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DREXEL BARRELL & Co.
Engineers - Surveyors

MEMORANDUM

TO: **El Paso County Planning & Community Development**
2880 International Circle, Suite 110
Colorado Springs, CO 80910

FROM: Kurt Crawford, P.E.

DATE: July 22, 2024

RE: Traffic Memorandum for Rolling Thunder WD Building – Special Use
Peyton, Colorado

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.

Kurt Crawford 7/22/2024

[Kurt Crawford, Colorado P.E. #56985] Date

COLORADO LICENSED KURT RAYMOND CRAWFORD 56985 PROFESSIONAL ENGINEER

Developer's Statement

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

_____ _____

Bill Tibbitt Date

WT Holdings, LLC

30 E Uintah Street

Colorado Springs, CO 80903

This memorandum serves to summarize the land use, probable trip generation, and vehicular access to the proposed core and shell building. The site is located at 10707 Maltese Point, Peyton, CO 80831. The existing site is currently vacant, and a new 8,950 SF commercial core and shell building is proposed. The proposed site occupies lot 12 of the Rolling Thunder Business Park as shown on the associated site plan.

This infill type site is zoned as PUD and is generally surrounded by commercial uses. The proposed building will be split into two phases. Phase 1 will consist of an optometry clinic (3,600 SF) and a small office space (2,950 SF) for a total footprint of 6,550 SF. The future addition, which will be part of phase 2, will add another 2,400 SF of small office space or another approved land use for this business park. For this traffic study, the total area of the building (including future addition) is 8,950 SF as shown in **Table 1**. The proposed site will contain 47 parking spaces including 2 handicap accessible spaces.

The proposed western access point on Firehouse View is approximately 116' south of the intersection with Maltese Point. Firehouse View meets Rolling Thunder Way to the south at a stop-controlled T-intersection. See **Figure 1** for the roadway network exhibit.

Previous Traffic Reports
The traffic study for Black Forest Beverage Company (PCD File No. PUD203) from October 13, 2020 by LSC is referenced in this report for recent traffic counts at the nearby intersections.

Land Use & Trip Generation

Table 1 below shows the trip generation values for the proposed land use. The table shows the number of expected trips using the latest ITE trip rates. This manual is currently in its 11th edition and is an industry accepted informational report published by the Institute of Transportation Engineers. The ITE codes/land uses for the proposed site are shown in the table below. For a more conservative approach, ITE code #920 - Copy, Print, and Express Ship Store was used for the future space. This land use generates higher volumes than the other approved land uses for this development including small office building, manufacturing, warehousing, utility, nursery (garden center), and automobile parts sales. Using the ITE rates, the development is anticipated to generate about 23 trips (17 in/6 out) in the morning peak hour and 38 trips (17 in/21 out) in the evening peak hour. Phase 1 is anticipated to generate about 172 daily trips. There is no data available for daily trip rates for ITE code #920 - Copy, Print, and Express Ship Store. The highest volume of daily trips that would be generated by the allowable land uses as discussed previously would be 149 daily trips for automobile parts sales. This would bring the total to 321 generated daily trips.

Table 1 - Trip Generation Estimate for WD Rolling Thunder, Peyton, CO

ITE Code / Land Use	Size[2]	Trip Generation Rates[1]			Trips Generated										
					Average Weekday	AM Peak-Hour (7 - 9)					PM Peak-Hour (4 - 6)				
						Inbound		Outbound		Total	Inbound		Outbound		Total
		Avg. Weekday	AM PEAK	PM PEAK	Trips	% Trips	Trips	% Trips	Trips		% Trips	Trips	% Trips	Trips	
#712 - Small Office Building	2.95 KSF	14.39	1.67	2.16	42	82%	4	18%	1	5	34%	2	66%	4	6
#720 - Medical-Dental Office - Stand-Alone	3.60 KSF	36.00	3.10	3.93	130	79%	9	21%	2	11	30%	4	70%	10	14
Phase 1 Total Trips					172		13		3	16		6		14	20
#920 - Copy, Print, and Express Ship Store	2.40 KSF	NA	2.78	7.42	149[3]	55%	4	45%	3	7	61%	11	39%	7	18
Phase 2 (Future) Total Trips							4		3	7		11		7	18
Phase 1 & Phase 2 Total Trips					**321**		17		6	**23**		17		21	**38**

[1] Source: "Trip Generation" Institute of Transportation Engineers, 11th Edition, 2021.
[2] Medical-Dental Office: 3,600 SF
Small Office Building: 2,950 SF
Future Copy, Print, and Express Ship Store: 2,400 SF
[3] Daily Trips for Automobile Parts Sales. No data available for Copy, Print, and Express Ship Store
KSF = 1000 Gross Floor Area

Existing Roads & Distribution
The area roadways are shown on the attached site plan, shown on **Figure 1**, and described below.

- **Firehouse View** and **Maltese Point** are private local (low-volume) roads which provide access to the commercial buildings in the Rolling Thunder Business Park. Firehouse View is a two-lane road that connects Rolling Thunder Way to Maltese Point with a posted speed limit of 25 mph. Maltese Point runs east/west with cul-de-sacs at both ends and provides access to most of the lots in the business park. Both of these roads are paved with curb and gutter. There are no sidewalks present along these roads.

- **Rolling Thunder Way** is a two-lane, Urban Non-Residential Collector with a center two-way left turn lane (TWLTL) and has a posted speed limit of 35 mph. This roadway is paved with curb and gutter on both sides and a sidewalk on the north side. The intersection of Rolling Thunder Way and Firehouse View is a stop-controlled T-intersection with a TWLTL for vehicles turning into the business park. Rolling Thunder Way generally runs east/west from Golden Sage Road to Meridian Road and is classified as a collector. It provides a link for this business park and the residential neighborhoods to the east with the nearby major roadways; E Woodmen Rd, Meridian Road, US Highway 24.

- **East Woodmen Road** is a four-lane roadway with a posted speed limit of 55 mph that is classified as an expressway. The signalized intersection of Golden Sage Road and E Woodmen Road is the nearest major intersection for this business park and will handle most of the site generated traffic. This intersection is fully constructed with auxiliary turn lanes, including acceleration and deceleration lanes to/from the expressway.

- **Meridian Road** and **US Highway 24** are both classified as principal arterials. They intersect with E Woodmen Rd to the east of the site and provide routes to/from the north/east/south.

Traffic Volumes
Traffic counts are referenced from the previous traffic study by LSC which were conducted in July 2020. Figure 5 (See Appendix) shows the total traffic (existing traffic + site generated traffic) from the previous traffic study by LSC. An annual growth rate of 2% was applied to the through movements on Rolling Thunder Way for the existing traffic counts as shown in **Figure 2**.

Trip Distribution
The anticipated distribution of site traffic is 75% to/from the west and 25% to/from the east. It is assumed that the inbound traffic from the north, east and west will typically access the site via the signalized intersection of E Woodmen Rd & Golden Sage Rd. These vehicles would then access Firehouse View by making left turns from Rolling Thunder Way. The inbound traffic from the south will typically come from US Hwy 24 and access the proposed site via Meridian Road and Rolling Thunder Way. The outbound traffic is assumed to utilize the same routes as previously discussed in the reverse direction. The estimated site generated traffic and distribution is shown in **Figure 3**.

Level of Service Analysis
The study intersection of Firehouse View and Rolling Thunder Way have been analyzed to determine the projected control delay and corresponding levels of service for turning movements. The total traffic (existing traffic + site generated traffic) is shown in **Figure 4**. Synchro V11 Traffic Software (synchro) was used to model the total estimated traffic using procedures in the latest edition of the Highway Capacity Manual. Synchro reports are included in the **Appendix**. All turning movements at the unsignalized intersection are projected to operate at LOS A during both peak hours. The total ADT on Rolling Thunder Way is estimated to be 2,671 which falls well below the design ADT of 20,000 for Urban Non-Residential Collectors.

Auxiliary Turn Lanes
No additional auxiliary lanes are necessary with this proposed development.

Access Evaluation
The proposed access for this site is appropriately located on Firehouse View between Rolling Thunder Way and Maltese Point. The spacing from the edge of Rolling Thunder Way is over 100 feet and it is approximately 116' from the centerline of Maltese Point. Regarding sight distance, the surrounding area and roadways are straight, level and free of sight distance obstructions. The proposed development does not impact the sight distance at the stop-controlled intersection of Firehouse View and Rolling Thunder Way. There are no suggested striping improvements at this time as the intersection operates at LOS A in both the AM and PM peak hours. Firehouse view is approximately 45 feet wide and could accommodate striping for designated left and right turns onto Rolling Thunder Way but would have a negative impact side street parking on this segment.

MTCP Roadway Improvements
The 2016 El Paso County Major Transportation Corridor Plan (MTCP) does not show any planned improvements in the study area.

County Road Improvement Fee Program

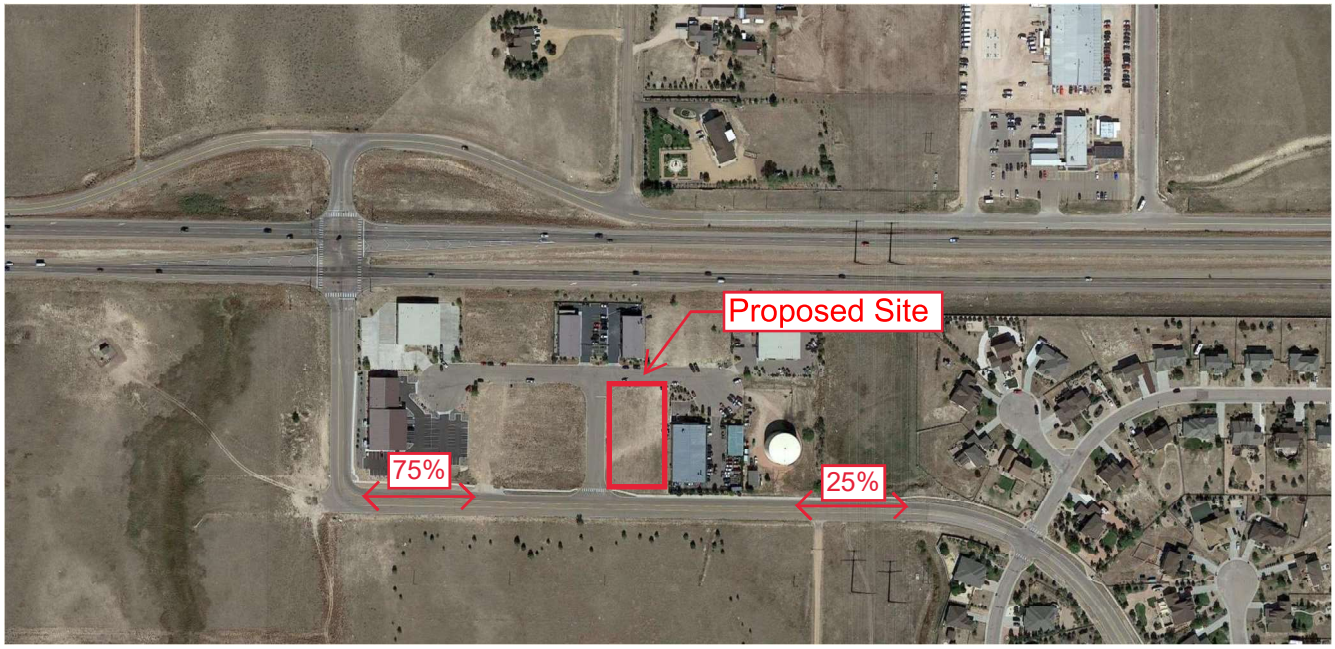
Transportation Impact Fees
No Transportation Impact Fees are required as the development is part of the Woodmen Road district.

Reimbursable MTCP Improvements
There are no apparent reimbursable improvements programmed in the MTCP in the general vicinity of this site.

Conclusion
The proposed infill site fits well into this commercial area and vehicular traffic is adequately accommodated by the surrounding roadway network. The development is expected to generate approximately 321 vehicle trips on the average weekday with approximately 23 trips occurring during the morning peak hour and 38 trips during the evening peak hour when the site is complete. No additional auxiliary lanes are required for the proposed development. If you have any questions or would like to discuss my analysis further, please don't hesitate to contact me.

APPENDIX

Figures 1-4
Figure 5 (From previous LSC Traffic Study)
Site Plan
Synchro Reports



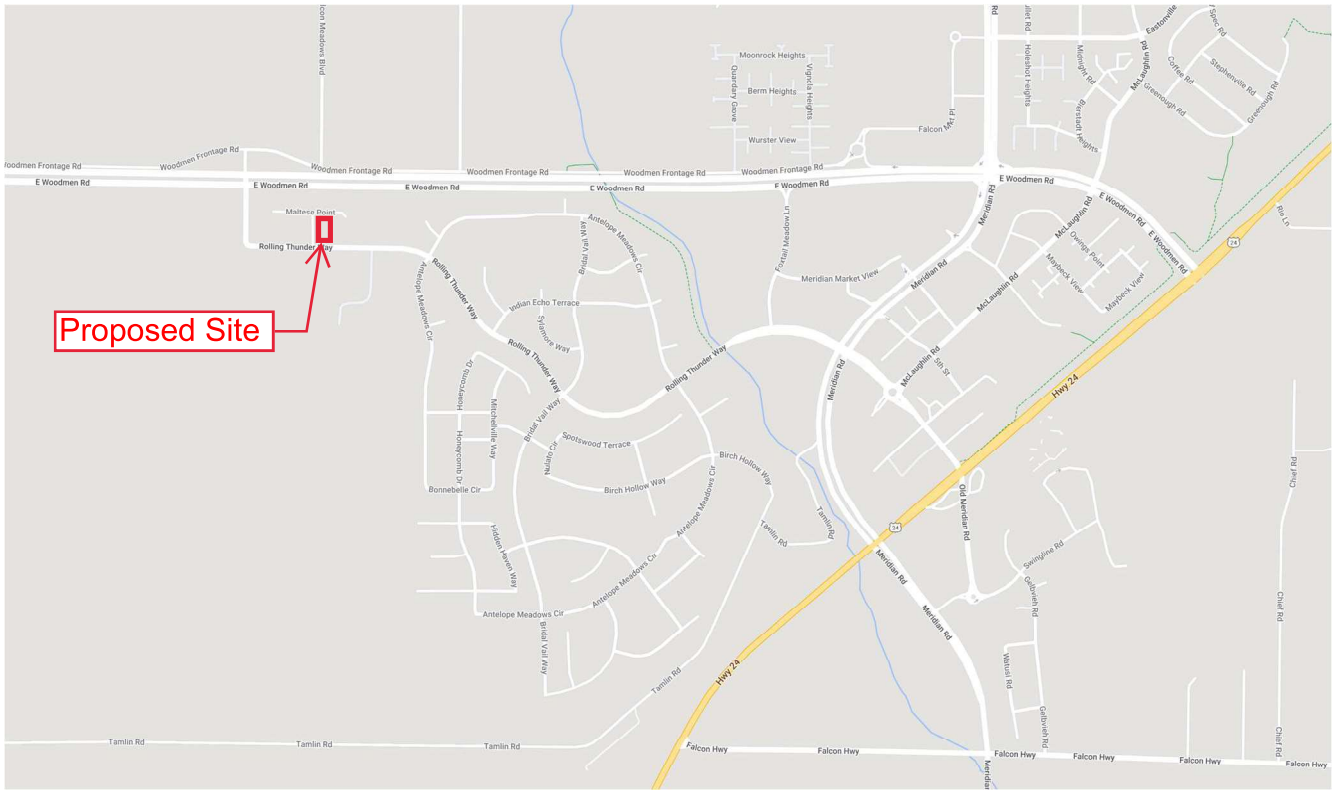
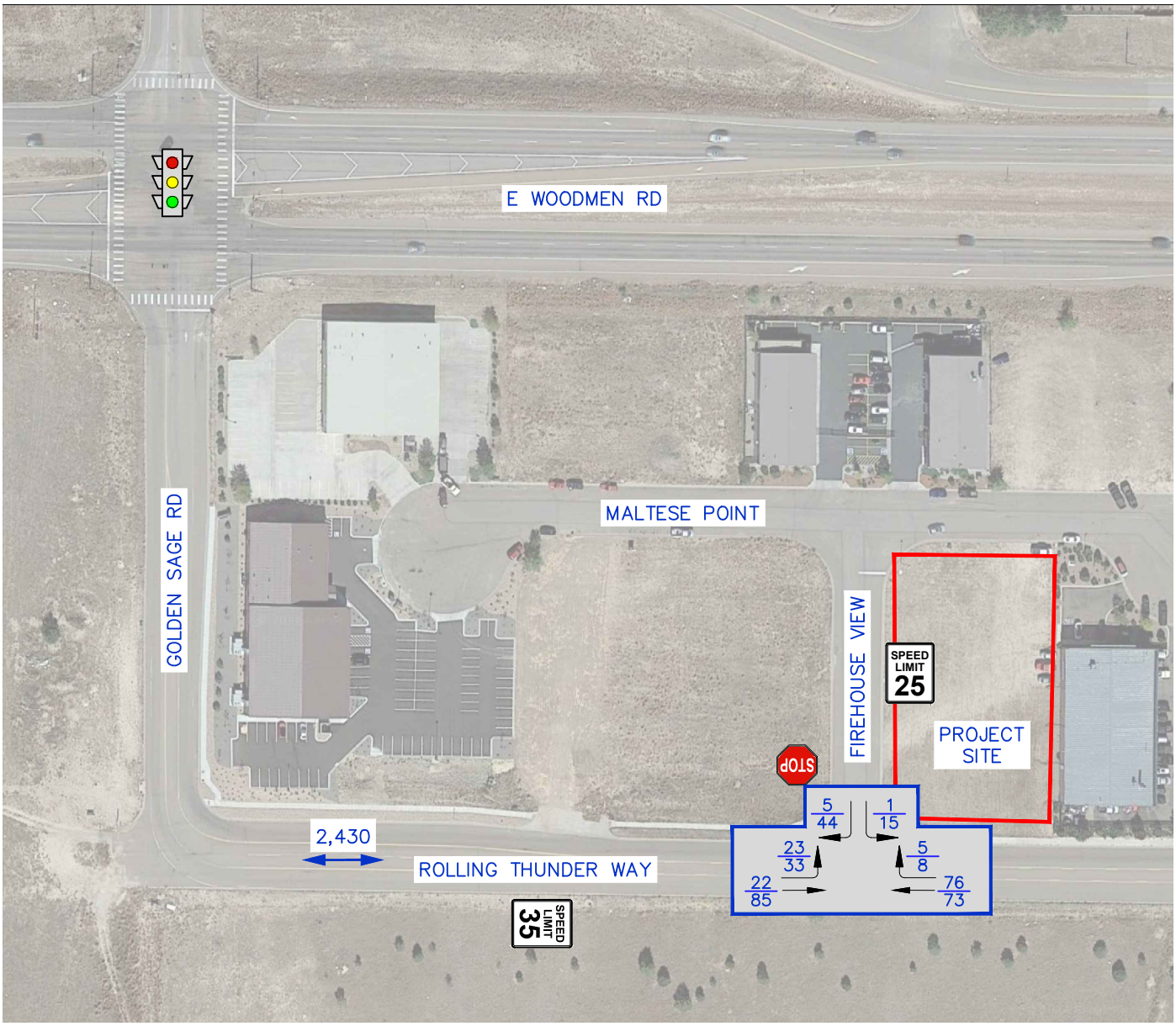


Figure 1 - Roadway Network



EXISTING TRAFFIC

NOTE:
EXISTING TRAFFIC COUNTS ARE FROM FIGURE 5 OF LSC TRAFFIC STUDY (SHORT-TERM TOTAL TRAFFIC COUNTS). A 2% ANNUAL GROWTH RATE WAS THEN APPLIED TO THE ADT AND THROUGH MOVEMENTS ON ROLLING THUNDER WAY.

N.T.S.

LEGEND:
← = LANE MOVEMENT
X,XXX ↔ = 24 HOUR TRAFFIC VOLUME

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ROLLING THUNDER WD BUILDING
10707 MALTESE POINT
PEYTON, COLORADO

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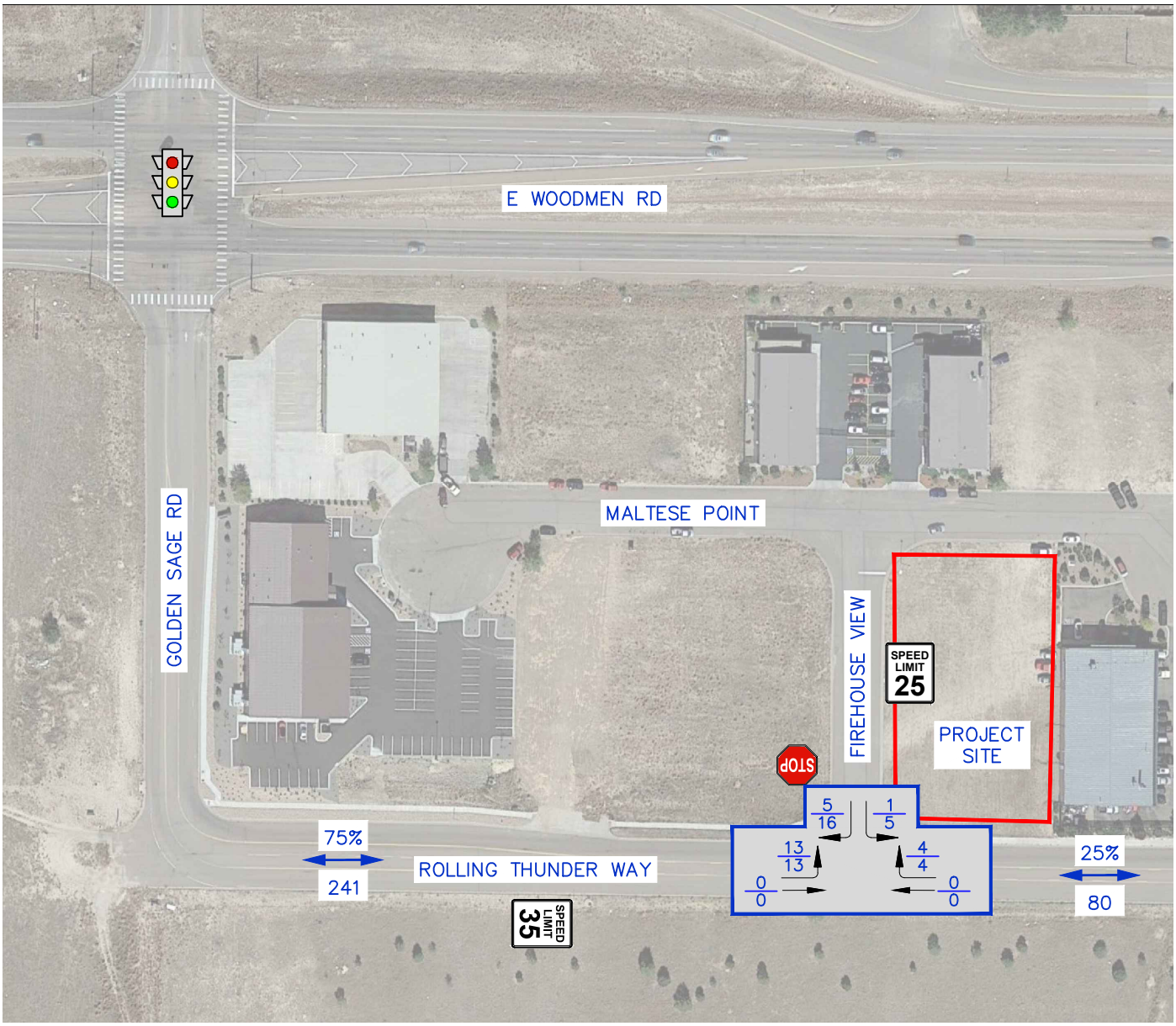
Engineers • Surveyors

DATE: 7/19/2024
JOB NO: 21923-00
DWG. NO. FIGURE 2



SITE GENERATED TRAFFIC & DISTRIBUTION

	IN	OUT
AM	17	6
PM	17	21

N.T.S.

LEGEND:

= LANE MOVEMENT

XX% / XX = DISTRIBUTION / 24 HOUR TRAFFIC VOLUME

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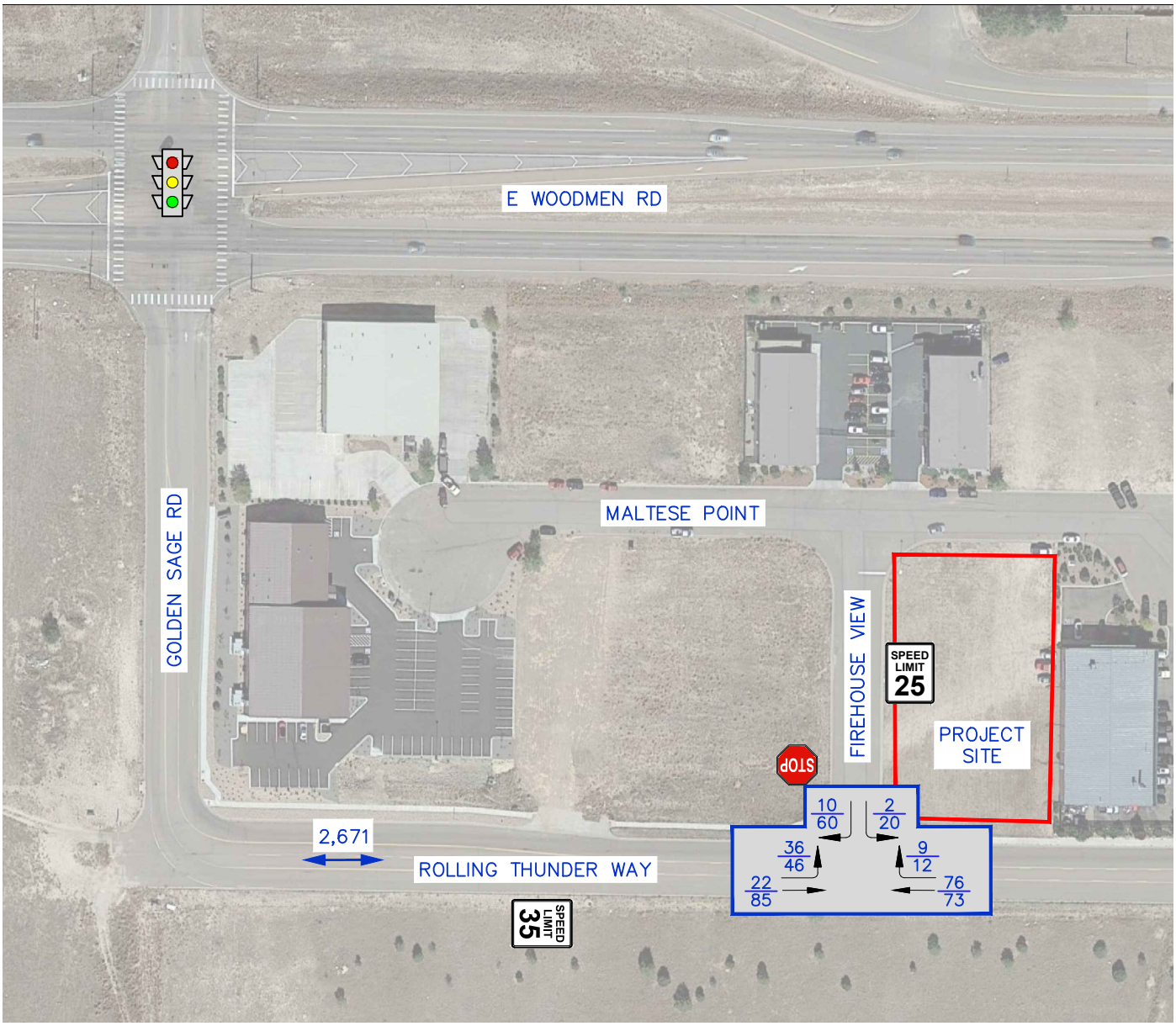
JOB NO: 21923-00
DWG. NO. FIGURE 3



TOTAL TRAFFIC

N.T.S.

LEGEND:

= LANE MOVEMENT

X,XXX = 24 HOUR TRAFFIC VOLUME

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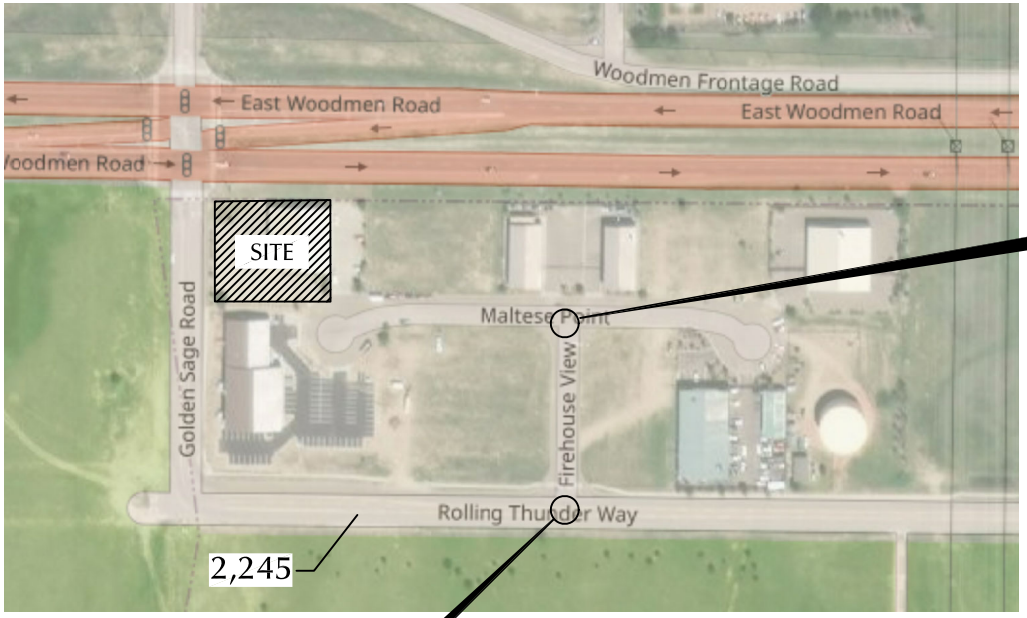
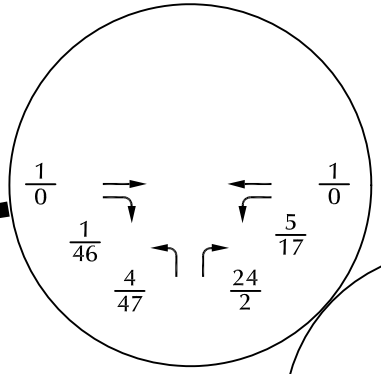
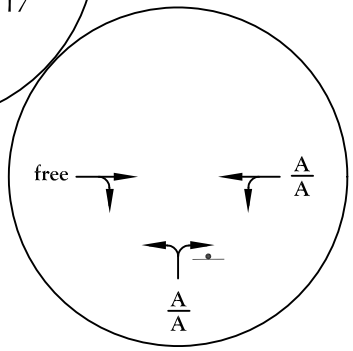
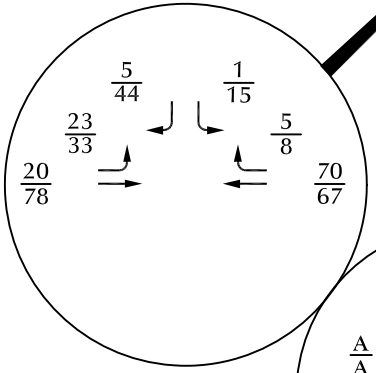
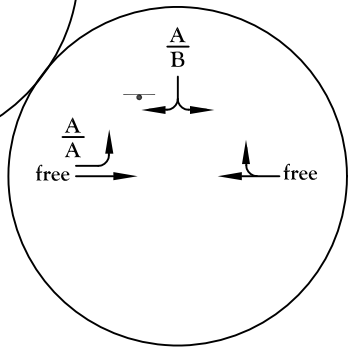
DWG. NO. FIGURE 4











Not to scale

LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Peak-Hour Traffic (veh/hr)}}{\text{PM Peak-Hour Traffic (veh/hr)}}$

XXX = Average Weekday Daily Traffic (vehicles per day)

$\frac{A}{B}$ = $\frac{\text{AM Individual Movement Peak-Hour Level of Service}}{\text{PM Individual Movement Peak-Hour Level of Service}}$

= Stop Sign

Figure 5

Short-Term Total Traffic Conditions

Black Forest Beverage (LSC# 204170)

TRANSPORTATION CONSULTANTS, INC.

MALTESE POINT
(PRIVATE)

S89° 10' 31"E 180.00'

21'-1 3/4" +/-

44'-6"

10' UTILITY EASEMENT &
LANDSCAPE SETBACK

23'-4 1/4" +/-

12'-0"

8'-0"

20' BUILDING
SETBACK

10'-0"

60'-0"

1'-0"

116'-7 1/2"

40'-0"

PHASE 2 / FUTURE
ADDITION

EXISTING
ADJACENT
CURB

N00° 49' 29"E 282.53'

28'-0"

PHASE 1: PROPOSED
6,550 S.F. BUILDING

110'-0"

110'-0"

5'-0"

LOT 11
OLLING THUNDER
BUSINESS PARK

FIRE HOUSE VIEW
(PRIVATE)

LOT 13
ROLLING THUNDER
BUSINESS PARK

N00° 49' 32"E 282.54'

EXISTING
ADJACENT
BUILDING

35'-6"

18'-0"

26'-6"

18'-0"

9'-0"

60'-0"

1'-0"

107'-0"

VARIES

10'-0 3/8"

18'-0" TYP.

14'-0"

15'-0"

9'-0"
TYP.

49' INGRESS/EGRESS
& UTILITY EASEMENT

PARCEL NO.
5311101012

26'-0"

88'-0 3/8"

8'-0"

15'-0"

18'-0" TYP.

50' SIGHT
TRIANGLE

POND A

18'-0"

N89° 10' 28"W 180.00'

ROLLING THUNDER WAY

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	23	22	76	5	1	5
Future Vol, veh/h	23	22	76	5	1	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	24	83	5	1	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	88	0	-	0	160	86
Stage 1	-	-	-	-	86	-
Stage 2	-	-	-	-	74	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1508	-	-	-	831	973
Stage 1	-	-	-	-	937	-
Stage 2	-	-	-	-	949	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1508	-	-	-	817	973
Mov Cap-2 Maneuver	-	-	-	-	799	-
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	949	-

Approach	EB	WB	SB
HCM Control Delay, s	3.8	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1508	-	-	-	939
HCM Lane V/C Ratio	0.017	-	-	-	0.007
HCM Control Delay (s)	7.4	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	33	85	73	8	15	44
Future Vol, veh/h	33	85	73	8	15	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	92	79	9	16	48

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	88	0	-	0	248	84
Stage 1	-	-	-	-	84	-
Stage 2	-	-	-	-	164	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1508	-	-	-	740	975
Stage 1	-	-	-	-	939	-
Stage 2	-	-	-	-	865	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1508	-	-	-	722	975
Mov Cap-2 Maneuver	-	-	-	-	734	-
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	865	-

Approach	EB	WB	SB
HCM Control Delay, s	2.1	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1508	-	-	-	900
HCM Lane V/C Ratio	0.024	-	-	-	0.071
HCM Control Delay (s)	7.4	-	-	-	9.3
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2