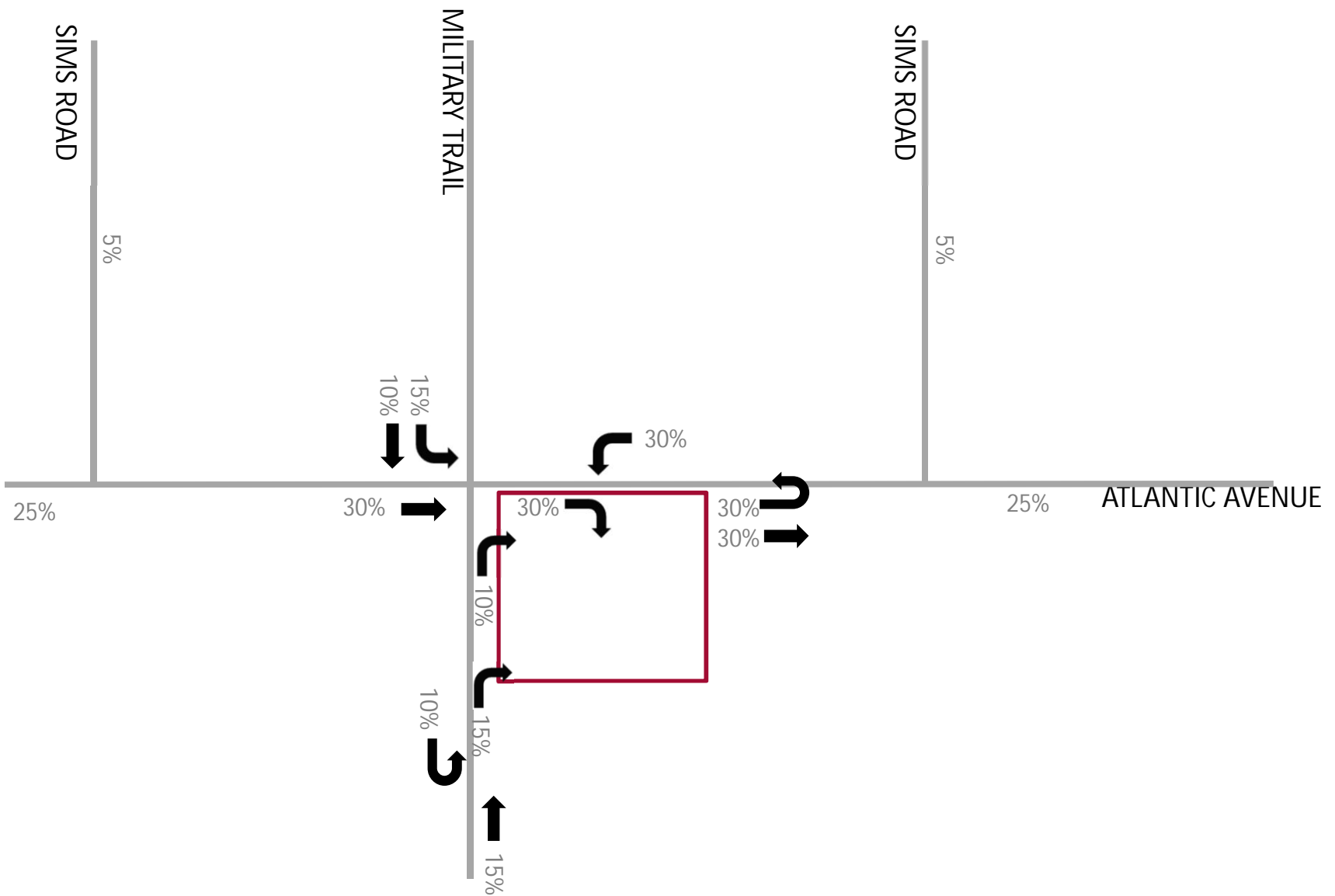
Traffic distribution is the pairing of trip ends from the subject site with other land uses in the area. These trips were assigned to the surrounding roadways based upon a review of the roadway network proposed to be in place at the time of buildout and its travel time characteristics.

The distribution within the project’s radius is:

NORTH	-	25 percent
SOUTH	-	15 percent
EAST	-	30 percent
WEST	-	30 percent

Traffic Assignment

The site traffic was assigned to the surrounding roadway network based upon existing travel patterns and the traffic distribution. *Figure 2* illustrates the roadway link assignment. The AM and PM peak hour trips for the project were then assigned to the surrounding roadway network projected to be in place by 2025.




LEGEND
 PROJECT SITE
 XX% PERCENT ASSIGNMENT

FIGURE 2
 TRIP ASSIGNMENT
 STARBUCKS ATLANTIC AVENUE

Roadway Improvements

A review was conducted of the Five-Year Plans of Palm Beach County and the FDOT, as well as those improvements committed by the developers of projects in the area. No major projects were identified for roadways within the study area.

Test 1 Significance Analysis

A peak hour peak-directional (PHPD) analysis was undertaken on the directly accessed links included in the Palm Beach County Thoroughfare Map to determine if these links are significantly impacted by the project traffic. Net new external project traffic was assigned to the directly accessed links per the project's radius of development influence. Per Palm Beach County standards, all the links on which the project impact is greater than 1% of the level of service (LOS) D generalized service volume are considered significantly impacted links.

As shown in *Tables 2a* and *2b*, none of the roadway segments are significantly impacted. Therefore, no further analysis is required.

Table 2a: Test 1 Significance (AM Peak Hour)

ROADWAY	FROM	TO	COMMITTED NUMBER OF LANES	LOS D GEN. SVC. VOLUME	PROJECT % ASSIGNMENT	NB/EB IN/OUT?	PROJECT TRIPS					
							AM PEAK HOUR					
							TRIPS		% IMPACT			
							NB/EB	SB/WB	NB/EB	Sig?	SB/WB	Sig?
Atlantic Avenue	Jog Road	Sims Road	6LD	2,680	25%	i	10	11	0.37%	No	0.41%	No
Atlantic Avenue	Sims Road	Military Trail	6LD	2,680	30%	i	12	13	0.45%	No	0.49%	No
Atlantic Avenue	Military Trail	Project Driveway	6LD	2,680	45% in eastbound, 30% out westbound		18	13	0.67%	No	0.49%	No
Atlantic Avenue	Project Driveway	Whatley Boulevard	6LD	2,680	60% out eastbound, 30% in/30% out westbound		26	25	0.97%	No	0.93%	No
Atlantic Avenue	Whatley Boulevard	Barwick Road	6LD	2,680	30%	o	13	12	0.49%	No	0.45%	No
Atlantic Avenue	Barwick Road	Homewood Boulevard	6LD	2,680	25%	o	11	10	0.41%	No	0.37%	No
Military Trail	Linton Boulevard	Median Opening S of Project	6LD	2,680	15%	i	6	6	0.22%	No	0.22%	No
Military Trail	Median Opening S of Project	Project Driveway	6LD	2,680	25% in northbound/10% in southbound		10	4	0.37%	No	0.15%	No
Military Trail	Project Driveway	Atlantic Avenue	6LD	2,680	25% out northbound/10% in southbound		11	4	0.41%	No	0.15%	No
Military Trail	Atlantic Avenue	Lake Ida Road	6LD	2,680	25%	o	11	10	0.41%	No	0.37%	No
Sims Road	Atlantic Avenue	Lake Ida Road	2L	810	5%	o	2	2	0.25%	No	0.25%	No
Barwick Road	Atlantic Avenue	Lake Ida Road	2L	810	5%	o	2	2	0.25%	No	0.25%	No

Table 2b: Test 1 Significance (PM Peak Hour)

ROADWAY	FROM	TO	COMMITTED NUMBER OF LANES	LOS D GEN. SVC. VOLUME	RESIDENTIAL % ASSIGNMENT	NB/EB IN/OUT?	PROJECT TRIPS					
							PM PEAK HOUR					
							TRIPS		% IMPACT			
							NB/EB	SB/WB	NB/EB	Sig?	SB/WB	Sig?
Atlantic Avenue	Jog Road	Sims Road	6LD	2,680	25%	i	-4	-4	-0.15%	No	-0.15%	No
Atlantic Avenue	Sims Road	Military Trail	6LD	2,680	30%	i	-5	-4	-0.19%	No	-0.15%	No
Atlantic Avenue	Military Trail	Project Driveway	6LD	2,680	45% in eastbound, 30% out westbound		-7	-4	-0.26%	No	-0.15%	No
Atlantic Avenue	Project Driveway	Whatley Boulevard	6LD	2,680	60% out eastbound, 30% in/30% out westbound		-8	-9	-0.30%	No	-0.34%	No
Atlantic Avenue	Whatley Boulevard	Barwick Road	6LD	2,680	30%	o	-4	-5	-0.15%	No	-0.19%	No
Atlantic Avenue	Barwick Road	Homewood Boulevard	6LD	2,680	25%	o	-4	-4	-0.15%	No	-0.15%	No
Military Trail	Linton Boulevard	Median Opening S of P	6LD	2,680	15%	i	-2	-2	-0.07%	No	-0.07%	No
Military Trail	Median Opening S of P	Project Driveway	6LD	2,680	25% in northbound/10% in southbound		-4	-2	-0.15%	No	-0.07%	No
Military Trail	Project Driveway	Atlantic Avenue	6LD	2,680	25% out northbound/10% in southbound		-4	-1	-0.15%	No	-0.04%	No
Military Trail	Atlantic Avenue	Lake Ida Road	6LD	2,680	25%	o	-4	-4	-0.15%	No	-0.15%	No
Sims Road	Atlantic Avenue	Lake Ida Road	2L	810	5%	o	-1	-1	-0.12%	No	-0.12%	No
Barwick Road	Atlantic Avenue	Lake Ida Road	2L	810	5%	o	-1	-1	-0.12%	No	-0.12%	No

Site Circulation and Turn Lane Requirements

Driveway Classification

Access to the site is proposed to be maintained via two existing right-in/right-out driveways on Military Trail, one existing right-in/right-out driveway on Atlantic Avenue, and one existing left-in/right-in/right-out driveway on Atlantic Avenue. According to the Palm Beach County “Guide to Parking Lot and Street Access Design Criteria and Standards”, it is necessary to classify project entrances that provide access to the local roadway network as minor, intermediate, or major according to the following criteria:

- Minor – Services a maximum daily volume of 500 vehicles.
- Intermediate – Services a daily volume of 500 to 2,000 vehicles.
- Major – Services a daily volume of 2,000 vehicles or more.

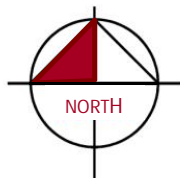
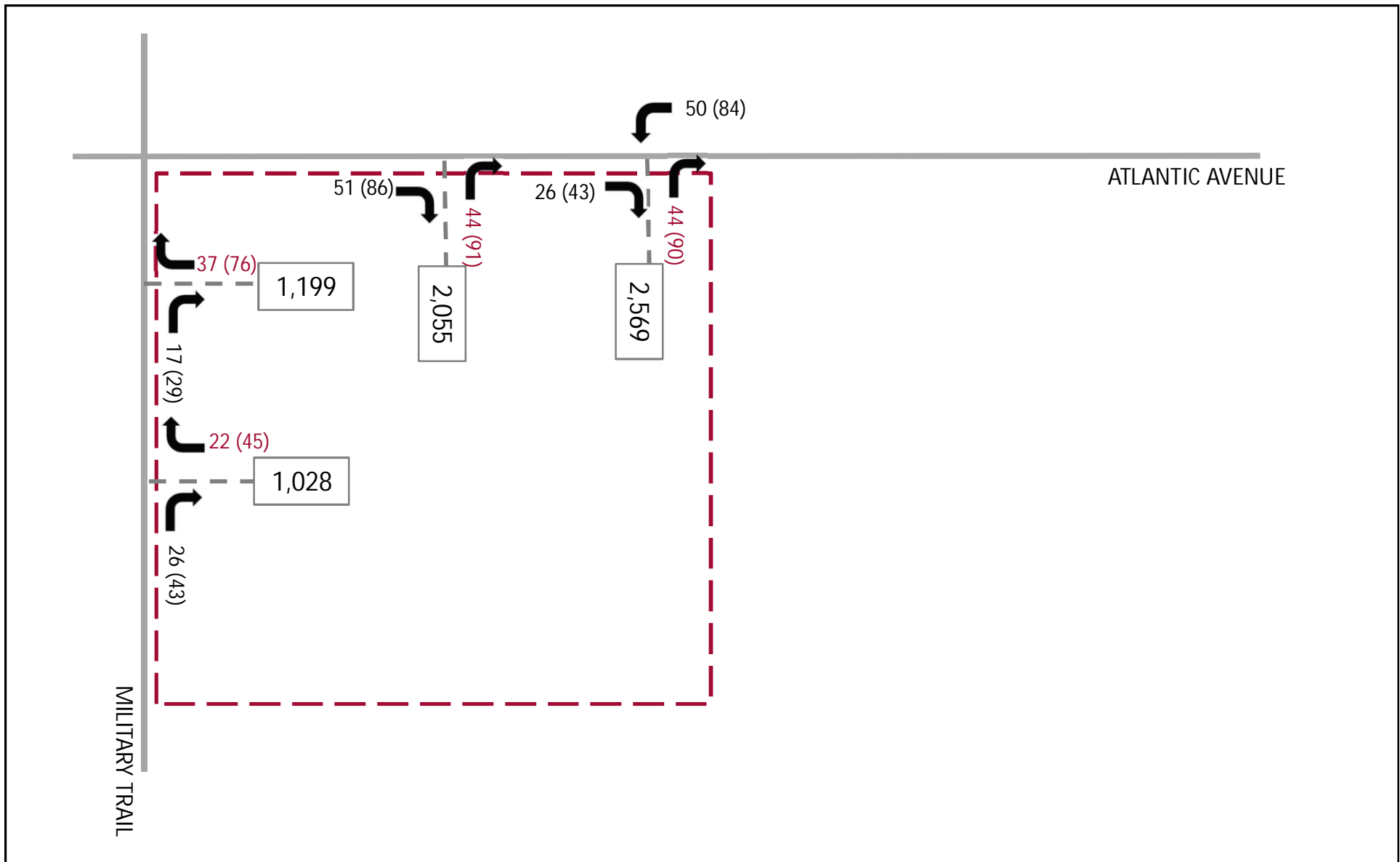
Figure 3 illustrates the project traffic volumes at the site driveways. Using these criteria, the existing driveways on Atlantic Avenue are classified as major and the existing driveways on Military Trail are classified as intermediate.

Turn Lane Requirements

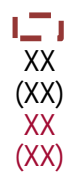
Driveway volumes at the existing driveway connections have been evaluated in comparison with guidance provided in the Palm Beach County “Guide to Parking Lot and Street Access Design Criteria and Standards”. According to the standards identified in this document, the volume thresholds for providing exclusive turn lanes are as follows:

- Right-turn Lane – 75 peak hour right turns, with driveway volumes that exceed 1,000 trips per day, and average daily traffic volumes that exceed 10,000 vehicles per day.
- Left-turn Lane – 30 peak hour left turns.

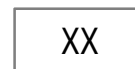
There is currently an existing westbound left-turn lane provided at the left-in/right-in/right-out driveway. Based on these thresholds, the right-turn volumes at the right-in/right-out driveway on Atlantic Avenue meet the threshold for a right-turn lane. However, this driveway directly accesses the state highway system and was not determined to require a right-turn lane. Therefore, no additional turn lanes are recommended. Figure 3 illustrates the location and volumes for the site driveways.



LEGEND



PROJECT SITE
 XX INBOUND AM
 (XX) INBOUND PM
 XX OUTBOUND AM
 (XX) OUTBOUND PM



WEEKDAY DAILY TRAFFIC

FIGURE 3
 DRIVEWAY VOLUMES
 STARBUCKS ATLANTIC AVENUE

Conclusion

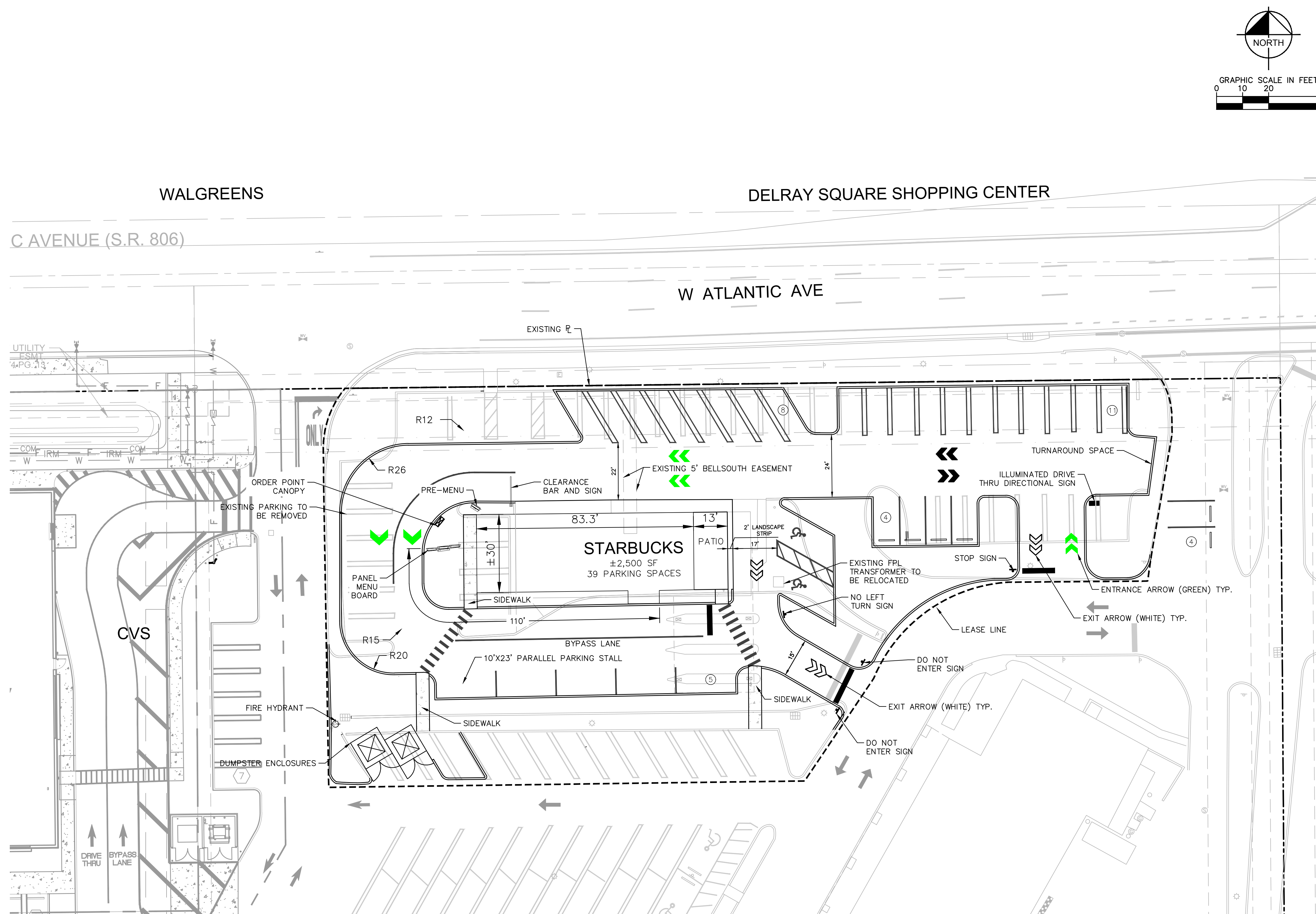
The Bed Bath and Beyond Plaza is located on the southeast corner of Atlantic Avenue & Military Trail in Delray Beach, Florida. The project site currently contains a mix of general commercial uses, pharmacy uses, and drive-in bank uses. It is proposed to demolish the existing drive-in bank and construct a coffee shop with drive-through.

Based on the analysis the proposed redevelopment is projected to generate an increase of 330 net new external daily trips, an increase of 82 net new external AM peak-hour trips (39 in, 43 out), and a decrease of 29 net new external PM peak-hour trips (-15 in, -14 out).

Based on the evaluation conducted, none of the roadway links or intersections within the radius of development influence are significantly impacted by the proposed project traffic. Therefore, the foregoing analysis demonstrates that the proposed redevelopment meets the requirements of the Palm Beach County TPSO.

A review of the driveways serving the site indicates that the existing driveways on Atlantic Avenue are classified as major and the existing driveways on Military Trail are classified as intermediate. No additional turn lanes are proposed as part of the redevelopment.

Appendix A: Project Site Data



CONCEPTUAL PLAN

OPTION F

STARBUCKS

Kimley»»Horn

[illegible]



Florida Department of Transportation

RON DESANTIS
GOVERNOR

3400 West Commercial Boulevard
Fort Lauderdale, FL 33309

KEVIN J. THIBAUT
SECRETARY

September 21, 2020

THIS PRE-APPLICATION LETTER IS VALID UNTIL – September 21, 2021
THIS LETTER IS NOT A PERMIT APPROVAL

Adam Kerr
Kimley-Horn and Associates
1920 Wekiva Way, Suite 200
West Palm Beach, FL 33411

Dear Adam Kerr:

RE: Pre-application Review for **Category D Driveway**, Pre-application Meeting Date: **August 27, 2020**
Palm Beach County - Delray Beach; SR 806; Sec. # 93030; MP: 5.22; Access Class - 5;
Posted Speed - 45; SIS - No; Ref. Project:

Request: Maintain existing driveways on the south side of SR 806:

- **Driveway 1: Right-in/right-out driveway, approximately 215 feet east of Military Trail.**
- **Driveway 2: Right-in/left-in/right-out driveway, approximately 585 feet east of Military Trail.**

SITE SPECIFIC INFORMATION

Project Name & Address: **Starbucks – 14802 S Military Trail, Delray Beach**
Applicant/Property Owner: Starbucks; Parcel Size: **9.2 Acres**
Development Size: **13,215 SF Pharmacy with drive-through (Existing), 53,270 SF Retail (Existing), 2,500 SF Coffee Shop with drive-through (Proposed)**

WE APPROVE YOUR REQUEST

This decision is based on your presentation of the facts, site plan and survey - please see the conditions and comments below. You may choose to review this concept further with the District Access Management Review Committee (AMRC).

Conditions:

- **Existing driveway lengths, as measured from the ultimate right-of-way line to the first conflict point shall be maintained at Driveways 1 and 2. If a gate is installed a minimum driveway length of 100 feet is required.**

Comments:

- All driveways not approved in this letter must be fully removed and the area restored.
- A Drainage Permit is required for any stormwater impacts within FDOT right-of-way (i.e. increased runoff or reduction of existing storage).
- The applicant shall donate property to the Department if right-of-way dedication is required to implement the improvements.
- Dimensions between driveways are measured from the near edge of pavement to near edge of pavement and for median openings are measured from centerline to centerline unless otherwise indicated.

The purpose of this Pre-Application letter is to document the conceptual review of the approximate location of driveway(s) to the State Highway System and to note required improvements, if any. This letter shall be submitted with any further reviews and for permitting. The Department's personnel shall review permit plans for compliance with this letter as well as current Department standards and/or specifications. Final design must consider the existing roadway profile and any impacts to the existing drainage system. **Note, this letter does not guarantee permit approval.** The permit may be denied based on the review of the submitted engineering plans. Be aware that any approved median openings may be modified (or closed) in the future, at the sole discretion of the Department. For right-of-way dedication requirements go to: <https://osp.fdot.gov>; click on Statewide Permit News; Scroll down to District 4; Scroll down to Additional Information and Examples and choose Right-of-way Donations/Dedications.

Please contact the Access Management Manager - Tel. # 954-777-4363 or e-mail: D4AccessManagement@dot.state.fl.us with any questions regarding the Pre-Approval Letter and Permits Office - Tel. # 954-777-4383 with any questions regarding permits.

Sincerely,

Date: 2020.09.
21 21:18:01 -
04'00'

Dalila Fernandez, P.E.
District Access Management Manager

cc: Jonathan Overton, P.E., Jerry Dean

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