

December 3, 2019

Mr. Michael Adams
ADAMS ASSOCIATES
P.O. Box 382
Huntington Beach, CA 92648

Subject: Arco Car Wash Observed Noise Analysis, City of Huntington Beach

Dear Mr. Adams:

Introduction

RK ENGINEERING GROUP, INC. (RK) is pleased to provide this observed noise analysis for the existing Arco Car Wash (project). The project site is located at 21452 Brookhurst Street, City of Huntington Beach, at the northeast corner of Brookhurst Street and Hamilton Avenue. The automated drive through car wash is currently existing and operational and the building is attached to an AM/PM convenience market that is part of an Arco gas station facility.

The purpose of this study is to measure the existing noise levels from the operation of the automated car wash and to determine whether the noise levels are within the allowable limits of the City of Huntington Beach. The project is seeking to extend the hours of operation of the car wash to 10 PM, and the City wants to ensure that noise from the car wash will not adversely affect the residential properties adjacent to the site.

Huntington Beach Noise Standards

The City of Huntington Beach has established exterior noise standards for residential properties to control unnecessary, excessive and annoying sounds. The Huntington Beach Municipal Code, Chapter 8.40, Noise Control, defines the provisions of noise control in the City.

Table 1 shows the Huntington Beach exterior noise standards for all residential properties within the City.

Table 1
Huntington Beach Exterior Noise Standards

Noise Zone	Noise Level	Time Period
All Residential Properties	55 dB(A)	7 AM to 10 PM
	50 dB(A)	10 PM to 7 AM

¹ Huntington Beach Municipal Code 8.40.050.

Observed Noise Level Measurements

In order to determine the existing noise levels generated by the car wash, RK conducted noise level measurements at the project site and at the adjacent Sea Spray residential community to the northeast of the project site. All noise level measurements were performed in accordance with the procedures established in Section 8.40.030 of the Huntington Beach Municipal Code and the measurement locations include vantage points where a reasonable person would conclude that noise may exceed the City’s noise standard.

RK used a Piccolo-II Type 2 integrating-averaging sound level meter for all noise measurements. All measurement equipment meets American National Standards Institute (ANSI) specifications for sound level meters (S1.4-1983 identified in Chapter 19.68.020.AA). The Leq, Lmin, Lmax, L2, L8, L25, and L50 statistical data were recorded over the measurement time period intervals and the information was utilized to define the noise characteristics for the project.

Exhibit A provides an aerial location map showing the noise measurement locations and Appendix A includes photos, field notes, and measured noise data for each noise measurement recording.

Noise level measurements capture both the ambient noise levels without the operation of car wash and the noise levels during the operation of car wash. Noise level measurements were taken at the project site and at the nearest residential uses to the northeast of the project site. Noise measurements were taken at the following locations:

ST-1: Meter was placed on the project site at the northeastern property line, approximately 40 feet from the car wash tunnel entrance. Ambient noise includes traffic noise from Brookhurst Street and Hamilton Avenue.

ST-2: Meter was placed on the sidewalk at approximately 3 feet from the nearest residential building in the Sea Spray community. Ambient noise includes traffic noise from Brookhurst Street and Hamilton Avenue. An existing 11-foot block wall separates the project site from the Sea Spray residential community, with existing parking garages further shielding noise from the site.

Table 2 shows the noise levels for existing ambient conditions without the car wash in operation.

**Table 2
Ambient Noise Level Measurements
Without the Car Wash in Operation¹**

Event	Start Time ²	Leq	Lmin	Lmax	L ₂	L ₈	L ₂₅	L ₅₀
ST-1	10:23 AM	58.3	49.5	68.8	62.9	61.4	59	57.2
ST-2	10:23 AM	50.9	43.9	72.1	55.8	53.2	51.3	49.9

¹ All noise levels shown are in A-weighted decibel scale dB(A).

² Noise measurements conducted for 10-minute intervals. Noise level measurement recorded on November 26, 2019.

Table 3 shows the noise levels (dBA) with the car wash in operation.

**Table 3
Ambient Noise Level Measurements
With the Car Wash Operation¹**

Event	Start Time ²	Leq	Lmin	Lmax	L ₂	L ₈	L ₂₅	L ₅₀
ST-1	10:59 AM	66.9	52.7	76.3	74.5	73.3	65.8	62.2
ST-2	10:59 AM	52.0	42.1	71.1	58.4	54.1	52	50.3

¹ All noise levels shown are in A-weighted decibel scale dB(A).

² Noise measurements conducted for 10-minute intervals. Noise level measurement recorded on November 26, 2019.

Car Wash Noise Analysis

Based on our in-person field observations, noise from the car wash was barely perceptible at the nearest adjacent residential property and the noise monitoring results confirm that no significant changes to the ambient environment occurred as a result of the car wash being in operation.

The change in existing noise levels as a result of the car wash being in operation was approximately 1.1 dBA Leq during the daytime hours at the residential properties. A significant noise impact is typically considered to occur when the project causes a 3 dBA or more increase in noise levels above ambient without project conditions. 3dBA is widely accepted in the State of California as the threshold for the human ear to perceive a noise level change.

Ambient exterior noise levels at the adjacent Sea Spray community are currently below the City's allowable daytime exterior noise level standards with and without the car wash in operation. The Huntington Beach residential daytime noise standard is 55 dBA. As shown in Table 4, the recorded noise levels do not exceed the daytime (7 AM to 10 PM) noise standards of 55 decibels during times when car wash was in operation.

**Table 4
Car Wash Noise Analysis**

		Noise Level (dBA)					
		L _{eq}	L _{max} (max)	L ₂ (1 min)	L ₈ (5 min)	L ₂₅ (15 min)	L ₅₀ (30 min)
Residential Noise Levels							
Daytime (7:00 AM - 10:00 PM)	Noise Level without Car Wash	50.9	72.1	55.8	53.2	51.3	49.9
	Noise Level with Car Wash	52.0	71.1	58.4	54.1	52.0	50.3
	Estimated Car Wash Contribution	45.5	--	54.9	46.8	43.7	39.7
	City of Huntington Beach Noise Standard	55.0	75.0	70.0	65.0	60.0	55.0
	Noise Level Exceeds Standard?	NO	NO	NO	NO	NO	NO
	Change in Noise level as a Result of Project	1.1	--	2.6	0.9	0.7	0.4
	Significant Impact (?)¹	NO	NO	NO	NO	NO	NO

¹A significant change in ambient conditions is considered a 3 dBA or more increase.

The Huntington Beach daytime noise standards for residential uses are applicable until 10 PM. Therefore, based on the results of this analysis, **the car wash is not expected to exceed the City's daytime noise standards by extending the hours of operation to 10 PM.**

Recommendations

The following recommendations are provided to help further reduce any potential noise impacts or complaints during car wash operation:

1. Install signage near vacuum station requiring patrons to turn off engines and stereos while utilizing vacuums.
2. Install signage near car wash tunnel queue lane to require patrons to turn off stereos while waiting in the queue.
3. In order to ensure noise levels continue to comply with the Huntington Beach noise standards, car wash operations should occur during daytime hours only (7 AM to 10 PM).

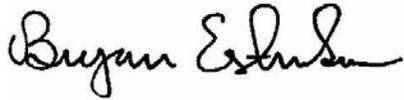
Conclusions

Based on the results of the observed noise analysis, the Arco Car Wash project is currently operating within the allowable daytime noise standards at the nearest adjacent residential property. The measured noise level data indicates that the car wash operations are not causing perceptible changes in the ambient noise environment and no noise violations were observed.

Therefore, the car wash is not expected to exceed the City's daytime noise standards by extending the hours of operation to 10 PM.

RK is pleased to assist the CITY OF HUNGTINTON BEACH and ADAMS ASSOCIATES on this noise assessment. If you have any questions regarding this study, please do not hesitate to contact us at (949) 474-0809 or be@rkengineer.com.

Sincerely,
RK ENGINEERING GROUP, INC.



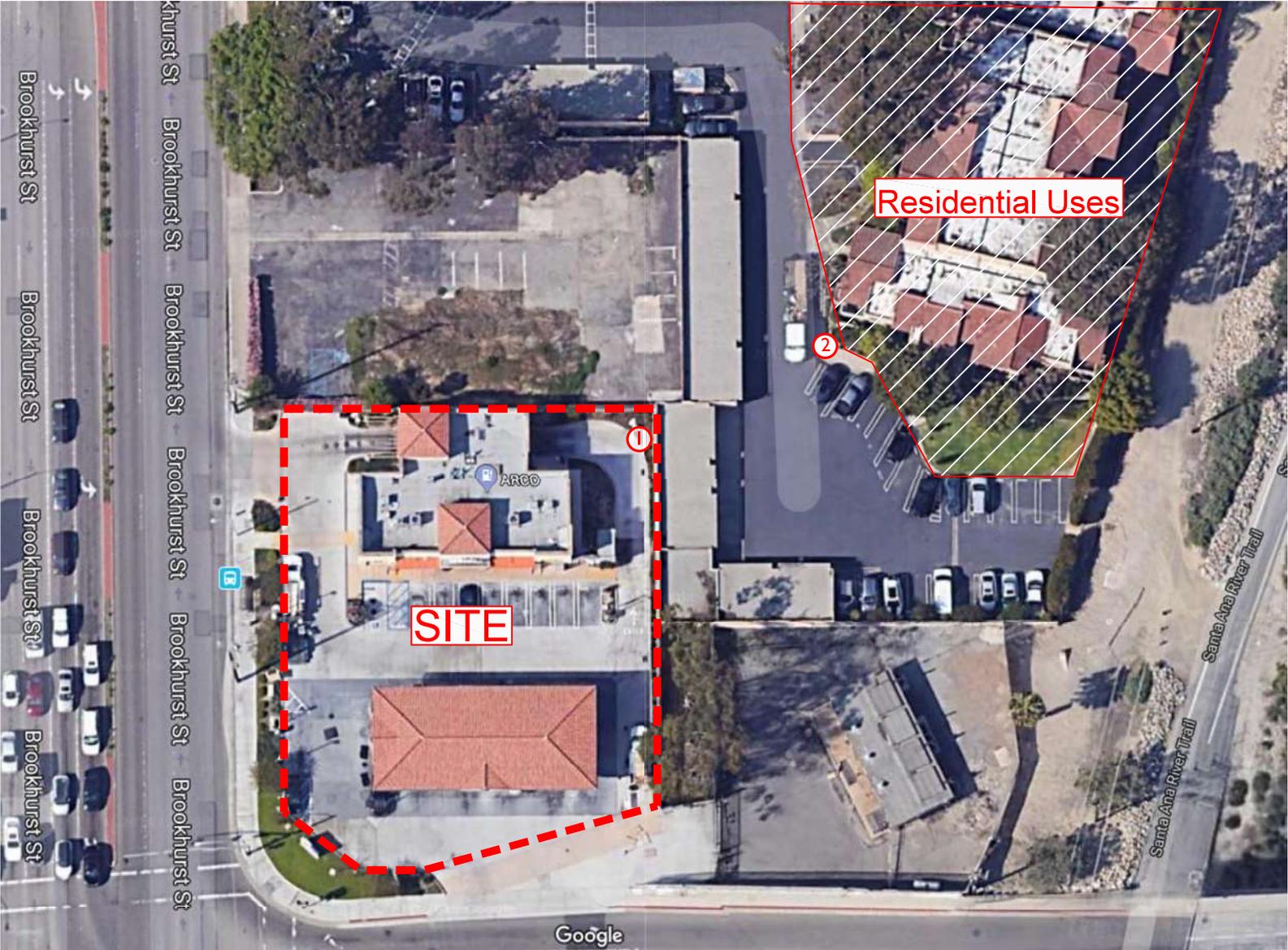
Bryan Estrada, AICP
Senior Associate



Darshan Shivaiah, M.S.
Environmental Specialist II

Attachments

Exhibit A
Noise Monitoring Locations



Legend:

① = Short Term (10-min) Noise Monitoring Location



Appendix A

Field Data and Photos

Field Sheet

Project: Arco Car Wash Noise Study		Engineer: D. Shivaiah		Date: 11/26/2019																									
Measurement Address: 21452 Brookhurst Street		City: Huntington Beach		JN: 2877-2019-01																									
Sound Level Meter: Piccolo II Serial # P0218042101 Serial # P0218092808		Calibration Record:		Notes:																									
Calibrator: CA114 Sound Calibrator Serial # 500732		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Input, dB/</th> <th>Reading, dB/</th> <th>Offset, dB/</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>94.0</td> <td></td> <td>10:20 AM</td> </tr> <tr> <td>2</td> <td>94.0</td> <td></td> <td>10:20 AM</td> </tr> <tr> <td>3</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td></td> <td></td> <td></td> </tr> <tr> <td>5</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Input, dB/	Reading, dB/	Offset, dB/	Time	1	94.0		10:20 AM	2	94.0		10:20 AM	3				4				5				Temp: 70 Windspeed: 5 MPH Direction: ENE Skies: Clear Camera: Photo Nos.	
Input, dB/	Reading, dB/	Offset, dB/	Time																										
1	94.0		10:20 AM																										
2	94.0		10:20 AM																										
3																													
4																													
5																													
Meter Settings:																													
<input checked="" type="checkbox"/> A-WTD <input type="checkbox"/> LINEAR <input checked="" type="checkbox"/> SLOW <input type="checkbox"/> 1/1 OCT <input checked="" type="checkbox"/> INTERVALS <u>10</u> - MINUTE <input type="checkbox"/> C-WTD <input type="checkbox"/> IMPULSE <input type="checkbox"/> FAST <input type="checkbox"/> 1/3 OCT <input checked="" type="checkbox"/> L _N PERCENTILE VALUES																													

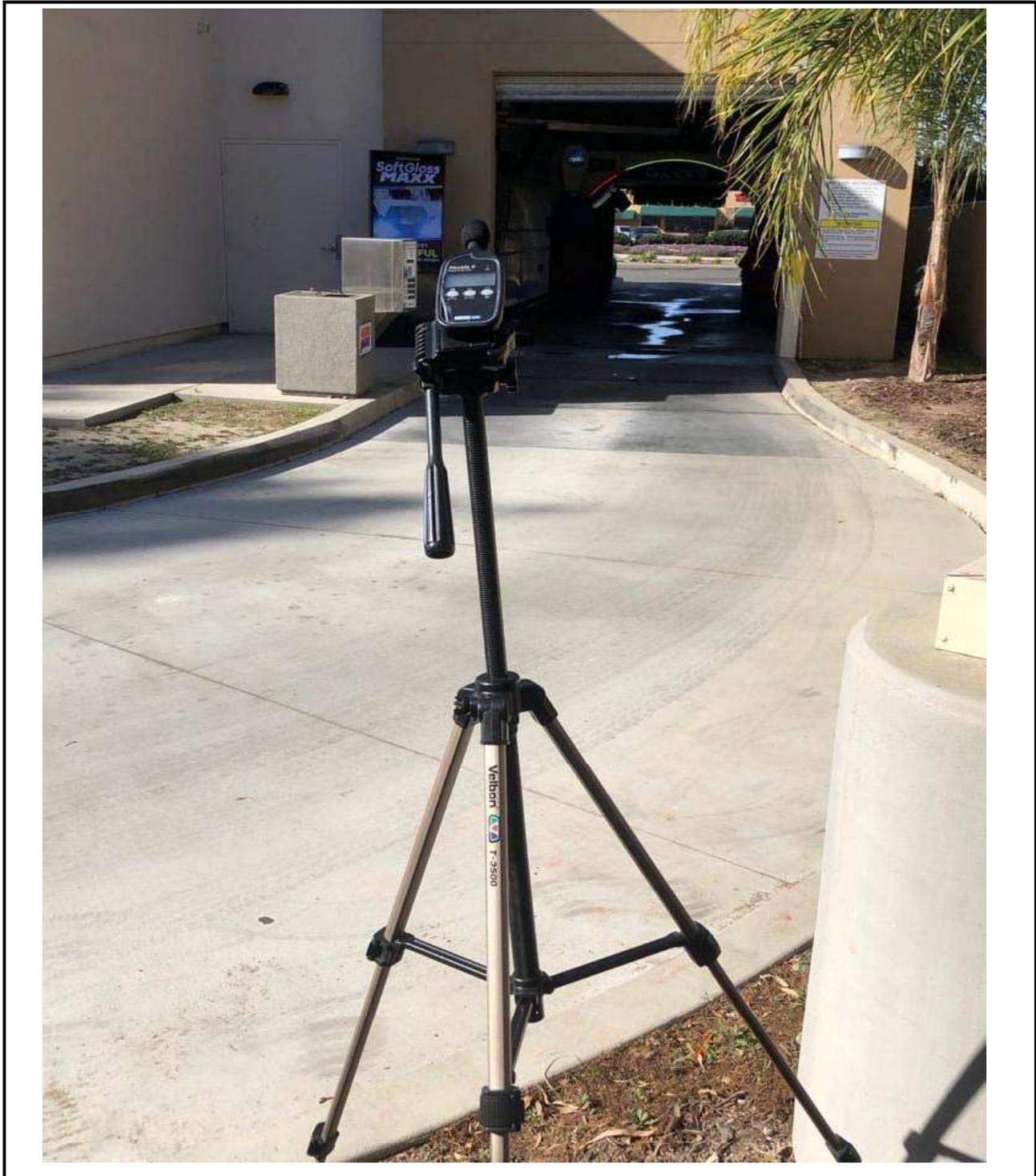
Notes:	Measurement Type:
	Long-term _____ Short-term <u> X </u>

		Start Time	Stop Time	Leq	Lmin	Lmax	L2	L8	L25	L50	
Locations	1	10:23 AM	10:33 AM	58.3	49.5	68.8	62.9	61.4	59	57.2	
	Meter was placed at the northeastern property line at approximately 40 feet from the car wash entry tunnel on the project site. Ambient noise includes traffic noise from Brookhurst Street and Hamilton Avenue.										
	2	10:23 AM	10:33 AM	50.9	43.9	72.1	55.8	53.2	51.3	49.9	
	Meter was placed on the sidewalk at approximately 3 feet from the nearest residential uses in the Sea Spray community. Ambient noise includes traffic noise from Brookhurst Street and Hamilton Avenue.										
	1	10:59 AM	11:09 AM	66.9	52.7	76.3	74.5	73.3	65.8	62.2	
Meter was placed at the northeastern property line at approximately 40 feet from the car wash entry tunnel on the project site. Ambient noise includes traffic noise from Brookhurst Street and Hamilton Avenue and car wash noise.											
2	10:59 AM	11:09 AM	52.0	42.1	71.1	58.4	54.1	52.0	50.3		
Meter was placed on the sidewalk at approximately 3 feet from the nearest residential uses in the Sea Spray community. Ambient noise includes traffic noise from Brookhurst Street and Hamilton Avenue and car wash noise.											



Field Sheet - ST1 Location Photos

Project: Arco Car Wash Noise Study	Engineer: D. Shivaiah	Date: 11/26/2019
Measurement Address: 21452 Brookhurst Street	City: Huntington Beach	JN: 2877-2019-01
		Site No.: 1



Field Sheet - ST1 Location Photos

Project: Arco Car Wash Noise Study

Engineer: D. Shivaiah

Date: 11/26/2019

JN: 2877-2019-01

Measurement Address:

City: Huntington Beach

Site No.:

2

21452 Brookhurst Street

