5829 CHEVY CHASE PARKWAY, N.W.
WASHINGTON, DC 20015

May 26, 2000

OFFICE OF ZONING
2000 JUN -6 AM 10:22

Board of Zoning Adjustment
Government of the District of Columbia
441 4th Street, N.W., Suite 210
Washington, DC 20001

RE: Application No. 16561

Ladies and Gentlemen of the Board:

At the request of KressCox Associates, the architectural firm serving the Shrine of the Most Blessed Sacrament, I am writing with regard to the acoustical tests conducted by Polysonics Corporation on April 26, 2000, and reported in a letter of May 3, 2000, from Mr. George Spano of Polysonics to Mr. Chris Graae of KressCox. A copy of the letter is enclosed.

My wife and I are relatively confident that the muting of the scoreboard buzzer, adding gaskets to the gymnasium windows, keeping the windows closed, and the laminated glass shutters recommended by Polysonics will ameliorate the noise problem. These actions would respond to conditions 10a (gaskets), 10b (closed windows), the shutters requirement of 10c, and 10d (muffled horns and buzzers) of the Board's summary order of March 17, 2000.

Mr. Spano notes in his letter an important limitation of the tests that were undertaken on April 26. In section 3b (p. 2) he says–

> . . . we increased the music level to 100dBA on 4/27 to simulate a typical loud level of music. This was the loudest level we could achieve with the built in sound system and we understand that in cases of musical performance, the sound equipment is brought in that could still be higher although the sound level was measured up to 100dBA.

We believe it is important that the design of the laminated glass shutters and of other measures take into consideration the additional noise levels from the sound equipment brought in for musical events. The design should provide a shield against the louder sound and against the significant–sometimes thunderous and penetrating–low frequency component of the sound at such events. Because of the limitations of the tests performed on April 26, as explained by Mr. Spano, we believe that it is important to test the effectiveness of the laminated glass shutters once they are in place, so as to demonstrate that they provide a satisfactory shield.

BZA
Case No. 16561
Exhibit No. 38

Board of Zoning Adjustment
District of Columbia
CASE NO.16561
EXHIBIT NO.38

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I would also like again to note for the record that we very much appreciate the efforts being made by Msgr. Duffy, Pastor of the Shrine of the Most Blessed Sacrament, and by Mr. Graae and Mr. Spano to effectively overcome the long-standing noise problem.

Sincerely,

Clay H. Wellborn

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POLYSONICS CORP.
ACOUSTICAL & COMMUNICATIONS CONSULTING

8215 MacArthur Blvd. NW
Washington, DC 20016
V: (202) 244-7171
F: (202) 244-7479

10076 Tyler Place #16
Ijamsville, MD 21754
V: (301) 874-2600
F: (301) 874-3277

www.polysonics-corp.com

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3 May 2000

Mr. Chris Graae
KressCox Associates, PC
2909 M Street, NW
Washington, DC 20007

Shrine of the Most Blessed Sacrament
Sound Testing 3/30/00 and 4/26/00

Dear Mr. Graae,

This letter is to document the sound testing Polysonics conducted in your presence at the Roach Center Gym of the Shrine of the Most Blessed Sacrament on Thursday, March 30, 2000 at 7:30 PM and with the Wellborns on Wednesday, April 26. The following summarizes the conditions and our findings:

1. Existing Site Conditions
The Roach Center was built about 1965 as a two-story multipurpose facility at the eastern end of the site, adjacent to a public alley immediately along the east facade, across from which is the closest residence – the Wellborn property. The enclosed site plan Attachment A illustrates the site characteristics and actual testing locations. Roach was constructed of heavy, thick walls of stone and block with narrow vertical operable awning windows, most of which face the east side, with some smaller and fewer on the north and south sides.

2. Existing Acoustic Conditions
The primary noise complaints generated by occasional activities conducted in the evenings at the Gym have been from the east side and the adjacent Wellborn residence. These activities have been mainly dances, basketball games, and large gatherings with amplified voice and/or music. The most significant noise generators are – from highest to lesser – amplified music, the scoreboard buzzer, whistles, general crowd noise during games and basketballs bouncing.

The past conditions have been that users during these non-school hours typically have opened most, if not all, of the windows during such events – during summer and winter due to inadequate/aging mechanical systems either overheating the space in the heating season, or undercooling the space in the cooling season. Additionally, we found that the scoreboard buzzer had been set at its highest volume, substantially higher than needed for a space this size.

3. Test Mock-up Conditions
Conditions were arranged to replicate typical noise conditions in this space, with a control sample established as a baseline. Testing was done with a Type 1 precision sound level meter and calibrator at a location on the opposite side of the alley from the Gym, approximately at the Wellborn's property line. Of course this would measure the worst condition since the house is

set back in a side yard. Four conditions were to be tested:

a. Existing Ambient with No Activities – This measured the typical ambient evening noise level of the neighborhood with no activity in the Gym.
b. Typical Gym Activity with the Windows Open – Whistles, basketballs, buzzer and loud amplified music were tested individually with all windows open. Per the Wellborn's comment, we increased the music level to 100dBA on 4/27 to simulate a typical loud level of music. This was the loudest level we could achieve with the built in sound system and we understand that in cases of musical performance, the sound equipment is brought in that could still be higher although the sound level was measured up to 100 dBA.
c. Typical Gym Activity with the Windows Closed – The same whistles, basketballs, buzzer and loud amplified music were tested individually and together with all windows closed and locked.
d. Modified Gym Activity with Windows Closed – Loud music and gym activities. The buzzer was internally adjusted to reduce volume and still be very adequate.

The results of the test are shown in the table as follows:

Test #1: Existing Ambient with No Activities - traffic, dogs, aircraft 40 to 45 dBA

Test #2 & 3:

Generator	Inside Gym	Test #2 (Windows Open)	Test #3 (Windows Closed)
Buzzer	92 dBA/reduced to77 dBA on 4/27	73 dBA reduced to 63 on 4/27	56 dBA reduced to 45 dBA on 4/27
Music	96 to 100	67-74	56-62
Whistle	97 @ 10'	74	50-57
Basketball	69-70 @ 10'	56	48

4. Conclusion

The results indicate that with the simple act of ensuring that all windows are securely closed and reducing the buzzer sound level, an improvement that can be made to such an extent that even the maximum, un-modified conditions meets the District maximum sound limits for residential districts measured in the alley except the loudest music and a maximum effort whistle blow. It is important to note that the closed window condition is realistic, since it is our understanding that the Shrine intends to replace the heating and cooling systems of this building in their upcoming construction project.

Additionally, the added sound modification of reducing the buzzer sound will put the most of the sound below the 55 dBA level. The music issue is somewhat complicated since the levels are not as controlled as the buzzer. It is our view that noises generated by music should be mitigated to acceptable levels by adding a laminated storm window on the inside of the five east side

window in the gym (18" wide x 133" tall). With the inclusion of the storm window we estimate that the noise will be reduced by 50%, or 10 decibels. This would prevent opening the windows since the storms would be gasketed and screwed into place, only removable for maintenance. The remaining north/south windows must still be kept closed. These windows are up high and not accessible with out a ladder.

The Wellborn's were in agreement that the noise conditions were typically replicated at this test, and that the above measures with the Shrine's operational and monitoring commitment, should mitigate the noise problem generated by uses of this building.

Polysonics will assist with the design of the storm window and a satisfactory conclusion to this issue.

Sincerely,

George Spano
Principal Consultant

cc: Norman Glasgow, Jr. and Paul Tummonds
Wilkes, Artis, Hedrick and Lane

GS/li

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DISTRICT OF COLUMBIA
BOARD OF ZONING ADJUSTMENT
JUN -6 AM 10:22
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Fax Transmission Cover Sheet

To: Board of Zoning Adjustment

Location

Telephone Number: ( ) Fax Number: ( ) 727-4925

From Clay H. Wellborn

Location

Telephone Number: (202) 707-7545 Fax Number: ( )

* * * * * *

If there are problems in transmission:

Please call: Clay Wellborn Telephone Number: ( ) 202 707-7545

Message:

Re Application No. 16561

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