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Subject: Renaissance Ranch Focused Traffic Route – Noise Technical Memorandum

PROJECT DESCRIPTION

The Renaissance Ranch Project is proposing an amendment to the Renaissance Ranch Specific Plan, a General Plan Amendment and Change of Zone from Medium Density Residential to a combination of Business Park, Light Industrial, and Open Space- Conservation. More specifically, the Project is to consist of the following land uses:

- 423,403 square feet of high-cube cold storage warehousing use within the Light Industrial area (20 percent of the light industrial square footage, calculated assuming 0.5 floor-to-area ratio)
- 740,956 square feet of high-cube fulfillment center warehousing use within the Light Industrial area (35 percent of the light industrial square footage, calculated assuming 0.5 floor-to-area ratio)
- 740,956 square feet of high-cube transload/short-term storage warehousing use within the Light Industrial area (35 percent of the light industrial square footage, calculated assuming 0.5 floor-to-area ratio)
- 211,702 square feet of manufacturing use within the Light Industrial area (10 percent of the light industrial square footage, calculated assuming 0.5 floor-to-area ratio)
- 156,816 square feet of warehousing use within the Business Park area (40 percent of the Business Park square footage, calculated assuming 0.5 floor-to-area ratio)
- 235,224 square feet of industrial park use within the Business Park area (60 percent of the Business Park square footage, calculated assuming 0.5 floor-to-area ratio).

As originally proposed, the Project would result in the distribution of 25 percent of all Project passenger car traffic accessing and departing the Project Site at the southeast corner of the site via Bolo Court and Hostettler Road. This Focused Traffic Route Noise Technical Memorandum analyzes the noise that would result from eliminating passenger car access to the Project Site at Bolo Court, and thereby resulting in 100 percent of the Project passenger car traffic to access and depart the site at Horsethief Canyon Road, as opposed to Bolo Court.

TRAFFIC NOISE ANALYSIS

Methodology

In order to estimate the worst-case traffic noise levels that may occur at the nearest noise-sensitive receptors in the vicinity of Focused Passenger Traffic Route, traffic noise on this route was calculated using the FHWA Highway Noise Prediction Model (FHWA-RD-77-108). Only roadway segments that would be used by the Focused Passenger Traffic Route and that traverse noise sensitive receptors were analyzed in this technical noise memorandum.

Traffic (Mobile) Noise Impact Discussion

Future traffic noise levels throughout the Project vicinity (i.e., vicinity roadway segments that traverse noise sensitive land uses) were modeled based on the traffic volumes identified by Urban Crossroads (2022) to determine the noise levels along Project vicinity roadways. Table 1 shows the calculated offsite roadway noise levels under existing traffic levels compared to future build-out of the Project. The calculated noise levels as a result of the Project at affected sensitive land uses are compared to the noise standards promulgated by the County of Riverside and significance thresholds recommended by FICON.

FICON's measure of substantial increase for transportation noise exposure is as follows:

- If the existing ambient noise levels at existing noise-sensitive land uses (e.g. residential, etc.) are less than 60 dBA CNEL and the Project creates a readily perceptible 5 dBA CNEL or greater Project-related noise level increase and the resulting noise level would exceed acceptable exterior noise standards; or

- If the existing noise levels range from 60 to 65 dBA CNEL and the Project creates a barely perceptible 3 dBA CNEL or greater Project-related noise level increase and the resulting noise level would exceed acceptable exterior noise standards; or

- If the existing noise levels already exceed 65 dBA CNEL, and the Project creates a community noise level increase of greater than 1.5 dBA CNEL

Table 1. Existing Plus Project Conditions - Predicted Traffic Noise Levels

Roadway Segment	Surrounding Uses	CNEL at 100 feet from Centerline of Roadway		Noise Standard (dBA CNEL)	Exceed Standard AND result in Noise Levels Exceeding Acceptable Exterior Noise Standards
		Existing Conditions	Existing + Project Conditions		
De Palma Road					
Between Horsethief Canyon Road & Indian Truck Trail	Residential & Commercial	62.5	64.0	>3.0	**No**
North of Indian Truck Trail	Residential & Commercial	58.3	62.5	>5.0	**No**
Horsethief Canyon Road					
South of De Palma Road	Residential	58.9	62.9	>5.0	**No**

Source: Traffic noise levels were calculated by ECORP Consulting using the FHWA roadway noise prediction model in conjunction with the trip generation rate identified by Urban Crossroads 2022. Refer to Attachment A for traffic noise modeling assumptions and results.

Notes: A total of 3 intersections were analyzed in the Focused Traffic Assessment; however, only roadway segments that impact sensitive receptors were included for the purposes of this analysis.

As shown in Table 1, no roadway segment would experience an increase of noise beyond the FICON significance standards as a result of the Project.

Table 2 shows the calculated offsite roadway noise levels under cumulative condition traffic levels without the Project compared to future build-out of the Project under cumulative conditions. The calculated noise levels as a result of the Project at affected sensitive land uses are compared to the noise standards promulgated by the County of Riverside and significance thresholds recommended by FICON.

Table 2. Cumulative Traffic Noise Scenario

Roadway Segment	Surrounding Uses	CNEL at 100 feet from Centerline of Roadway		Noise Standard (dBA CNEL)	Exceed Standard AND result in Noise Levels Exceeding Acceptable Exterior Noise Standards
		Existing Conditions	Existing + Project Conditions		
De Palma Road					
Between Horsethief Canyon Road & Indian Truck Trail	Residential & Commercial	65.4	66.8	>1.5	**No**
North of Indian Truck Trail	Residential & Commercial	63.7	66.6	>3.0	**No**
Horsethief Canyon Road					
South of De Palma Road	Residential	64.2	64.5	>3.0	**No**

Source: Traffic noise levels were calculated by ECORP Consulting using the FHWA roadway noise prediction model in conjunction with the trip generation rate identified by Urban Crossroads 2022. Refer to Attachment A for traffic noise modeling assumptions and results.

Notes: A total of 3 intersections were analyzed in the Focused Traffic Assessment; however, only roadway segments that impact sensitive receptors were included for the purposes of this analysis.

As shown in Table 2, no roadway segment would generate an increase of noise beyond the FICON significance standards under cumulative conditions. Therefore, no mobile-source cumulative impacts would occur.

REFERENCES

Urban Crossroads. 2022. Renaissance Ranch Focused Traffic Assessment.

ATTACHMENT A

Highway Noise Prediction Model (FHWA-RD-77-108) Outputs – Alternative Truck Route Traffic Noise

TRAFFIC NOISE LEVELS

Project Number: 2020-103
Project Name: Renaissance Ranch

Background Information

Model Description: FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels.
Analysis Scenario(s): **Existing**
Source of Traffic Volumes: Urban Crossroads
Community Noise Descriptor: L_{dn}: _____ CNEL: x

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Traffic Noise Levels

Analysis Condition Roadway Segment	Land Use	Lanes	Median Width	Peak Hour Volume	ADT Volume	Design Speed (mph)	Dist. from Center	Alpha Factor	Barrier Attn. dB(A)	Vehicle Mix: Medium Trucks	Vehicle Mix: Heavy Trucks	Peak Hou dB(A) L_{eq}	24-Hour dB(A) CNEL
De Palma Road													
North of Indian Truck Trail	Residential & Commercial	2	0	271	2,436	45	100	0	0	1.8%	0.7%	59.6	58.3
Bet Indian Truck Trl & Hrsethief Canyon	Residential & Commercial	2	0	702	6,318	45	100	0	0	1.8%	0.7%	63.7	62.5
Horsethief Canyon Road													
South of De Palma Road	Residential	2	0	575	5,175	35	100	0	0	1.8%	0.7%	60.1	58.9

TRAFFIC NOISE LEVELS

Project Number: 2020-103
Project Name: Renaissance Ranch

Background Information

Model Description: FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels.
Analysis Scenario(s): **Existing + Project**
Source of Traffic Volumes: Urban Crossroads
Community Noise Descriptor: L_{dn}: _____ CNEL: x

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Traffic Noise Levels

Analysis Condition Roadway Segment	Land Use	Lanes	Median Width	Peak Hour Volume	ADT Volume	Design Speed (mph)	Dist. from Center	Alpha Factor	Barrier Attn. dB(A)	Vehicle Mix: Medium Trucks	Vehicle Mix: Heavy Trucks	Peak Hou dB(A) L_{eq}	24-Hour dB(A) CNEL
De Palma Road													
North of Indian Truck Trail	Residential & Commercial	2	0	709	6,381	45	100	0	0	1.8%	0.7%	63.7	62.5
Bet Indian Truck Trl & Hrsethief Canyon	Residential & Commercial	2	0	999	8,991	45	100	0	0	1.8%	0.7%	65.2	64.0
Horsethief Canyon Road													
South of De Palma Road	Residential	2	0	1,371	12,339	35	100	0	0	1.9%	1.0%	64.1	62.9

TRAFFIC NOISE LEVELS

Project Number: 2020-103
Project Name: Renaissance Ranch

Background Information

Model Description: FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels.
Analysis Scenario(s): **Cumulative Without Project**
Source of Traffic Volumes: Urban Crossroads
Community Noise Descriptor: L_{dn}: _____ CNEL: x

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Traffic Noise Levels

Analysis Condition / Roadway Segment	Land Use	Lanes	Median Width	Peak Hour Volume	ADT Volume	Design Speed (mph)	Dist. from Center	Alpha Factor	Barrier Attn. dB(A)	Vehicle Mix: Medium Trucks	Vehicle Mix: Heavy Trucks	Peak Hou dB(A) L_{eq}	24-Hour dB(A) CNEL
De Palma Road													
North of Indian Truck Trail	Residential & Commercial	2	0	924	8,316	45	100	0	0	1.8%	0.7%	64.9	63.7
Bet Indian Truck Trl & Hrsethief Canyon	Residential & Commercial	2	0	1,388	12,492	45	100	0	0	1.8%	0.7%	66.7	65.4
Horsethief Canyon Road													
South of De Palma Road	Residential	2	0	1,856	16,704	35	100	0	0	1.9%	1.0%	65.4	64.2

TRAFFIC NOISE LEVELS

Project Number: 2020-103
Project Name: Renaissance Ranch

Background Information

Model Description: FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels.
Analysis Scenario(s): **Cumulative with Project**
Source of Traffic Volumes: Urban Crossroads
Community Noise Descriptor: L_{dn}: _____ CNEL: x

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Traffic Noise Levels

Analysis Condition / Roadway Segment	Land Use	Lanes	Median Width	Peak Hour Volume	ADT Volume	Design Speed (mph)	Dist. from Center	Alpha Factor	Barrier Attn. dB(A)	Vehicle Mix: Medium Trucks	Vehicle Mix: Heavy Trucks	Peak Hou dB(A) L_{eq}	24-Hour dB(A) CNEL
De Palma Road													
North of Indian Truck Trail	Residential & Commercial	2	0	1,820	16,380	45	100	0	0	1.8%	0.7%	67.8	66.6
Bet Indian Truck Trl & Hrsethief Canyon	Residential & Commercial	2	0	1,915	17,235	45	100	0	0	1.8%	0.7%	68.1	66.8
Horsethief Canyon Road													
South of De Palma Road	Residential	2	0	1,975	17,775	35	100	0	0	1.9%	1.0%	65.7	64.5