



LSC TRANSPORTATION CONSULTANTS, INC.
545 East Pikes Peak Avenue, Suite 210
Colorado Springs, CO 80903
(719) 633-2868
FAX (719) 633-5430
E-mail: lsc@lsctrans.com
Website: <http://www.lsctrans.com>

The Shops at Meridian Ranch Lot 4
PPR18033
Transportation Memorandum
(LSC #184510)
November 28, 2018

Traffic Engineer's Statement

This traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.



Developer's Statement

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

A blue ink signature of the developer, written over a horizontal line.

12/5/18
Date



LSC TRANSPORTATION CONSULTANTS, INC.
545 East Pikes Peak Avenue, Suite 210
Colorado Springs, CO 80903
(719) 633-2868
FAX (719) 633-5430
E-mail: lsc@lsctrans.com
Website: <http://www.lsctrans.com>

November 28, 2018

Mr. Raul Guzman
Tech Contractors
P.O. Box 80036
San Diego, CA 92138

RE: The Shops at Meridian Ranch Lot 4
PPR18033
El Paso County, CO
Traffic Technical Memorandum
LSC #184510

Dear Mr. Guzman:

LSC Transportation Consultants, Inc. has prepared this traffic technical memorandum comparing the currently proposed land use and estimated vehicle-trip generation for Lot 4 of the Shops at Meridian Ranch to the land use and trip generation assumed in the *Meridian Ranch Commercial Residential Filing 4B Traffic Technical Memorandum* by LSC dated July 22, 2014. The site is located north of Stapleton Drive and east of Meridian Road in El Paso County, Colorado. The site location is shown in Figure 1.

LAND USE AND ACCESS

The site plan used in the July 22, 2014 traffic impact study for the buildout of the Meridian Ranch Commercial site showed 58,005 square feet of retail floor space, plus a gas station with a 5,000-square-foot convenience store. However, as at the time most of the site plan was conceptual only, it was decided that the trip generation estimate and analysis of traffic impacts should be studied for a maximum potential land use of up to 90,000 square feet of retail floor space in addition to the gas station.

Since completion of that report, two buildings with 9,481 square feet of floor space each and one building with 10,532 square feet of floor space have been constructed on Lot 3 for a total square footage of 29,494.

The currently proposed plan for Lot 4 of the Shops at Meridian Ranch includes two buildings with a total of 29,390 square feet of floor space. The site plan is shown in Figure 2. Full-movement access for this lot is proposed to Fleece Flower Way. An additional full-movement access to

Tourmaline Drive is proposed midway between Meridian Road and Tourmaline Drive. The July 2014 study assumed a right-in/right-out only access at this location. A deviation to the El Paso County *Engineering Criteria Manual (ECM)* request is being submitted for the proposed spacing of the access.

If the remaining Shops at Meridian Ranch site area is developed as shown on the July 22, 2014 site plan, the resulting buildout land use would total about 78,684 square feet of retail floor space plus a potential future gas station. This would be 11,316 square feet below the maximum potential land use of 90,000 square feet used in the July 2014 trip generation estimate and traffic analysis.

ACCESS SIGHT DISTANCE

Figure 3 shows the required El Paso County *Engineering Criteria Manual (ECM)* stopping sight distance and passenger vehicle lines-of-sight for intersection sight distance at the proposed access to Tourmaline Drive. The sight distance analysis is based on the posted speed limit of 25 miles per hour. Intersection sight distances required for passenger vehicles can be met and there is sufficient stopping sight distance on both approaches on Tourmaline for motorists to slow (or stop, if needed) to allow the infrequent large truck to negotiate the access intersection.

Areas along and north of the lines of sight would need to have low-level landscaping (18 inches or lower) in height and be free of other obstructions (such as monument signs and parking areas) that would restrict the drivers' line of sight.

TRIP GENERATION

Estimates of the traffic volumes expected to be generated by the site have been made using the nationally published trip generation rates found in *Trip Generation, 10th Edition, 2017* by the Institute of Transportation Engineers (ITE). Table 1 shows the results of the trip generation estimates. Also shown in the table for comparison are the original buildout trip generation estimates as presented in the July 22, 2014 traffic study.

As shown in Table 1, the proposed buildings for Lot 4 are projected to generate about 1,225 new vehicle-trips on the average weekday, with about one-half of the vehicles entering and one-half of the vehicles exiting in a 24-hour period. During the morning peak hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about 43 vehicles would enter and 26 vehicles would exit the site. During the afternoon peak hour, which generally occurs for one hour between 4:30 and 6:30 p.m., about 79 vehicles would enter and 86 vehicles would exit the site.

Assuming Lots 1 and 2 are developed with a gas station with 20 vehicle fueling positions and 19,800 additional square feet of retail floor space, the entire Shops at Meridian Ranch development is projected to generate about 4,995 vehicle-trips on the average weekday. This is

about 436 fewer vehicle trips per day than was estimated in the July 2014 study. During the morning peak hour about 236 would enter and 187 vehicles would exit the entire Shops at Meridian Ranch development. This is about 54 more entering vehicles and 35 more exiting vehicles than was estimated in the July 2014 study. During the afternoon peak hour about 348 would enter and 360 vehicles would exit the entire Shops at Meridian Ranch development. This is about 63 fewer entering vehicles and 62 fewer exiting vehicles than was estimated in the July 2014 study.

The increase in the projected morning peak-hour trip generation despite the decrease in total floor area is due to a change in the trip generation rates for ITE Land Use 820 Shopping Center from the 9th edition of *Trip Generation* which were used in the 2014 report and the rates shown in the 10th edition which were used for the current trip generation estimate.

The ITE fitted curve rates have been used for the trip generation estimate. The rate equation was evaluated using the entire shopping center square footage as the predictor variable value. This rate was then applied to the buildings within Filing 4. The ITE fitted curve rates were used instead of the average rates because they are more conservative than the average rates for this size shopping center. Also, the fitted regression curve passes closer to the center of the clusters of data points for this size shopping center.

The increase in trip generation estimate during the average morning peak hour should not present a problem, however, as the access points and adjacent intersections will be designed for the afternoon peak-hour traffic, which is significantly higher than the morning peak hour.

TOTAL TRAFFIC

Please refer to the *Meridian Ranch Commercial Residential Filing 4B Traffic Technical Memorandum* by LSC dated July 22, 2014 for the projected long-term total traffic volumes and level of service analysis.

SITE AND ACCESS TRUCK TURNING ANALYSIS

Figures 4 through 6 present the results of a preliminary truck turning analysis using AutoTurn. The figures show turning paths for WB-50 and SU (Single Unit) trucks. These are intended to assist with the planning of the site with respect to delivery truck access and to identify potential truck turning paths in County right-of-way.

RECOMMENDATIONS

- Based on the criteria contained in the ECM and the projected turning volumes shown in Figure 11a of the *Meridian Ranch Commercial Residential Filing 4B Traffic Technical*

Memorandum by LSC dated July 22, 2014 an eastbound right-turn deceleration lane would **not** be required on Tourmaline Drive approaching the proposed access point.

- Areas along and north of the access lines-of-sight shown in Figure 3 would need to have low-level landscaping (18 inches or lower) in height and be free of other obstructions (such as monument signs and parking areas) that would restrict the drivers' line of sight.
- This property is within the Woodmen Road Metropolitan District and applicable fees would apply.

* * * * *

Please contact me if you have any questions

Respectfully submitted,

LSC TRANSPORTATION CONSULTANTS, INC.

By: Jeffrey C. Hodsdon, P.E., PTOE
Principal

JCH:KDF:bjwb

Enclosures: Table 1
Figures 1-6
Site Plan

Table 1
Trip Generation Estimate
The Shops at Meridian Ranch

New External Trips Generated																							
Lot	Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates ⁽¹⁾					Total Trips Generated					Internal Trips	Total External Trips Generated					Pass-By Trips ⁽²⁾	Average Weekday Traffic		
				Average Weekday Traffic	Morning Peak Hour In	Afternoon Peak Hour Out	Average Weekday Traffic	Morning Peak Hour In	Afternoon Peak Hour Out	Average Weekday Traffic	Morning Peak Hour In	Afternoon Peak Hour Out	Average Weekday Traffic		Morning Peak Hour In	Afternoon Peak Hour Out							
Currently Proposed Land Use																							
4D	820	Shopping Center	17,450 KSF ⁽³⁾	64.91	1.51	0.92	2.78	3.01	1,133	26	16	48	52	2.75%	1,102	26	16	47	51	34%	727		
4E	820	Shopping Center	11,940 KSF	64.91	1.51	0.92	2.78	3.01	775	18	11	33	36	2.75%	754	17	11	32	35	34%	497		
			29,390 KSF												1,855	43	26	79	86				
Existing Land Use																							
3	820	Shopping Center	29,494 KSF	64.91	1.51	0.92	2.78	3.01	1,915	44	27	82	89	2.75%	1,862	43	26	80	86	34%	1,229		
Existing Plus Currently Proposed			58,884 KSF												3,717	86	53	159	172				
Future Land Use																							
1	820	Shopping Center	13 KSF	64.91	1.51	0.92	2.78	3.01	844	20	12	36	39	2.75%	821	19	12	35	38	34%	542		
2	945	Gasoline/Service Station with Convenience Market	20 VFP(4)	205.36	6.36	6.11	7.13	6.86	4,107	127	122	143	137	5%	3,902	121	116	136	130	56%	1,717		
	820	Shopping Center	6.8 KSF	64.91	1.51	0.92	2.78	3.01	441	10	6	19	20	2.75%	429	10	6	18	20	34%	283		
															5,152	150	134	189	188				
Buildout Total			78,684 KSF												8,869	236	187	348	360				
Trip Generation Estimate Shown in the Meridian Ranch Commercial and Residential Filing 4B Traffic Technical Memorandum by LSC, July 11, 2014																							
---	820	Shopping Center	90 KSF	70.46	0.98	0.63	3.23	3.36	6,342	88	56	290	302	2.75%	6,167	86	55	282	294	34%	4,070		
	945	Gasoline/Service Station with Convenience Market	20 VFP	162.78	5.08	5.08	6.76	6.76	3,256	102	102	135	135	5%	3,093	97	97	128	128	56%	1,361		
															9,260	182	151	411	422				
Change in Trip Generation Estimate															-391	54	35	-63	-62				

Notes:

(1) Source: "Trip Generation, 10th Edition, 2017" by the Institute of Transportation Engineers (ITE)

(2) Source: "Trip Generation Handbook - An ITE Proposed Recommended Practice, 3rd Edition, 2017" by ITE

(3) KSF = thousand square feet

(4) VFP = vehicle fueling position

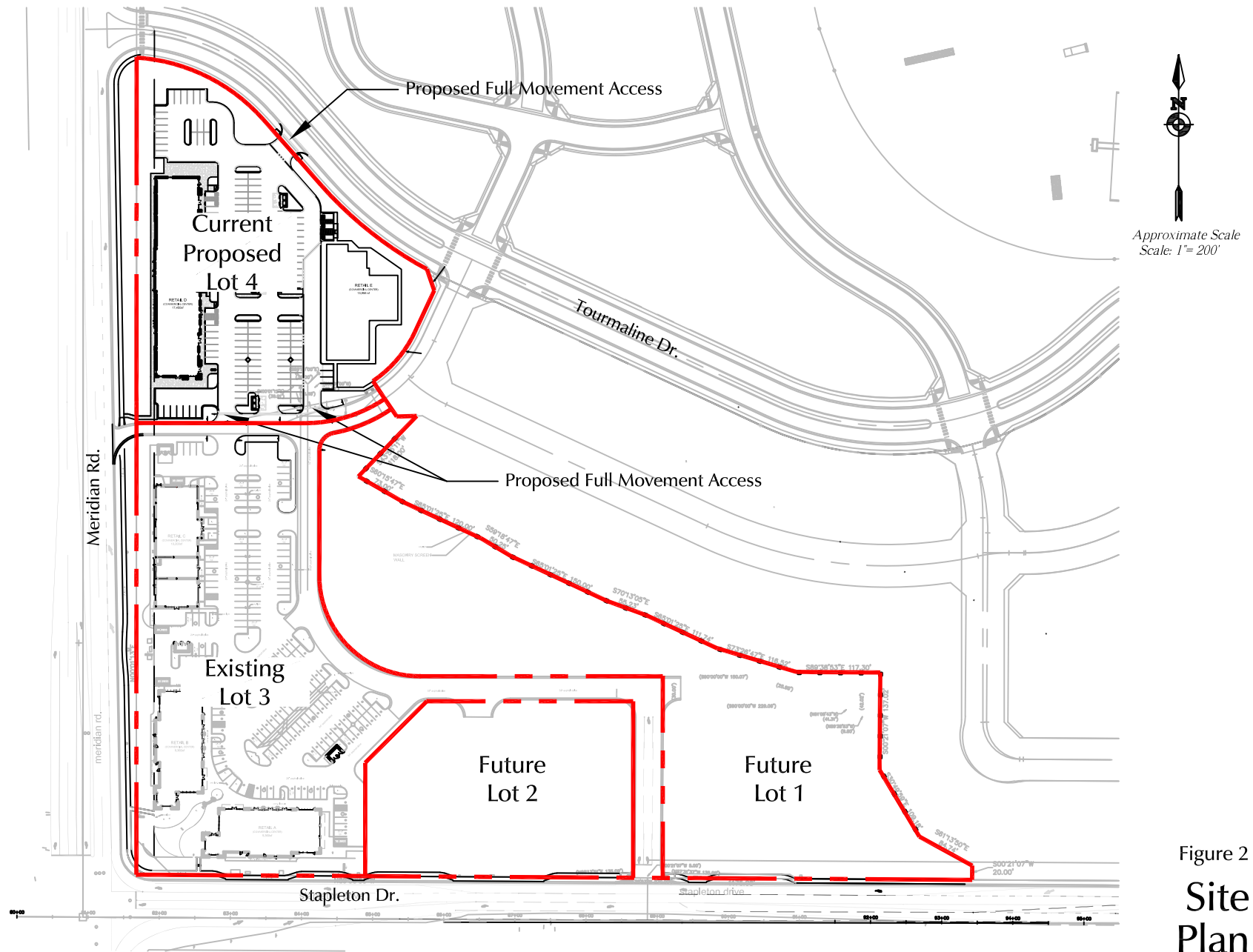
Source: LSC Transportation Consultants, Inc.



Approximate Scale
Scale: 1" = 1,200'

Figure 1
**Vicinity
Map**

The Shops at Meridian Ranch Lot 4 (LSC #184510)



The Shops at Meridian Ranch Lot 4 (LSC #184510)

Meridian Rd.

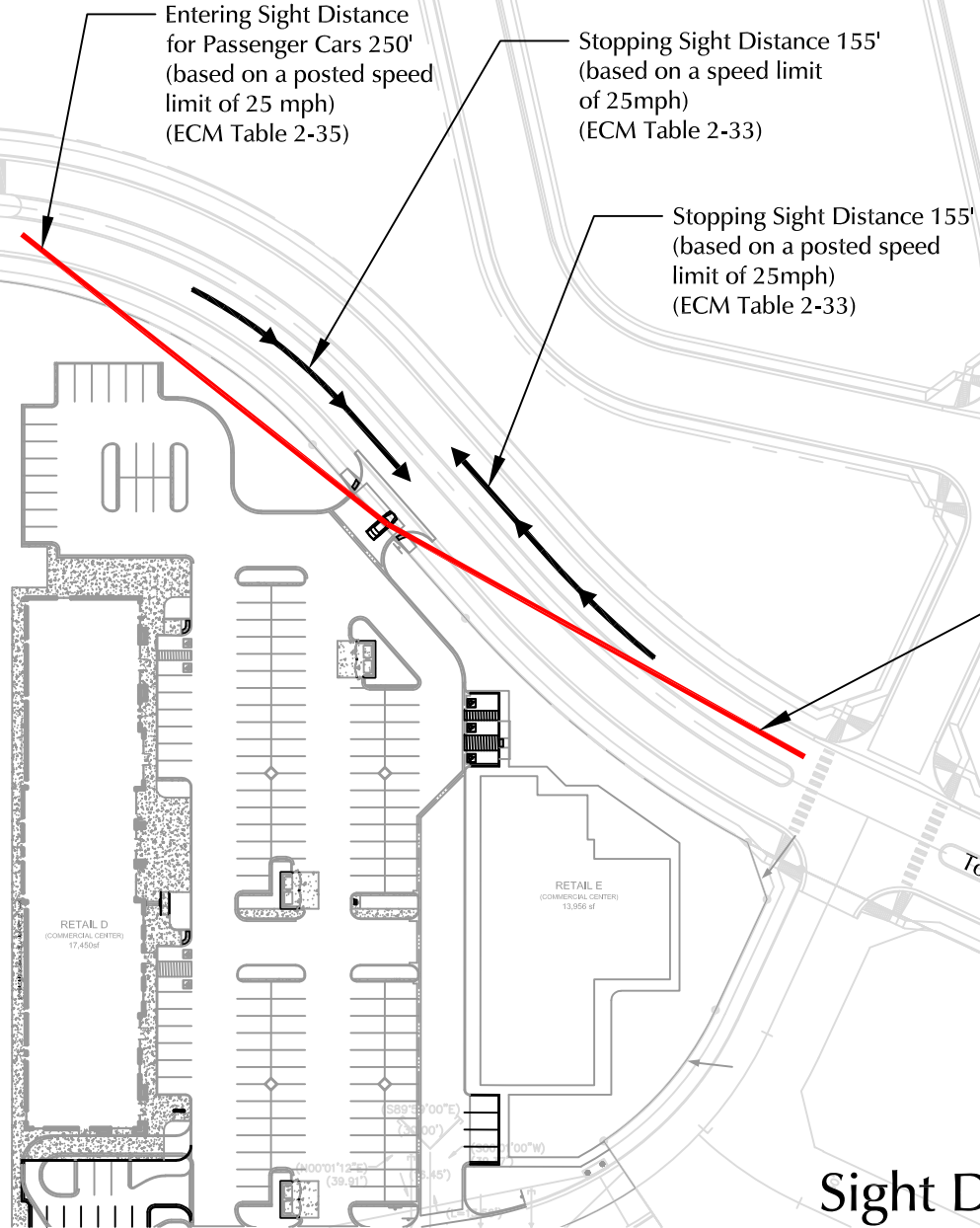
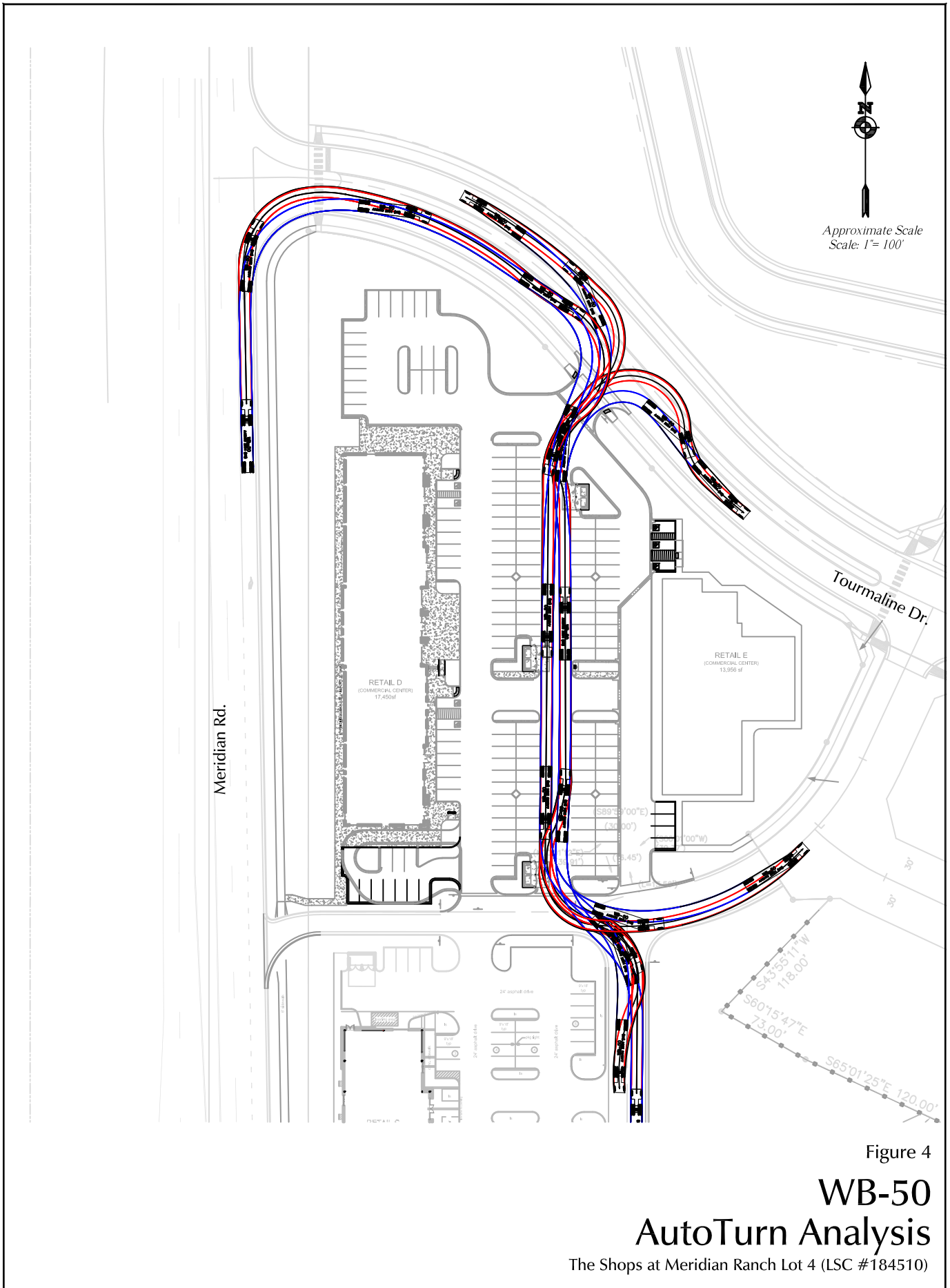


Figure 3

Intersection Sight Distance Analysis

The Shops at Meridian Ranch Lot 4 (LSC #184510)



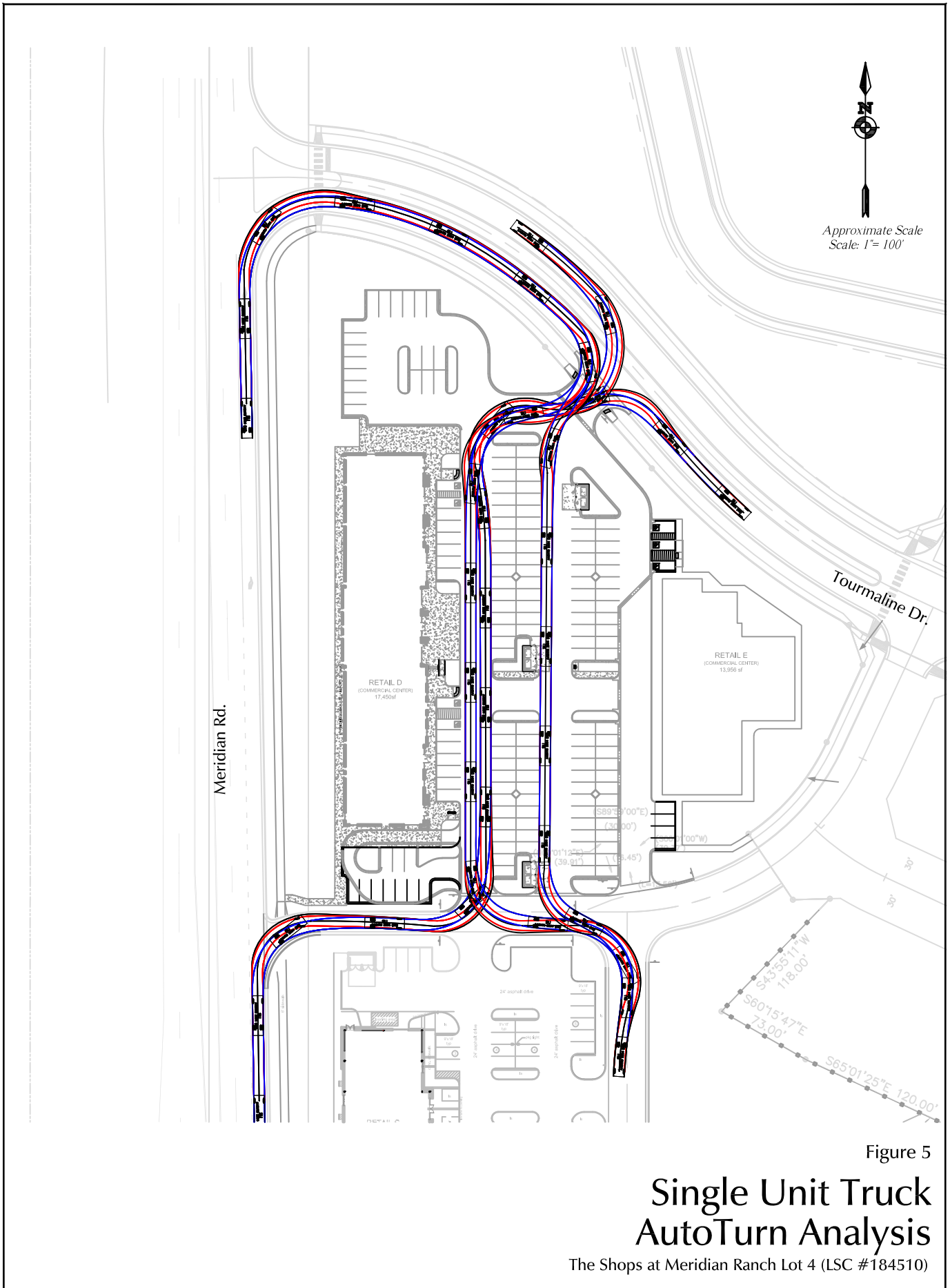


Figure 5

Single Unit Truck AutoTurn Analysis

The Shops at Meridian Ranch Lot 4 (LSC #184510)

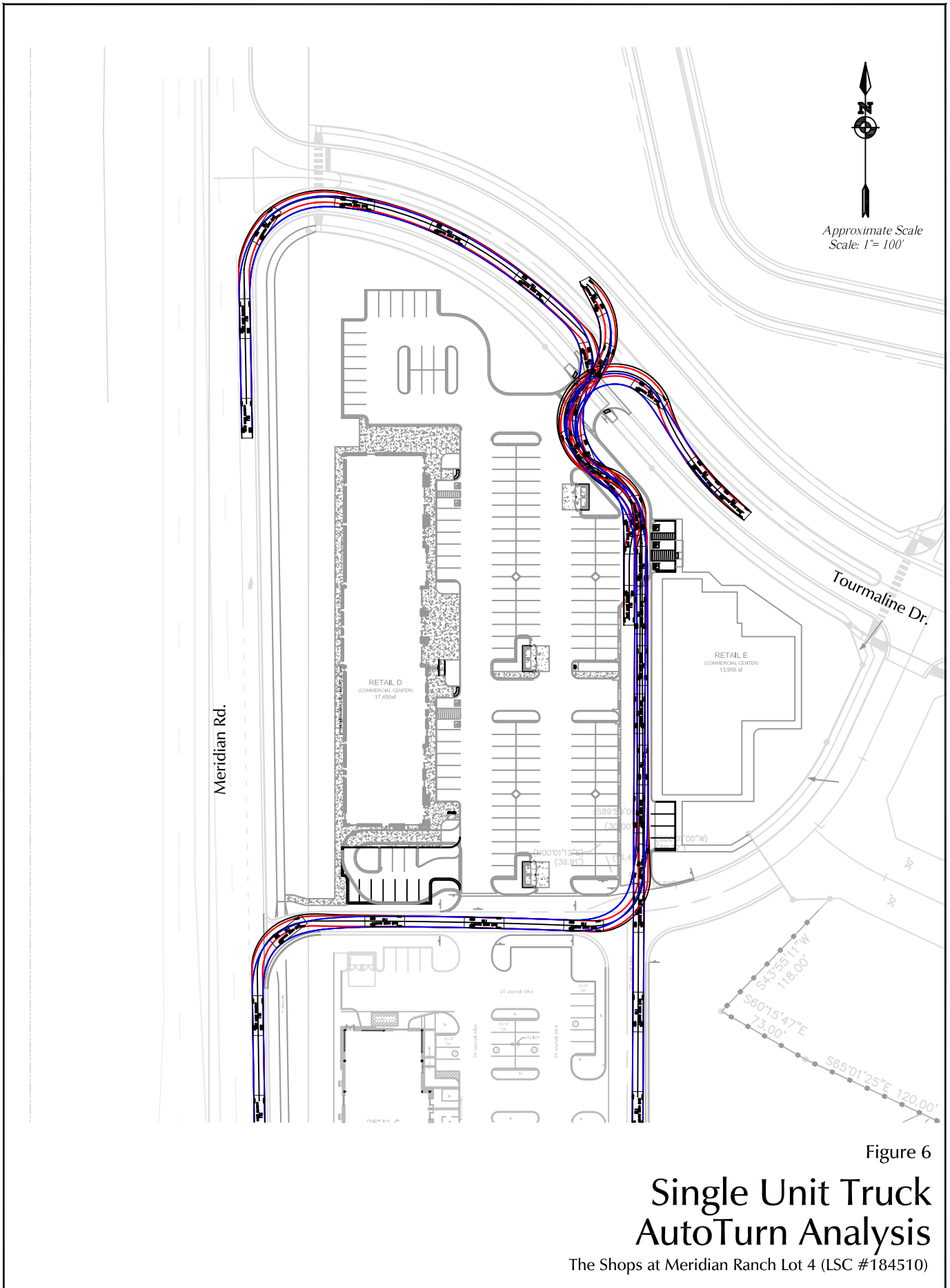


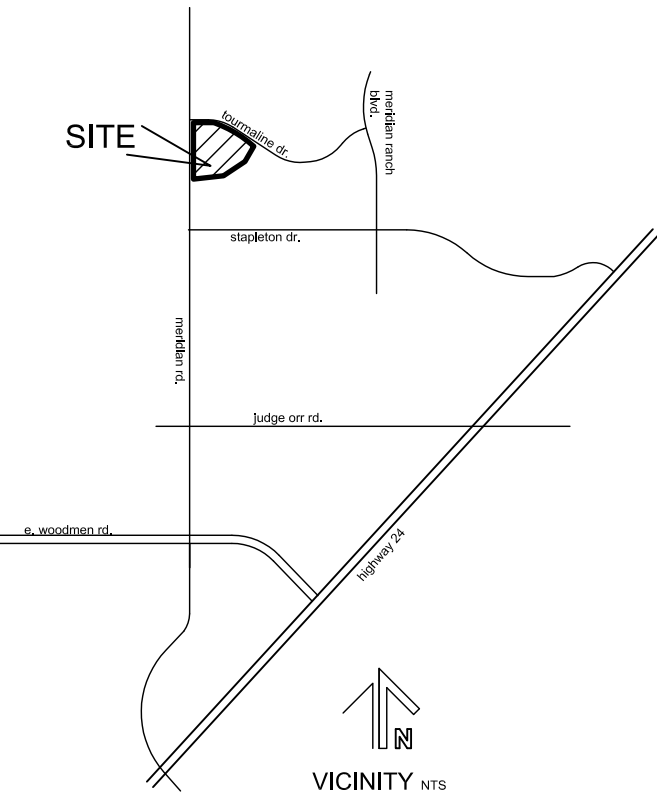
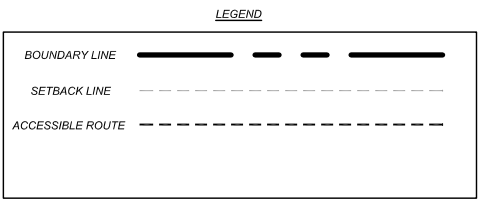
Figure 6

Single Unit Truck AutoTurn Analysis

The Shops at Meridian Ranch Lot 4 (LSC #184510)

THE SHOP'S AT MERIDIAN RANCH

FILING NO. 1, LOT 4
SITE DEVELOPMENT PLAN
EL PASO COUNTY, COLORADO.
FALCON, COLORADO

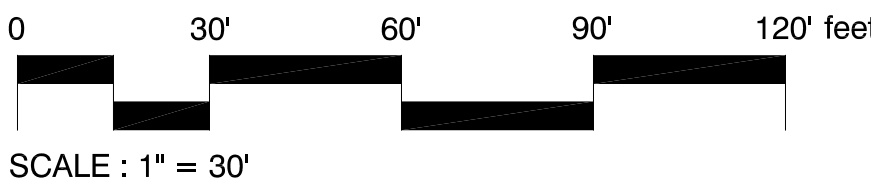
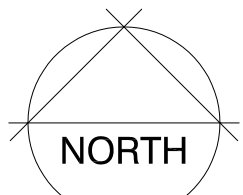


LEGAL:
THE SHOPS AT MERIDIAN RANCH LOT 4 FILING NO. 1

SITE DATA

tax schedule no.:	4230319054
area	3.43ac
ex zone	n/a
proposed zone	CR
ex use	vacant
proposed use	commercial center
master plan development schedule	Falcon/Peyton Small Area Plan SPRING 2019

proposed use	area	3.43ac	commercial center
bldg area	29,390sf		
max. bldg height	45'		
prop. bldg height	44'		
bldg setbacks			
front	25'		
side	25'		
rear	25'		
%lot coverage			
bldgs	20% (29,390sf)		
impervious	43% (64,383sf)		
landscaping	37% (55,712sf)		
use	retail D commercial center	retail E commercial center	
bldg area	17,450sf	11,940sf	
ratio	1/250sf	1/250sf	
required (incl h/c)	70 (incl 3h/c)	47 (incl 3h/c)	
provided	99 (incl 3h/c)	47 (incl 3h/c)	



OWNER INFO

company name SHOPS AT MERIDIAN RANCH LLC

address P.O. BOX 80036
city/state SAN DIEGO CA 91238

phone no



YOW ARCHITECTS PC

ARCHITECTURE & PLANNING

115 S. Weber Colorado Springs, Colorado 475-8133

Structural: ---
Electrical: ---
Mechanical: ---
Plumbing: ---

Shop's @ Meridian Ranch

Site Development Plan

Meridian Road
Falcon, CO

Job No. 15.113
Directory Planning
File Site development plan 11-14-18
Drawn By DBN
Date 6/22/2018
Revised 10/4/2018

DRAWING NO.
1
SITE DEVELOPMENT
PLAN

FILE NUMBER: PPR18033