

Department of Development Services 1500 Marilla Street Room 5B North Dallas, TX 75201 Phone 214.670.4209 Fax 214.670.4210

Zoning Change Application

October 2002

		\ <u> </u>	Provide the	following in	formation. (Please pri	int).			
	Applicant \			Repres	entative		Oı	wner	
	Owner □ ⊠ Prosp Tenant □	ective Buyer					ndividual [☐ Corporation☐ Trust	
Name:	SLR Texas Development, LI	LC	Name:	Dallas Cothr	um, Masterplan	Name:	See attache	ed	
Address:	3102 Oak Lawn Ave., Ste. 8	00	Address:	900 Jackson	St, Ste 640	Address:			
City/St/Zip:	Dallas TX 75219		City/St/Zip:	Dallas TX 75	5202	City/St/Zip:			
Telephone	214 420 2965		Telephone:	214 761 919	7	Telephone:			
Fax:	214 420 4871		Fax:	214 748 711	4	Fax:			
E-mail:	smeeks@streetlightsres.con	n	E-mail:	dallas@mas	terplanconsultants.com	E-mail:			
-	Signature of		11 -	-		Signature o	f Owner		
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Council dis		1							
School dis	trict DISD V	1					***************************************		
Census tract	t no. 17.02	Lot(s)/Block	(s): See atta	ched			Size of request: .1.321 ac		
	17.03							•	
	€ Code Supplications	Areas belo	ow to be co	mpleted b	y staff during applic	ation intake.			
Genera	I Zoning Change*	Spec	ific Use Pe	ermit*	Planned Deve District		Dee	d Restrictions*	
		New Amendment		wal Renewal***			Terminat	tion	
Bounds survey Copy of Deed Tax and lien s Traffic Impact Traffic impact	thorization ement on Maps (2) s (2) olock or Metes & y with drawing (2) tatements	Land use sta Draft Condition Zoning Local Tax Plat Map Correct lot & Bounds surve Copy of Deec Tax and lien Traffic Impac Traffic impac List of partne Site Plans (10	uthorization*** tement ons tion Maps (2)*** os (2) block or Metes & ey with drawing (d statements t Worksheet t Study or Waive rs/principals/offic 0 folded) lans (10 folded)*	2)	Proper signatures Letter(s) of authorization Land use statement Draft Conditions Zoning Location Maps (2) Tax Plat Maps (2) Correct lot & block or Mete Bounds survey with drawir Copy of Deed Tax and lien statements Traffic Impact Worksheet Traffic impact Study or Wa List of partners/principals/c Conceptual plans (10 folde Development Plans (10 folde Development Plans (10 folde Tree Survey** Elevation/perspectives (op	iver** id) or ded) d)**	Bounds surve Copy of Deed Tax and lien s List of partner Termination ir New instrume	uthorization tement ton Maps (2) s (2) block or Metes & y with drawing (2) statements syprincipals/officers**	
	*Additiona	l requirements	may be deterr	nined as nece	essary prior to application	acceptance. ** I	f required.		
2 year waiver		Filing fee:	\$ 7,82	0	Sign fee: \$30		Date filed:	041/5/15	
Escarpment	Y 🗆 N 🗖	Receipt no.	552	3	Receipt no. 552	24	Accepted by		
Floodplain	YOND	Notification a	rea: 50	FT.	No. of signs: 3	1	Date withdr		
Tentative C Hearing Da	PC StaffZR	T5/2/15	Planner:	ldo Fr	File No.:	z 145	348	()	

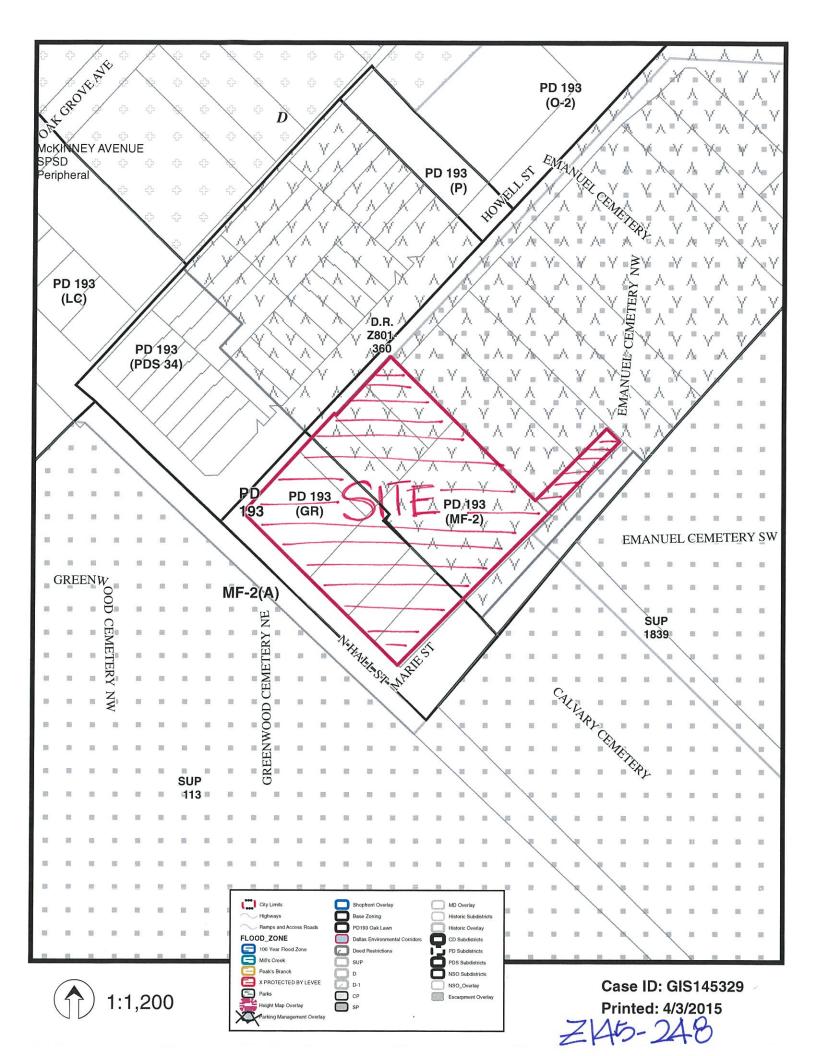
LAND USE STATEMENT N. Hall Street and Howell Street, east corner

The proposed Planned Development Subdistrict at the east corner of N. Hall Street and Howell Street would allow the construction of a multi-story multiple family development. The site is currently divided in approximately half by two zoning districts, the Hall frontage is zoned a GR General Retail District while the rear portion of the site is zoned an MF-2 district.

The site is surrounded on three sides (north east and south) by cemetery uses, all zoned MF-2. The area to the northwest across Howell Street is zoned PDS 34and developed with townhouses.

The proposed PDS would consolidate the zoning into one zoning district. The proposed development would 240 feet in height with a maximum of 258 units and a floor area of 316,500 sf. The proposal includes a row of three story 'townhome-type' units fronting on Howell Street across from the existing townhouse units.

ZH5-248



PROPOSED PDS CONDITIONS

"ARTICLE

PD

			"Division S PD Subdistrict
SEC. S	101.		LEGISLATIVE HISTORY.
Dallas City No. 21859,	Counc PD 1	il on _ 93 (th	established by Ordinance No, passed by the Ordinance No amended Ordinance e Oak Lawn Special Purpose District), as amended, and apter 51 of the Dallas City Code, as amended.
SEC. S	102.		PROPERTY LOCATION AND SIZE.
PD Subdistr Street and H	rict is lowell S	s estab treet.	lished on property generally located at the east corner of Hall The size of PD Subdistrict is approximately 1.28 acres.
SEC. S1	103.		DEFINITIONS AND INTERPRETATIONS.
and Part I o	of this a the eve	article a ent of a	rwise stated, the definitions and interpretations in Chapter 51 apply to this division. In the event of a conflict, this division conflict between Chapter 51 and Part I of this article, Part I or division:
(b)	In this	divisio	on:
	(1)	SPEC	CIAL RESIDENTIAL PROJECT means a development having:
floor area;		(A)	multifamily uses occupying at least 90 percent of the building
noor area,		(B)	a floor area ratio greater than 4.5; and
	(2)	Subdi	strict means a subdistrict of PD No. 193.
(c) this division	Unles are to a	s other articles	wise stated, all references to articles, divisions, or sections in divisions, or sections in Chapter 51.
(d)	This S	Subdist	rict is considered to be a residential zoning district.

SEC. S-___.104. DEVELOPMENT PLAN.

- (a) for Special Residential Projects, development and use of the Property must comply with the development plan (Exhibit S- A). The development and use of the Property must comply with the floor area ratios and percentages for each use shown on the development plan that allows the development to qualify as a Special Residential Project. If there is a conflict between the text of this division and the development plan, the text of this division controls. A temporary construction or sales/leasing office does not require a development plan.
- (b) For all other uses, no development plan is required, and the provisions of Section 51-4.702 regarding submission of or amendments to a development plan, site analysis plan, development schedule, and landscape plan do not apply.

SEC. S-__.105. MAIN USES PERMITTED.

- (a) The only main uses permitted in this Subdistrict are those main uses permitted in the LC Light Commercial Subdistrict, subject to the same conditions applicable in the LC Subdistrict, as set out in Part I of this article. For example, a use permitted in the LC Subdistrict only by specific use permit (SUP) is permitted in this Subdistrict only by SUP; a use subject to development impact review (DIR) in the LC Subdistrict is subject to DIR in this Subdistrict; etc.
 - (b) A Special Residential Project as defined above is allowed by right.

SEC. S-__.106. ACCESSORY USES.

- (a) As a general rule, an accessory use is permitted in any subdistrict in which the main use is permitted. Some specific types of accessory uses, however, due to their unique nature, are subject to additional regulations contained in Part I of this article. For more information regarding accessory uses, consult PD 193.
 - (b) In this district, the following accessory uses are not permitted:
 - Private stable.
 - Amateur communication tower.
 - Open storage.

SEC. S-__.107. YARD, LOT, AND SPACE REGULATIONS.

(Note: The yard, lot, and space regulations in this section must be read together with the yard, lot, and space regulations in Part I of this article. In the event of a conflict between this section and Part I of this article, this section controls.)

- (a) <u>In general.</u> Except as provided in this section, the yard, lot, and space regulations for the LC Light Commercial Subdistrict apply.
 - (b) Special setbacks for a Special Residential Project:

Howell Street: 15 feet, raised porches/stoops, fences and walls, not exceeding four feet in height may extend a maximum of five feet into the required front yard. Railings for stairs, stoops and/or porches or patios up to 42 inches in height are allowed in the required front yard.

Hall Street: 30 feet, except that a porte-cochere, covered walkway or canopy is allowed if the structure is rectilinear in shape and does not exceed 25 feet in width.

Any outdoor swimming pool must be located a minimum of 75 feet from the Howell Street right-of-way and have a wall or other solid structure with a minimum height of 8 feet located between the swimming pool and the Howell Street right-of-way line on the same level as the pool.

No usable balconies are allowed on the Howell Street over 30 feet in height unless a minimum of 150 feet from the Howell Street right-of-way.

- (c) For a Special Residential Project the maximum number of dwelling units is 258.
 - (d) <u>Height:</u> the maximum structure height is that allowed in an LC Subdistrict.
- (e) <u>Maximum floor area:</u> For a Special Residential Project, maximum floor area is 307,500 square feet.
- (f) <u>Lot coverage</u>: For a Special Residential Project, the lot coverage above 48 feet in height is limited to 30 percent.

SEC. S-__.108. OFF-STREET PARKING AND LOADING.

- (a) Consult Part I of this article for the specific off-street parking/loading requirements for each use. Consult the off-street parking and loading regulations of PD 193 for information regarding off-street parking and loading generally with the following exceptions: Parking for an accessory community center (private) use in conjunction with a multiple-family use must provide parking at a ratio of one space per 1000 square feet of floor area.
- (b) For a Special Residential Project, all required parking must be located either underground or within a structure.
- (c) For a Special Residential Project loading areas must be enclosed on all four sides and accessed with a gated entry that remains closed except during deliveries.

- (d) Deliveries and trash pick-up is only allowed between 7 a.m. to 7 p.m. Monday thru Friday and 8 a.m. to 5 p.m. Saturday, no deliveries or trash pick-up is allowed on Sunday.
 - (e) No parking is allowed on Howell Street.

SEC S-__.109. ENVIRONMENTAL PERFORMANCE STANDARDS.

See Article VI

No outside live music or amplified sound is allowed.

SEC. S-__.110. LANDSCAPING.

- (a) Except as provided below, landscaping must be accordance with Part 1 of PDD 193.
 - (b) Plant materials must be maintained in a healthy, growing condition.
- (c) Landscaping for a Special Residential Project must be provided in accordance with the attached Landscape Plan.

SEC. S-__.111. SIGNS

Signs must comply with the provisions for business zoning districts in Article VII.

SEC. S- . 112. DESIGN GUIDELINES FOR A SPECIAL RESIDENTIAL PROJECT.

- (a) Parking structures.
- (1) Except as provided in this subsection, all aboveground parking structures must comply with Section 51P-193.127(a).
- (2) Parking structure facades must include at least one of the following: heavy gauge metal screen, pre-cast concrete panels, laminated glass, photovoltaic panels, or other elements.
- (3) Above ground parking structures must have a solid wall or panel on each level with a minimum height of 36 inches to block light spillage from headlights.
- (4) Parking structures over one story that front on a public right-of-way must have the following additional design standards on the façade facing the public right-of-way:
- (A) Each story must be differentiated horizontally to minimize the vertical plane of the parking structure façade using changes in wall materials, garage screening materials, or offsets or projections from the face of the adjacent story by a minimum of six inches.

- (B) The horizontal plane of the façade wall of each parking structure story may not exceed 60 feet without a change in material, color, offset, or projections.
- (C) Any parking garage façade facing the Howell Street right-of-way must be totally enclosed. Any other parking garage façade facing a public right-of-way must be screened covering at least 40% of any openings above 36 inches in height above each level. The screening may allow ventilation but must reduce light spillage. The requirement for 40% coverage of the area between the height of 36 inches and the next floor level is limited to the first 36 feet of height. Any parking structure above 36 feet must have coverage of at least 20% of the openings between 36 inches and the next floor level.

SEC. S-__.113. ADDITIONAL PROVISIONS.

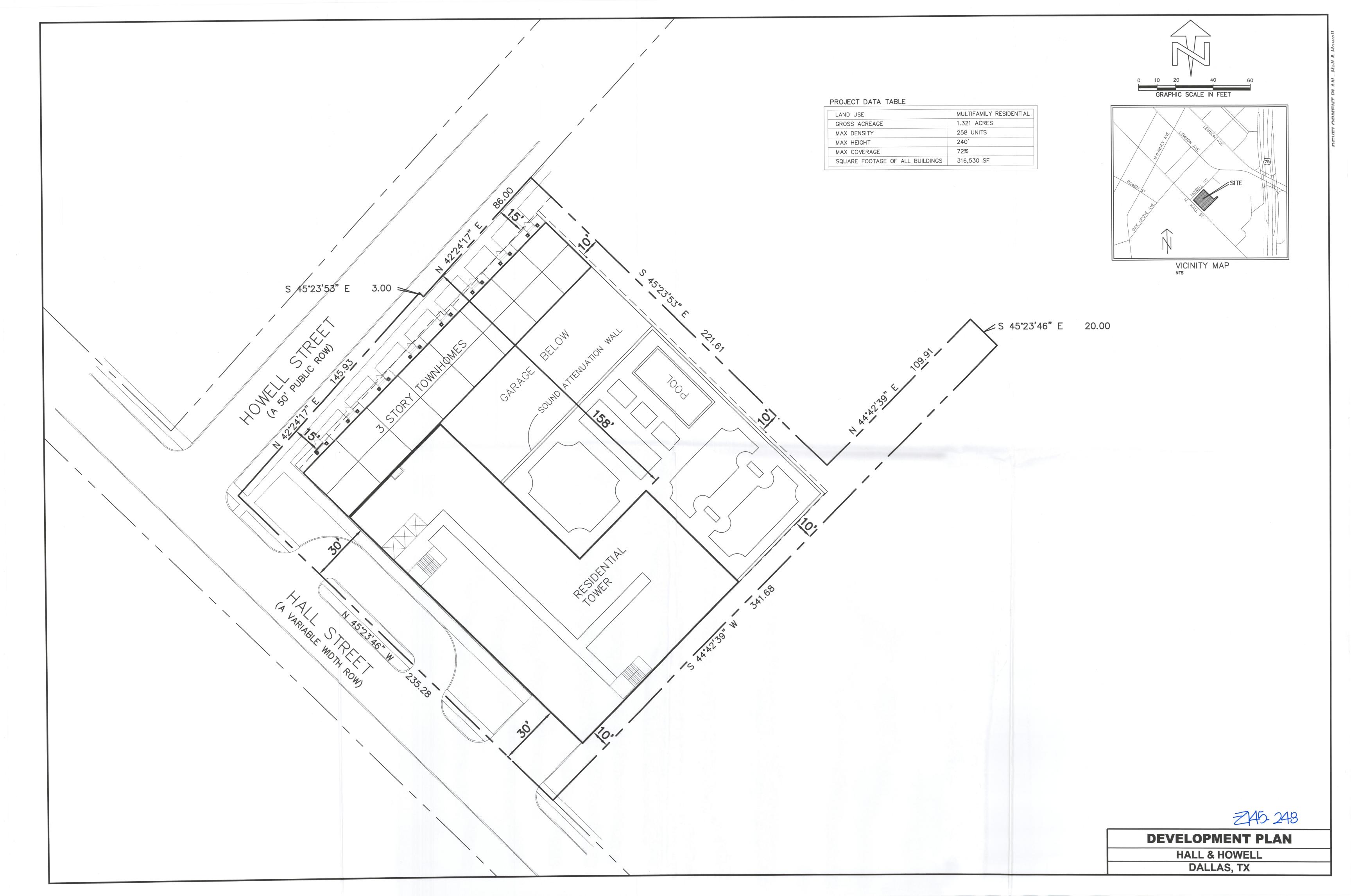
- (a) <u>General maintenance</u>. The Property must be properly maintained in a state of good repair and neat appearance.
- (b) <u>Compliance with all other laws</u>. Development and use of the Property must comply with all federal and state laws and regulations, and with all ordinances, rules, and regulations of the city.
- (c) <u>Compliance with Part I</u>. Except as otherwise provided in this division, development and use of the Property must comply with Part I of this article.
- (d) <u>Construction times</u>. Construction on the exterior of the building is limited to between the hours of 7 a.m. to 7 p.m. Monday thru Friday
- (e) <u>Local utilities.</u> All local utilities located on the Howell Street frontage must be underground.

SEC. S-__.114. PAVING.

All paved areas, permanent drives, streets, and drainage structures, if any, must be constructed in accordance with standard city specifications, and completed to the satisfaction of the director of public works and transportation.

SEC. S-__.115. COMPLIANCE WITH CONDITIONS.

The building official shall not issue a building permit or a certificate of occupancy for a use in this Subdistrict until there has been full compliance with this division, the Dallas Development Code, the construction codes, and all other ordinances, rules, and regulations of the city.



PRELIMINARY TRAFFIC IMPACT ANALYSIS FOR

PROPOSED MULTIFAMILY DEVELOPMENT – HALL AND HOWELL STREETS

DALLAS, TEXAS

DeShoro Project No. 14193

Prepared for:

StreetLights Residential

3102 Oak Lawn Avenue, Suite 800 Dallas, Texas 75219

Prepared by:

DeShazo Group, Inc.

Texas Registered Engineering Firm F-3199 400 South Houston Street, Suite 330

Dallas, Texas 75202 214.748.6740

April 13, 2015





Preliminary Traffic Impact Analysis for

Proposed Multifamily Development -- Hall and Howell Streets

~ DeShozo Project No. 14198 ~

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Proposed Multifamily Development – Hall ond Howell Streets Preliminary Troffic Impact Analysis Table of Contents



EXECUTIVE SUMMARY

The services of DeShazo Group, Inc. (DeShazo) were retained by StreetLights Residential to conduct a Traffic Impact Analysis (TIA) for development of a proposed high-rise multifamily use located at the intersection of Hall Street and Howeli Street in Dallas, Texas. The property is currently zoned PD 193 - GR and MF-2 subdistricts; a zoning change to PD Subdistrict is being proposed. The TIA was prepared for submittal to the City of Dallas for consideration as a requisite part of the zoning change request process.

The purpose of this report is to summarize the background traffic operational conditions of the study area and to measure the projected site-related traffic impact of the proposed development on the public roadway network as determined by standardized engineering analyses. Based upon the results of this analysis, DeShazo has recommended traffic-related measures considered commensurate and appropriate to mitigate excessive or undue projected impacts. It is intended that the findings and recommendations presented herein be considered a credible basis to determine the traffic-related improvements essential for the Project to operate safely and efficiently.

Based upon the results of this analysis, it was concluded that ...

FINDING: Local residents in the vicinity of the subject site Indicate that existing traffic conditions create undue delays and poor circulation.

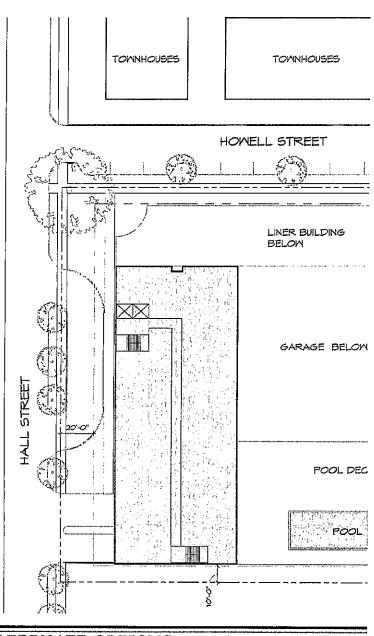
FINDING: (TBD - after new data are collected and analyzed.)

❖ RECOMMENDATION: (TBD – after new data are collected and analyzed.)

END

NOTE: This TIA is described as "Preliminary" due to the fact that some roadway segments in the vicinity of the site have been closed for an extended period due to an ongoing utility project. Since "normal" traffic patterns were altered during this period, representative traffic volumes cannot be collected and analyzed. For purposes of preparing an interim report, the volumes used in this study were derived from a combination of recent, "altered" volumes and historical volume data from ather DeShazo studies. However, the resulting data is not considered to be sufficiently representative of normal traffic conditions to provide a credible basis for measuring traffic impact and developing valid findings and recommendations. The construction was competed and the roadways were re-opened on April 9, 2015. Once traffic volumes have reasonably normalized, new data will be collected and the analysis will be updated.

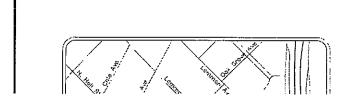
Proposed Multifamily Development -- Hall and Howell Streets Preliminary Troffic Impact Analysis Page I



SCHEMATIC PACKAGE Lambert Dallas, Texas © 2015 LRK Inc. All rights reserved.

ALTERNATE OPTIONS TYPICAL TOWER PLAN

Carlo Carlo





NOTES:

cirs = 1/2" iron rod with orange plastic cop stamped "P&C 100871" set for corner

irf = Iran rod found for corner

"x" fad = "x" cut in concrete found for corner

"x" sel == "x" out in concrete sel for corner

cm = controlling monument

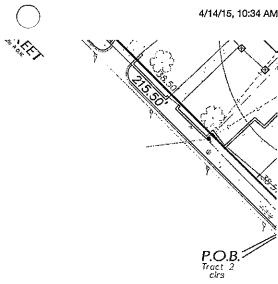
Survey completed without benefit of Title Commitment.

BASIS OF BEARINGS:

Basis of Bearings is the southerly line (N 42'54'00" W) of Howell Street, as shown on plat of Revision Part of Lot 2, Block 635, Cale's Oak Grave Addition & Lot 5, Block 1/635 whn D. Cale's Subdivision, an addition to the City of Dallas, Dallas County, Texas according to the plat recorded in Volume 79195, Page 3647, M.R.D.C.T.

No portion of the subject property lies within any area at 100—year load according to FEMA's Flood Insurance Rate Map No. 48:13C0345 J, dated August 23, 2001. Property is in zone χ .

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Traffic. Transportation Planning. Parking. Design.

Technical Memorandum

To: Greg Coutant --- StreetLights Residential

CC: Dallas Cothrum - Masterplan

From: Steve E. Stoner, P.E., PTOE - DeShazo Group, Inc.

April 13, 2015 Date:

Re:

Preliminary Traffic Impact Analysis for Proposed Multifamily Development At Hall and

Howell Streets in Dallas, Texas

DeShazo Project Number 14198

INTRODUCTION

The services of DeShazo Group, Inc. (DeShazo) were retained by StreetLights Residential to conduct a Traffic Impact Analysis (TIA) for development of a proposed high-rise multifamily use located at the intersection of Hall Street and Howell Street in Dallas, Texas. DeShazo is an engineering consulting firm based in Dallas, Texas providing licensed engineers skilled in the field of traffic/transportation engineering.

Portions of the subject site are currently zoned as GR (General Retail) and MF-2 (multifamily) subdistricts of PD 193 - the Oak Lawn Special Purpose District. The site consists of several single family lots fronting both Hall and Howell Streets. These lots will be razed and the properties consolinated to form the subject site. The right-or-way for image Street is also pending abandonment by the City, which will also become part of the site. A site location map is provided for reference in Exhibit 1.

Puroose

The purpose of this report is to summarize the background traffic operational conditions within the study area and to measure the projected site-related traffic impact of the proposed development on the public roadway network as determined by standardized engineering analyses. The TIA was prepared for submittal to the City of Dallas for consideration as a requisite part of the zoning change request process.

This TIA analyzes the anticipated impact, if any, of background traffic growth and site-related traffic at specified buildout conditions. Based upon the results of this analysis, DeShazo has recommended traffic-related measures considered commensurate and appropriate to mitigate excessive or undue projected impacts. It is intended that the findings and recommendations presented herein be considered a credible basis to determine the traffic-related improvements essential for the Project to operate safely and efficiently.

Proposed Multifamily Development -- Hall and Howell Streets
Preliminary Traffic Impact Analysis
Page 1



NOTE: This TIA is described as "Preliminary" due to the fact that some roadway segments in the vicinity of the site have been closed for an extended period due to an ongoing utility project. Since "normal" traffic patterns were altered during this period, representative traffic volumes cannot be collected and analyzed. For purposes of preparing an interim report, the volumes used in this study were derived from a combination of recent, "altered" volumes and historical volume data from other DeShazo studies. However, the resulting data is not considered to be sufficiently representative of normal traffic conditions to provide a credible basis for measuring traffic impact and developing valid findings and recommendations. The construction was completed and the roadways were re-opened on April 9, 2015. Once traffic volumes have reasonably normalized, new data will be collected and the analysis will be updated.

Project Description

The proposed development will consist of approximately 258 apartment dwelling units in a highrise building of new construction. The Project buildout is estimated to be completed and ready for occupancy within two years, by 2017. A preliminary site plan for the Project as prepared by Looney Ricks Kiss and a site survey prepared by Piburn & Carson are attached following the Executive Summary.

Study Parameters

This TIA will analyze the day-to-day traffic operational conditions that are anticipated to be the most critically impacted by the proposed Project at buildout conditions. Based upon the traffic generation characteristics of the Project and the prevailing background traffic conditions, the following periods shall be analyzed:

- traditional weekday AM and PM peak hours of adjacent street traffic
 - o at existing conditions ("Existing" scenario)
 - o at site buildout year without site-generated traffic ("Background" scenario)
 - o at site buildout year with site-generated traffic ("Buildout" scenario)
 - o at regional buildout without site-generated traffic
 - at regional buildout with site-generated traffic ("Horizon" or "Regional" scenario)

NOTE: Analysis of "Regional buildout" conditions is a requirement by the City of Dallas for this study. "Regional buildout" is hypothetical condition that theoretically represents the full buildout of all property to the "best-and-highest" uses and assumes all infrastructures are completed to the ultimate, planned condition. While no standard methodology exists for calculating the regional buildout conditions, DeShazo has adopted a practice that is similar to the approach used by the North Central Texas Council of Governments, which assumes regional buildout generally occurs twenty years hence. So, for purposes of this analysis, "regional buildout" was calculated by applying the assumed growth rates for a period of twenty years from the current year. However, in order to emphasize the theoretical nature of this condition, DeShazo does not reference regional buildout as a specific year. Since this condition of growth is assumed to be inclusive of all future development, including the proposed development that is the subject of this study, additional site-generated treffic was not re-added to the regional buildout conditions except when, in the judgment of DeShazo, the calculated regional buildout volumes appear to under-represent the site-generated conditions of the subject development.

Generally, the traffic engineering industry urges caution in relying upon detailed intersection analyses for periods beyond about five years due to the significance of the assumptions required to estimate the level of detail required for the analyses. The ability to accurately consider all potential variables diminishes as the forecasted time period increases. Therefore, for regional buildout conditions, low-volume intersections, including all STOP-controlled intersections are not analyzed due to the inability to predict specific localized traffic patterns over a long-range period. Its recommended that the reader rely more upon broader analyses, such as those performed by the regional planning agency, to gain a sense of long-range traffic issues. Such analyses are beyond the scope of this study.

The following technical assumptions were also made in this analysis.

Proposed Multifornily Development -- Hail and Howell Streets Preliminary Troffic Impact Analysis Page 2



- Background traffic includes projected traffic volumes from nearby developments that have been approved or are currently under construction:
 - 3230 McKinney Avenue A high-rise multifamily development with ground-floor commercial uses. Traffic data was obtained from the TIA prepared by DeShazo Group in Fall 2014. Site-generated traffic volume data are provided in Appendix C.
- In addition, a two percent (2.0%) annual background growth rate was applied to background traffic to account for other, unspecified future development in the vicinity.

The study parameters used in this TIA are consistent with the approach used in similar studies and are in accordance with local zoning ordinances and were reviewed by City Staff at the outset of the study.

Study Area

The study area for a TIA is typically defined to allow an assessment of the most relevant traffic impacts to the local area. The extent of the study area is discretionary but is generally commensurate with the scale of the proposed development. Special localized factors may also be considered. The specific locations included in the study area of this TIA, as listed below and depicted in Exhibit 1.

Intersections:

- (a) Hall Street and Oak Grove Avenue: traffic-signal-controlled
- (b) Hall Street and Howell Street: STOP-controlled on Howell Street
- (c) Lemmon Avenue and Howell Street: STOP-controlled on Howell Street
- (d) Major site driveways: de facta STOP-controlled on driveway approach

Roadway Links:

- (A) Hall Street, southeast of Howell Street
 - Existing operation and cross-section: two lanes, two-way operation
 - City of Dallas Thoroughfare Plan Designation: none (local)
- (B) Howell Street, northeast of Hall Street
 - Existing operation and cross-section: six lanes, two-way operation, mediandivided
 - ☐ City of Dallas Thoroughfare Plan Designation: 6-1-D none (local)

PRELIMINARY TRAFFIC IMPACT ANALYSIS

Submittal of a Preliminary Traffic Impact Analysis to the City of Dallas Is required as part of the application process for the Project. The study is provided to the Staff for technical review. Staff review comments are provided to the City of Dallas City Planning Commission and City Council for consideration.

Approach

The TIA presented in this report will analyze the operational conditions for the peak hours and study area as defined above using standardized analytical methodologies where applicable.

Proposed Multifamily Development – Hall and Howell Streets Preliminary Troffic Impact Analysis Page 3



Current (or recent) traffic volume data were collected throughout the study area to represent existing traffic conditions. Where applicable, growth factors were applied to the existing volumes to project future background traffic at the site buildout year conditions. Then, traffic generated by the proposed development was projected using the standard three-step approach: Trip Generation, Trip Distribution, and Traffic Assignment. By adding the site-generated traffic to the background traffic, the resulting site-plus-background traffic impact to operational conditions may be assessed from which approach mitigation measures may be recommended, if needed.

Background Traffic Volume Data

Existing Volumes

Current traffic volumes were collected during the analysis periods at the study area intersections on November 18, 2014*. Traffic volumes are graphically summarized in Appendix A; detailed data sheets are provided in Appendix B.

* NOTE: As described previously, the traffic counts from this time period were anomalous due to road closures resulting from an ongoing utility construction project in the vicinity. Though manual adjustments were made to account for these characteristics, an update to this study will be conducted once typical traffic volumes can be collected.

Projected Background Traffic Volumes

By applying the assumed growth rate(s) described previously, future background traffic volumes at the Project bulldout year were calculated for the study area intersections. These volumes are graphically summarized in Appendix A.

Site-Related Traffic

Trip Generation

Trip generation is calculated in terms of "trip ends" — a trip end is a one-way vehicular trip entering or exiting a site driveway (i.e., a single vehicle entering and exiting a site represents two trip ends). Trip generation for this Project was calculated using the institute of Transportation Engineers (ITE) Trip Generation manual (9th Edition). ITE Trip Generation is a compilation of actual, vehicular traffic volume generation data and statistics by land use as collected over several decades by creditable sources across the country. Using the ITE equations and rates is an accepted methodology to calculate the projected site-generated traffic volumes for many land uses (though engineering judgment is strongly advised).

The base trip generation data from ITE generally reflect average conditions for a standalone use on a typical day. However, in some cases, the Engineer may judge that other factors may be of sufficient significance to warrant adjusting the base ITE calculations in order to more accurately reflect Project-specific conditions. For this analysis no adjustments to the base ITE data were applied.

Table 1 provides a summary of the calculated trip ends generated by the project. Supplemental information used in the trip generation calculations is provided in Appendix C.

Proposed Multifamily Development -- Hall and Howell Streets Preliminary Troffic Impact Analysis Page 4

> DeShazo Group April 13, 2015

Table 1. Projected Trip Generation Summary

Land Use	Quantity	Daily Trip Ends (Weekday)		Peak Hou		PM Peak Hour of Adjacent Street Traffic		
	,		Total	In	Out	Total	lα	Out
Multifamily (ITE Land Use Code #220)	258 DU	1,687	130	26	104	160	104	5 6
TOTAL		1,687	130	26	104	160	104	56

Trip Distribution and Assignment

The distribution and assignment of site-generated trip ends to the surrounding roadway system is determined by proportionally estimating the orientation of travel via various travel routes. This is a subjective exercise based upon professional judgment considering such factors as directional characteristics of existing local traffic; trip attributes (e.g., trip purpose, trip length, travel time, etc.), roadway features (e.g., capacity, operational conditions, character of environment), regional demographics, etc.

Traffic for the proposed redevelopment was distributed and assigned to the study area roadway network based upon consideration of the factors listed above. Detailed trip distribution and traffic assignment calculations and results are summarized in Appendix C.

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Site-Generated Traffic Volumes

Site-generated traffic is calculated by multiplying the trip generation value (from lable 1) by the corresponding traffic assignments (from Appendix C). The resulting cumulative (for all uses) peak period site-generated traffic volumes at buildout of the Project are graphically summarized in Appendix A.

Traffic Operational Analysis —Roadway Intersections

Description

The level of performance of civil infrastructure can often be measured through an analysis of volume and capacity that considers various physical and operational characteristics of the system. For vehicular traffic an operational analysis of roadway intersection capacity is the most detailed type of analysis. An industry-standardized methodology for this type of analysis was developed by the Transportation Research Board and is presented in the Highway Capacity Manual (HCM). HCM uses the term "Level of Service" (or, LOS) to qualitatively describe the efficiency using a letter grade of A through F. Generally, LOS can be described as follows:

LOS A = free, unobstructed flow
LOS B = reasonably free flow
LOS C = stable flow
LOS D = approaching unstable flow
LOS E = unstable flow, operating at design capacity
LOS F = operating over design capacity

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Traffic operational analysis is typically measured in one-hour periods during day-to-day peak conditions. In most urban settings, LOS C, or better, is desirable, although LOS D is considered to be acceptable. Nevertheless, LOS E or F conditions are not uncommon for brief periods of time at major transportation facilities. In some cases measures to add more capacity, either through operational changes and/or physical improvements, can be identified to increase efficiency and sometimes raise Level of Service.

For traffic-signal-controlled ("signalized") intersections and STOP-controlled ("unsignalized") intersections, LOS is determined based upon the calculated average seconds of delay per vehicle. For signalized intersections the average delay per vehicle can be effectively calculated for the entire intersection; however, for unsignalized intersections the average delay per vehicle is calculated only by approach or by individual traffic maneuvers that must stop or yield right-of-way. For unsignalized intersections of a minor street or driveway and a major roadway, the analysis methodology often breaks down and yields low Levels of Service (often, LOS F) than cannot be mitigated unless a traffic signal is installed. However, for a traffic signal to be installed, the responsible agency that governs the right-of-way must issue their approval subject to very specific warrant criteria being met and several other operational considerations being satisfied. Level-of-Service is not a criterion for traffic signal installation.

The following table summarizes the LOS criteria for signalized and unsignalized intersections as defined in the latest edition of the *Highway Capacity Manual*.

	Signalized Intersection (Average Delay per Vehicle)	Unsignalized Intersection (Average Delay per Vehicle)
LOS A	≤ 10	≤10
LOS B	>10 - <u><</u> 20	>10 - ≤15
LOS C	>20 - ≤ 35	>15 - ≤25
LOS D	>35 - <u><</u> 55	>25 - ≤35
LOS E	>55 - <u><</u> 80	>35 - ≤50
LO5 F	>80	>50

Analysis Traffic Volumes

Determination of the traffic impact associated with the Project is measured by comparing the incremental change in operational conditions during peak periods with and without site-related traffic. Appendix A provides exhibits summarizing the following:

- Existing traffic volumes during study peak hours
- Projected Background traffic volumes at the Site Buildout Year during study peak hours
- a Brainstad Cita Consented traffic valuence during study north house

- Enderten bite-deseraten traut solottes odtig stank bear tions
- Projected Background-plus-Site-Generated traffic volumes at the Site Buildout Year during study peak hours
- Projected regional buildout traffic volumes, including Site-Generated traffic during study peak hours

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A summary of the existing intersection/roadway geometry and traffic control devices is shown in **Exhibit 2**.

Summary of Results

Intersection capacity analyses presented in this study were performed using the *Synchro* software package. Table 3 and Table 4 provide a summary of the peak period intersection operational conditions under the analysis conditions presented previously. Detailed software output is provided in Appendix D.

NOTE: Traffic signal operational parameters used in this analysis were based upon actual, existing traffic signal operational characteristics observed in the field at the time of traffic data collection.

See specific recommendations in the Summary of Findings and Recommendations section of this report.

Traffic Operational Analysis --- Roadway Links

Description

A roadway link is a segment of roadway between two intersections. Roadway link capacity analysis is a comparison of actual or forecasted traffic volumes to the theoretically optimum roadway capacity. The capacity of the roadway link is predominantly a function of the roadway's cross-section (i.e., number of lanes, lane widths, type of center divider, etc.). However, other more theoretical factors also apply, such as the character of environment and the functional classification of the roadway. Generally, roadway link capacity is less critical than intersection capacity; however, it can provide a gage of the utilization of given roadway.

A specific industry standard for roadway link capacity does not exist, but the typical concept is derived from a base saturation flow rate (i.e., the maximum theoretical rate of continuous flow under ideal, unobstructed conditions — in the traffic engineering industry, this value is generally considered to range between 1,800-2,100 vehicles per lane per hour). A series of adjustment factors are then applied to the saturation flow rate to reflect the characteristics of a given location.

The North Central Texas Council of Governments (NCTCOG) — the metropolitan planning agency for the Dallas-Fort Worth region — has derived internal "hourly service volume" guidelines used for transportation modelling purposes. The NCTCOG values were based upon the principals presented in the *Highway Capacity Manual* with "regional calibration" factors applied. Though these per-lane capacities, or "Service Volumes" (summarized in the table below), are intended for modelling purposes, they do provide a reasonable gage of theoretical capacity.

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DeShazo Group, Inc. 4/13/2015 (Signalized Intersections)

	Conditions									
Signalized	Existir	ng	Backgro	und	Buildo	out	Region			
Intersections	AM	PM	AM	PM	AM	PM	AM .	- PM		
Ook Grove Avenue at N. Hall Street	B (14.9)	8 (18.8)	B (20.0)	C (27.5)	C (25.1)	C (31.6)	F (>100)	F (>100)		

Table 4. Peak Hour intersection Capacity Analysis Results
(Unsignalized Intersections)

		Conditions									
Unsignalized	Traffic	Existing		Background		Buildout		Regional			
Intersections	Movement	AM	PM	AM	PM	AM	PM	AM	PM		
N. Hali Street at					1		-				
Howell Street	EBL	A (9.4)	A (8.5)	A (9.6)	A (8.7)	A (9.9)	A (8.9)				
	SBLR	C (22.4)	E (44.9)	D (25.4)	f (52.7)	D (30.5)	F (>100)				
			= ,,,,,,,	- 1	, (52.7)	D 00.07	. (-200)				
emmon Avenue at		*****									
Howell Street	NBR	C (17.7)	F (77.5)	C (18.7)	F (97.3)	C (19.9)	F (>100)				
		- (/	, ,,,,,,	5 (20.7)	1 (3/3)	C (13.3)	F (>200)		• • •		
V. Hall Street at											
Driveway 1	EBL					A (9.7)	A (9.4)				
	SBL					D (29.6)	F (62.1)				
	SBR										
	300	••	1	• •		C (18.0)	B (13.9)				

KEY.

A, B, C, D, E, $F \approx \text{Level-of-Service}$ for each intersection approach

NB, SB, EB, WB = North-, South-, East-, Westbound approach L. T, R = Left, Through, Right Approach turning movement

AM = AM Peak Hour of Adjocent Street

PM = AM Peak Hour of Adjacent Street

NOTE: Signalized intersection operational parameters and operational results were obtained directly from the optimized software output and may differ slightly from actual traffic signal operations.

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	Hourly Service Volumes by Roadway Function										
Area Type	Principa	l Arterial	111111111111	rterial & ge Road	Callector & Local Street						
	Medlan- Divided or One-Way	Undivided Two-Way	Median- Divided or One-Way	Undivided Two-Way	Median- Divided or One-Way	Undivided Two-Way					
CBD	725	650	725	650	475	425					
Urban/ Commercial	850	775	825	750	525	475					
Suburban Residential	925	875	900	825	575	525					
Rural	1,025	925	975	875	500	550					

To determine the utilization of a roadway, the volume:capacty ratio can be calculated—a v/c ratio of less than 1.0 indicates that the roadway is operating under capacity. NCTCOG's Level of Service denominations are as follows:

Volume: Capacity Ratio ≤ 45% is LOS A/B,

Volume: Capacity Ratio > 45% and ≤ 65% is LOS C,

Volume: Capacity Ratio > 65% and ≤ 80% is LOS D,

Volume: Capacity Ratio < 80% and ≤ 100% is LOS E,

Volume:Capacity Ratio ≥ 100% is LOS F

Summary of Results

For roadways adjacent to or in the vicinity of the subject site, the volume/capacity ratio was calculated for existing and site buildout conditions. A summary of the link capacity analysis is provided in Table 5. See specific recommendations in the *Recommendations* section of this report.

Table 5. Roadway Link Capacity Analysis Results Summary

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