

Tamlin Storage, LLC 57 Newport Circle, Unit B Colorado Springs, CO 80906

Re: Traffic Compliance Letter for Tamlin Road RV Storage, a Supplement to *Tamlin Road Storage Traffic Impact Study* in Colorado Springs, CO dated July 15, 2020

To Whom It May Concern:

This Traffic Compliance Letter has been prepared to provide a supplement to the approved *Tamlin Road Storage Traffic Impact Study* (TIS) dated July 15, 2020 and prepared by LSC Transportation Consultants. The scope of this letter will be limited to the recent site plan for the RV storage project along Tamlin Road, and the effects on site-generated traffic.

As seen in the TIS pages 2 and 3 (attached), two potential build-out scenarios were considered: moderate-intensity and high-intensity. The moderate-intensity scenario included office, industrial, and retail land uses. The high-intensity scenario included only retail land use. The TIS analyzed both of these scenarios in the future year 2038.

The recent site plan for the RV storage project presents a scenario in which storage remains the only land use on the site through 2038. The site plan adds 46 RV storage spaces to the existing storage facility. A trip generation table is attached. The storage land use generates fewer trips than the land uses considered in the moderate-intensity and high-intensity scenarios in the TIS. Therefore, site-generated traffic volumes are anticipated to be lower than what was considered in the TIS.

The TIS proposed a second site access along Tamlin Road. However, the recent site plan does not include this. Therefore, all trips to and from the site are expected to use the existing site access.

To confirm satisfactory traffic operations, JR analyzed the site access intersection in the opening day scenario, assumed to be year 2026, based on the recent site plan. Traffic volumes and operations are shown in the attached Synchro reports. All movements are expected to operate at LOS A in both the AM and PM peak hours. Queue lengths are nominal.

Because site-generated traffic volumes are expected to decrease, and Synchro analysis shows satisfactory traffic operations, the approved traffic impact study and roadway improvements are not adversely impacted by the recent site plan.

If you have any questions or comments, please feel free to contact me at efarney@jrengineering.com or 303-267-6183.

Sincerely,

JR Engineering, LLC

Eli Farney, PE, PTOE

Principal/Client Manager (Public Works)

Attachments: Excerpt from Tamlin Road Storage TIS

RV Storage Site Plan

RV Storage Trip Generation Table HCM 7<sup>th</sup> Edition Synchro Reports

- Resulting traffic impacts of the proposed development expressed in terms of average daily traffic volumes and intersection levels of service
- Analysis of potential future intersection configurations at Marksheffel/Tamlin given that a future traffic signal is unlikely to be allowed at this intersection
- Recommendations for the roadway classification of Tamlin Road and auxiliary left-/right-turn lanes at the site access points and the Marksheffel/Tamlin intersection
- Summary of findings and recommendations

#### LAND USE AND ACCESS

The 16-acre site is located south of Tamlin Road and east of Marksheffel Road in El Paso County. The entire site is zoned for commercial use. Figure 1 shows the site location and the adjacent roadways.

# **Currently Proposed Land Use**

Assumes RV storage would be the only land use for the short term. This report also includes a long-term scenario assuming the RV Storage remains on the site through 2038. The site plan is shown in Figure 2.

## **Future Land Use Scenarios**

LSC analyzed two additional future land use scenarios with the rezone application (approved). These scenarios have been taken from the March 5, 2019 TIS report and assume the RV Storage use removed in the future and development of new uses. These scenarios include a "moderate-intensity" (in terms of vehicle-trip generation associated with land use) buildout scenario and a "high-intensity" future land use scenario.

**Moderate-Intensity Buildout Scenario:** Assumes 115,600-square-foot mini-warehouse development on Lot 2 and a mixed-use, non-residential development on Lot 1. A general site plan is shown in Figure 3. This LSC-developed scenario assumes the following land use mix for Lot 1. This scenario assumes that the parcel would be separated into two separate lots (Lot 1-7.5 acres, Lot 2-8.5 acres):

- 21,500 square feet of general office
- 21,500 square feet of general light industrial
- 16,000 square feet of "shopping center" (retail center) land uses

This scenario **may** be more likely than the high-intensity scenario presented below given the location of the site.

**High-Intensity Future Land Use Scenario:** The high-intensity future land use scenario assumed that Lots 1 and 2 would collectively consist of 113,000 total square feet of shopping center/retail space. This scenario assumes no mini storage. This scenario has been analyzed as a reasonable representation of the "highest and best use" of the property with commercial zoning and associated

Page 3

estimate of "worst-case" trip generation resulting from the proposed land use. This scenario assumes that the parcel would be separated into two separate lots (Lot 1-7.5 acres, Lot 2-8.5 acres).

# **Currently Proposed RV Storage Access**

The RV storage access is anticipated to align with the existing Trojan Storage of Stetson Hills access, as described in the "Sight Distance" section later in this report.

#### **Potential Future Land Use Scenario Access**

Potential future Lot 2 access point to Tamlin Road is shown on Figure 3. This eastern lot site access point is planned to align with the Trojan Storage of Stetson Hills access. Lot 1 access under a future redevelopment scenario would likely be located approximately 560 feet northeast of the intersection of Marksheffel Road/Tamlin Road.

Although the rezone traffic report (and Figure 3 of this report) show preliminary access point locations for the future land use scenarios, these final access point locations for future redevelopment scenarios will be determined at the time of redevelopment if/when the RV Storage is replaced with other future land uses. Access points must meet ECM standards for sight distance, should be placed a sufficient distance from Marksheffel for acceptable traffic operations, constructed in a location where any necessary auxiliary turn lanes can be installed, and result in adequate spacing between access points. Access points are anticipated to be stop-controlled, full-movement intersections with Tamlin Road.

### **ROADWAYS AND TRAFFIC CONDITIONS**

# **Area Roadways**

Study area roadways are identified below, followed by a brief description of each:

Marksheffel Road is designated as a Principal Arterial on the El Paso County 2016 Major Transportation Corridor Plan (MTCP). Currently a two-lane road, Marksheffel extends north-to-south for 17.4 miles between Link Road in the City of Fountain to the south (at the intersection of C&S Road/Link Road) and just north of Woodmen Road. Marksheffel Road is planned to be extended north to Vollmer Road in the short term. In the vicinity of the site, the posted speed limit on Marksheffel Road is 55 miles per hour (mph).

Tamlin Road is a rural, paved, local roadway that extends northeast from Marksheffel Road for just over one mile and serves the properties located within the unincorporated County enclave. Tamlin continues east as a gravel road through the Banning Lewis Ranch property to Meridian Road. However, use of the road is minimal and will be removed as future Banning Lewis Ranch development occurs. Tamlin is classified as a Collector on the El Paso County 2016 MTCP. Adjacent to the site, the posted speed limit is 35 mph.

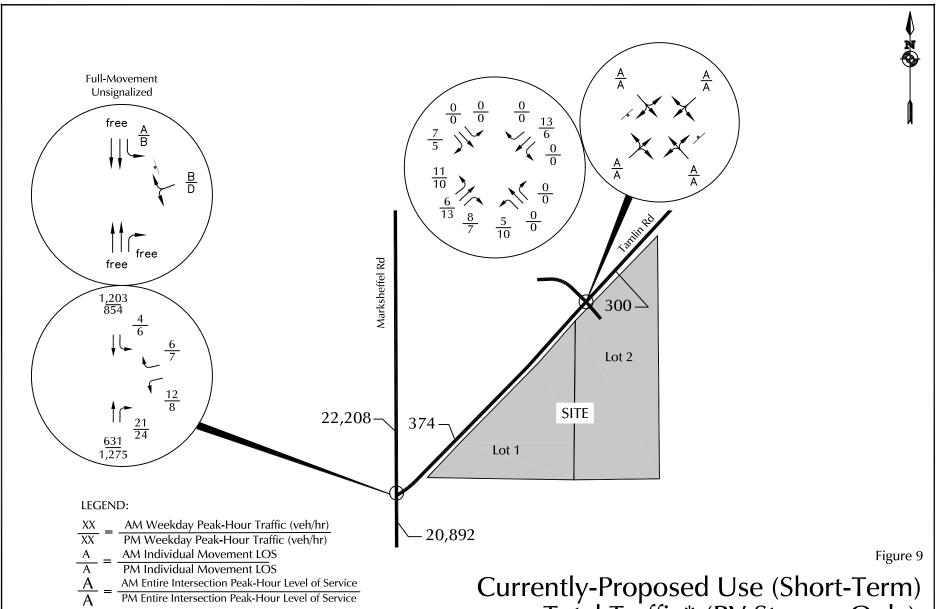
**Table 3: Trip Generation Estimate and Comparison** 

	ITE				Trip Generation Rates <sup>2</sup>					Drivewa	ay Irip	os Gei	nerate	ed	0/	0/ 81	Non-Pass-by Trips Ge				enerated	
cres		IIE	Value	Units 1	Average	Α.	М.	P.1	M.	Average	Α.	M.	P.	M.	% Drimory	% Non-	Average	A.	М.	Ρ.	.М.	
	Code	Description	_		Weekday	In	Out	In	Out	Weekday	In	Out	In	Out	Primary	Primary	Weekday	In	Out	In	Out	
DEVEL	.OPM	<u>ENT</u>																				
ge O	nly																					
L6.0		RV/Vehicle Storage	2.890	HOC	20.00	2.28	1.37	1.98	2.81	58	7	4	6	8	100%	0%	58	7	4	6	8	
AL FL	JTURE	LAND USE SCENARIOS																				
ensity	_																					
7.5	710	General Office Building	21.500	KSF	9.74	1.00	0.16	0.18	0.97	209	21	3	4	21	100%	0%	209	21	3	4	21	
	110	General Light Industrial	21.500	KSF	4.96	0.62	0.08	0.08	0.55	107	13	2	2	12	100%	0%	107	13	2	2	12	
	820	Shopping Center	16.000	KSF	108.07	6.19	3.79	4.20	4.55	1729	99	61	67	73	42%	58%	726	42	26	28	31	
8.5	151	Mini-Warehousing	115.600	KSF	1.51	0.06	0.04	0.08	0.09	175	7	5	9	10	100%	0%	175	7	5	9	10	
									Total	2220	141	71	82	116			1217	83	35	43	10	
ensity	L																					
16.0	820	Shopping Center	113.000	KSF	57.81	1.14	0.70	2.53	2.74	6533	129	79	286	309	42%	58%	2744	54	33	120	130	
	DEVEI ge O 6.0 AL FL nsity 7.5	Code  DEVELOPM ge Only 6.0  AL FUTURE nsity 7.5 710 110 820 8.5 151  ensity 6.0 820	Code Description  DEVELOPMENT  ge Only  6.0 RV/Vehicle Storage  AL FUTURE LAND USE SCENARIOS  nsity  7.5 710 General Office Building 110 General Light Industrial 820 Shopping Center  8.5 151 Mini-Warehousing  ensity  6.0 820 Shopping Center	Code Description  DEVELOPMENT  ge Only  16.0 RV/Vehicle Storage 2.890  AL FUTURE LAND USE SCENARIOS  nsity  7.5 710 General Office Building 21.500 110 General Light Industrial 21.500 820 Shopping Center 16.000 83.5 151 Mini-Warehousing 115.600  Pensity  16.0 820 Shopping Center 113.000	Code Description  DEVELOPMENT  ge Only  6.0 RV/Vehicle Storage 2.890 HOC  AL FUTURE LAND USE SCENARIOS  nsity  7.5 710 General Office Building 21.500 KSF  110 General Light Industrial 21.500 KSF  820 Shopping Center 16.000 KSF  8.5 151 Mini-Warehousing 115.600 KSF  ensity  6.0 820 Shopping Center 113.000 KSF	Code Description Weekday  DEVELOPMENT  ge Only  6.0 RV/Vehicle Storage 2.890 HOC 20.00  AL FUTURE LAND USE SCENARIOS  nsity  7.5 710 General Office Building 21.500 KSF 9.74  110 General Light Industrial 21.500 KSF 4.96  820 Shopping Center 16.000 KSF 108.07  8.5 151 Mini-Warehousing 115.600 KSF 1.51  Pensity  6.0 820 Shopping Center 113.000 KSF 57.81	Code         Description         Weekday         In           DEVELOPMENT         ge Only           6.0         RV/Vehicle Storage         2.890         HOC         20.00         2.28           AL FUTURE LAND USE SCENARIOS           nsity           7.5         710         General Office Building         21.500         KSF         9.74         1.00           110         General Light Industrial         21.500         KSF         4.96         0.62           820         Shopping Center         16.000         KSF         108.07         6.19           3.5         151         Mini-Warehousing         115.600         KSF         1.51         0.06           ensity           6.0         820         Shopping Center         113.000         KSF         57.81         1.14	Code   Description   Weekday   In   Out	Code   Description   Weekday   In   Out   In	Name	New Part   New Part	New Note   New Note	Name	Neekday   Neek	Name	Code   Description   Weekday   In   Out   Ou	New Primary   New Primary	Code   Description   Weekday   In   Out   Out   Out   Out   Out   Out   In   Out   In   Out   Out   Out   Out   Out   Out   Out   Out   In   Out   Out	Code   Description   Weekday   In   Out   O	Code   Description   Weekday   In   Out   In   Out   Weekday   In   Out   Out	Code   Description   Weekday   In   Out   In   Out   Out   Out   In   Out	

<sup>&</sup>lt;sup>1</sup> KSF = 1,000 square feet, HOC = hundred occupied spaces

Note: "RV/Vehicle Storage" rates are based on RV storage facility turning movement counts conducted by LSC in El Paso County (2018)

<sup>&</sup>lt;sup>2</sup> Source: "Trip Generation, 10th Edition, 2017" by the Institute of Transportation Engineers (ITE)



Currently-Proposed Use (Short-Term) Total Traffic\* (RV Storage Only), Lane Geometry\*\*, and Traffic Control

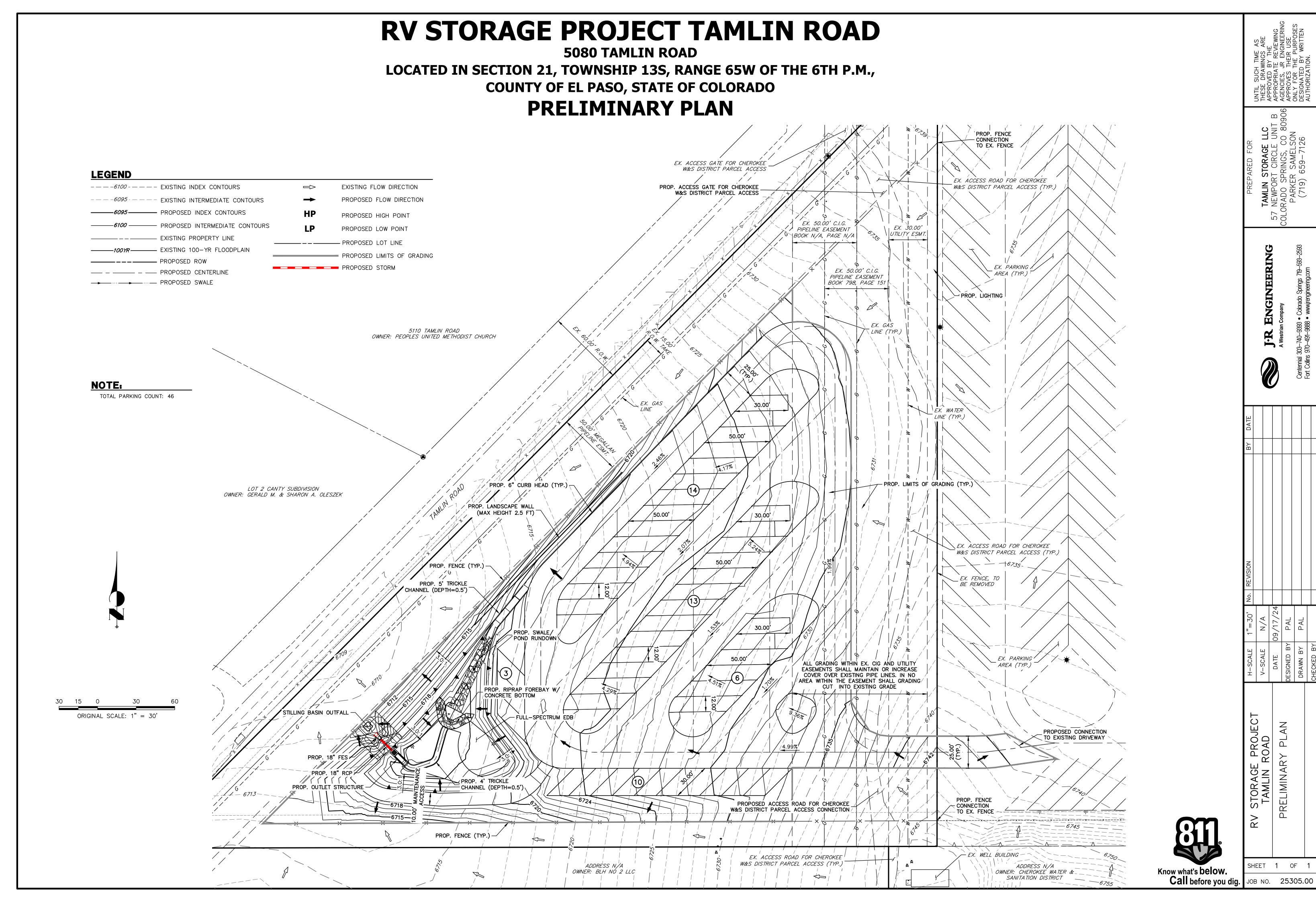
Tamlin Rd. Rezone (LSC# 184610)

= Stop Sign

\* Volumes reflect existing plus the RV storage traffic volumes only

XX,XXX = Average Daily Traffic Volumes (ADTs)

\*\* Laneage for this scenario assumes Marksheffel improved to a five-lane roadway



# **Trip Generation Summary**

**Project:** Tamlin Road RV Storage

				Weekd	ay Average Da	aily Trips	Weekday	y AM Peak H	lour Trips	Weekday PM Peak Hour Trips			
ITE Code	Description	Size	Units	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	
N/A*	RV Storage	46	Occupied Spaces	1	1	2	1	1	2	5	5	10	
			Unadjusted Volume	1	1	2	1	1	2	5	5	10	
			Internal Capture	0%	0%	0%	0%	0%	0%	0%	0%	0%	
			Pass-By Trips	0%	0%	0%	0%	0%	0%	0%	0%	0%	
		Volume Added	to Adjacent Streets	1	1	2	1	1	2	5	5	10	

<sup>\*</sup>ITE *Trip Generation Manual*, 11th Edition does not include a land use for RV storage. Therefore, trip generation rates are based on traffic counts collected by LSC Transportation Consultants at several RV storage facilities in El Paso County in 2018.

	<b>4</b>	×	1	~	×	*	7	*	~	Ĺ	×	*
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		4			4			4			4	
Traffic Volume (vph)	0	0	7	6	0	0	11	6	9	0	13	0
Future Volume (vph)	0	0	7	6	0	0	11	6	9	0	13	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865						0.952				
Flt Protected					0.950			0.980				
Satd. Flow (prot)	0	1494	0	0	1641	0	0	1611	0	0	1727	0
Flt Permitted					0.950			0.980				
Satd. Flow (perm)	0	1494	0	0	1641	0	0	1611	0	0	1727	0
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		607			625			585			609	
Travel Time (s)		13.8			14.2			11.4			11.9	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	800%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	0	0	9	8	0	0	14	8	12	0	17	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	0	8	0	0	34	0	0	17	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
<b>3</b> 1	Other											
Control Type: Unsignalized												
Indiana and an Once alter Hilliand	: 40 00/			10	NELL STREET		. ^					

Intersection Capacity Utilization 19.8%

ICU Level of Service A

Analysis Period (min) 15

Intersection												
Int Delay, s/veh	3.7											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		4			4			4			4	
Traffic Vol, veh/h	0	0	7	6	0	0	11	6	9	0	13	0
Future Vol, veh/h	0	0	7	6	0	0	11	6	9	0	13	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage,	# -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	0	0	9	8	0	0	14	8	12	0	17	0
Major/Minor N	/linor2		ı	Minor1		ı	Major1		ľ	Major2		
Conflicting Flow All	53	64	17	58	58	13	17	0	0	19	0	0
Stage 1	17	17	-	42	42	-	-	-	-	-	-	-
Stage 2	36	47	-	17	17	-	-	-	-	-	-	-
Critical Hdwy	7.2	6.6	6.3	7.2	6.6	6.3	4.2	-	-	4.2	-	-
Critical Hdwy Stg 1	6.2	5.6	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.2	5.6	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.59	4.09	3.39	3.59	4.09	3.39	2.29	-	-	2.29	-	-
Pot Cap-1 Maneuver	927	811	1040	919	817	1044	1550	-	-	1547	-	-
Stage 1	983	866	-	953	845	-	-	-	-	-	-	-
Stage 2	960	840	-	983	866	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	918	804	1040	902	810	1044	1550	-	-	1547	-	-
Mov Cap-2 Maneuver	918	804	-	902	810	-	-	-	-	-	-	-
Stage 1	983	866	-	944	837	-	-	-	-	-	-	-
Stage 2	951	832	-	974	866	-	-	-	-	-	-	-
Approach	SE			NW			NE			SW		
HCM Control Delay, s/v	8.49			9.02			3.11			0		
HCM LOS	Α			Α								
Minor Lane/Major Mvmt		NEL	NET	NERN	IWLn1	SELn1	SWL	SWT	SWR			
Capacity (veh/h)		680	-			1040	1547	_	_			
HCM Lane V/C Ratio		0.009	-		0.009		-	_	_			
HCM Control Delay (s/v	eh)	7.3	0	_	9	8.5	0	_	_			
HCM Lane LOS	,	A	A	-	A	A	A	_	_			
HCM 95th %tile Q(veh)		0	-	-	0	0	0	-	-			

	<b>4</b>	×	1	~	×	*	7	*	~	Ĺ	×	*
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		4			4			4			4	
Traffic Volume (vph)	0	0	5	11	0	0	10	13	8	0	6	0
Future Volume (vph)	0	0	5	11	0	0	10	13	8	0	6	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865						0.966				
Flt Protected					0.950			0.984				
Satd. Flow (prot)	0	1494	0	0	1641	0	0	1642	0	0	1727	0
Flt Permitted					0.950			0.984				
Satd. Flow (perm)	0	1494	0	0	1641	0	0	1642	0	0	1727	0
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		607			625			585			609	
Travel Time (s)		13.8			14.2			11.4			11.9	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	0	0	6	14	0	0	13	17	10	0	8	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	6	0	0	14	0	0	40	0	0	8	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
71	Other											
Control Type: Unsignalized												
Intersection Capacity Utilizati	on 22.3%			IC	CU Level of	of Service	Α					
Analysis Period (min) 15												

Intersection												
Int Delay, s/veh	4.1											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		4			4			4			4	
Traffic Vol, veh/h	0	0	5	11	0	0	10	13	8	0	6	0
Future Vol, veh/h	0	0	5	11	0	0	10	13	8	0	6	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage,	, # -	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	0	0	6	14	0	0	13	17	10	0	8	0
Major/Minor N	/linor2		ı	Minor1		ľ	Major1		ľ	Major2		
Conflicting Flow All	50	60	8	55	55	22	8	0	0	27	0	0
Stage 1	8	8	-	47	47	-	-	-	-	-	-	_
Stage 2	42	53	-	8	8	-	-	-	-	-	-	-
Critical Hdwy	7.2	6.6	6.3	7.2	6.6	6.3	4.2	-	-	4.2	-	-
Critical Hdwy Stg 1	6.2	5.6	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.2	5.6	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.59	4.09	3.39	3.59	4.09	3.39	2.29	-	-	2.29	-	-
Pot Cap-1 Maneuver	930	815	1052	923	821	1033	1562	-	-	1537	-	-
Stage 1	993	874	-	946	840	-	-	-	-	-	-	-
Stage 2	952	836	-	993	874	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	922	809	1052	910	814	1033	1562	-	-	1537	-	-
Mov Cap-2 Maneuver	922	809	-	910	814	-	-	-	-	-	-	-
Stage 1	993	874	-	938	833	-	-	-	-	-	-	-
Stage 2	944	829	-	987	874	-	-	-	-	-	-	-
Approach	SE			NW			NE			SW		
HCM Control Delay, s/v	8.44			9.02			2.36			0		
HCM LOS	Α			Α								
Minor Lane/Major Mvmt	t	NEL	NET	NERN	IWLn1	SELn1	SWL	SWT	SWR			
Capacity (veh/h)		540		-		1052	1537	_	_			
HCM Lane V/C Ratio		0.008	_		0.016		-	-	_			
HCM Control Delay (s/v	/eh)	7.3	0	_	9	8.4	0	_	_			
HCM Lane LOS	UII)	Α	A	_	A	A	A	_	_			
HCM 95th %tile Q(veh)		0	-	_	0	0	0	_	_			
					J							