

CORAL MOUNTAIN RESORT
DRAFT EIR
SCH# 2021020310

TECHNICAL APPENDICES

Noise Memorandum
Appendix K.2

June 2021

April 20, 2021

Mr. Garrett Simon
CM Wave Development LLC
2440 Junction Place, Suite 200
Boulder, CO 80301

SUBJECT: THE WAVE AT CORAL MOUNTAIN NOISE MEMORANDUM

Dear Mr. Garrett Simon:

Urban Crossroads, Inc. is pleased to submit this Memorandum for The Wave at Coral Mountain ("Project"), which is in the City of La Quinta. The purpose of this memo is to address the key questions that were raised during the Notice of Preparation (NOP) Project scoping meeting.

- 1. Will loudspeaker noise "bounce off of Coral Mountain" and increase noise levels?** Coral Mountain is considered a soft surface that will likely absorb rather than reflect noise back towards sensitive receiver locations. The direct line of sight between the noise source and the receiver is the primary path of sound transmission that was considered in the *Coral Mountain Specific Plan Noise Impact Analysis*. Field studies conducted by the FHWA have shown that the reflection from barriers and buildings does not substantially increase noise levels (1). If all the noise striking a structure was reflected back to a given receiving point, the increase would be theoretically limited to 3 dBA. Further, not all the acoustical energy is reflected back to same point. Some of the energy would go over the structure, some is reflected to points other than the given receiving point, some is scattered by ground coverings (e.g., grass and other plants), and some is blocked by intervening structures and/or obstacles (e.g., the noise source itself). Additionally, some of the reflected energy is lost due to the longer path that the noise must travel. FHWA measurements made to quantify reflective increases in traffic noise have not shown an increase of greater than 1-2 dBA; an increase that is not perceptible to the average human ear.
- 2. Were loudspeaker announcements considered in the noise study?** Yes. The reference noise level measurements include loudspeaker announcements that were considered in the operational noise analysis section of the *Noise Impact Analysis*. As indicated in section 10.1.1 of the *Noise Impact Analysis*, Prior to each wave, the control tower announces the event over the public address system.
- 3. Would noise measurements across "agricultural fields" be decreased compared to the desert floor? (this was in regard to the measurements taken at the Lemoore site.)** Both agricultural fields and desert floors are considered soft surfaces for the purposes sound propagation. Only hard surfaces such as pavement would change the sound attenuation characteristics of the Project. In addition, the wave basin/wave machine reference noise level measurements were taken during peak wave noise events at 12 feet. The reference noise level measurements themselves do not include any sound attenuation for the "agricultural fields."

To describe the wave basin/wave machine activity, Urban Crossroads, Inc. collected reference noise level measurements at the existing Surf Ranch located at 18556 Jackson Avenue in the City of Lemoore, California. The Surf Ranch is a private facility with a proprietary wave machine technology capable of generating waves every 3 to 4 minutes. To create each wave, a large “sled” is pulled through the water using a cable system on metal rollers. Two buildings at each end of the cable system house the mechanical equipment and cable system.

To measure the noise levels associated with the wave machine, Urban Crossroads, Inc. collected reference noise level measurements at eight different locations around the Surf Ranch. The noise level measurement locations were selected to identify the unique noise characteristics associated with different stages of each wave. Prior to each wave, the control tower announces the event over the public address system. This is followed by the noise generated from the movement of the sled and an increase in noise levels from the mechanical equipment buildings. As the sled moves through the lagoon, noise from the cable and metal rollers is clearly audible. However, throughout each wave event, the primary noise source is simply the movement of water from each wave in the lagoon. In addition, improved design for the new wave machine planned for the Project have placed the cable roller system under the water surface to eliminate this noise source. The wave basin/wave machine activities will be limited to the daytime hours of 7:00 a.m. to 10:00 p.m. with no planned nighttime activities.

Respectfully submitted,

URBAN CROSSROADS, INC.



Bill Lawson, P.E., INCE
Principal



REFERENCES

1. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch.** *Highway Traffic Noise Analysis and Abatement Policy and Guidance.* December 2011.