REESE OWENS ARCHITECTS LLC

2 February 2022

Mr. Nicholas Solley, Chairman
Zoning Commission
Town of Washington
2 Bryan Plaza
Washington Depot, CT 06794

Re: **Request of MFSPA2013, LLC, 116 Woodbury Rd., for a Special Permit**

Dear Mr. Solley,

Attached hereto are supplemental documents for the Commission's consideration:

- Drawing TZ003 dated 2/2/2022 by Reese Owens Architects
- Electro-Acoustic Mitigation Plan dated 2/2/22 by PowerStation Events
- Mayflower Hospitality Tent Acoustical Design, BAC Letter Report PJ2021-1374-L02 dated 2/2/2022 by Brooks Acoustics Corp

The intent of these supplemental documents is to explain Mayflower's four-part program to control the sound level of live and/or amplified music originating from the Hospitality Tent, as follows:

1. **Physical Sound Attenuation** – utilization of proven sound dampening and absorbing materials that are configured and engineered to control the sound level passing through the Tent envelope, with specific attention to the direction of the sound.

2. **Electro-Acoustic Mitigation** – installation of a state-of-the-art, purpose-built audio system utilizing zoned speaker systems and precise control to limit and direct all sound within Tent perimeter.

3. **Vendor Control** – Mayflower retains full control of the audio system, prohibits vendor-provided systems and prevents vendors from exceeding sound limits.

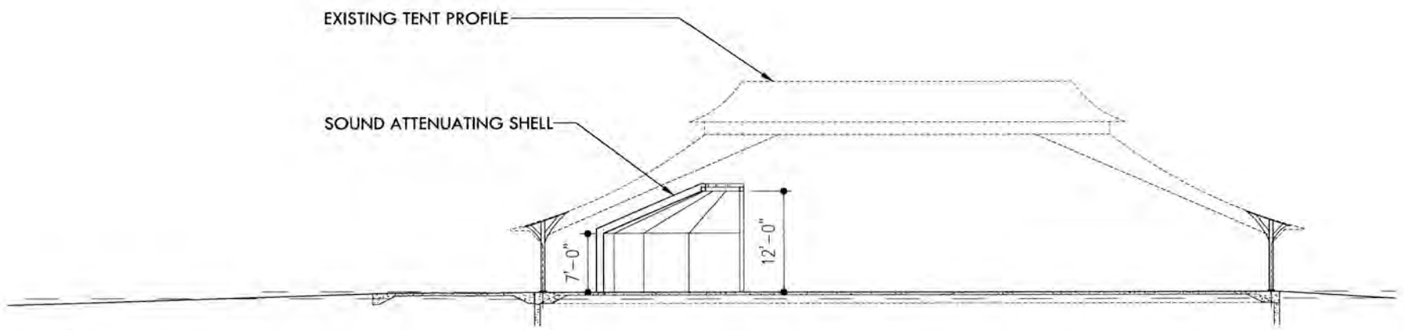
4. **Compliance Control** – During live and/or amplified music events, a professional third-party acoustician monitors and records sound levels at appropriate property lines to ensure real time compliance with stipulated sound limits.

Mayflower's team is eager to address the Commission's questions and concerns.

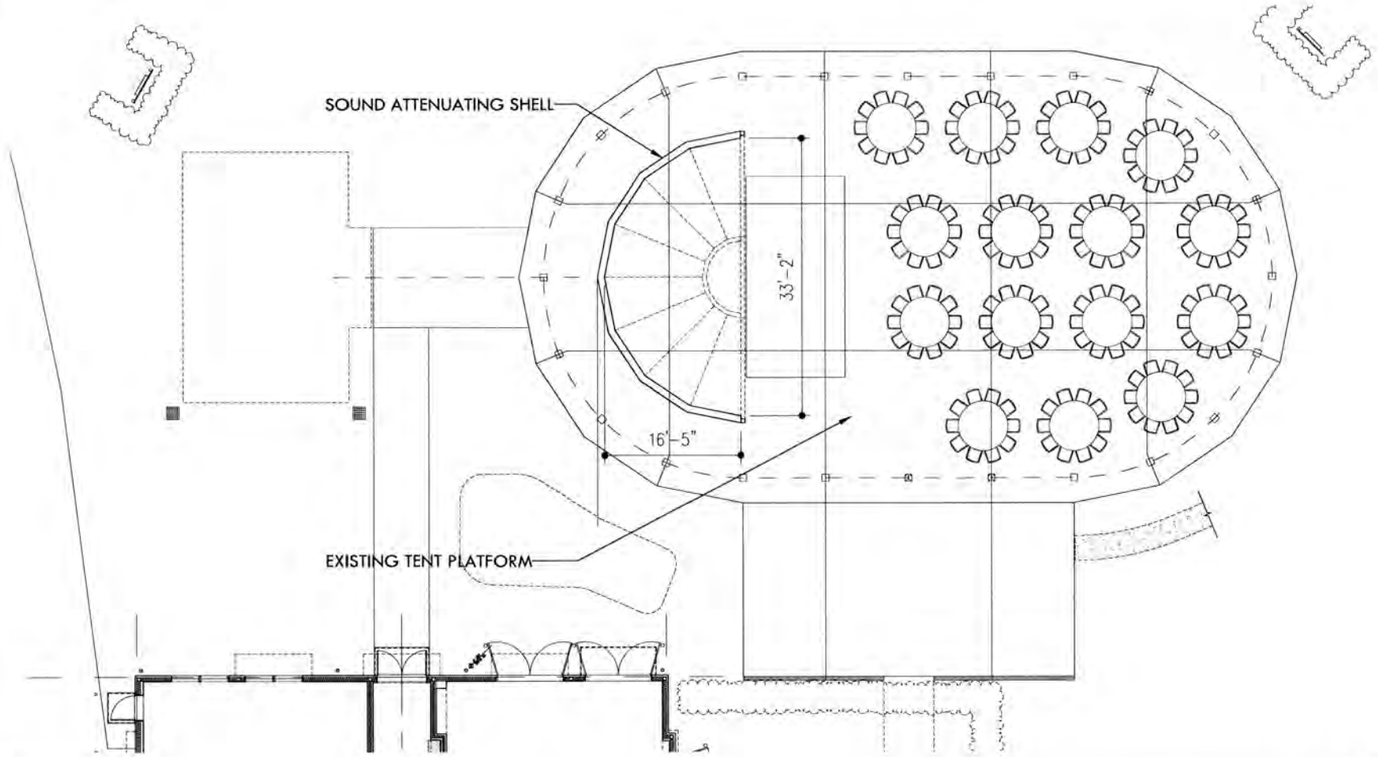
Respectfully submitted on behalf of MFSPA2013, LLC,

Reese Owens
Reese Owens Architects LLC

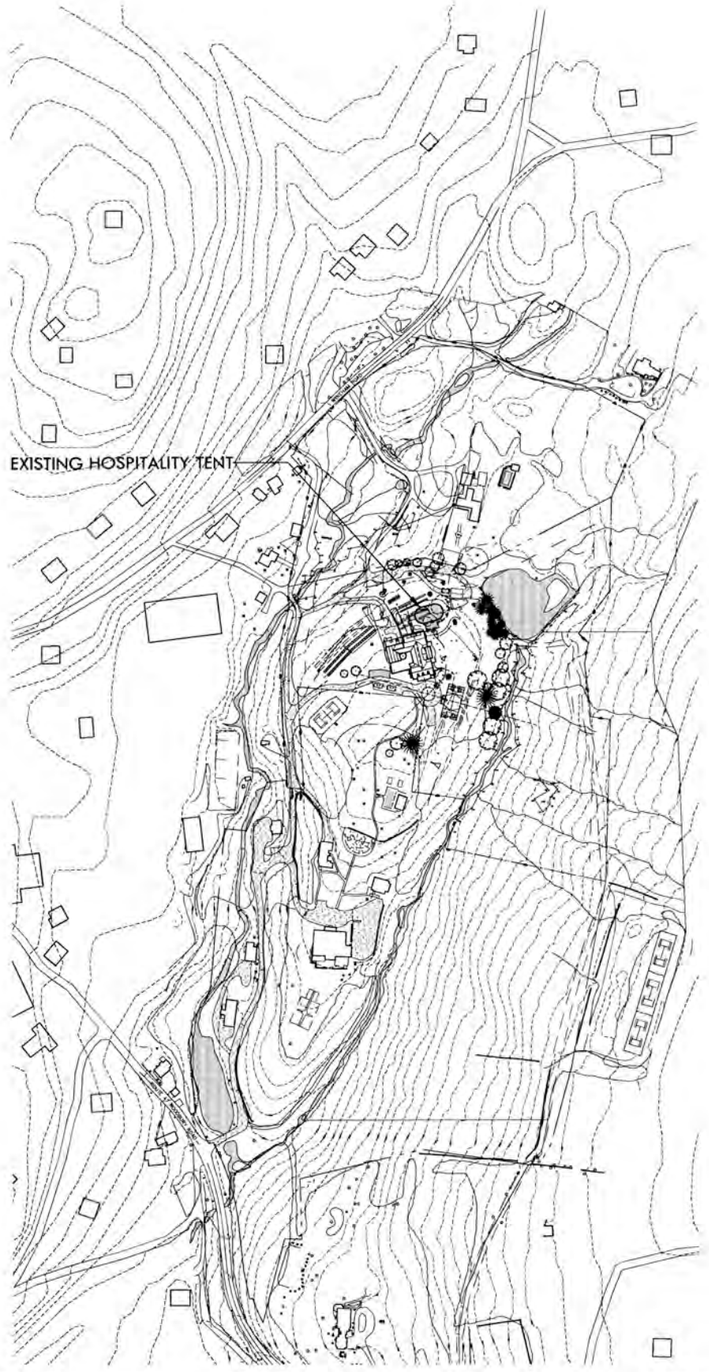
T 860.868.4000
18 Titus Road, Box 410, Washington Depot, Connecticut 06794
www.reeseowens.com



3 TENT SECTION DIAGRAM 1/8"=1'-0"



2 TENT PLAN DIAGRAM 1/8"=1'-0"



1 SITE ORIENTATION DIAGRAM 1"=200'-0"

REESE OWENS ARCHITECTS LLC
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MAYFLOWER HOSPITALITY TENT

WASHINGTON, CONNECTICUT

Revisions		
No.	Date	Description
	02.02.2022	SPECIAL PERMIT SUPPLEMENT

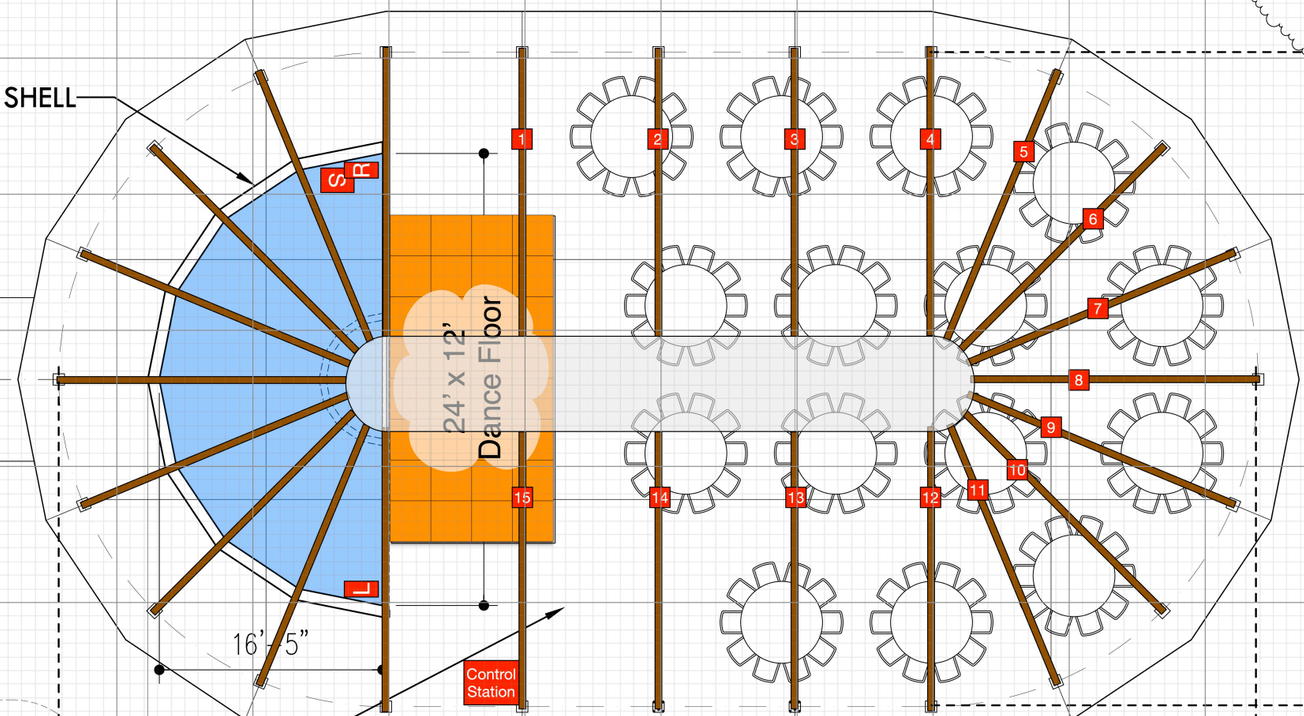
Title
TENT PLAN DIAGRAM
TENT SECTION DIAGRAM
SITE ORIENTATION DIAGRAM

Job: 19497 | Cad File: 49TZ003 | Drawn/Checked:
Scale: AS NOTED
Date: 02.02.2022

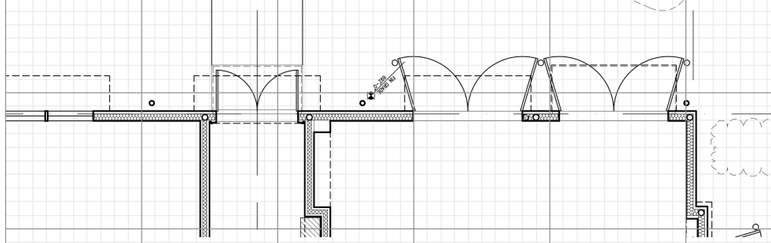
TZ003

1/8”=1’–0”

SOUND ATTENUATING SHELL



EXISTING TENT PLATFORM



Title: Electro-Acoustic Mitigation Plan
Project: Event Tent Audio System
Client: Mayflower Inn, Washington, CT
Scale: 1 block = 1 ft.
Plan Design by: Al Vagnini
Rev. Date: 2/2/22

POWERSTATION Events
www.PowerstationEvents.com

203-250-8500 Fax: 203-250-8576
email: al@powerstationevents.com

Six Discrete, individually addressable Zones
Zone 1: Left and Right “Mains” (L & R)
Zone 2: Cardioid/Direcional Subwoofer (S)
Zone 3: Speakers 1-4 Zone 4: Speakers 5-8
Zone 5: Speakers 9-12 Zone 6: Speakers 13-15

The components of the system will be interconnected using a Dante Network. This is a state-of-the-art audio network that will enable a high level of flexibility and control over the system to accommodate any live band or DJ while maintaining proper and compliant levels.

Dante™

Sound Level Limiting, Logging and Telemetry

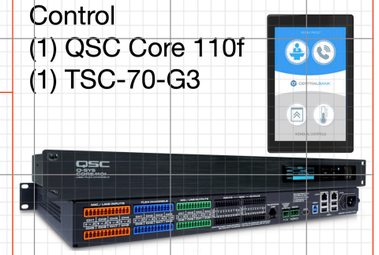
(1) Cesva LRF-04 Sound Level Recorder and Limiter
(1) Cesva DL100 External Display Monitor

Zone Speakers 1-15
(18) QSC AD-S6

Main Speakers (L&R)
(2) QSC AD-S282H

Stage Subwoofer
(1) QSC KS-212C

System Processor and Control
(1) QSC Core 110f
(1) TSC-70-G3



Main Amplifier
(1) QSC CXD4.5Q

Zone Amplifiers
(2) QSC CXD4.3Q

Brooks Acoustics Corporation
35 Talcottville Road, Suite 31 Vernon, Connecticut 06066 860-896-1081

Mr. Mohit Girdhar - General Manager
Auberge Resorts Collection
Mayflower Inn & Spa
118 Woodbury Road Route 47
Washington, CT 06793

2 February 2022
PJ2021-1374-L02

Subject: Mayflower Hospitality Tent Acoustical Design

Dear Mr. Girdhar:

As requested, Brooks Acoustics Corporation (BAC) has conducted an acoustical engineering and design study to evaluate the potential sound emissions from the current Hospitality Tent facility, located adjacent to the Spa building at the Mayflower Inn, and any impact that those sounds may have on the surrounding neighborhood. Also, a sound management program was developed to comply with the Regulations of Connecticut State Agencies (RCSA) Section 22a-69-1 et seq. ("Sound Regulations"). This program will minimize the impact from Hospitality musical entertainment on the surrounding neighborhood.

As part of this study, site observations were made to assist in the evaluation of the Tent acoustics and visits were made to the neighborhood in the vicinity. Acoustical engineering estimates made for average event conditions indicate that the expected sound levels at neighborhood property line locations are below the limits imposed by the Sound Regulations with a reasonable margin of safety, such as to account for operational variations and ensure compliance with the regulations.

Based on this analysis, it is the opinion of BAC that with a reasonable degree of engineering certainty that events held in the Hospitality Tent will *meet the CT State sound level limit regulations.* Therefore, the facility will have significantly reduced impact on the surrounding residential neighborhood.

Therefore, the facility is expected to be compatible with the Town of Washington requirements.

Sound management program

A sound management program for the Hospitality Tent facility was developed. This program has four major elements, which are designed to reduce the potential for impact on the surrounding neighborhood. These sound management elements are:

1. **Physical Sound Attenuation** – utilization of proven sound dampening and absorbing materials that are configured and engineered to control the sound level passing through the Tent envelope, with specific attention to the direction of the sound.

2. **Electro-Acoustic Mitigation** – installation of a state-of-the-art, purpose-built audio system utilizing zoned speaker systems and precise control to limit and direct all sound within Tent perimeter.

3. **Vendor Control** – Mayflower retains full control of the audio system, prohibits vendor-provided systems and prevents vendors from exceeding sound limits.

4. **Compliance Control** – During live and/or amplified music events, a professional third-party acoustician monitors and records sound levels at appropriate property lines to ensure real time compliance with stipulated sound limits.

A key component of the physical attenuation program is a Music Shell, which will be installed at the west end of the Tent. This Shell will contain the sound of the musical entertainment and direct it toward the east, away from the nearest neighbors. The Shell also provides a sound barrier in the west, north and south directions. Note that this assembly is very effective in blocking sounds across the spectrum from low (bass) to high (treble) frequencies.

The Shell will be constructed from **SIPS panels** (Structural Insulated Panels). Sound isolation calculations with a detailed description of this assembly are attached.

The interior walls and ceiling of the Music Shell are treated with **sound absorbing panels**, such as the Polysorb panel, to soak up the sounds that the music may generate before it reaches the shed wall or ceiling assembly. This will reduce the sound build-up inside the shed and improve the sound isolation performance of the wall.

Sound absorbent material panels will extend all around the upper panels of the Hospitality Tent. Further, additional transparent roll-up sound barrier panels will be installed around the tent sides. These materials will significantly reduce the sound levels which may reach the neighbor residences. The additional sound barrier panels will provide a sound isolation for the tents sides. In addition to providing sound isolation, these panels will also provide a sound barrier 7 feet around much of the Tent perimeter. The sound absorbent panels will decrease the emitted sound from the tent by between 8 and 10 dB. Data sheets for typical sound absorbent and sound barrier materials are attached.

Sound absorbent panels inside the Hospitality Tent will provide several benefits. These panels will reduce the amount of sound inside the tent which may reach the outside. The panels will also provide a quieter and calmer, more elegant atmosphere inside the tent for event guests.

A **musical entertainment management program** will be instituted at the facility to address the needs of the neighbors and the Town of Washington. This program was developed based on extensive experience managing entertainment venues for environmental compliance.

Firstly, the facility sound system will be a “house system” which is installed in the Music Shell and operated and managed by facility personnel, not the music provider. This will provide a level of control which is not currently in place. Musical entertainment providers will be obligated to use the house system.

Sound levels will be monitored inside the Hospitality Tent on a continuous basis. Sound levels will also be monitored at the property line as needed. As a result, the music level at the nearest neighbor (~ 425 feet distance) and more distant neighbors will be within the limits set by the Regulations of Connecticut State Agencies (RCSA Section 22a – 69-1 et seq.). The sound equipment details are provided in the submitted sketch by Reese Owens Architects.

Sound Level Standards

The Regulations of Connecticut State Agencies (RCSA Section 22a – 69) require that noise emitted to a residential property use shall not exceed 55 dBA (A-weighted decibels) during daytime hours and 45 dBA during nighttime hours. Daytime hours are defined as 7:00 a.m. to 10:00 p.m. Nighttime hours are all other times, that is, after 10:00 p.m.

In order to maintain good relations with the neighbors, the design target level for the Hospitality Tent sound management program is 45 dBA at the nearest neighbor at all times.

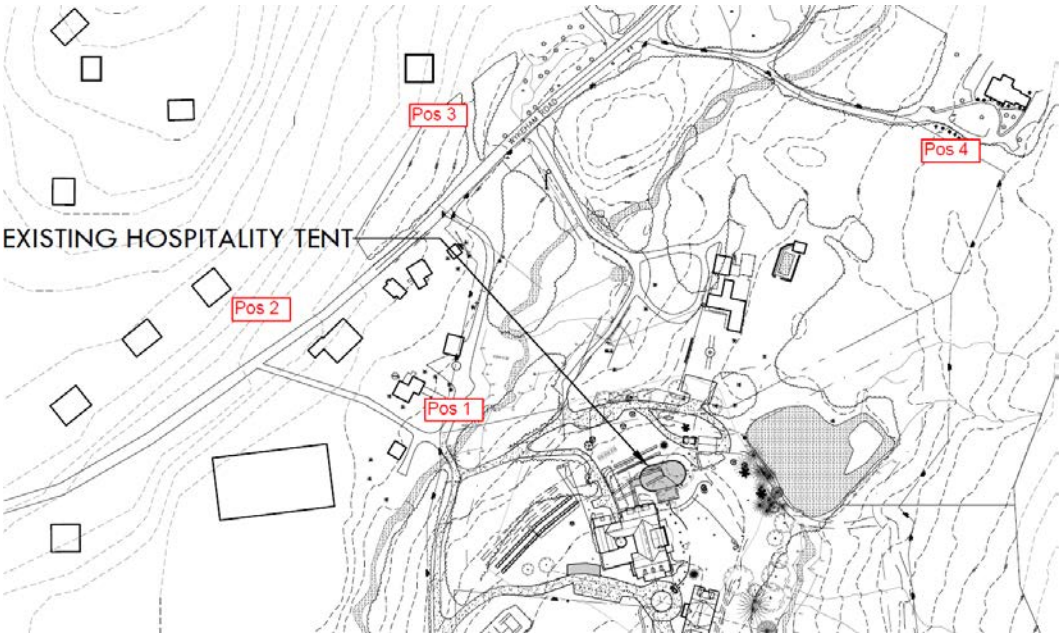
Acoustical Engineering Calculations – Estimated Hospitality Tent sound levels

Acoustical engineering calculations were made to estimate the sound levels after the implementation of the proposed Sound Management Program for the Mayflower Inn Hospitality Tent facility.

The nearest house to the facility is to the west, off of Wykeham Road about 425 feet from the musical entertainment location. The receptor locations analyzed include:

Position 1 – nearest House property line toward Wykeham Road to WNW – 425 feet distance
Position 2 – House 1 property line beyond Wykeham Road to WNW – 802 feet distance
Position 3 – House 2 property line beyond Wykeham Road to NW – 796 feet distance
Position 4 – House property line to NE – 850 feet distance

The locations are shown in the sketch below, as adapted from the site plan.



The sound levels used for this acoustical engineering analysis were measured by BAC at a typical wedding event. The source sound level of the music was about 93 dBA at a distance of 5 feet. This is a representative sound level for a small venue musical entertainment act, with approximately 50 to 60 guests. For a larger venue such as the Mayflower Inn Hospitality Tent with up to 150 guests, the sound level can increase up to about 100 dBA at 5 feet.

The adjusted (increased) sound test data were applied to the analysis using the physical locations of the sources, the proposed event facility modifications, and the nearest house to the west as the receptor. Calculations were conducted according to the layouts provided by the aerial photo, by the project site plan, Reese Owens Architects drawing set TZ003, dated 2.2.2022.

Full frequency spectrum (octave band) source sound levels measured by BAC of the wedding music were applied to the calculation procedure for the main sound system. This model applies to both DJ sound sources and live band music. For the distributed loudspeaker system, the sound levels for a raised male voice as projected from the 15 distributed loudspeakers were used for the calculations.

The source sound and location data were used as inputs to a computer modeling procedure which calculated the propagation of the source sounds to the receptor positions.

The sound propagation calculation procedure accounts for the effects of the source musical equipment operating, calculated Music Shell and Tent barrier sound attenuation characteristics, vegetation and also distance and atmospheric conditions, in accordance with International Standards on the attenuation of sound during propagation outdoors, ISO 9613-1 and ISO 9613-2.

Calculations were conducted for average operating conditions. Calculation sheets are attached which show the estimated results of the sound levels for the proposed entertainment music projected to the nearby residential locations cited above.

The estimated results for the facility at the neighborhood locations are summarized in the Table below.

Receptor location	**Sound level at PRL Main Loudspeaker System**	**Sound level at PRL Distributed Loudspeaker System**
Position 1 Nearest house to WNW	37 dBA (quiet whisper)	27 dBA (quiet library or TV studio)
Position 2 House 1 to WNW Beyond Wykeham Rd	33 dBA (very quiet whisper)	20 dBA
Position 3 House 2 to WNW Beyond Wykeham Rd	30 dBA	17 dBA
Position 4 House to NE	31 dBA	16 dBA

These estimated sound levels for the Hospitality Tent are below the sound level limits of the Regulations of Connecticut State Agencies (RCSA Section 22a-69), and the target level of 45 dBA.

Therefore, these acoustical engineering estimates, made for average event conditions, indicate that the expected sound levels at neighborhood property line locations are below the limits imposed by the Sound Regulations with a reasonable margin of safety, so as to account for operational variations and ensure compliance with the regulations.

Discussion

The estimated sound levels from the proposed entertainment facility are below the sound level limits of the State of Connecticut, with a reasonable margin of safety in order to account for variations in operating conditions. Therefore, the facility is expected to be **in compliance** with the State of Connecticut requirements.

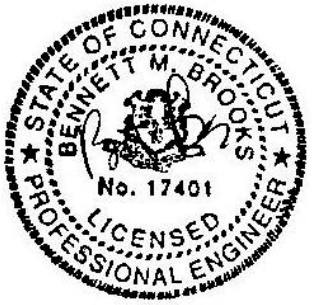
As a reference, the expected entertainment sound level is equivalent to that of a *quiet whisper*, and is below the prevailing ambient background sound in the area. Therefore, it is unlikely that the musical entertainment under the Sound Management Program will cause an impact on neighboring residents.

Please contact me if you have any questions concerning these findings.

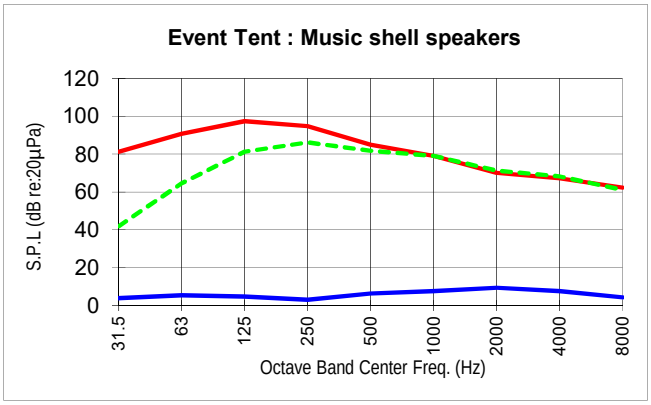
Very truly yours,
BROOKS ACOUSTICS CORPORATION

Bennett M. Brooks, PE, FASA, INCE
President

Attachments



Source Sheet



Source Group: Event Tent
Source Name: Music shell speakers

Source Data: BAC Unweighted
Source Level: 89 dB(A)
record distance: 5

Source Type: point

Coordinates:	East	North	Elev.
	0	0	5

Frequency	Data	Tent Atten	Panel Atten	Signature	A-weighted Signature	A-weighting Curve	freq.
31.5 Hz	90	4	4.8	**81**	42	-39.4	31.5
63 Hz	101	5	4.9	**91**	64	-26.2	63
125 Hz	107	5	5.0	**97**	81	-16.1	125
250 Hz	103	3	5.2	**95**	86	-8.6	250
500 Hz	97	6	5.6	**85**	82	-3.2	500
1000 Hz	93	8	6.4	**79**	79	0.0	1000
2000 Hz	87	9	7.5	**70**	71	1.2	2000
4000 Hz	84	8	9.2	**67**	68	1.0	4000
8000 Hz	78	4	11.3	**62**	61	-1.1	8000

BAC Test Data
Wedding DJ
increased to
100 dBA
@ 5 ft

7 ft
clear panel
barrier effect
estimated
50% effective

BAC Test Data
Canvas
Pavilion

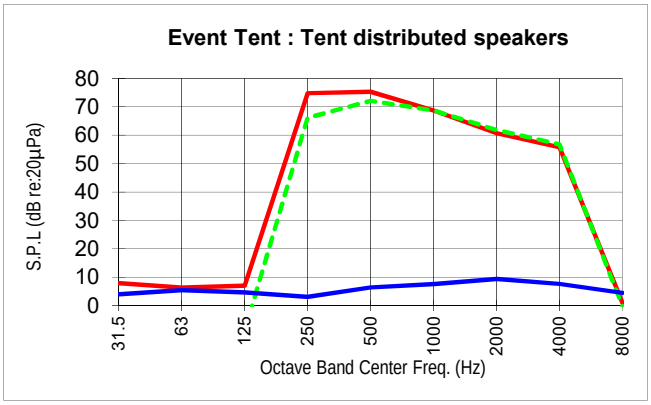
Source Sheet

Source Group: Event Tent
Source Name: Tent distributed speakers

Source Data: Standard Unweighted
Source Level: 75 dB(A)
record distance: 3

Source Type: point

Coordinates:	East	North	Elev.
	20	10	5



Frequency	Data	Tent Atten	Panel Atten	Signature	A-weighted Signature	A-weighting Curve	freq.
31.5 Hz	17	4	4.8	**8**	-32	-39.4	31.5
63 Hz	17	5	4.9	**6**	-20	-26.2	63
125 Hz	17	5	5.0	**7**	-9	-16.1	125
250 Hz	83	3	5.2	**75**	66	-8.6	250
500 Hz	87	6	5.6	**75**	72	-3.2	500
1000 Hz	83	8	6.4	**69**	69	0.0	1000
2000 Hz	78	9	7.5	**61**	62	1.2	2000
4000 Hz	73	8	9.2	**56**	57	1.0	4000
8000 Hz	17	4	11.3	**1**	0	-1.1	8000

RAISED VOICE
Male PEAK Lp

ASTM E1130-16 (2021)
@ 3 ft dist

7 ft
clear panel
barrier effect
estimated
50% effective

Adjusted to
15 distributed
loudspeakers

BAC Test Data
Canvas
Pavilion

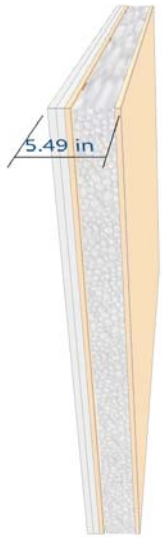
Sound Insulation Prediction (v9.0.23)

Brooks Acoustics Corporation "Building a Sound Future"

Margin of error is generally within STC ±3 dB

Job Name:Mayflower Inn Hospitality Tent
Job No.:PJ2021-1374 Initials:BMB
Date:2/2/2022
File Name:Shed wall and ceiling assembly v2 .ixl

Notes:Music Shed wall and ceiling assembly



STC 47
OITC 32

Mass-air-mass resonant frequency = =88 Hz

Panel Size = 8.9 ft x 13.1 ft

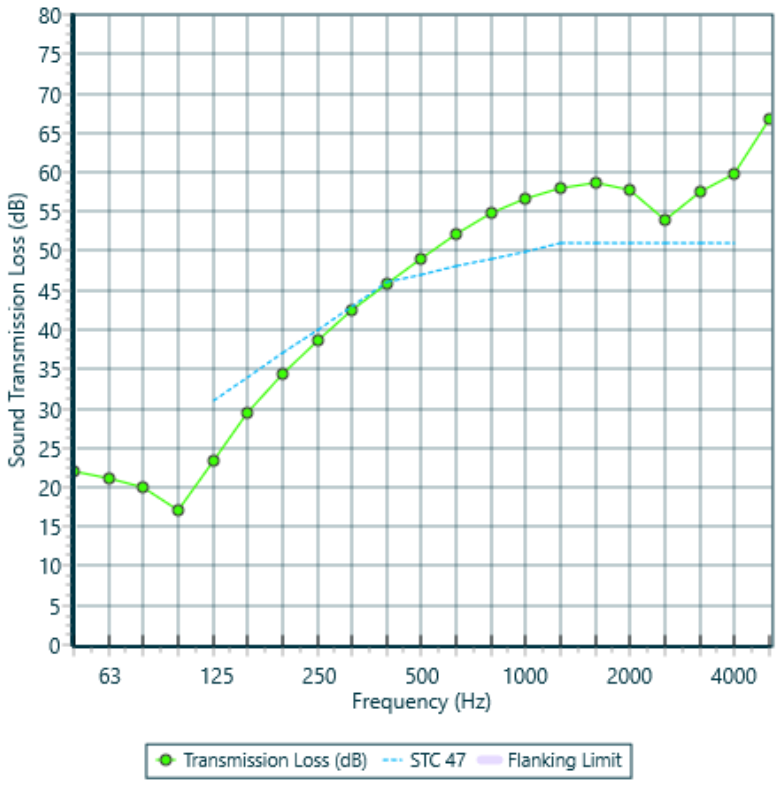
Partition surface mass = 8.29 lb/ft2

System description

Panel 1 : 2 x 0.63 in QuietRock 530
+ 1 x 0.438 in OSB (Oriented Strand Board)

Frame: Polystyrene Insulation on Stud (0.2 in x 1.8 in), Stud spacing 24 in ; Cavity Width 3.35 in
Panel 2 : 1 x 0.438 in OSB (Oriented Strand Board)

freq.(Hz)	TL(dB)	TL(dB)
50	22	
63	21	21
80	20	
100	17	
125	23	21
160	29	
200	34	
250	39	37
315	42	
400	46	
500	49	48
630	52	
800	55	
1000	57	56
1250	58	
1600	59	
2000	58	56
2500	54	
3150	57	
4000	60	60
5000	67	



Mayflower Inn - Event Tent

Based on BAC sound data and proposed site plan

Property Line Sound Study

Nearest House Property line - to WNW

Sound Projection: Music Shell

Music shell with sound control program

PROJECTED FROM: Music shell
PROJECTED TO: House property line

Coordinates:

East	North	Elevation
-395.0	156.0	5.0

RELATIVE HUMIDITY: 50%
TEMPERATURE: 72 deg. F
ATMOS. PRESS: 760 mm Hg

Criteria Level 45 dBA
Total Sound Level **37 dBA**

Compliance?
YES

FREQ.	AWT SPL
31.5 Hz	-8.5
63 Hz	12.2
125 Hz	31.0
250 Hz	34.5
500 Hz	25.2
1000 Hz	16.2
2000 Hz	6.7
4000 Hz	0.1
8000 Hz	-17.9
RMS:	36.5

#	SOURCE	CONTRIBUTIONS AWT SPL
1	Event Tent Music shell speakers	36.5 dBA
2	reserved --	-47.0 dBA
3	reserved --	-47.0 dBA
4	reserved --	-47.0 dBA
5	reserved --	-47.0 dBA
6	reserved --	-47.0 dBA
7	reserved --	-47.0 dBA
8	reserved --	-47.0 dBA
9	reserved --	-47.0 dBA
10	reserved --	-47.0 dBA
11	reserved --	-47.0 dBA
12	reserved --	-47.0 dBA

Atmospheric attenuation:	yes
Excess gound attenuation:	yes
Source region hard, soft, mixed (h,s,m%):	h
Receiver region hard, soft, mixed (h,s,m%):	s
Middle region hard, soft, mixed (h,s,m%):	s
Barrier shadowing:	yes
Vegetation	yes

PATH SHEET

		COORDINATES		
SOURCE 1:	Event Tent	East 0.0		Record Distance
	Music shell speakers	North 0.0		5.0
TYPE:	point	Elevation 5.0		Projection Dist.
				424.7

Freq.	Source	Vegetation	Shadowing	Ground Atten	Net Barrier Atten	Atmospheric	Distance Atten	Contribution	Awt Contrib.
31.5 Hz	81.3	1.1	8.6	-2.1	10.7	0.0	38.6	30.9	-8.5
63 Hz	90.7	1.1	10.5	-2.1	12.6	0.0	38.6	38.4	12.2
125 Hz	97.4	1.7	12.9	2.9	10.0	0.1	38.6	47.1	31.0
250 Hz	94.7	2.2	15.6	5.0	10.6	0.2	38.6	43.1	34.5
500 Hz	85.0	2.2	18.4	2.9	15.5	0.4	38.6	28.4	25.2
1000 Hz	79.1	2.8	20.0	-0.9	20.9	0.7	38.6	16.2	16.2
2000 Hz	70.1	3.3	20.0	-1.5	21.5	1.3	38.6	5.5	6.7
4000 Hz	67.2	4.4	20.0	-1.5	21.5	3.6	38.6	-0.9	0.1
8000 Hz	62.3	6.6	20.0	-1.5	21.5	12.4	38.6	-16.8	-17.9
								49.1	36.5

PATH SHEET

		COORDINATES		
SOURCE 2:	reserved	East 0.0		Record Distance
	--	North 0.0		1.0
TYPE:	point	Elevation 1.0		Projection Dist.
				424.7

Freq.	Source	Vegetation	Shadowing	Ground Atten	Net Barrier Atten	Atmospheric	Distance Atten	Contribution	Awt Contrib.
31.5 Hz	0.0	0.0	0.0	-1.3	-1.3	0.0	52.6	-51.3	-90.7
63 Hz	0.0	0.0	0.0	-1.3	-1.3	0.0	52.6	-51.3	-77.5
125 Hz	0.0	0.0	0.0	2.9	2.9	0.1	52.6	-55.5	-71.6
250 Hz	0.0	0.0	0.0	5.0	5.0	0.2	52.6	-57.7	-66.3
500 Hz	0.0	0.0	0.0	2.9	2.9	0.4	52.6	-55.9	-59.1
1000 Hz	0.0	0.0	0.0	-0.9	-0.9	0.7	52.6	-52.3	-52.3
2000 Hz	0.0	0.0	0.0	-1.5	-1.5	1.3	52.6	-52.3	-51.1
4000 Hz	0.0	0.0	0.0	-1.5	-1.5	3.6	52.6	-54.6	-53.6
8000 Hz	0.0	0.0	0.0	-1.5	-1.5	12.4	52.6	-63.5	-64.6
								-44.3	-47.0

Mayflower Inn - Event Tent

Property Line Sound Study

Music Shell

Sound Source Contribution Plot

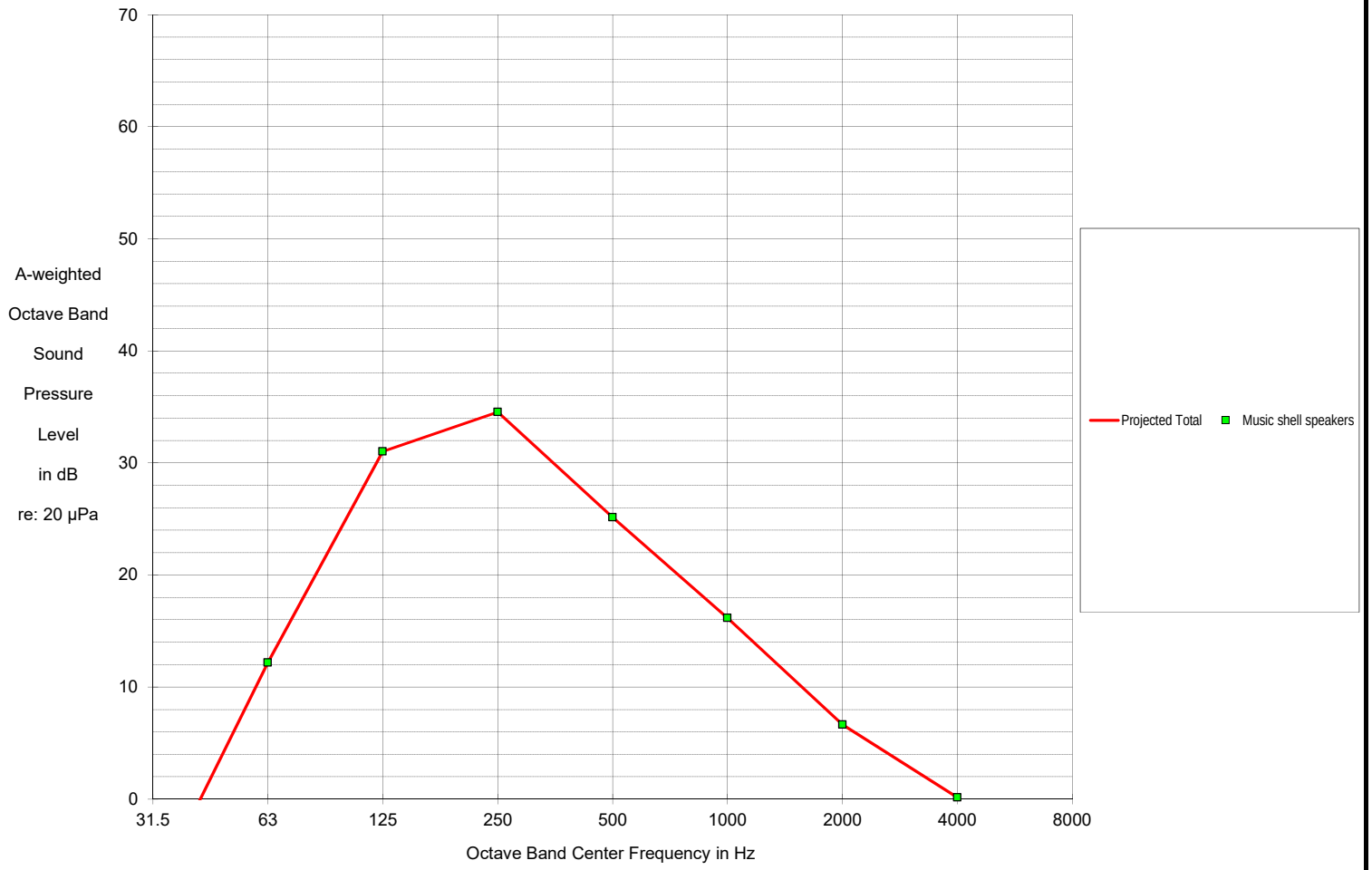
House property line

Based on BAC sound data and proposed site plan

Nearest House Property line - to WNW

Music shell with sound control program

RMS: 37 dBA



BAC Sound Projection Design Calculation 1

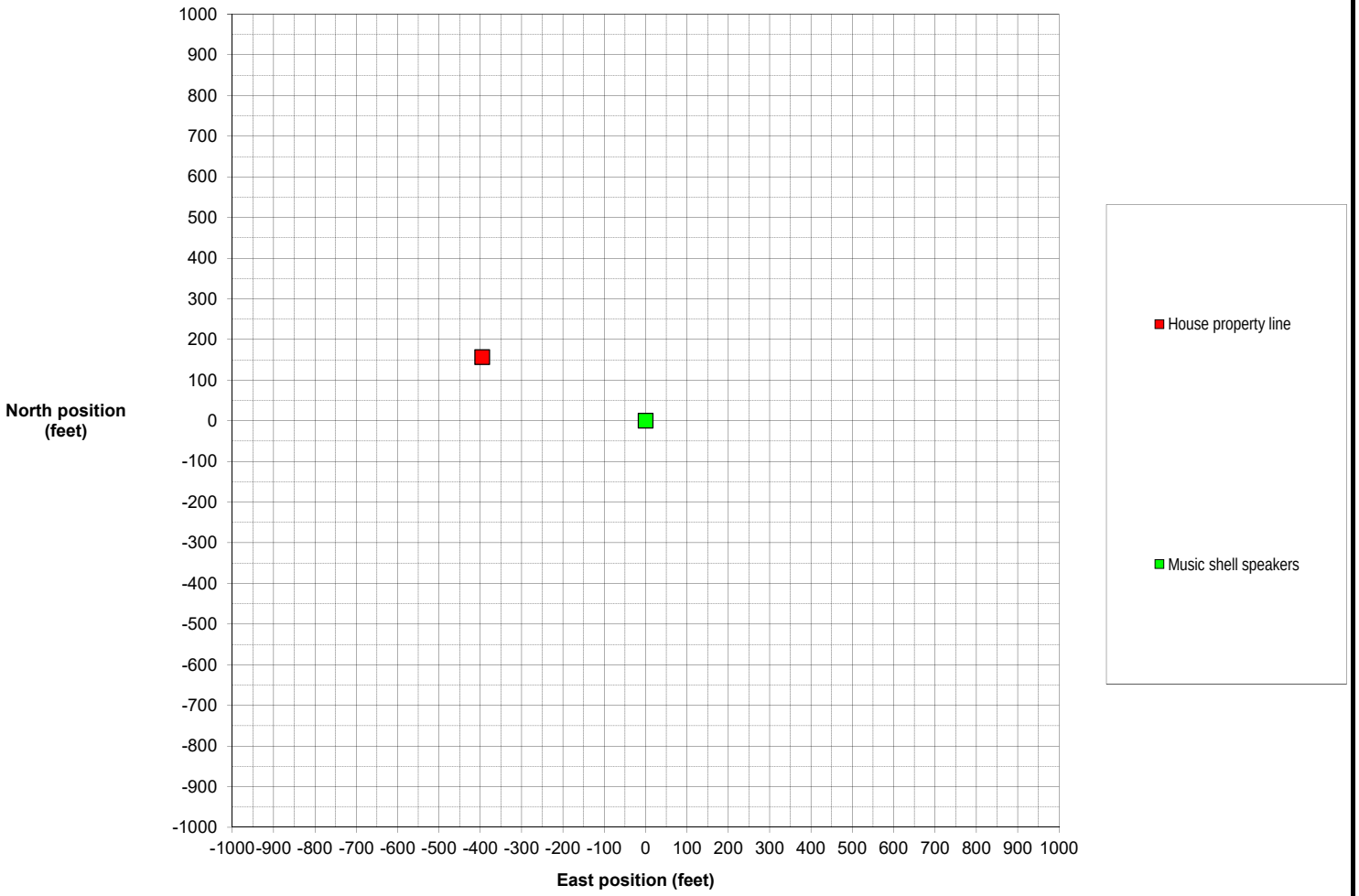
Mayflower Inn - Event Tent
Property Line Sound Study
Music Shell

Sound Source - Receiver Location Plot

Sound Source Contribution Plot

House property line

RMS: 36.5 dBA



BAC Sound Projection Graph Design Calculation 1

BAC Project Letter PJ2021-1374-L02

BAC Design Calculation 1

Mayflower Inn - Event Tent

Based on BAC sound data and proposed site plan

Property Line Sound Study

House 1 property line to WNW - across Wykeham Rd

Sound Projection: Music Shell

Music shell with sound control program

PROJECTED FROM: Music shell
PROJECTED TO: House property line

Coordinates: East	North	Elevation
-750.0	285.0	5.0

RELATIVE HUMIDITY: 50%
TEMPERATURE: 72 deg. F
ATMOS. PRESS: 760 mm Hg

Criteria Level 45 dBA
Total Sound Level **33 dBA**

Compliance?
YES

FREQ.	AWT SPL
31.5 Hz	-11.9
63 Hz	9.1
125 Hz	28.0
250 Hz	31.2
500 Hz	21.6
1000 Hz	10.9
2000 Hz	-0.3
4000 Hz	-9.0
8000 Hz	-35.1
RMS:	33.3

#	SOURCE	CONTRIBUTIONS AWT SPL
1	Event Tent Music shell speakers	33.3 dBA
2	reserved --	-53.9 dBA
3	reserved --	-53.9 dBA
4	reserved --	-53.9 dBA
5	reserved --	-53.9 dBA
6	reserved --	-53.9 dBA
7	reserved --	-53.9 dBA
8	reserved --	-53.9 dBA
9	reserved --	-53.9 dBA
10	reserved --	-53.9 dBA
11	reserved --	-53.9 dBA
12	reserved --	-53.9 dBA

Atmospheric attenuation:	yes
Excess gound attenuation:	yes
Source region hard, soft, mixed (h,s,m%):	h
Receiver region hard, soft, mixed (h,s,m%):	s
Middle region hard, soft, mixed (h,s,m%):	s
Barrier shadowing:	yes
Vegetation	yes

PATH SHEET

		COORDINATES		
SOURCE 1:	Event Tent	East 0.0		Record Distance
	Music shell speakers	North 0.0		5.0
TYPE:	point	Elevation 5.0		Projection Dist.
				802.3

Freq.	Source	Vegetation	Shadowing	Ground Atten	Net Barrier Atten	Atmospheric	Distance Atten	Contribution	Awt Contrib.
31.5 Hz	81.3	1.2	7.3	-1.1	8.4	0.0	44.1	27.5	-11.9
63 Hz	90.7	1.2	8.9	-1.1	10.0	0.0	44.1	35.3	9.1
125 Hz	97.4	1.8	11.0	3.7	7.3	0.1	44.1	44.1	28.0
250 Hz	94.7	2.4	13.5	5.4	8.1	0.3	44.1	39.8	31.2
500 Hz	85.0	2.4	16.2	3.3	12.9	0.7	44.1	24.8	21.6
1000 Hz	79.1	3.0	19.0	-0.9	19.9	1.2	44.1	10.9	10.9
2000 Hz	70.1	3.6	20.0	-1.5	21.5	2.4	44.1	-1.5	-0.3
4000 Hz	67.2	4.8	20.0	-1.5	21.5	6.8	44.1	-10.0	-9.0
8000 Hz	62.3	7.2	20.0	-1.5	21.5	23.5	44.1	-34.0	-35.1
								46.0	33.3

PATH SHEET

		COORDINATES		
SOURCE 2:	reserved	East 0.0		Record Distance
	--	North 0.0		1.0
TYPE:	point	Elevation 1.0		Projection Dist.
				802.3

Freq.	Source	Vegetation	Shadowing	Ground Atten	Net Barrier Atten	Atmospheric	Distance Atten	Contribution	Awt Contrib.
31.5 Hz	0.0	0.0	0.0	-0.7	-0.7	0.0	58.1	-57.4	-96.8
63 Hz	0.0	0.0	0.0	-0.7	-0.7	0.0	58.1	-57.4	-83.6
125 Hz	0.0	0.0	0.0	3.7	3.7	0.1	58.1	-61.9	-78.0
250 Hz	0.0	0.0	0.0	5.4	5.4	0.3	58.1	-63.8	-72.4
500 Hz	0.0	0.0	0.0	3.3	3.3	0.7	58.1	-62.1	-65.3
1000 Hz	0.0	0.0	0.0	-0.9	-0.9	1.2	58.1	-58.4	-58.4
2000 Hz	0.0	0.0	0.0	-1.5	-1.5	2.4	58.1	-59.0	-57.8
4000 Hz	0.0	0.0	0.0	-1.5	-1.5	6.8	58.1	-63.3	-62.3
8000 Hz	0.0	0.0	0.0	-1.5	-1.5	23.5	58.1	-80.1	-81.2
								-50.7	-53.9

Mayflower Inn - Event Tent

Property Line Sound Study

Music Shell

Sound Source Contribution Plot

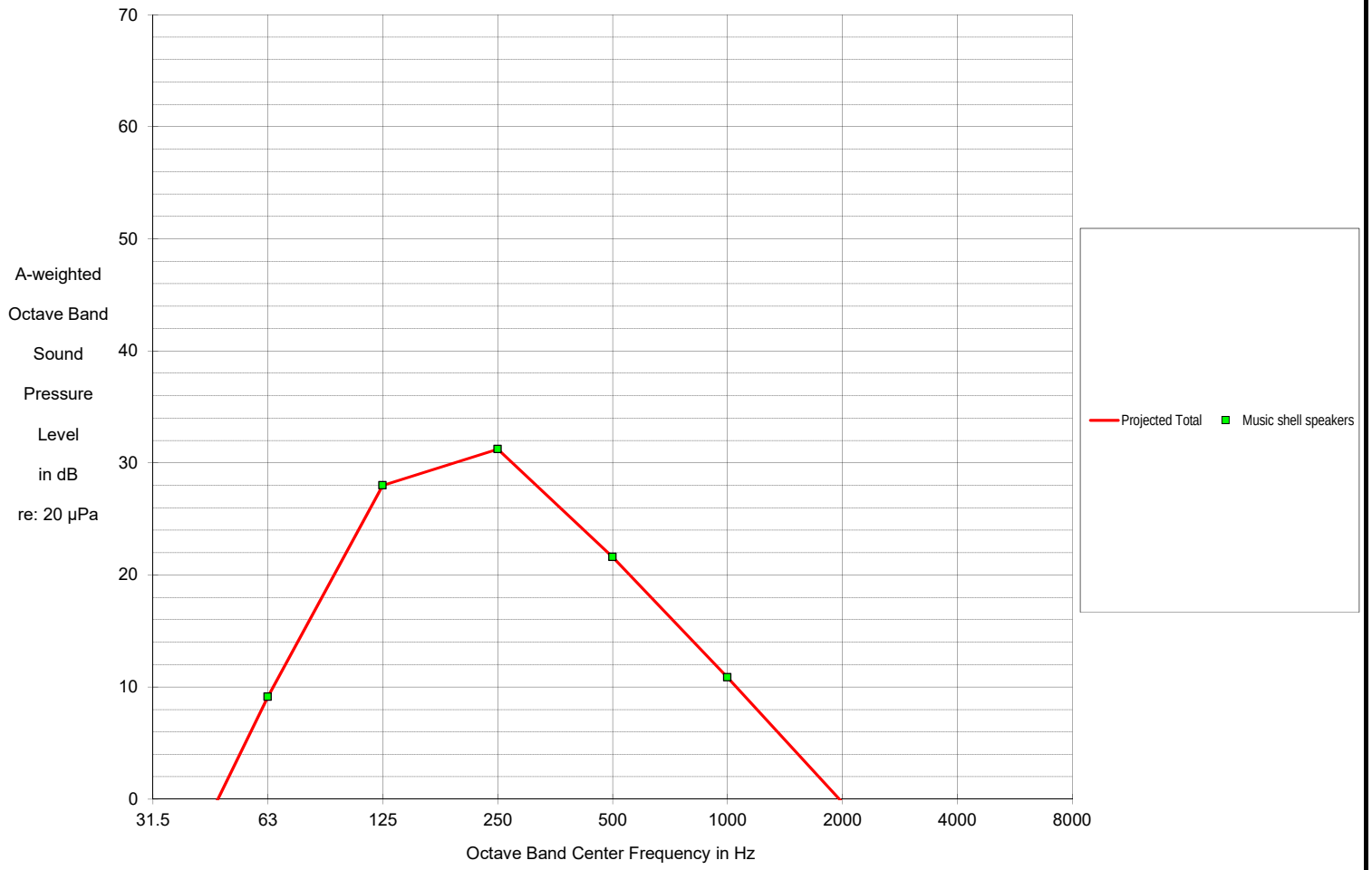
House property line

Based on BAC sound data and proposed site plan

House 1 property line to WNW - across Wykeham Rd

Music shell with sound control program

RMS: 33 dBA



BAC Sound Projection Design Calculation 2

BAC Project Letter PJ2021-1374-L02

BAC Sound Projection Design Calculation 2

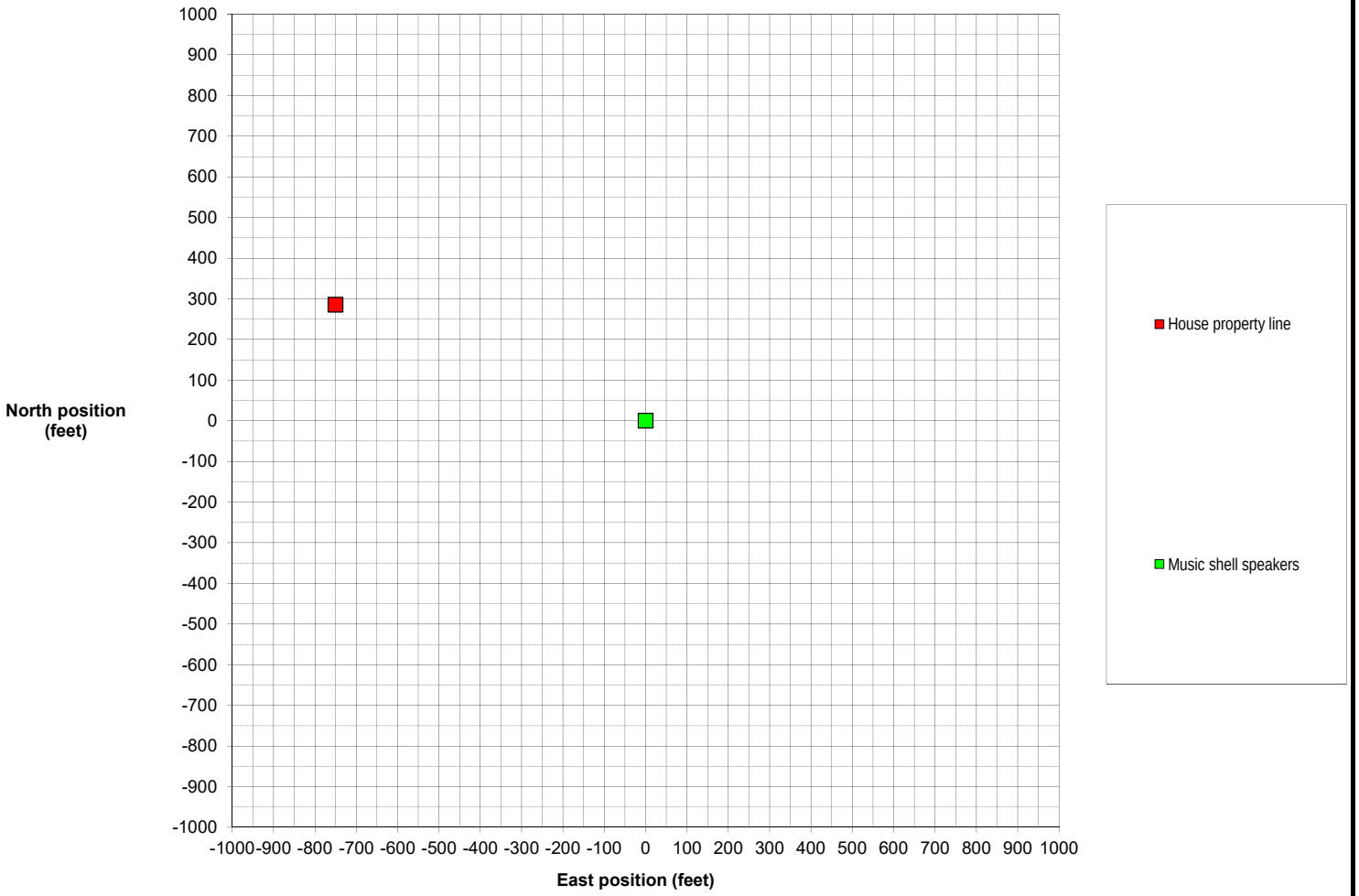
Mayflower Inn - Event Tent
Property Line Sound Study
Music Shell

Sound Source - Receiver Location Plot

Sound Source Contribution Plot

House property line

RMS: 33.3 dBA



BAC Sound Projection Graph Design Calculation 2

BAC Project Letter PJ2021-1374-L02

BAC Design Calculation 2

Mayflower Inn - Event Tent

Based on BAC sound data and proposed site plan

Property Line Sound Study

House 2 property line to NW - across Wykeham Rd

Sound Projection: Music Shell

Music shell with sound control program

PROJECTED FROM: Music shell
PROJECTED TO: House property line

Coordinates: East	North	Elevation
-402.0	688.0	5.0

RELATIVE HUMIDITY: 50%
TEMPERATURE: 72 deg. F
ATMOS. PRESS: 760 mm Hg

Criteria Level 45 dBA
Total Sound Level **30 dBA**

Compliance?
YES

FREQ.	AWT SPL
31.5 Hz	-13.4
63 Hz	7.7
125 Hz	25.7
250 Hz	28.2
500 Hz	18.6
1000 Hz	6.9
2000 Hz	-5.6
4000 Hz	-16.1
8000 Hz	-45.7
RMS:	30.5

#	SOURCE	CONTRIBUTIONS AWT SPL
1	Event Tent Music shell speakers	30.5 dBA
2	reserved --	-53.8 dBA
3	reserved --	-53.8 dBA
4	reserved --	-53.8 dBA
5	reserved --	-53.8 dBA
6	reserved --	-53.8 dBA
7	reserved --	-53.8 dBA
8	reserved --	-53.8 dBA
9	reserved --	-53.8 dBA
10	reserved --	-53.8 dBA
11	reserved --	-53.8 dBA
12	reserved --	-53.8 dBA

Atmospheric attenuation:	yes
Excess gound attenuation:	yes
Source region hard, soft, mixed (h,s,m%):	h
Receiver region hard, soft, mixed (h,s,m%):	s
Middle region hard, soft, mixed (h,s,m%):	s
Barrier shadowing:	yes
Vegetation	yes

PATH SHEET

		COORDINATES		
SOURCE 1:	Event Tent	East 0.0		Record Distance
	Music shell speakers	North 0.0		5.0
TYPE:	point	Elevation 5.0		Projection Dist.
				796.8

Freq.	Source	Vegetation	Shadowing	Ground Atten	Net Barrier Atten	Atmospheric	Distance Atten	Contribution	Awt Contrib.
31.5 Hz	81.3	3.0	7.1	-1.1	8.2	0.0	44.0	26.0	-13.4
63 Hz	90.7	3.0	8.6	-1.1	9.7	0.0	44.0	33.9	7.7
125 Hz	97.4	4.5	10.6	3.7	6.9	0.1	44.0	41.8	25.7
250 Hz	94.7	6.0	13.0	5.4	7.6	0.3	44.0	36.8	28.2
500 Hz	85.0	6.0	15.7	3.3	12.4	0.7	44.0	21.8	18.6
1000 Hz	79.1	7.5	18.5	-0.9	19.4	1.2	44.0	6.9	6.9
2000 Hz	70.1	9.0	20.0	-1.5	21.5	2.4	44.0	-6.8	-5.6
4000 Hz	67.2	12.0	20.0	-1.5	21.5	6.7	44.0	-17.1	-16.1
8000 Hz	62.3	18.0	20.0	-1.5	21.5	23.4	44.0	-44.6	-45.7
								43.6	30.5

PATH SHEET

		COORDINATES		
SOURCE 2:	reserved	East 0.0		Record Distance
	--	North 0.0		1.0
TYPE:	point	Elevation 1.0		Projection Dist.
				796.8

Freq.	Source	Vegetation	Shadowing	Ground Atten	Net Barrier Atten	Atmospheric	Distance Atten	Contribution	Awt Contrib.
31.5 Hz	0.0	0.0	0.0	-0.7	-0.7	0.0	58.0	-57.4	-96.8
63 Hz	0.0	0.0	0.0	-0.7	-0.7	0.0	58.0	-57.4	-83.6
125 Hz	0.0	0.0	0.0	3.7	3.7	0.1	58.0	-61.9	-78.0
250 Hz	0.0	0.0	0.0	5.4	5.4	0.3	58.0	-63.8	-72.4
500 Hz	0.0	0.0	0.0	3.3	3.3	0.7	58.0	-62.0	-65.2
1000 Hz	0.0	0.0	0.0	-0.9	-0.9	1.2	58.0	-58.4	-58.4
2000 Hz	0.0	0.0	0.0	-1.5	-1.5	2.4	58.0	-58.9	-57.7
4000 Hz	0.0	0.0	0.0	-1.5	-1.5	6.7	58.0	-63.2	-62.2
8000 Hz	0.0	0.0	0.0	-1.5	-1.5	23.4	58.0	-79.9	-81.0
								-50.7	-53.8

Mayflower Inn - Event Tent

Property Line Sound Study

Music Shell

Sound Source Contribution Plot

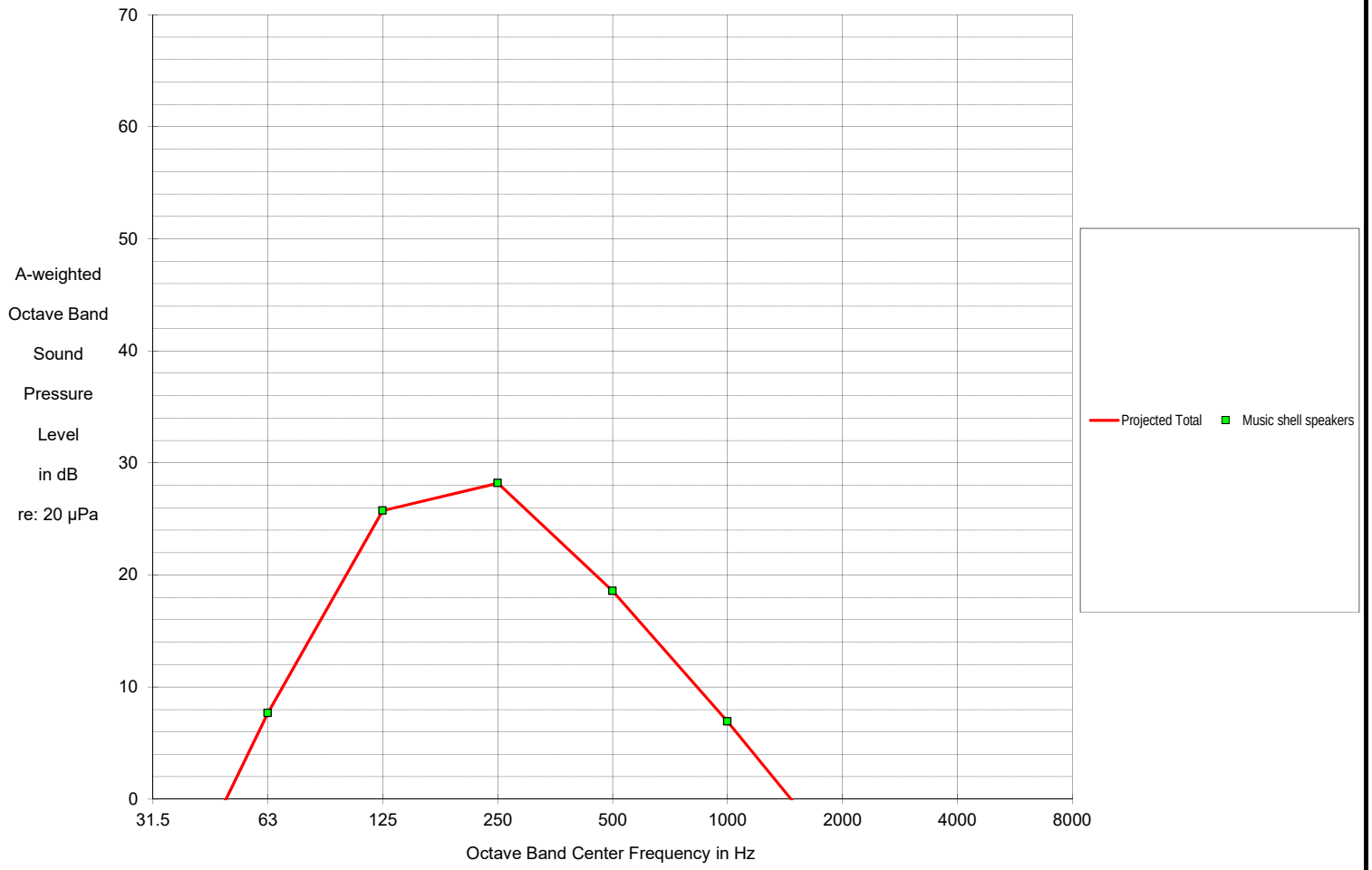
House property line

Based on BAC sound data and proposed site plan

House 2 property line to NW - across Wykeham Rd

Music shell with sound control program

RMS: 30 dBA



BAC Sound Projection Design Calculation 3

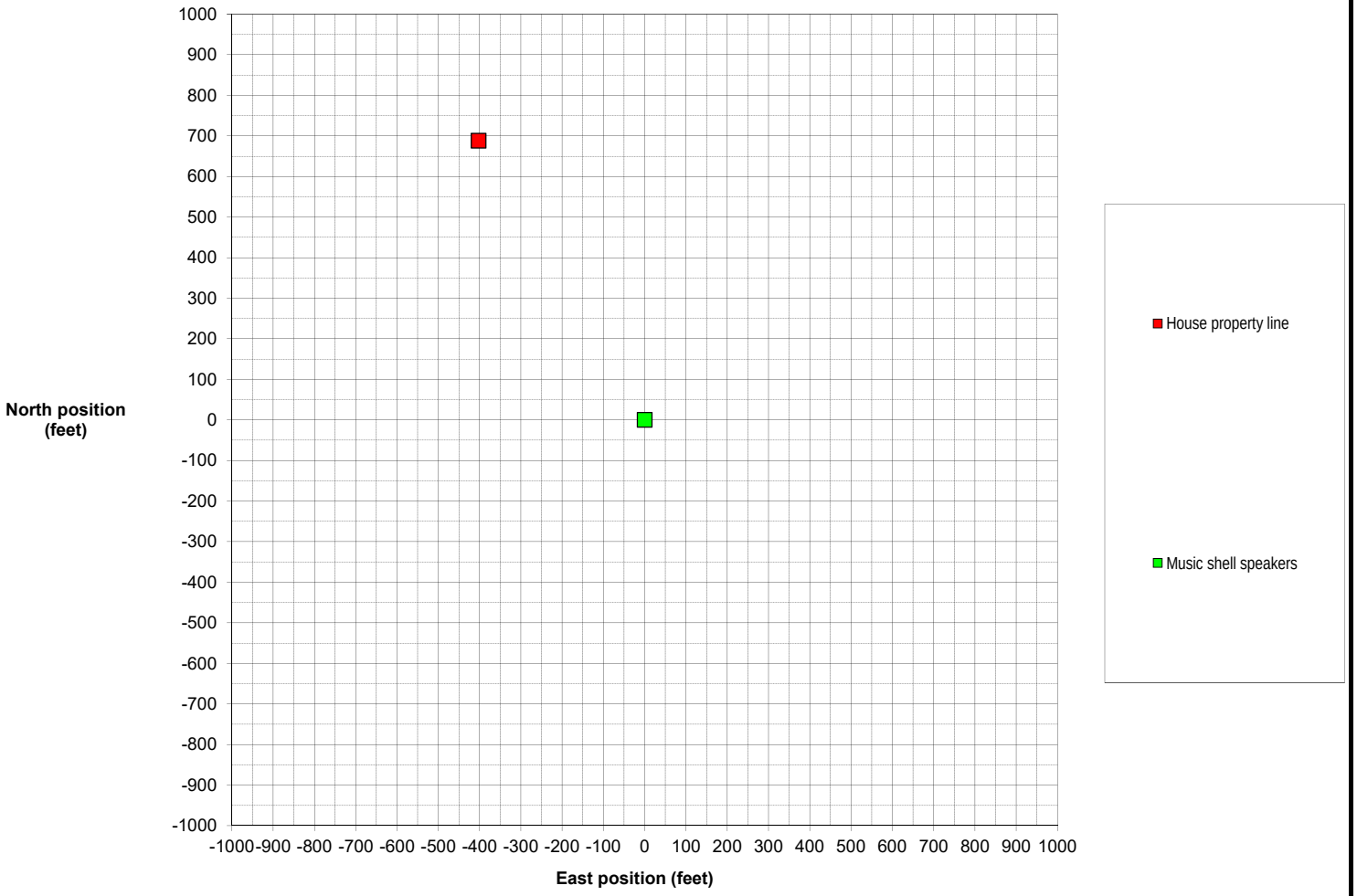
Mayflower Inn - Event Tent
Property Line Sound Study
Music Shell

Sound Source - Receiver Location Plot

Sound Source Contribution Plot

House property line

RMS: 30.5 dBA



BAC Sound Projection Graph Design Calculation 3

Mayflower Inn - Event Tent

Based on BAC sound data and proposed site plan

Property Line Sound Study

House to NE Property line

Sound Projection: Music Shell

Music shell with sound control program

PROJECTED FROM: Music shell
PROJECTED TO: House property line

Coordinates:

East	North	Elevation
530.0	665.0	5.0

RELATIVE HUMIDITY: 50%
TEMPERATURE: 72 deg. F
ATMOS. PRESS: 760 mm Hg

Criteria Level 45 dBA
Total Sound Level **31 dBA**

Compliance?
YES

FREQ.	AWT SPL
31.5 Hz	-13.5
63 Hz	7.8
125 Hz	26.1
250 Hz	28.5
500 Hz	19.1
1000 Hz	7.3
2000 Hz	-6.5
4000 Hz	-17.3
8000 Hz	-48.2
RMS:	30.8

#	SOURCE	CONTRIBUTIONS AWT SPL
1	Event Tent Music shell speakers	30.8 dBA
2	reserved --	-54.6 dBA
3	reserved --	-54.6 dBA
4	reserved --	-54.6 dBA
5	reserved --	-54.6 dBA
6	reserved --	-54.6 dBA
7	reserved --	-54.6 dBA
8	reserved --	-54.6 dBA
9	reserved --	-54.6 dBA
10	reserved --	-54.6 dBA
11	reserved --	-54.6 dBA
12	reserved --	-54.6 dBA

Atmospheric attenuation:	yes
Excess gound attenuation:	yes
Source region hard, soft, mixed (h,s,m%):	h
Receiver region hard, soft, mixed (h,s,m%):	s
Middle region hard, soft, mixed (h,s,m%):	s
Barrier shadowing:	yes
Vegetation	yes

PATH SHEET

		COORDINATES		
SOURCE 1:	Event Tent	East 0.0		Record Distance
	Music shell speakers	North 0.0		5.0
TYPE:	point	Elevation 5.0		Projection Dist.
				850.4

Freq.	Source	Vegetation	Shadowing	Ground Atten	Net Barrier Atten	Atmospheric	Distance Atten	Contribution	Awt Contrib.
31.5 Hz	81.3	3.1	6.6	-1.1	7.7	0.0	44.6	25.9	-13.5
63 Hz	90.7	3.1	7.9	-1.1	9.0	0.0	44.6	34.0	7.8
125 Hz	97.4	4.6	9.7	3.8	5.9	0.1	44.6	42.2	26.1
250 Hz	94.7	6.1	12.0	5.4	6.6	0.3	44.6	37.1	28.5
500 Hz	85.0	6.1	14.5	3.3	11.2	0.8	44.6	22.3	19.1
1000 Hz	79.1	7.7	17.3	-0.9	18.2	1.3	44.6	7.3	7.3
2000 Hz	70.1	9.2	20.0	-1.5	21.5	2.6	44.6	-7.7	-6.5
4000 Hz	67.2	12.2	20.0	-1.5	21.5	7.2	44.6	-18.3	-17.3
8000 Hz	62.3	18.4	20.0	-1.5	21.5	24.9	44.6	-47.1	-48.2
								43.9	30.8

PATH SHEET

		COORDINATES		
SOURCE 2:	reserved	East 0.0		Record Distance
	--	North 0.0		1.0
TYPE:	point	Elevation 1.0		Projection Dist.
				850.4

Freq.	Source	Vegetation	Shadowing	Ground Atten	Net Barrier Atten	Atmospheric	Distance Atten	Contribution	Awt Contrib.
31.5 Hz	0.0	0.0	0.0	-0.6	-0.6	0.0	58.6	-58.0	-97.4
63 Hz	0.0	0.0	0.0	-0.6	-0.6	0.0	58.6	-58.0	-84.2
125 Hz	0.0	0.0	0.0	3.8	3.8	0.1	58.6	-62.5	-78.6
250 Hz	0.0	0.0	0.0	5.4	5.4	0.3	58.6	-64.4	-73.0
500 Hz	0.0	0.0	0.0	3.3	3.3	0.8	58.6	-62.6	-65.8
1000 Hz	0.0	0.0	0.0	-0.9	-0.9	1.3	58.6	-59.0	-59.0
2000 Hz	0.0	0.0	0.0	-1.5	-1.5	2.6	58.6	-59.7	-58.5
4000 Hz	0.0	0.0	0.0	-1.5	-1.5	7.2	58.6	-64.3	-63.3
8000 Hz	0.0	0.0	0.0	-1.5	-1.5	24.9	58.6	-82.0	-83.1
								-51.3	-54.6

Mayflower Inn - Event Tent

Property Line Sound Study

Music Shell

Sound Source Contribution Plot

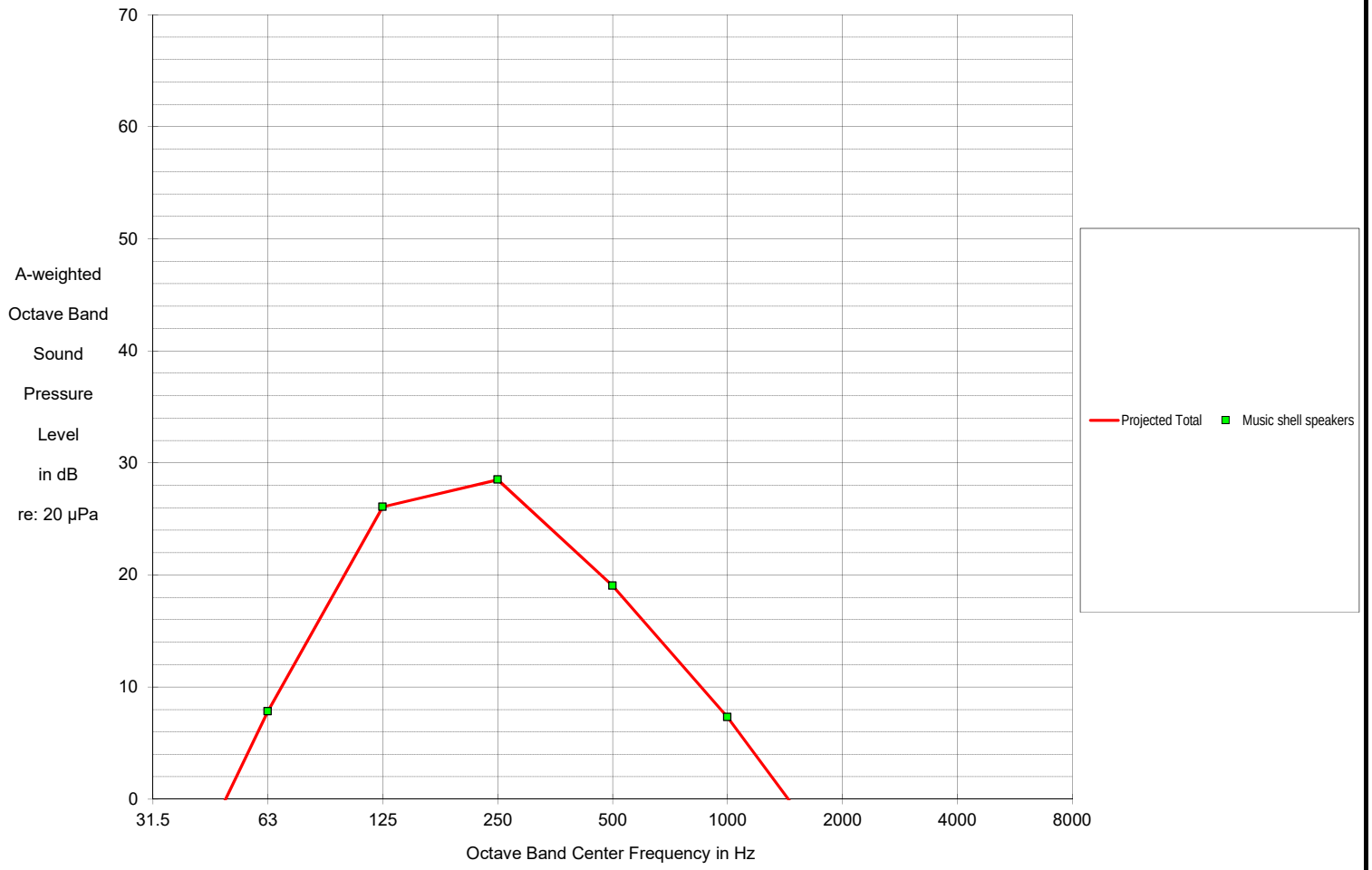
House property line

Based on BAC sound data and proposed site plan

House to NE Property line

Music shell with sound control program

RMS: 31 dBA



BAC Sound Projection Design Calculation 4

BAC Project Letter PJ2021-1374-L02

BAC Sound Projection Design Calculation 4

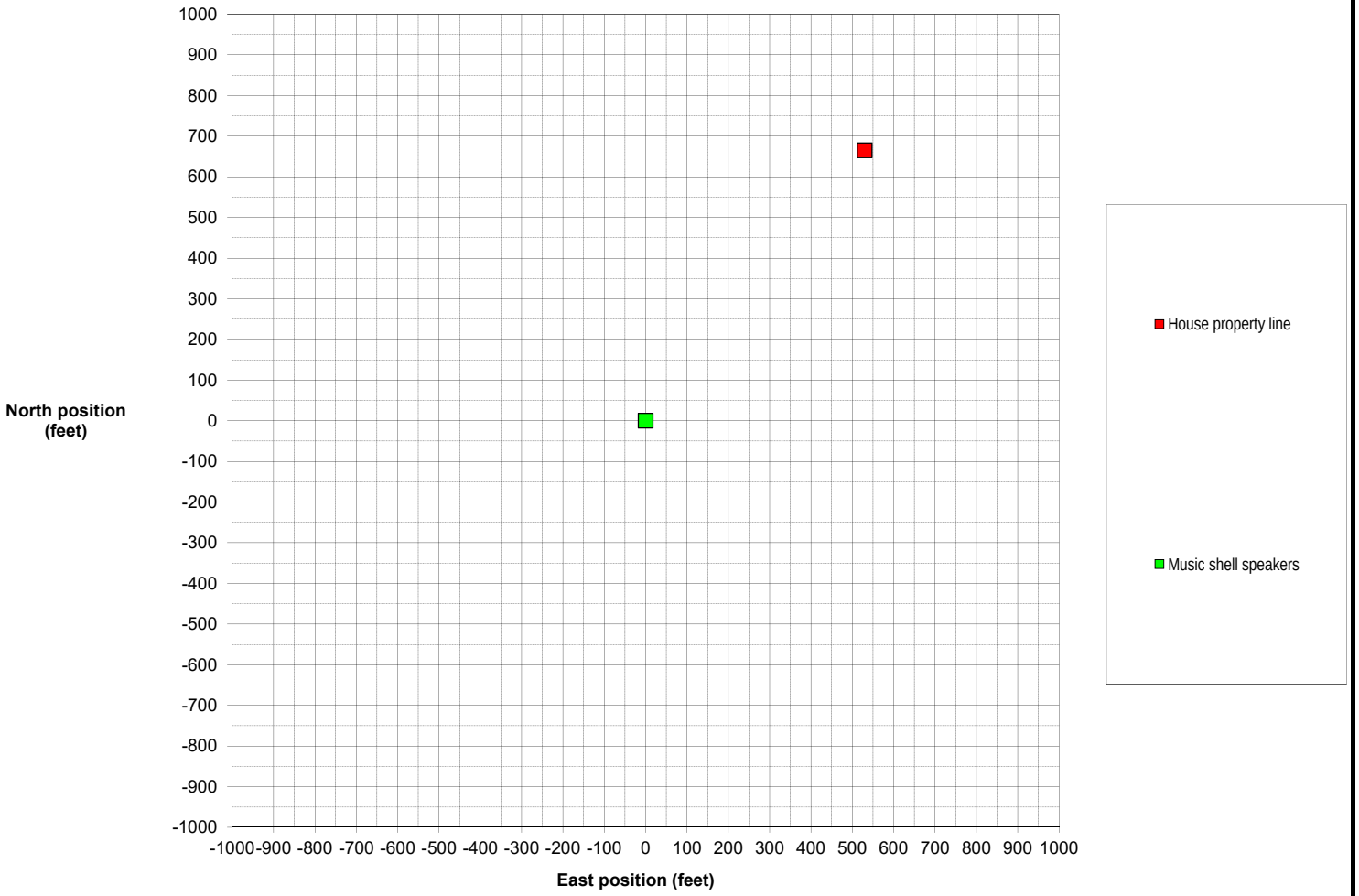
Mayflower Inn - Event Tent
Property Line Sound Study
Music Shell

Sound Source - Receiver Location Plot

Sound Source Contribution Plot

House property line

RMS: 30.8 dBA



BAC Sound Projection Graph Design Calculation 4

BAC Project Letter PJ2021-1374-L02

BAC Design Calculation 4

Mayflower Inn - Event Tent

Based on BAC sound data and proposed site plan

Property Line Sound Study

House to NE Property line

Sound Projection: Music Shell

Music shell with sound control program

PROJECTED FROM: Music shell
PROJECTED TO: House property line

Coordinates:

East	North	Elevation
530.0	665.0	5.0

RELATIVE HUMIDITY: 50%
TEMPERATURE: 72 deg. F
ATMOS. PRESS: 760 mm Hg

Criteria Level 45 dBA
Total Sound Level **31 dBA**

Compliance?
YES

FREQ.	AWT SPL
31.5 Hz	-13.5
63 Hz	7.8
125 Hz	26.1
250 Hz	28.5
500 Hz	19.1
1000 Hz	7.3
2000 Hz	-6.5
4000 Hz	-17.3
8000 Hz	-48.2
RMS:	30.8

#	SOURCE	CONTRIBUTIONS AWT SPL
1	Event Tent Music shell speakers	30.8 dBA
2	reserved --	-54.6 dBA
3	reserved --	-54.6 dBA
4	reserved --	-54.6 dBA
5	reserved --	-54.6 dBA
6	reserved --	-54.6 dBA
7	reserved --	-54.6 dBA
8	reserved --	-54.6 dBA
9	reserved --	-54.6 dBA
10	reserved --	-54.6 dBA
11	reserved --	-54.6 dBA
12	reserved --	-54.6 dBA

Atmospheric attenuation:	yes
Excess gound attenuation:	yes
Source region hard, soft, mixed (h,s,m%):	h
Receiver region hard, soft, mixed (h,s,m%):	s
Middle region hard, soft, mixed (h,s,m%):	s
Barrier shadowing:	yes
Vegetation	yes

PATH SHEET

		COORDINATES		
SOURCE 1:	Event Tent	East 0.0		Record Distance
	Music shell speakers	North 0.0		5.0
TYPE:	point	Elevation 5.0		Projection Dist.
				850.4

Freq.	Source	Vegetation	Shadowing	Ground Atten	Net Barrier Atten	Atmospheric	Distance Atten	Contribution	Awt Contrib.
31.5 Hz	81.3	3.1	6.6	-1.1	7.7	0.0	44.6	25.9	-13.5
63 Hz	90.7	3.1	7.9	-1.1	9.0	0.0	44.6	34.0	7.8
125 Hz	97.4	4.6	9.7	3.8	5.9	0.1	44.6	42.2	26.1
250 Hz	94.7	6.1	12.0	5.4	6.6	0.3	44.6	37.1	28.5
500 Hz	85.0	6.1	14.5	3.3	11.2	0.8	44.6	22.3	19.1
1000 Hz	79.1	7.7	17.3	-0.9	18.2	1.3	44.6	7.3	7.3
2000 Hz	70.1	9.2	20.0	-1.5	21.5	2.6	44.6	-7.7	-6.5
4000 Hz	67.2	12.2	20.0	-1.5	21.5	7.2	44.6	-18.3	-17.3
8000 Hz	62.3	18.4	20.0	-1.5	21.5	24.9	44.6	-47.1	-48.2
								43.9	30.8

PATH SHEET

		COORDINATES		
SOURCE 2:	reserved	East 0.0		Record Distance
	--	North 0.0		1.0
TYPE:	point	Elevation 1.0		Projection Dist.
				850.4

Freq.	Source	Vegetation	Shadowing	Ground Atten	Net Barrier Atten	Atmospheric	Distance Atten	Contribution	Awt Contrib.
31.5 Hz	0.0	0.0	0.0	-0.6	-0.6	0.0	58.6	-58.0	-97.4
63 Hz	0.0	0.0	0.0	-0.6	-0.6	0.0	58.6	-58.0	-84.2
125 Hz	0.0	0.0	0.0	3.8	3.8	0.1	58.6	-62.5	-78.6
250 Hz	0.0	0.0	0.0	5.4	5.4	0.3	58.6	-64.4	-73.0
500 Hz	0.0	0.0	0.0	3.3	3.3	0.8	58.6	-62.6	-65.8
1000 Hz	0.0	0.0	0.0	-0.9	-0.9	1.3	58.6	-59.0	-59.0
2000 Hz	0.0	0.0	0.0	-1.5	-1.5	2.6	58.6	-59.7	-58.5
4000 Hz	0.0	0.0	0.0	-1.5	-1.5	7.2	58.6	-64.3	-63.3
8000 Hz	0.0	0.0	0.0	-1.5	-1.5	24.9	58.6	-82.0	-83.1
								-51.3	-54.6

Mayflower Inn - Event Tent

Based on BAC sound data and proposed site plan

Property Line Sound Study

Nearest House Property line - to WNW

Sound Projection: Distributed Speakers

Distributed speakers with sound control program

PROJECTED FROM: Distributed speakers
PROJECTED TO: House property line

Coordinates:

East	North	Elevation
-395.0	156.0	5.0

RELATIVE HUMIDITY: 50%
TEMPERATURE: 72 deg. F
ATMOS. PRESS: 760 mm Hg

Criteria Level 45 dBA
Total Sound Level **27 dBA**

Compliance?
YES

FREQ.	AWT SPL
31.5 Hz	-73.0
63 Hz	-61.1
125 Hz	-55.7
250 Hz	15.5
500 Hz	23.2
1000 Hz	22.9
2000 Hz	15.4
4000 Hz	6.8
8000 Hz	-53.5
RMS:	26.8

#	SOURCE	CONTRIBUTIONS AWT SPL
1	reserved --	-47.0 dBA
2	Event Tent Tent distributed speakers	26.8 dBA
3	reserved --	-47.0 dBA
4	reserved --	-47.0 dBA
5	reserved --	-47.0 dBA
6	reserved --	-47.0 dBA
7	reserved --	-47.0 dBA
8	reserved --	-47.0 dBA
9	reserved --	-47.0 dBA
10	reserved --	-47.0 dBA
11	reserved --	-47.0 dBA
12	reserved --	-47.0 dBA

Atmospheric attenuation:	yes
Excess gound attenuation:	yes
Source region hard, soft, mixed (h,s,m%):	h
Receiver region hard, soft, mixed (h,s,m%):	s
Middle region hard, soft, mixed (h,s,m%):	s
Barrier shadowing:	no
Vegetation	yes

PATH SHEET

		COORDINATES	
SOURCE 1:	reserved	East 0.0	Record Distance
	--	North 0.0	1.0
TYPE:	point	Elevation 1.0	Projection Dist.
			424.7

Freq.	Source	Vegetation	Shadowing	Ground Atten	Net Barrier Atten	Atmospheric	Distance Atten	Contribution	Awt Contrib.
31.5 Hz	0.0	0.0	0.0	-1.3	-1.3	0.0	52.6	-51.3	-90.7
63 Hz	0.0	0.0	0.0	-1.3	-1.3	0.0	52.6	-51.3	-77.5
125 Hz	0.0	0.0	0.0	2.9	2.9	0.1	52.6	-55.5	-71.6
250 Hz	0.0	0.0	0.0	5.0	5.0	0.2	52.6	-57.7	-66.3
500 Hz	0.0	0.0	0.0	2.9	2.9	0.4	52.6	-55.9	-59.1
1000 Hz	0.0	0.0	0.0	-0.9	-0.9	0.7	52.6	-52.3	-52.3
2000 Hz	0.0	0.0	0.0	-1.5	-1.5	1.3	52.6	-52.3	-51.1
4000 Hz	0.0	0.0	0.0	-1.5	-1.5	3.6	52.6	-54.6	-53.6
8000 Hz	0.0	0.0	0.0	-1.5	-1.5	12.4	52.6	-63.5	-64.6
								-44.3	-47.0

PATH SHEET

		COORDINATES	
SOURCE 2:	Event Tent	East 20.0	Record Distance
	Tent distributed speakers	North 10.0	3.0
TYPE:	point	Elevation 5.0	Projection Dist.
			439.9

Freq.	Source	Vegetation	Shadowing	Ground Atten	Net Barrier Atten	Atmospheric	Distance Atten	Contribution	Awt Contrib.
31.5 Hz	7.8	1.1	0.0	-2.1	-2.1	0.0	43.3	-34.5	-73.9
63 Hz	6.2	1.1	0.0	-2.1	-2.1	0.0	43.3	-36.1	-62.3
125 Hz	6.9	1.7	0.0	2.9	2.9	0.1	43.3	-41.0	-57.1
250 Hz	74.7	2.2	0.0	5.0	5.0	0.2	43.3	24.1	15.5
500 Hz	75.3	2.2	0.0	2.9	2.9	0.4	43.3	26.4	23.2
1000 Hz	68.7	2.8	0.0	-0.9	-0.9	0.7	43.3	22.9	22.9
2000 Hz	60.7	3.3	0.0	-1.5	-1.5	1.3	43.3	14.2	15.4
4000 Hz	55.7	4.4	0.0	-1.5	-1.5	3.7	43.3	5.8	6.8
8000 Hz	0.8	6.6	0.0	-1.5	-1.5	12.9	43.3	-60.5	-61.6
								29.6	26.8

Mayflower Inn - Event Tent

Property Line Sound Study

Distributed Speakers

Sound Source Contribution Plot

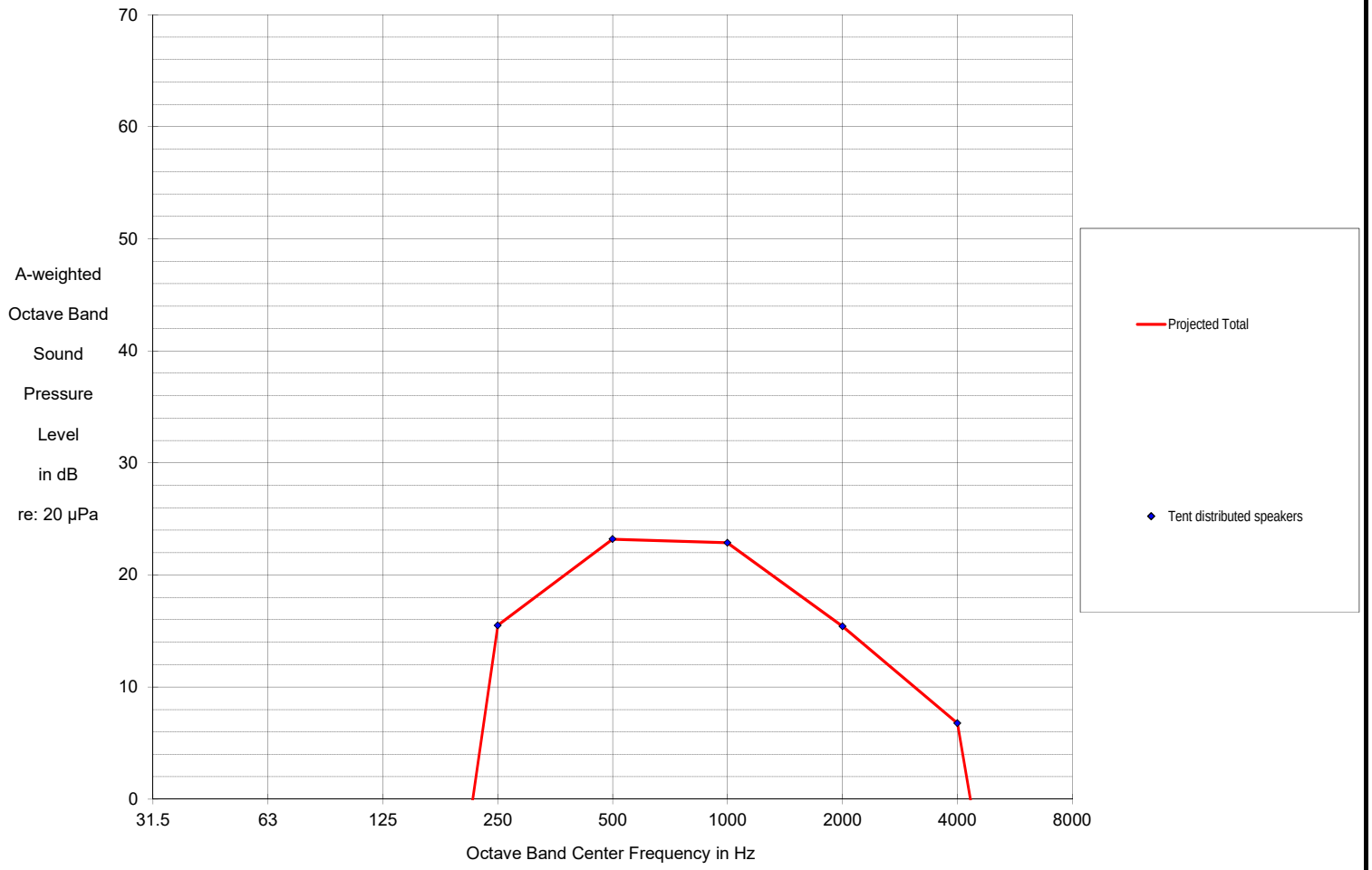
House property line

Based on BAC sound data and proposed site plan

Nearest House Property line - to WNW

Distributed speakers with sound control program

RMS: 27 dBA



Mayflower Inn - Event Tent

Based on BAC sound data and proposed site plan

Property Line Sound Study

House 1 property line to WNW - across Wykeham Rd

Sound Projection: Distributed Speakers

Distributed speakers with sound control program

PROJECTED FROM: Distributed Speakers
PROJECTED TO: House property line

Coordinates:

East	North	Elevation
-750.0	285.0	5.0

RELATIVE HUMIDITY: 50%
TEMPERATURE: 72 deg. F
ATMOS. PRESS: 760 mm Hg

Criteria Level 45 dBA
Total Sound Level **20 dBA**

Compliance?
YES

FREQ.	AWT SPL
31.5 Hz	-79.4
63 Hz	-67.5
125 Hz	-62.1
250 Hz	9.3
500 Hz	17.0
1000 Hz	16.6
2000 Hz	8.6
4000 Hz	-2.2
8000 Hz	-70.1
RMS:	20.5

#	SOURCE	CONTRIBUTIONS AWT SPL
1	reserved --	-53.9 dBA
2	Event Tent Tent distributed speakers	20.5 dBA
3	reserved --	-53.9 dBA
4	reserved --	-53.9 dBA
5	reserved --	-53.9 dBA
6	reserved --	-53.9 dBA
7	reserved --	-53.9 dBA
8	reserved --	-53.9 dBA
9	reserved --	-53.9 dBA
10	reserved --	-53.9 dBA
11	reserved --	-53.9 dBA
12	reserved --	-53.9 dBA

Atmospheric attenuation:	yes
Excess gound attenuation:	yes
Source region hard, soft, mixed (h,s,m%):	h
Receiver region hard, soft, mixed (h,s,m%):	s
Middle region hard, soft, mixed (h,s,m%):	s
Barrier shadowing:	no
Vegetation	yes

PATH SHEET

COORDINATES

SOURCE 1: reserved
--
TYPE: point

East 0.0
North 0.0
Elevation 1.0

Record Distance
1.0
Projection Dist.
802.3

Freq.	Source	Vegetation	Shadowing	Ground Atten	Net Barrier Atten	Atmospheric	Distance Atten	Contribution	Awt Contrib.
31.5 Hz	0.0	0.0	0.0	-0.7	-0.7	0.0	58.1	-57.4	-96.8
63 Hz	0.0	0.0	0.0	-0.7	-0.7	0.0	58.1	-57.4	-83.6
125 Hz	0.0	0.0	0.0	3.7	3.7	0.1	58.1	-61.9	-78.0
250 Hz	0.0	0.0	0.0	5.4	5.4	0.3	58.1	-63.8	-72.4
500 Hz	0.0	0.0	0.0	3.3	3.3	0.7	58.1	-62.1	-65.3
1000 Hz	0.0	0.0	0.0	-0.9	-0.9	1.2	58.1	-58.4	-58.4
2000 Hz	0.0	0.0	0.0	-1.5	-1.5	2.4	58.1	-59.0	-57.8
4000 Hz	0.0	0.0	0.0	-1.5	-1.5	6.8	58.1	-63.3	-62.3
8000 Hz	0.0	0.0	0.0	-1.5	-1.5	23.5	58.1	-80.1	-81.2
								-50.7	-53.9

PATH SHEET

COORDINATES

SOURCE 2: Event Tent
Tent distributed speakers
TYPE: point

East 20.0
North 10.0
Elevation 5.0

Record Distance
3.0
Projection Dist.
817.6

Freq.	Source	Vegetation	Shadowing	Ground Atten	Net Barrier Atten	Atmospheric	Distance Atten	Contribution	Awt Contrib.
31.5 Hz	7.8	1.2	0.0	-1.1	-1.1	0.0	48.7	-41.0	-80.4
63 Hz	6.2	1.2	0.0	-1.1	-1.1	0.0	48.7	-42.6	-68.8
125 Hz	6.9	1.8	0.0	3.7	3.7	0.1	48.7	-47.4	-63.5
250 Hz	74.7	2.4	0.0	5.4	5.4	0.3	48.7	17.9	9.3
500 Hz	75.3	2.4	0.0	3.3	3.3	0.7	48.7	20.2	17.0
1000 Hz	68.7	3.0	0.0	-0.9	-0.9	1.3	48.7	16.6	16.6
2000 Hz	60.7	3.6	0.0	-1.5	-1.5	2.5	48.7	7.4	8.6
4000 Hz	55.7	4.8	0.0	-1.5	-1.5	6.9	48.7	-3.2	-2.2
8000 Hz	0.8	7.2	0.0	-1.5	-1.5	24.0	48.7	-77.6	-78.7
								23.4	20.5

Mayflower Inn - Event Tent

Property Line Sound Study

Distributed Speakers

Sound Source Contribution Plot

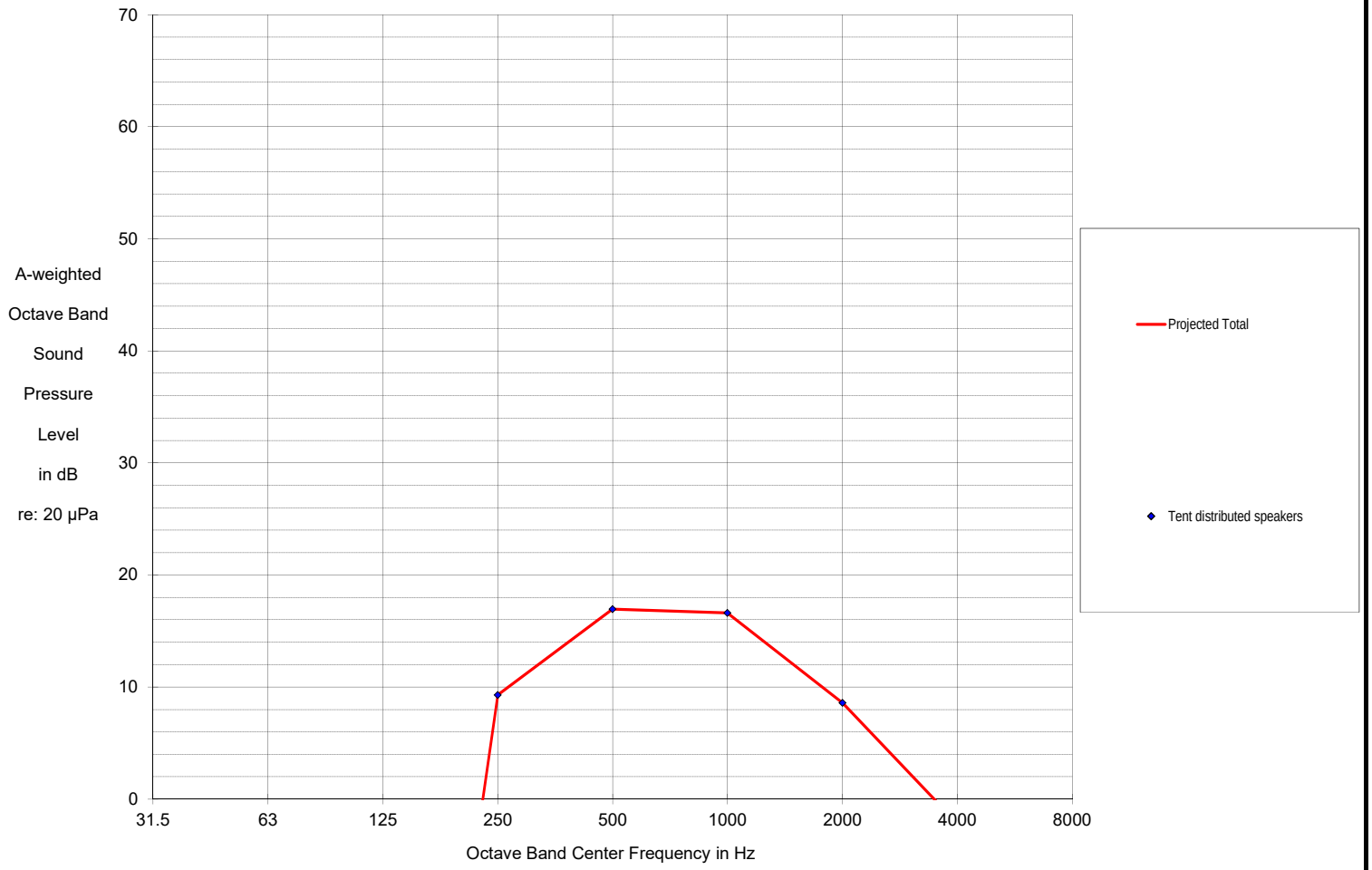
House property line

Based on BAC sound data and proposed site plan

House 1 property line to WNW - across Wykeham Rd

Distributed speakers with sound control program

RMS: 20 dBA



BAC Sound Projection Design Calculation 6

Mayflower Inn - Event Tent

Based on BAC sound data and proposed site plan

Property Line Sound Study

House 2 property line to NW - across Wykeham Rd

Sound Projection: Distributed Speakers

Distributed speakers with sound control program

PROJECTED FROM: Distributed speakers
PROJECTED TO: House property line

Coordinates:

East	North	Elevation
-402.0	688.0	5.0

RELATIVE HUMIDITY: 50%
TEMPERATURE: 72 deg. F
ATMOS. PRESS: 760 mm Hg

Criteria Level 45 dBA
Total Sound Level **17 dBA**

Compliance?
YES

FREQ.	AWT SPL
31.5 Hz	-80.6
63 Hz	-68.5
125 Hz	-63.7
250 Hz	5.9
500 Hz	13.6
1000 Hz	12.3
2000 Hz	3.4
4000 Hz	-9.0
8000 Hz	-70.5
RMS:	16.6

#	SOURCE		CONTRIBUTIONS AWT SPL
1	reserved	--	-53.8 dBA
2	Event Tent	Tent distributed speakers	16.6 dBA
3	reserved	--	-53.8 dBA
4	reserved	--	-53.8 dBA
5	reserved	--	-53.8 dBA
6	reserved	--	-53.8 dBA
7	reserved	--	-53.8 dBA
8	reserved	--	-53.8 dBA
9	reserved	--	-53.8 dBA
10	reserved	--	-53.8 dBA
11	reserved	--	-53.8 dBA
12	reserved	--	-53.8 dBA

Atmospheric attenuation:	yes
Excess gound attenuation:	yes
Source region hard, soft, mixed (h,s,m%):	h
Receiver region hard, soft, mixed (h,s,m%):	s
Middle region hard, soft, mixed (h,s,m%):	s
Barrier shadowing:	no
Vegetation	yes

PATH SHEET

		COORDINATES		
SOURCE 1:	reserved	East 0.0		Record Distance
	--	North 0.0		1.0
TYPE:	point	Elevation 1.0		Projection Dist.
				796.8

Freq.	Source	Vegetation	Shadowing	Ground Atten	Net Barrier Atten	Atmospheric	Distance Atten	Contribution	Awt Contrib.
31.5 Hz	0.0	0.0	0.0	-0.7	-0.7	0.0	58.0	-57.4	-96.8
63 Hz	0.0	0.0	0.0	-0.7	-0.7	0.0	58.0	-57.4	-83.6
125 Hz	0.0	0.0	0.0	3.7	3.7	0.1	58.0	-61.9	-78.0
250 Hz	0.0	0.0	0.0	5.4	5.4	0.3	58.0	-63.8	-72.4
500 Hz	0.0	0.0	0.0	3.3	3.3	0.7	58.0	-62.0	-65.2
1000 Hz	0.0	0.0	0.0	-0.9	-0.9	1.2	58.0	-58.4	-58.4
2000 Hz	0.0	0.0	0.0	-1.5	-1.5	2.4	58.0	-58.9	-57.7
4000 Hz	0.0	0.0	0.0	-1.5	-1.5	6.7	58.0	-63.2	-62.2
8000 Hz	0.0	0.0	0.0	-1.5	-1.5	23.4	58.0	-79.9	-81.0
								-50.7	-53.8

PATH SHEET

		COORDINATES		
SOURCE 2:	Event Tent	East 20.0		Record Distance
	Tent distributed speakers	North 10.0		3.0
TYPE:	point	Elevation 5.0		Projection Dist.
				798.6

Freq.	Source	Vegetation	Shadowing	Ground Atten	Net Barrier Atten	Atmospheric	Distance Atten	Contribution	Awt Contrib.
31.5 Hz	7.8	3.0	0.0	-1.1	-1.1	0.0	48.5	-42.6	-82.0
63 Hz	6.2	3.0	0.0	-1.1	-1.1	0.0	48.5	-44.2	-70.4
125 Hz	6.9	4.5	0.0	3.7	3.7	0.1	48.5	-49.9	-66.0
250 Hz	74.7	6.0	0.0	5.4	5.4	0.3	48.5	14.5	5.9
500 Hz	75.3	6.0	0.0	3.3	3.3	0.7	48.5	16.8	13.6
1000 Hz	68.7	7.5	0.0	-0.9	-0.9	1.2	48.5	12.3	12.3
2000 Hz	60.7	9.0	0.0	-1.5	-1.5	2.4	48.5	2.2	3.4
4000 Hz	55.7	12.0	0.0	-1.5	-1.5	6.7	48.5	-10.0	-9.0
8000 Hz	0.8	18.0	0.0	-1.5	-1.5	23.4	48.5	-87.6	-88.7
								19.8	16.6

Mayflower Inn - Event Tent

Property Line Sound Study

Distributed Speakers

Sound Source Contribution Plot

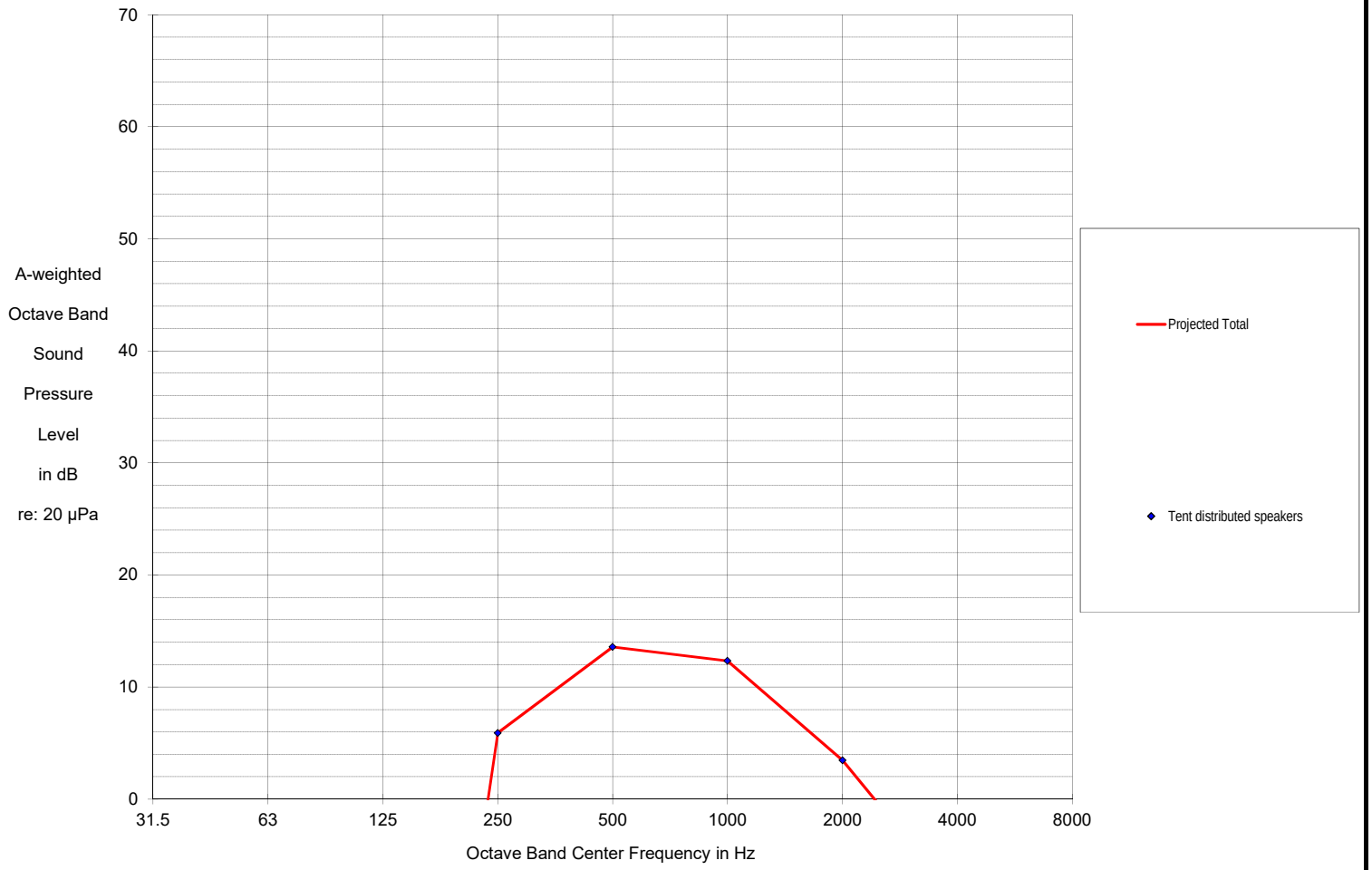
House property line

Based on BAC sound data and proposed site plan

House 2 property line to NW - across Wykeham Rd

Distributed speakers with sound control program

RMS: 17 dBA



Mayflower Inn - Event Tent

Based on BAC sound data and proposed site plan

Property Line Sound Study

House to NE Property line

Sound Projection: Distributed Speakers

Distributed speakers with sound control program

PROJECTED FROM: Distributed speakers
PROJECTED TO: House property line

Coordinates:

East	North	Elevation
530.0	665.0	5.0

RELATIVE HUMIDITY: 50%
TEMPERATURE: 72 deg. F
ATMOS. PRESS: 760 mm Hg

Criteria Level 45 dBA
Total Sound Level **16 dBA**

Compliance?
YES

FREQ.	AWT SPL
31.5 Hz	-81.1
63 Hz	-69.0
125 Hz	-64.2
250 Hz	5.5
500 Hz	13.2
1000 Hz	12.0
2000 Hz	3.0
4000 Hz	-9.6
8000 Hz	-72.6
RMS:	16.3

#	SOURCE	CONTRIBUTIONS AWT SPL
1	reserved --	-54.6 dBA
2	Event Tent Tent distributed speakers	16.3 dBA
3	reserved --	-54.6 dBA
4	reserved --	-54.6 dBA
5	reserved --	-54.6 dBA
6	reserved --	-54.6 dBA
7	reserved --	-54.6 dBA
8	reserved --	-54.6 dBA
9	reserved --	-54.6 dBA
10	reserved --	-54.6 dBA
11	reserved --	-54.6 dBA
12	reserved --	-54.6 dBA

Atmospheric attenuation:	yes
Excess gound attenuation:	yes
Source region hard, soft, mixed (h,s,m%):	h
Receiver region hard, soft, mixed (h,s,m%):	s
Middle region hard, soft, mixed (h,s,m%):	s
Barrier shadowing:	no
Vegetation	yes

PATH SHEET

		COORDINATES		
SOURCE 1:	reserved	East 0.0		Record Distance
	--	North 0.0		1.0
TYPE:	point	Elevation 1.0		Projection Dist.
				850.4

Freq.	Source	Vegetation	Shadowing	Ground Atten	Net Barrier Atten	Atmospheric	Distance Atten	Contribution	Awt Contrib.
31.5 Hz	0.0	0.0	0.0	-0.6	-0.6	0.0	58.6	-58.0	-97.4
63 Hz	0.0	0.0	0.0	-0.6	-0.6	0.0	58.6	-58.0	-84.2
125 Hz	0.0	0.0	0.0	3.8	3.8	0.1	58.6	-62.5	-78.6
250 Hz	0.0	0.0	0.0	5.4	5.4	0.3	58.6	-64.4	-73.0
500 Hz	0.0	0.0	0.0	3.3	3.3	0.8	58.6	-62.6	-65.8
1000 Hz	0.0	0.0	0.0	-0.9	-0.9	1.3	58.6	-59.0	-59.0
2000 Hz	0.0	0.0	0.0	-1.5	-1.5	2.6	58.6	-59.7	-58.5
4000 Hz	0.0	0.0	0.0	-1.5	-1.5	7.2	58.6	-64.3	-63.3
8000 Hz	0.0	0.0	0.0	-1.5	-1.5	24.9	58.6	-82.0	-83.1
								-51.3	-54.6

PATH SHEET

		COORDINATES		
SOURCE 2:	Event Tent	East 20.0		Record Distance
	Tent distributed speakers	North 10.0		3.0
TYPE:	point	Elevation 5.0		Projection Dist.
				830.1

Freq.	Source	Vegetation	Shadowing	Ground Atten	Net Barrier Atten	Atmospheric	Distance Atten	Contribution	Awt Contrib.
31.5 Hz	7.8	3.0	0.0	-1.1	-1.1	0.0	48.8	-43.0	-82.4
63 Hz	6.2	3.0	0.0	-1.1	-1.1	0.0	48.8	-44.6	-70.8
125 Hz	6.9	4.5	0.0	3.8	3.8	0.1	48.8	-50.4	-66.5
250 Hz	74.7	6.0	0.0	5.4	5.4	0.3	48.8	14.1	5.5
500 Hz	75.3	6.0	0.0	3.3	3.3	0.7	48.8	16.4	13.2
1000 Hz	68.7	7.5	0.0	-0.9	-0.9	1.3	48.8	12.0	12.0
2000 Hz	60.7	9.0	0.0	-1.5	-1.5	2.5	48.8	1.8	3.0
4000 Hz	55.7	12.0	0.0	-1.5	-1.5	7.0	48.8	-10.6	-9.6
8000 Hz	0.8	18.0	0.0	-1.5	-1.5	24.3	48.8	-88.9	-90.0
								19.4	16.3

Mayflower Inn - Event Tent

Property Line Sound Study

Distributed Speakers

Sound Source Contribution Plot

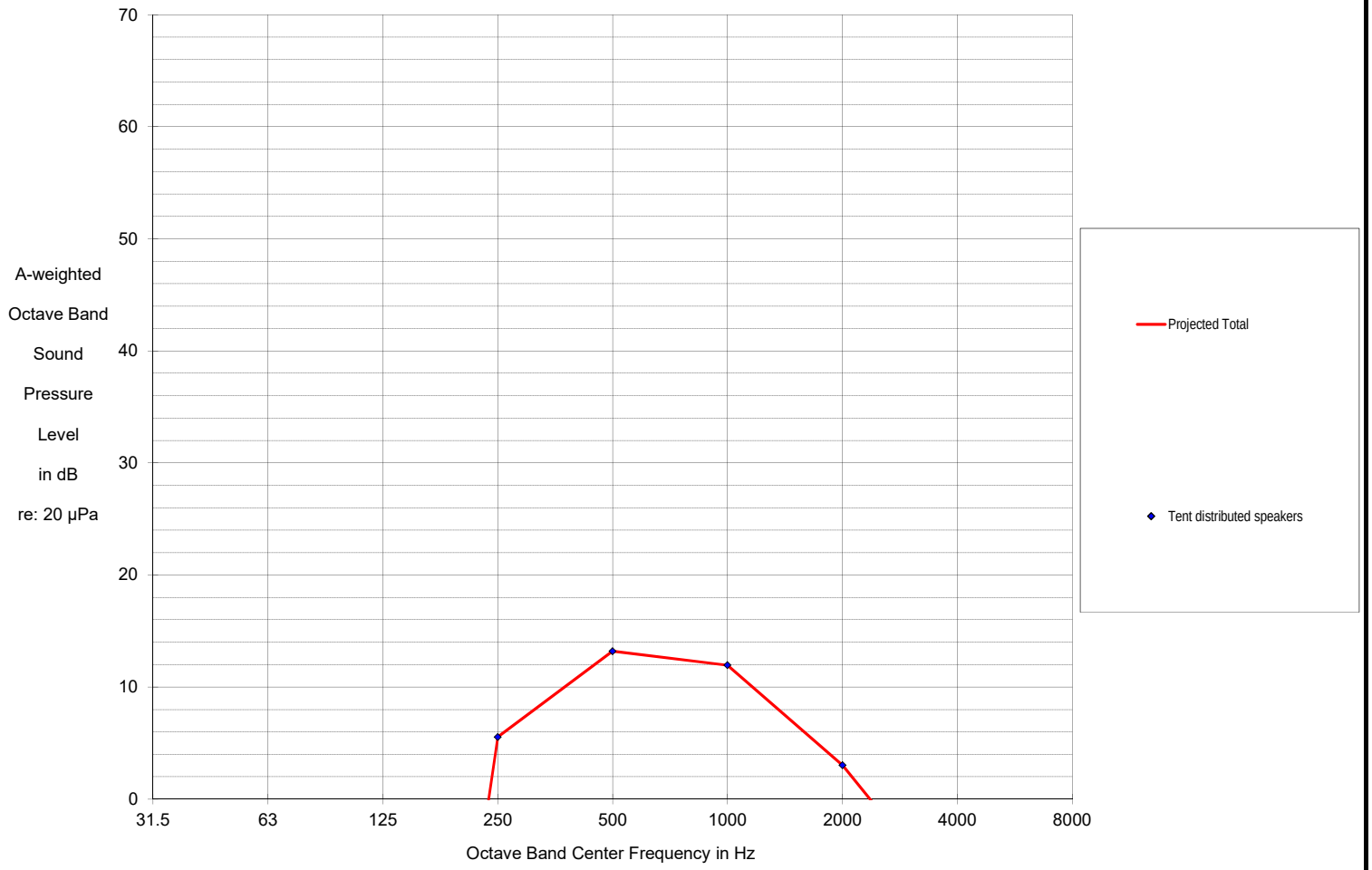
House property line

Based on BAC sound data and proposed site plan

House to NE Property line

Distributed speakers with sound control program

RMS: 16 dBA



BAC Sound Projection Design Calculation 8

BARRIER ATTENUATION CALCULATION
Wykeham Road
Source: Music Shell -- Receiver: Nearest House to WNW

(* Indicates values to be input in feet -- around side wall of shell -- baseline elev. 695 ft)

$h_b := 10$ *Height of barrier

$h_s := 1$ *Height of source

$h_r := -45$ *Height of Receiver

$d_{sb} := 7$ *Distance from source to barrier

$d_{br} := 425$ *Distance from barrier to receiver

$c := 344$ Speed of sound (m/s)

$n := 0..8$

$f_n := 31.25 \cdot 2^n$ Frequency of peak (Hz)

$\lambda_n := \frac{c}{f_n}$ Wavelength of peak (meters)

$D_{br} := d_{br} \cdot .3048$ $D_{br} = 129.54$

$D_{sb} := d_{sb} \cdot .3048$ $D_{sb} = 2.134$

$H_{sb} := (h_b - h_s) \cdot .3048$ $H_{sb} = 2.743$

$H_{br} := (h_b - h_r) \cdot .3048$ $H_{br} = 16.764$

The path distances specific to the geometry of the installation -- in meters

$R_{sb} := \sqrt{(D_{sb})^2 + (H_{sb})^2}$ $R_{sb} = 3.475$

$R_{br} := \sqrt{D_{br}^2 + H_{br}^2}$ $R_{br} = 130.62$

Fresnel Number

$N_n := \frac{2 \cdot [(R_{sb} + R_{br}) - (D_{sb} + D_{br})]}{\lambda_n}$

$C := 10$

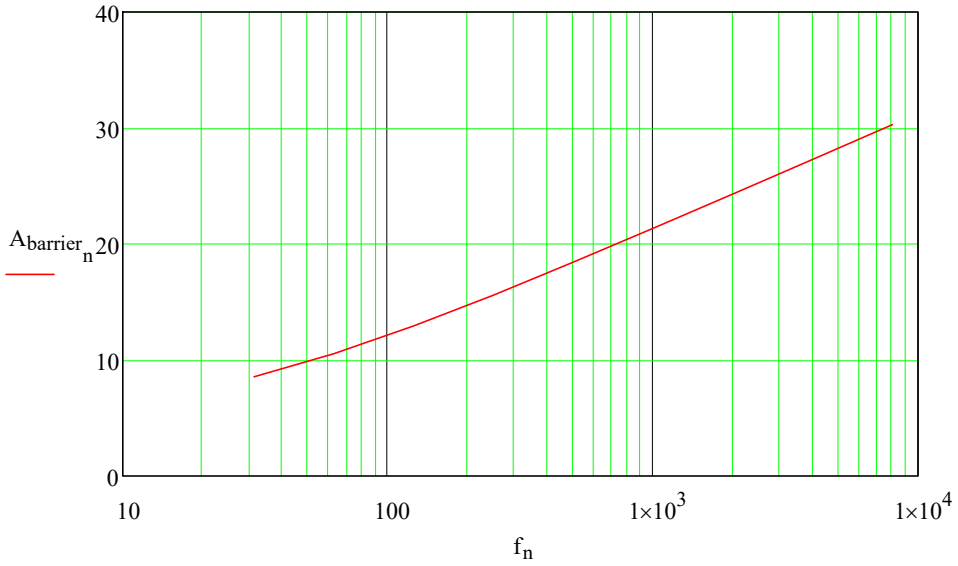
C=10 for receiver over reflecting plane (close to ground)

$A_{barrier_n} := 10 \cdot \log\left[3 + C \cdot N_n \cdot \exp\left[-\frac{1}{2000} \cdot \sqrt{\frac{R_{sb} \cdot R_{br} \cdot (D_{sb} + D_{br})}{2 \cdot [(R_{sb} + R_{br}) - (D_{sb} + D_{br})]}}\right]\right]$ Barrier Attenuation

$$A_{barrier} = \begin{pmatrix} 8.6 \\ 10.5 \\ 12.9 \\ 15.6 \\ 18.4 \\ 21.3 \\ 24.3 \\ 27.3 \\ 30.3 \end{pmatrix}$$

31.5
63
125
250
500
1000
2000
4000
8000

Note: Practical limit for barrier attenuation is 20 dB


40
30
20
10
0
$A_{barrier_n}$
10
100
1×10^{3}
1×10^{4}
f_n

BARRIER ATTENUATION CALCULATION
Wykeham Road
Source: Music Shell -- Receiver: House to WNW behind Wykeham Rd
(* Indicates values to be input in feet -- around side wall of shell -- baseline elev. 695 ft)

$h_b := 10$ *Height of barrier

$h_s := 1$ *Height of source

$h_r := 40$ *Height of Receiver

$d_{sb} := 7$ *Distance from source to barrier

$d_{br} := 802$ *Distance from barrier to receiver

$c := 344$ Speed of sound (m/s)

$n := 0..8$

$f_n := 31.25 \cdot 2^n$ Frequency of peak (Hz)

$\lambda_n := \frac{c}{f_n}$ Wavelength of peak (meters)

$D_{br} := d_{br} \cdot .3048$ $D_{br} = 244.45$

$D_{sb} := d_{sb} \cdot .3048$ $D_{sb} = 2.134$

$H_{sb} := (h_b - h_s) \cdot .3048$ $H_{sb} = 2.743$

$H_{br} := (h_b - h_r) \cdot .3048$ $H_{br} = -9.144$

The path distances specific to the geometry of the installation -- in meters

$R_{sb} := \sqrt{(D_{sb})^2 + (H_{sb})^2}$ $R_{sb} = 3.475$

$R_{br} := \sqrt{D_{br}^2 + H_{br}^2}$ $R_{br} = 244.621$

Fresnel Number

$N_n := \frac{2 \cdot [(R_{sb} + R_{br}) - (D_{sb} + D_{br})]}{\lambda_n}$

$C := 10$

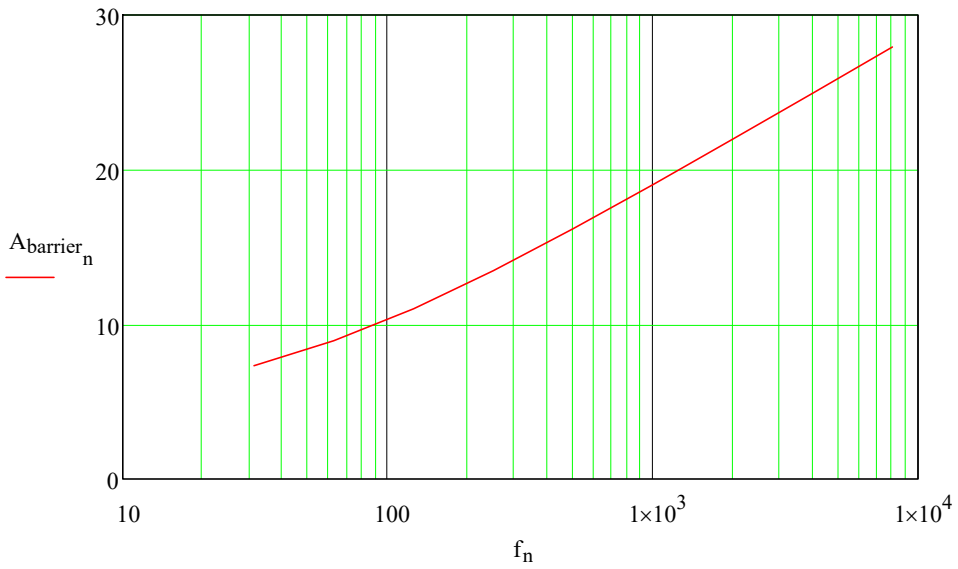
C=10 for receiver over reflecting plane (close to ground)

$A_{barrier_n} := 10 \cdot \log\left[3 + C \cdot N_n \cdot \exp\left[-\frac{1}{2000} \cdot \sqrt{\frac{R_{sb} \cdot R_{br} \cdot (D_{sb} + D_{br})}{2 \cdot [(R_{sb} + R_{br}) - (D_{sb} + D_{br})]}}\right]\right]$ Barrier Attenuation

$$A_{barrier} = \begin{pmatrix} 7.3 \\ 8.9 \\ 11 \\ 13.5 \\ 16.2 \\ 19 \\ 22 \\ 24.9 \\ 27.9 \end{pmatrix}$$

31.5
63
125
250
500
1000
2000
4000
8000

Note: Practical limit for barrier attenuation is 20 dB


30
20
10
0
$A_{barrier_n}$
10
100
1×10^3
1×10^4
f_n

BARRIER ATTENUATION CALCULATION
Wykeham Road
Source: Music Shell -- Receiver: House 2 to NW behind Wykeham Rd
(* Indicates values to be input in feet -- around side wall of shell -- baseline elev. 695 ft)

$h_b := 10$ *Height of barrier

$h_s := 1$ *Height of source

$h_r := 5$ *Height of Receiver

$d_{sb} := 7$ *Distance from source to barrier

$d_{br} := 796$ *Distance from barrier to receiver

$c := 344$ Speed of sound (m/s)

$n := 0..8$

$f_n := 31.25 \cdot 2^n$ Frequency of peak (Hz)

$\lambda_n := \frac{c}{f_n}$ Wavelength of peak (meters)

$D_{br} := d_{br} \cdot .3048$ $D_{br} = 242.621$

$D_{sb} := d_{sb} \cdot .3048$ $D_{sb} = 2.134$

$H_{sb} := (h_b - h_s) \cdot .3048$ $H_{sb} = 2.743$

$H_{br} := (h_b - h_r) \cdot .3048$ $H_{br} = 1.524$

The path distances specific to the geometry of the installation -- in meters

$R_{sb} := \sqrt{(D_{sb})^2 + (H_{sb})^2}$ $R_{sb} = 3.475$

$R_{br} := \sqrt{D_{br}^2 + H_{br}^2}$ $R_{br} = 242.626$

Fresnel Number

$N_n := \frac{2 \cdot [(R_{sb} + R_{br}) - (D_{sb} + D_{br})]}{\lambda_n}$

$C := 10$

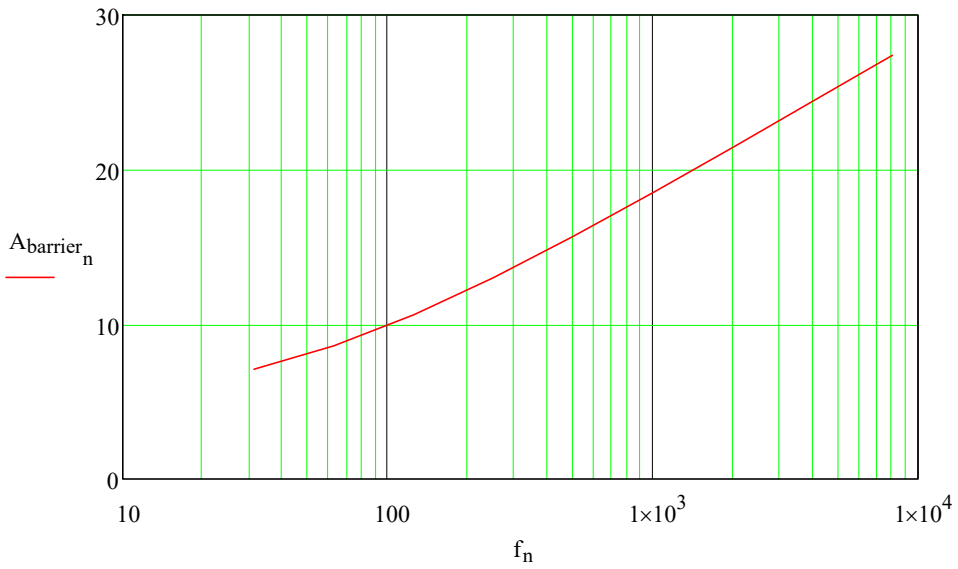
C=10 for receiver over reflecting plane (close to ground)

$A_{barrier_n} := 10 \cdot \log\left[3 + C \cdot N_n \cdot \exp\left[-\frac{1}{2000} \cdot \sqrt{\frac{R_{sb} \cdot R_{br} \cdot (D_{sb} + D_{br})}{2 \cdot [(R_{sb} + R_{br}) - (D_{sb} + D_{br})]}}\right]\right]$ Barrier Attenuation

$$A_{barrier} = \begin{pmatrix} 7.1 \\ 8.6 \\ 10.6 \\ 13 \\ 15.7 \\ 18.5 \\ 21.4 \\ 24.4 \\ 27.4 \end{pmatrix}$$

31.5
63
125
250
500
1000
2000
4000
8000

Note: Practical limit for barrier attenuation is 20 dB


30
20
10
0
$A_{barrier_n}$
10
100
1×10^3
1×10^4
f_n

BARRIER ATTENUATION CALCULATION
Wykeham Road
Source: Music Shell -- Receiver: House to NE

(* Indicates values to be input in feet -- around side wall of shell -- baseline elev. 695 ft)

$h_b := 5$ *Height of barrier

$h_s := 1$ *Height of source

$h_r := 15$ *Height of Receiver

$d_{sb} := 1$ *Distance from source to barrier

$d_{br} := 850$ *Distance from barrier to receiver

$c := 344$ Speed of sound (m/s)

$n := 0..8$

$f_n := 31.25 \cdot 2^n$ Frequency of peak (Hz)

$\lambda_n := \frac{c}{f_n}$ Wavelength of peak (meters)

$D_{br} := d_{br} \cdot .3048$ $D_{br} = 259.08$

$D_{sb} := d_{sb} \cdot .3048$ $D_{sb} = 0.305$

$H_{sb} := (h_b - h_s) \cdot .3048$ $H_{sb} = 1.219$

$H_{br} := (h_b - h_r) \cdot .3048$ $H_{br} = -3.048$

The path distances specific to the geometry of the installation -- in meters

$R_{sb} := \sqrt{(D_{sb})^2 + (H_{sb})^2}$ $R_{sb} = 1.257$

$R_{br} := \sqrt{D_{br}^2 + H_{br}^2}$ $R_{br} = 259.098$

Fresnel Number

$N_n := \frac{2 \cdot [(R_{sb} + R_{br}) - (D_{sb} + D_{br})]}{\lambda_n}$

$C := 10$

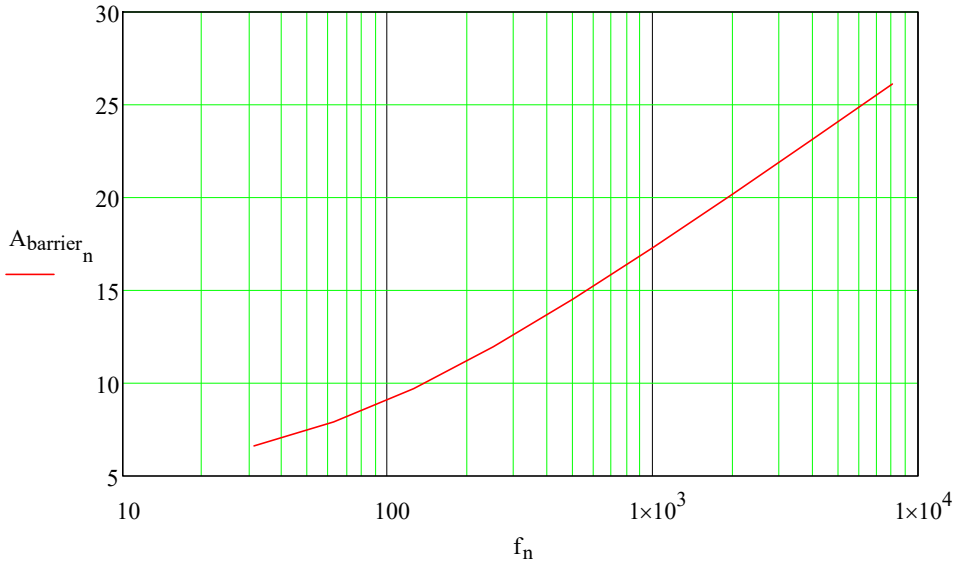
C=10 for receiver over reflecting plane (close to ground)

$A_{barrier_n} := 10 \cdot \log\left[3 + C \cdot N_n \cdot \exp\left[-\frac{1}{2000} \cdot \sqrt{\frac{R_{sb} \cdot R_{br} \cdot (D_{sb} + D_{br})}{2 \cdot [(R_{sb} + R_{br}) - (D_{sb} + D_{br})]}}\right]\right]$ Barrier Attenuation

$$A_{barrier} = \begin{pmatrix} 6.6 \\ 7.9 \\ 9.7 \\ 12 \\ 14.5 \\ 17.3 \\ 20.2 \\ 23.1 \\ 26.1 \end{pmatrix}$$

31.5
63
125
250
500
1000
2000
4000
8000

Note: Practical limit for barrier attenuation is 20 dB


30
25
20
15
10
5
$A_{barrier_n}$
10
100
1×10^3
1×10^4
f_n

POLYSORB
Architectural Audio Absorption Solutions

Sound absorption coefficients according to ISO 354
Measurement of sound absorption in a reverberation room

Name: **2" Polysorb**
Size Available: 5' x 9', 5'x 10'
Thickness: 2 inch
Core Density: 5.5
NRC: 0.95
Face Type: Ironed or unironed
Core Color: Charcoal/Black Face, Charcoal, Heather, Light Grey, Cloud, White
FSI: Class A Flame Spead Index

Description of the test specimen:

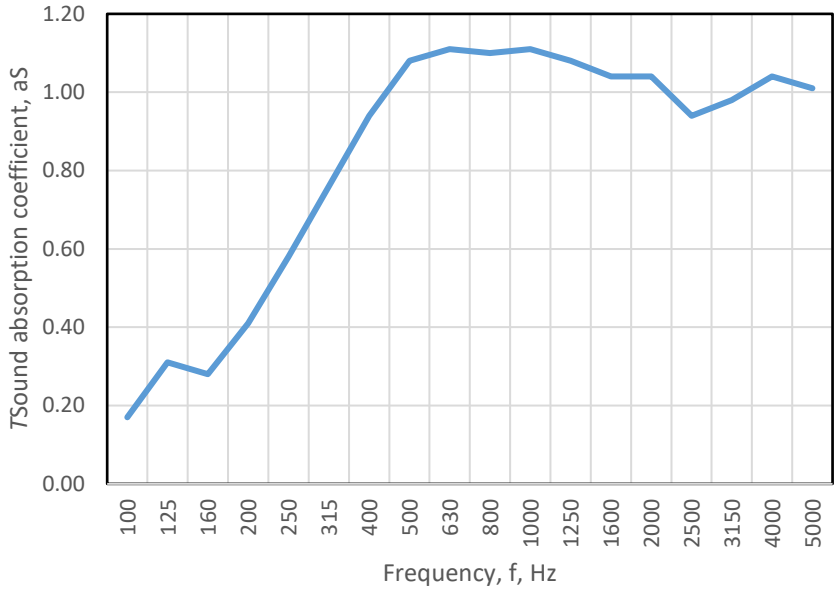
Name: PS2
Specimen Size: 24" x 48" x 2"
Mount Method: Type A Mounting Method
Frame Contruction: On the Floor

The shape of the reverberation chamber and its diffusion treatment are described in Annex D.

Area of test specimen: **10.80 m2**
Air temp in the test room: **22 oC**
Air humidity in test room: **63%**

Number of sound source positions: **2**
Number of microphone positions per sound source position: **8**
Type of noise used: **Pink random noise.**
Type of mounting used: **TypeA**

Frequency f Hz	T 1 - Empty Chamber	Tc - With Sample	One-Third Octive
100	5.15	1.16	0.17
125	2.76	2.05	0.31
160	2.96	1.88	0.28
200	3.74	2.75	0.41
250	3.71	3.86	0.58
315	3.43	5.10	0.76
400	2.60	6.31	0.94
500	3.99	7.22	1.08
630	4.26	7.39	1.11
800	4.73	7.36	1.10
1000	5.03	7.40	1.11
1250	5.45	7.21	1.08
1600	6.17	6.94	1.04
2000	6.97	6.97	1.04
2500	7.75	6.27	0.94
3150	8.61	6.53	0.98
4000	10.25	6.97	1.04
5000	12.20	6.76	1.01



Ratings according to ISO 11654
Weighted sound absorption coefficient: 0.95
Sound absorption class: A

Rating according to ASTM C423 - 99
Noise Reduction Coefficient = 0.95
Sound Absorption Average = 0.93

It is strongly recommended to use this single number rating in combination with the complete sound absorption coefficient curve.

Practical sound absorption coefficients

Hz	Xp
125	0.05
250	0.15
500	0.45
1000	0.75
2000	0.95
4000	0.95

Evaluation based on laboratory measurement results obtained by an engineering method.

POLYSORB
Architectural Audio Absorption Solutions

Products

Polyester is more efficient and cost effective than most other sound absorbing materials, providing new construction and retro-fitting environments of all budgets with another audio control option to consider. Our PolySorb panels offer outstanding sound absorption on ceilings and walls in many colors, thicknesses and installation options.

Polyester audio absorption panels have a wide variety of end uses in the field such as corporate environments, warehouses, education institutions, healthcare facilities, hospitality and convention centers, restaurants and public places, retail spaces, houses of worship and even our homes. Delivering a high degree of cleanliness, safety and consumer satisfaction.

ACOUSTICAL INSULATION – Excellent acoustical performance in sound absorption and dampening.

IMPACT RESILIENT – Very durable and able to absorb shock.

FIRE RATED – Complies with Class A fire code rating per ASTM E84.

PUT A PIN IN IT! – Pinnable tough yet soft surface with excellent holding characteristics.

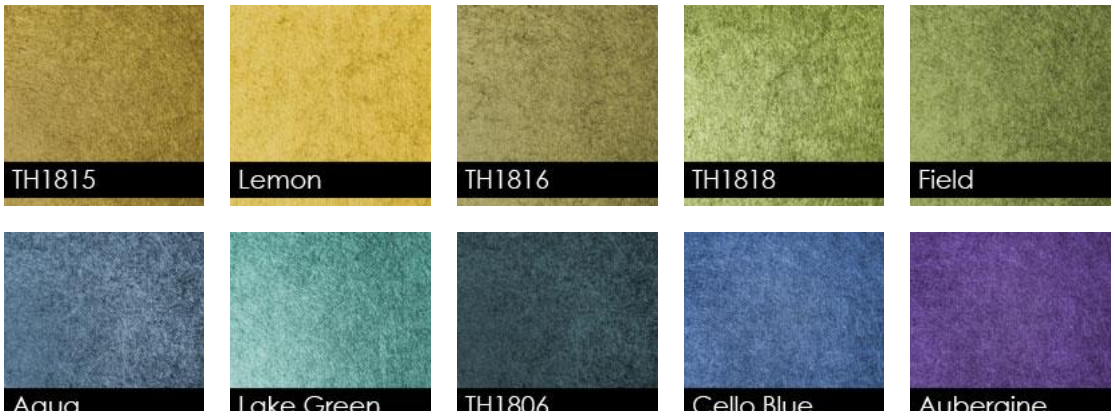
TOUGH AND DURABLE – Will not rot, change color or deteriorate and is non-hygroscopic.

EARTH FRIENDLY – 100% recyclable, VOC free including formaldehyde, non-allergenic and non-toxic.

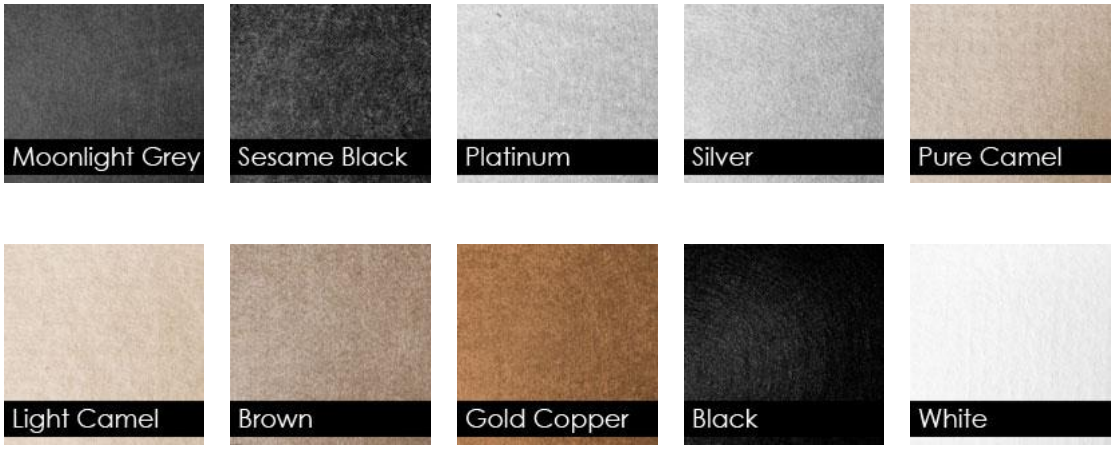
Easy to cut into custom shapes and light enough to suspend in many different configurations!

CLICK HERE TO REQUEST A QUOTE OR SAMPLES

1/2" PolySorb Bright Colors - In Stock

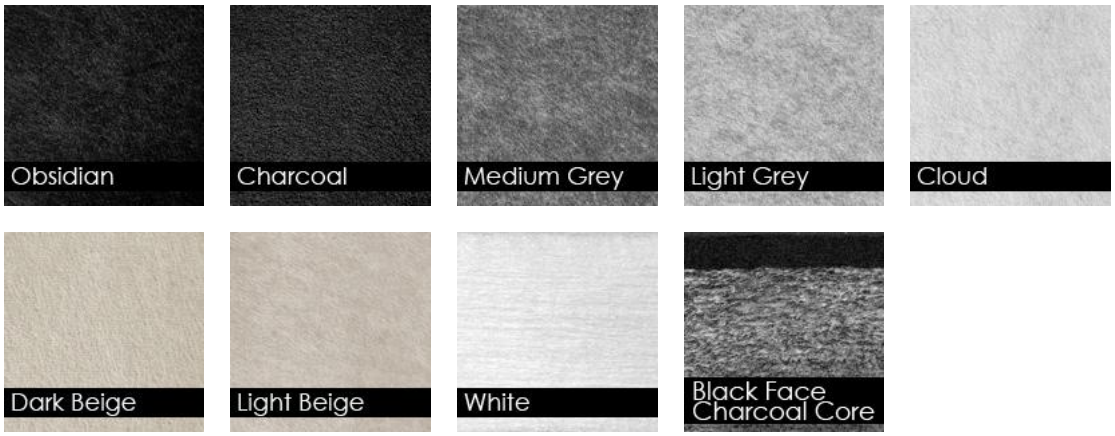


3/8" PolySorb Vivid Colors - Available by Special Order



1/2" PolySorb - In Stock

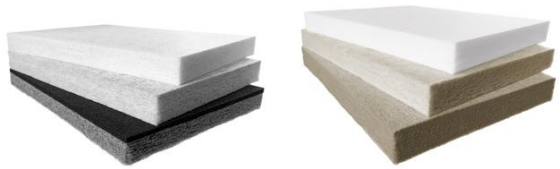
1" PolySorb - In Stock



2" PolySorb - In Stock

2″ thick panels come in multiple sheet sizes. – In stock

1″ thick panels come in multiple sheet sizes. – In stock



1/2″ thick panels come in multiple sheet sizes. – In stock

3/8″ thick panels come in multiple sheet sizes. – Available by special order

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Contact Us

Phone
(206) 571-5710 (425) 923-3938

Email
info@polysorb.com

Address
4813 8th Ave NW
Seattle, WA 98107

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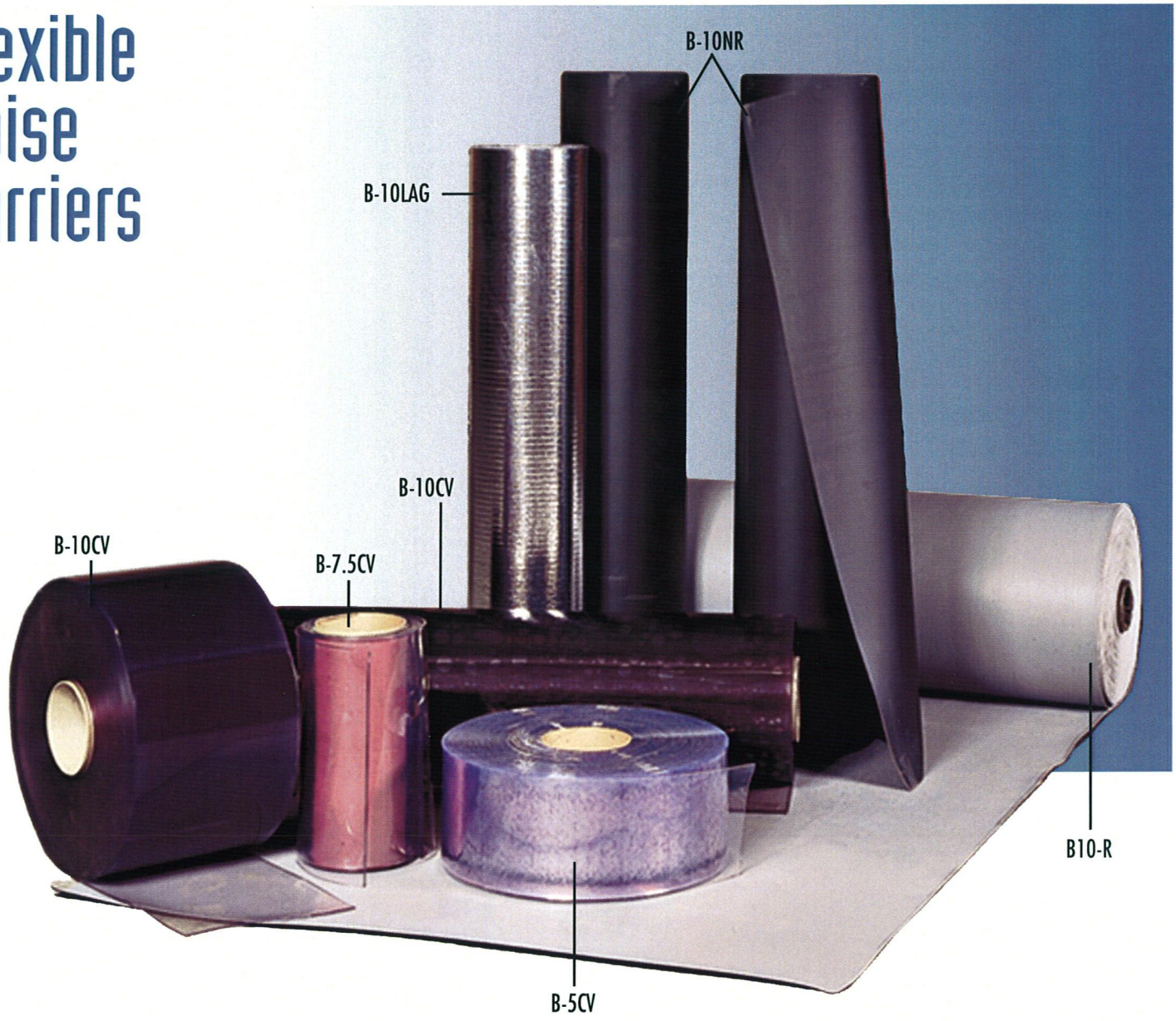
Industrial
NOISE CONTROL PRODUCTS

Bulletin
SS-104

Flexible Noise Barriers



FEATURES:

- Loaded vinyl noise barriers
- Reinforced, non-reinforced, transparent and foil-faced lag styles
- Mass loaded barriers from 1/2 lb. to 2 lbs. per sq. ft.
- Acoustical ratings: STC-20 thru STC-31
- Limp, flexible, formable, versatile
- High tear and tensile strength
- For industrial, construction, commercial, residential and OEM applications

SOUND SEAL®

Sound Seal's Industrial Division Flexible Noise Barriers are available in a variety of styles to meet a multitude of applications.

Non-Reinforced Barriers:

B-10NR

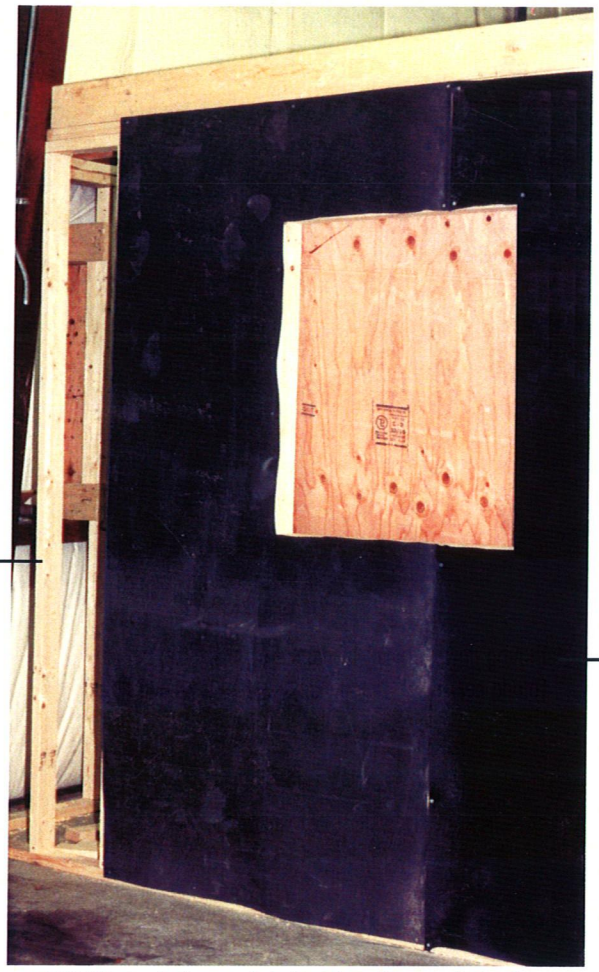
- 1 lb. PSF **non-reinforced** loaded vinyl noise barrier
- Low-cost, often used between dry wall and stud construction to substantially improve transmission loss between rooms (see photo)
- Used as the barrier septum material in acoustical curtain and foam composites
- An economic acoustical pipe or duct wrap
- Utilized as a rooftop equipment noise barrier
- Used as a noise barrier ceiling tile (typically in conjunction with a fiberglass decoupler) above standard suspended ceiling systems
- Used underneath carpeting to improve transmission loss of floor

B-5NR

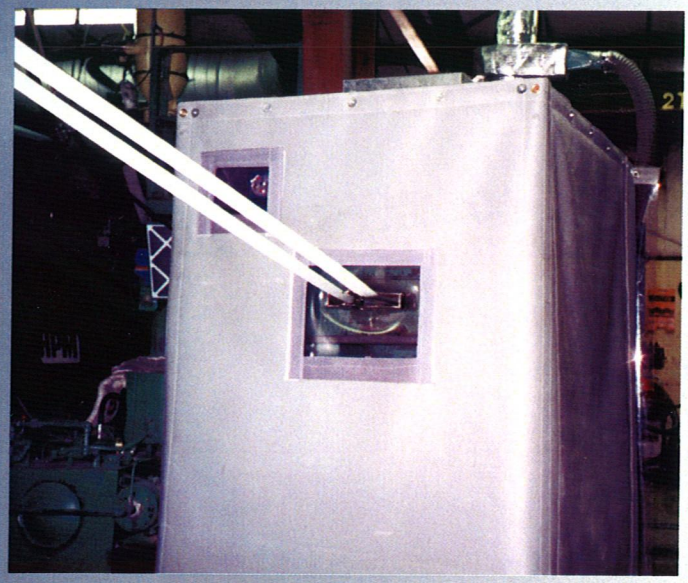
- 1/2 lb. PSF version of the above
- Used where weight restrictions require a lighter weight barrier

B-20NR

- 2 lb. PSF version of the above
- For applications requiring greater noise reduction, especially at lower frequencies



B-10 NR attached to studs before drywall is installed will significantly reduce noise transmission between rooms.



B-10R Flexible Noise Barrier material fabricated into Acoustical Curtain Panels with grommets at top and hook and loop fasteners sewn along each edge.

Reinforced Barriers:

B-10R

- 1 lb. PSF **reinforced** loaded vinyl noise barrier
- High-strength polyester fabric reinforcement is utilized in the center of the barrier to dramatically improve its durability, tear and hanging strength
- Excellent outdoor UV and weather resistance
- Can serve as accordion fold access door
- Used as a free hanging acoustical curtain panel, typically with grommets at the top and hook and loop fasteners along each edge (see photo)
- When used in combination with a Quilted Fiberglass Sound Absorber, (BBC-13, BBC-13-2"F) can offer STC Ratings up to 32 (See Bulletin SS101)
- Standard color is gray. Tan and blue are also available

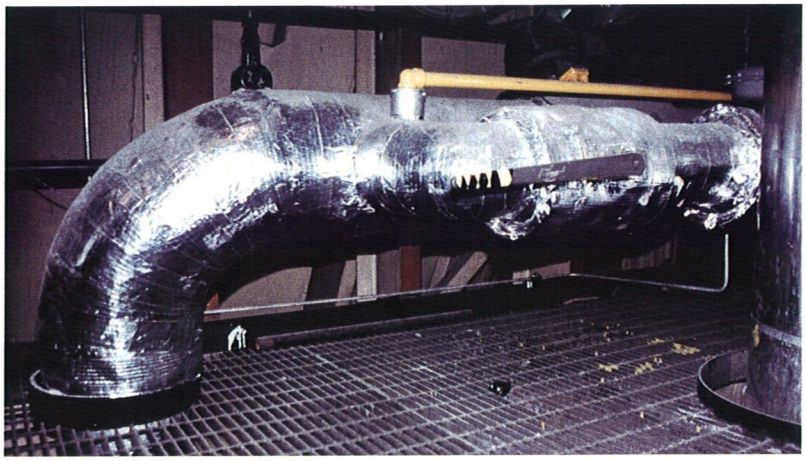
B-5R

- 1/2 lb. PSF **reinforced** loaded vinyl
- Same properties as above, utilized where weight restriction require a lighter weight material

Pipe and Duct Lagging:

B-10 LAG

- 1 lb. PSF reinforced-**foil faced** loaded vinyl noise barrier
- Acoustical wrap for noisy pipes, duct work, valves, heat exchangers
- Easy to cut, wrap and install with matching lag tape
- May be combined with quilted fiberglass decoupler to improve acoustical performance, thermal conductivity and lower installation costs
- **Class A flammability rating requirements per ASTM E-84**
- Durable reinforced foil facing serves as protective jacket as well as readily accepts matching tape



B-10 LAG/QFA-3 Acoustical Pipe Lag installed on 12" diameter pipe with matching lag tape. See Sound Seal bulletin SS-105 for additional information.

Clear vinyl strip installed on loading dock door allows easy access while offering thermal protection and noise reduction.

Transparent Barriers:

- Flexible **transparent** barrier materials offer significant noise reduction while allowing for visibility and easy access
- Also utilized to reduce heat and cold loss between areas
- Sheet material is often utilized as a view window in Sound Seal Acoustical Curtain Panels
- CV strip doors are often incorporated into Acoustical Curtain Enclosures for easy access
- Mounting angles and hardware are also available.
- Furnished in three standard products:

B-10 CV

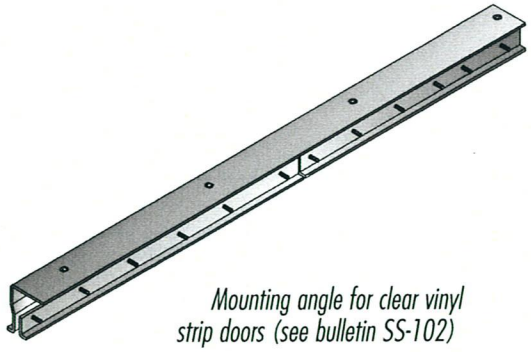
- 1 lb. PSF
- 16" wide strips
- 48" wide sheets
- Curtain panels with grommets at top and velcro edges
- Custom-sized window covers

B-7.5 CV

- 3/4 lb. PSF
- 12" wide strips
- 48" wide sheets
- Custom-sized fabrications

B-5 CV

- 1/2 lb. PSF
- 8" wide strips
- 48" wide sheets
- Custom-sized fabrications



Mounting angle for clear vinyl strip doors (see bulletin SS-102)

Specialty Barriers:

B-10MB

- 1 lb. PSF barrier material with a woven-fiberglass cloth facing
- Typically referred to as **"marine barrier"**
- Superior fire ratings when installed against bulkheads, etc.

B-10L

- 1 lb. PSF **lead** sheet
- Commonly used as a septum product in acoustical composites
- Utilized where radiation or RF resistance are required in addition to noise reduction

Flexible Barriers

Noise Transmission Loss

Barriers	Noise Transmission Loss (dB) Per Octave Band (HZ)						STC
	125	250	500	1000	2000	4000	
2 lb. PSF	16	22	26	32	35	40	31
1 lb. PSF	13	17	22	26	32	37	26
3/4 lb. PSF	11	16	20	25	30	34	23
1/2 lb. PSF	8	13	17	22	27	31	20

Per ASTM: E 90 (90A)

Physical Properties

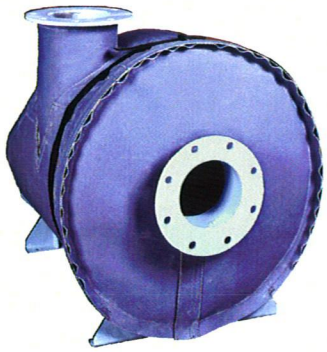
Product	Nom. Thickness (in.)	Nom. Weight lb/sq. ft.	Description	Roll Size	Additional Details
B-10 NR	.107	1.0	Non-Reinforced	54" W x 60' L	See Bulletin SS101
B-5 NR	.042	.5			
B-20 NR	.225	2.0			
B-10 R	.090	1.0	Reinforced		
B-5 R	.050	.5			
B-10 LAG	.090	1.0	Foil Faced	54" W x 30' L	See Bulletin SS105
B-10 CV	.160	1.0	Transparent	16" W x 100' L & 48" W x 60' L	Mounting Hardware Details See Bulletin SS102
B-7.5 CV	.120	.75		12" W x 200' L & 48" W x 60' L	
B-5 CV	.080	.5		8" W x 300' L & 48" W x 60' L	
B-10 L	.020	1.0	Lead Sheet	48" W x 25' L	SS104
B-10MB	.100	1.0	Marine Barrier	38" W x 45' L	

Additional information on tensile, breaking and tear strengths, elongation, chemical resistance, flammability, etc. available upon request.

The test results reported were obtained using standard laboratory procedures recognized by the technical community. The data is valid as a measurement of the material under specific controlled test conditions. However, this data does not represent an accurate indicator of the performance of the material or of the hazards which may exist under actual field conditions.

Distributed By

For OEM Applications see Sound Seal Bulletin SS-203



SOUND SEAL®

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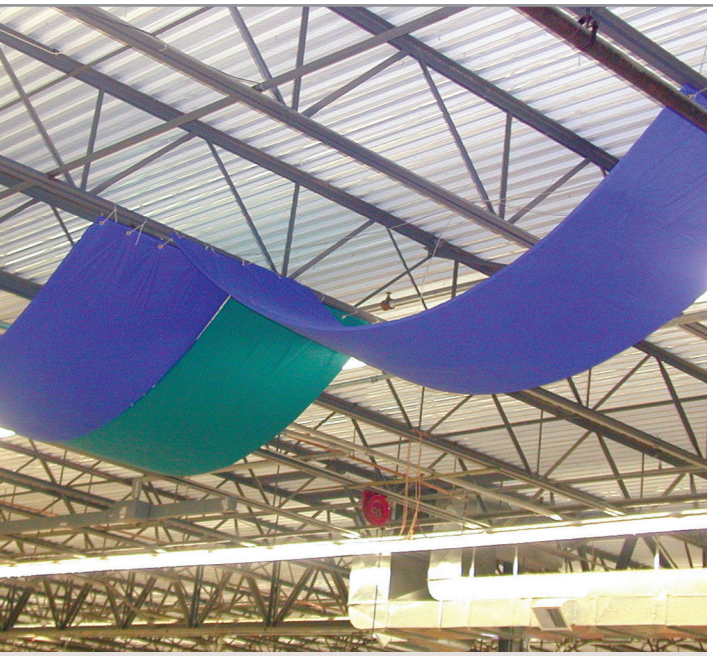
www.soundseal.com

SOUND QUALITY®
BY SOUND SEAL

SPEC DATA SHEET **SQ-119**



CATENARY ACOUSTIC BANNERS

Sound Quality® Catenary Banners are the perfect economical solution to reverberation issues for large spaces. They are easy to install horizontally with the ceiling via grommets. The Catenary Banners are custom made with a wide variety of finishes, sizes and thicknesses available.

- Low cost, economical banners
- Excellent acoustical performance
- Stitched edges for extra durability
- Custom sizing
- Easy to install
- Wide variety of finishes

THICKNESS
2" Standard (Custom Available)

SUBSTRATES
1.5# PCF Semi-Rigid Fiberglass Core, Standard

EDGE DETAIL
Stitched

FINISHES
Various finishes are available, including:
- PVC
- PVC, Perforated One Side
- Ripstop Nylon - Sailcloth
- Fabrics – Standard is Guilford of Maine

MOUNTING OPTIONS
Grommets, Nickel & Stainless Steel Available
Aluminum Stiffeners

SIZING
Custom sizes up to 4' x 25'

ACOUSTICAL

Frequency (Hz)	125	250	500	1000	2000	4000	NRC
2" w/ PVC Finish	.92	.92	1.01	.85	.38	.25	**.80**
2" w/ PVC Perforated One Side	1.04	100	.99	1.15	1.10	1.14	**1.05**
2" w/ Ripstop Nylon Finish	.89	.97	1.01	1.02	.59	.32	**.90**

FIRE RATING
All components shall have a Class A fire rating per ASTM E-84

SOUND SEAL®

www.soundseal.com