



LSC TRANSPORTATION CONSULTANTS, INC.

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August 23, 2016

Mr. Bill Guman, RLA, ASLA
William Guman & Associates, Ltd.
731 North Weber Street, Suite 10
Colorado Springs, CO 80903

RE: Honeywood (Minnich) RV Park
Falcon, CO
Letter of Amendment
LSC #164650

Dear Mr. Guman,

LSC Transportation Consultants, Inc. has prepared this Letter of Amendment to the previously completed traffic report for Meadowlake Commons (prepared by Springs Engineers in 2008 when the property was zoned to PUD). This report addresses the proposed Honeywood (Minnich) RV Park to be located northeast of the intersection of Judge Orr Road and Cessna Drive in El Paso County, Colorado. The proposed RV park site is a forty-acre portion of the larger Meadowlake Commons PUD site.

REPORT CONTENTS

The report contains the following:

- Existing street and traffic conditions adjacent to the site including the intersection lane geometries, traffic controls, posted speed limits, street classifications, etc.
- Existing peak-hour turning movement traffic counts at the intersection of Judge Orr Road/ Cessna Drive and estimates of future background traffic volumes.
- Description of the proposed land use.
- Estimates of the average weekday and peak-hour vehicle-trips to be generated by the site.
- Assigned site-generated projected traffic volumes to and the access point intersections.
- Resulting traffic impacts from the site.
- Findings and recommendations.

PROPOSED LAND USE AND ACCESS

The proposed Honeywood (Minnich) RV Park site is located northeast of the intersection of Judge Orr Road and Cessna Drive in El Paso County, Colorado. US Highway 24 intersects with Judge Orr Road approximately 0.4 miles west of the proposed site. The 39.9-acre RV park

RECEIVED VERSION

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development is planned to contain 250 recreational vehicle camp sites at buildout. Figure 1 provides a visual of the site relative to the nearby roadway network.

Access is proposed to Judge Orr Road via two new access driveways, one which would align with the existing Cessna Drive/Judge Orr Road intersection and the second approximately 1,000 feet to the east. No apparent sight distance restrictions at the proposed site access points were evident at the time of the field visit.

Proposed site land uses were categorized using the *Trip Generation Manual, 9th Edition, 2012* by the Institute of Transportation Engineers (ITE). Land use code 416 – Campground/RV Park – was used for trip generation estimates for the proposed site. A diagram of the site relative to the remainder of the overall Meadowlake Commons PUD is attached in Figure 2. Also attached is an exhibit showing the internal layout of the planned first fifty RV sites.

EXISTING CONDITIONS

Table 1 summarizes characteristics for key roadways in the study area.

Table 1: Roadway Characteristics in the Study Area

Roadway	Limit		Roadway Characteristics			
	From	To	Lanes	Speed Limit	Paved	Classification
Judge Orr Road	US 24	Curtis Road	2	45 mph	Yes	Minor Arterial
Cessna Drive	Judge Orr Road	End of Cessna Drive	2	Not posted	Yes	Private Road

US Highway 24 extends northeast from Colorado Springs through unincorporated El Paso County and is classified as a four-lane Expressway in the *El Paso County 2040 Major Transportation Corridors Plan (MTCP)*. The intersection of US 24/Judge Orr Road is signalized, with protected-permitted left-turn phases for eastbound left-turning vehicles on US 24. Both the eastbound and westbound approaches on Judge Orr Road are single-lane approaches with split phasing.

Judge Orr Road is currently classified as a two-lane Minor Arterial in El Paso County's 2040 *MTCP*. The preserved corridors plan shows a four-lane minor arterial. Judge Orr Road extends west approximately 0.7 miles to the intersection of Eastonville Road/Meridian Ranch Boulevard, and east to North Davenport Road. There are currently no turn lanes at existing driveways along Judge Orr Road within the study area limits. Adjacent to the site, the posted speed limit is 45 mph.

Cessna Drive is the two-lane entrance to Meadow Lake Airport.. The Cessna Drive intersection with Judge Orr Road is Stop-sign-controlled.

Traffic Volumes

Turning movement counts were conducted from 4:00 to 6:00 p.m. on Tuesday, August 11, 2016 and from 6:30 to 8:30 a.m. on Tuesday, August 16, 2016 at the intersection of Judge Orr Road/Cessna Drive. Existing evening weekday peak-hour traffic volumes at this intersection are shown in Figure 3. Count reports are attached. Figure 3 also shows the estimates of peak-hour traffic adjacent to the site and the estimates (based on factored peak-hour counts) of the average daily traffic volumes on Judge Orr Road.

Level of Service

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection and is indicated on a scale from “A” to “F.” LOS A is indicative of little congestion or delay. LOS F indicates a high level of congestion or delay. Table 2 shows the level of service delay ranges for signalized and unsignalized intersections.

Table 2: Intersection Levels of Service Delay Ranges

Level of Service	Signalized Intersections	Unsignalized Intersections
	Control Delay (seconds per vehicle)	
A	≤ 10	≤ 10
B	> 10 and < 20	> 10 and < 15
C	> 20 and < 35	> 15 and < 25
D	> 35 and < 55	> 25 and < 35
E	> 55 and < 80	> 35 and < 50
F	> 80	> 50

The intersection of Judge Orr Road/Cessna Drive was analyzed in Synchro using the unsignalized method of analysis procedures from the *Highway Capacity Manual, 2010 Edition*. Table 5 and Table 6 show the level of service analysis results. Detailed level of service reports are attached. All of the minor street and major street left-turn movements at the stop-sign-controlled T-intersection of Judge Orr Road/Cessna Drive are currently operating at LOS B or better during both peak hours.

TRIP GENERATION

Estimates for the traffic volumes expected to be generated by the site were made using the nationally published trip generation rates from *Trip Generation, 9th Edition, 2012* by the Institute of Transportation Engineers (ITE). The proposed Honeywood (Minnich) RV Park development is projected to generate about 1,000 total vehicle-trips on the average weekday during a 24-hour period. Table 3 shows the number of expected trips to and from the site during the morning and evening peak hours. A detailed summary of trip generation for the development, including rates for individual land uses, is found in Table 7 (attached).

Table 3: Peak-Hour Site Trip Generation Estimates

Analysis Period	In	Out	Total
Morning Peak Hour	15	27	42
Evening Peak Hour	44	24	68
* Please refer to Table 7 (attached) for detailed Trip Generation Table			

Trip Distribution and Assignment

Distributing the site-generated traffic volumes to the adjacent streets and key off-site intersections helps determine the site’s traffic impacts. Figure 4 shows the directional distribution estimate for the site-generated trips, which represents the percentages of the site-generated

vehicle-trips projected to be oriented to and from the site's major approaches. Estimates were based on the following factors: existing area development, the area roadway system, and the site's proposed land use.

Site-Generated Traffic

When the directional distribution percentages (from Figure 4) were applied to the trip generation estimates (from Table 3), the site-generated traffic volumes on the adjacent streets were determined. Figure 4 shows the projected site-generated traffic volumes for a typical weekday.

EXISTING PLUS SITE-GENERATED TRAFFIC

Figure 5 shows the sum of the existing weekday traffic volumes (from Figure 3) and site-generated weekday traffic volumes (from Figure 4). The existing plus site-generated trips identify the site's short-term traffic impacts assuming buildout of 250 RV sites.

All approaches at both intersections are projected to operate at LOS B or better during both the short-term morning and evening peak hour. A summary of projected 2016 existing plus site-generated LOS and control delays for each turning movement during both peak hours is shown in Table 4.

Table 4: Projected 2016 Peak-Hour Levels of Service and Control Delay by Intersection

Location			LOS		Control Delay (sec)	
Intersection	Turning Movement	Traffic Control	2016 A.M. Existing + Site-Generated	2016 P.M. Existing + Site-Generated	2016 A.M. Existing + Site-Generated	2016 P.M. Existing + Site-Generated
Judge Orr Road/ Cessna Drive	NBL	Stop sign	B	B	11.5	12.4
	EBL	Free	A	A	7.6	7.6
	EBT	Free	A	A	0.0	0.0
	WBL	Free	A	A	7.5	7.6
	WBT	Free	A	A	0.0	0.0
	SBL	Stop sign	A	A	9.5	9.4
Judge Orr Road/ Site Access 2	EBL	Free	A	A	7.6	7.6
	EBT	Free	A	A	0.0	0.0
	WB T/R	Free	A	A	0.0	0.0
	SBL	Stop sign	A	A	9.7	9.7

NB = northbound, SB = southbound, EB = eastbound, WB = westbound
L = left turning movement, T = through movement, R = right turning movement

2040 FUTURE CONDITIONS

Background Traffic

Background traffic is the traffic estimated to be on the study area street system without consideration of the proposed development. Through traffic and the traffic generated by existing and future nearby developments is included, but all traffic generated by the site is ignored for

the background traffic. Figure 6 shows the year 2040 background traffic volumes for a typical weekday. Background traffic growth was based on a projected volume of 4,300 vehicles per day from the latest 2040 projections in the El Paso County *MTCP* update (draft).

Total Traffic

Figure 7 shows the year 2040 total traffic volumes. The 2040 total weekday traffic volumes are the sum of the site-generated weekday traffic volumes (from Figure 4) and the 2040 background weekday traffic volumes (from Figure 6).

Projected Levels of Service

The Judge Orr Road/Cessna Drive intersection was analyzed to determine the projected levels of service for the existing plus site-generated, 2040 background, and 2040 total traffic volumes based on the unsignalized method of analysis from the *Highway Capacity Manual, 2010 Edition* by the Transportation Research Board. Table 5 and Table 6 show the level of service analysis results.

Morning Peak Hour

The northbound approach at the intersection of Judge Orr Road/Cessna Drive is expected to operate at LOS B before after site-generated trips are added to the network. Only minor delays are expected at all other approaches at the two intersections, as they are all projected to operate at LOS B or better in 2040, before and after site-generated trips are added to the network. A summary of projected 2040 LOS and control delays for each turning movement during the morning peak hour is shown in Table 5.

Table 5: Projected 2040 a.m. Peak-Hour Levels of Service and Control Delay by Intersection

Intersection	Location		LOS		Control Delay (sec)	
	Turning Movement	Traffic Control	2040 A.M. Background Only	2040 A.M. Background + Site-Generated	2040 A.M. Background Only	2040 A.M. Background + Site-Generated
Judge Orr Road/ Cessna Drive	NBL	Stop sign	B	B	10.9	15.9
	EBL	Free	---	A	---	8.5
	EBT	Free	A	A	0.0	0.0
	WBL	Free	A	A	7.7	8.0
	WBT	Free	A	A	0.0	0.0
	SBL	Stop sign	---	B	---	12.2
Judge Orr Road/ Site Access 2	EBL	Free	---	A	---	8.5
	EBT	Free	A	A	0.0	0.0
	WB T/R	Free	A	A	0.0	0.0
	SBL	Stop sign	---	B	---	13.3

Evening Peak Hour

The northbound approach at the intersection of Judge Orr Road/Cessna Drive is expected to operate at LOS C after site-generated trips are added to the network. Only minor delays are expected at all other approaches at the two intersections, as they are all projected to operate at

LOS B or better in 2040, before and after site-generated trips are added to the network. A summary of projected 2040 LOS and control delays for each turning movement during the morning peak hour is shown in Table 6.

Table 6: Projected 2040 p.m. Peak-Hour Levels of Service and Control Delay by Intersection

Intersection	Location		LOS		Control Delay (sec)	
	Turning Movement	Traffic Control	2040 P.M. Background Only	2040 P.M. Background + Site-generated	2040 P.M. Background Only	2040 P.M. Background + Site-generated
Judge Orr Road/ Cessna Drive	NBL	Stop sign	B	C	12.9	15.6
	EBL	Free	---	A	---	8.1
	EBT	Free	A	A	0.0	0.0
	WBL	Free	A	A	7.8	7.8
	WBT	Free	A	A	0.0	0.0
	SBL	Stop sign	---	B	---	10.3
Judge Orr Road/ Site Access 2	EBL	Free	---	A	---	8.0
	EBT	Free	A	A	0.0	0.0
	WB T/R	Free	A	A	0.0	0.0
	SBL	Stop sign	---	B	---	11.1

TRIP GENERATION COMPARISON

Previously Approved Land Use

Honeywood (Minnich) RV Park is located in the 39.9-acre southeast portion of the previously approved Meadowlake Commons Zoning and Conceptual Plan (ZCP), which was approved on September 21, 2010. The southeast portion of the concept plan, which will be replaced by the RV park, showed 18.71 acres of proposed retail/office land use and 3.81 acres of proposed retail/restaurant land use.

Trip Generation Estimate and Comparison

The previously completed traffic report (prepared by Springs Engineers in 2008 when the property was zoned to PUD) contained vehicle-trip estimates for the entire Meadowlake Commons development. In order to provide an accurate trip generation comparison between the previously approved land uses and the proposed RV park, only trips generated from the 39.9-acre southeast portion of the Meadowlake Commons ZCP were considered. Springs Engineers estimated that the previous retail/office and retail/restaurant land uses would generate 6,331 vehicle-trips on an average weekday, with 142 trips during the morning peak hour and 550 trips during the afternoon peak hour.

Based on the currently proposed RV park, the site is expected to generate about 1,000 vehicle-trips on the average weekday, with about half of the vehicles entering and half of the vehicles exiting the site in a 24-hour period. This is about 5,331 fewer daily vehicle-trips than the estimate of 6,331 "new" non-pass-by trips for the land uses shown on the approved Meadowlake Commons ZCP for the southeast 39.9-acre parcel.

During the morning peak hour of adjacent street traffic, 15 vehicles would enter and 27 vehicles would enter the site. This is about 73 fewer entering vehicles and 27 fewer exiting vehicles than would be estimated based on the existing and approved land uses.

Approximately 44 vehicles would enter and 24 vehicles would exit the site during the evening peak hour of adjacent street traffic. This is about 220 fewer entering vehicles and 262 fewer exiting vehicles than would be estimated based on the existing and approved land uses. A detailed summary of this trip generation comparison is attached in Table 7.

CONCLUSIONS AND RECOMMENDATIONS

- Significantly fewer vehicle-trips would be generated by the proposed Honeywood (Minnich) RV Park than if the site were developed per the approved Zoning Conceptual Plan.
- The site is projected to generate about 1,000 new vehicle-trips on the average weekday (some of these trips would be diverted link trips), with about half entering and half exiting the site. During the morning peak hour, about 15 vehicles would enter and 27 vehicles would exit the site. During the evening peak hour, about 44 vehicles would enter and 24 vehicles would exit the site.
- The western site access/Cessna Drive intersection is projected to continue to operate at a satisfactory level of service for all movements as a stop-sign-controlled intersection based on the projected existing plus site-generated and 2040 total traffic volumes.
- Based on the buildout trip generation and traffic analysis included in this report, the Engineering Criteria Manual threshold for an eastbound left turn lane on Judge Orr Road would be met. However, although this report addresses buildout of 250 RV sites, it is our understanding that the first phase will include only 50 RV campsites. The requirement for the eastbound left turn lane would not be triggered with the first phase. Once the first phase is completed and after the RV park opens, actual traffic data could be collected. Based upon actual trip generation and turning movement data, the future need for a left turn lane at buildout could be reevaluated.
- This project will be required to participate in the El Paso County Road Improvement Fee Program. The most applicable established fee program land use category is Hotel/Motel. However, ITE peak-hour trip generation rates used in this report reflect lower peak-hour trip generation per unit when compared to ITE peak-hour rates for hotel/motel. Per fee program guidelines, an independent study would be needed to utilize a land use category/unit rate other than those shown in the "Road Impact Fee Schedule."

Please contact me if you have any questions regarding this report.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

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

JCH:JAB:bjwb

Enclosures: Table 7
Meadowlake Commons Zoning and Conceptual Plan Exhibit
Approved Honeywood (Minnich) RV Park Plan Exhibit



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**Honeywood (Minnich) RV Park
 Letter of Amendment
 LSC #164650**

August 23, 2016

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.


 Jeffrey C. Hodsdon, P.E. #31684



Date 8/23/16

Developer's Statement

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


 Rick Ripberger
 York Investments
 1007 Pearl Street, Ste. 260
 Boulder, CO 80302

Date 12/6/16

Table 7: Trip Generation Estimate and Comparison

Land Use Code	Land Use Description	Value	Units (2)(3)	Average Weekday Traffic	Trip Generation Rates ⁽¹⁾				Trips Generated				
					A.M.		P.M.		A.M.		P.M.		
					In	Out	In	Out	In	Out	In	Out	
Previously Approved Land Use (Meadowlake Commons ZCP)													
820	Shopping Center	148.27	KSF	42.7	0.60	0.36	1.78	1.93	6,331	88	54	264	286
Proposed Land Use (Honeywood (Minnich) RV Park)													
416	Campground/RV Park	250	Sites	N/A	0.06	0.11	0.18	0.10	1,000	15	27	44	24
Change in Trip Generation (Reduction)					-5,331	-73	-27	-220	-262				

Notes:

- (1) Source: *Trip Generation, 9th Edition, 2012* by the Institute of Transportation Engineers (ITE)
- (2) KSF = 1,000 square feet of floor space
- (3) Sites = occupied camping sites



Approximate Scale
Scale: 1" = 2,000'

Vicinity Map

Figure 1

Honeywood RV Park (LSC #1646550)

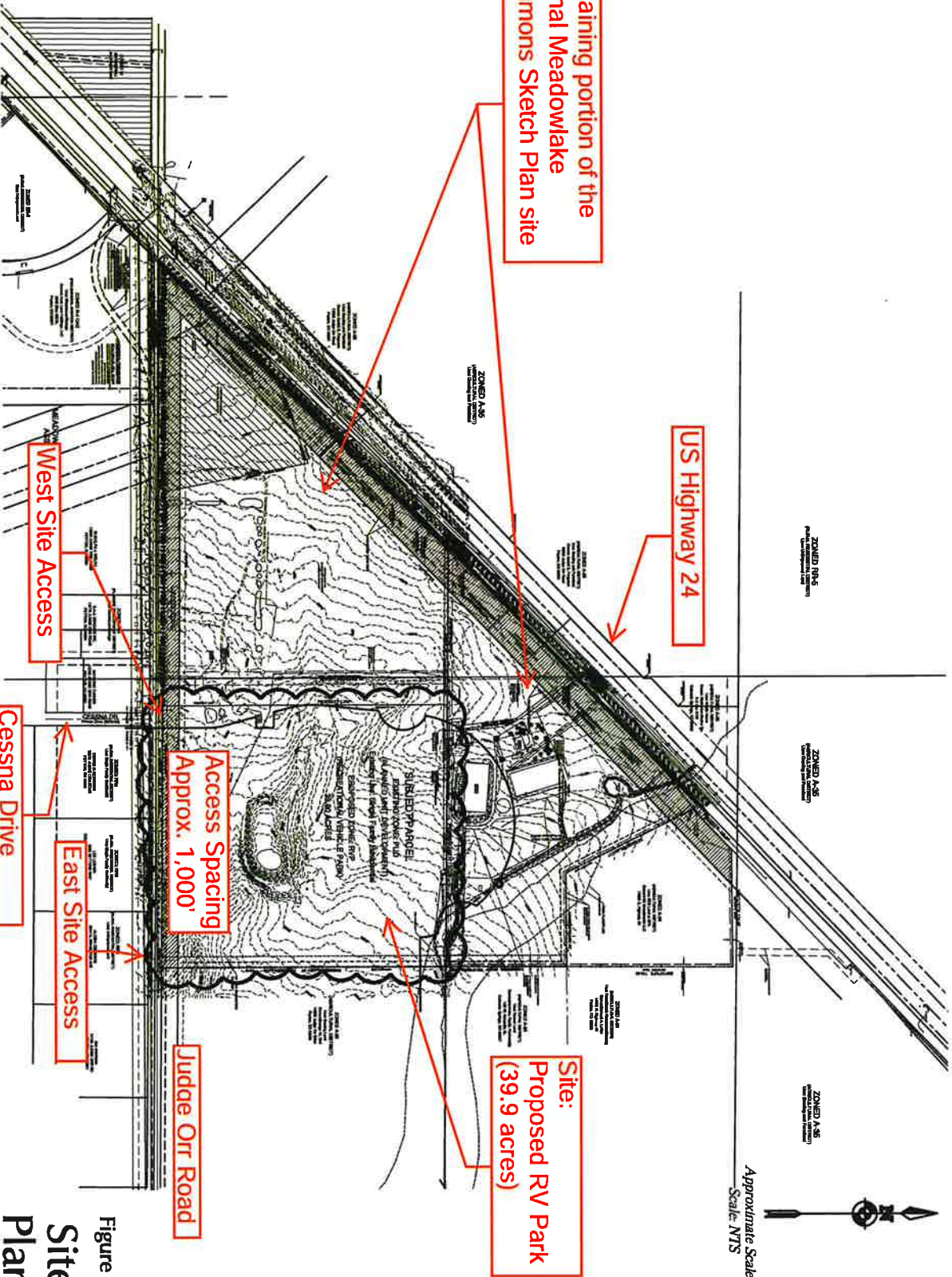
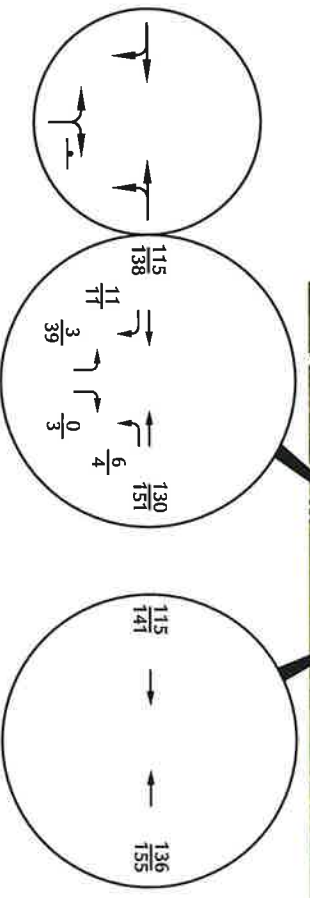
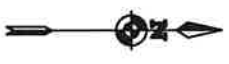


Figure 2
Site Plan
Honeywood RV Park (LSC #164650)

Approximate Scale
Scale: 1" = 2,000'



LEGEND:

- ⊥ = Stop Sign
- $\frac{26}{31}$ = AM Weekday Peak-Hour Traffic (Vehicles per hour)
PM Weekday Peak-Hour Traffic (Vehicles per hour)
- 500 = Average Weekday Traffic (Vehicles per day)



**Existing Traffic, Lane
Geometry and Traffic Control**

Honeywood RV Park (LSC #164650)

Figure 3



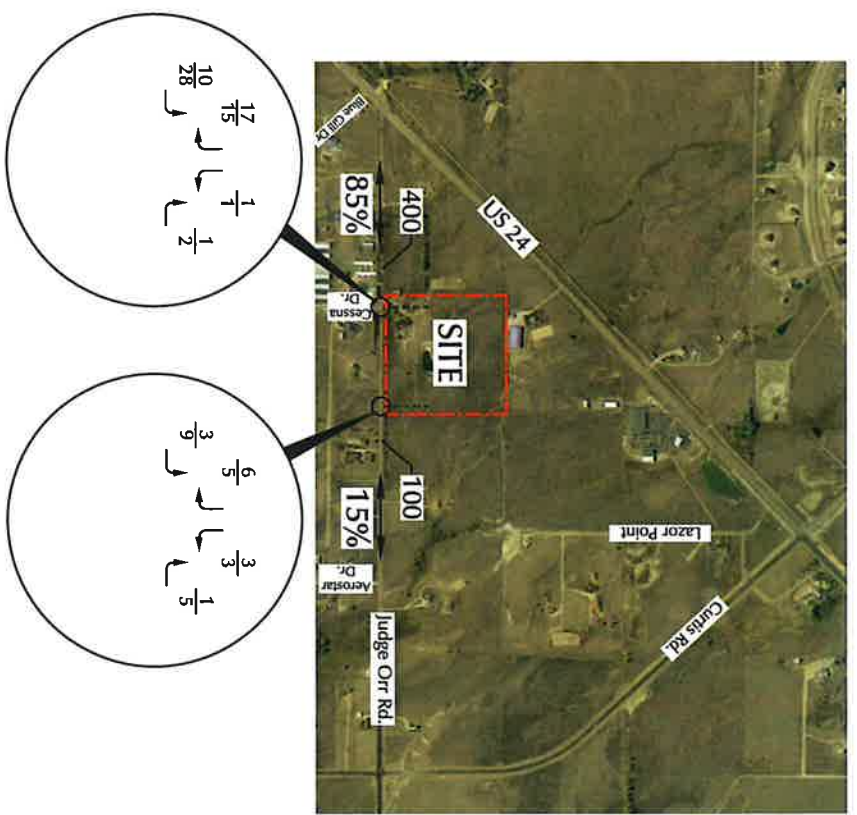
LEGEND:

26 = AM Weekday Peak-Hour Traffic (vehicles per hour)

31 = PM Weekday Peak-Hour Traffic (vehicles per hour)

500 = Average Weekday Traffic (vehicles per day)

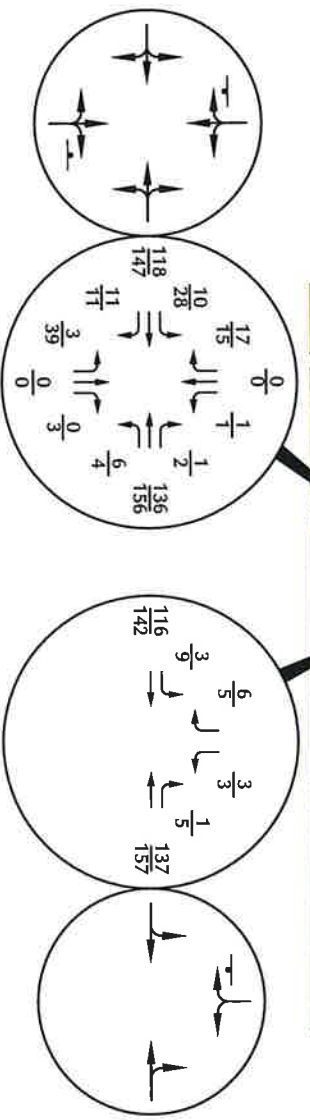
65% = Percent Directional Distribution



Approximate Scale
Scale: 1" = 2,000'

Figure 4
Directional Distribution and
Assignment of Site-Generated Traffic
Honeywood RV Park (LSC #164650)

Approximate Scale
Scale: 1" = 2000'



LEGEND:

- ⊥ = Stop Sign
- $\frac{26}{31}$ = AM Weekday Peak-Hour Traffic (Vehicles per hour)
- $\frac{31}{26}$ = PM Weekday Peak-Hour Traffic (Vehicles per hour)
- 500 = Average Weekday Traffic (Vehicles per day)



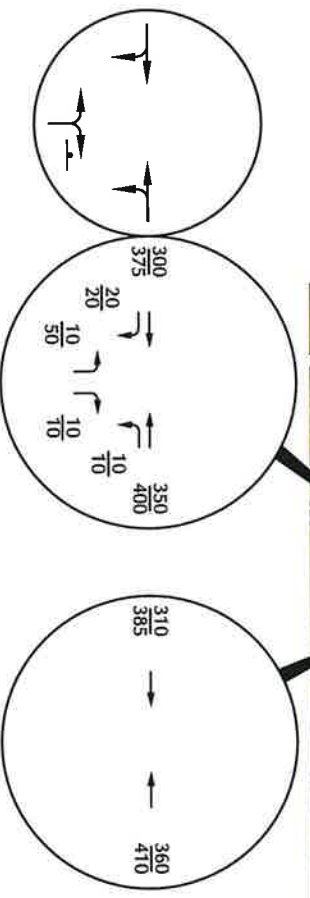
Existing plus Site-Generated Traffic,
Lane Geometry and Traffic Control

Honeywood RV Park (LSC #164650)

Figure 5



Approximate Scale
Scale: 1" = 2,000'



LEGEND:

- ⊥ = Stop Sign
- $\frac{26}{31}$ = AM Weekday Peak-Hour Traffic (Vehicles per hour)
- $\frac{31}{26}$ = PM Weekday Peak-Hour Traffic (Vehicles per hour)
- 500 = Average Weekday Traffic (Vehicles per day)

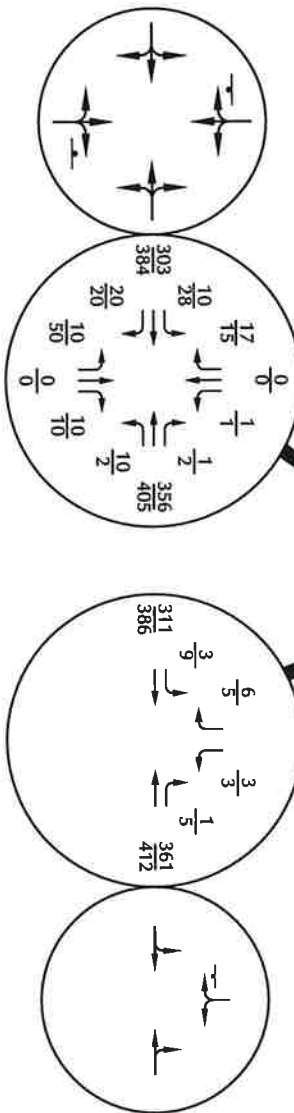


Year 2040 Background Traffic, Lane Geometry and Traffic Control

Honeywood RV Park (LSC #164650)

Figure 6

Approximate Scale
Scale: 1" = 2,000'



LEGEND:

- | = Stop Sign
- $\frac{26}{31}$ = AM Weekday Peak-Hour Traffic (vehicles per hour)
- $\frac{31}{26}$ = PM Weekday Peak-Hour Traffic (vehicles per hour)
- 500 = Average Weekday Traffic (vehicles per day)



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Year 2040 Total Traffic, Lane Geometry Traffic Control

Honeywood RV Park (LSC #164650)

Figure 7