



PROJECT TRANSMITTAL LETTER

To: Lynn Gelin, Esq., City Attorney (City of Delray Beach)
William Bennett, Esq., Assist. City Attorney (City of Delray Beach)
Tiago Mattos (BAC)
Denis Schwachtgen (BAC)

From: Bennett Brooks (BAC)

Date: June 14, 2024

Project Transmittal: PJ2022-1381-T04

Subject: City of Delray – *2024 Sound Test Results and Preliminary Analysis*

Background

The City of Delray Beach is pursuing the development of a revised noise ordinance which will apply to its entertainment district. Delray Beach has an active entertainment district, which is popular with tourists and locals. Integrated into the district and the surrounding area are recent residential and business developments. The revised ordinance is intended to recognize the district's dynamic and robust character, economic and business climate and growing residential community. This revised ordinance will provide an acoustical framework for the future development of the entertainment district and the surrounding communities. It is proposed that the revised ordinance language be implemented for the entertainment district with possible application to other Delray Beach districts in the future.

Brooks Acoustics (BAC) was asked to provide acoustical engineering guidance to the City of Delray Beach on the language of the ordinance, its meaning, context and effect on the neighborhood, and comparisons with similar city ordinances. BAC is assisting the City Attorney's Office to present the proposed ordinance with guidance on its implications to the appropriate commissions and agencies, and to the public for consideration.

During the pandemic the entertainment district activity was reduced. Since 2021, the activity was resumed. With the intensified activity noise complaints to the City increased. The existing subjective noise ordinance was not effective. A sound test and soundscape study was conducted to determine the existing conditions, and to develop new data-driven, perception-based objective standards. The goals for the new ordinance were to create certainty for stakeholders, to balance the interests of businesses and residents, to manage expectations, and to ensure fairness and consistency in application.

A comprehensive set of acoustical (field sound test) and soundscape (perception) data were acquired during the **2022 Winter and Spring season**, in the locations relevant to the study, and a thorough analysis of that data examining the current conditions. Long-term and short-term acoustical measurements were made, several public workshops and hearings were held and two *Soundwalks* were conducted. A draft ordinance was crafted, based on an understanding of the current conditions such that it may enhance economic growth and the quality of life for businesses and residents.

Sound survey tests were conducted in **May 2024** at some of the key locations that were tested in 2022. Long term and short term acoustical (physical sound) tests were conducted in 2024. No soundscape (perceptual) tests were conducted in 2024.

The objective of these additional acoustical tests in 2024 was to determine if the conditions had changed from those of 2022, and what effect, if any, that may have on the development of the revised noise ordinance.

Important analysis of 2022 acoustical and soundscape data

Some important analysis of the 2022 data was made subsequent to the presentation of results to the City Commission in October 2022 and to the creation of the First DRAFT Revised Ordinance.

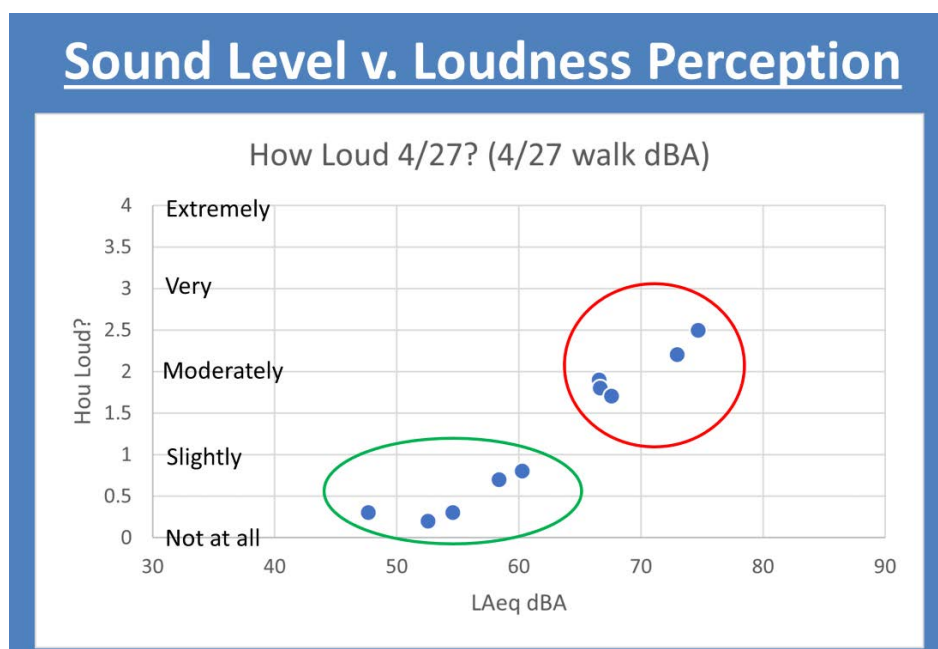
To review, a summary of the results that was presented to the City Commission in October 2022, is as follows:

- General: Area was pleasant
- Day of week: Some differences
- Loudness: Most people did not think that the area was loud
- Exceptions: Johnnie Brown's & Throw Social
- Appropriateness: Sound was appropriate to the activity

Subsequent to that presentation, further analysis was done using the 2022 Soundwalk data. Comparisons were made of the measured acoustical data (dBA) at each test location near an Entertainment District venue of interest and the measured perceptual data also at that test location.

Specifically, a comparison was made of measured dBA versus an average of all the Soundwalk Participants' answers to the question "How loud is this place" on a scale of 0 to 4.

Data comparing **sound level versus loudness perception**, collected during a Soundwalk of the Entertainment District on 4/27/2022, are shown below.

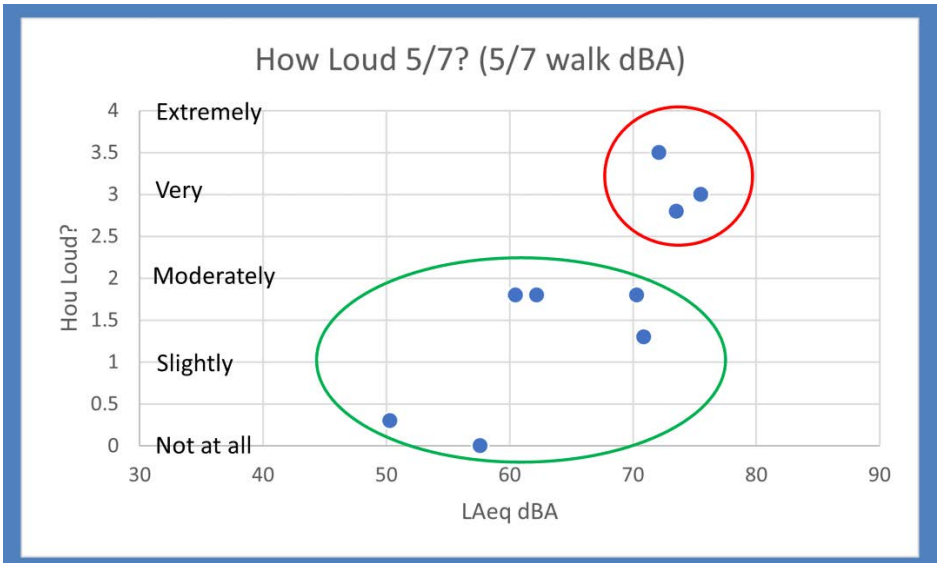


Note that the 4/27/2022 Soundwalk was conducted on a Wednesday evening, with about 21 participants. For the 4/27/2022 Soundwalk, there are two distinct clusters of data. One data cluster shows perceptual data which indicates that the location was not loud or only slightly loud. The other data cluster shows perceptual data which indicates that the location was moderately loud to very loud.

The dividing line between the two clusters appears to be around **65 dBA**.

Another comparison was made for Soundwalk data collected on 5/07/2022, a Saturday evening. The evening was damp from earlier rainfall and there were 4 participants.

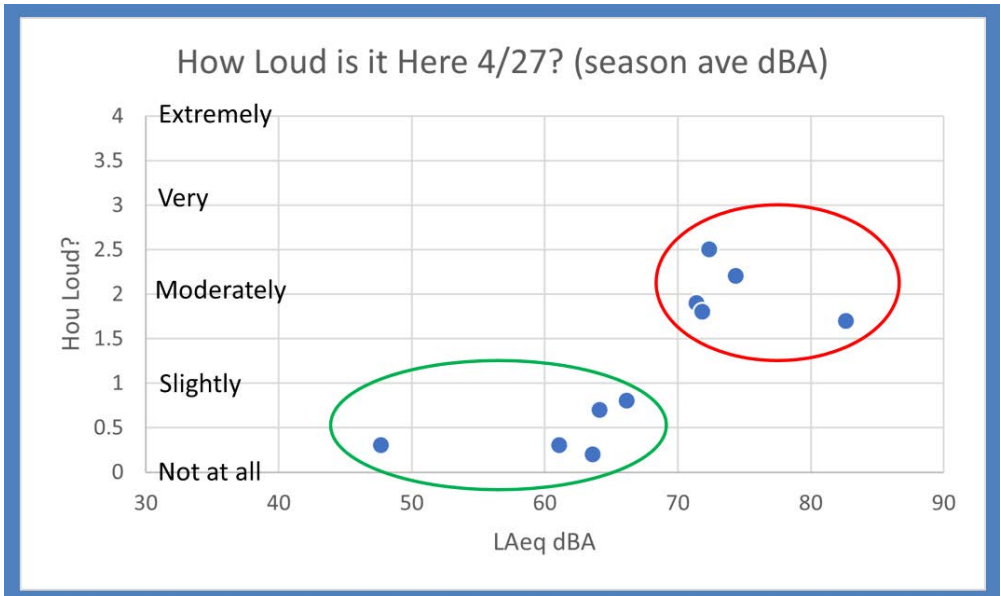
The data comparing **sound level versus loudness perception** for that Soundwalk are shown below:



For the 5/07/2022 Soundwalk, there are also two distinct clusters of data, although they are not as tight as for the 4/27 Soundwalk. One data cluster shows perceptual data which indicates that the location was not loud or moderately loud. The other data cluster shows perceptual data which indicates that the location was moderately loud to very/extremely loud.

The dividing line between the two clusters appears to be around **72 dBA**.

Finally, the 4/27/2022 Soundwalk perceptual data were compared to the season average sound level measured at each test location. This comparison is shown below:



This comparison assumes that the participants would have some familiarity with the venue test locations at other times beside the Soundwalk event. For this comparison, the two clusters again have a dividing line of about **70 dBA**.

These results are open to some interpretation. There may be a perceptual difference between loudness on a weeknight versus a weekend. Also, there may be a perceptual difference between Soundwalk participation groups of larger versus smaller sizes. Still, the results show clear trends.

To summarize, the 2022 Soundwalk data clearly show a dividing line in the perception of venue loudness in the Entertainment District which occurs between 65 dBA and 70 dBA.

These perceptual results support the proposed objective sound level limits at a residence in the revised noise ordinance of 70 dBA before 11 pm and 65 dBA after 11 pm.

Current Conditions

Summary

The current series of acoustical (sound level) tests had the objective of answering the question, “Have the sound conditions in the Entertainment District changed in the last 2 years?”

The short answer is, “It depends.”

Some testing showed that some venues had increased sound levels, depending on the time of testing, others had reduced sound levels, and for some the sound levels were essentially unchanged. These results are explored in the discussion below.

2024 Sound Test Protocols

Acoustical sound level testing was conducted over the period from Friday, May 3rd to Wednesday, May 8th 2024. Short term testing (~15 minutes) and long term testing (~5 days) were conducted at a number of locations in the Delray Beach Entertainment District.

A detailed comparison of the **sound test locations** of 2022 and 2024 is given in **APPENDIX A**.

The 2024 test locations were a subset of the 2022 locations. The 2024 test locations are listed below, using the conventions of the 2022 test locations:

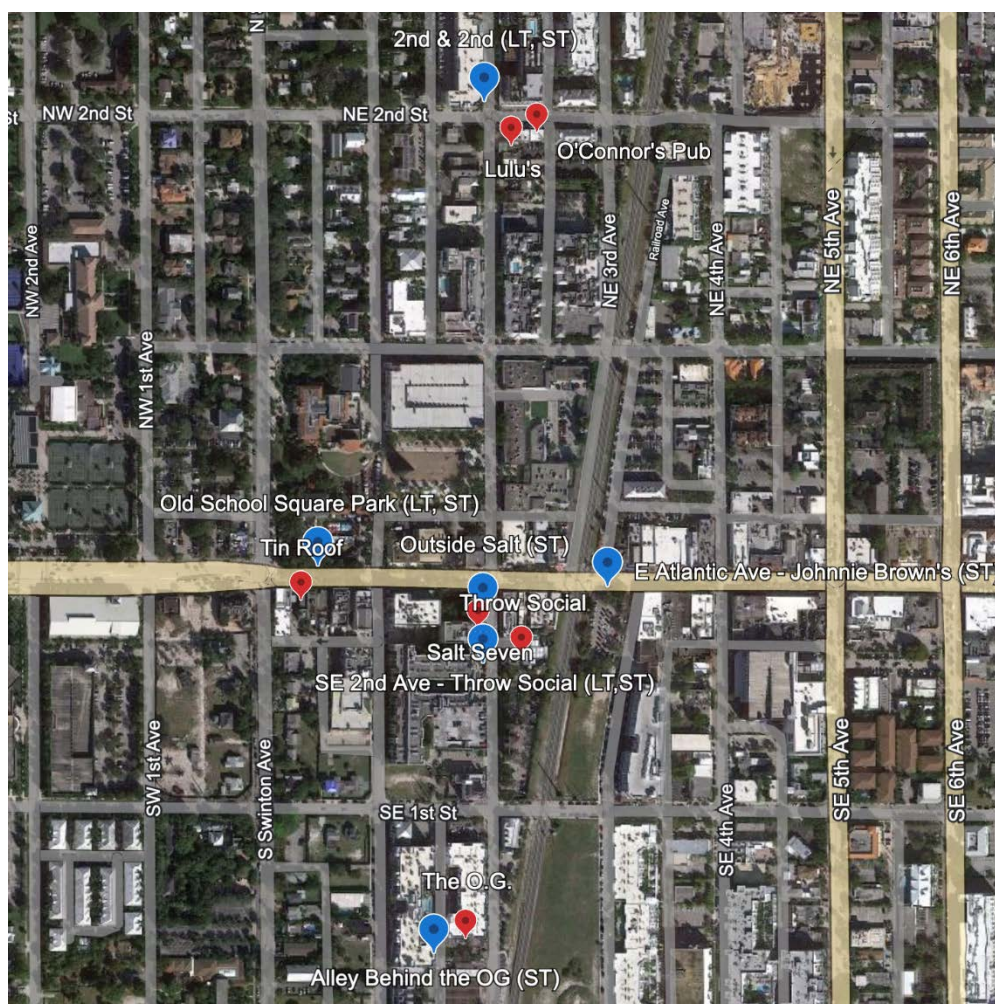
- Long-Term Positions:

Position Nbr. / Name	Position Location
L1	Old School Square Park
L3	2 nd & 2 nd
L4	SE 2 nd Ave – Throw Social

- Short-Term Positions:

Position Nbr. / Name	Position Location
1A	Alley behind Tin Roof & Honey*
2	Old School Square Park
4	2 nd & 2 nd
6 and 6A	Johnnie Brown's*
8	SE 2 nd Ave – Throw Social
9A	Alley behind the O.G.*
13	Outside Salt– SE 2 nd Ave in Worthing Park

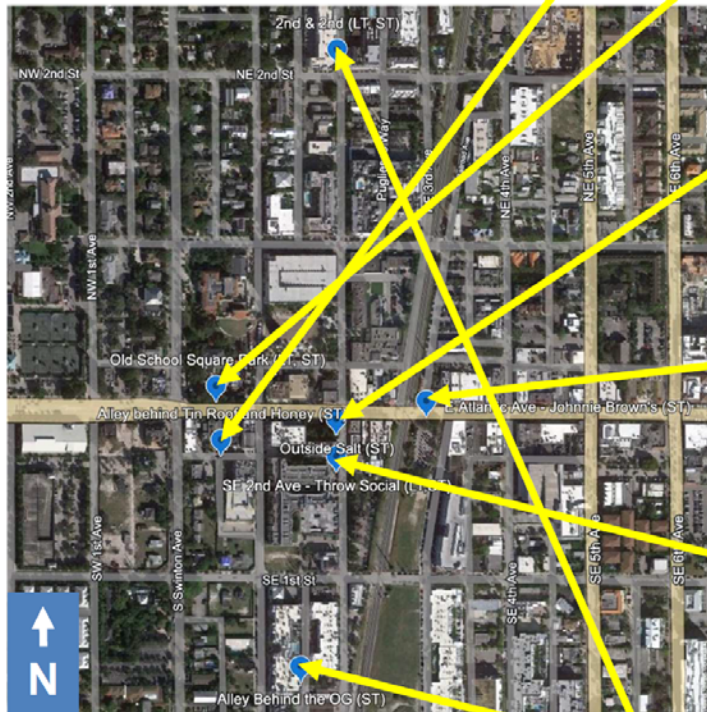
A map showing the test positions and the associated venues with each location is shown below:



Short tem test comparisons

A comparison of short term sound test data taken in 2022 and 2024, at the same locations and at similar times of day is shown below:

*Weekend Short-Term Measurements:
Results Comparison (2022 and 2024)*



*2024 Measurement position in the alley behind Tin Roof and Honey: 18 ft SE of the position in 2022, on the property (behind bushes) of the apartments in the alley (10 ft S and 12 ft E from the manhole).

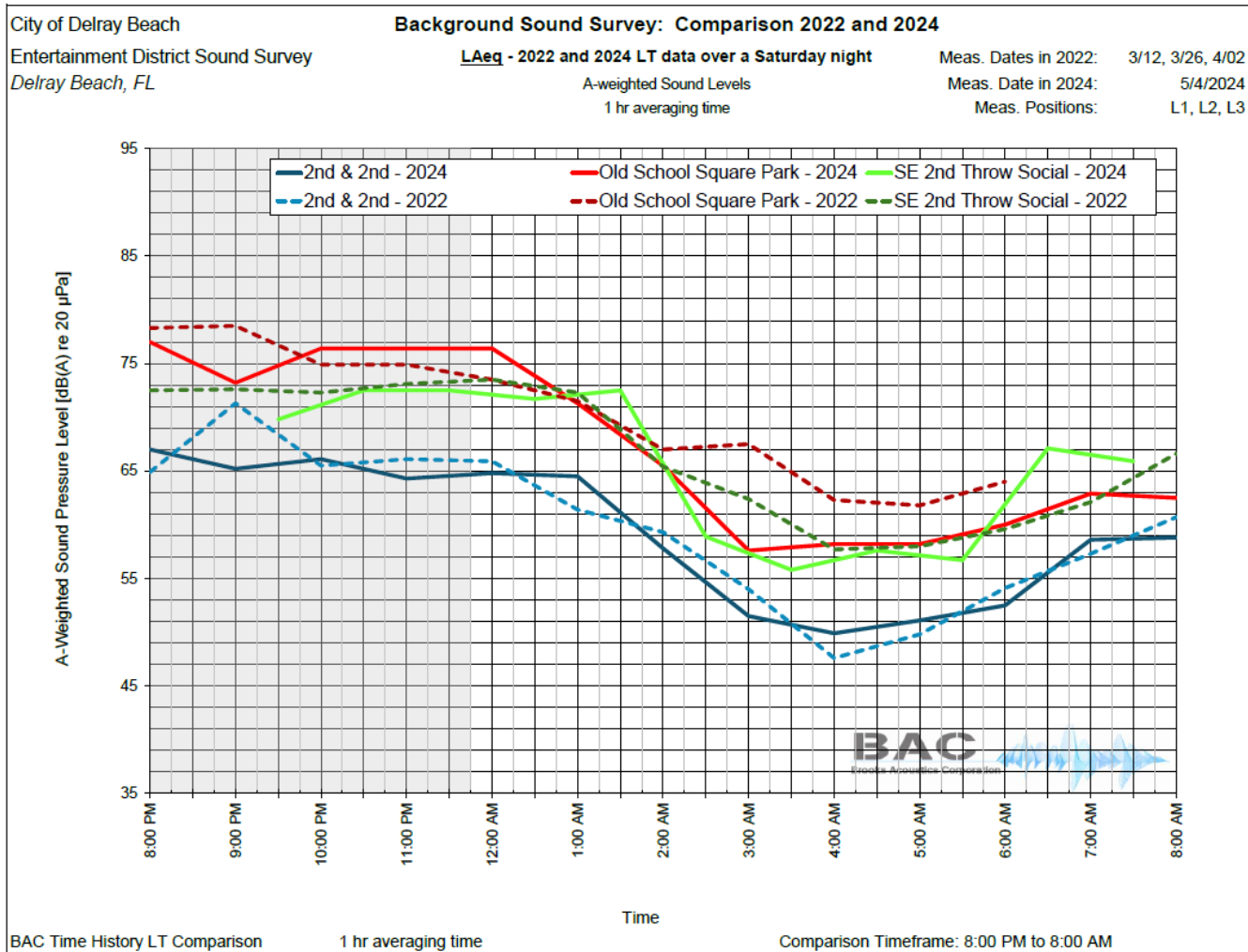
**Measurements in 2024 at positions Nr. 4 and 9A were made during a weekday night only (Wednesday 05/08 and Thursday 05/09).

ST Position Nr. 1 – Alley behind Tin Roof & Honey*			
03/12/2022 at 10:55 PM		05/04/2024 at 10:50 PM	
$L_{AF,max}$	= 92.8	$L_{AF,max}$	= 87.9
$L_{AF,10\%}$	= 75.8	$L_{AF,10\%}$	= 68.9
$L_{AF,eq}$	= 71.6	$L_{AF,eq}$	= 67.6
$L_{AF,90\%}$	= 64.7	$L_{AF,90\%}$	= 64.9
ST Position Nr. 2 – Old School Square Park			
03/11/2022 at 10:50 PM		05/04/2024 at 11:15 PM	
$L_{AF,max}$	= 87.5	$L_{AF,max}$	= 92.7
$L_{AF,10\%}$	= 82.5	$L_{AF,10\%}$	= 80.0
$L_{AF,eq}$	= 79.4	$L_{AF,eq}$	= 78.1
$L_{AF,90\%}$	= 72.2	$L_{AF,90\%}$	= 75.1
ST Position Nr. 4 – 2 nd and 2 nd **			
03/17/2022 at 10:35 PM		05/08/2024 at 10:45 PM	
$L_{AF,max}$	= 78.5	$L_{AF,max}$	= 78.1
$L_{AF,10\%}$	= 63.8	$L_{AF,10\%}$	= 63.6
$L_{AF,eq}$	= 62.3	$L_{AF,eq}$	= 61.5
$L_{AF,90\%}$	= 58.9	$L_{AF,90\%}$	= 56.2
ST Position Nr. 6 – Johnnie Brown's			
03/26/2022 at 11:50 PM		05/05/2024 at 12:40 AM	
$L_{AF,max}$	= 97.8	$L_{AF,max}$	= 93.4
$L_{AF,10\%}$	= 79.3	$L_{AF,10\%}$	= 83.6
$L_{AF,eq}$	= 82.8	$L_{AF,eq}$	= 80.8
$L_{AF,90\%}$	= 72.2	$L_{AF,90\%}$	= 72.7
ST Position Nr. 8 – SE 2 nd Ave, Throw Social			
04/23/2022 at 10:50 PM		05/04/2024 at 11:55 PM	
$L_{AF,max}$	= 92.3	$L_{AF,max}$	= 85.1
$L_{AF,10\%}$	= 77.1	$L_{AF,10\%}$	= 71.2
$L_{AF,eq}$	= 75.0	$L_{AF,eq}$	= 70.0
$L_{AF,90\%}$	= 70.9	$L_{AF,90\%}$	= 67.6
ST Position Nr. 9A – Alley behind the O.G.**			
04/01/2022 at 11:50 PM		05/09/2024 at 12:00 AM	
$L_{AF,max}$	= 79.1	$L_{AF,max}$	= 83.6
$L_{AF,10\%}$	= 68.0	$L_{AF,10\%}$	= 64.6
$L_{AF,eq}$	= 65.1	$L_{AF,eq}$	= 63.6
$L_{AF,90\%}$	= 59.5	$L_{AF,90\%}$	= 59.8
ST Position Nr. 13 – Outside Salt			
04/23/2022 at 10:35 PM		05/04/2024 at 11:35 PM	
$L_{AF,max}$	= 92.6	$L_{AF,max}$	= 89.7
$L_{AF,10\%}$	= 82.8	$L_{AF,10\%}$	= 82.2
$L_{AF,eq}$	= 82.0	$L_{AF,eq}$	= 80.4
$L_{AF,90\%}$	= 78.2	$L_{AF,90\%}$	= 77.9

A review of these data shows that the sound levels at the times of the short term tests in 2024 was in general slightly lower than the 2022 sound levels at each location. At the Throw Social location the 2024 was about 5 dBA lower than the 2022 sound level. At some locations, (Tin Roof, Honey, Throw Social) it may be possible that the venue operators noticed us setting up our meter and it appeared that they turned the sound levels down during the short term tests. However, they turned back up later in the evening.

Long tem test comparisons

A comparison of long term sound test data taken in 2022 and 2024, at the same locations over a Saturday night into Sunday morning are shown below. These are hourly average data from 8 pm Saturday to 8 am on Sunday. The solid lines represent the 2024 data and the dotted lines represent the 2022 data.



For the peak sound level hours at each location, the 2022 data were generally higher in level than the 2024 data. However, the graph indicates that the 2024 sound levels remained higher than the 2022 levels later into the night. The trend is that the venues are active later in 2024 than they were in 2022.

A review of other 2022 to 2024 comparison data shows additional interesting information. For example it appears that the Tin Roof was more active on Saturday afternoons in 2022 than it is in 2024. Also, Throw Social appears to be more active on Sunday evenings in 2024 than it was in 2022.

Complete Test Data Set

A complete set of data graphs is included in Appendix B of this report. Both short term and long term time history plots are given for each test location. Also, spectral frequency charts are given for each test. Special emphasis is given to identifying the A-weighted (human hearing) sound spectra as well as the C-weighted (low frequency bass content) sound spectra.

There are more data trends which may be analyzed and reported. Further review of the data published herein will provide more insights into the current 2024 conditions in the Entertainment District, compared to the previous conditions in 2022.

As the business climate for these venues changes, their operating practices change. Still, these changes may be measured and tested against the Draft Ordinance to see if it must be modified.

It may be that the objective sound level limits at different times of the day may be adjusted to reflect current venue operating conditions. Also, limits for different days of the week may be considered.

This data Preliminary Analysis is subject to review by the City of Delray. Further analysis may be warranted, as needed, based on questions and comments provided by City Staff.

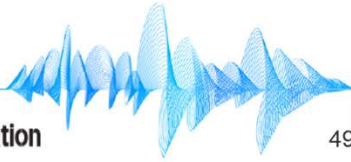
Please contact me if you have any questions concerning this Preliminary Analysis.

Very truly yours,
BROOKS ACOUSTICS CORPORATION



Bennett M. Brooks, PE, FASA, INCE
President

Attachments



APPENDIX A

City of Delray Beach
Delray Beach, FL

14 June 2024
PJ2022-1381

Subject: 2024 Measurement Positions numbering (consistent with 2022 numberings) and positional information.

Measurement positions in **2022**:

- Long-Term Positions:

Position Nbr. / Name	Position Location
L1	Old School Square Park
L2	Alley behind Tin Roof & Honey
L3	2 nd & 2 nd
L4	SE 2 nd Ave – Throw Social
L5	Alley behind the OG
L6	Breathe – West Atlantic
L7	3 rd & 3 rd

- Short-Term Positions:

Position Nbr. / Name	Position Location
1	Alley behind Tin Roof & Honey
2	Old School Square Park
3	SE 1 st Ave – Worthing Place Condos
4	2 nd & 2 nd
5	2 nd St. near O'Connor's
6	Johnnie Brown's – East Atlantic
7	SOFA – SE 3 rd Ave & SE 1 st St
8	SE 2 nd Ave – Throw Social @ Worthing Place
9	Alley behind the OG
10	Breathe – West Atlantic
11	3 rd & 3 rd
12	Alley behind Lulu's
13	Outside Salt – SE 2 nd Ave in Worthing Park

Measurement positions in 2024:

- Long-Term Positions:

Position Nbr. / Name	Position Location
L1	Old School Square Park
L3	2 nd & 2 nd
L4	SE 2 nd Ave – Throw Social

- Short-Term Positions:

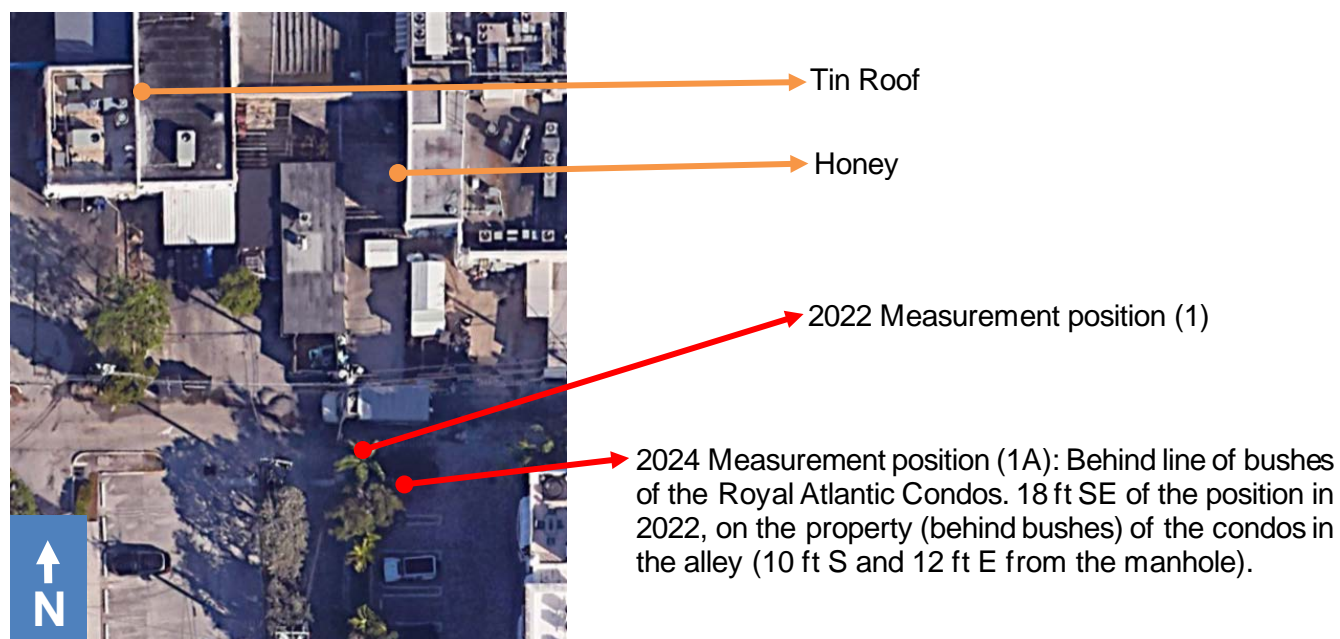
Position Nbr. / Name	Position Location
1A	Alley behind Tin Roof & Honey*
2	Old School Square Park
4	2 nd & 2 nd
6 and 6A	Johnnie Brown's*
8	SE 2 nd Ave – Throw Social
9A	Alley behind the O.G.*
13	Outside Salt– SE 2 nd Ave in Worthing Park

**Some positions were slightly altered when compared to their respective 2022 position. See “Details regarding measurement positions in 2024” for more information.*

Details regarding measurement positions in 2024:

The same positions as in 2022 were used for both the short-term and long-term measurements. However, some positions were altered as follows:

- **Position 1A** – Alley behind Tin Roof & Honey:



- **Position 6 and 6A – Johnnie Brown's:**



Johnnie Brown's

2022 Measurement position (6) (and 2024 measurement position on Saturday 05/05)

2024 Measurement position (6A). 35 ft E of the 2022 position. Speaker appears less muffled (more hi-hats are audible) in this position. Measurement position on Wednesday 05/08 in 2024.

- **Position 9A – Alley behind the O.G.**



The O.G.

2024 Measurement position (9A). 24 ft N of the 2022 position.

2022 Measurement position (9)

APPENDIX B

City of Delray Beach

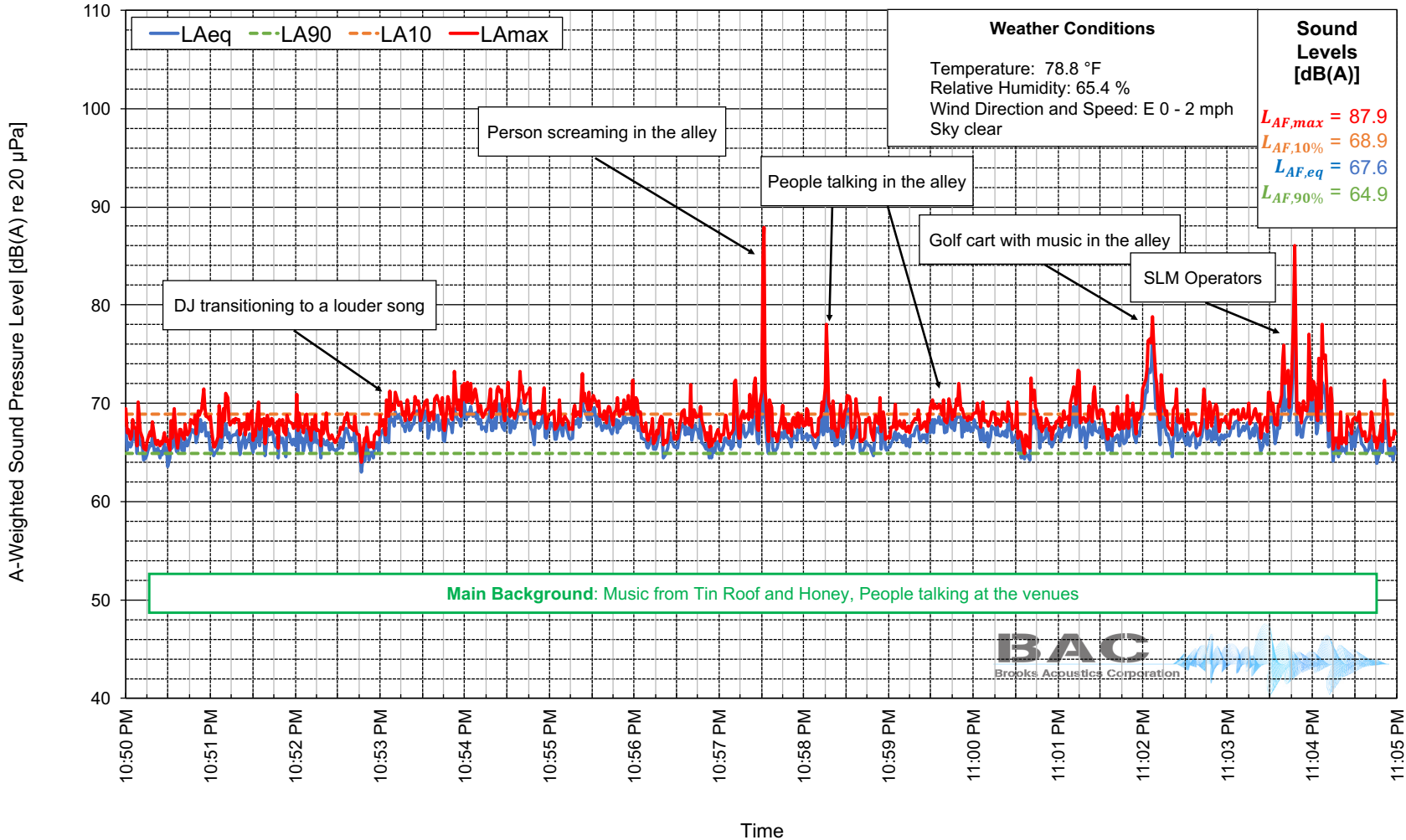
2024 Sound Survey

1. Short term sound test data time histories
2. Long term sound test data time histories
3. Sound survey test data – Spectral Charts

City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey
Alley Behind Tin Roof & Honey
A-weighted Sound Levels
15 min record, 1 sec sample time

Date: 04 May 24
Time: 10:50 PM
Position: 1A



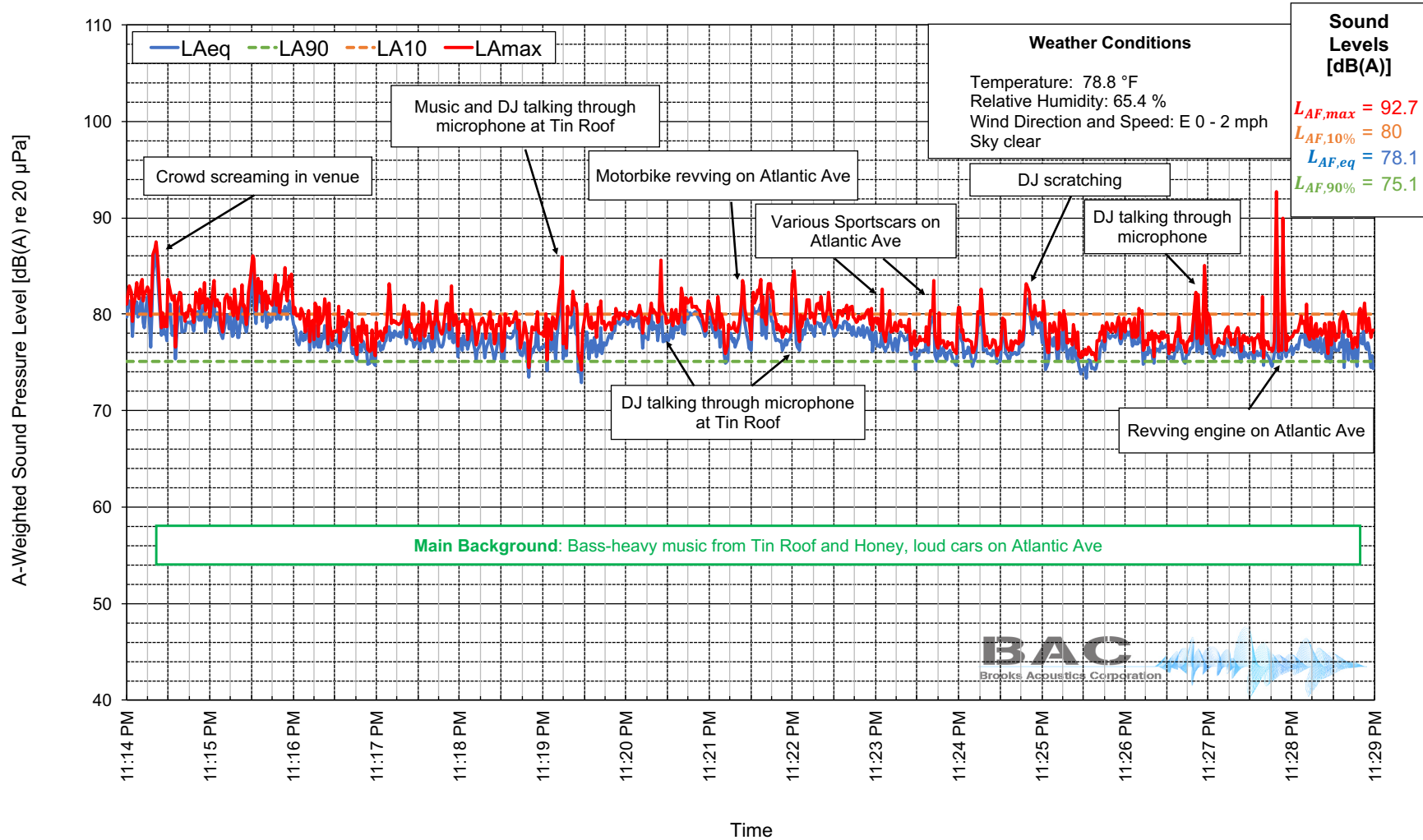
City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey

E Atlantic Ave - Old School Square Park

A-weighted Sound Levels
15 min record, 1 sec sample time

Date: 04 May 24
Time: 11:14 PM
Position: 2



BAC Time History TH2024-0504 NTi 001

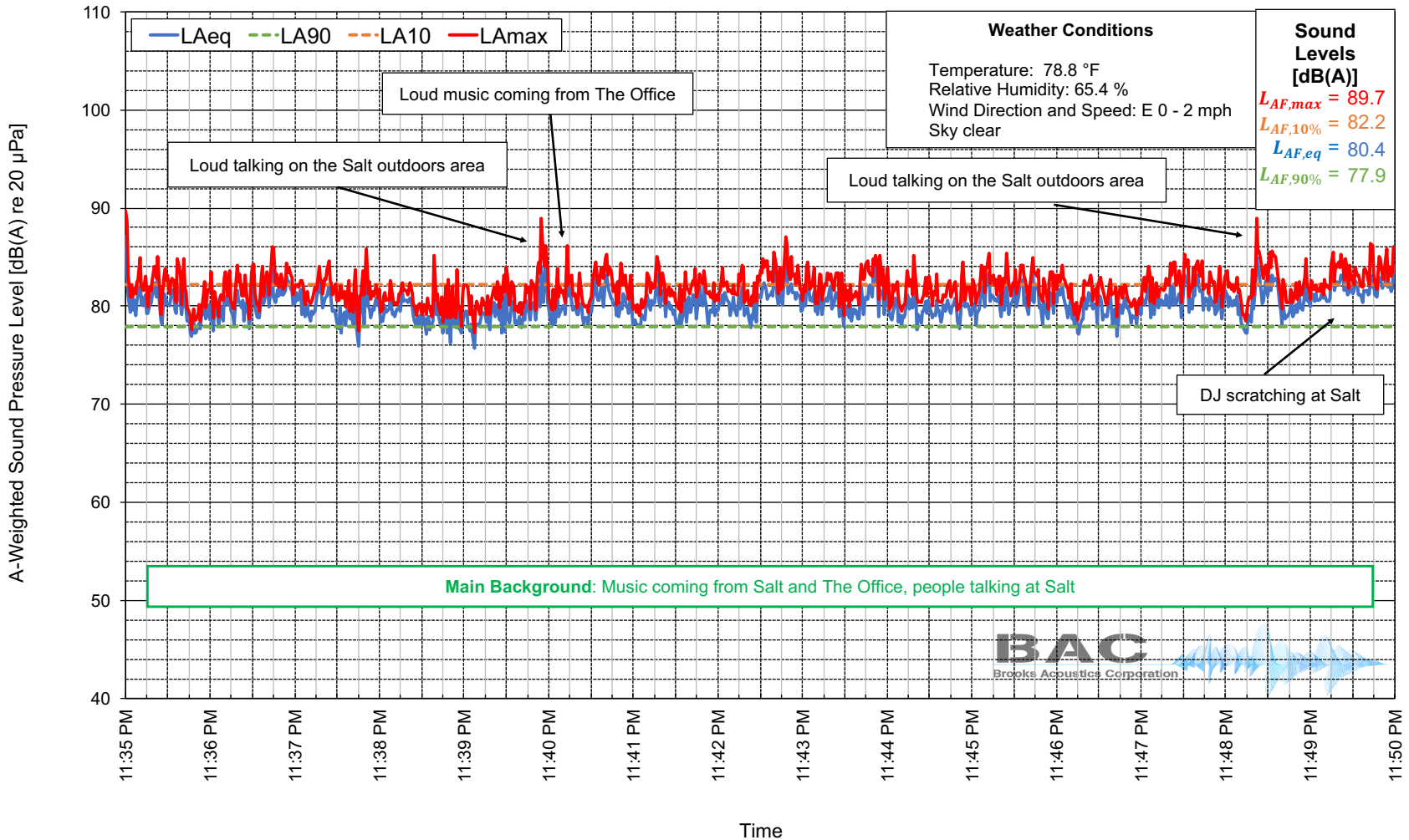
15 min record, 1 sec sample time

Sound Survey

Outside Salt

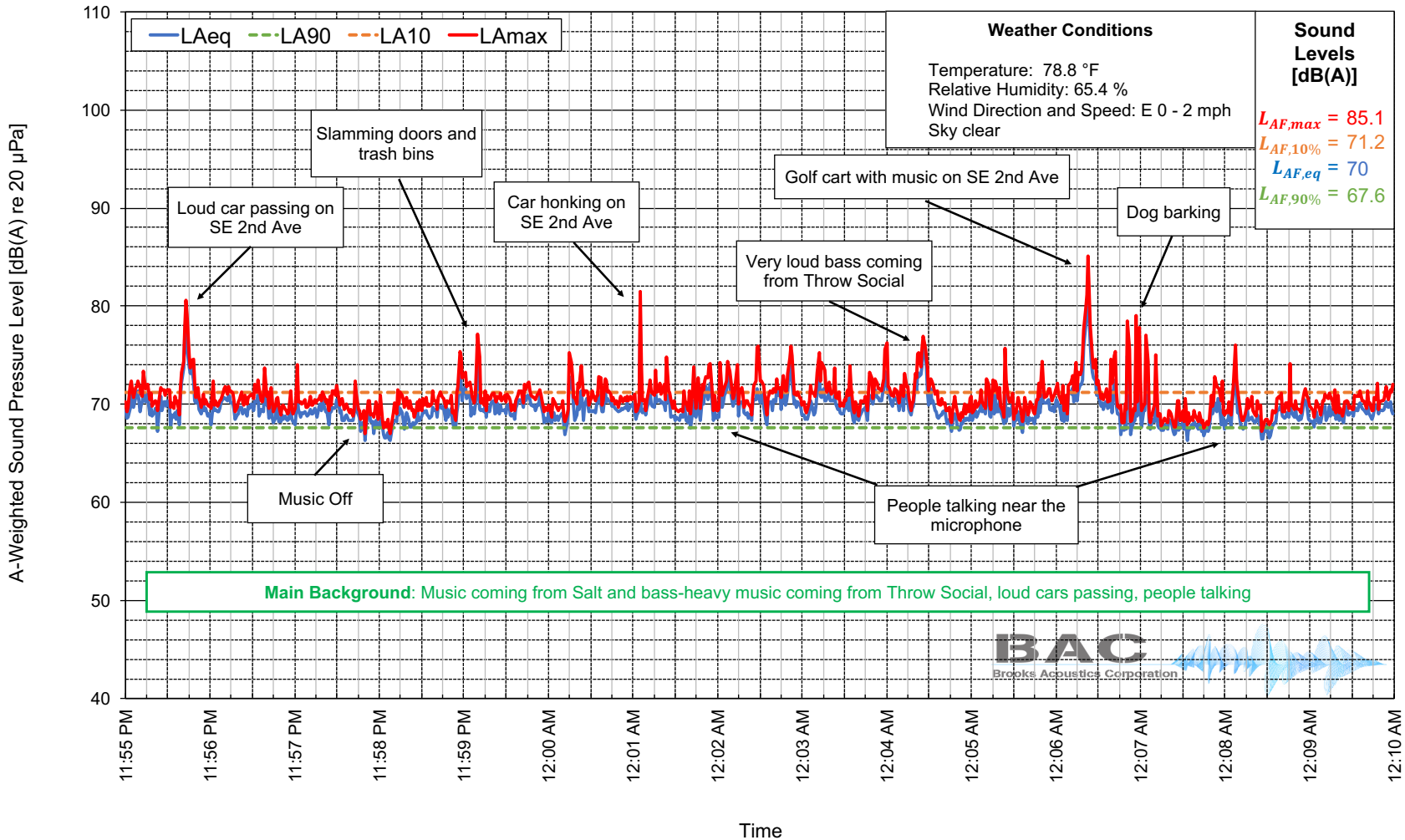
A-weighted Sound Levels
15 min record, 1 sec sample time

Date: 04 May 24
Time: 11:35 PM
Position: 3



Sound Survey
SE 2nd Avenue - Throw Social
A-weighted Sound Levels
15 min record, 1 sec sample time

Date: 04 May 24
Time: 11:55 PM
Position: 5



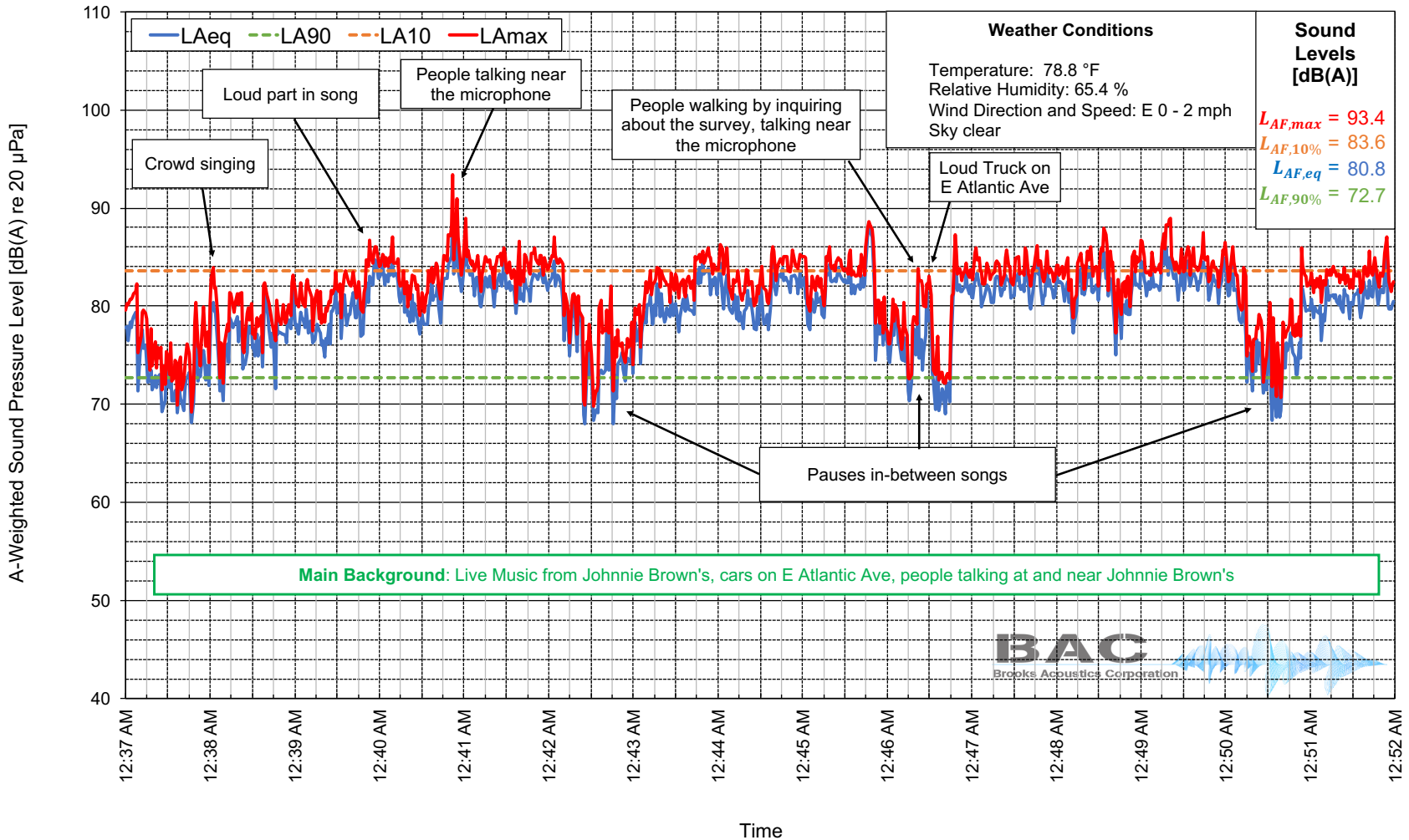
City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey

Johnnie Brown's

A-weighted Sound Levels
15 min record, 1 sec sample time

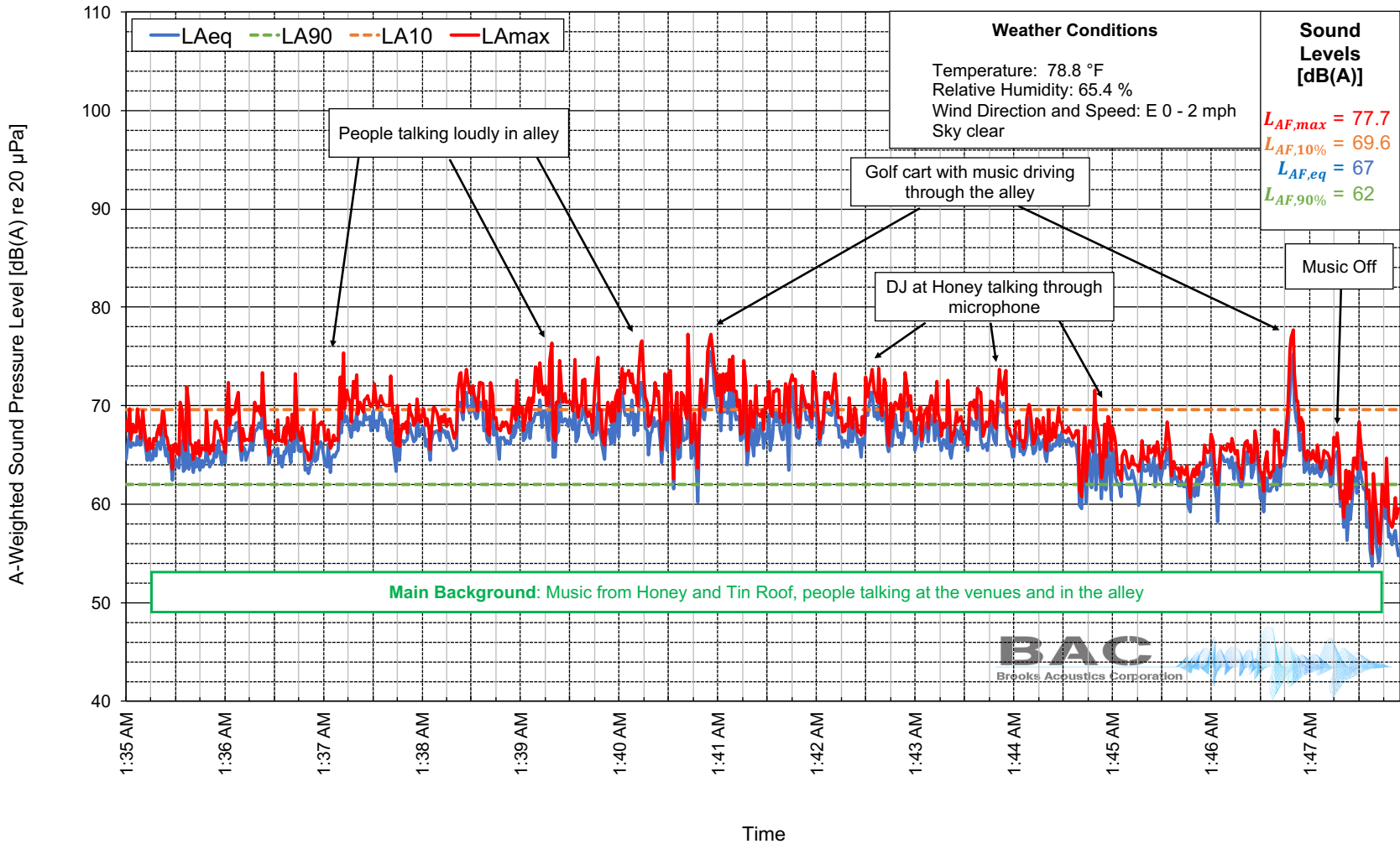
Date: 05 May 24
Time: 12:37 AM
Position: 4



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey
Alley Behind Tin Roof & Honey
A-weighted Sound Levels
13 min record, 1 sec sample time

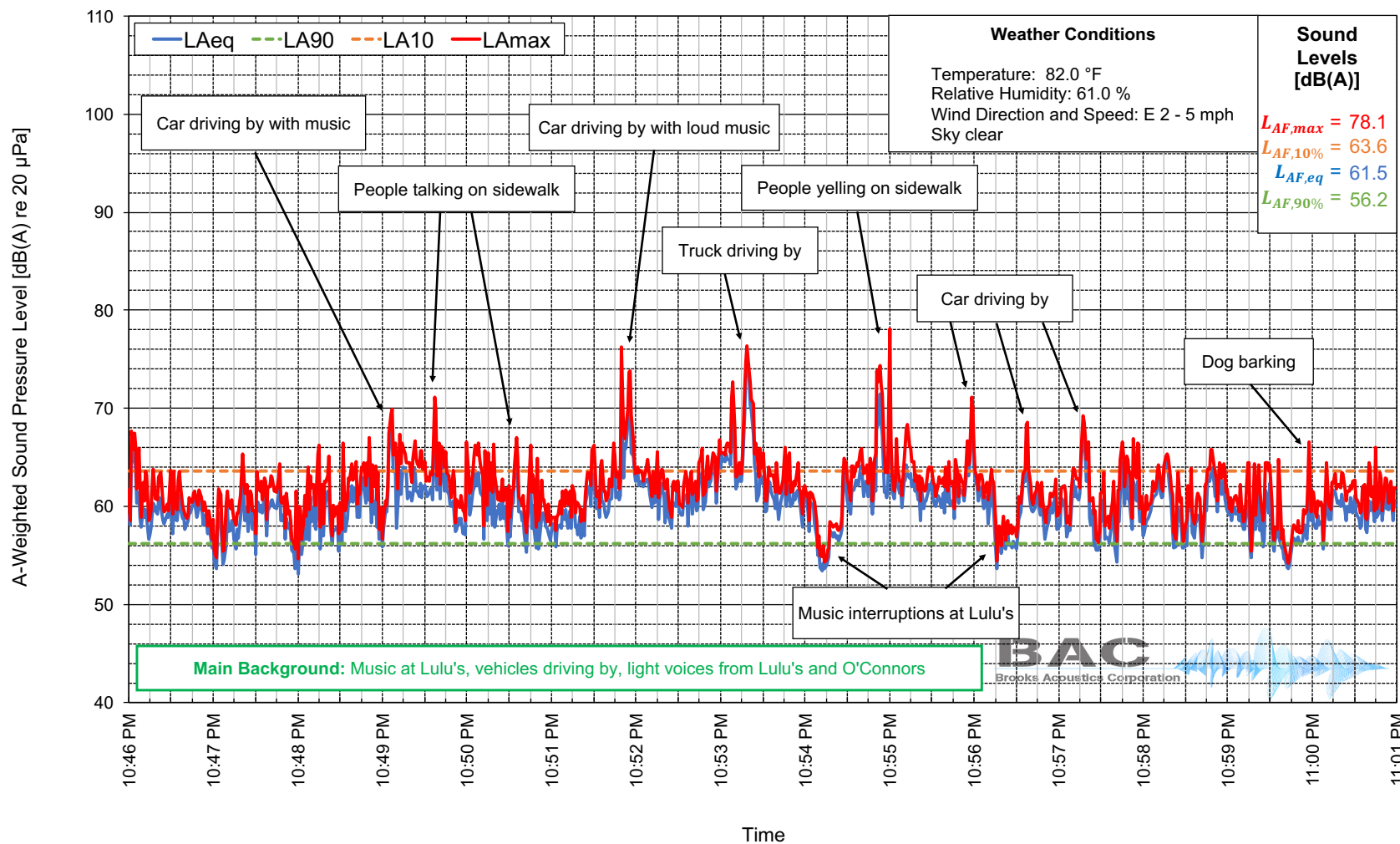
Date: 05 May 24
Time: 1:35 AM
Position: 1A



Sound Survey

2nd & 2nd
A-weighted Sound Levels
15 min record, 1 sec sample time

Date: 08 May 24
Time: 10:46 PM
Position: 7



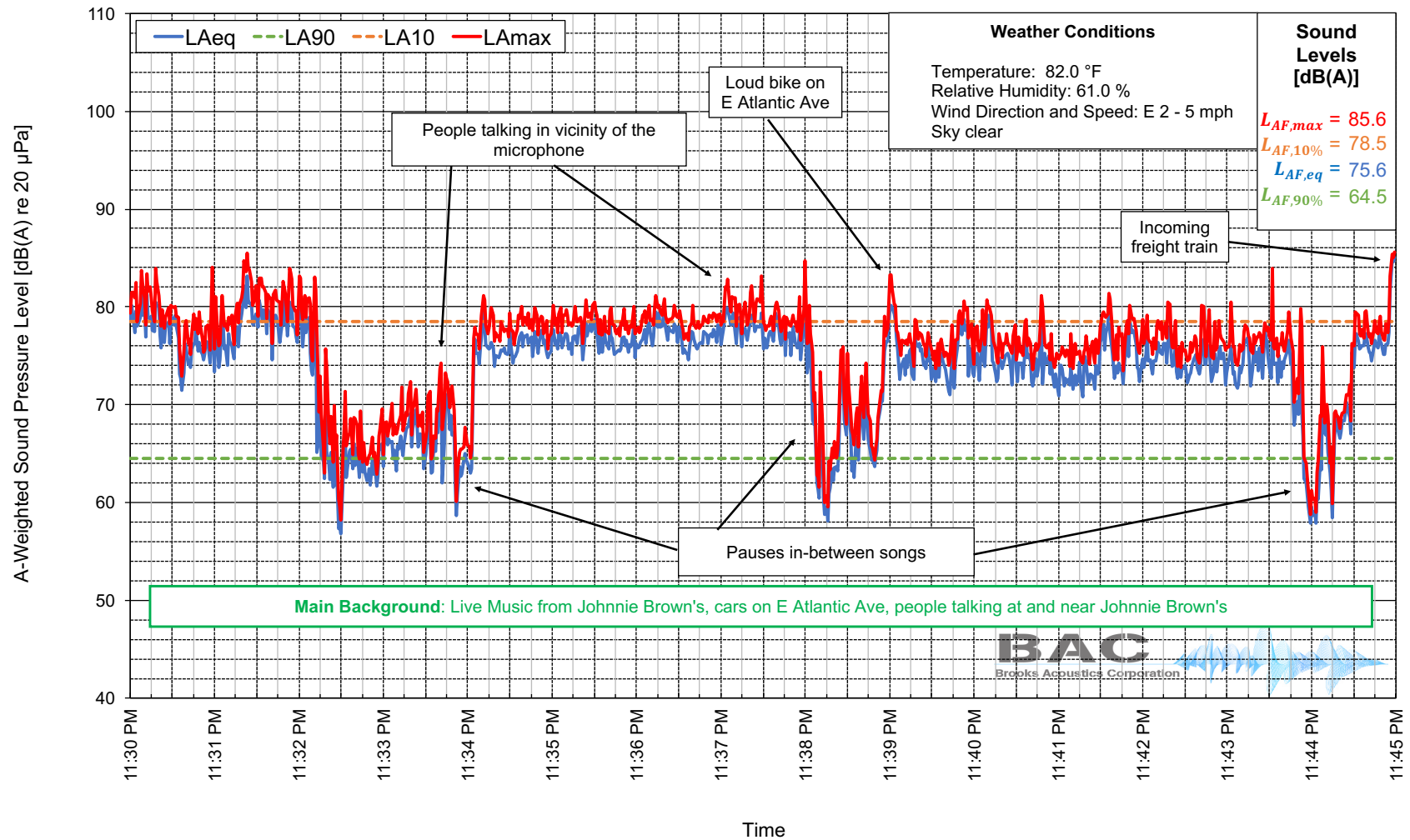
City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey

Johnnie Brown's

A-weighted Sound Levels
15 min record, 1 sec sample time

Date: 08 May 24
Time: 11:30 PM
Position: 4A



BAC Time History TH2024-0508 NTi 001

15 min record, 1 sec sample time

BAC Project PJ2022-1381

BAC Time History TH2024-0508 NTi 001

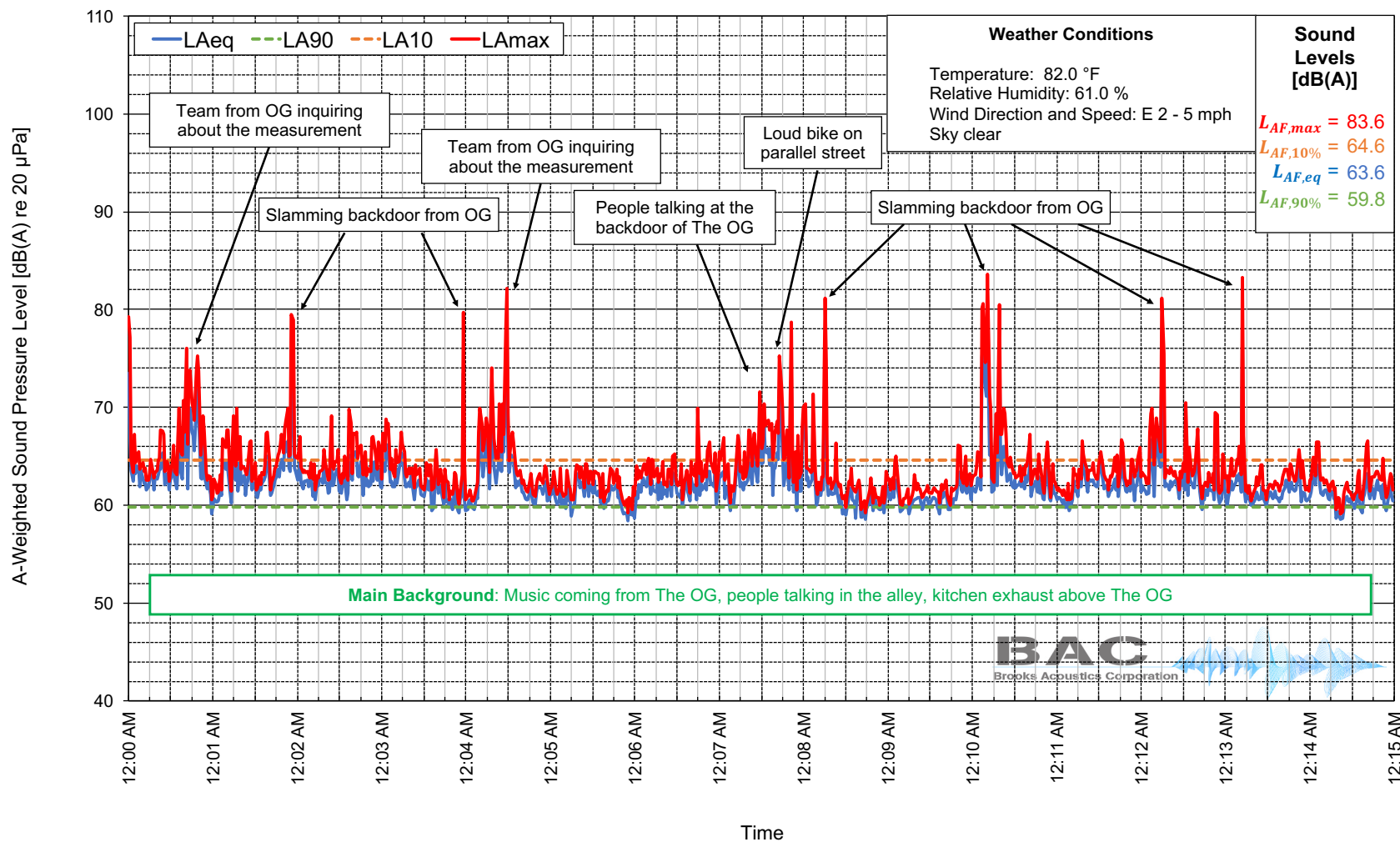
City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey

Alley Behind the OG

A-weighted Sound Levels
15 min record, 1 sec sample time

Date: 09 May 24
Time: 12:00 AM
Position: 6A



BAC Time History TH2024-0509 NTi 000

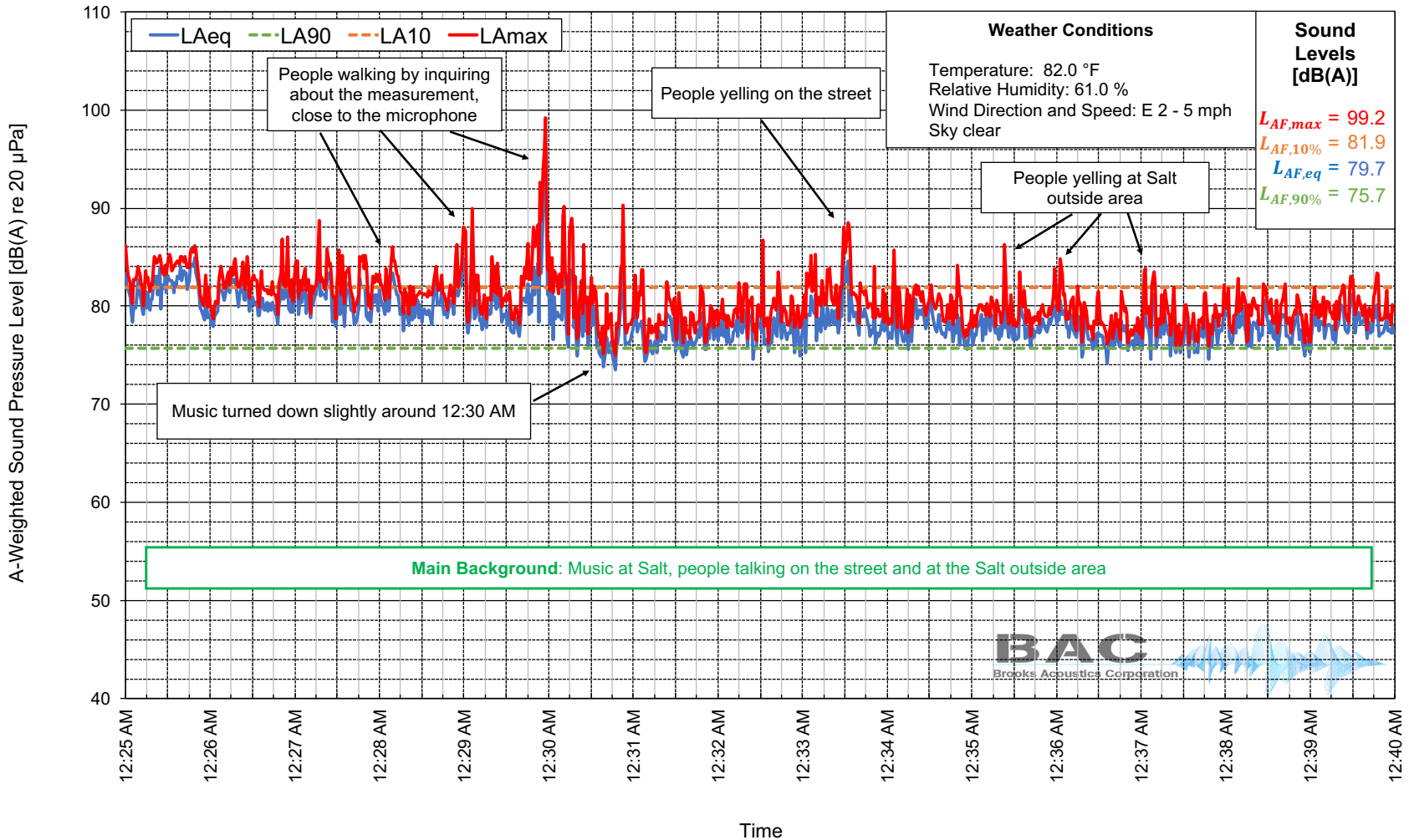
15 min record, 1 sec sample time

Sound Survey

Outside Salt

A-weighted Sound Levels
15 min record, 1 sec sample time

Date: 09 May 24
Time: 12:25 AM
Position: 4

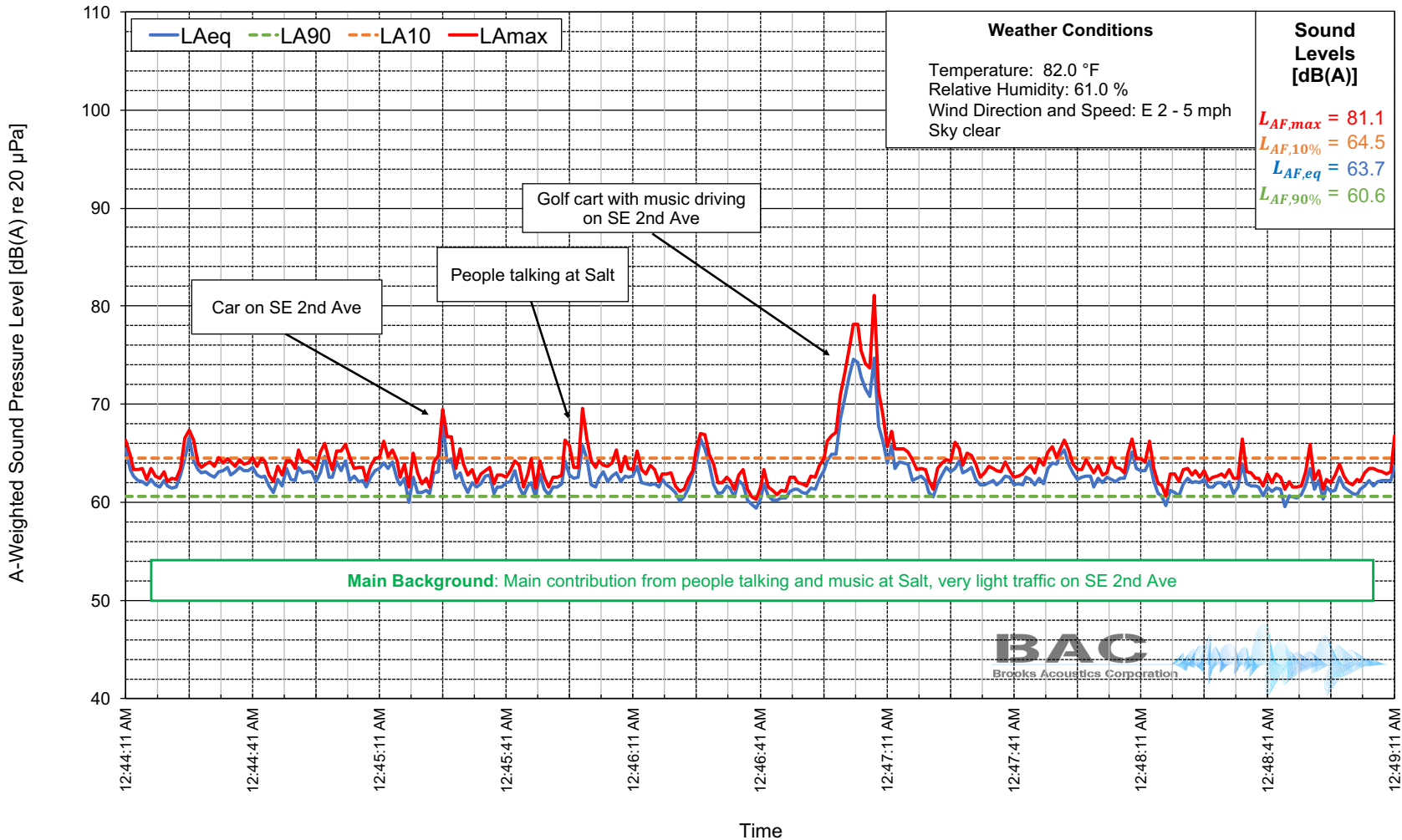


City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey
SE 2nd Avenue - Throw Social (Closed that day)

A-weighted Sound Levels
5 min record, 1 sec sample time

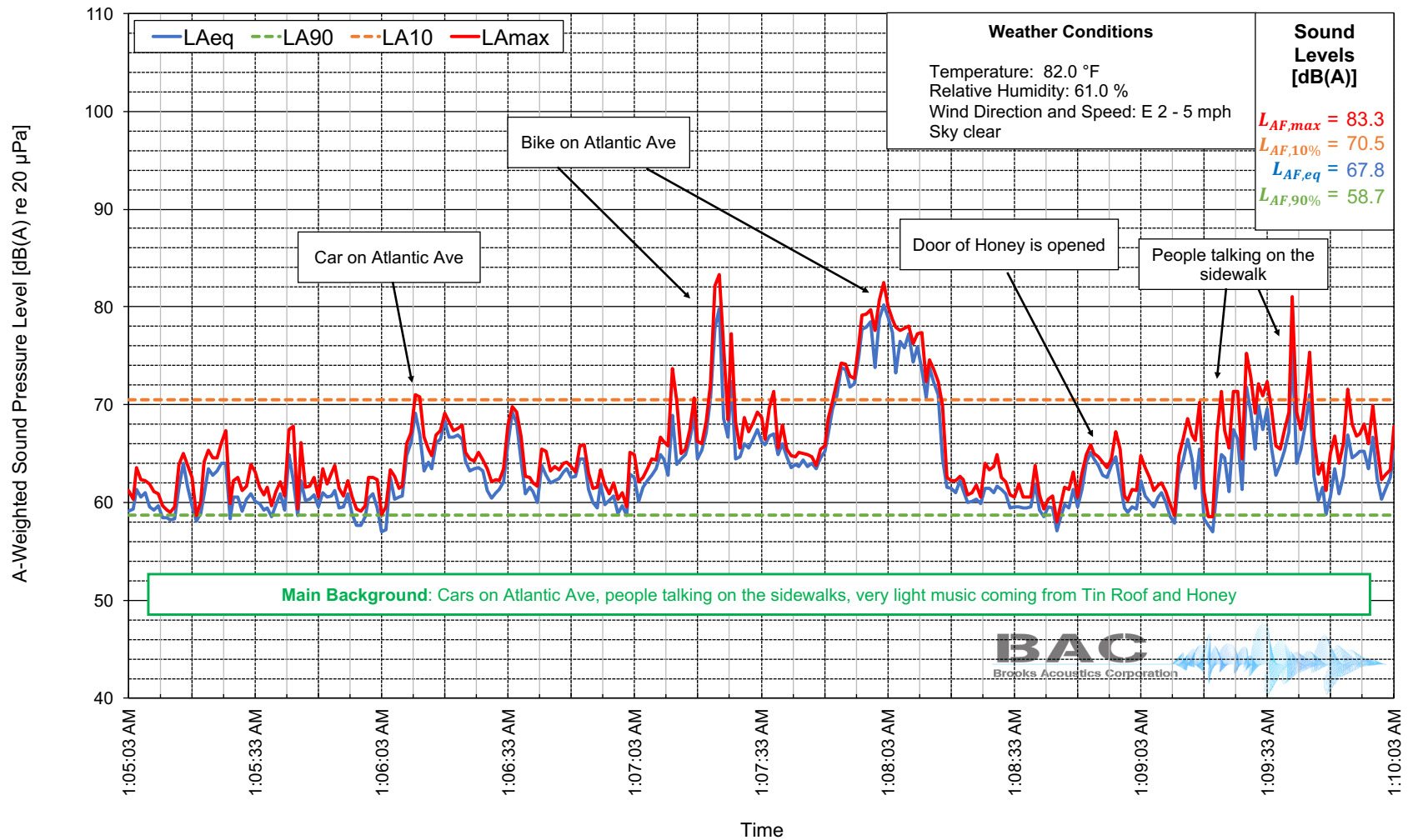
Date: 09 May 24
Time: 12:44 AM
Position: 5



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey
Old School Square Park
A-weighted Sound Levels
5 min record, 1 sec sample time

Date: 09 May 24
Time: 1:05 AM
Position: 2



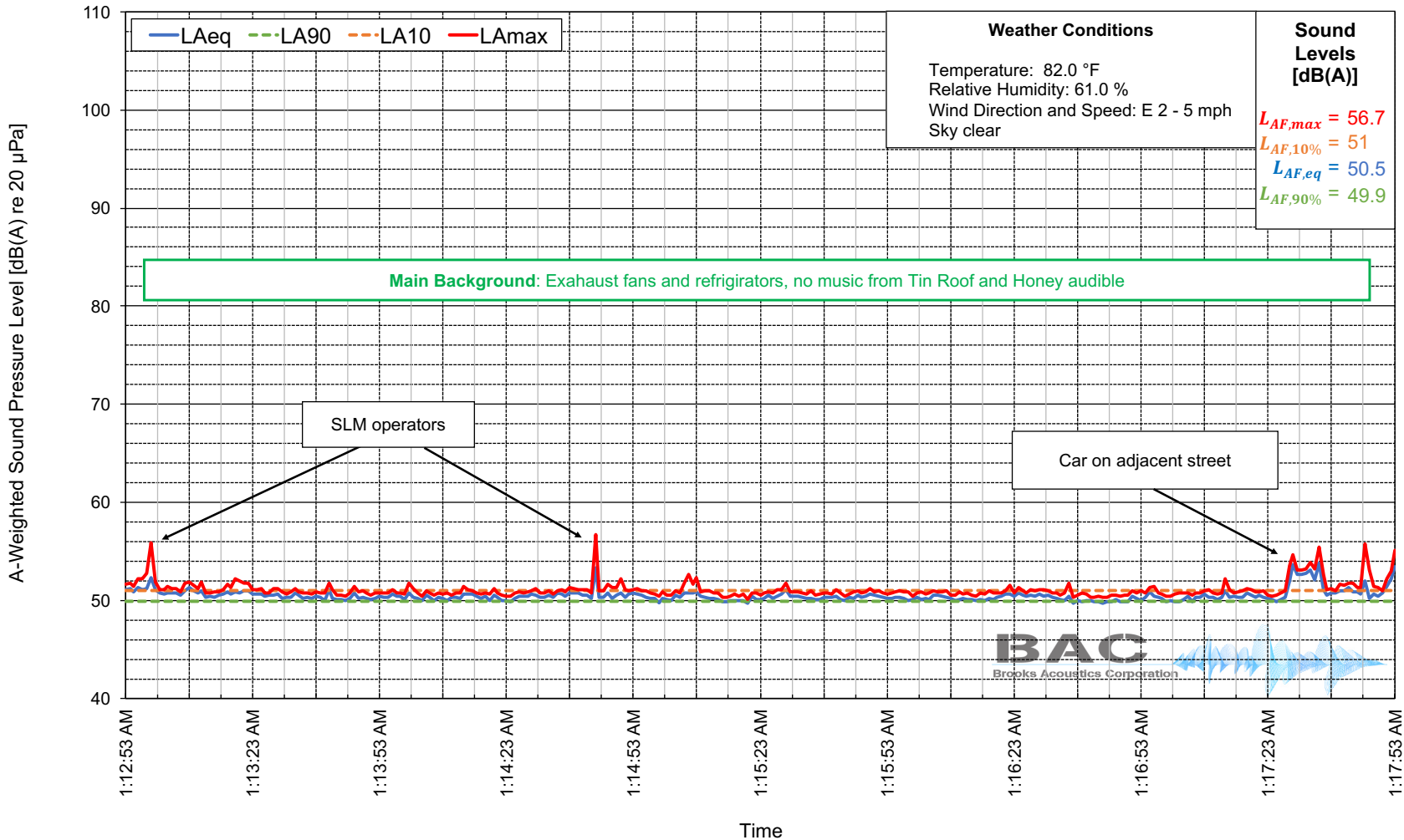
BAC Time History TH2024-0509 NTi 004

5 min record, 1 sec sample time

City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey
Alley Behind Tin Roof & Honey
A-weighted Sound Levels
5 min record, 1 sec sample time

Date: 09 May 24
Time: 1:12 AM
Position: 1A



City of Delray Beach

Entertainment District Sound Survey

Delray Beach, FL

Background Sound Survey

Old School Square Park

A-weighted Sound Levels

1 hr averaging time

Start Date and Time:

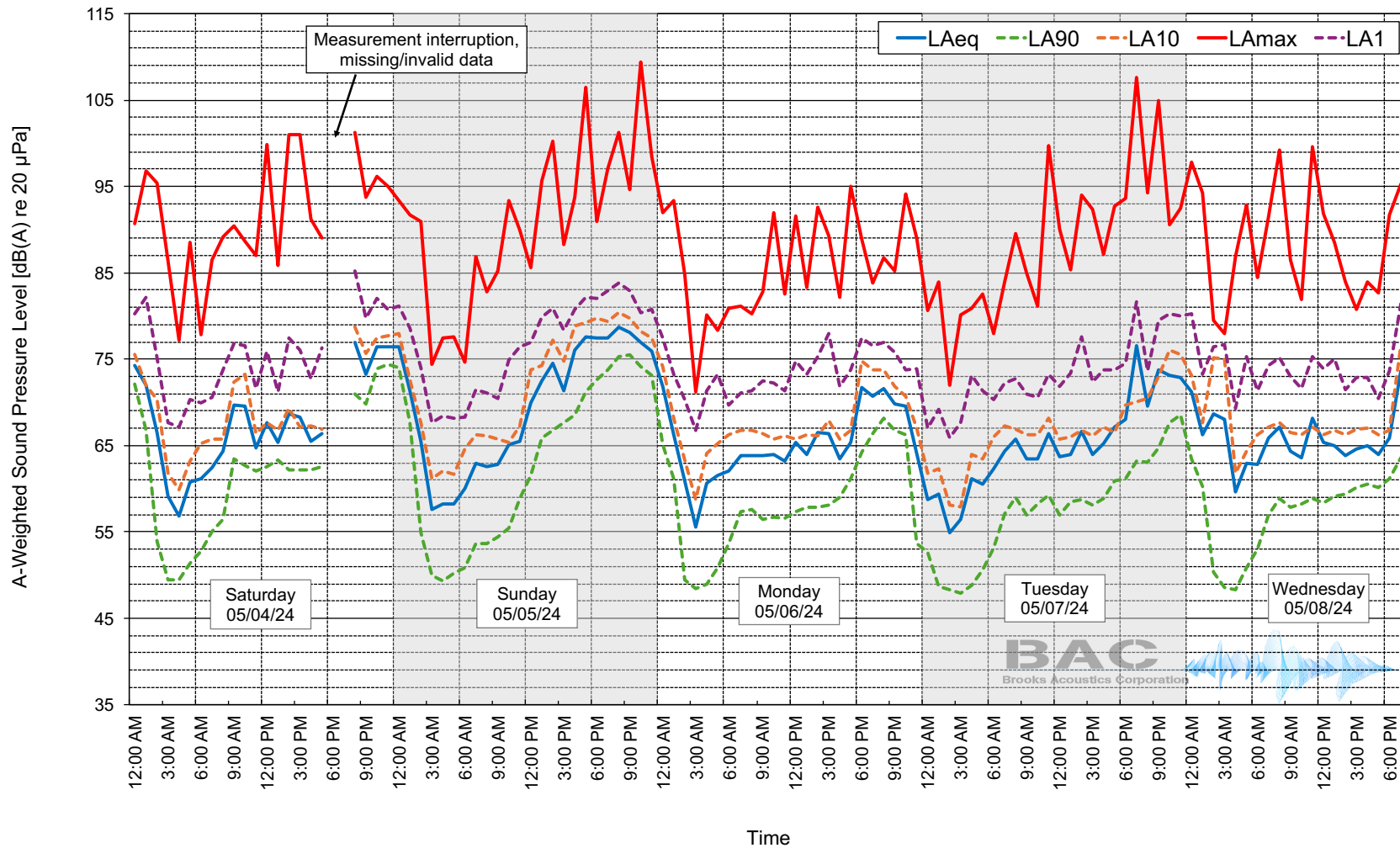
04 May 2024, 12:00:00 AM

End Date and Time:

08 May 2024, 7:00:00 PM

Measurement Position:

L1



BAC Time History LT RION - 0025 & 0026

1 hr averaging time

City of Delray Beach

Entertainment District Sound Survey

Delray Beach, FL

Background Sound Survey

2nd & 2nd

A-weighted Sound Levels

1 hr averaging time

Start Date and Time:

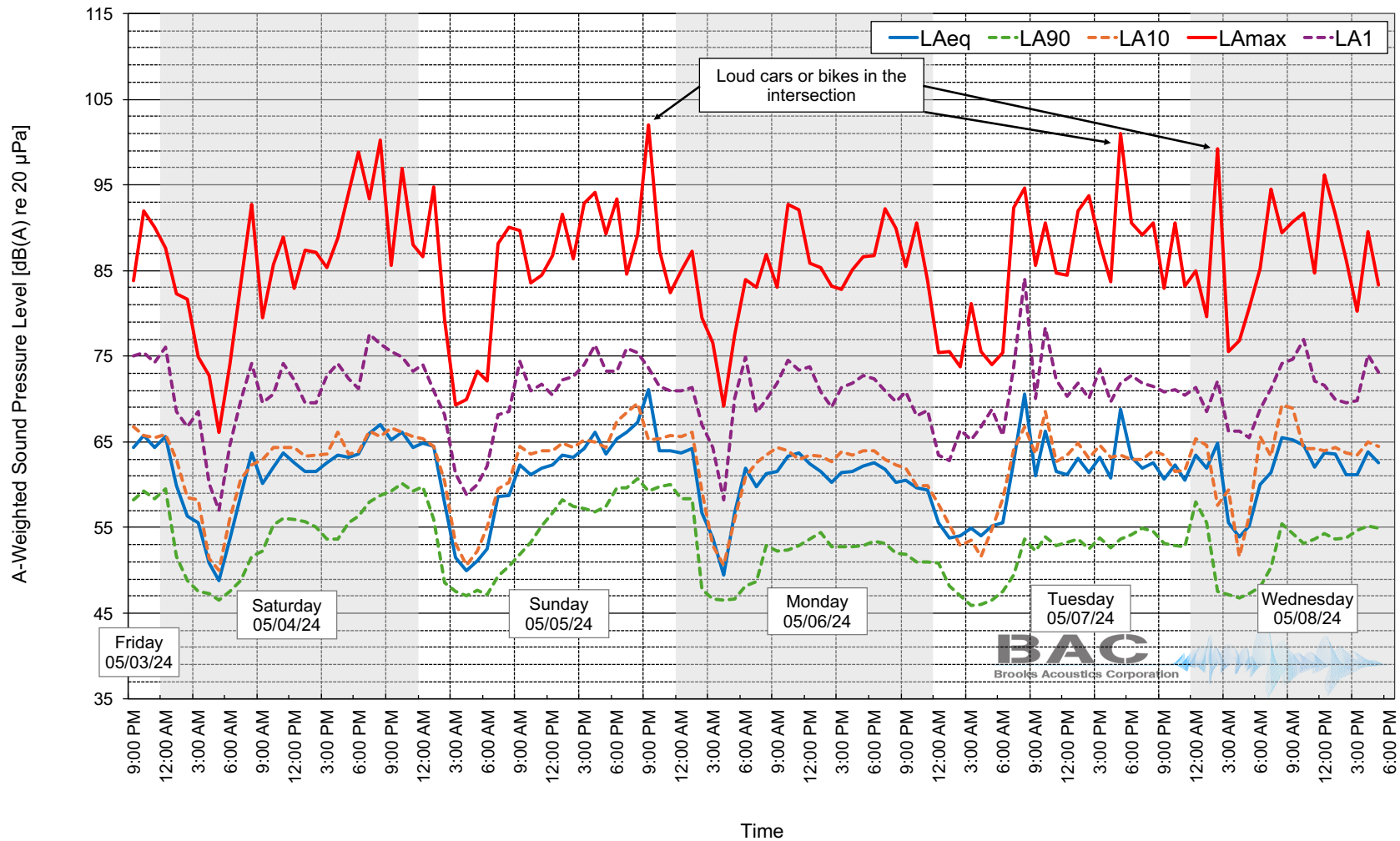
03 May 2024, 9:00:00 PM

End Date and Time:

08 May 2024, 6:00:00 PM

Measurement Position:

L2



BAC Time History LT NOR140_8195322

1 hr averaging time

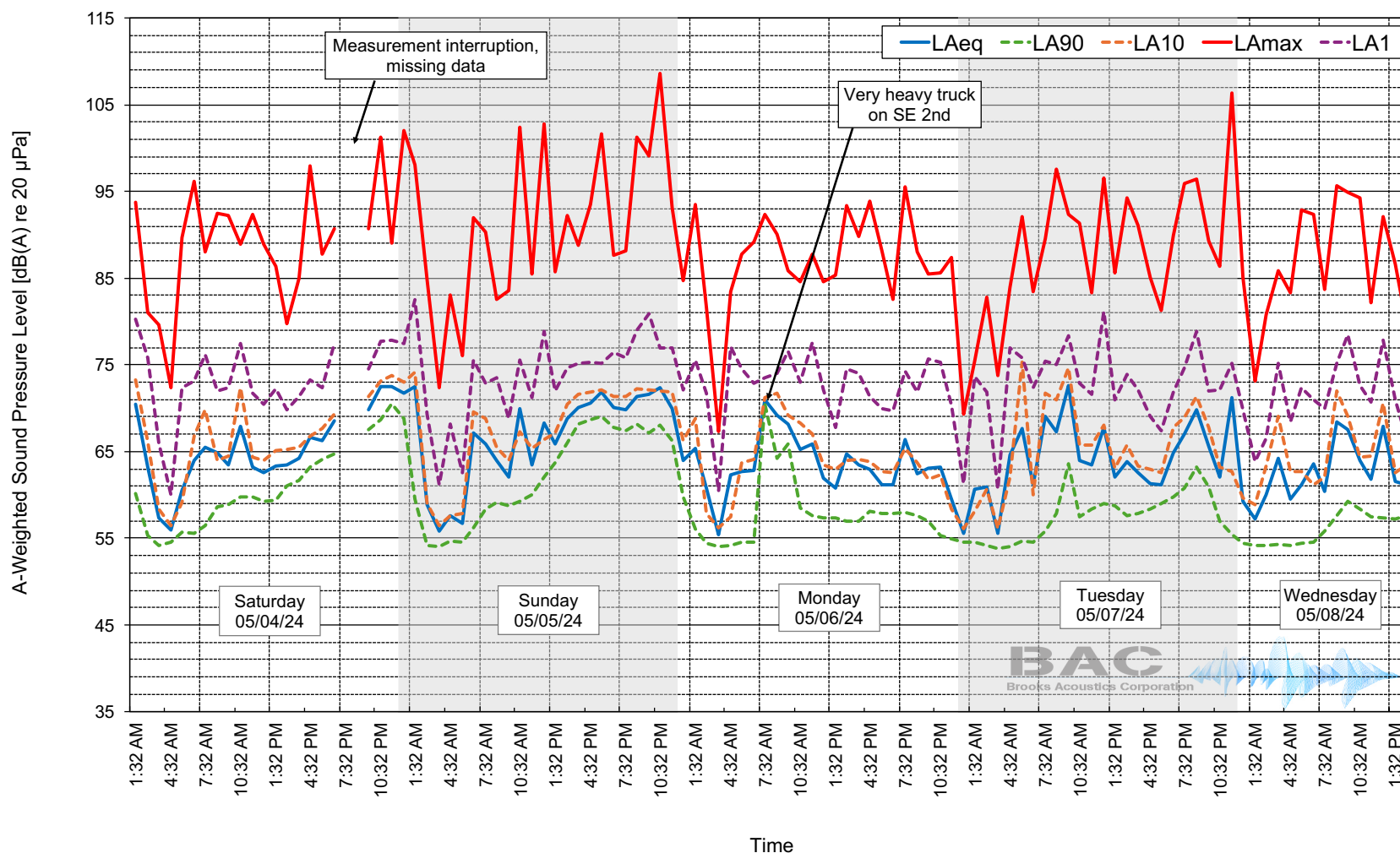
City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Background Sound Survey

SE 2nd Avenue - Throw Social

A-weighted Sound Levels
1 hr averaging time

Start Date and Time: 04 May 2024, 1:32:00 AM
End Date and Time: 08 May 2024, 2:32:00 PM
Measurement Position: L3



BAC Time History LT RION - 0024

1 hr averaging time

City of Delray Beach

Entertainment District Sound Survey

Delray Beach, FL

Background Sound Survey: Comparison 2022 and 2024

Old School Sq. Park - 2022 and 2024 LT data - Saturday to Sunday

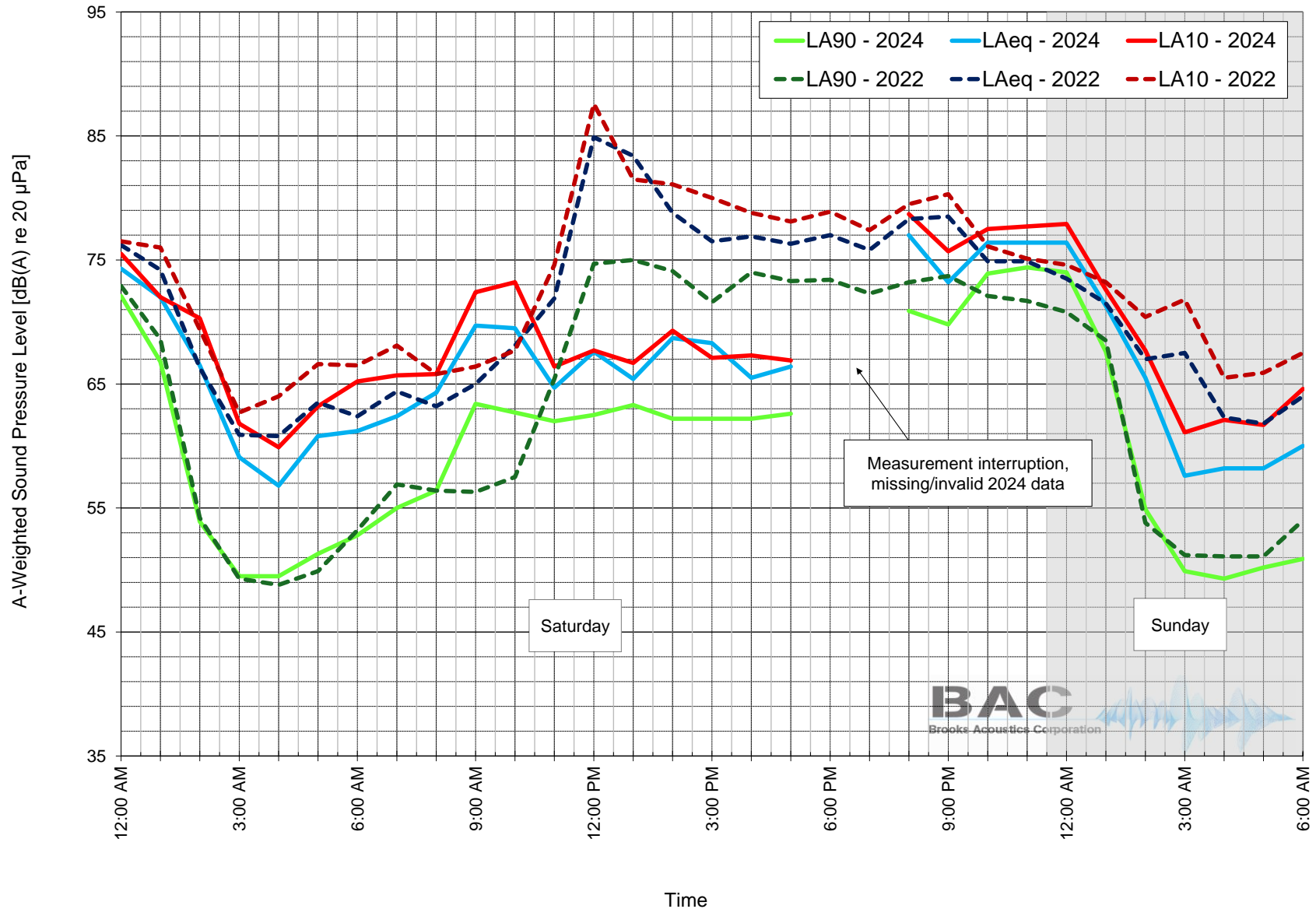
A-weighted Sound Levels

1 hr averaging time

Meas. Dates in 2022: 03/12 to 03/13

Meas. Dates in 2024: 05/04 to 05/05

Meas. Position: L1



BAC Time History LT Comparison

1 hr averaging time

Comparison Timeframe: 12:00 AM to 6:00 AM, over 2 days

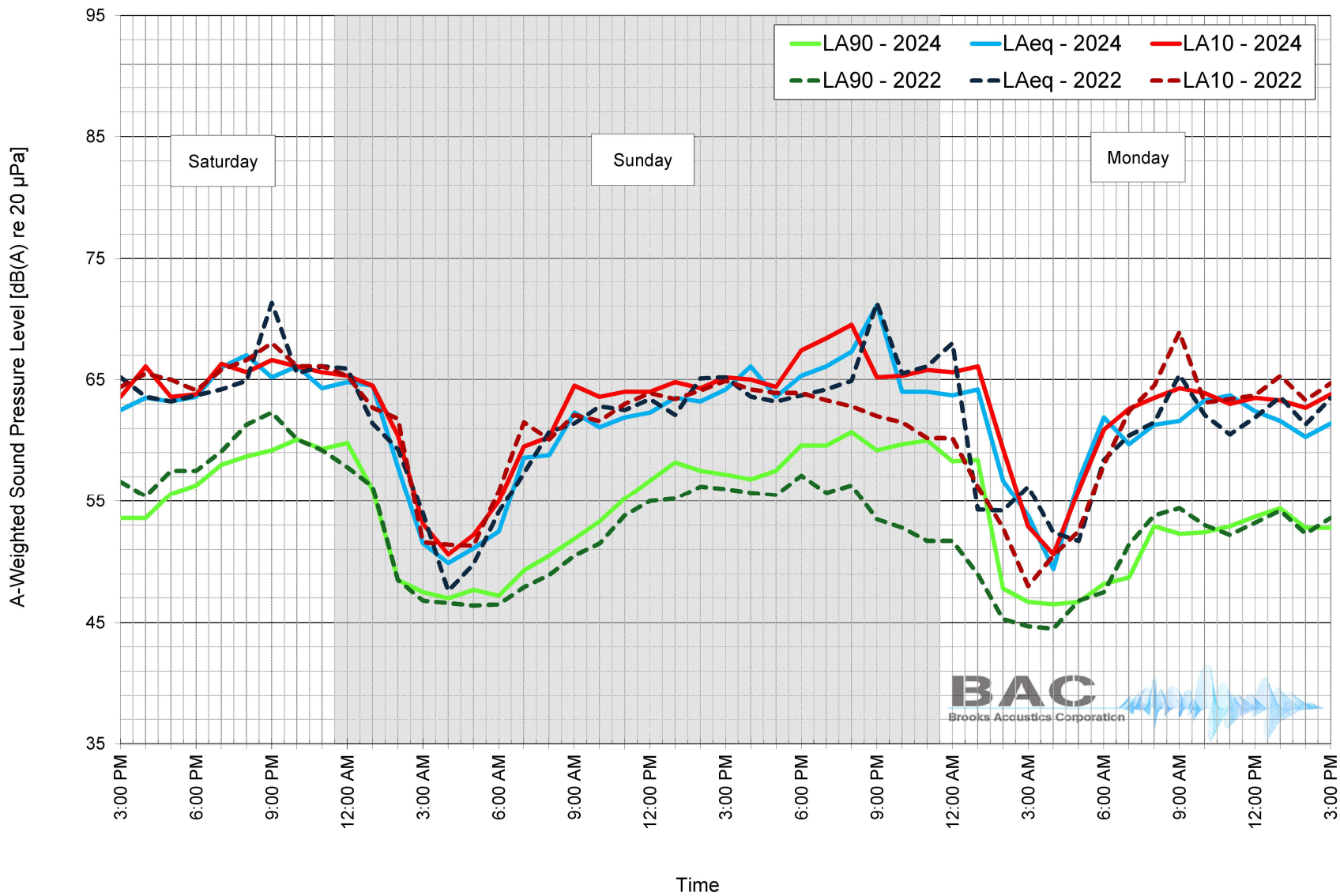
City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Background Sound Survey: Comparison 2022 and 2024

2nd & 2nd - 2022 and 2024 LT data - Saturday to Monday

A-weighted Sound Levels
1 hr averaging time

Meas. Dates in 2022: 03/26 to 03/28
Meas. Dates in 2024: 05/04 to 05/06
Meas. Position: L3



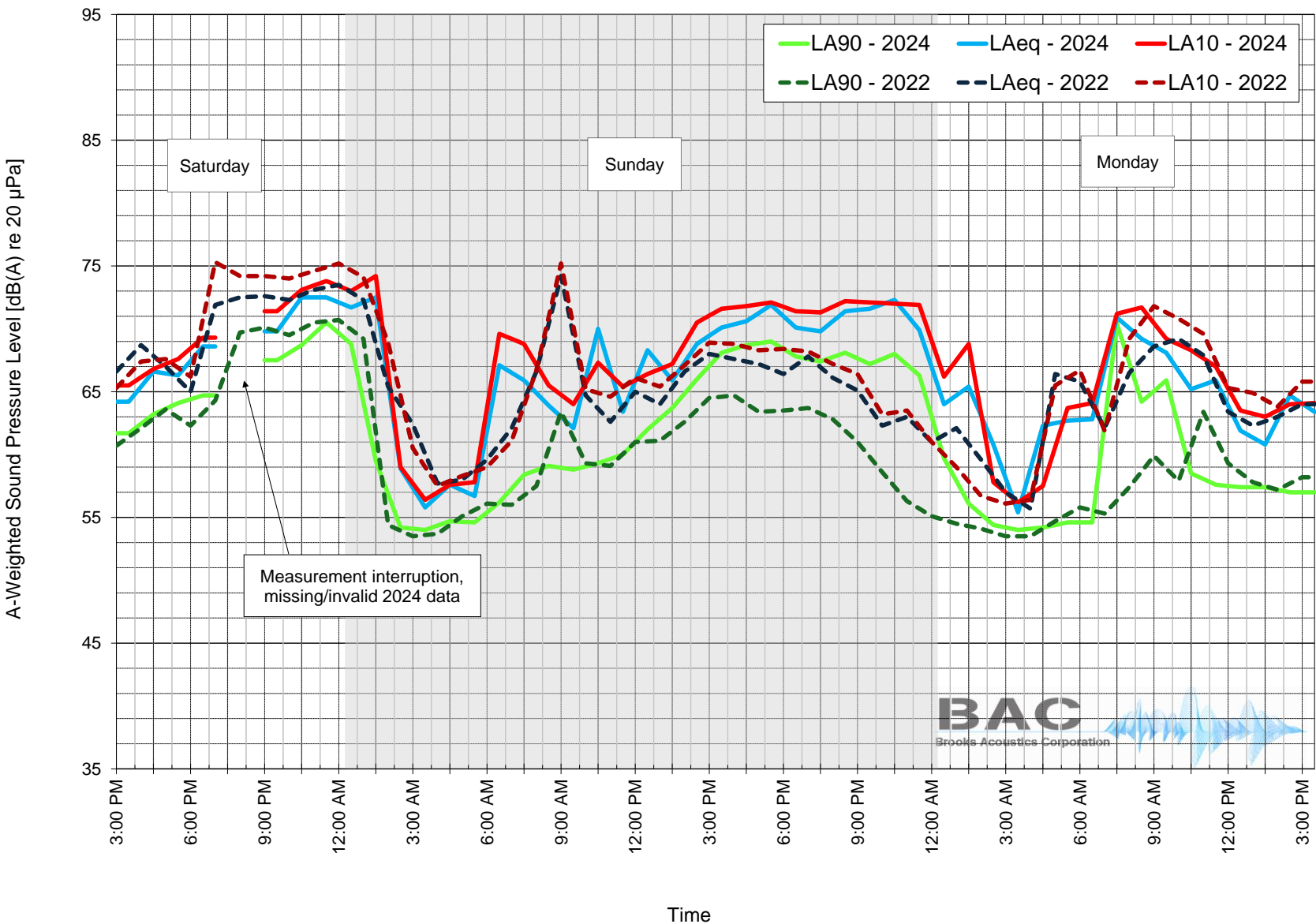
BAC Time History LT Comparison

1 hr averaging time

Comparison Timeframe: 3:00 PM to 3:00 PM, over 3 days

Background Sound Survey: Comparison 2022 and 2024

SE 2nd Throw Social - 2022 and 2024 LT data - Saturday to Monday
Meas. Dates in 2022: 04/02 to 04/04
Meas. Dates in 2024: 05/04 to 05/06
A-weighted Sound Levels
1 hr averaging time
Meas. Position: L3

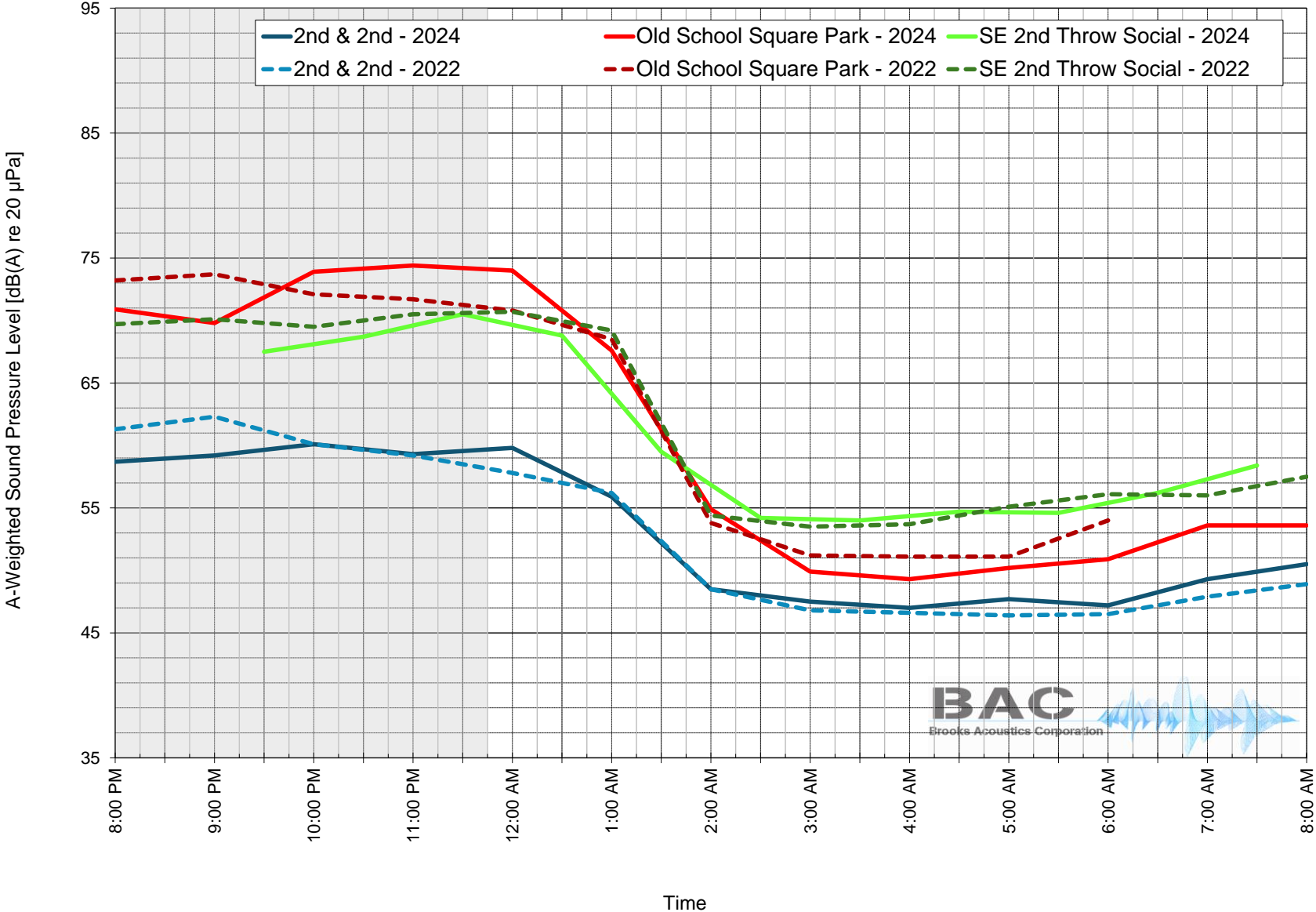


Background Sound Survey: Comparison 2022 and 2024

LA90 - 2022 and 2024 LT data over a Saturday night

A-weighted Sound Levels
1 hr averaging time

Meas. Dates in 2022: 3/12, 3/26, 4/02
Meas. Date in 2024: 5/4/2024
Meas. Positions: L1, L2, L3

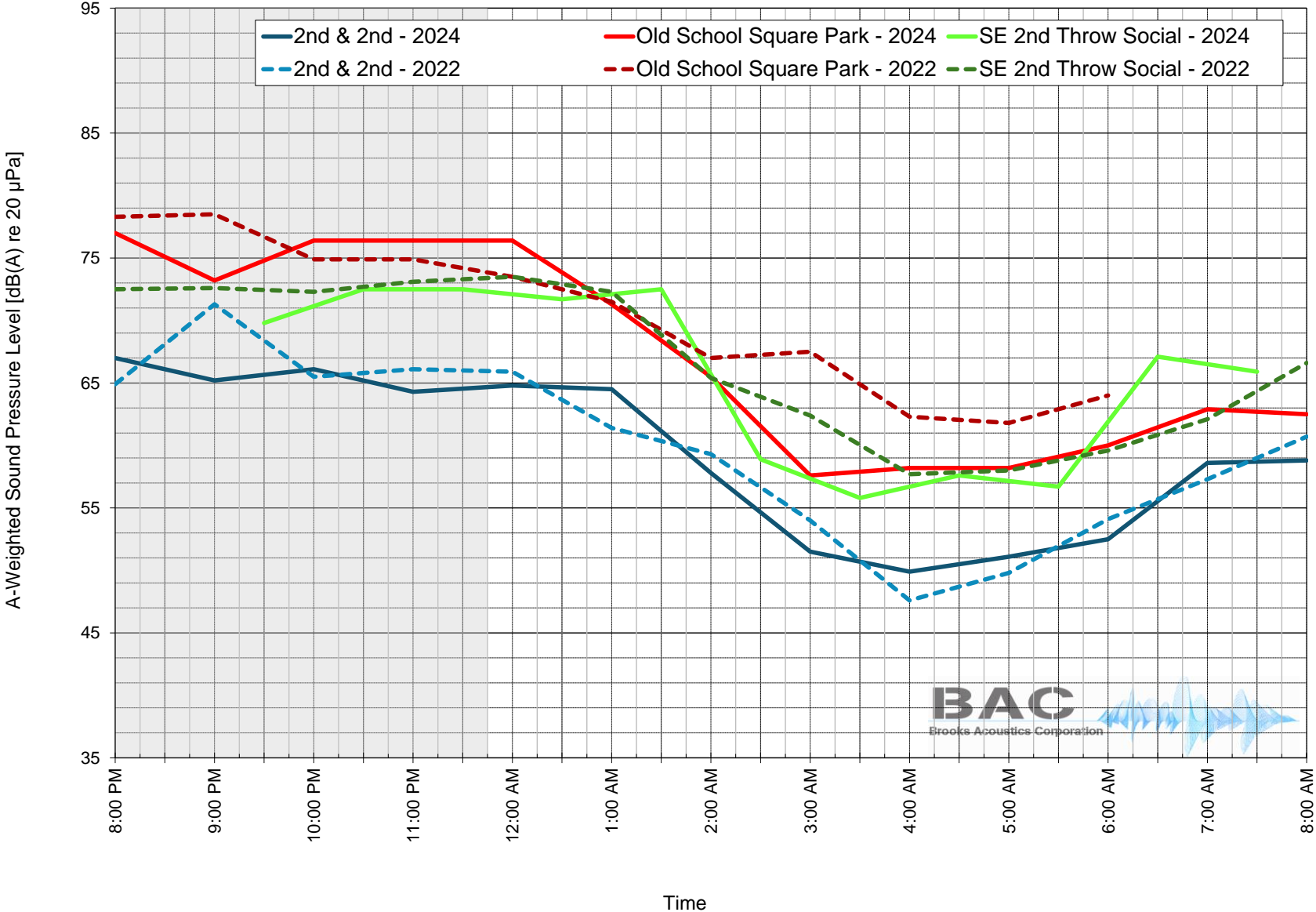


Background Sound Survey: Comparison 2022 and 2024

LAeq - 2022 and 2024 LT data over a Saturday night

A-weighted Sound Levels
1 hr averaging time

Meas. Dates in 2022: 3/12, 3/26, 4/02
Meas. Date in 2024: 5/4/2024
Meas. Positions: L1, L2, L3



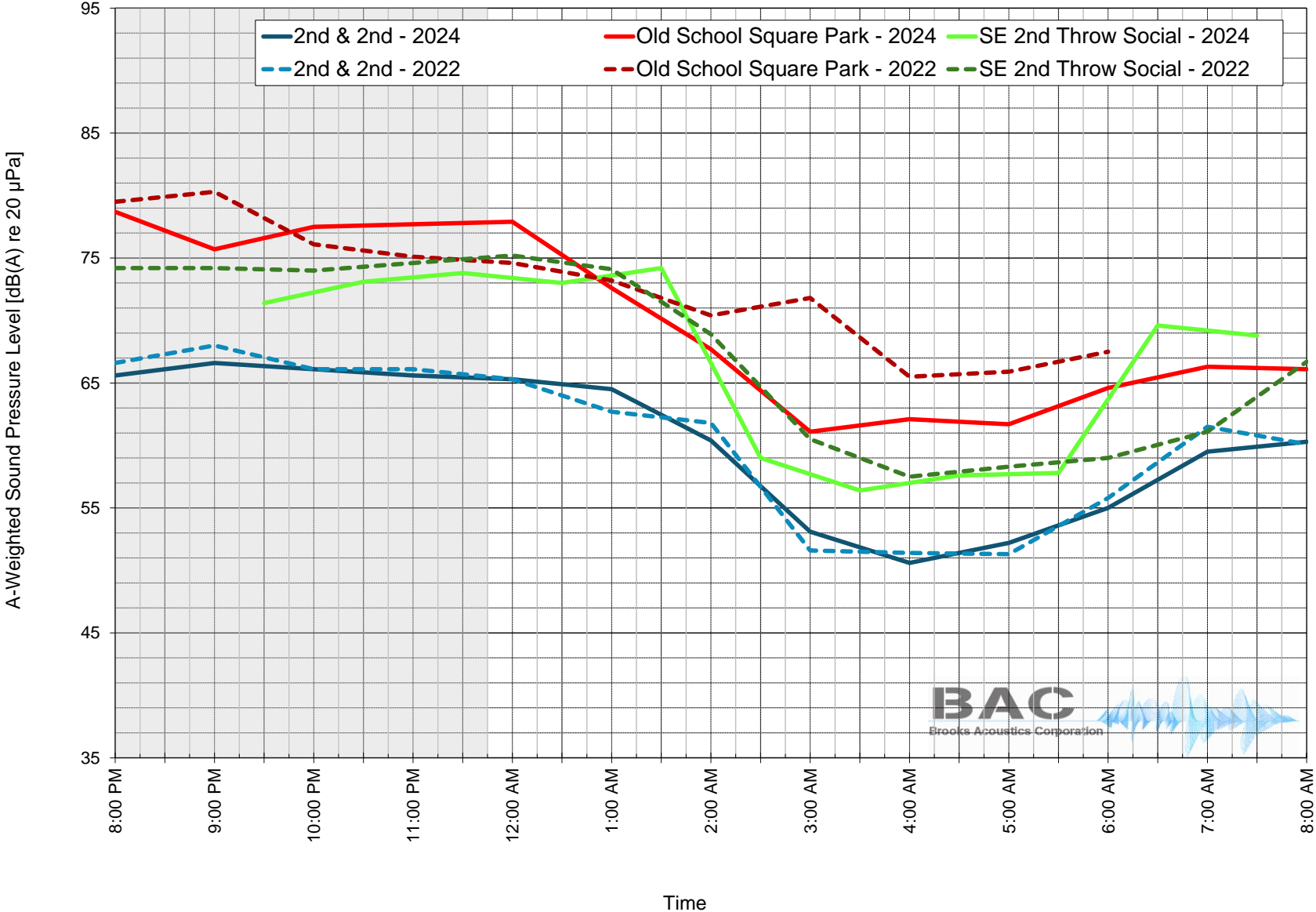
City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Background Sound Survey: Comparison 2022 and 2024

LA10 - 2022 and 2024 LT data over a Saturday night

A-weighted Sound Levels
1 hr averaging time

Meas. Dates in 2022: 3/12, 3/26, 4/02
Meas. Date in 2024: 5/4/2024
Meas. Positions: L1, L2, L3

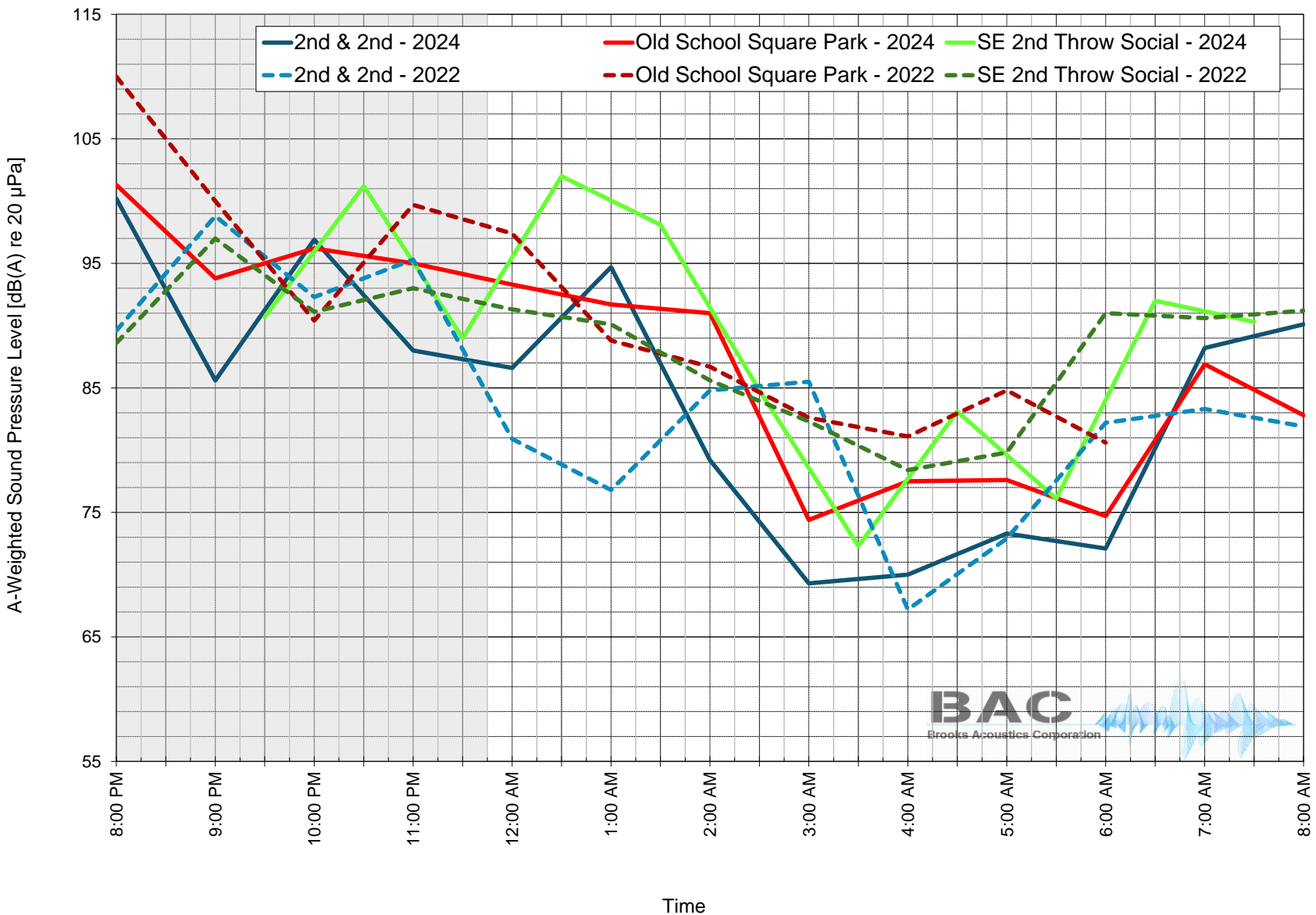


Background Sound Survey: Comparison 2022 and 2024

L_{Amax} - 2022 and 2024 LT data over a Saturday night

A-weighted Sound Levels
1 hr averaging time

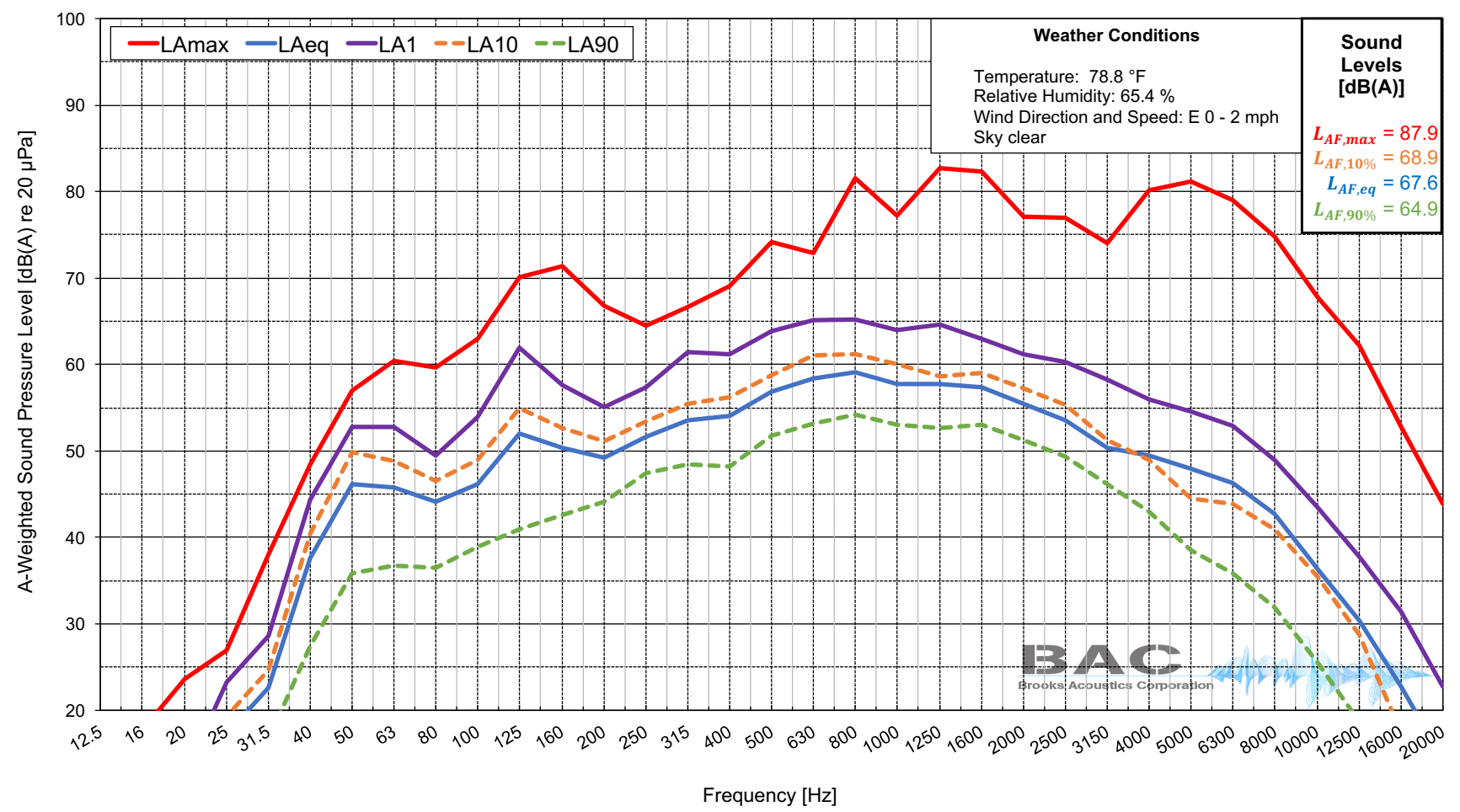
Meas. Dates in 2022: 3/12, 3/26, 4/02
Meas. Date in 2024: 5/4/2024
Meas. Positions: L1, L2, L3



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey
Alley Behind Tin Roof & Honey
A-weighted Sound Levels
Averaged over Time - 15 min Recording

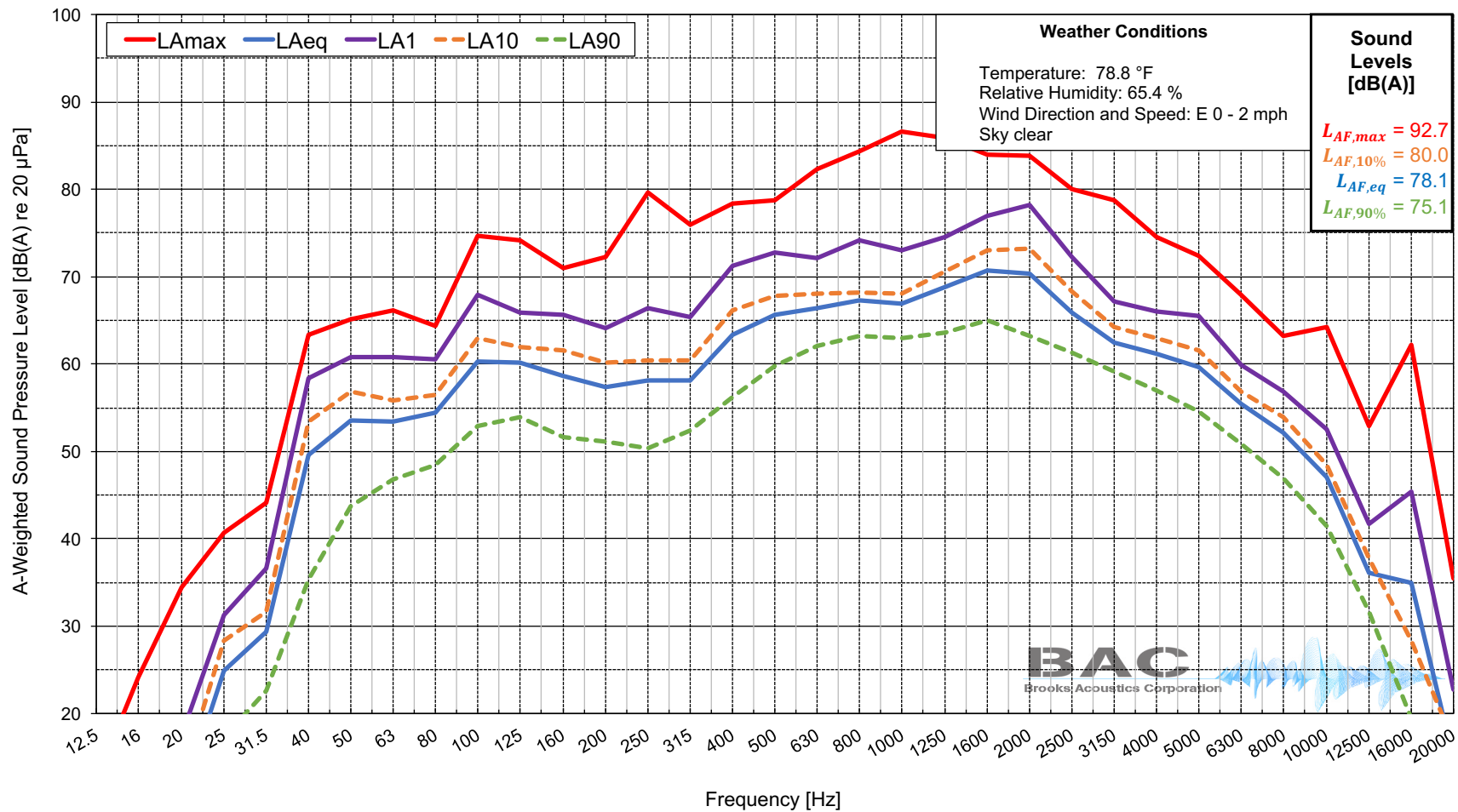
Date: 04 May 24
Time: 10:50 PM
Position: 1A



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey
E Atlantic Ave - Old School Square Park
A-weighted Sound Levels
Averaged over Time - 15 min Recording

Date: 04 May 24
Time: 11:14 PM
Position: 2



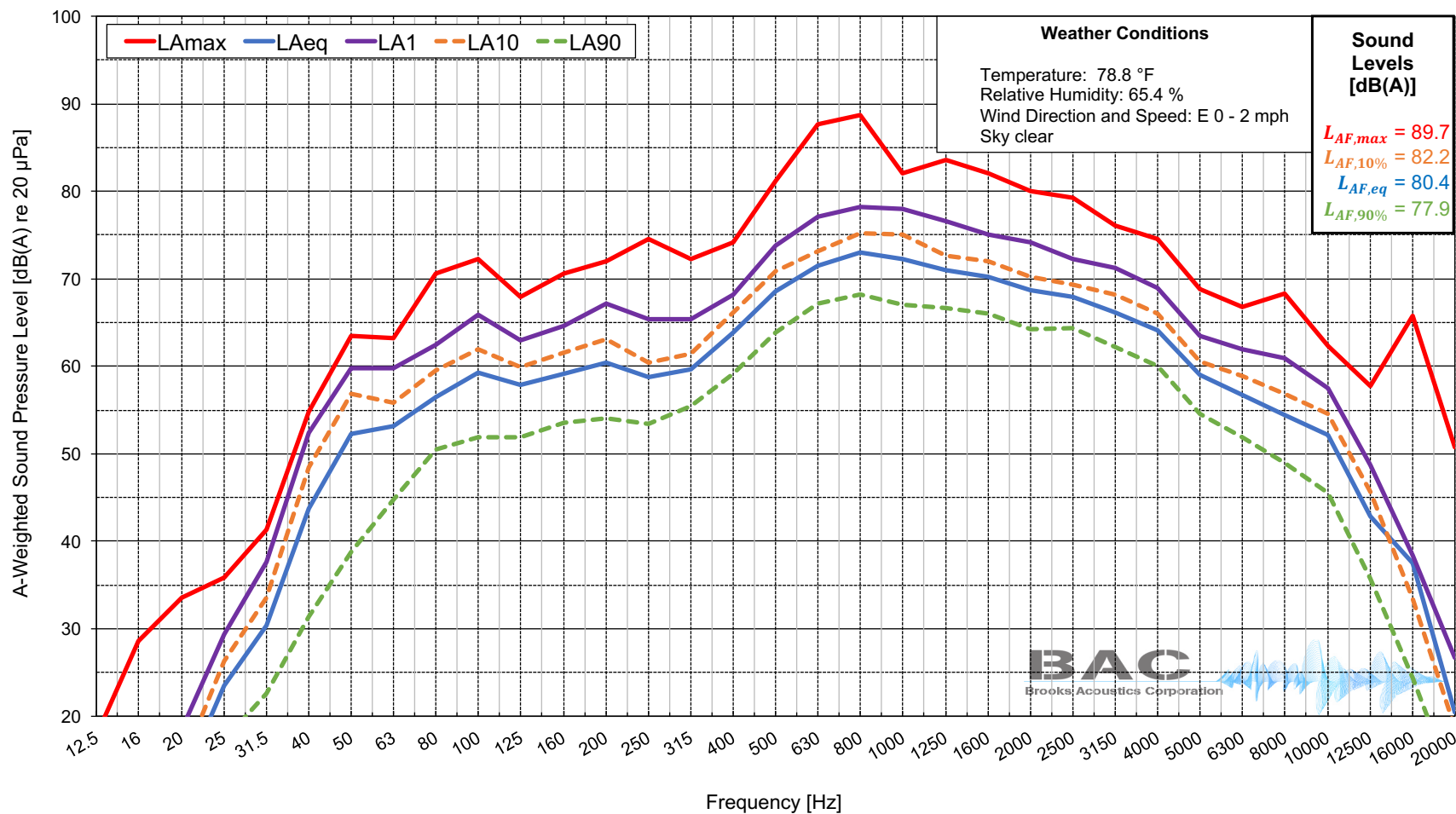
City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey

Outside Salt

A-weighted Sound Levels
Averaged over Time - 15 min Recording

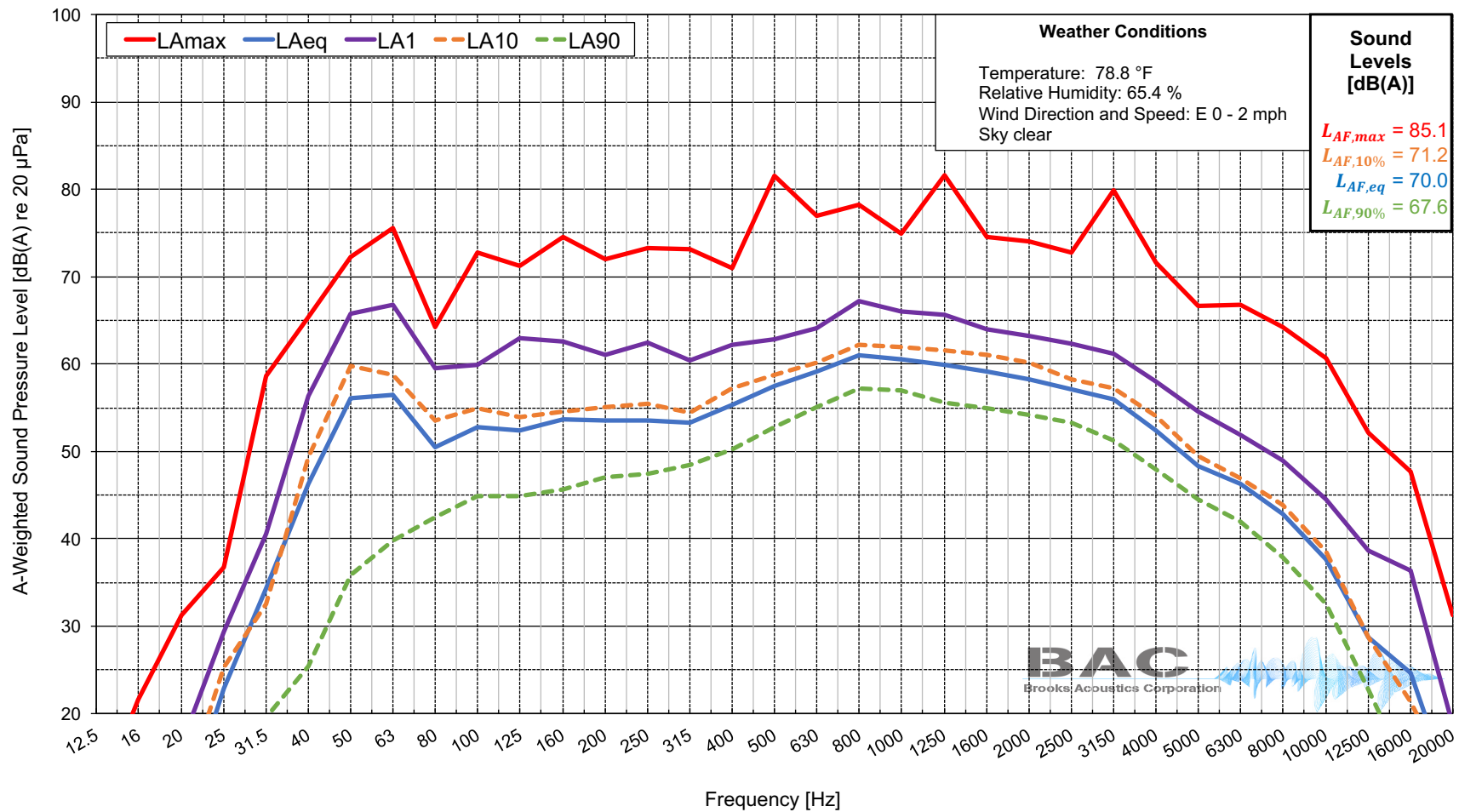
Date: 04 May 24
Time: 11:35 PM
Position: 3



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey
SE 2nd Avenue - Throw Social
A-weighted Sound Levels
Averaged over Time - 15 min Recording

Date: 04 May 24
Time: 11:55 PM
Position: 5

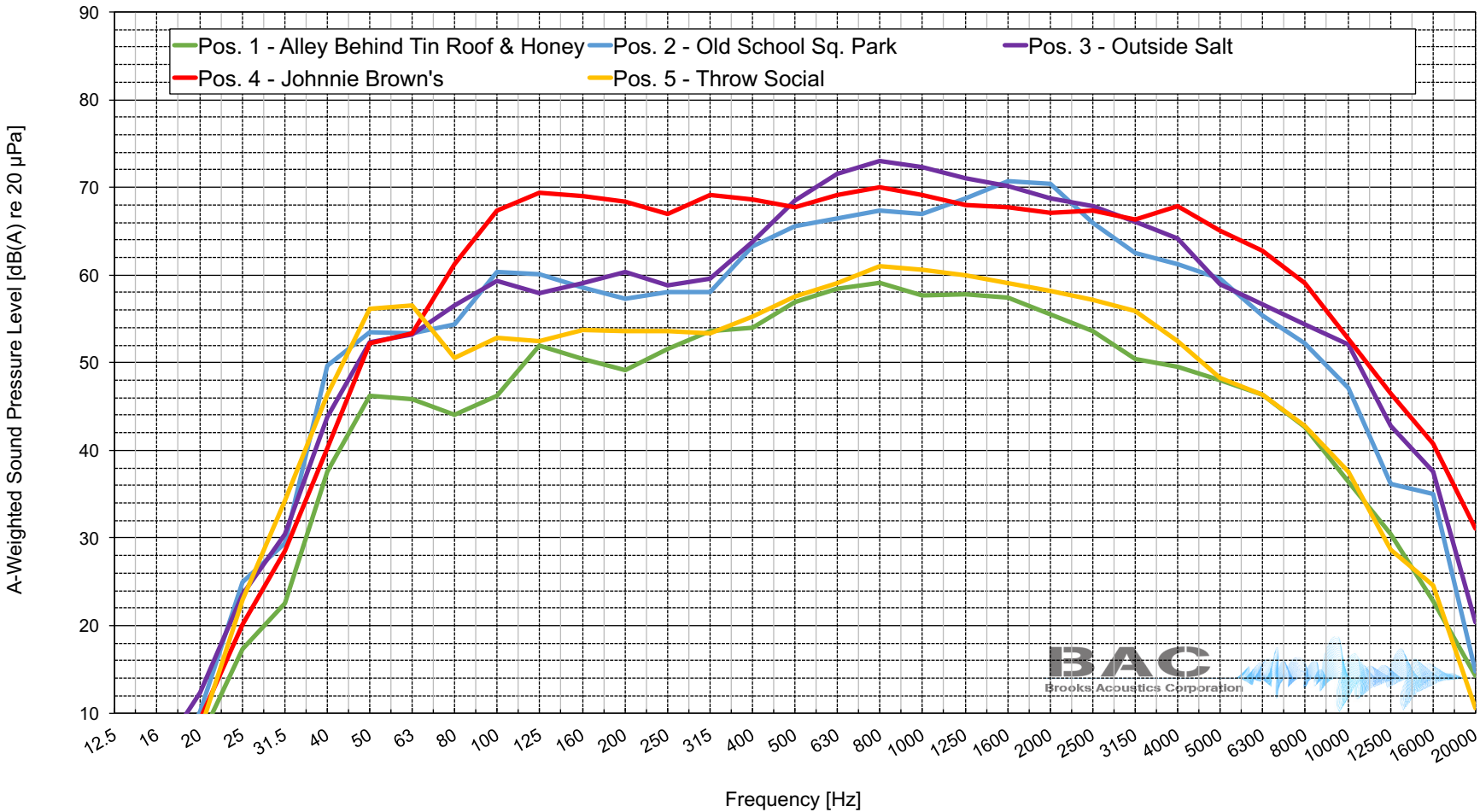


Sound Survey

Comparison Plot: LAeq at different positions

A-weighted Sound Levels
Averaged over Time - 15 min Recording

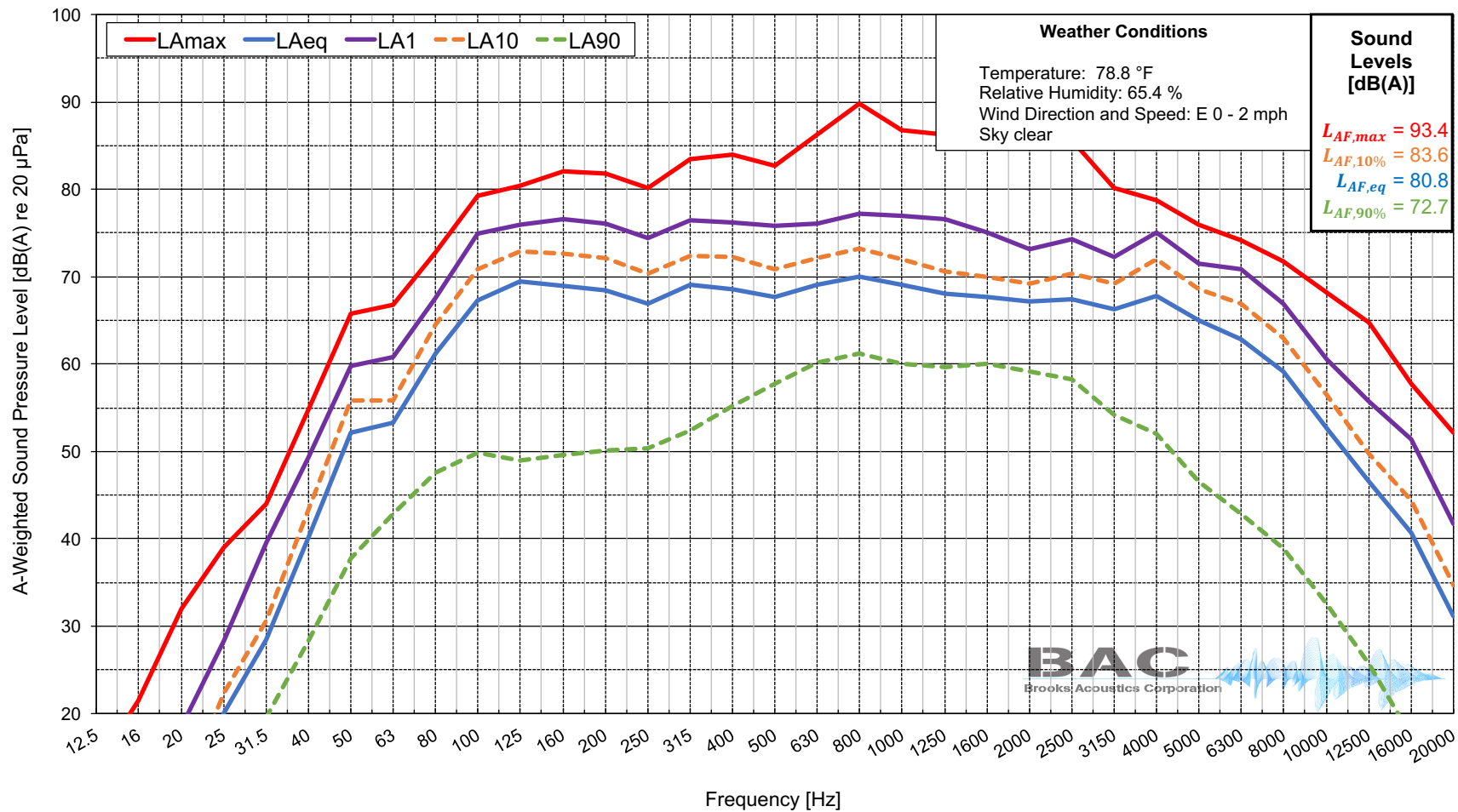
Date: 4&5 May 24
Time: 11PM - 2AM
Positions: 1A,2,3,4,5



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey
Johnnie Brown's
A-weighted Sound Levels
Averaged over Time - 15 min Recording

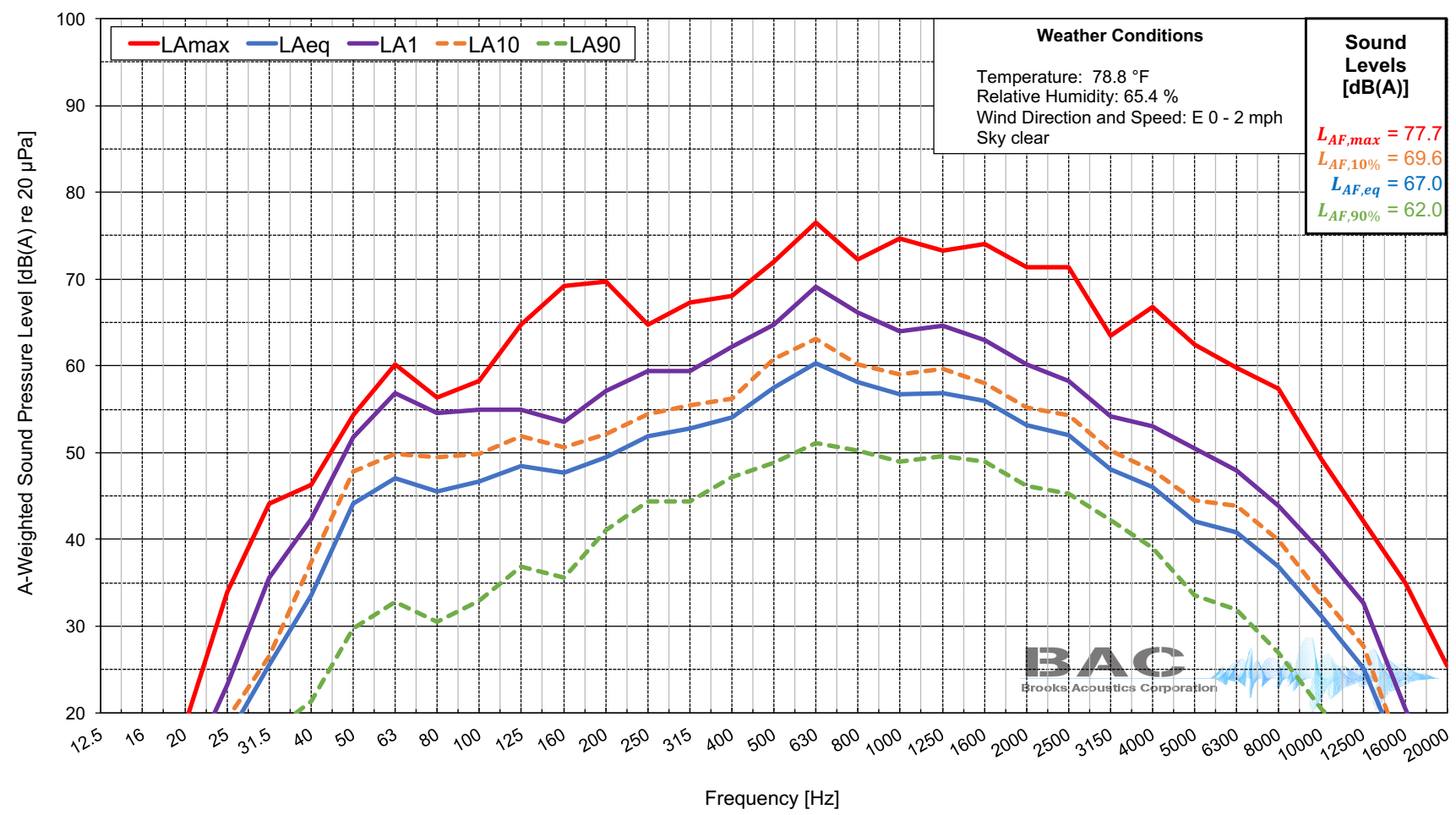
Date: 05 May 24
Time: 12:37 AM
Position: 4



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey
Alley Behind Tin Roof & Honey
A-weighted Sound Levels
Averaged over Time - 13 min Recording

Date: 05 May 24
Time: 1:35 AM
Position: 1A



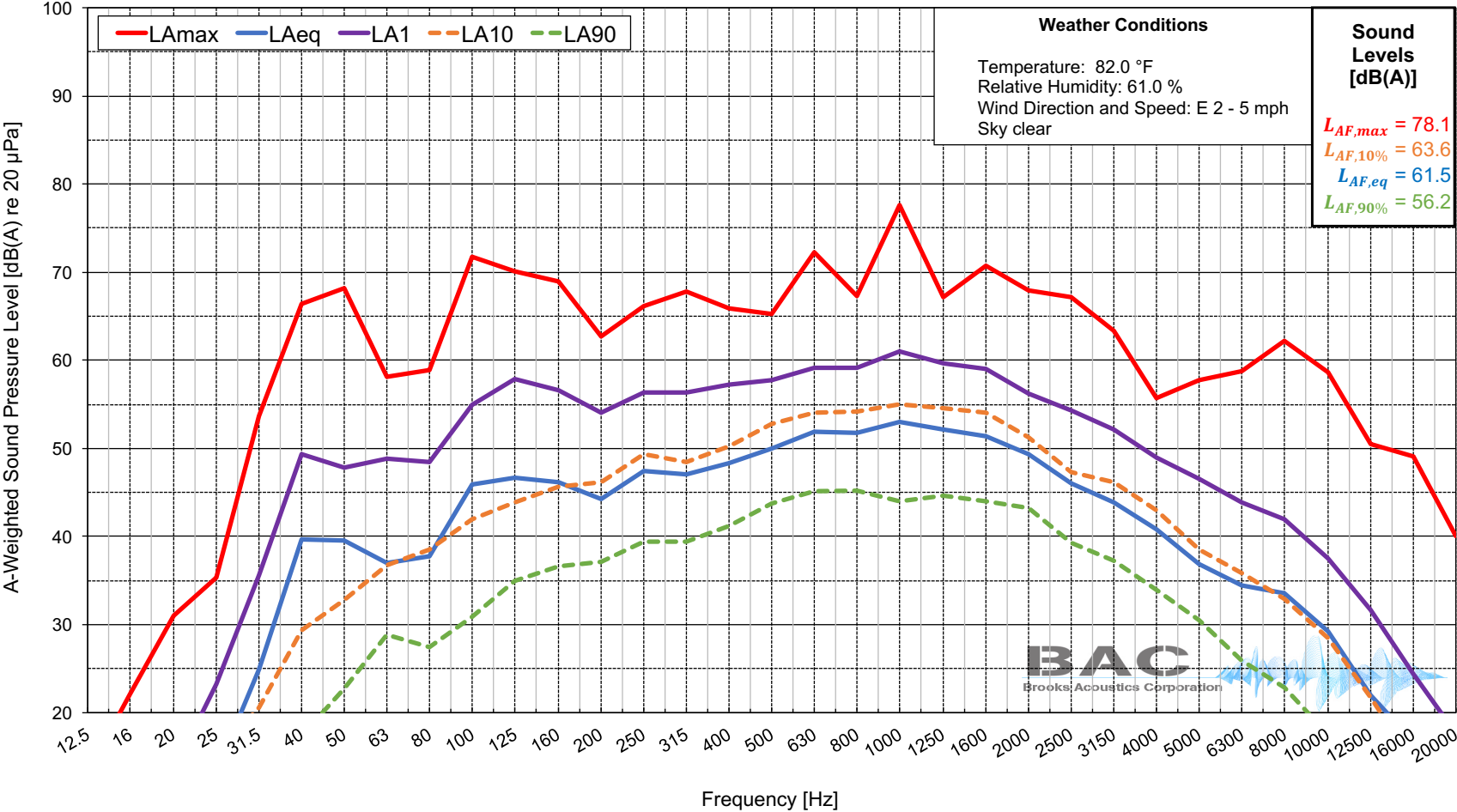
City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey

2nd & 2nd

A-weighted Sound Levels
Averaged over Time - 15 min Recording

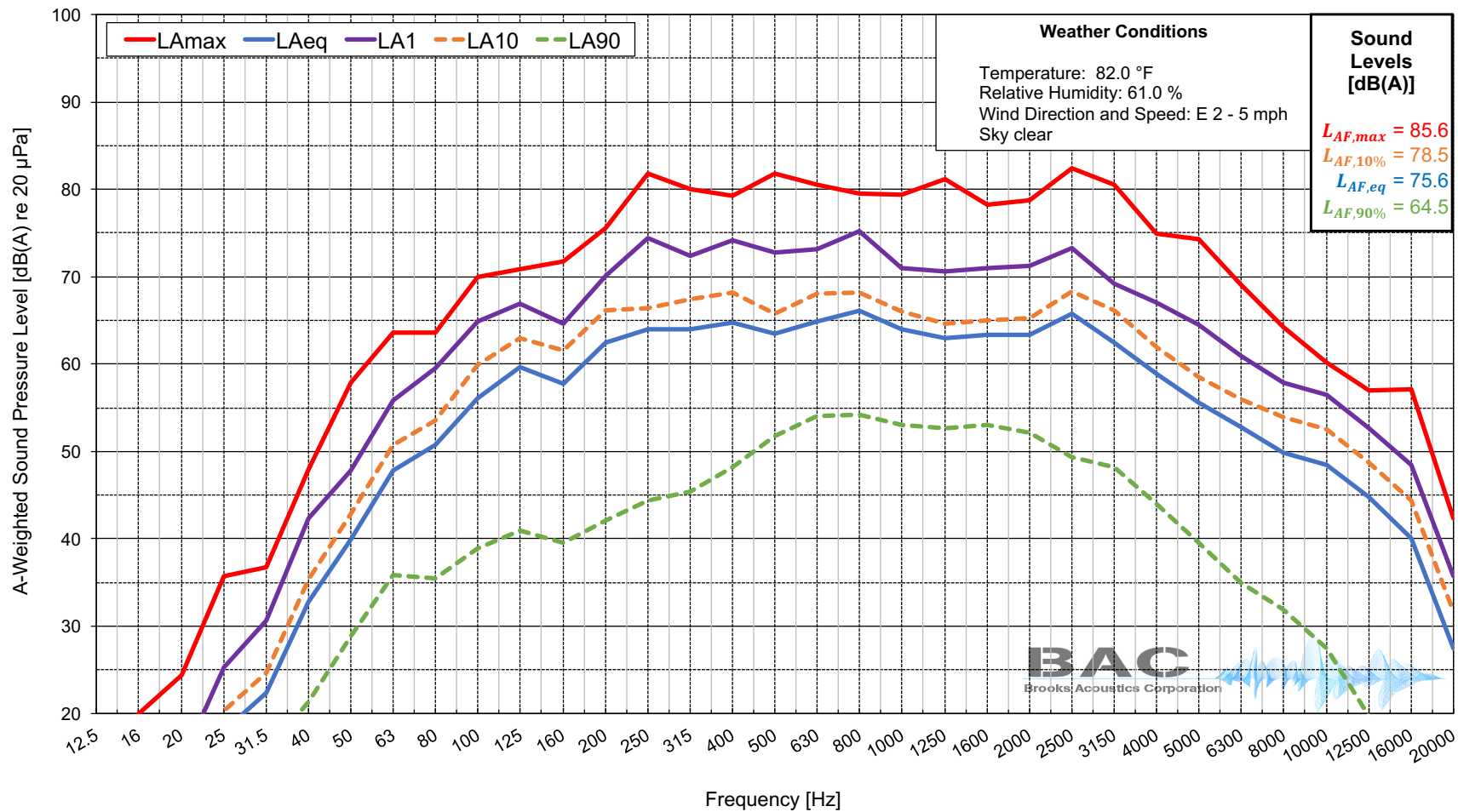
Date: 08 May 24
Time: 10:46 PM
Position: 7



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey
Johnnie Brown's
A-weighted Sound Levels
Averaged over Time - 15 min Recording

Date: 08 May 24
Time: 11:30 PM
Position: 4A

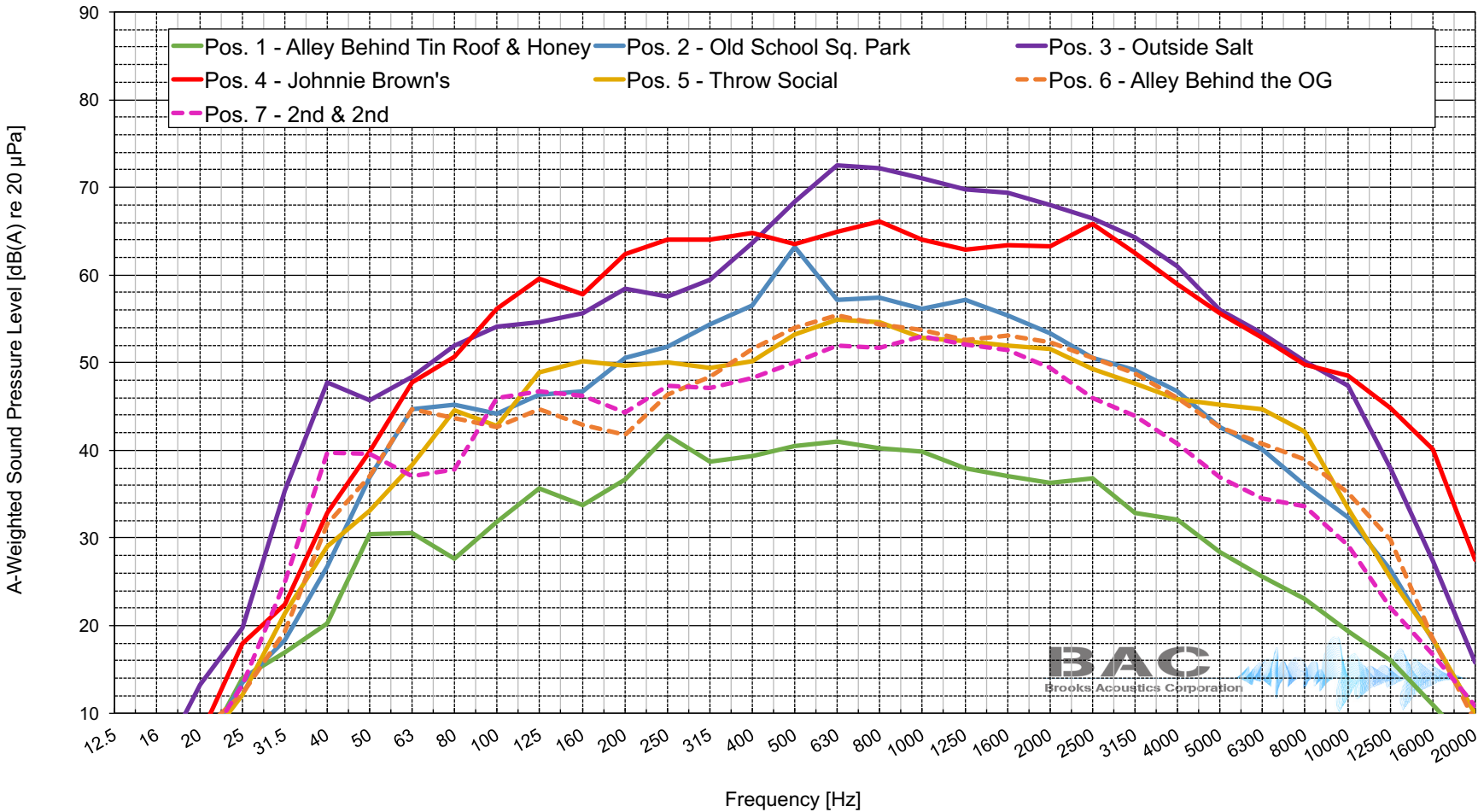


Sound Survey

Comparison Plot: LAeq at different positions

A-weighted Sound Levels
Averaged over Time - 5 to 15 min Recording

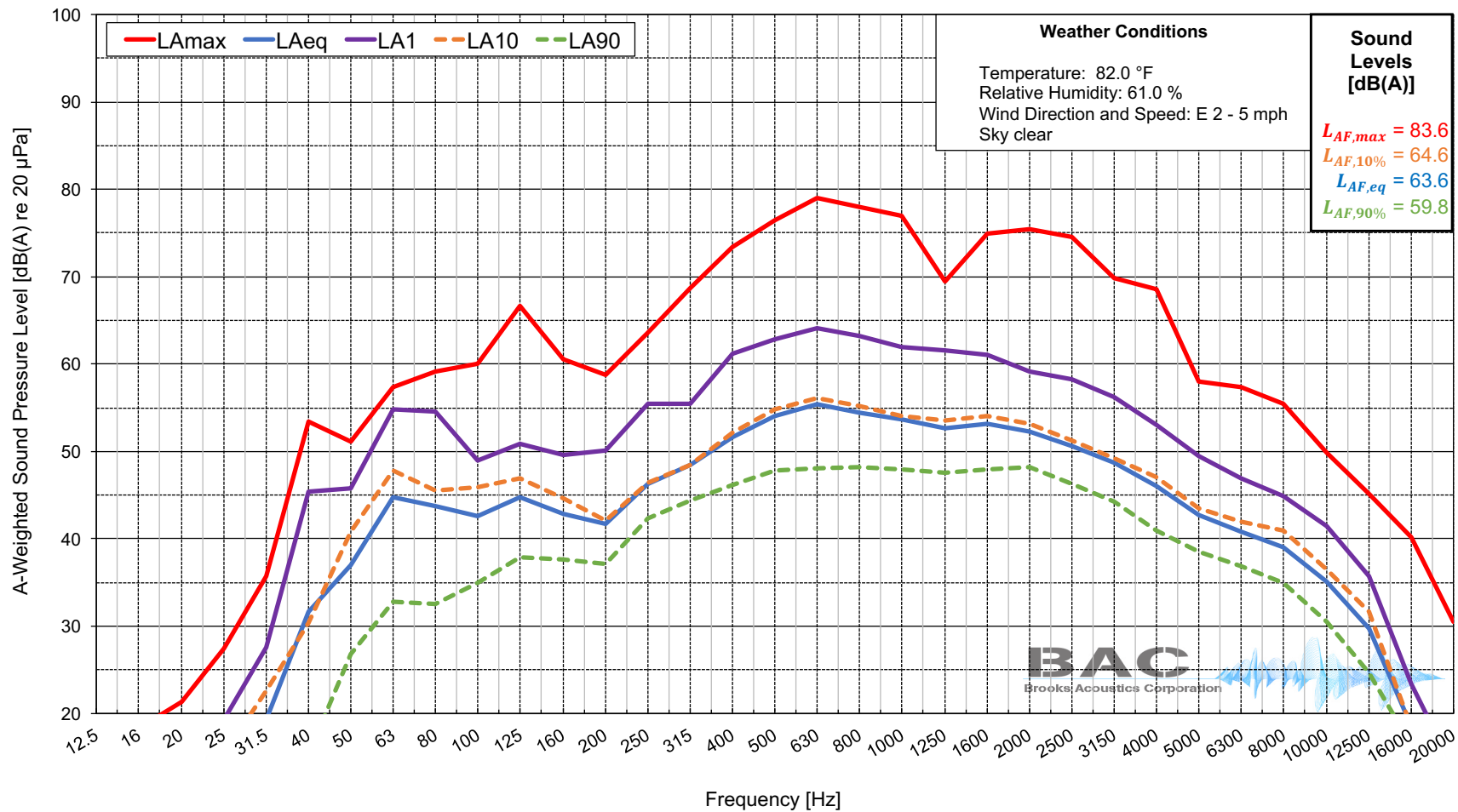
Date: 8&9 May 24
Time: 11PM - 1AM
Positions: 1A,2,3,4A,5,
6A,7



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey
Alley Behind the OG
A-weighted Sound Levels
Averaged over Time - 15 min Recording

Date: 09 May 24
Time: 12:00 AM
Position: 6A



City of Delray Beach

Entertainment District Sound Survey

Delray Beach, FL

Sound Survey**Outside Salt**

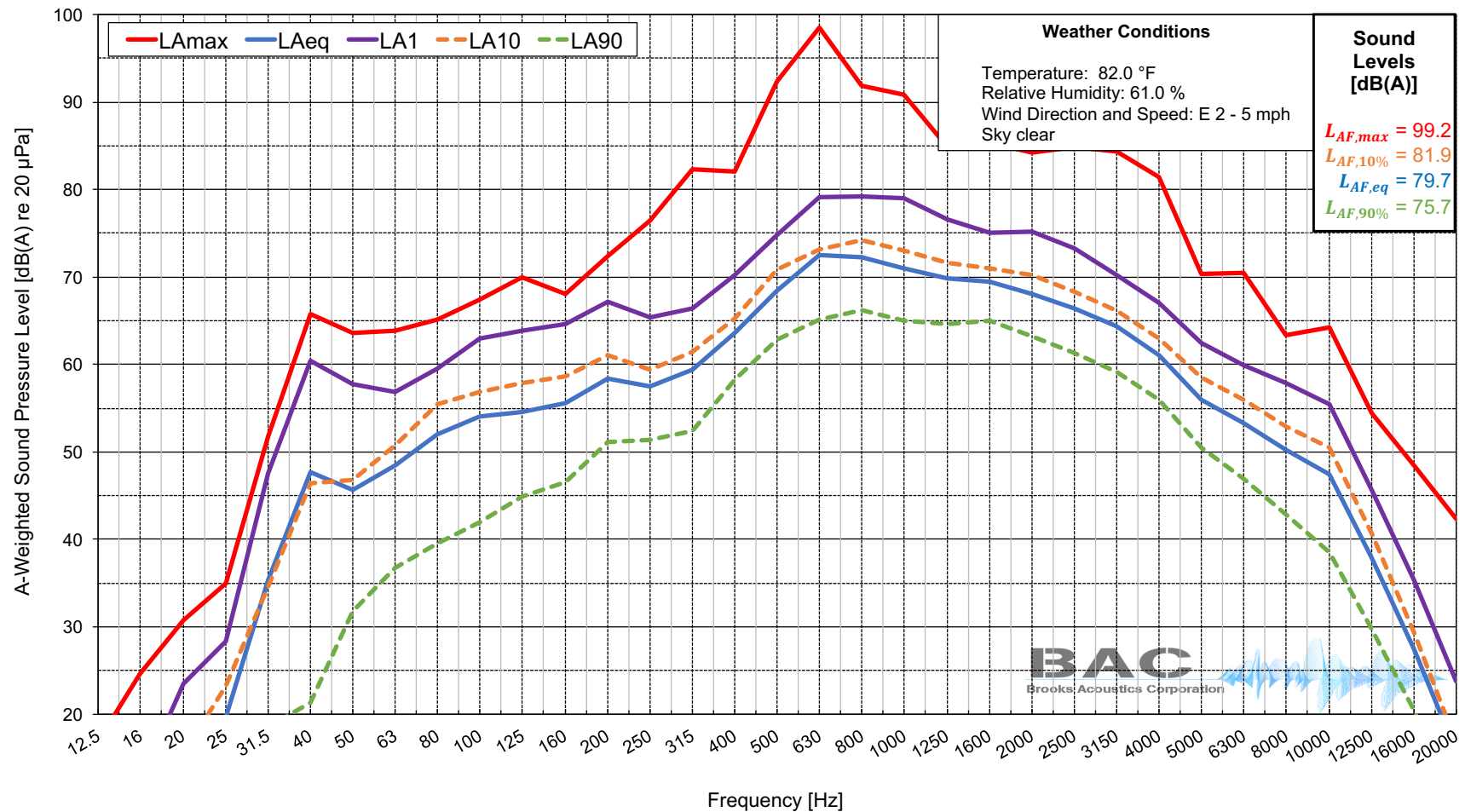
A-weighted Sound Levels

Averaged over Time - 15 min Recording

Date: 09 May 24

Time: 12:25 AM

Position: 3



BAC 1/3 Oct. Band Frequency Plot 2024-0509 NTi 001

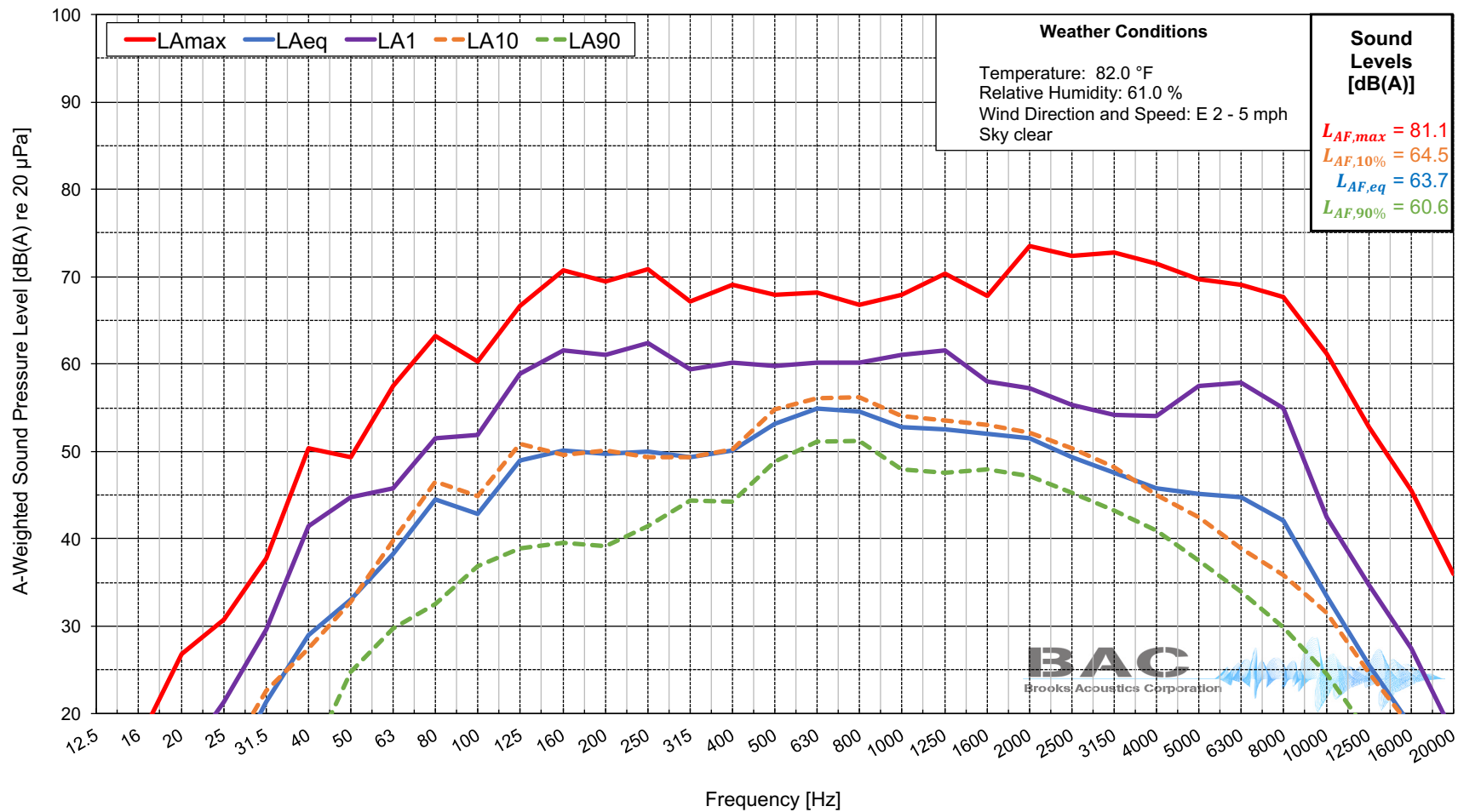
BAC Project PJ2022-1381

BAC 1/3 Oct. Band Frequency Plot 2024-0509 NTi 001

City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey
SE 2nd Avenue - Throw Social (Closed that day)
A-weighted Sound Levels
Averaged over Time - 5 min Recording

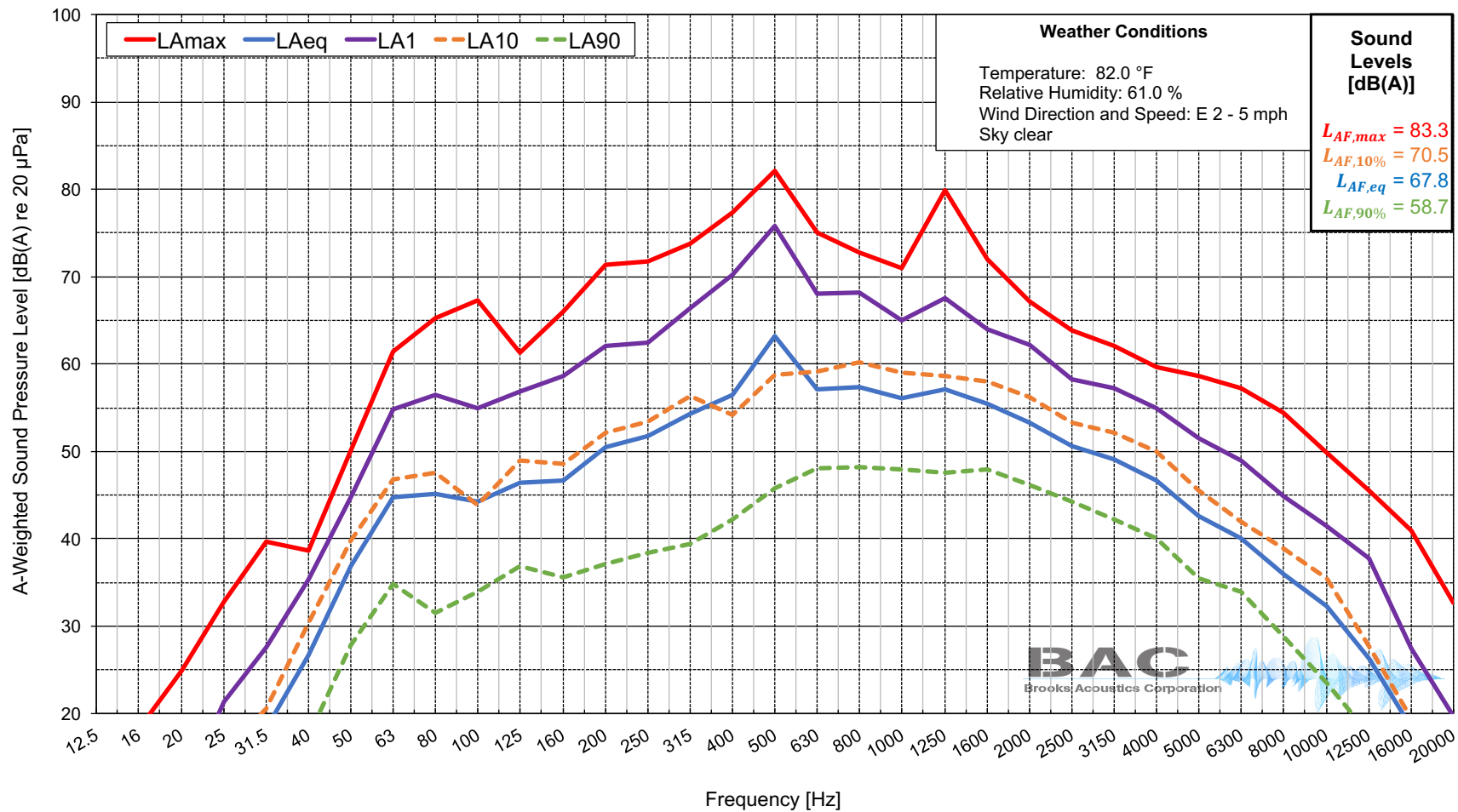
Date: 09 May 24
Time: 12:44 AM
Position: 5



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey
E Atlantic Ave - Old School Square Park
A-weighted Sound Levels
Averaged over Time - 5 min Recording

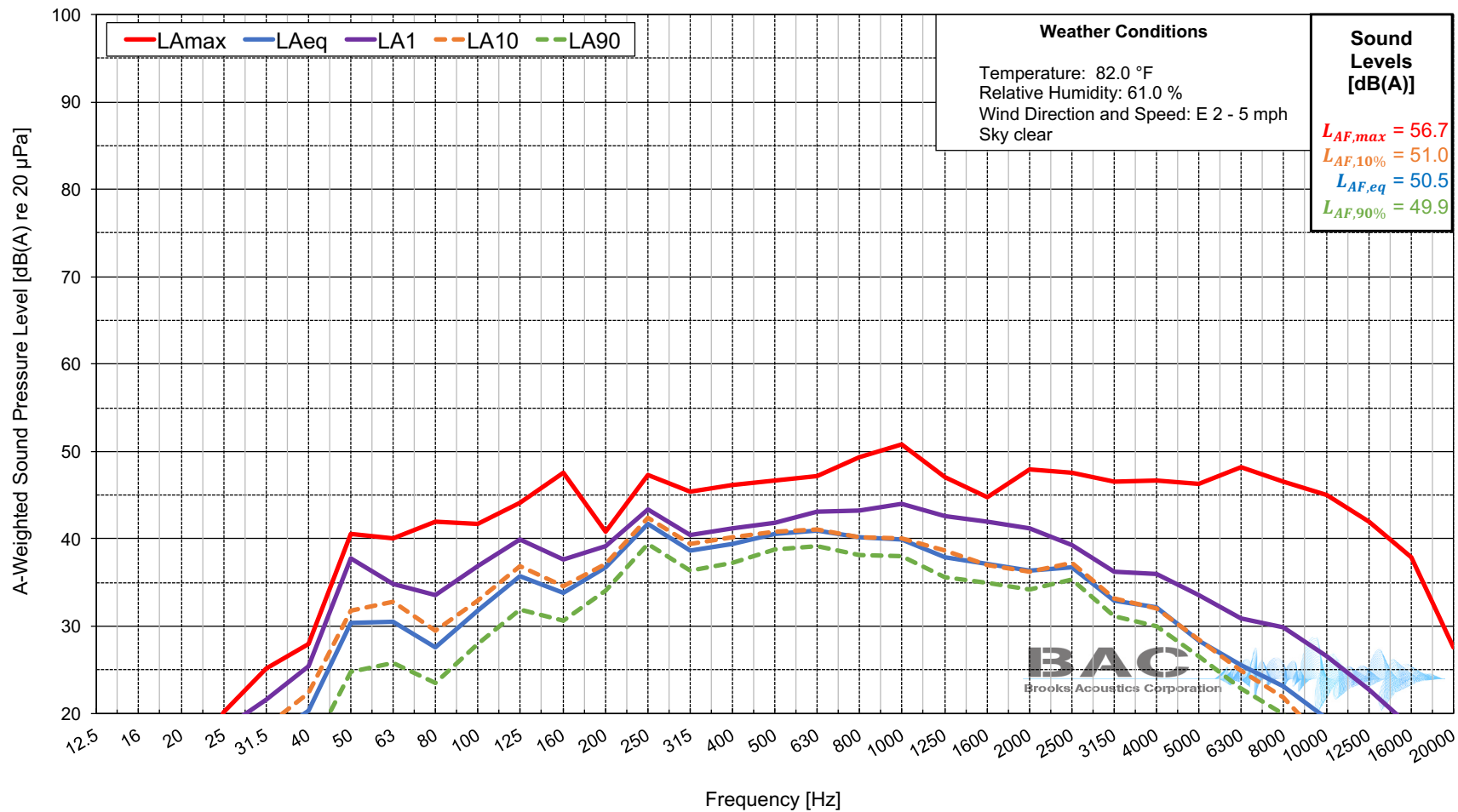
Date: 09 May 24
Time: 1:05 AM
Position: 2



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey
Alley Behind Tin Roof & Honey
A-weighted Sound Levels
Averaged over Time - 5 min Recording

Date: 09 May 24
Time: 1:12 AM
Position: 1A



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey - LT Peak Hour

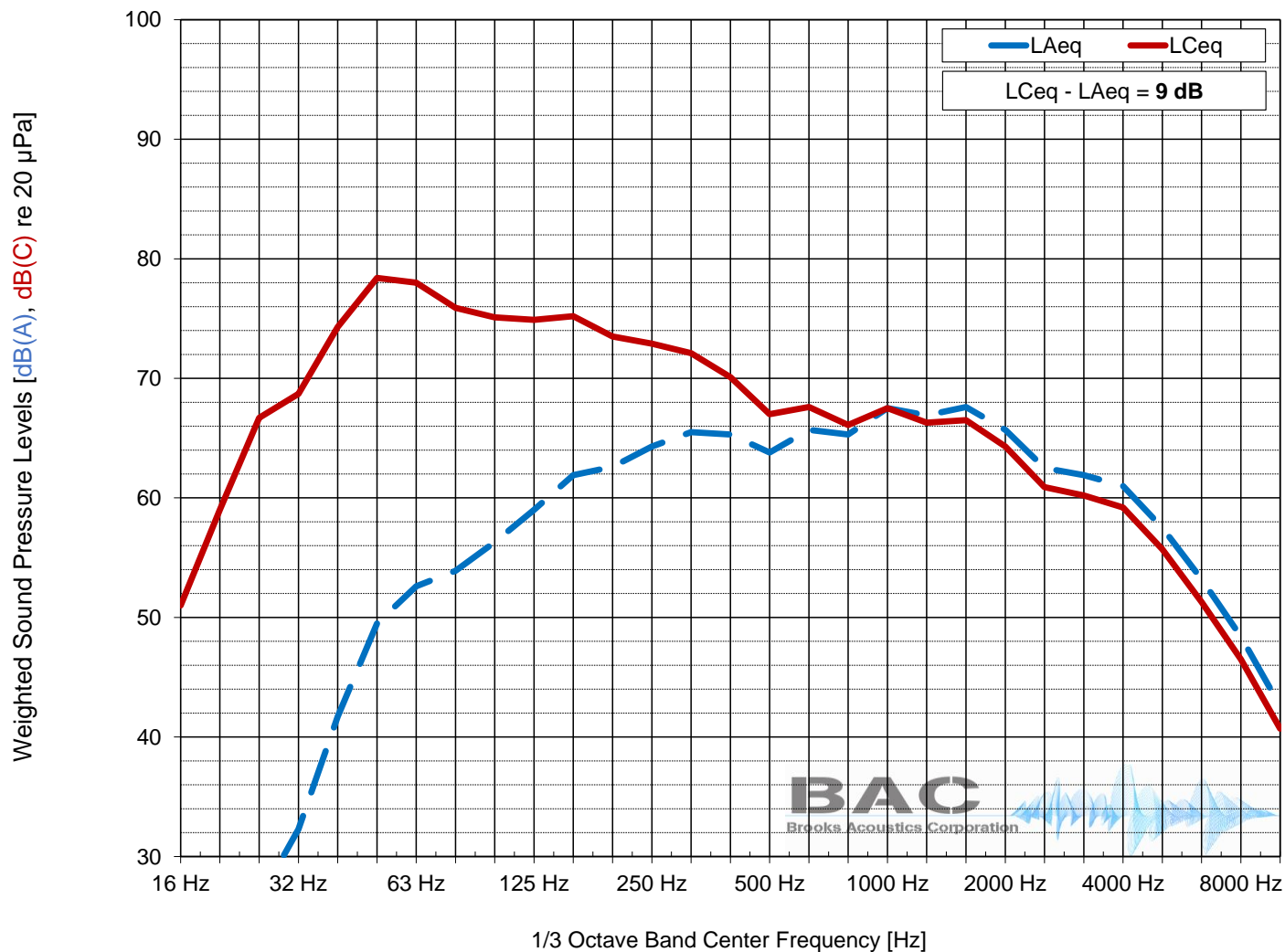
Old School Square Park

A-weighted & C-weighted Sound Levels

Date: 04 May 24
Time: 8:00 PM
Position: L1

LAeq = 77

LCeq = 86



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey - LT Peak Hour

2nd & 2nd

A-weighted & C-weighted Sound Levels

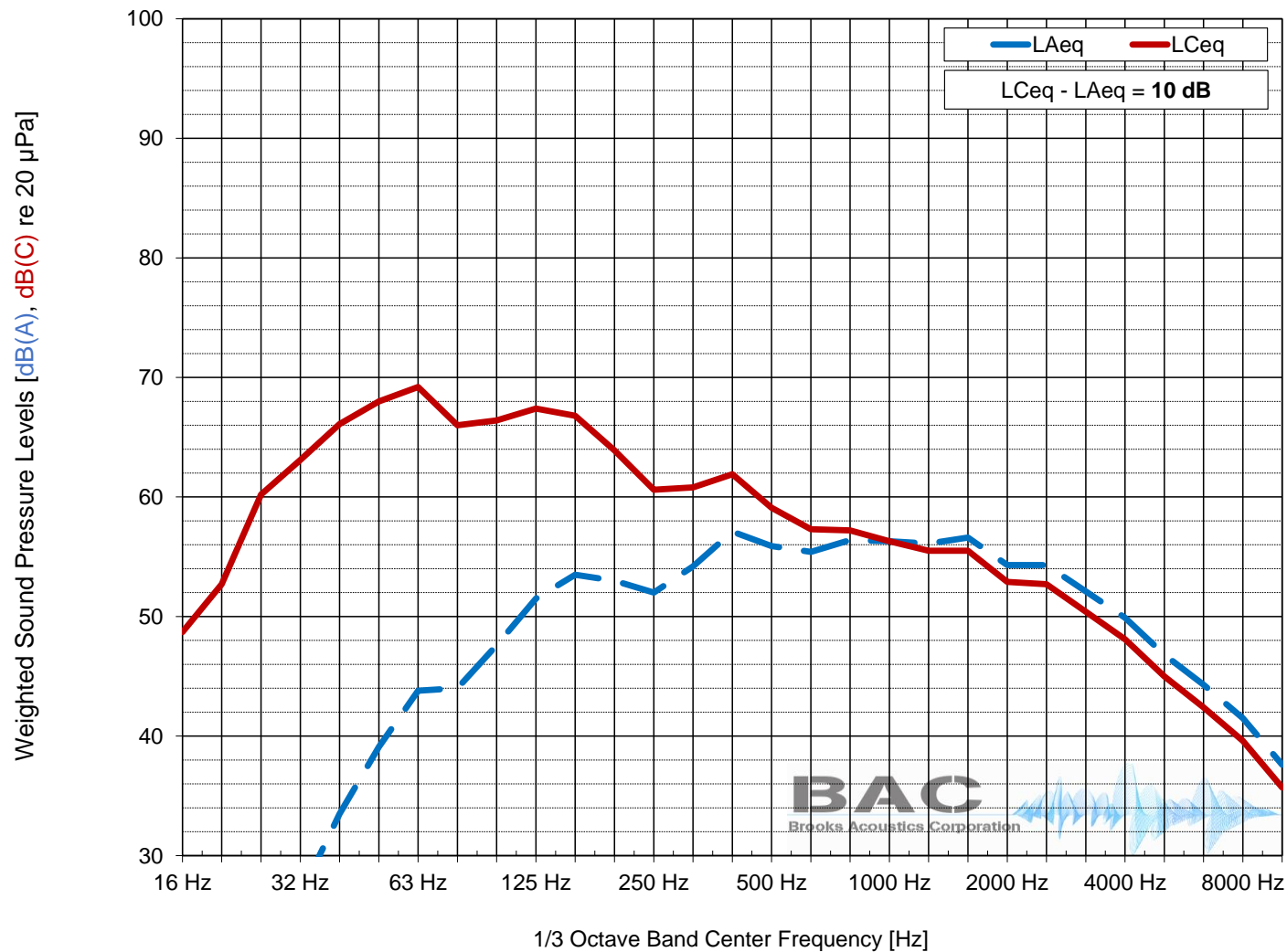
Date: 04 May 24

Time: 8:00 PM

Position: L3

LAeq = 67

LCeq = 77



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey - LT Peak Hour

SE 2nd Avenue - Throw Social

A-weighted & C-weighted Sound Levels

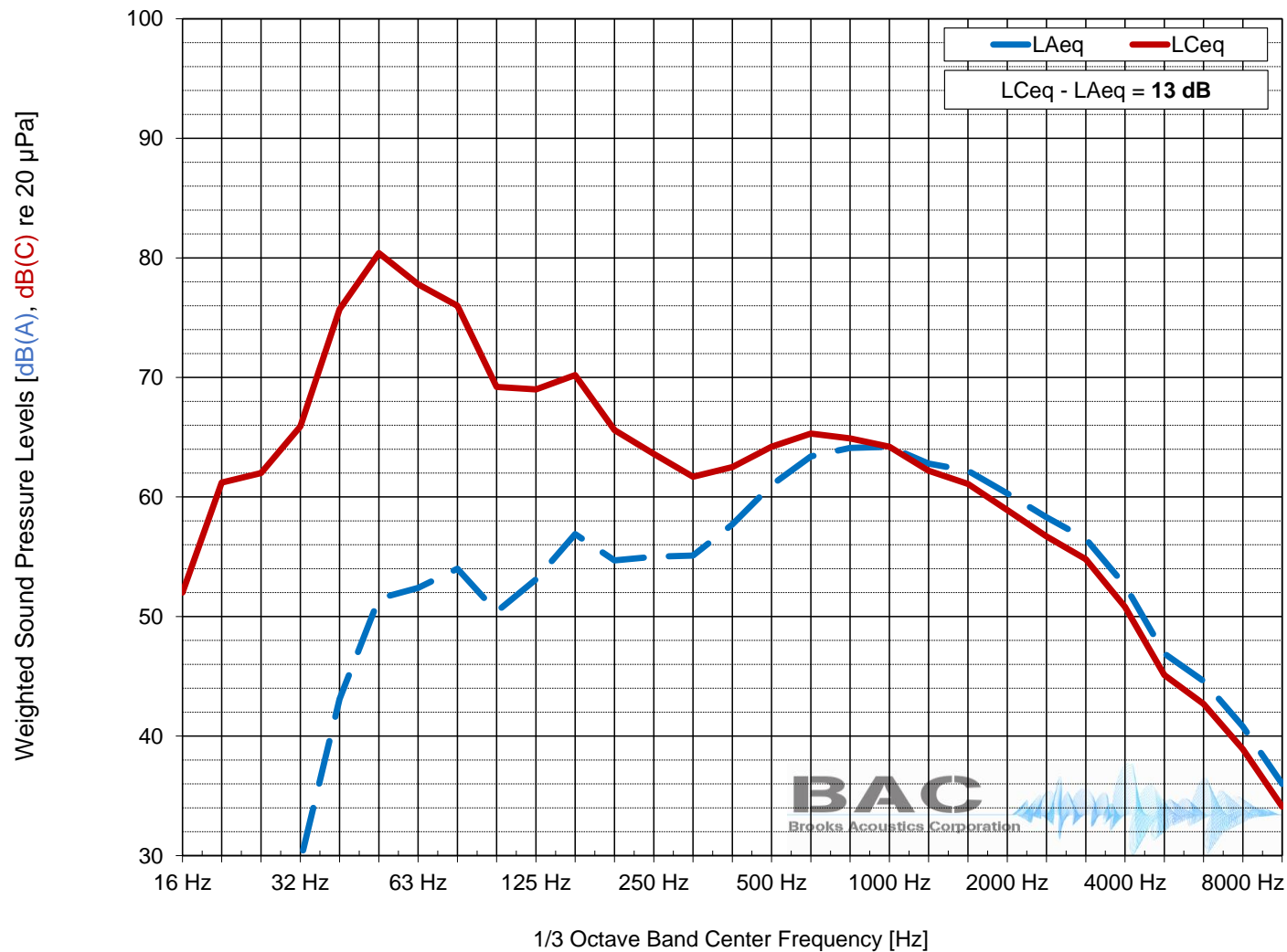
Date: 04 May 24

Time: 11:30 PM

Position: L4

LAeq = 72

LCeq = 85



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey - 12 min ST Record

Alley Behind Tin Roof & Honey

A-weighted & C-weighted Sound Levels

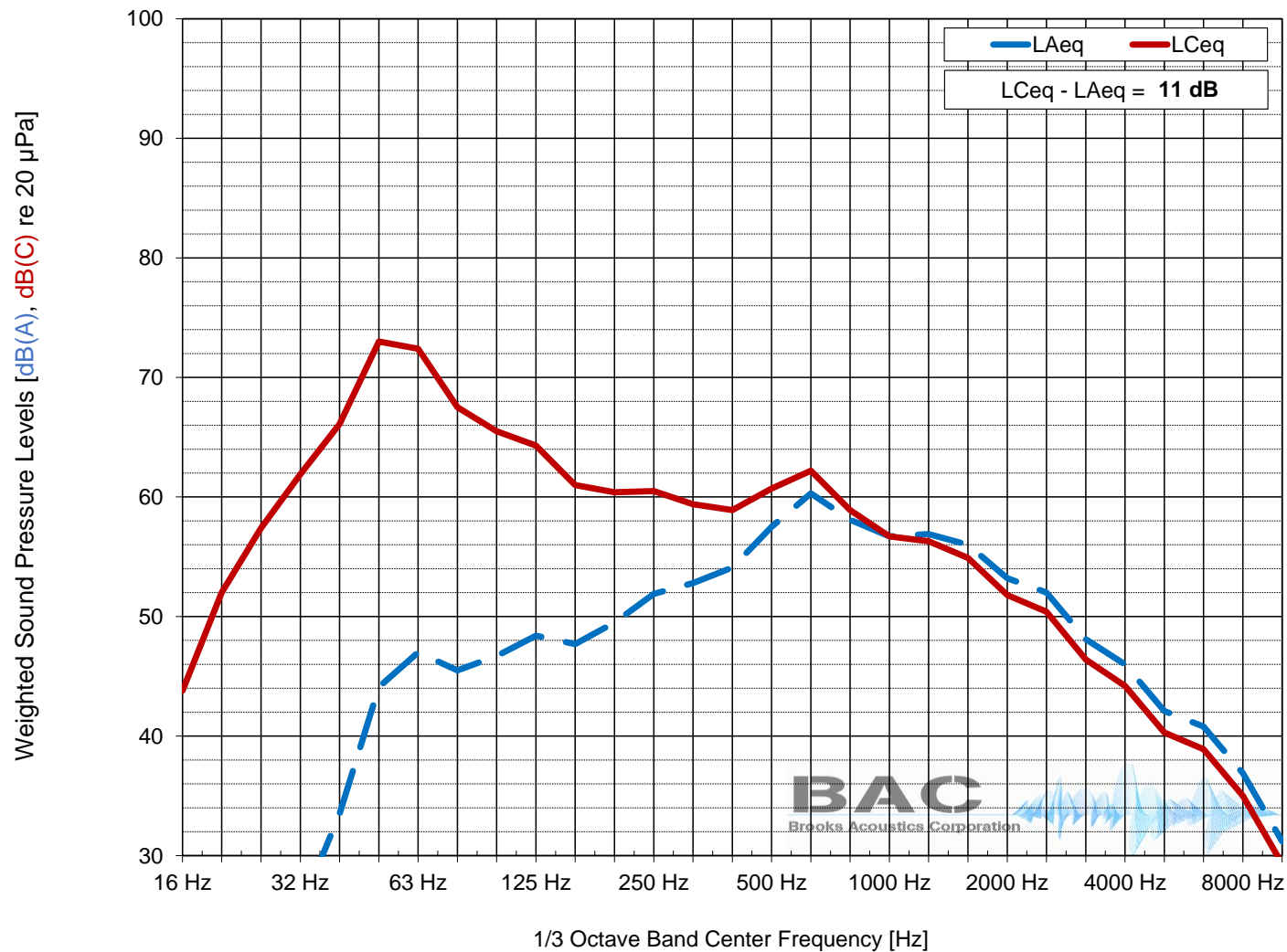
Date: 05 May 24

Time: 1:35 AM

Position: 1A

LAeq = 67

LCeq = 78



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey - 15 min ST Record

Alley Behind Tin Roof & Honey

A-weighted & C-weighted Sound Levels

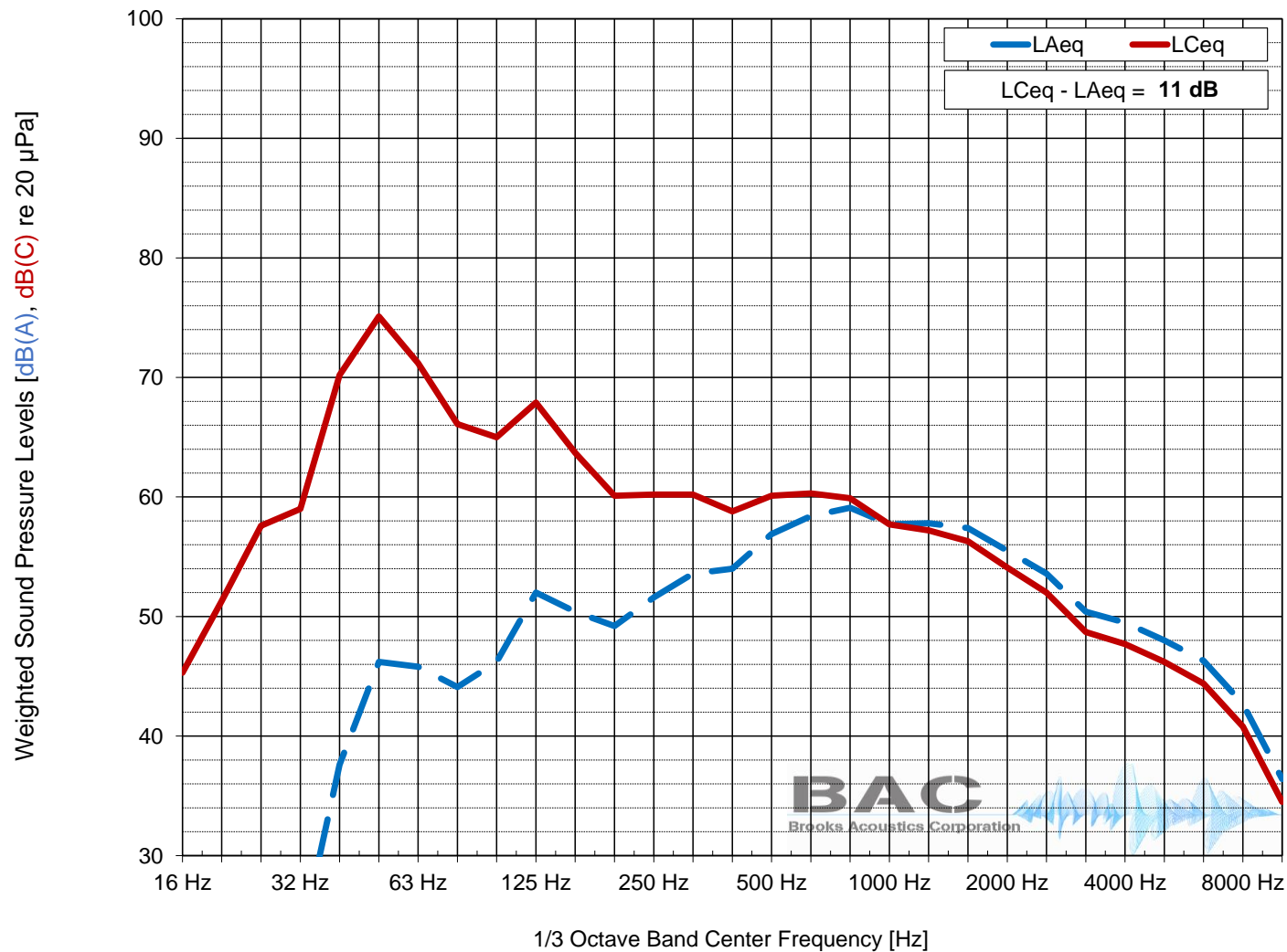
Date: 04 May 24

Time: 10:50 PM

Position: 1A

LAeq = 68

LCeq = 79



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

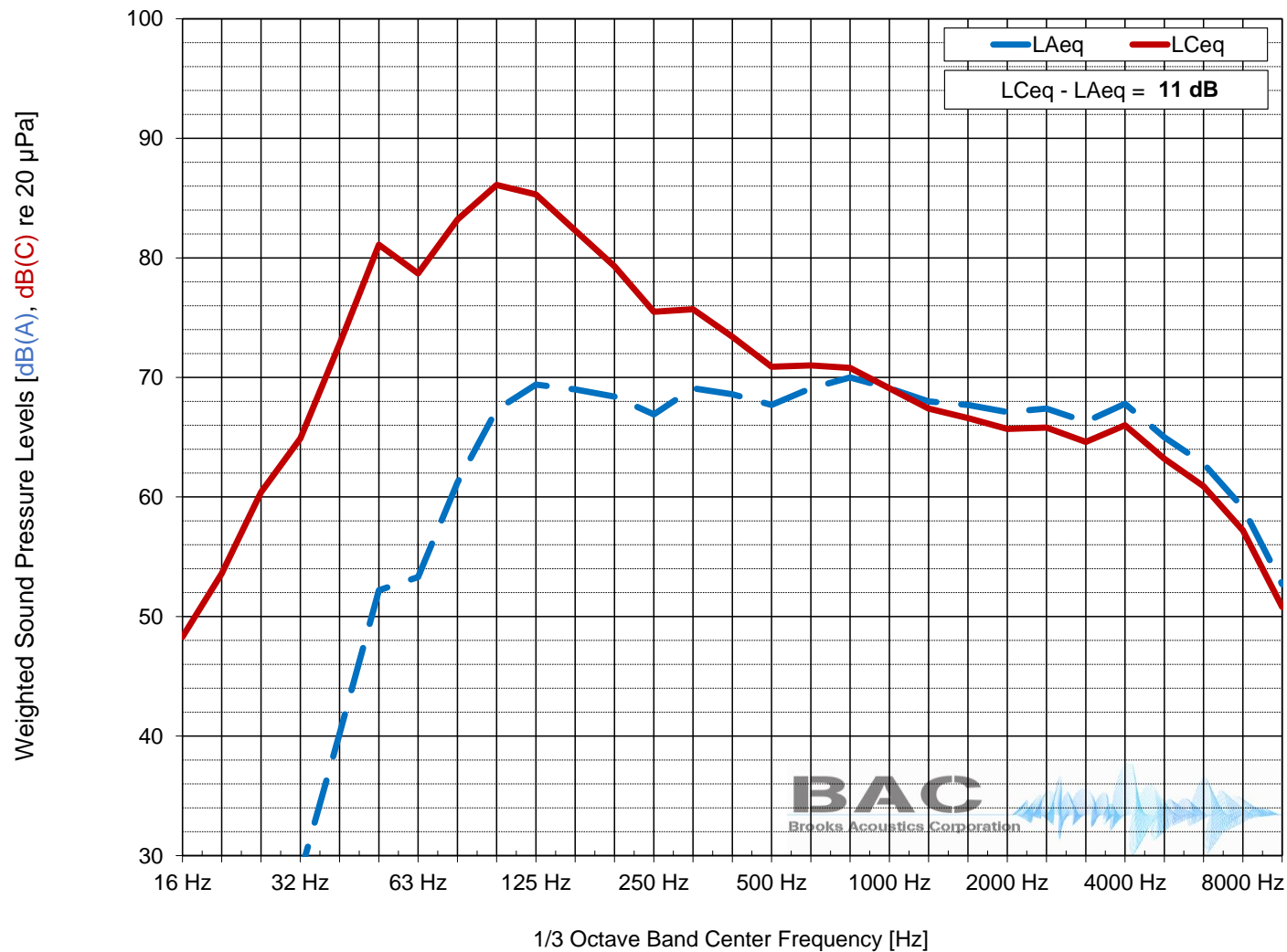
Sound Survey - 15 min ST Record

SE 2nd Avenue - Throw Social
A-weighted & C-weighted Sound Levels

Date: 05 May 24
Time: 12:37 AM
Position: 6

LAeq = 81

LCeq = 92



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey - 15 min ST Record

Old School Square Park

A-weighted & C-weighted Sound Levels

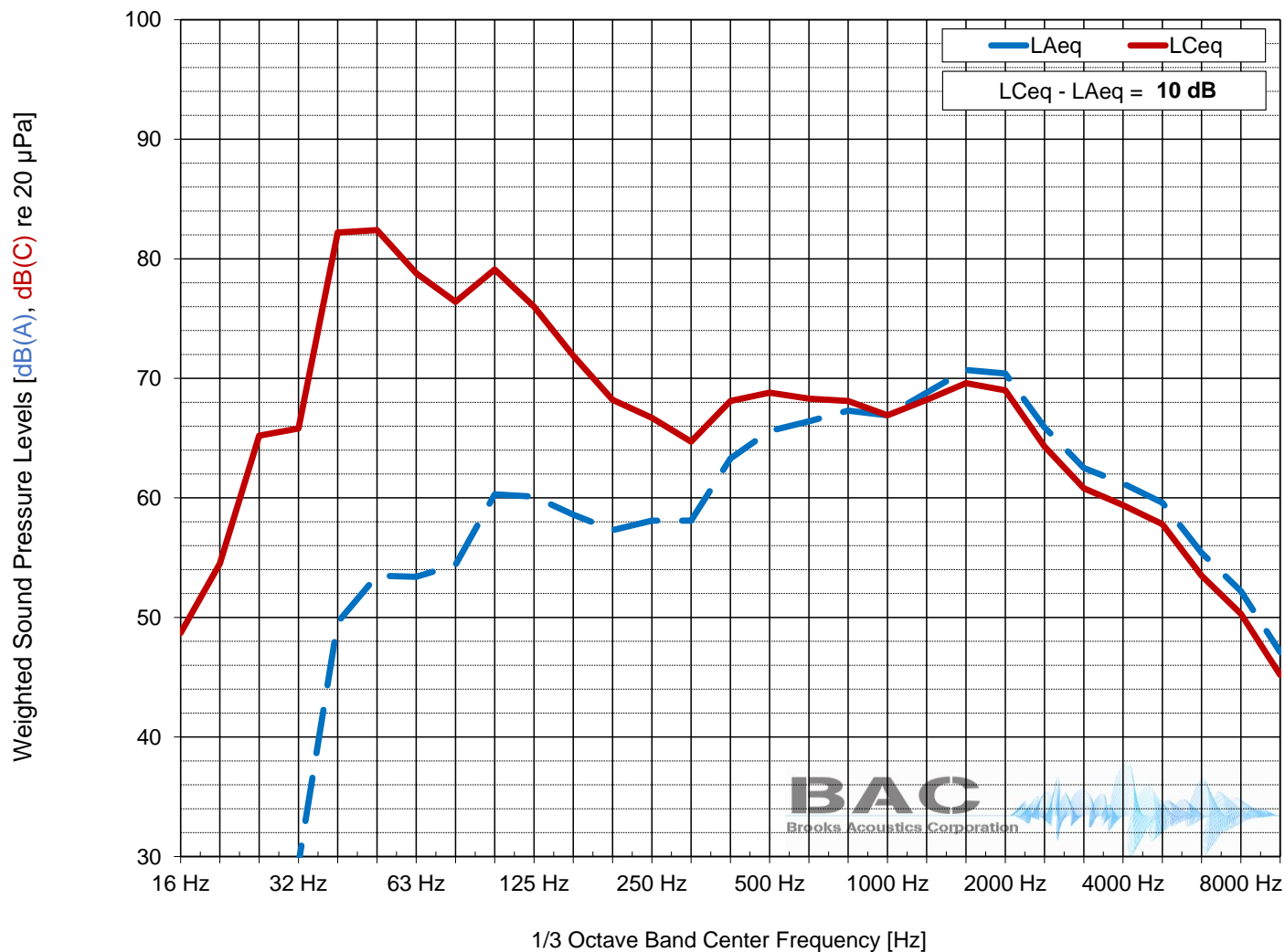
Date: 04 May 24

Time: 11:14 PM

Position: 2

LAeq = 78

LCeq = 88



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey - 15 min ST Record

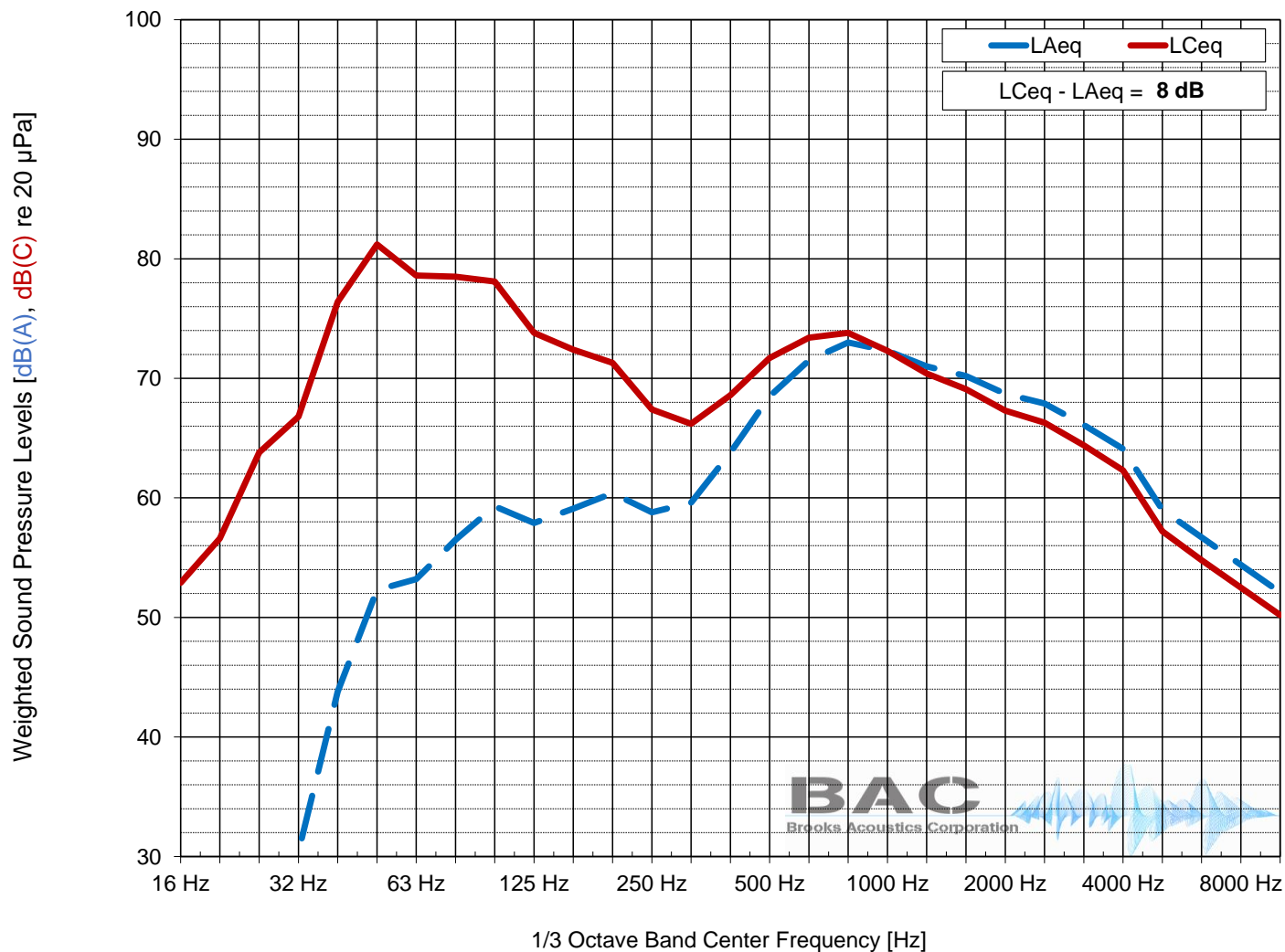
Outside Salt

A-weighted & C-weighted Sound Levels

Date: 04 May 24
Time: 11:35 PM
Position: 13

LAeq = 80

LCeq = 88



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey - 15 min ST Record

SE 2nd Avenue - Throw Social

A-weighted & C-weighted Sound Levels

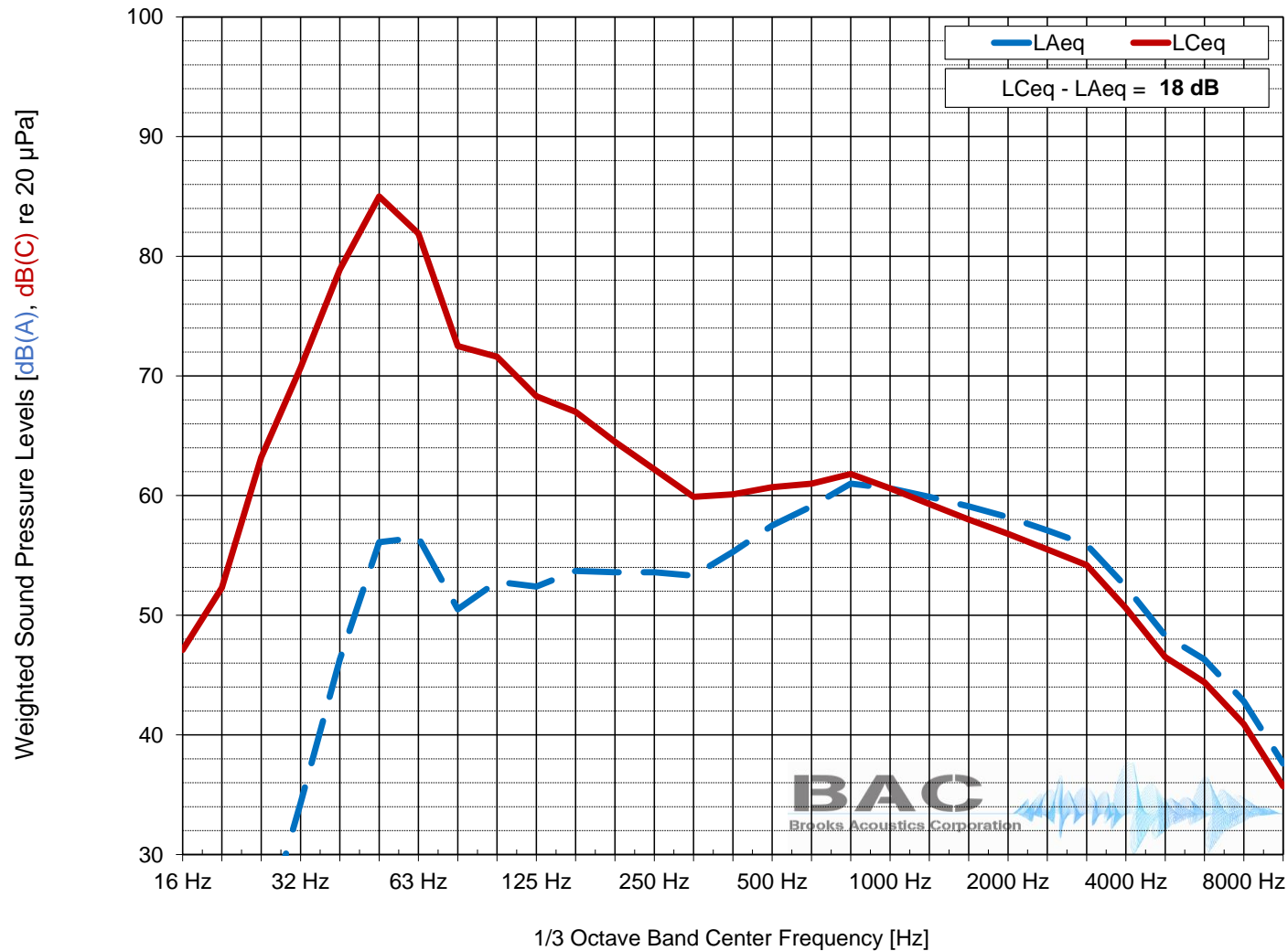
Date: 04 May 24

Time: 11:55 PM

Position: 8

LAeq = 70

LCeq = 88



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey - 15 min ST Record

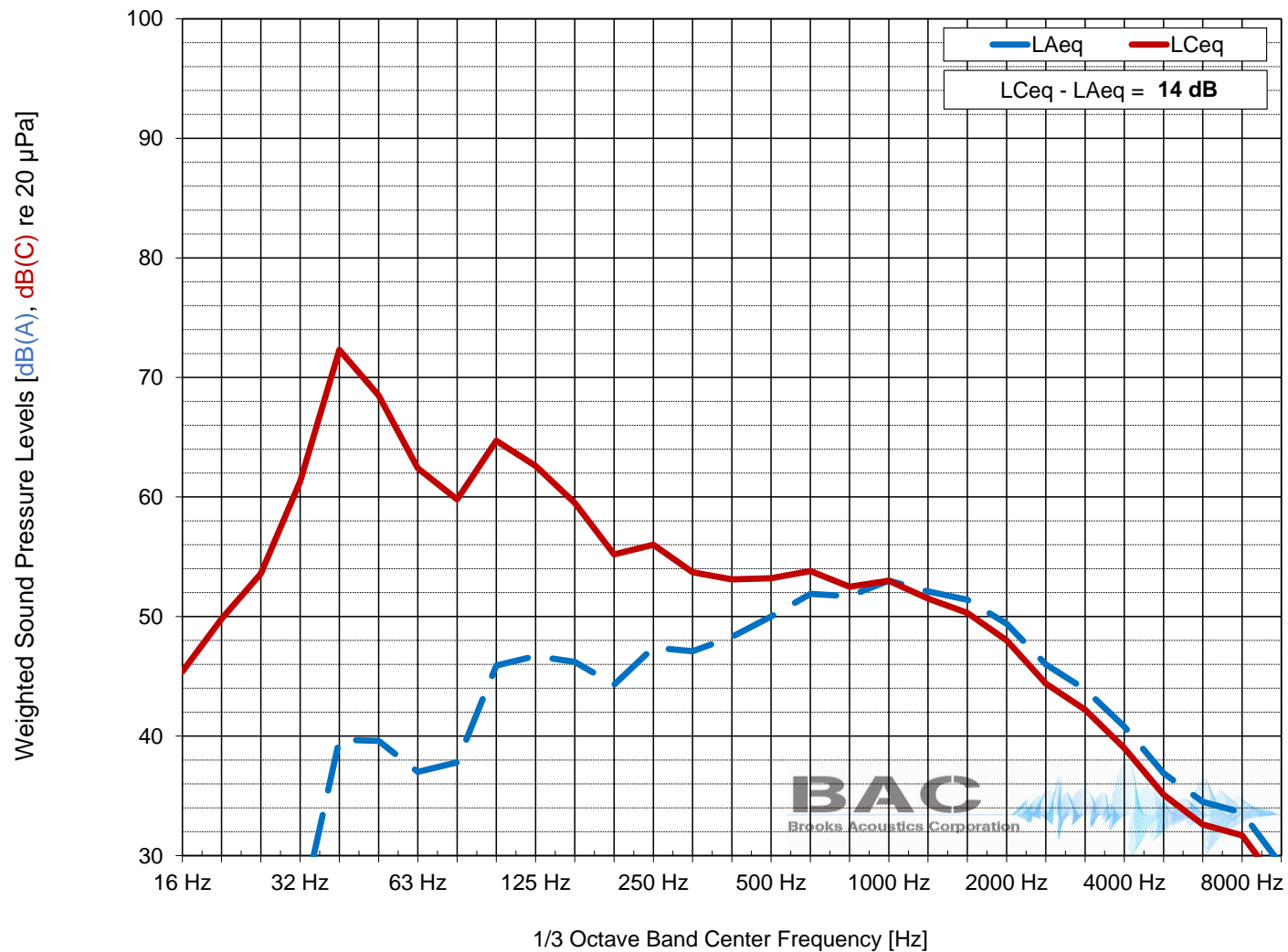
2nd & 2nd

A-weighted & C-weighted Sound Levels

Date: 08 May 24
Time: 10:46 PM
Position: 4

LAeq = 62

LCeq = 76



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey - 15 min ST Record

Alley Behind the OG

A-weighted & C-weighted Sound Levels

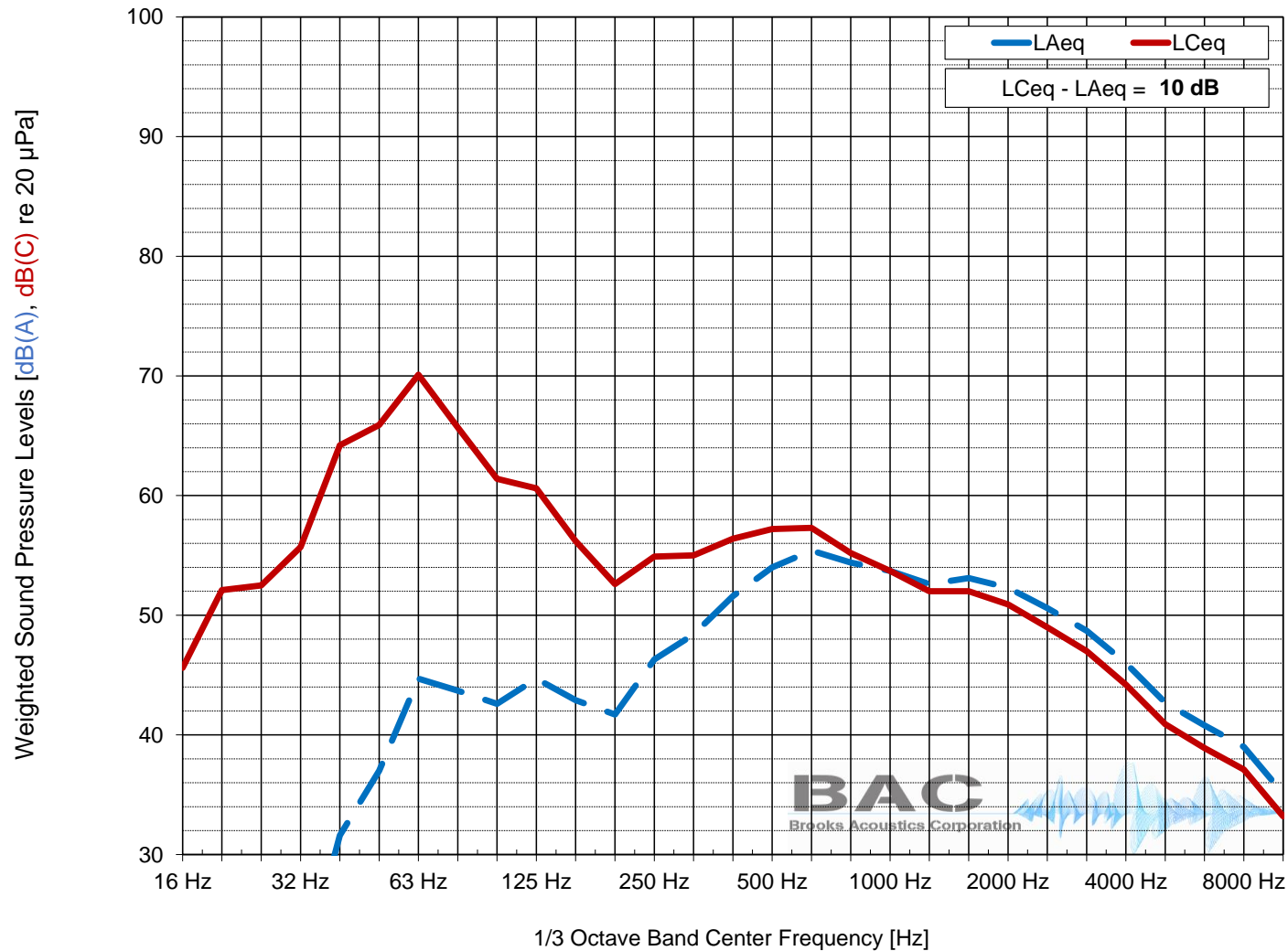
Date: 09 May 24

Time: 12:00 AM

Position: 9A

LAeq = 64

LCeq = 74



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey - 5 min ST Record

Alley Behind Tin Roof & Honey

A-weighted & C-weighted Sound Levels

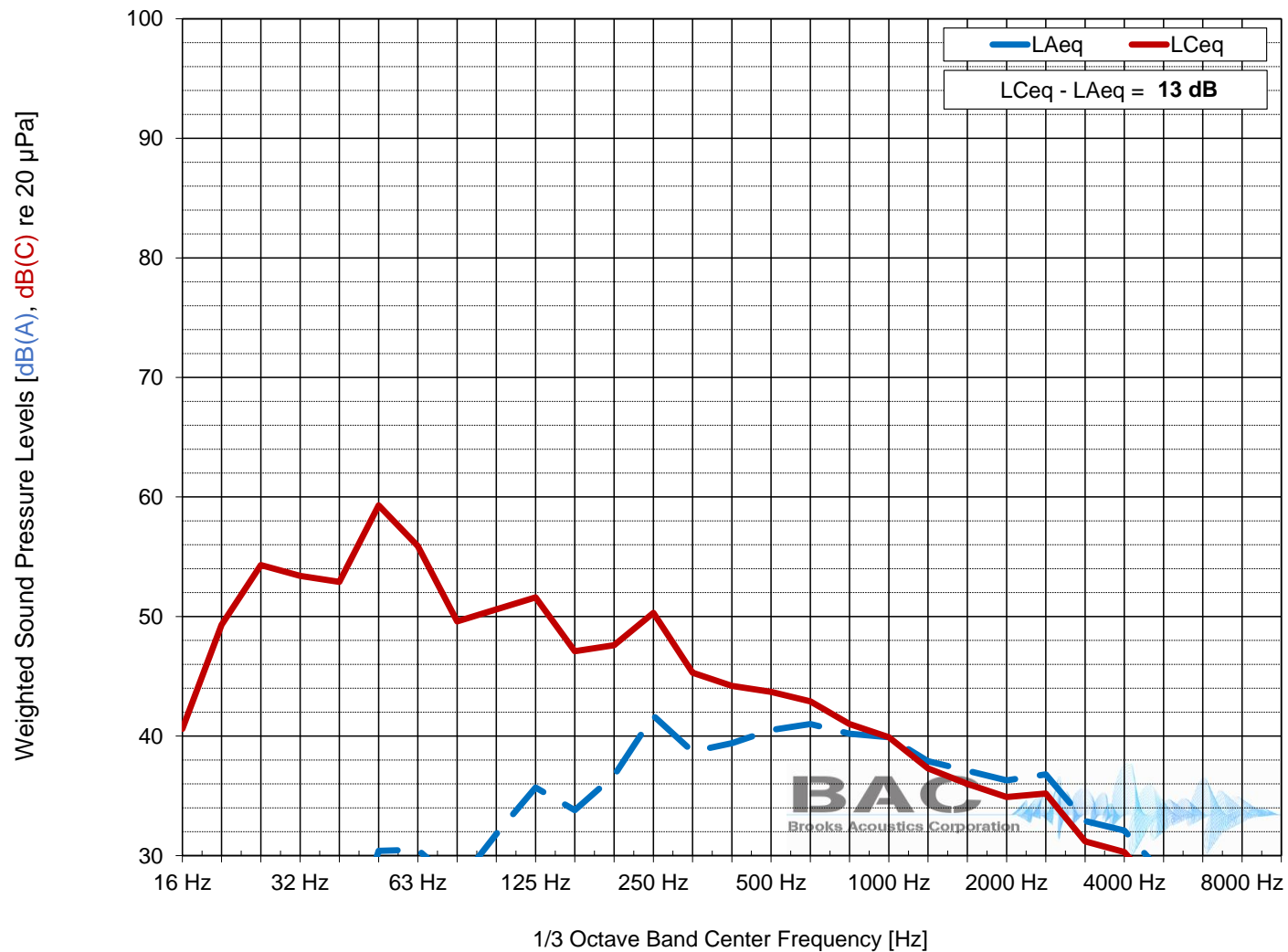
Date: 09 May 24

Time: 1:12 AM

Position: 1A

LAeq = 51

LCeq = 64



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey - 15 min ST Record

Johnnie Brown's

A-weighted & C-weighted Sound Levels

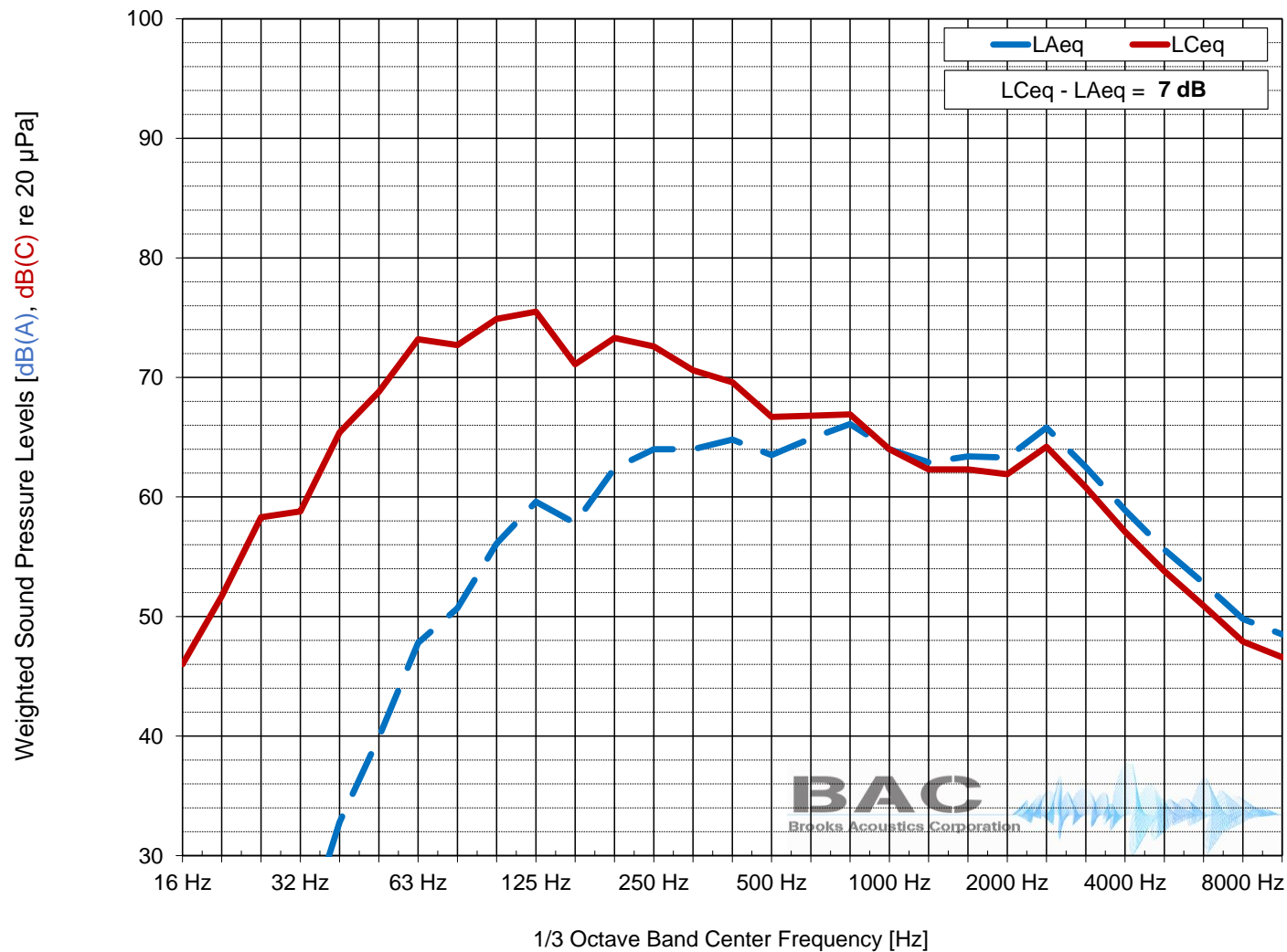
Date: 08 May 24

Time: 11:30 PM

Position: 6A

LAeq = 76

LCeq = 83



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey - 5 min ST Record

Old School Square Park

A-weighted & C-weighted Sound Levels

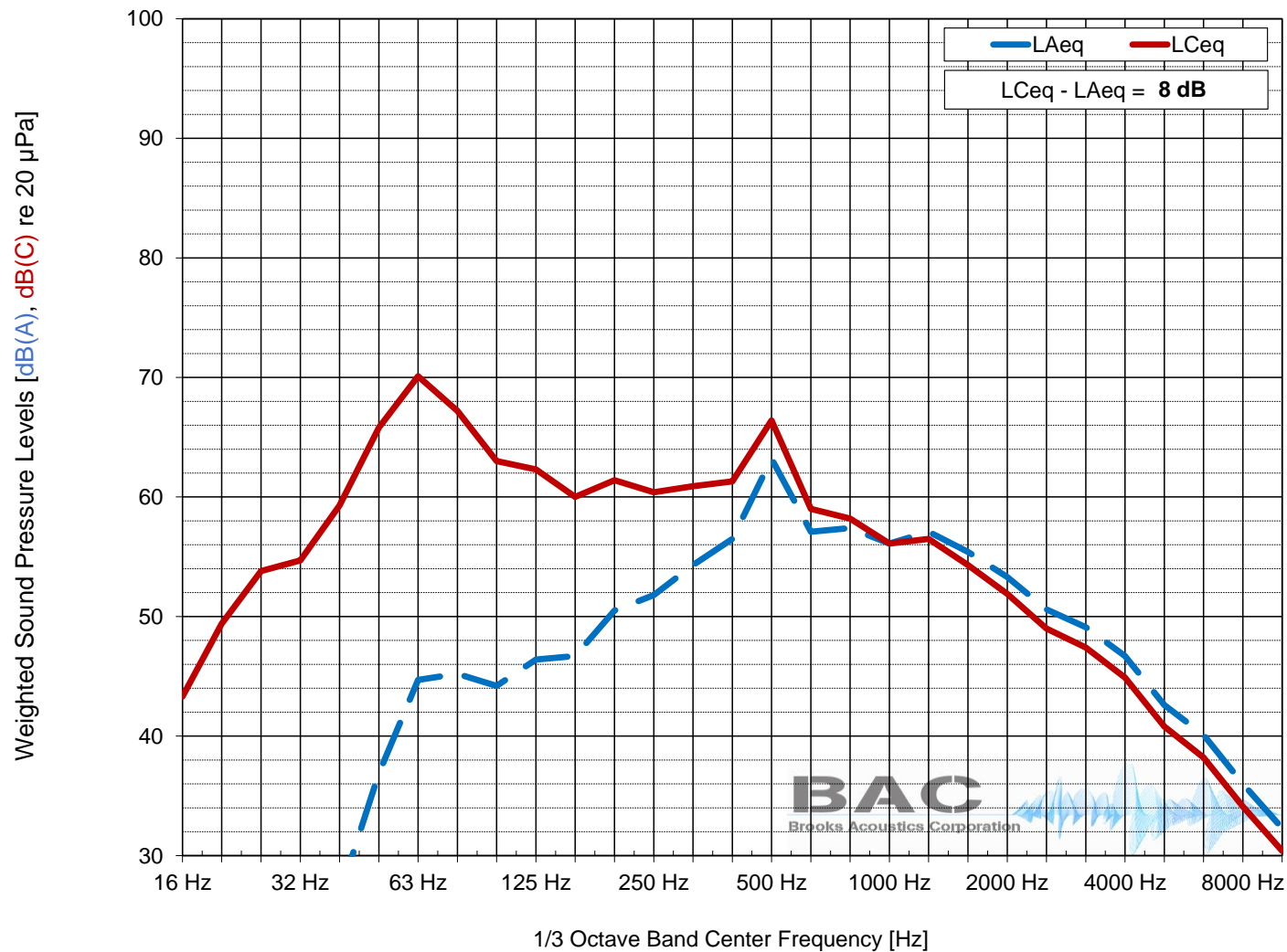
Date: 09 May 24

Time: 1:05 AM

Position: 2

LAeq = 68

LCeq = 76



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey - 15 min ST Record

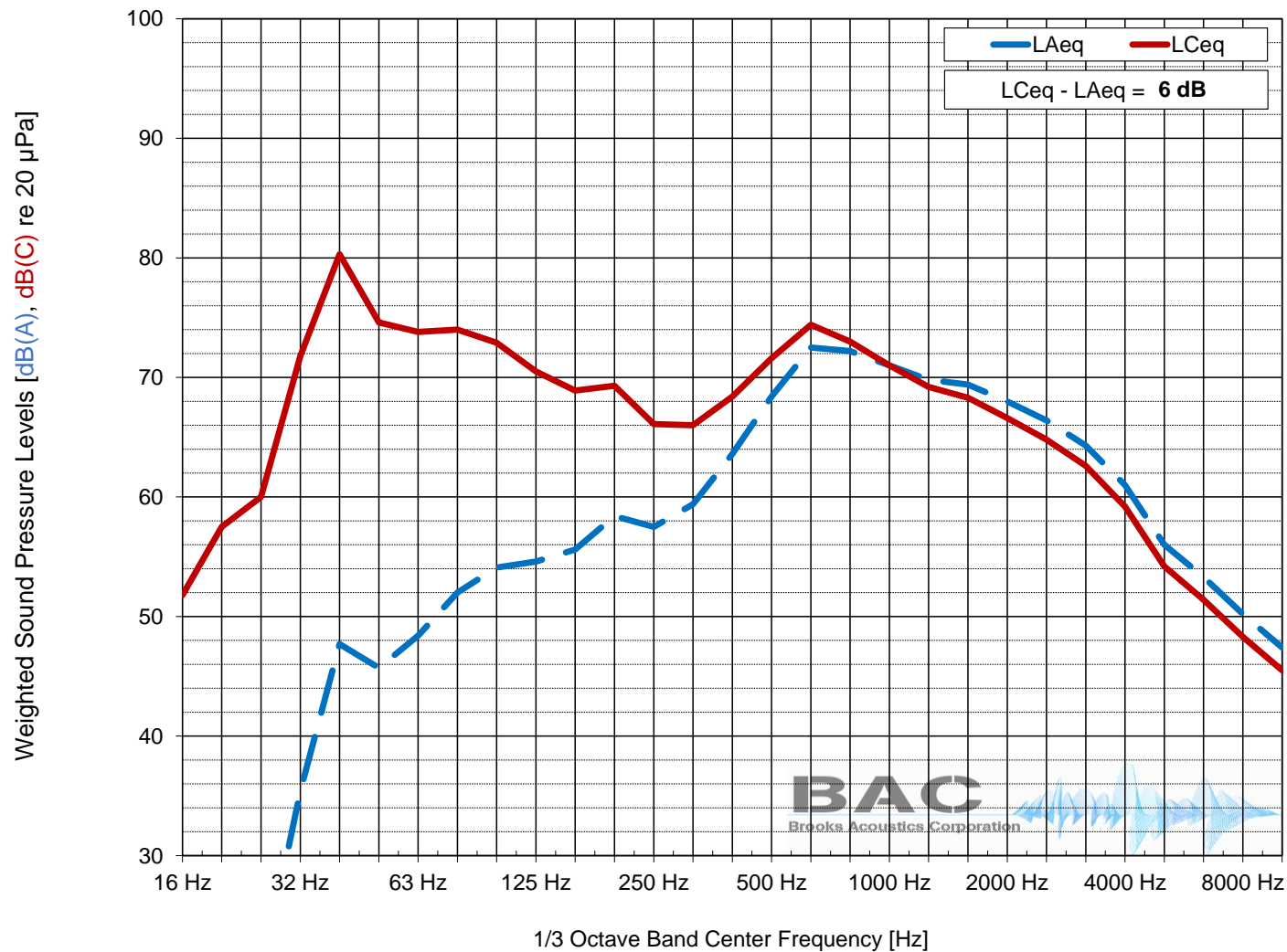
Outside Salt

A-weighted & C-weighted Sound Levels

Date: 09 May 24
Time: 12:25 AM
Position: 13

LAeq = 80

LCeq = 86



City of Delray Beach
Entertainment District Sound Survey
Delray Beach, FL

Sound Survey - 15 min ST Record
SE 2nd Avenue - Throw Social (Closed that day)

A-weighted & C-weighted Sound Levels

Date: 09 May 24
Time: 12:44 AM
Position: 8

LAeq = 64 LCeq = 73

