

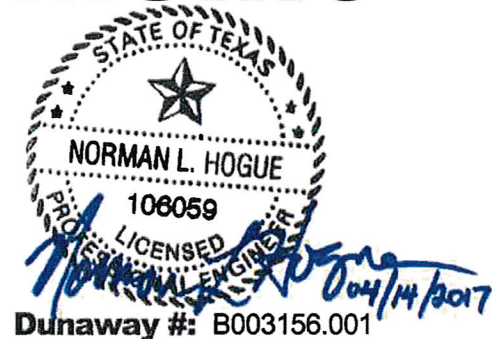
# Memo

**To:** Alonzo Liñán, PE, PTOE, MPA  
Director of Public Works  
City of Keller

**From:** Norman Hogue, PE  
Senior Traffic Engineer  
Dunaway Associates, L.P

**Date:** April 14, 2017

**Re:** Proposed Retail Center with Medical/Dental Office along North Tarrant Parkway



## Introduction

This Trip Generation Memo was completed at the request of the City of Keller for a proposed retail center and dental office development located along North Tarrant Parkway, East of Rufe Snow Drive in Keller, Texas (see **Attachment 1** for project location). The proposed development is to be located on the north side of North Tarrant Parkway, approximately 550 feet east of the intersection with Rufe Snow Drive. North Tarrant Parkway in the vicinity of the proposed development is a median divided, six-lane roadway, with a posted speed limit of 40 mph.

## Proposed Site Plan

The proposed site plan (see **Attachment 2**) includes one retail building with 5,592 SF, and one medical/dental office building with 4,414 SF. The proposed site plan includes construction of one right-in/right-out driveway along the north side of North Tarrant Parkway; this driveway is proposed to be 30 ft. in width. The driveway will include one outbound lane and one inbound lane. The proposed site includes 57 parking spaces and a 24' access easement which will connect to the existing development located to the west of the proposed uses. Existing traffic volumes were not collected for this Trip Generation Memo.

## Trip Generation/Distribution

The Institute of Transportation Engineers (ITE) provides predicted trip generation rates and equations for several land uses as provided in *ITE Trip Generation, 9<sup>th</sup> Edition*. These rates are based on individual sites to compute driveway volumes for particular land uses. The *ITE Trip Generation Handbook, 2<sup>nd</sup> Edition* provides that significant pass-by trips are associated with particular land uses located adjacent to highly traveled roadways and states "The pass-by trip-making phenomenon, if estimated to be significant, should be recognized when examining the traffic impact of a development on the adjacent street system." The pass-by trips are

removed from the stream of traffic but counted in the total number of trips entering and exiting the site driveways. The summary of trip generation rates and equations used for the proposed development are provided in **Table 1**. **Table 2** provides the summary of gross generated trips, while **Table 3** shows a summary of Net Primary Trips after the reduction of pass-by trips. The respective land use sheets and a summary table are included in the **Appendix**.

**Table 1. Summary of Trip Generation Rates**

Land Use	ITE Code	Unit	Trip Rate			Pass-By (%)	Distribution Rate (%)			
			Daily	AM	PM		AM Hour		PM Hour	
							In	Out	In	Out
Medical Dental Office	720	KSF	36.13	2.39	3.57	0	79	21	28	72
Shopping Center	820	KSF	Eq. 1	Eq. 2	Eq. 3	34	61	39	48	52
High Turnover/Sit Down Restaurant	932	KSF	127.15	10.81	9.85	43	55	45	60	40

Equation 1:  $e^{(0.65 \cdot \ln(x) + 5.83)}$  Equation 2:  $e^{(0.61 \cdot \ln(x) + 2.24)}$  Equation 3:  $e^{(0.67 \cdot \ln(x) + 3.31)}$

**Table 2. Summary of Gross Primary Trips**

ITE Land Use	ITE Code	Unit	Qty.	Daily	AM Peak Hour*		PM Peak Hour*	
					Enter	Exit	Enter	Exit
Medical Dental Office	720	KSF	4.4	159	8	2	4	11
Shopping Center	820	KSF	3.0	695	11	8	27	30
High Turnover/Sit Down Restaurant	932	KSF	3.0	380	17	15	16	14
<b>Subtotal</b>				<b>1,235</b>	<b>36</b>	<b>25</b>	<b>47</b>	<b>55</b>
<b>Total</b>				<b>1,235</b>	<b>61</b>		<b>102</b>	

\*Numbers may not add up due to rounding.

**Table 3. Summary of Net Primary Trips**

Type of Trips	AM Peak Hour		PM Peak Hour	
	Enter	Exit	Enter	Exit
Gross New Trips	36	25	47	55
Pass-by (-)	10	10	16	16
<b>Net New Trips</b>	<b>26</b>	<b>15</b>	<b>31</b>	<b>39</b>
<b>TOTAL</b>	<b>41</b>		<b>70</b>	

Once the assumed trip generation for the proposed development was calculated, the next steps in the traditional three-phase planning process are the distribution and assignment to the proposed access driveway. For this project, only one access point is being constructed, but site traffic will have access to the existing driveway located to the west of the property. Since traffic volumes are unknown at this time, and a directional distributed is not necessary to fill out the required Unified Development Code (UDC) worksheet, all driveways were combined in the reporting total. The attached UDC worksheet includes a summary of the total gross floor area, number of parking spaces, and the gross trips anticipated for the development.

## Conclusions

The trip generation analysis for the proposed development indicates that a total of 61 AM and 102 PM peak hour vehicles are anticipated. Similarly, a total of 1,235 vehicle trips during a typical 24-hour weekday period are anticipated for the proposed development.

NLH/nlh

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Attachments:

- Project Location
- Proposed Site Plan
- Trip Generation Worksheet
- City of Keller Unified Development Code pages 5-94 and 5-95
- Keller Zoning Flyer

cc: File



**ITE Trip Generation Rates - 9th Edition**  
**Pass-by rates from ITE Trip Generation Handbook - 2nd Edition**  
 (copyrights, Institute of Transportation Engineers)

**Instructions:** Enter Expected Unit Volumes into Column 'M'  
 Notes on Color Coding at Bottom

Description/ITE Code	Units	ITE Vehicle Trip Generation Rates (peak hours are for peak hour of adjacent street traffic unless highlighted)										Total Generated Trips						Total Distribution of Generated Trips					
		Weekday	AM	PM	Pass-By	AM In	AM Out	PM In	PM Out	AM In	AM Out	PM In	PM Out	Pass-By	AM In	AM Out	PM In	PM Out	Pass-By				
		36.13	2.39	3.57	79%	21%	28%	72%	4.4	8	2	4	11	0	8	2	4	11	0				
Medical Dental Office - 720	KSF <sup>2</sup>																						
Shopping Center - 820 (Equation)	KSF <sup>2</sup>	<b>Equations</b>										695	18	57	8	5	6	18	20	19			
High Turnover/Sit Down Rest 932	KSF <sup>2</sup>	127.75	10.81	9.85	55%	45%	60%	40%	3.0	10	8	29	380	32	29	10	8	14	13				
<b>Totals</b>									<b>3.0</b>	<b>26</b>	<b>15</b>	<b>102</b>				<b>33</b>	<b>38</b>	<b>32</b>					

**RED Rates = CAUTION - Use Carefully - Small Sample Size**  
**Green Rates = Peak Hour of Generator - (no peak rate for the rush hour of adjacent street traffic)**  
**Blue Rates = Saturday Daily total - (no weekday daily rate)**  
**Added to 9th Edition**  
**\*Pass-By % are Rates from Weekday PM Peak Period**  
**\*The Total Pass-By Trips will be Distributed: 50% IN / 50 % OUT**

**NA = Not Available**      **KSF<sup>2</sup> = Units of 1,000 square feet**  
**DU = Dwelling Unit**      **Fuel Position = the number of vehicles that could be fueled simultaneously**  
**Occ.Room = Occupied Room**



**itef** Institute of Transportation Engineers  
**Trip Generation Data Form (Part 1)**

Land Use/Building Type: 720/Medical Dental Office, 820/Shopping Center, 932/High Turnover/Sit Down Restaurant  
 Source: ITE Trip Generation Version 9 Information  
 Name of Development: Retail Center/Medical Office Located on North Tarrant Parkway  
 City: Keller State/Province: TX Zip/Postal Code: 76248  
 Country: USA  
 ITE Land Use Code:  
 Source No. (ITE use only):  
 Day of the Week:  
 Day: Month: Year:  
 Metropolitan Area:

1. For fast-food land use, please specify if hamburger- or nonhamburger-based.

**Location Within Area:**  
 (1) CBD  
 (2) Urban (Non-CBD)  
 (3) Suburban (Non-CBD)  
 (4) Suburban CBD  
 (5) Rural  
 (6) Freeway Interchange Area (Rural)  
 (7) Not Given

**Detailed Description of Development:**  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Independent Variable: (include data for as many as possible) ?**

	Actual	Estimated
(1) Employees (#)	<input type="checkbox"/>	<input type="checkbox"/>
(2) Persons (#)	<input type="checkbox"/>	<input type="checkbox"/>
(3) Total Units (#) (indicate unit: _____)	<input type="checkbox"/>	<input type="checkbox"/>
(4) Occupied Units (#) (indicate unit: _____)	<input type="checkbox"/>	<input type="checkbox"/>
10,406 (5) Gross Floor Area (gross sq. ft.)	<input type="checkbox"/>	<input type="checkbox"/>
(% of development occupied _____)	<input type="checkbox"/>	<input type="checkbox"/>
(6) Net Rentable Area (sq. ft.)	<input type="checkbox"/>	<input type="checkbox"/>
(7) Gross Leasable Area (sq. ft.)	<input type="checkbox"/>	<input type="checkbox"/>
(% of development occupied _____)	<input type="checkbox"/>	<input type="checkbox"/>
1.49 (8) Total Acres (% developed: _____)	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Actual**  **Estimated**

(9) Parking Spaces (% occupied: UNK)

(10) Beets (% occupied: \_\_\_\_\_)

(11) Seats (#)

(12) Servicing Positions/Vehicle Fueling Positions

(13) Shopping Center % Out-parcels/pads

(14) A.M. Peak Hour Volume of Adjacent Street Traffic

(15) P.M. Peak Hour Volume of Adjacent Street Traffic

(16) Other \_\_\_\_\_

(17) Other \_\_\_\_\_

2. Definitions for several independent variables can be found in the Trip Generation, Second Edition, User's Guide Glossary.

3. Please provide all pertinent information to describe the subject project, including the presence of bicycle/pedestrian facilities. To report bicycle/pedestrian volumes, please refer to Part 4 of this data form.

**Other Data:**

Vehicle Occupancy (#):  
 A.M. \_\_\_\_\_ P.M. \_\_\_\_\_ 24-hour % \_\_\_\_\_  
 Percent by Transit:  
 A.M. % \_\_\_\_\_ P.M. % \_\_\_\_\_ 24-hour % \_\_\_\_\_  
 Percent by Carpool/Vanpool:  
 A.M. % \_\_\_\_\_ P.M. % \_\_\_\_\_ 24-hour % \_\_\_\_\_

Employees by Shift:  
 Start Time \_\_\_\_\_ End Time \_\_\_\_\_ Employees (#) \_\_\_\_\_  
 First Shift: \_\_\_\_\_  
 Second Shift: \_\_\_\_\_  
 Third Shift: \_\_\_\_\_

Parking Cost on Site: Hourly \_\_\_\_\_ Daily \_\_\_\_\_

**Transportation Demand Management (TDM) Information:**  
 At the time of this study, was there a TDM program (that may have impacted the trip generation characteristics of this site) underway?  
 No  
 Yes (If yes, please check appropriate box(es), describe the nature of the TDM program(s) and provide a source for any studies that may help quantify this impact. Attach additional sheets if necessary)

(1) Transit Service  
 (2) Carpool Programs  
 (3) Vanpool Programs  
 (4) Bicycle/Pedestrian Facilities and Site Improvements

(5) Employer Support Measures  
 (6) Preferential HOV Treatments  
 (7) Transit and Ridesharing Incentives  
 (8) Parking Supply and Pricing Management

(9) Tolls and Congestion Pricing  
 (10) Variable Work Hours/Compressed Work Weeks  
 (11) Telecommuting  
 (12) Other \_\_\_\_\_

**Part A – Street System Improvements**

**FIGURE 4.01 – Trip Generation Data Form (Part 1)**



**ITE** Institute of Transportation Engineers  
**Trip Generation Data Form (Part 2)**

(All = All Vehicles Counted, Including Trucks; Trucks = Heavy Duty Trucks and Buses)

**Summary of Driveway Volumes**

	Average Weekday (M-F)			Saturday			Sunday		
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
	All	Trucks	All	All	Trucks	All	All	Trucks	All
24-Hour Volume			1,235						
A.M. Peak Hour of Adjacent <sup>1</sup> Street Traffic (7 - 9) Time (ex.: 7:15 - 8:15):	36	25	61						
P.M. Peak Hour of Adjacent <sup>2</sup> Street Traffic (4 - 6) Time:	47	55	102						
A.M. Peak Hour Generator <sup>3</sup> Time:									
P.M. Peak Hour Generator Time:									
Peak Hour Generator Time (Weekend):									

- Highest hourly volume between 7 a.m. and 9 a.m. (4 p.m. and 6 p.m.). Please specify the peak hour.
- Highest hourly volume during the a.m. or p.m. period. Please specify the peak hour.
- Highest hourly volume during the entire day. Please specify the peak hour.

Please refer to the *Trip Generation User's Guide* for full definition of terms.

**Hourly Driveway Volumes- Average Weekday (M-F)**

A.M. Period	Enter			Exit			Total		
	All	Trucks	All	All	Trucks	All	All	Trucks	All
	Mid-Day Period			P.M. Period			Total		
6:00-7:00									
6:15-7:15									
6:30-7:30									
6:45-7:45									
7:00-8:00	36	25	61						
7:15-8:15									
7:30-8:30									
7:45-8:45									
8:00-9:00									
							47	55	102

Check if Part 3, 4 and/or additional information is attached.

Survey conducted by: Name: Norman L. Hogue, PE

Organization: Dunaway Associates, L.P.

Address: 550 Bailey Avenue, Suite 400

City/State/Zip: Fort Worth, Texas 76107

Telephone #: 817-335-1121

E-mail: NHogue@dunaway-assoc.com

**Part A – Street System Improvements**

**FIGURE 4.02 – Trip Generation Data Form (Part 2)**

# Memo

To: Community Development Committee  
City of Keller

From: Donald J. Szczesny, PE, PTOE  
Sr. Discipline Lead (Traffic)  
Dunaway Associates, LLC

Date: June 24, 2021

Dunaway #: 210019.00

Re: Proposed Medical/Dental Office along North Tarrant Parkway – Trip Generation  
Memo Update



*Donald J. Szczesny*  
6/24/2021

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## Introduction

This Trip Generation Memo update was completed at the request of the City of Keller to determine the proposed change in trip generation due to a change in land use for a proposed development located along North Tarrant Parkway, East of Rufe Snow Drive in Keller, Texas (see **Attachment 1** for project location). The proposed development is located on the north side of North Tarrant Parkway, approximately 750 feet east of the intersection with Rufe Snow Drive. North Tarrant Parkway in the vicinity of the proposed development is a median divided, six-lane roadway, with a posted speed limit of 40 mph.

## Proposed Site Plan

The proposed site plan (see **Attachment 2**) includes one medical/dental office building with 5,958 SF, and one future medical/dental office building with 4,048 SF. The larger medical/dental office building replaces the Shopping Center and High Turnover/Sit Down Restaurant that was included in the previous Trip Generation Memo that was approved by the City on January 16, 2018 (Ordinance No. 1875). The proposed site plan includes a recently constructed full access driveway at an existing median opening along North Tarrant Parkway. Also constructed was a left-turn bay for eastbound North Tarrant Parkway. The proposed site includes 35 parking spaces and an access easement which will connect to the existing development located to the west of the proposed uses. Existing traffic volumes were not collected for this Trip Generation Memo.

- Memo  
Proposed Medical/Dental Office along North Tarrant Parkway – Trip Generation Memo Update  
June 24, 2021  
Page 2

## Trip Generation

The Institute of Transportation Engineers (ITE) provides predicted trip generation rates and equations for several land uses as provided in *ITE Trip Generation, 10<sup>th</sup> Edition*. These rates are based on individual sites to compute driveway volumes for particular land uses. The *ITE Trip Generation Handbook, 2<sup>nd</sup> Edition* provides that significant pass-by trips are associated with particular land uses located adjacent to highly traveled roadways and states “The pass-by trip-making phenomenon, if estimated to be significant, should be recognized when examining the traffic impact of a development on the adjacent street system.” The pass-by trips are removed from the stream of traffic but counted in the total number of trips entering and exiting the site driveways. The summary of trip generation rates used for the trip generation calculations are provided in **Table 1**. **Table 2** provides the summary of gross generated trips for the previous development plan, while **Table 3** shows a summary of gross generated trips for the new development plan.

**Table 1. Summary of Trip Generation Rates**

Land Use	ITE Code	Unit	Trip Rate			Pass-By (%)	Distribution Rate (%)			
			Daily	AM	PM		AM Hour		PM Hour	
							In	Out	In	Out
Medical Dental Office	720	KSF	34.80	2.78	3.46	0	78	22	28	72
Shopping Center	820	KSF	37.75	0.94	3.81	34	62	38	48	52
High Turnover/Sit Down Restaurant	932	KSF	112.18	9.94	9.77	43	55	45	62	38

**Table 2. Summary of Gross Primary Trips – Previous Development Plan**

Land Use	ITE Code	Unit	Qty.	Daily	AM Peak Hour		PM Peak Hour	
					Enter	Exit	Enter	Exit
Medical Dental Office	720	KSF	4.0	139	9	2	4	10
Shopping Center	820	KSF	3.0	113	2	1	5	6
High Turnover/Sit Down Restaurant	932	KSF	3.0	337	16	13	18	11
<b>Subtotal</b>				<b>589</b>	<b>27</b>	<b>16</b>	<b>27</b>	<b>27</b>



- Memo  
Proposed Medical/Dental Office along North Tarrant Parkway – Trip Generation Memo Update  
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**Table 3. Summary of Gross Primary Trips – New Development Plan**

Land Use	ITE Code	Unit	Qty.	Daily	AM Peak Hour		PM Peak Hour	
					Enter	Exit	Enter	Exit
Medical Dental Office (existing)	720	KSF	4.4	153	10	3	4	11
Medical Dental Office (proposed)	720	KSF	5.9	205	13	4	6	15
<b>Total</b>				<b>358</b>	<b>23</b>	<b>7</b>	<b>10</b>	<b>26</b>

Once the assumed trip generation for the proposed development was calculated, the next steps in the traditional three-phase planning process are the distribution and assignment to the proposed access driveway. For this project, only one access point is being constructed, but site traffic will have access to the existing driveway located to the west of the property. Since traffic volumes are unknown at this time, and a directional distributed is not necessary to fill out the required Unified Development Code (UDC) worksheet, all driveways were combined in the reporting total. The attached UDC worksheet includes a summary of the total gross floor area, number of parking spaces, and the gross trips anticipated for the development.

## Conclusions

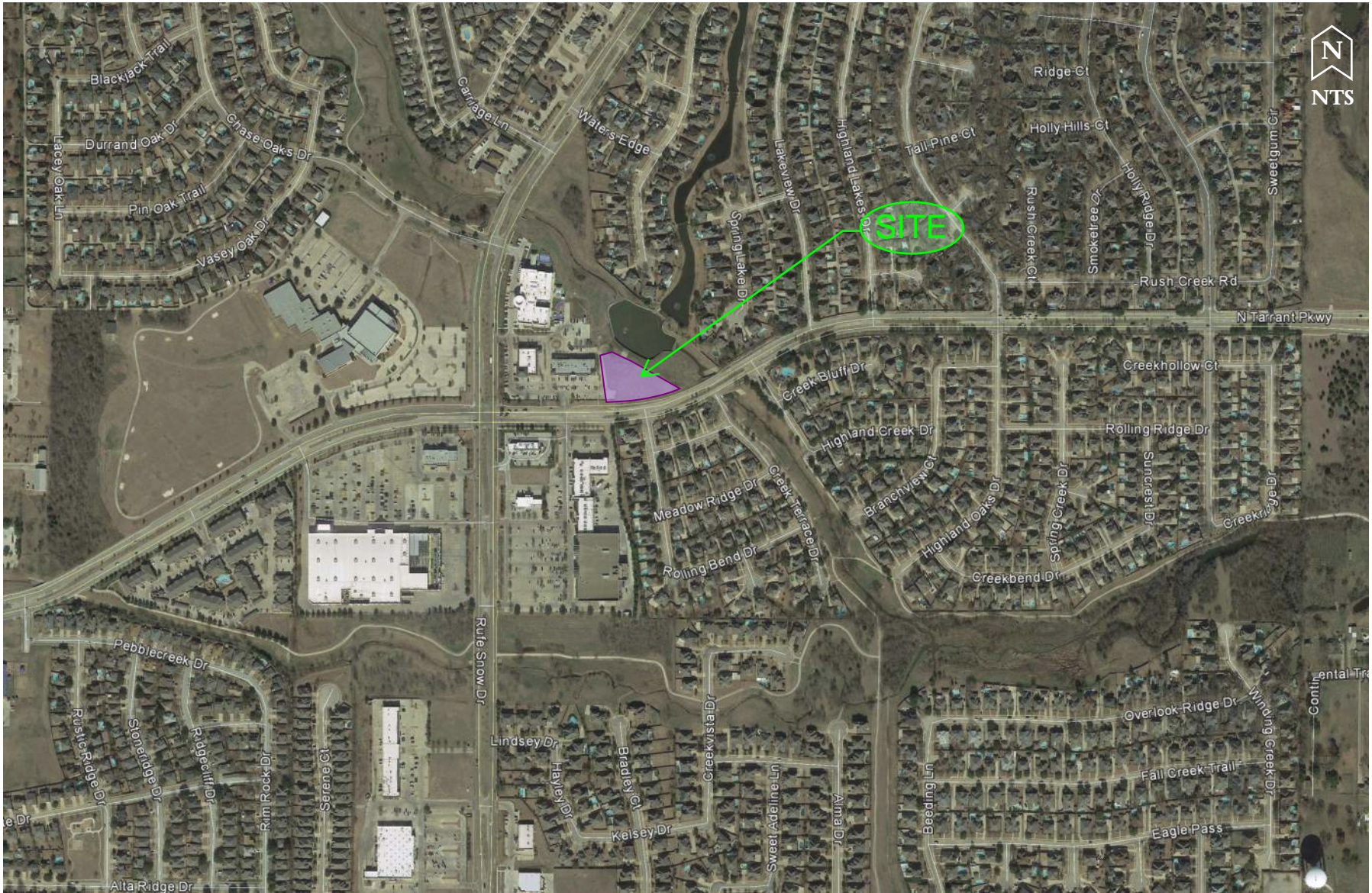
The trip generation analysis indicates that the proposed change in land use will result in a 39 percent reduction in daily traffic to/from the site. During the traditional peak hours, the expected site traffic will be less than the previous development plan. A total of 30 AM and 36 PM peak hour vehicle trips are anticipated.

DJS/djs

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Project Location  
Site Plan  
Trip Generation Data Form

cc: CC's ???



SITE



### LOCATION MAP

Trip Generation Memo Update - Proposed Medical/Dental Development, Keller, Texas





**TERRY R. CUNNINGHAM**  
 ARCHITECTS  
 WWW.TRCARCHITECTS.COM  
 3604 S. COOPER ST. SUITE 100 - ARLINGTON, TEXAS 76015 - (817) 467-0044  
 © COPYRIGHT 2019 TERRY R. CUNNINGHAM FAX (817) 467-0056

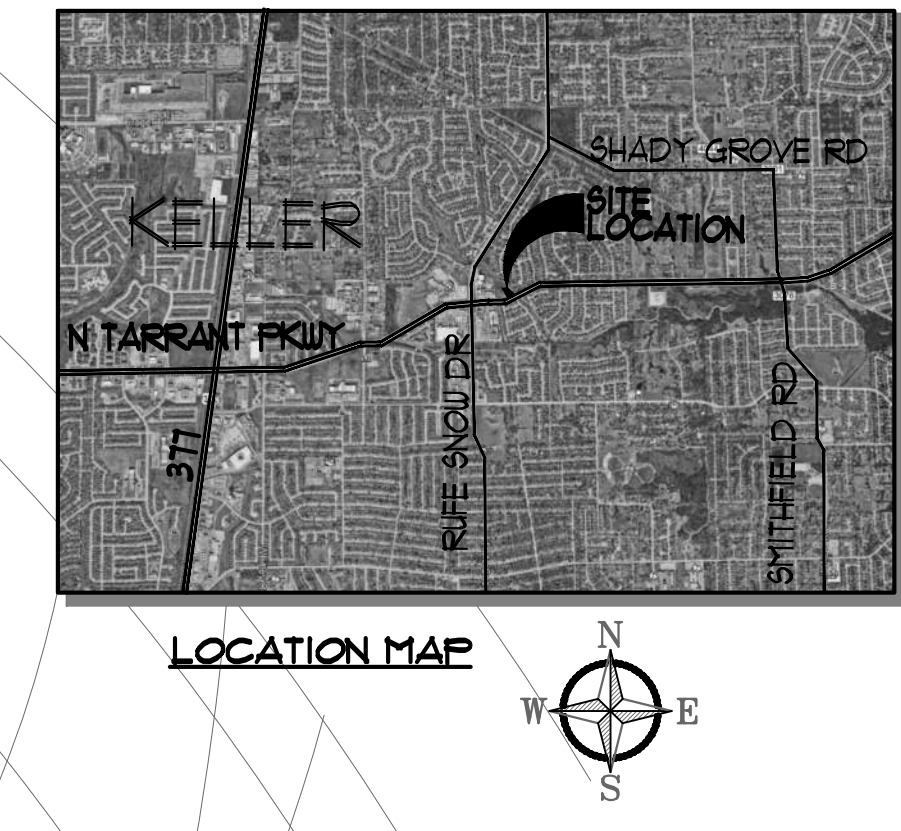
**HIGHLAND OAKS RETAIL**  
**861 N. TARRANT PKWY**  
**KELLER, TEXAS**

ISSUE DATE:  
**12/6/19**

ISSUE FOR:  
**PERMIT REVIEW**

SHEET TITLE:  
**SITE PLAN**

SHEET:  
**SP1**



LOT 1R, BLOCK A  
 DEVELOPED

LOT 2, BLOCK A  
 DEVELOPED

WATER BODY POND

CITY OF KELLER  
 4.814 ACRES

BLOCK A  
 LOT 4  
 0.6138 ACRE  
 26,793 SQ. FT.

DENTAL OFFICE  
 TYPE VB-NS  
 4,048 SF.

RETAIL CENTER  
 TYPE VB-NS  
 5,958 SF.

SITE DATA SUMMARY CHART - LOT 3, BLOCK A	
LEGAL DESCRIPTION	HIGHLAND OAKS CROSSING, LOT 3, BLK. A
CURRENT LAND USE	UNDEVELOPED / UNBUILT LOT
CURRENT ZONING	FD-187B-R
AREA OF SITE	36.022 SF USABLE (0.8210 ACRES)
<b>BUILDINGS</b>	
FOOD SERVICE GROSS	1800 SF
RETAIL/MEDICAL GROSS	4,566 SF
TOTAL	5,366 SF
BUILDING TO SITE COVERAGE	16.53 % OF SITE
<b>PAVING &amp; LANDSCAPE</b>	
EXISTING VEHICULAR ACCESS AREA	7,934 SF
NEW VEHICULAR ACCESS AREA	6,172 SF
NEW VEHICULAR PARKING AREA	6,040 SF
NEW WALKWAY PAVED AREA	2,510 SF
NEW DINING PATIO PAVED AREA	1,180 SF
NEW RIP RAP ROCK	0 SF
TOTAL PAVED AREA	19,436 SF 54.2 % OF SITE
TOTAL IMPERVIOUS AREA	25,452 SF 70.66 % OF SITE
TOTAL LANDSCAPE AREA	10,510 SF 29.34 % OF SITE
APPROACH ACCESS PAVING	360 SF
<b>PARKING</b>	
REQUIRED PARKING SPACES	
FOOD SERVICE/RETAIL (1,800 SF)	1 SPACE/50 SF = 12
MEDICAL OFFICE/RETAIL (4,566 SF)	1 SPACE/100 SF = 31 PER PD
HANDICAP ACCESSIBLE REQUIRED	2
TOTAL REQUIRED	35
PARKING SPACES PROVIDED	33 + 2 HC = 35 TOTAL
OTHER COMMENTS: NOTE 1: ALL SF NOTATIONS ARE APPROXIMATE NOTE 2: CONTRACTORS SHALL VERIFY ALL PAVING QUANTITIES FOR BIDDING PURPOSES.	

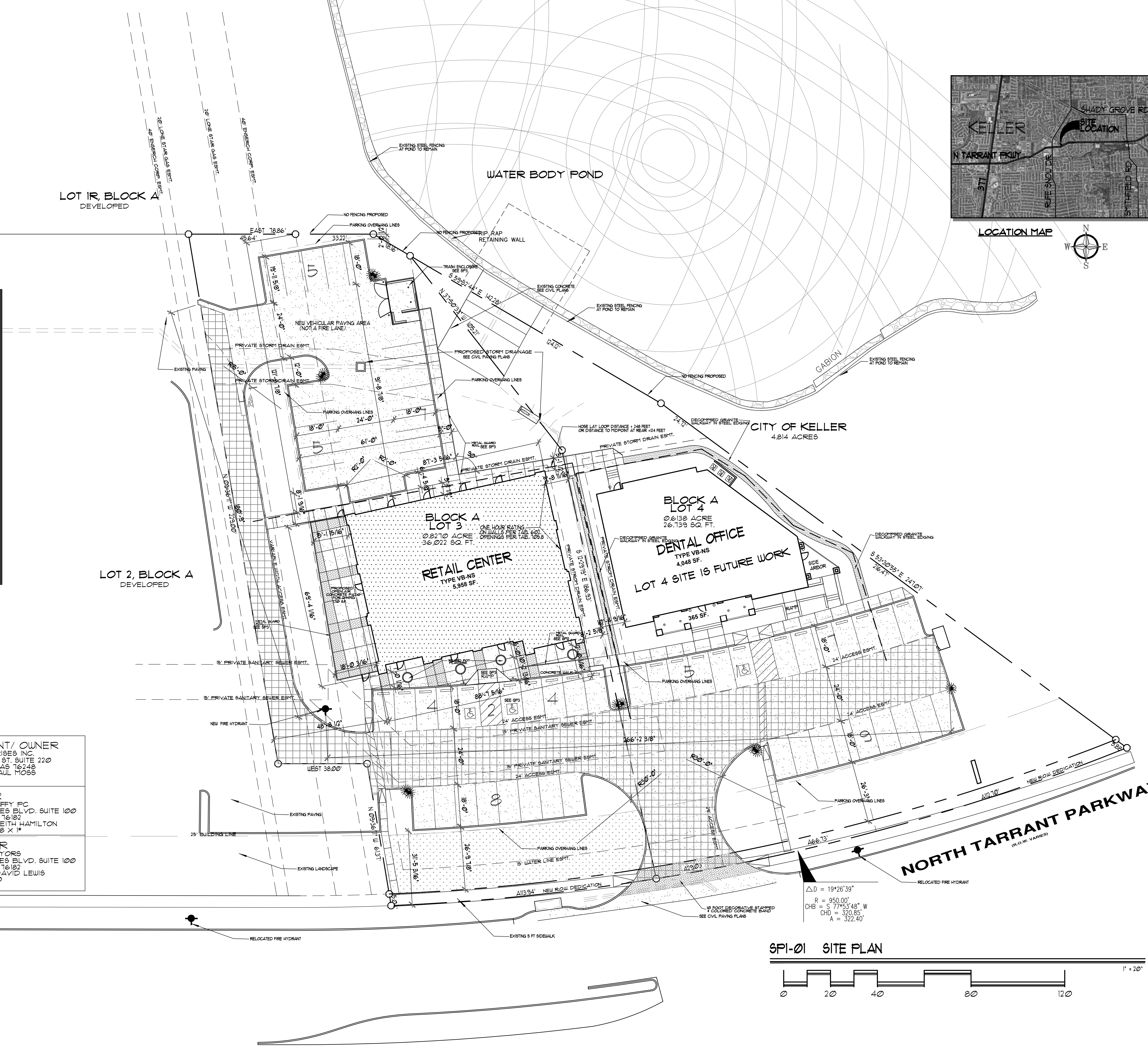
- NEW BUFFERYARD AREA (SEE LANDSCAPE PLANS)
- NEW WALKWAY PAVING AREA (CONTROL JOINTS SHOWN) (TEXTURED W/ COLOR SHOWN)
- NEW VEHICULAR PAVING AREA (SEE CIVIL PAVING PLANS)
- NEW FIRE LANE PAVING AREA (SEE CIVIL PAVING PLANS)
- EXISTING FIRE LANE PAVING AREA (SEE CIVIL PAVING PLANS)

**APPLICANT/ OWNER**  
 TAK ENTERPRISES INC.  
 8821 S. DAVIS ST. SUITE 220  
 KELLER, TEXAS 76248  
 CONTACT: PAUL MOSS  
 817-431-5626

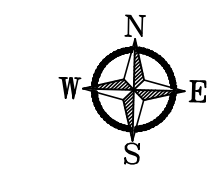
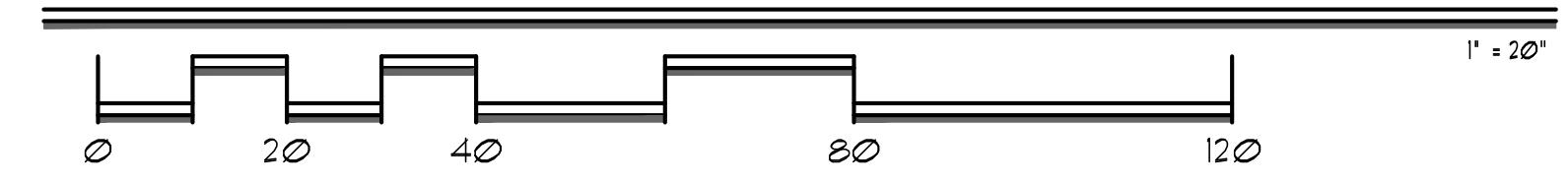
**ENGINEER**  
 HAMILTON DUFFY PC  
 8241 MID CITIES BLVD. SUITE 100  
 NRH, TEXAS 76182  
 CONTACT: KEITH HAMILTON  
 817-268-0408 X 11

**SURVEYOR**  
 SPRY SURVEYORS  
 8241 MID CITIES BLVD. SUITE 100  
 NRH, TEXAS 76182  
 CONTACT: DAVID LEWIS  
 817-896-6150

1. REFER TO CIVIL ENGINEERING PLANS PREPARED BY HAMILTON DUFFY LP FOR ALL PAVING, DIMENSIONS, FINAL GRADES AND UTILITY INFORMATION.
2. REFER TO FINAL SURVEY PREPARED BY SPRY LAND SURVEYING INC. FOR ALL LOT LINE DIMENSIONS AND EASEMENTS DATED FEB. 2018.



SP1-01 SITE PLAN





# Trip Generation Data Form (Part 1)

Land Use/Building Type: <sup>1</sup>			ITE Land Use Code: <b>720</b>		
Source:			Source No. (ITE use only):		
Name of Development:			Day of the Week:		
City:	State/Province:	Zip/Postal Code:	Day:	Month:	Year:
Country:			Metropolitan Area:		

1. For fast-food land use, please specify if hamburger- or nonhamburger-based.

<b>Location Within Area:</b> <input type="checkbox"/> (1) CBD <input type="checkbox"/> (3) Suburban (Non-CBD) <input type="checkbox"/> (5) Rural <input type="checkbox"/> (2) Urban (Non-CBD) <input type="checkbox"/> (4) Suburban CBD <input type="checkbox"/> (6) Freeway Interchange Area (Rural) <input type="checkbox"/> (7) Not Given				<b>Detailed Description of Development:<sup>3</sup></b>  <p>An recently constructed 5,958 SF building with 35 spaces.</p>	
<b>Independent Variable: (include data for as many as possible)<sup>2</sup></b>		Actual	Estimated	Actual	Estimated
_____ (1) Employees (#)	<input type="checkbox"/>	<input type="checkbox"/>	_____ (9) Parking Spaces (% occupied: _____)	<input type="checkbox"/>	<input type="checkbox"/>
_____ (2) Persons (#)	<input type="checkbox"/>	<input type="checkbox"/>	_____ (10) Beds (% occupied: _____)	<input type="checkbox"/>	<input type="checkbox"/>
_____ (3) Total Units (#) (indicate unit: _____)	<input type="checkbox"/>	<input type="checkbox"/>	_____ (11) Seats (#)	<input type="checkbox"/>	<input type="checkbox"/>
_____ (4) Occupied Units (#) (indicate unit: _____)	<input type="checkbox"/>	<input type="checkbox"/>	_____ (12) Servicing Positions/Vehicle Fueling Positions	<input type="checkbox"/>	<input type="checkbox"/>
_____ (5) Gross Floor Area (gross sq. ft.) (% of development occupied _____)	<input type="checkbox"/>	<input type="checkbox"/>	_____ (13) Shopping Center % Out-parcels/pads	<input type="checkbox"/>	<input type="checkbox"/>
_____ (6) Net Rentable Area (sq. ft.)	<input type="checkbox"/>	<input type="checkbox"/>	_____ (14) A.M. Peak Hour Volume of Adjacent Street Traffic	<input type="checkbox"/>	<input type="checkbox"/>
_____ (7) Gross Leasable Area (sq. ft.) (% of development occupied _____)	<input type="checkbox"/>	<input type="checkbox"/>	_____ (15) P.M. Peak Hour Volume of Adjacent Street Traffic	<input type="checkbox"/>	<input type="checkbox"/>
_____ (8) Total Acres (% developed: _____)	<input type="checkbox"/>	<input type="checkbox"/>	_____ (16) Other _____	<input type="checkbox"/>	<input type="checkbox"/>
			_____ (17) Other _____	<input type="checkbox"/>	<input type="checkbox"/>

2. Definitions for several independent variables can be found in the *Trip Generation, Second Edition, User's Guide Glossary*.

3. Please provide all pertinent information to describe the subject project, including the presence of bicycle/pedestrian facilities. To report bicycle/pedestrian volumes, please refer to Part 4 of this data form.

<b>Other Data:</b> Vehicle Occupancy (#): _____ A.M. _____ P.M. _____ 24-hour % Percent by Transit: _____ A.M. % _____ P.M. % _____ 24-hour % Percent by Carpool/Vanpool: _____ A.M. % _____ P.M. % _____ 24-hour %  Employees by Shift: First Shift: Start Time _____ End Time _____ Employees (#) _____ Second Shift: Start Time _____ End Time _____ Employees (#) _____ Third Shift: Start Time _____ End Time _____ Employees (#) _____  Parking Cost on Site: Hourly _____ Daily _____			<b>Transportation Demand Management (TDM) Information:</b> At the time of this study, was there a TDM program (that may have impacted the trip generation characteristics of this site) underway? <input type="checkbox"/> No <input type="checkbox"/> Yes (If yes, please check appropriate box/boxes, describe the nature of the TDM program(s) and provide a source for any studies that may help quantify this impact. Attach additional sheets if necessary)  <input type="checkbox"/> (1) Transit Service <input type="checkbox"/> (5) Employer Support Measures <input type="checkbox"/> (9) Tolls and Congestion Pricing <input type="checkbox"/> (2) Carpool Programs <input type="checkbox"/> (6) Preferential HOV Treatments <input type="checkbox"/> (10) Variable Work Hours/Compressed Work Weeks <input type="checkbox"/> (3) Vanpool Programs <input type="checkbox"/> (7) Transit and Ridesharing Incentives <input type="checkbox"/> (11) Telecommuting <input type="checkbox"/> (4) Bicycle/Pedestrian Facilities and Site Improvements <input type="checkbox"/> (8) Parking Supply and Pricing Management <input type="checkbox"/> (12) Other _____		
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**Trip Generation Data Form (Part 2)**

**Summary of Driveway Volumes**

*(All = All Vehicles Counted, Including Trucks; Trucks = Heavy Duty Trucks and Buses)*

	Average Weekday (M-F)						Saturday						Sunday					
	Enter		Exit		Total		Enter		Exit		Total		Enter		Exit		Total	
	All	Trucks	All	Trucks	All	Trucks	All	Trucks	All	Trucks	All	Trucks	All	Trucks	All	Trucks	All	Trucks
24-Hour Volume							25		26		51		9		9		18	
A.M. Peak Hour of Adjacent <sup>1</sup> Street Traffic (7 – 9) Time (ex.: 7:15 - 8:15):																		
P.M. Peak Hour of Adjacent <sup>1</sup> Street Traffic (4 – 6) Time: 5:00 - 6:00																		
A.M. Peak Hour Generator <sup>2</sup> Time:																		
P.M. Peak Hour Generator <sup>2</sup> Time: 8:00 - 9:00																		
Peak Hour Generator <sup>3</sup> Time (Weekend): <sup>1</sup> :00 - 2:00							10		8		18		1		1		2	

<sup>1</sup> Highest hourly volume between 7 a.m. and 9 a.m. (4 p.m. and 6 p.m.). Please specify the peak hour.

<sup>2</sup> Highest hourly volume during the a.m. or p.m. period. Please specify the peak hour.

<sup>3</sup> Highest hourly volume during the entire day. Please specify the peak hour.

Please refer to the *Trip Generation User's Guide* for full definition of terms.

**Hourly Driveway Volumes- Average Weekday (M-F)**

A.M. Period	Enter		Exit		Total		Mid-Day Period	Enter		Exit		Total		P.M. Period	Enter		Exit		Total	
	All	Trucks	All	Trucks	All	Trucks		All	Trucks	All	Trucks	All	Trucks		All	Trucks	All	Trucks	All	Trucks
6:00-7:00							11:00-12:00							3:00-4:00						
6:15-7:15							11:15-12:15							3:15-4:15						
6:30-7:30							11:30-12:30							3:30-4:30						
6:45-7:45							11:45-12:45							3:45-4:45						
7:00-8:00							12:00-1:00							4:00-5:00						
7:15-8:15							12:15-1:15							4:15-5:15						
7:30-8:30							12:30-1:30							4:30-5:30						
7:45-8:45							12:45-1:45							4:45-5:45						
8:00-9:00							1:00-2:00							5:00-6:00						

Check if Part 3, 4 and/or additional information is attached.

Survey conducted by: Name: \_\_\_\_\_  
 Organization: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City/State/Zip: \_\_\_\_\_  
 Telephone #: \_\_\_\_\_ Fax #: \_\_\_\_\_ E-mail: \_\_\_\_\_

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