



Sustainable Traffic Solutions

Joseph L. Henderson PE, PTOE
Traffic Engineer / Principal

May 12, 2022

Russ Orsi
Construction Manager
Dutch Bros Coffee
russ.orsi@dutchbros.com

ACCEPTED for FILE
Engineering Review
05/17/2022 2:28:12 PM
dsdnijkamp
EPC Planning & Community
Development Department

RE: Traffic Conformance Letter to Support the Development of a Dutch Bros Coffee Shop in the Falcon Marketplace Development (PCD File No. PPR-21-046)

Dear Russ,

Sustainable Traffic Solutions, Inc. has prepared this traffic conformance letter to support the development of a Dutch Bros coffee shop on Lot 11 of the Falcon Marketplace development in El Paso County. This letter includes a discussion of the site circulation, a trip generation comparison, an analysis of the drive-through queue, and calculation of the escrow amount for off-site improvements. The Dutch Bros coffee shop will be located on the north side of Woodman Road with access from a roundabout that provides right-in access from westbound Woodman Road and full movement access from the frontage road and the signalized intersection at Woodman Road / Golden Sage Road. Since the Dutch Bros will have frontage on Woodman Road, most of the traffic is expected to enter and exit the development from Woodman Road. Figure 1 contains a vicinity map showing the location of the Dutch Bros coffee shop in the Falcon Marketplace, and Figure 2 contains a site layout. Dutch Bros is proposing to construct a 950 ft² building. The site will have access from an internal roadway that connects Woodman Road and Meridian Road. Dual drive-through lanes are planned along with 12 parking spaces. There will be approximately 714' of queue storage in the drive through lanes with a capacity of 42 passenger vehicles.

Trip Generation Comparison

The trip generation assumed for Lot 11 in the traffic impact study for the Falcon Marketplace¹ was compared to the trip generation for the Dutch Bros coffee shop. The TIA assumed that Lot 11 would have 1,300 ft² coffee/donut shop with a drive through window. As noted earlier, the Dutch Bros coffee shop will be a 950 ft² building. Table 1 contains the comparison and shows that the Dutch Bros coffee shop is expected to generate approximately 557 less trips per day than the planned coffee/donut shop. During the peak hours, the Dutch Bros is expected to generate approximately 49 less trips during the morning peak hour and 18 less trips during the evening hour.

Drive Through Queue Analysis

Dutch Bros has a very innovative approach to managing the drive through lanes using the following strategy.

¹ Falcon Marketplace Traffic Impact Analysis. LCS Transportation Consultants, Inc. September 5, 2018.

- **Line Buster.** These people take orders and payment from all cars in the drive-through lane. They also close gaps in line to ensure efficient traffic flow.
- **Drink Runner.** These people run completed drink orders out to customers in line prior to the customer reaching the pick-up window.
- **Traffic Controller.** This person is responsible for directing traffic in and out of the site.
- **Escape Lane.** Customers can use one of two escape lanes to exit the site once they have their order. The escape lanes are noted in Figure 2.

Based on information provided by Dutch Bros Coffee, about 80% of the total orders will come from the drive-through lane and orders are processed in an average of 3.5 minutes. The morning peak hour traffic is expected to be the busiest hour of the day. During the morning peak hour, the inbound traffic is expected to be 42 vehicles, so the volume of traffic using the drive-through will be 34 vehicles. The site plan contained in Figure 2 shows that the drive through lane has approximately 714' of storage which will accommodate 42 vehicles. Two line busters and two drink runners were assumed in the analysis based on data collected at a Dutch Bros coffee shop in Westminster. The analysis of the average queue length was estimated using the Poisson distribution. It predicts that there will be an average of 20.8 vehicles in the drive through queue which does not exceed the capacity of 42 vehicles. This analysis is very conservative due to the presence of the escape lanes because multiple customers can receive their drinks at the same time and exit the site without passing by the drive through window.

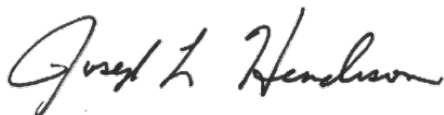
Escrow Percentage

The percentage of escrow that the developer of Lot 11 will need to pay was calculated based on the percentage of the daily trip generation for the lot and the entire development. As shown in the following table, if Lot 11 is developed with a 1,300 ft² coffee/donut shop with a drive through window, a 5.4% escrow will be required. However, if the 950 ft² Dutch Bros coffee shop is constructed on Lot 11, a 2.6% escrow will be required.

Scenario	Trip Generation		
	Total	Lot 11	Percent of Total
Original with 1,300 ft ² Coffee/Donut Shop	19,669	1,064	5.4%
Modified with 950 ft ² Dutch Bros	19,162	507	2.6%

Please contact me with questions.

Sincerely,



Joseph L. Henderson, PE, PTOE
Project Manager / Principal

Traffic Engineer's Statement

The attached 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.

Joseph L. Henderson

May 12, 2022

Joseph L. Henderson, PE, PTOE
Colorado PE Number 30154

Date



Developer's Statement

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

Russ Orsi

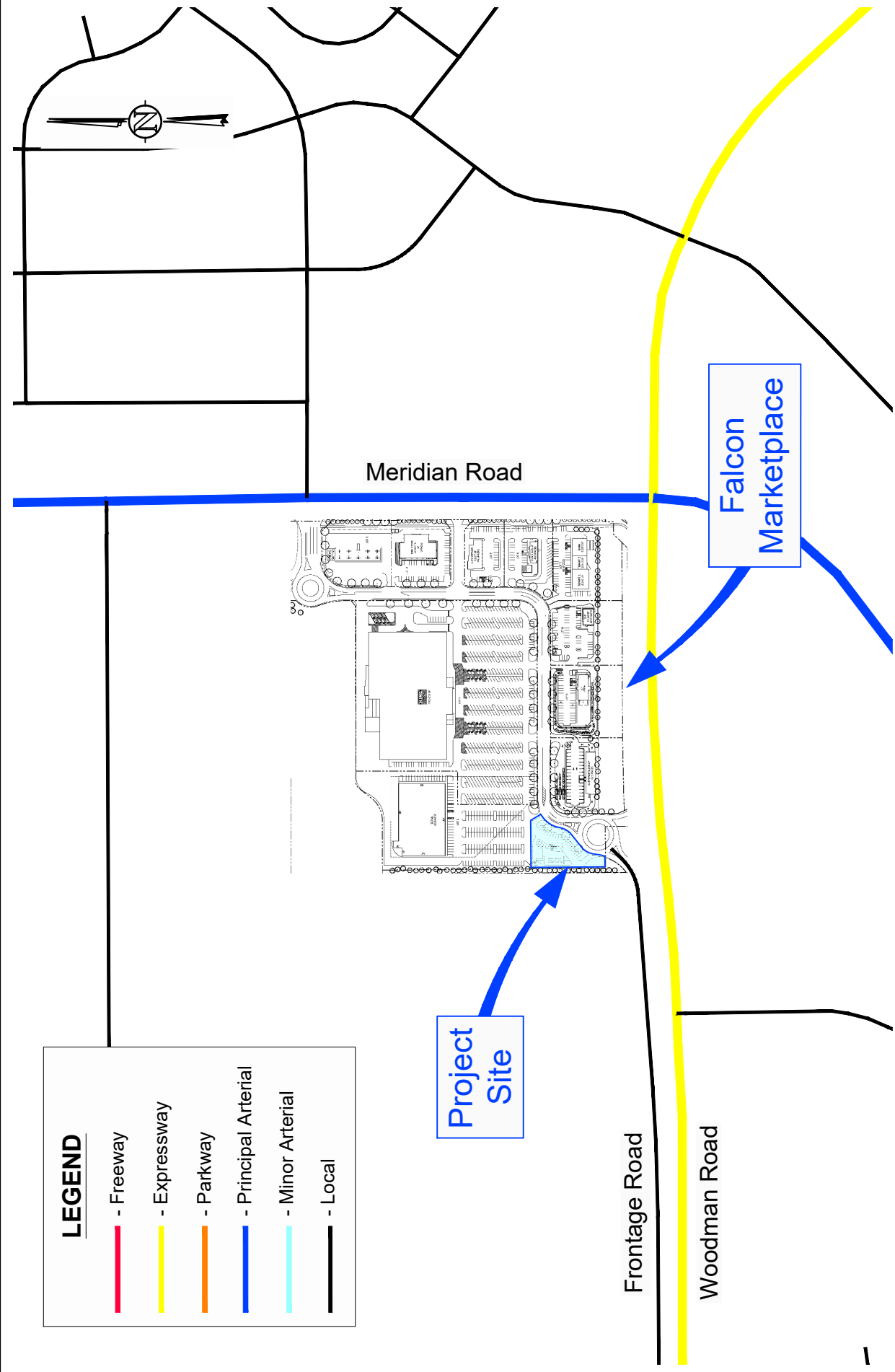
5-12-22

Russ Orsi
Construction Manager
Dutch Bros Coffee
P.O. Box 1929
Grants Pass, OR 97528

Date

LEGEND

- Freeway
- Expressway
- Parkway
- Principal Arterial
- Minor Arterial
- Local



Dutch Bros Coffee Traffic Conformance Letter
VICINITY MAP

Scale	1" = 500'	Date	May 12, 2022	Drawn by	JLH	Job #	Dutch Bros Coffee	Figure	1
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O.W. MONUMENT:
 * ALUMINUM CAP
 PLS 35585
 5' BELOW GRADE

714' of Queue Storage
 (42 Vehicles)

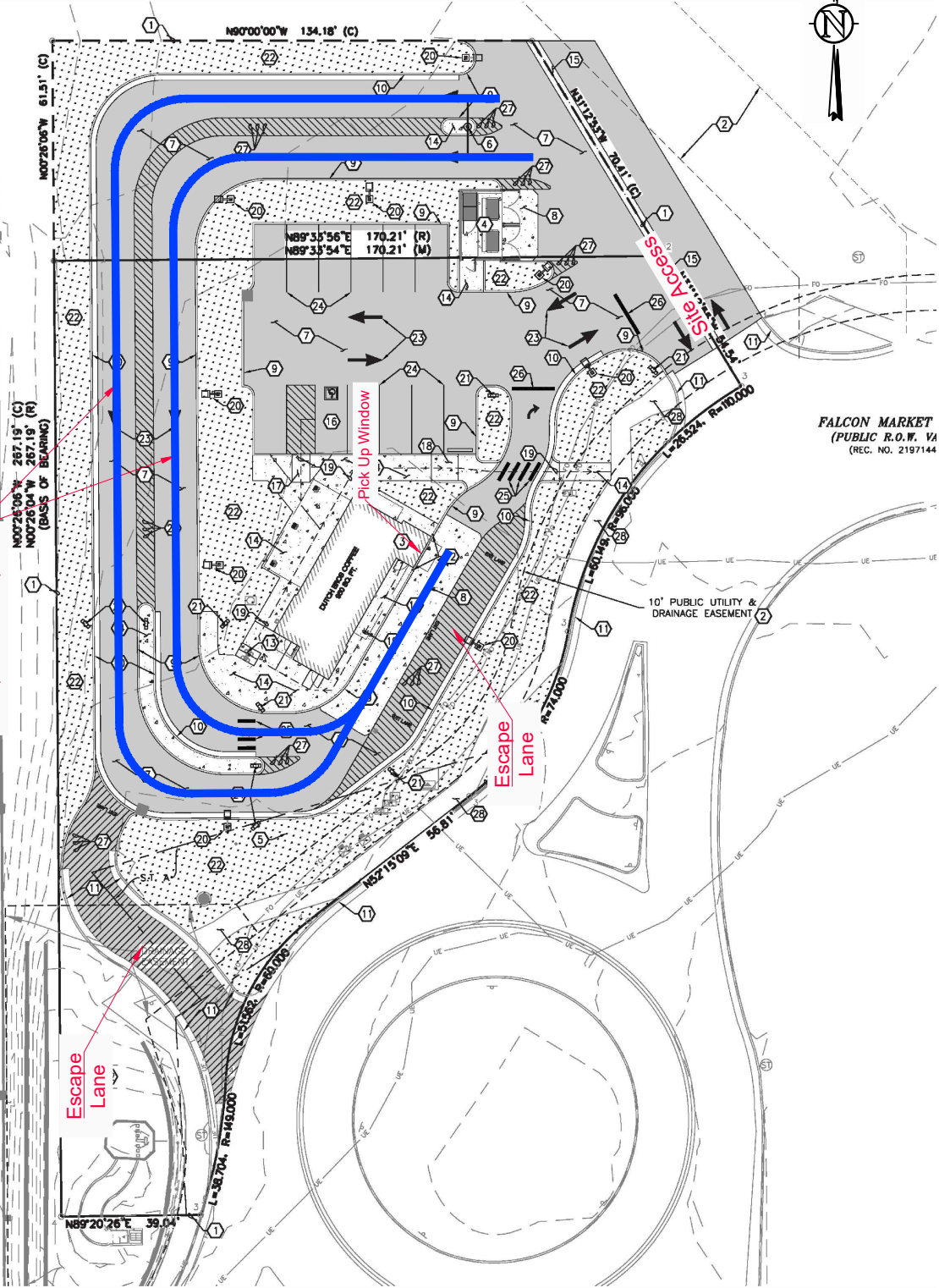
Escape Lane

Pick Up Window

Escape Lane

10' PUBLIC UTILITY &
 DRAINAGE EASEMENT

FALCON MARKET
 (PUBLIC R.O.W. VA
 (REC. NO. 2197144



Dutch Bros Coffee Traffic Conformance Letter
 SITE PLAN

Scale

NTS

Date

May 12, 2022

Drawn by

JLH

Job #

Dutch Bros Coffee

Figure

2



Table 1. Trip Generation Estimate

Land Use	ITE Code	Size	Unit	Average Daily Trips			Morning Peak Hour Trips			Evening Peak Hour Trips					
				Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total	In	Out
Original Land Use ¹ (Coffee/Donut Shop with Drive-Through Window)	937	1.300	1,000 ft ² GFA	818.58	1,064	532	532	100.58	131	67	64	42.93	56	28	28
New Land Use ² (Dutch Bros Coffee)	937	0.950	1,000 ft ² GFA	533.57	507	253	253	85.88	82	42	40	38.99	38	19	19
Difference	---	-0.350	---	---	-557	-279	-279	---	-49	-25	-24	---	-18	-9	-9

Notes:

1. The trip generation estimate is based on rates contained in Trip Generation, 9th Edition (Institute of Transportation Engineers, 2012).
2. Trip generation estimates are based on rates contained in Trip Generation, 11th Edition (Institute of Transportation Engineers, September 2021).