

RESOLUTION NO. 13-034

BE IT RESOLVED by the City Council of the City of Decatur Alabama, that it hereby approves the attached proposal from Jim Hall Acoustics Research to supply architectural acoustical materials for the ceiling including mounting hardware at Ingalls Harbor Pavilion; and the Mayor and the Purchasing Agent are authorized to execute on behalf of the City the necessary documents relating to the provision of such materials.

ADOPTED this 18th day of February 2013.



Jim Hall Acoustics Research

523 Cartwright Way
Greenbrier, TN 37073

Quote

Date	Quote #
11/27/2012	12

Name / Address
Decatur Parks and Recreation 610 Fourth Avenue S.E. Decatur, AL 35602

Rep	Project
JH	Ingalls Harbor Pavili...

Description	Qty	Total
Architectural Acoustical Materials: Acoustical materials for ceiling including mounting hardware. 1360 2'x4' hanging baffles, purlin clips and hanging wire. Estimated freight costs shipped 4-5 weeks delivered to: Ingalls Harbor Pavilion, 802 Wilson Street, Decatur, AL 35601		34,986.00
		1,500.00
Looking forward working with you.		Total \$36,486.00



Acoustics Design Recommendations Ingalls Harbor Pavilion - Decatur AL November 28, 2012

Executive Summary

Jim Hall Acoustics Research (JHAR) personnel traveled to the facility and gathered sound system performance and acoustics test data on location. Sophisticated state of the art digital computer FFT testing equipment was utilized to collect and analyze the data. Methods were discovered that would provide a better acoustic environment following the recommendations contained in this report.

Test Results

Sound and acoustics measurements were made at many locations throughout the room to accurately establish the existing acoustic parameters within the room. All measurements and calculations were made with the room unoccupied. Occupying the room will further reduce and control the reverberation time and increase intelligibility. Onsite testing has shown that the RT60 times of the room are in the 4.5 to 5 second range.

Discussion and Recommendations

Reverberation time (RT60) plays a very important role in the enjoyment of sound in a room. Reverberation time is a measurement of the reverberant field. (The amount of time in seconds required for sound in a room to decay 60 decibels.) RT60 times that are too long cause sound to be blurred and create an environment that requires extra strain to clearly hear and understand the spoken word and enjoy music programs. Ideal RT60 times for a combination of spoken word and music are in the range of 1.5 to 2.0 seconds.

Analysis and calculations reveal that installing approximately 1360 acoustical hanging baffles (10,000 to 11,000 sq. ft. single-side reference) in the ceiling areas of the building would lower the overall RT60 time to the 1.5 to 2.0 seconds range and correct the existing acoustic problems. The hanging baffles should be 2 ft. by 4 ft. in size, be constructed of 2 in. thick and 1½ pound density with a perforated heat sealed PVC cover or equivalent and be suspended in parallel rows below the steel decking ceiling. The hanging baffles should be attached to the bottom of the purlins with the 4 ft. long side parallel to the peak of the ceiling and running lengthwise with the room and one foot apart similar to that in Figure 1.

As a point of reference, another JHAR acoustic design project similar to Ingalls Harbor Pavilion, was implemented in the gym or multi-use facility of First Bible Church located in Decatur as shown in Figures 2 and 3. The RT60 time before treatment was in the 5-6 second range and after treatment was in the 1.5 to 2.0 second range.

Prior to implementing the solutions and recommendations discussed, it is highly recommended that a meeting or teleconference be set between facility personnel, construction personnel and JHAR personnel. In this way all recommendations will be completely understood and the best approach for implementation will be determined. The data and recommendations supplied in this report shall be for a reference only with no responsibility being assumed for improper application of the data.



Figure 1



Figure 2



Figure 3

May those that hear, Listen.®

Jim Hall Acoustics Research, LLC

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