

January 19, 2021

Job # L200702.2

Chick-fil-A
Attention: Jennifer Daw
15635 Alton Parkway, #350
Irvine, California 92618

Subject: Acoustical Memorandum for Pocket Park – Chick-fil-A and Starbucks Huntington Drive

The purpose of this acoustical memorandum is to address noise impacts from the proposed pocket park to be developed at the Chick-fil-A and Starbucks – Huntington Drive project, located in the City of Monrovia, California.

Please refer to the Acoustical Analysis Report for the Chick-fil-A and Starbucks portion of the project, most current version dated January 19, 2021, for details regarding noise and sound level descriptors, ambient noise levels, application of noise limits, and noise modeling methodology.

Project Description

The park is proposed to be a passive park with an area of approximately 8,600 square feet, located at the southeast corner of the project site, north of Alta Street. The park is anticipated to be classified by the City of Monrovia as a “pocket park,” defined in the City’s General Plan Open Space Element as a small park that provides limited opportunities for active play and passive recreation. A general list of amenities that could be incorporated into the pocket park include the following: picnic tables, shade structure, benches, paved pathways, trash cans, mutt mitt dispenser, shade trees, ornamental landscaping, public art, interpretive garden, exercise equipment, perimeter fencing, and/or lighting.

Noise Sources

As detailed above, the proposed pocket park will consist of passive uses, and will not contain playground equipment, sports fields, amphitheaters, or any other features that would constitute more significant sources of noise generation at parks. Noise generated on site is expected to be limited to individuals speaking at normal volumes while gathered at picnic tables, sitting on benches, walking on paths, or taking part in any other passive activity on the project site.

In order to approximate noise levels of persons gathered in the park, measurements shown in a study prepared by Pearsons, Bennett, and Fidell for the U.S. Environmental Protection Agency titled Speech Levels in Various Noise Environments (Report No. EPA-600/1-77-025) were consulted. This study shows noise levels of speech for both males and females for five different vocal efforts: casual, normal, raised, loud, and shout. Measurements for “normal” voices were considered to be appropriate for this analysis. Although a person may occasionally elevate his/her voice beyond the “normal” level, performing calculations assuming all normal voices is expected to account for the occasional louder individual combined with normal conversation. According to this study, at a distance of 3.28 feet, an average male will generate a noise level of approximately 58 dBA when speaking with a normal voice, while an average female will generate a noise level of approximately 55 dBA when speaking with a normal voice. These noise levels have been incorporated into the noise analysis presented herein.

Noise Analysis

In order to predict anticipated maximum noise impacts, it was assumed that roughly 30 individuals would be present in the pocket park during the “worst-case” (busiest) time, based on the size of the park and the anticipated uses on site. Noise sources were calculated as normal voices, with half of the persons modeled as female, and the other half modeled as male. Each noise source (person) was calculated as speaking for 30 minutes out of every hour, which is considered excessive as each user is expected to take breaks in conversation for listening, eating, drinking, et cetera. For this reason, this analysis is considered to be a conservative estimate of noise levels generated at the park, and accounts for occasional bursts of louder noise combined with times of lesser noise. Calculated noise impacts at the nearest off-site residential or hotel receivers are shown in Table A, and have been compared to the most stringent noise limit established within the Acoustical Analysis Report (60.2 dBA during nighttime hours). Receivers are shown graphically in Figure A, and CadnaA analysis results are provided in Attachment 1.

Table A. Pocket Park Noise Impacts at Off-Site Receivers			
Receiver	Location	Nighttime Noise Limit (dBA L _{EQ})	Park Noise Level (dBA)
P1	South – Residential	60.2	39.5
P2	South – Residential	60.2	40.7
P3	Southeast – Residential	60.2	35.6
P4	East – Hotel	60.2	37.0

As shown in Table A, noise impacts at off-site receivers resulting from activity at the pocket park are not expected to exceed the applicable noise limits of the City of Monrovia, and are also anticipated to be less than existing ambient noise levels in the area. Noise impacts from the pocket park are therefore expected to be less than significant at off-site receivers. No mitigation is deemed necessary for the attenuation of noise impacts emanating from the pocket park.

Certification

All recommendations for noise control are based on the best information available at the time our consulting services are provided. However, as there are many factors involved in sound transmission, and Eilar Associates has no control over the construction, workmanship, or materials, Eilar Associates is specifically not liable for final results of any recommendations or implementation of the recommendations.

This report is based on the related project information received and measured noise levels, and represents a true and factual analysis of the acoustical impact issues associated with the pocket park at the Chick-fil-A and Starbucks – Huntington Drive and 210 site, located at 820 Huntington Drive in the City of Monrovia, California. This report was prepared by Mo Ouwenga and Amy Hool.



Mo Ouwenga, INCE
Acoustical Consultant



Amy Hool, INCE
President/CEO

Figure

- A. Satellite Aerial Photograph Showing Pocket Park and Noise Receiver Locations

Attachment

1. CadnaA Analysis Data and Results



Figure



Eilar Associates, Inc.
 210 South Juniper Street, Suite 100
 Escondido, California 92025
 760-738-5570

**Satellite Aerial Photograph Showing
 Pocket Park and Noise Receiver Locations
 Job # L200702.2**

Figure A



Eilar Associates, Inc.
Acoustical and Environmental Consulting Services

Attachment 1

CadnaA Analysis Data and Results

Eilar Associates, Inc.

210 South Juniper Street, Suite 100

Escondido, California 92025-4230

Phone: (760) 738-5570

Date: 15 Jan 2021

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	1000.00
Min. Length of Section (#(Unit,LEN))	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	6.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	0
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rcvr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Excl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.30
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
Aircraft (???)	
Strictly acc. to AzB	

Receivers

Name	M.	ID	Level Lr		Limit. Value		Land Use			Height		Coordinates		
			Day	Night	Day	Night	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
P1			39.5	-80.2	60.0	0.0				5.00	r	1565.62	906.72	458.40
P2			40.7	-80.2	60.0	0.0				4.99	r	1643.23	906.76	457.08
P3			35.6	-80.2	60.0	0.0				4.99	r	1754.97	908.80	455.83
P4			37.0	-80.2	60.0	0.0				4.99	r	1753.54	988.90	457.31

Area Sources

Name	M.	ID	Result. PWL			Result. PWL"			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Moving Pt. Src		
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night				Number		
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)		(dBA)		(dBA)	(dBA)	(dBA)		(ft²)		(min)	(min)	(min)	(dB)	(Hz)		Day	Evening	Night
Male Voices			80.2	-31.6	-31.6	51.2	-60.6	-60.6	PWL-Pt	L74		0.0	0.0	0.0				30.00	0.00	0.00	0.0		(none)	15.0	0.0	0.0
Female Voices			77.2	-34.6	-34.6	48.1	-63.6	-63.6	PWL-Pt	L75		0.0	0.0	0.0				30.00	0.00	0.00	0.0		(none)	15.0	0.0	0.0

Geometry - Area Sources

Name	Height		Coordinates			
	Begin	End	x	y	z	Ground
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
Male Voices	4.99	r	1563.47	1020.13	463.30	458.31
			1565.50	955.30	458.83	453.84
			1698.89	957.68	458.95	453.96
			1698.55	1021.15	458.96	453.98
Female Voices	4.99	r	1563.47	1020.13	463.30	458.31
			1565.50	955.30	458.83	453.84
			1698.89	957.68	458.95	453.96
			1698.55	1021.15	458.96	453.98

Terrain Contours

Name	M.	ID	OnlyPts	Height		Coordinates		
				Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)
c1						48.13	89.90	460.00
						795.71	100.29	456.00
cRail						56.17	792.38	483.00
						266.72	648.55	480.00
						486.02	539.17	479.00
						802.01	407.22	477.00
						1105.19	312.82	470.00
						1446.99	198.52	460.00
						1805.20	83.13	455.00
cRail						48.36	847.07	483.00
						286.18	687.61	480.00
						500.43	580.57	479.00
						816.42	454.08	477.00
						1117.41	354.22	470.00
						1451.01	242.65	460.00
						1862.81	110.85	455.00
pad465				465.00		44.43	881.85	465.00
						164.67	795.99	465.00
						384.47	666.45	465.00
						505.05	604.43	465.00
						700.74	522.44	465.00
						741.74	509.69	465.00
						752.63	635.86	465.00
						743.67	1252.55	465.00
						48.29	1247.34	465.00
						44.43	881.85	465.00
pad455				455.00		1777.27	209.27	455.00
						1761.14	174.82	455.00
						804.05	481.43	455.00
						791.47	1252.77	455.00
						847.12	1249.35	455.00
						1548.59	528.59	455.00
						1709.11	362.87	455.00
						1755.56	306.87	455.00
						1797.67	251.31	455.00
						1777.27	209.27	455.00
channel						850.61	1249.53	452.00
						1061.47	1033.85	448.00
						1297.19	791.56	445.00
						1527.70	555.85	435.00
						1702.03	376.00	433.00
						1798.77	253.17	431.00
						1884.56	103.98	429.00
						1918.32	91.23	429.00

Name	M.	ID	OnlyPts	Height		Coordinates		
				Begin	End	x	y	z
				(ft)	(ft)	(ft)	(ft)	(ft)
						1911.09	110.87	429.00
						1820.82	273.15	431.00
						1729.21	388.01	433.00
						1547.32	575.10	435.00
						1294.02	834.91	445.00
						1080.44	1052.87	448.00
						872.88	1259.34	452.00
						850.61	1249.53	452.00
c2						874.13	1265.40	465.00
						1406.57	724.06	452.00
						1543.02	725.44	453.00
						1543.02	957.67	454.00
						1698.41	958.02	454.00
						1696.23	1261.58	454.00
c3						3016.03	126.26	437.00
						2203.03	115.90	442.00
						2189.93	516.29	445.00
						1716.95	509.31	451.00
						1709.52	911.38	451.00
						2007.63	917.15	450.00
						1971.66	968.31	450.00
pad452				452.00		1766.34	968.55	452.00
						1919.49	965.82	452.00
						1980.75	1009.03	452.00
						1800.25	1239.30	452.00
						1743.94	1228.82	452.00
						1766.34	968.55	452.00
cHuntington						49.77	1271.03	473.00
						777.25	1277.59	473.00
						1063.93	1278.97	470.00
						1307.89	1279.66	465.00
						1513.25	1281.72	457.00
						1724.13	1283.79	454.00
						2152.19	1291.61	453.00
						2675.66	1295.11	451.00
cHuntington						50.32	1345.96	473.00
						777.79	1352.52	473.00
						1064.48	1353.90	470.00
						1308.43	1354.59	465.00
						1513.80	1356.66	457.00
						1717.02	1379.51	454.00
						2147.81	1385.14	453.00
						2673.47	1388.64	451.00
cEBoff						1091.94	1921.85	492.00
						1191.07	1841.90	488.00
						1262.06	1735.77	480.00

Name	M.	ID	OnlyPts	Height		Coordinates		
				Begin	End	x	y	z
				(ft)	(ft)	(ft)	(ft)	(ft)
						1288.17	1592.78	474.00
						1287.04	1372.32	465.00
cEBoff						1131.01	1927.93	492.00
						1214.80	1861.08	488.00
						1293.38	1754.28	480.00
						1328.54	1611.88	474.00
						1327.85	1372.76	465.00
cEBon						1409.35	1375.34	458.00
						1351.11	1433.92	462.00
						1332.51	1504.90	467.00
						1340.99	1565.34	467.00
						1365.87	1606.37	467.00
						1433.97	1656.69	468.00
						1519.93	1659.73	470.00
						1586.79	1623.70	472.00
						1779.88	1448.11	477.00
cEBon						1424.88	1394.18	458.00
						1374.73	1441.28	462.00
						1355.85	1503.80	467.00
						1364.81	1556.52	467.00
						1386.69	1592.87	467.00
						1440.16	1630.48	468.00
						1514.27	1634.04	470.00
						1570.20	1603.95	472.00
						1762.47	1430.83	477.00
c4				476.00		316.06	1904.49	476.00
						71.20	1901.01	476.00
cWBon						2165.61	1395.54	453.00
						2160.39	1780.29	465.00
						2115.23	1874.08	467.00
						2068.70	1905.45	470.00
						1980.81	1931.99	476.00
						1742.13	1904.93	490.00
						1657.47	1903.15	488.00
						1595.23	1925.72	487.00
c5						1908.87	1886.26	476.00
						1854.16	1844.13	476.00
						1818.05	1768.63	478.00
						1839.39	1658.65	480.00
						1985.64	1440.39	478.00
						1885.89	1559.08	480.00
						1695.50	1762.06	481.00
						1535.19	1884.34	483.00
						1548.28	1918.47	487.00
						1649.20	1879.45	488.00
						1745.09	1869.87	490.00

Name	M.	ID	OnlyPts	Height		Coordinates		
				Begin	End	x	y	z
				(ft)	(ft)	(ft)	(ft)	(ft)
						1908.87	1886.26	476.00
I210 EB						1202.17	1924.85	493.00
						1457.23	1758.72	483.00
						1581.31	1656.01	481.00
						1727.94	1505.00	480.00
cWBoff						2023.36	1450.16	478.00
						1870.16	1671.75	480.00
						1848.10	1753.44	478.00
						1879.47	1822.03	476.00
						1977.01	1857.18	476.00
						2048.14	1826.00	467.00
						2083.16	1768.00	465.00
						2091.36	1399.77	453.00
I210 EB						1915.52	1264.28	477.00
						2218.15	920.98	474.00
						2433.73	677.50	473.00
						2690.34	455.36	470.00
I210 EB						2154.69	1260.55	477.00
						2333.06	1015.43	474.00
						2539.33	776.32	473.00
						2691.68	630.18	470.00
cEBon						1794.25	1272.65	454.00
						2010.09	1042.05	464.00
						2222.45	834.03	474.00
						2384.41	683.01	473.00
cEBon						1833.90	1273.29	454.00
						2045.65	1063.73	464.00
						2238.25	864.56	474.00
						2383.25	720.66	473.00
SBUX pad				470.00		1403.48	1245.57	470.00
						1490.38	1244.05	470.00
						1492.55	1186.70	470.00
						1405.66	1188.00	470.00
						1403.27	1245.35	470.00
CFA pad				468.50		1560.55	1253.39	468.50
						1560.33	1167.37	468.50
						1669.17	1168.02	468.50
						1669.38	1249.26	468.50
						1560.98	1253.39	468.50

Sound Level Spectra

Name	ID	Type	Oktave Spectrum (dB)												Source
			Weight.	31.5	63	125	250	500	1000	2000	4000	8000	A	lin	
Males-Normal Voices	L74	Lw (c)				62.6	66.4	68.8	61.8	57.8	54.3	49.0	68.4	72.1	Pearson et al
Females-Normal Voices	L75	Lw (c)				48.6	62.1	64.8	59.8	55.2	54.1	50.5	65.4	68.0	Pearson et al