

January 31, 2022

PK# 5208-22.002

DRIVE-THROUGH TRAFFIC ASSESSMENT

Project:

Starbucks—17177 Preston Road

In Dallas, Texas

Prepared for:

City of Dallas

On behalf of:

Koa Partners

Prepared by:

Steve E. Stoner

Steve E. Stoner, P.E., PTOE



7557 Rambler Road, Suite 1400
Dallas, Texas 75231-2388
(972) 235-3031 www.pkce.com
TX.REG: ENGINEERING FIRM F-469
TX. REG. SURVEYING FIRM LS-100080-00

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Starbucks—17177 Preston Road
Dallas, Texas

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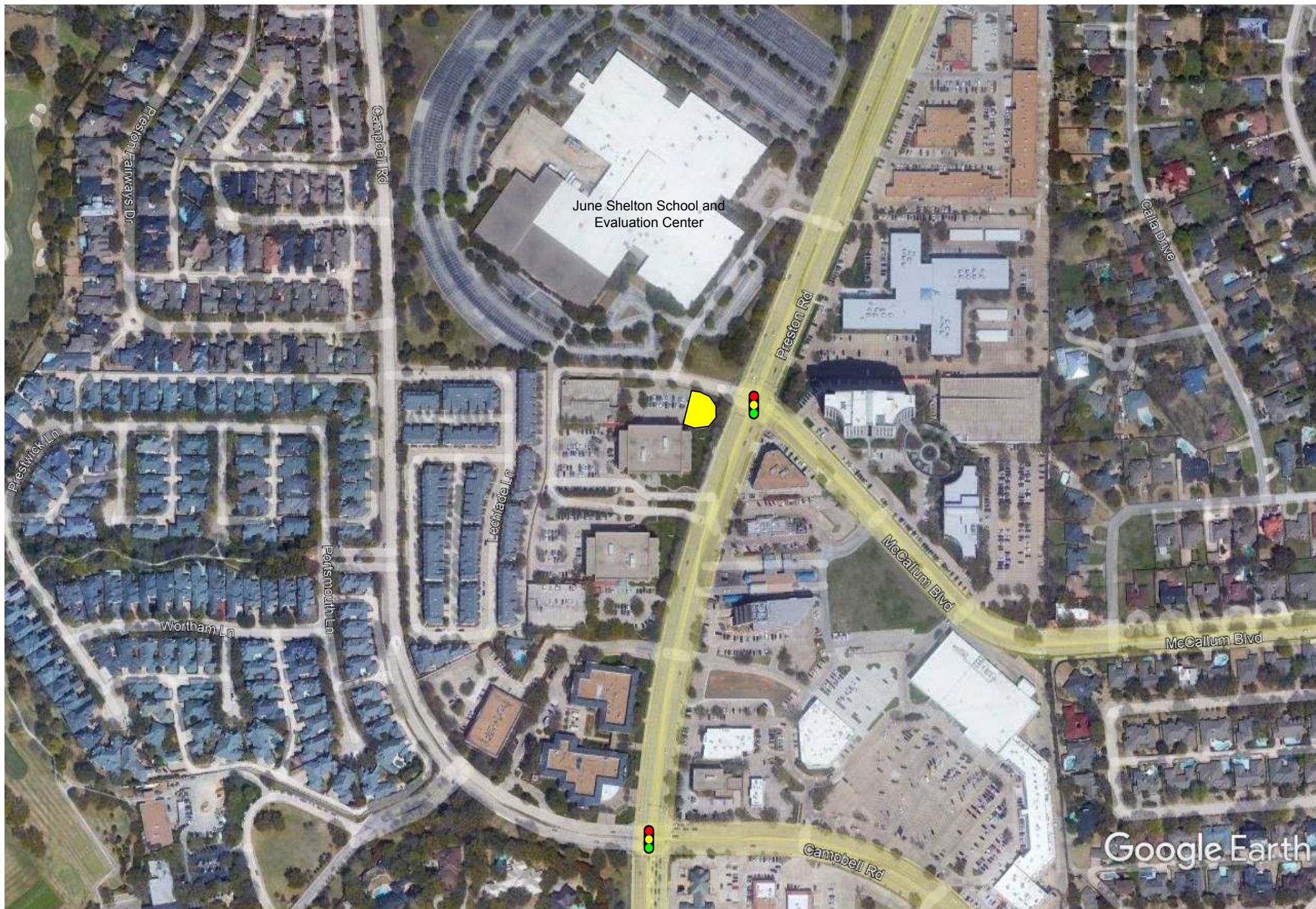




EXHIBIT 1. SITE LOCATION MAP

Traffic Drive-Through Traffic Assessment - 17177 Preston Road
Dallas, TX

LEGEND:

- Site Location 
- Existing Traffic Signal 

The services of **Pacheco Koch** (PK) were retained by **Koa Partners** to prepare a Drive-Through Traffic Assessment, for submittal to the City of Dallas, for the proposed development described below.

This study was prepared by registered engineers at Pacheco Koch who are experienced in transportation and traffic engineering (the "Engineer"). Pacheco Koch is a licensed engineering firm based in Dallas, Texas, that provides professional engineering and related services.

1. PROJECT DESCRIPTION

NAME OF DEVELOPMENT: Starbucks

PROPERTY ADDRESSES: 17177 Preston Road

LAND USE(S):

Table 1. Development Program

USE	EXISTING TO REMAIN	PROPOSED
Starbucks with drive-through and walk-up service only (no interior dining room)	--	930 SF
Office Buildings (2)	155,448 SF*	(No change)

** Square footage obtained from Dallas Central Appraisal District website.*

EXISTING ZONING: LO-1

PROPOSED ZONING: Planned Development District

SITE ACCESS: McCallum Boulevard

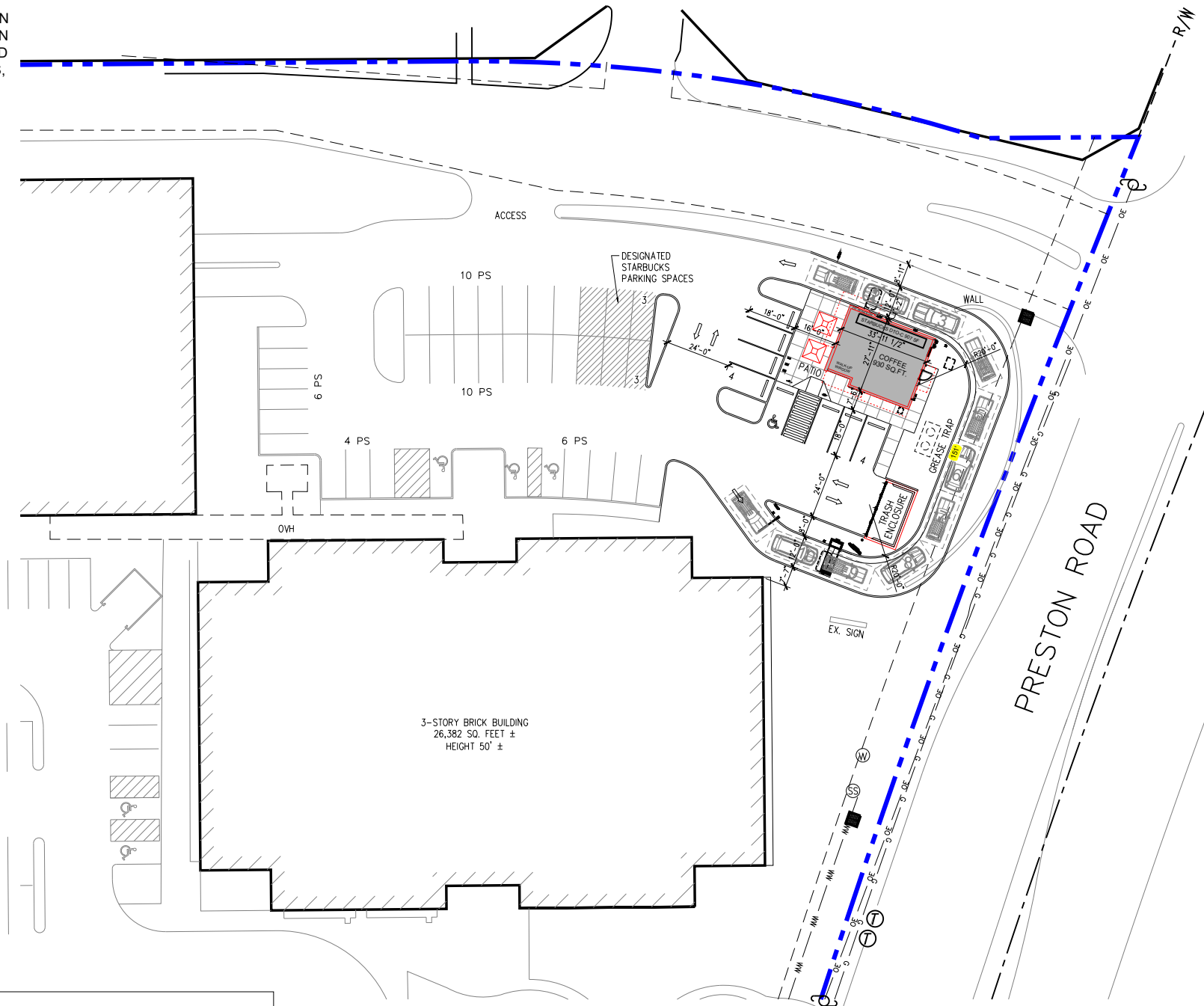
OTHER PERTINENT INFO: The proposed Starbucks drive-through would be constructed in the existing surface parking lot for the office building at the address 17177 Preston Road. The site previously contained a drive-through ATM.

The site is also located across from the June Shelton School and Evaluation Center, which generates school-related traffic on McCallum Boulevard (and other roads) on school days during traditional school start-end periods.

2. SITE PLAN

(see next page)

PRELIMINARY DRAWING FOR CONCEPTUAL USE ONLY. NOT FOR CONSTRUCTION, PERMITTING, OR TECHNICAL DELINEATION USE. ACTUAL DIMENSIONS ARE UNKNOWN AND SHOULD BE VERIFIED BY A LICENSED SURVEYOR. ALL EASEMENTS, SETBACKS, ZONING ORDINANCES AND OTHER RELATED SITE RESTRICTIONS TO BE VERIFIED BY CIVIL ENGINEER PRIOR TO START OF CIVIL DESIGN.



SITE DATA	
ZONED:	TBD
APPROXIMATE LAND SIZE:	TBD
BUILDING SQFT:	930 SQ.FT.
PARKING CALCULATIONS: 1 SPACE PER 100 SQ.FT.	9 SPACES
PARKING PROVIDED:	14 SPACES



17177 PRESTON ROAD
DALLAS, TX

SHEET
P2
11/03/21

NOT FOR CONSTRUCTION OR REGULATORY APPROVAL

3. TRIP GENERATION

Table 2. Projected Trip Generation Summary (ITE)

LAND USE (ITE LUC)	DAILY TRIP ENDS (WEEKDAY)	AM PEAK HOUR TRIP ENDS (ADJACENT STREET PEAK)	PM PEAK HOUR TRIP ENDS (ADJACENT STREET PEAK)
		Total (In/Out)	Total (In/Out)
Coffee/Donut Shop with Drive-Through Window and No Indoor Seating (938)	179	40 (20/20)	15 (7/8)

Source: Institute of Transportation Engineers *Trip Generation* handbook, 11th Edition.

ASSUMPTIONS:

Pass-by trip ends - 25% (estimated)

Internal Trip Capture: Yes, minimal.

Alternative Mode reductions - 0% (walk, bike, transit, TNC)

4. PARKING GENERATION

Table 3. Projected Parking Generation Summary (ITE)

LAND USE (ITE LUC)	QUANTITY	AVERAGE RATE	PROJECTED PEAK PARKING DEMAND*
Coffee/Donut Shop with Drive-Through Window (937)*	930 SF	5.22	5

Source: Institute of Transportation Engineers *Parking Generation* handbook, 5th Edition.

* Parking Generation does not provide data for a Coffee/Donut Shop with no indoor seating. (ITE LUC 938)

(See also: **5. Observations** and **6. Evaluation and Recommendations**)

Table 4. Base Code Parking Requirements
 (Proposed Development, Based upon PK interpretations of City Code)

LAND USE	QUANTITY	RATE	PARKING SPACES REQUIRED
Restaurant with drive-in or drive-through service [51A-4.210(b)(25)(C)]	930 SF	1 space per 100 SF of floor area (4 spaces minimum)	9

NOTE: Based upon PK's interpretations of applicable City of Dallas parking requirements.

EXISTING PARKING SUPPLY: 67 spaces in surface lot. (Does not include other parking for office building.)

PROPOSED PARKING SUPPLY: The number of parking spaces in the surface parking lot will be reduced to 44 (30 for the office building plus 14 for Starbucks). (Does not include other parking for office building.)

Table 5. Base Stacking Requirements
 (Proposed Development, Based upon PK interpretations of City Code)

LAND USE	QUANTITY	RATE	STACKING SPACES REQUIRED
Restaurant with drive-in or drive-through service [51A-4.210(b)(25)(E)(ii)]	1 window	6 – 1 window 8 – 2 windows 4 – each additional window	6

NOTE: Based upon PK's interpretations of applicable City of Dallas parking requirements.

Also, per 51A-4.210(b)(25)(E)(iii), remote order station, if any, must be set back at least 27 feet from all streets that allow direct access to the station.

5. OBSERVATIONS

No industry-standard methodology exists to project or estimate drive-through queuing (i.e., stacking) characteristics. Although many general characteristics are globally consistent for similar land uses, the specific traffic and stacking characteristics have brand-specific and, potentially, location-specific characteristics, in the Engineer's opinion. For this study, PK conducted observations at similar Starbucks restaurants in order to develop recommendations for the proposed drive-through.

SITE #1: Starbucks Restaurant at 2103 N Hall Street, Dallas, TX

Similarities to Proposed Development:

- Same brand/chain
- No indoor seating (drive-through and walk-up only)

OBSERVATIONS:

- Conducted on: Thursday, January 6, 2022, 7:30-9:30 AM
- Peak Drive-Through Stacking: 16 vehicles [7:55-8:20 AM and 9:05-9:10 AM]
- Peak Parking Demand (approximate): 13 customer, plus 5 employees [8:15 AM]

SITE #2: Starbucks Restaurant at 501 W Belt Line Road, Richardson, TX

Similarities to Proposed Development:

- Same brand/chain
- No indoor seating (drive-through and walk-up only)

OBSERVATIONS:

- Conducted on: Friday, January 14, 2022, 6:45-9:00 AM and 2:15-4:30 PM
- Peak Drive-Through Stacking: 14 vehicles [7:55-8:20 AM and 8:45-9:00 AM]
- Peak Parking Demand (approximate): 7 customer, plus 5 employees [8:15 AM]
- Afternoon traffic is significantly lower than morning traffic (afternoon peak conditions were approximately half that of the morning peaks)

SHELTON SCHOOL (McCallum Boulevard side)

- Conducted on: Tuesday, January 11, 2022, 7:30-8:30 AM (according to School reps, students are not allowed in the building until 7:30, and school starts at 8:30, so essentially all school traffic occurs during that one-hour period.)

OBSERVATIONS:

- The School driveway on McCallum is located west of the office/Starbucks driveway. (The School driveway located directly across from existing office driveway is locked and not used.)
- School traffic peaked between 8:00-8:20 AM. During this time, traffic on McCallum Boulevard frequently blocked access into or out of existing office driveway for brief periods. However, the access would usually be returned during each cycle of the traffic signal at the intersection of Preston Road and McCallum Boulevard.
- Up to 15 vehicles were parked in the existing office building parking lot (i.e., over 50 parking spaces were vacant)

6. DRIVE-THROUGH EVALUATION AND RECOMMENDATIONS

Internal to the Starbucks portion of the site, the proposed site plan will accommodate approximately 240 feet (or, 11 vehicles at 23.5 feet per vehicle) in the drive-through queue without disrupting traffic circulation within the site. In addition to the integrated drive-through stacking spaces, an additional 115 feet (five vehicles—15 total) can be stacked within the office portion of the parking lot without blocking internal access to/from the parking garage if the traffic flow is routed to the east side of the office parking lot; or, an additional 160 feet (seven vehicles—17 total) if the Starbucks traffic circulation is routed around the west side and through the office parking lot. [Additional vehicles can also be contained within the site but may obstruct internal access to/from the office garage.]

Based upon observations performed at the two Starbucks subject sites, the projected weekday maximum queue for the Starbucks during peak periods will be approximately 16 vehicles. These peak conditions are generally anticipated to occur between 7:30-9:30 AM (though not continually for those two hours).

- ❖ **RECOMMENDATION:** PK would recommend that (at least during the morning peak period but other times as appropriate), the Owner/Starbucks Operator route the Starbucks traffic around the west side of the office surface parking lot (i.e., counterclockwise in plan view) in order to increase overflow stacking space and improve internal traffic circulation. **OPTIONAL:** Furthermore, the Owner may wish to consider restriping the office parking lot to angled parked spaces with one-way flow.

Before and after this peak demand period, the Starbucks drive-through queue is anticipated to be self-contained within the proposed site plan.

Between approximately 8:00-8:20 AM on school days, the office/Starbucks driveway will likely be blocked intermittently by School traffic for brief periods (up to one-to-two minutes). While this condition will result in some traffic congestion and delays within the site and to a lesser extent on McCallum Boulevard, the adjacent traffic signal on Preston Road at McCallum Boulevard tends to regulate this flow. Generally, traffic congestion tends to recalibrate with each cycle of the traffic signal.

The proposed site plan shows 14, on-site parking spaces allocated to Starbucks that will presumably be marked/signed accordingly. This allocation of parking spaces appears sufficient to meet the peak parking demand of Starbucks. Although the number of surface parking spaces available to the office building will be reduced under this plan, the remaining portion of the surface parking allocated to the office building would be adequate during the morning period based on existing conditions.

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