

October 4, 2022

Project #: 27813.0

Tony Doran
 City of Tualatin
 18880 SW Martinazzi Avenue
 Tualatin, OR 97206

RE: Alden Apartments Townhome Redevelopment – Trip Generation and Distribution/Assignment Letter

Dear Tony:

ColRich (applicant) is proposing to redevelop a portion of the Alden Apartments located in the southeast corner of the SW Martinazzi Avenue/SW Sagert Street intersection in Tualatin. The development plan proposes to remove 15 apartment units and construct 45 townhome units and associated amenities. Access to the townhomes will be provided by the existing driveways to the Alden Apartments on SW Sagert Street and SW Martinazzi Avenue. No new driveways are proposed nor modifications to off-site intersections.

This letter provides trip generation and trip distribution/assignment estimates for the proposed redevelopment in accordance with Tualatin Development Code Section 74.440. As documented herein, the proposed redevelopment is estimated to generate fewer than 500 daily trips and fewer than 60 morning and evening peak hour trips. In addition, the proposed redevelopment is expected to generate fewer than 20 large truck trips per day. Therefore, a full transportation impact analysis is not expected to be required per Tualatin Development Code Section 74.440 and the following trip generation and trip distribution estimates are expected to satisfy the requirements of the Tualatin Development Code.

TRIP GENERATION

Trip generation estimates were prepared for the proposed redevelopment based on information provided in the standard reference, *Trip Generation Manual, 11th Edition*, published by the Institute of Transportation Engineers (ITE, Reference 1). ITE land use code 220 (multi-family housing) was used as a basis for the existing apartments and ITE land use code 215 (single-family attached housing) was used as a basis for the proposed townhomes. Table 1 summarizes the vehicle trip generation estimates for the daily, weekday AM, and weekday PM peak hours.

Table 1: Vehicle Trip Generation Estimates

Land Use	ITE Code	Size (Units)	Daily Trips	Weekday AM Peak Hour			Weekday PM Peak Hour		
				Total	In	Out	Total	In	Out
Existing Use									
Apartments	220	15	101	6	1	5	8	5	3
Proposed Use									
Townhomes	215	45	324	22	7	15	26	15	11
Net New Trips (Proposed – Existing)			223	16	6	10	18	10	8

As shown in Table 1, the proposed redevelopment is expected to result in a net increase of 223 daily trips, including 16 trips (6 inbound, 10 outbound) during the AM peak hour and 18 trips (10 inbound, 8 outbound) during the PM peak hour.

Table 2 summarizes the walk + bike + transit trip generation estimates for the daily, weekday AM, and weekday PM peak hours.

Table 2: Walk + Bike + Transit Trip Generation Estimates

Land Use	ITE Code	Size (Units)	Daily Trips ¹	Weekday AM Peak Hour			Weekday PM Peak Hour		
				Total	In	Out	Total	In	Out
Existing Use									
Apartments	220	15	-	0	0	0	0	0	0
Proposed Use									
Townhomes	215	45	-	5	4	1	8	3	5
Net New Trips (Proposed – Existing)			-	5	4	1	8	3	5

1. ITE does not provide daily walk + bike + transit trip rates for ITE land use code 220 or 215.

TRIP DISTRIBUTION/ASSIGNMENT

The net new vehicle trips shown in Table 1 were distributed onto the study area roadways based on a review of major trip origins and destinations in the study area. Figure 1 shows the estimated trip distribution pattern for the proposed redevelopment. Figure 1 also shows assignment of the net new vehicle trips at the existing driveways and the SW Martinazzi Avenue/SW Sagert Street intersection during the weekday AM and PM peak hours.

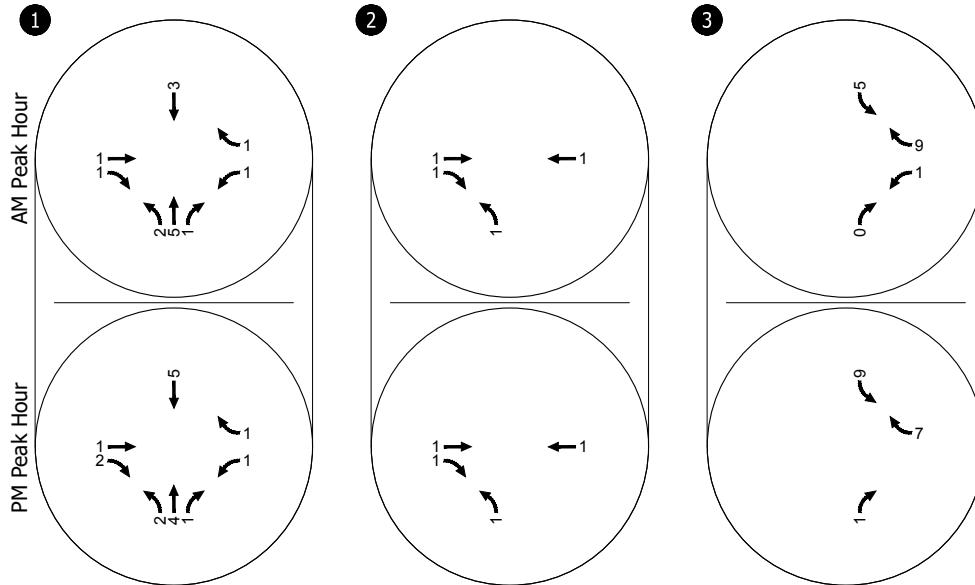
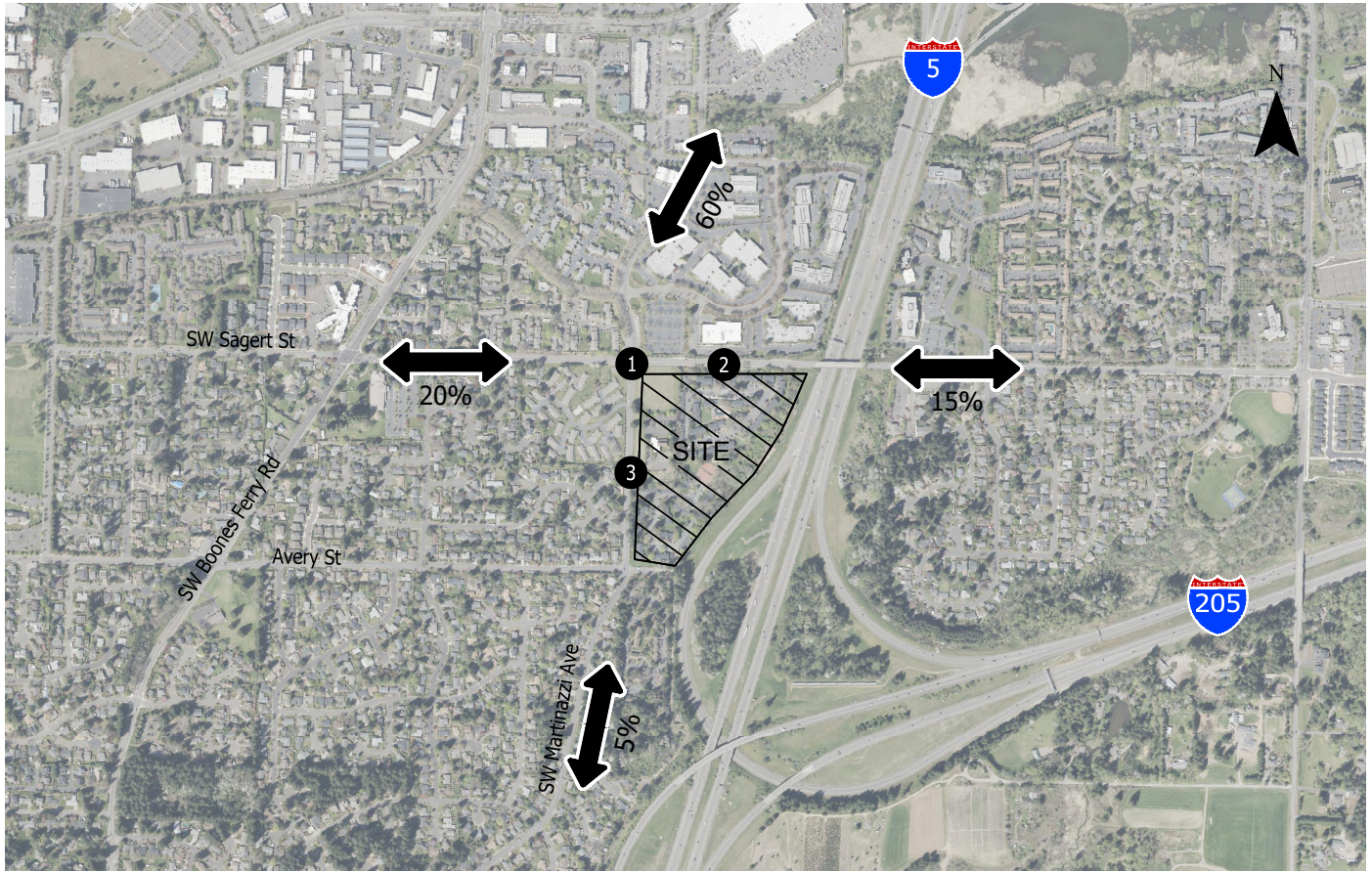
SIGHT DISTANCE EVALUATION

A sight distance evaluation was conducted at the existing site-access driveways on SW Martinazzi Avenue and SW Sagert Street based on guidance provided in *A Policy on Geometric Design of Highways and Streets* (AASHTO, Reference 2). Per AASHTO, minimum intersection sight distance (ISD) recommendations are determined by several factors, including the design speed of the respective roadways. The posted speed limit on SW Martinazzi Avenue is 25 miles per hour (mph) and the posted speed limit on SW Sagert Street is 35 mph. Table 3 summarizes the minimum ISD recommendations for the site-access driveways based on the posted speed limit.

Table 3: Sight Distance Evaluation Summary

Intersection	Posted Speed Limit	AASHTO Minimum ISD Recommendations		Field Measurements	Met?
		Case B1, Left Turn from the Minor Road	Case B2, Right Turn from Stop		
SW Martinazzi Avenue/ Site-Access Driveway	25 MPH	280 Feet	240 Feet	450 feet (north) 280 feet (south)	Yes
SW Sagert Street/ Site-Access Driveway	35 MPH	390 Feet	335 Feet	390 Feet (east) 390 Feet (west)	Yes

ISD was measured at the site-access driveways in July 2022. Per AASHTO, ISD was measured 14.5 feet from the edge of the nearest travel lane, from a driver's eye height of 3.5 feet, to an object height of 3.5 feet above the roadway surface. As shown in Table 3, field measurements indicate that the minimum ISD requirements are met at both site-access driveways. The following photographs illustrate ISD at the existing site-access driveways.



Estimated Trip Distribution Pattern & Net New Site-Generated Trips
 Weekday AM and PM Peak Hours
 Tualatin, Oregon

Figure
 1



SW Martinazzi Avenue (Facing North)



SW Martinazzi Avenue (Facing South)



SW Sagert Street (Facing West)



SW Sagert Street (Facing East)

NEXT STEPS

We trust this letter provides you with sufficient information on the trip generation and distribution/assignment estimates associated with the proposed redevelopment and sight distance at the existing site-access driveways. Based on the findings herein, Tualatin Development Code Section 74.440 appears to be met. Please confirm that this letter satisfies applicable code criteria and that a full transportation impact analysis is not required.

Sincerely,
KITTELSON & ASSOCIATES, INC.

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REFERENCES

1. Institute of Transportation Engineers. *Trip Generation Manual, 11th Edition*, 2021.
2. American Association of State Highway and Transportation Officials. *A Policy on Geometric Design of Highways and Streets, 7th Edition*. 2018