

MEMORANDUM

Date: January 21, 2015
To: Christopher Jordan, City of Elk Grove
Patrick Hindmarsh, PMC
From: David B. Robinson, Fehr & Peers

Subject: *Potential Laguna Ridge/SEPA Plan Amendments*

RS14-3281

Fehr & Peers has completed an evaluation of the proposed amendments to the Laguna Ridge Specific Plan (LRSP) and Southeast Policy Area Plan (SEPA) areas. This memorandum outlines the proposed amendments, our evaluation methodology, and presents the evaluation results.

Amendments

Amendments to the LRSP and SEPA are needed to address consistency/compatibility issues in the two plans. The proposed changes addressed in this evaluation are outlined below and shown on Figures 1 and 2:

- Remove 10.89 (+/-) acres of Low Density Residential land use from the Laguna Ridge Specific Plan to accommodate a revised alignment of Lotz Parkway. The area has a potential capacity of 54 dwelling units based on LRSP standards.
- Add 10.89 (+/-) acres to SEPA. The area would be 7.43 (+/-) acres of Office Park and 3.46 (+/-) acres of roadway. The area has a maximum development potential of 100,000 square feet of building area that could accommodate a maximum of 400 employees.
- Develop new traffic volume forecast on Residential Collector 1 based on revised lane assumptions on Bilby Road (i.e., four lanes) in Sterling Meadows. Bilby Road was assumed to be two lanes in Sterling Meadows, which may result in higher forecasts on Residential Collector 1.

Figure 1 illustrates the land use shift described above.

- Change the designation of the Souza Property from Low Density Residential to Estate Residential. This change would result in a decrease of about 25 dwelling units.

Figure 2 shows the proposed amendment to the Souza Property.

Figure 1: Boundary Update

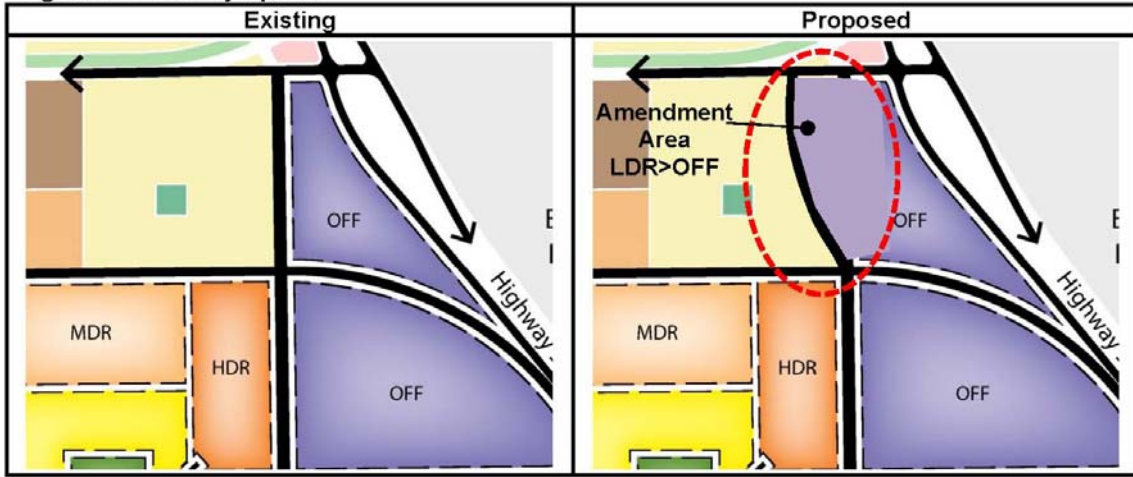
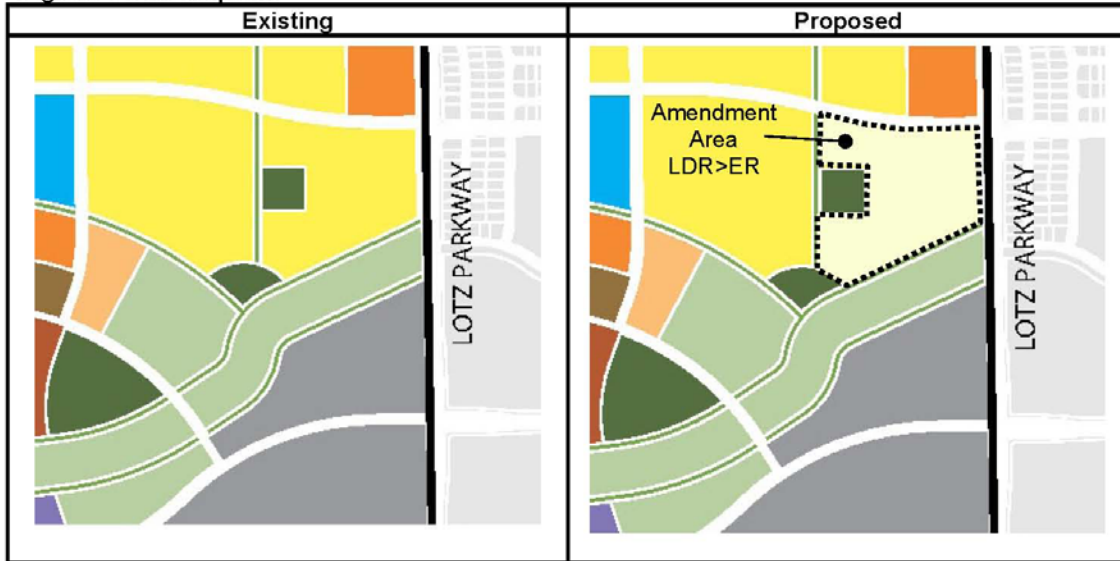


Figure 2: Souza Update



Methodology

To evaluate the proposed amendments, we used the modified version of SACOG's MTP/SCS travel forecasting model that was used for the Southeast Policy Area Strategic Plan DEIR, which include build-out of the Laguna Ridge Specific Plan. The evaluation included the following steps:

- Step 1 Calculated trip generation for the proposed amendments using trip generation rates from Table 5.13-6 of the Southeast Policy Area Strategic Plan DEIR.
- Step 2 Modified the travel forecasting model household and employment inputs consistent with the proposed amendment outlined above.
- Step 3 Confirmed that the travel forecasting model trip generation was equal to or greater than the trip generation calculated in Step 1.

- Step 4 Developed updated roadway segment traffic volume forecasts.
- Step 5 Compared roadway segment level of service and screenline flows without and with the proposed amendments.
- Step 6 Tested sensitivity on Residential Collector 1 traffic volumes with four lanes on Bilby Road in Sterling Meadows.

Trip Generation Evaluation

As outlined in Step 1, we calculated daily trip generation for the proposed amendments. As show in Table 1, the proposed amendments would result in about 350 more trips than the land use analyzed in the Southeast Policy Area Strategic Plan DEIR.

TABLE 1 DAILY TRIP GENERATION – WITH PROPOSED AMENDMENTS				
Land Use	Quantity	ITE Code	Trip Rate	Trip Generation
Single Family Residential (Dwelling Units)	-79	210	9.52	-752
Office (1,000 Square Feet)	100	710	11.03	1,103
Net Trip Generation				351
Source: Fehr & Peers, 2014 Table 5.13-6 of the Southeast Policy Area Strategic Plan DEIR				

Roadway Segment Operations

As outlined in Steps 2 through 5 above, we evaluated internal roadway operations to determine if the proposed amendments would result in impacts not disclosed in the Southeast Policy Area Strategic Plan DEIR.

Table 2 compares daily traffic volumes with the proposed amendments to the roadway segment operations documented in the Southeast Policy Area Strategic Plan DEIR. As shown in Table 2, all study roadway segments would operate acceptably at LOS D or better with the addition of the proposed amendments. Consistent with the location of the proposed amendments to the office land use, the largest traffic volume in increase would occur on the segment of Lotz Parkway between Whitelock Parkway and Poppy Ridge Road.

**TABLE 2
DAILY ROADWAY SEGEMENT LEVEL OF SERVICE - ONSITE ROADWAYS**

Roadway	Segment		Lanes	Capacity	SEPA DEIR			Proposed Amendments		
	From	To			Volume	Volume-to-Capacity	LOS	Volume	Volume-to-Capacity	LOS
1. Bruceville Road	Bilby Road	Kammerer Road	4	36,000	8,000	0.22	A	7,940	0.22	A
2. Big Horn Boulevard	Poppy Ridge Road	Residential Collector 1	4	36,000	29,400	0.82	D	29,330	0.81	D
	Residential Collector 1	Bilby Road			27,100	0.75	C	27,030	0.75	C
	Bilby Road	Kammerer Road			21,800	0.61	B	21,780	0.61	B
3. Lotz Parkway	Whitelock Parkway	Poppy Ridge Road	4	36,000	32,150	0.89	D	32,630	0.91	D
	Poppy Ridge Road	Residential Collector 1			19,100	0.53	A	19,140	0.53	A
	Residential Collector 1	Bilby Road			15,600	0.43	A	15,680	0.44	A
	Bilby Road	Kammerer Road			18,000	0.50	A	18,030	0.50	A
4. Residential Collector 2	South of Poppy Ridge Road		2	18,000	2,500	0.14	A	2,480	0.14	A
5. Residential Collector 3	South of Poppy Ridge Road		2	18,000	2,100	0.12	A	2,080	0.12	A
6. Poppy Ridge Road	Big Horn Boulevard	Lotz Parkway	2	18,000	8,100	0.45	A	8,120	0.45	A
7. West Stockton Boulevard	East of Lotz Parkway		4	36,000	20,700	0.58	A	20,840	0.58	A
8. Residential Collector 1	Big Horn Boulevard	Lotz Parkway	2	18,000	10,200	0.57	A	10,220	0.57	A
	East of Lotz Parkway				8,100	0.45	A	8,080	0.45	A
9. Bilby Road	Bruceville Road	Collector 2	4	36,000	10,100	0.28	A	10,200	0.28	A
	Collector 2	Big Horn Boulevard			12,900	0.36	A	13,020	0.36	A
	Big Horn Boulevard	Collector 1			13,100	0.36	A	13,130	0.36	A
	Collector 1	Lotz Parkway			10,600	0.29	A	10,610	0.29	A
	East of Lotz Parkway		2	18,000	4,200	0.23	A	4,210	0.23	A

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DAILY ROADWAY SEGEMENT LEVEL OF SERVICE - ONSITE ROADWAYS**

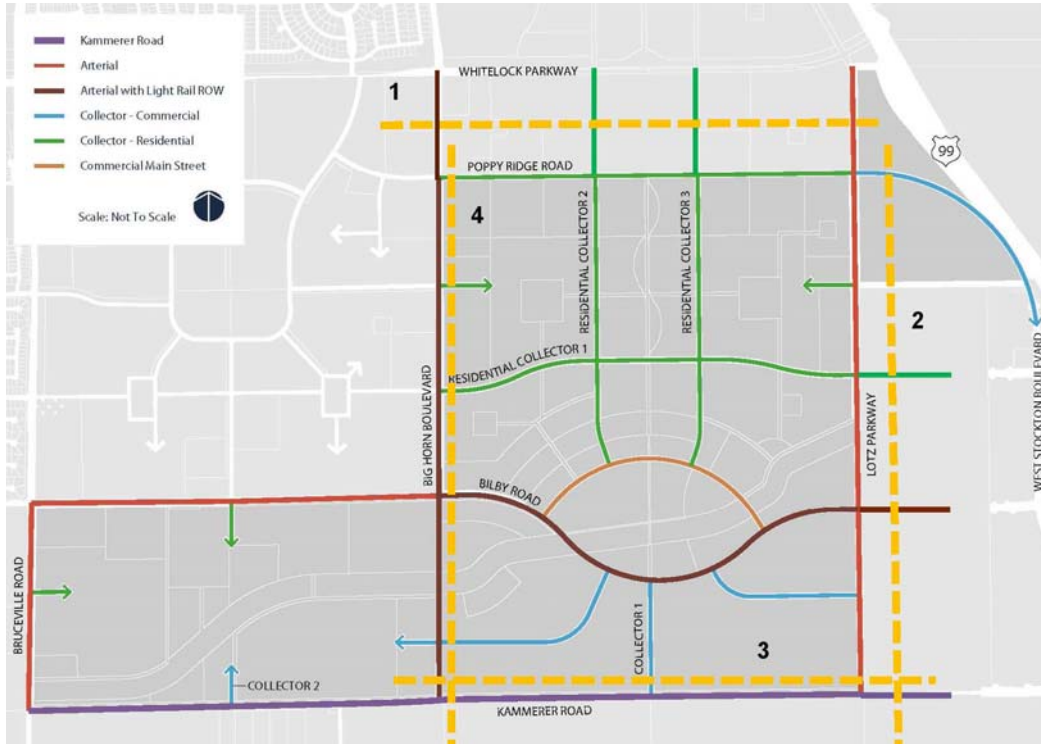
Roadway	Segment		Lanes	Capacity	SEPA DEIR			Proposed Amendments		
	From	To			Volume	Volume-to-Capacity	LOS	Volume	Volume-to-Capacity	LOS
10. Kammerer Road	Bruceville Road	Collector 2	4	36,000	28,400	0.79	C	28,480	0.79	C
	Collector 2	Big Horn Boulevard			26,400	0.73	C	26,470	0.74	C
	Big Horn Boulevard	Collector 1			26,600	0.74	C	26,660	0.74	C
	Collector 1	Lotz Parkway			31,400	0.87	D	31,460	0.87	D

Source: Fehr & Peers, 2013

Screenline Flows

As outlined in Step 5 above, we evaluated daily traffic flows for four screenlines (i.e., groups of study roadways), to determine the magnitude traffic volume change to/from areas outside of the project due to the proposed amendments. Table 3 compares daily traffic flow without and with the proposed amendments for the four screenlines (i.e., dashed yellow lines) shown on Figure 3.

Figure 3: Screenlines



**TABLE 3
SCREENLINE COMPARISON – DAILY TRAFFIC FLOWS**

Screenline	Lanes	SEPA DEIR	Proposed Amendments	Difference (Amendments-DEIR)	Volume to Capacity Change
1 – To/From the North	12	69,200	69,500	300	0.003
2 – To/From the East	16	69,800	70,000	200	0.001
3 – To/From the South	10	40,300	40,300	-	0.000
4 – To/From the West	20	76,300	76,600	300	0.002

Source: Fehr & Peers, 2013

As shown, the screenline flows with the amendments would be similar (slightly higher) to the screenline flows with the SEPA DEIR. The volume increase would result in incremental changes in the volume-to-capacity ratio of less than 0.01 for each screenline, based on capacities from the SEPA DEIR.

Consequently, if the volume increase shown were added to an individual roadway outside of the plan area, the increase is not expected to result in unacceptable operations or exceed the City's roadway segment volume threshold that allows an increase in volume-to-capacity ratio of 0.05 or less for roadways operating at unacceptable levels (i.e., LOS E or F) without the project.

Residential Collector 1

As outlined in Step 6 above, we tested the effect of a four-lane Bilby Road in Sterling Meadows on daily traffic volumes on Residential Collector 1. Increasing the capacity on the Sterling Meadows segment of Bilby Road from 2 to 4 lanes will result in lower traffic volumes on Residential Collector 1. Volumes on Residential Collector 1 would decrease from 10,200 to about 7,400 vehicles per day.

Findings

Based on the evaluation presented above, the proposed amendments would not change the findings of the Southeast Policy Area Strategic Plan DEIR.