



December 19, 2012

Mr. Thomas Lai
Mr. Jeremy Tejirian
Mr. Neal Osborne
Marin County Community Development Agency
3501 Civic Center Drive, Room 308
San Rafael, CA 94903

RE: Marin Catholic High School – Football Field Grandstand Replacement Project
Design Review (13-24)
Assessor's Parcel Number 022-010-35
Project ID 12-0286

Gentlemen,

As a follow up to the Kentfield Planning Advisory Board meeting of December 12, 2012, after much discussion and at the request of many Greenbrae homeowners, Marin Catholic has agreed to the following related to the replacement sound system:

1. MCHS will consult with the Greenbrae Property Owners Association to select four locations from which to conduct a sound test of the existing public address system; and
2. Upon installation of the new system, conduct another sound test from the same four locations in order to demonstrate that sound from the new system carries less than that which it replaced.

As stated in the Grzebik Design Group letter dated August 8, 2012 submitted as part of the Design Review package (copy attached), the new system has been designed with **one primary goal**, "minimizing impact on the surrounding neighborhoods" and is designed to direct all sound to the grandstands. The system will use "short-throw, high fidelity speakers intended to work up to 40 or 50 feet". This is a large improvement over the "existing paging horns, designed to send clearly intelligible speech over long distances". Furthermore, the visitor side (Sir Francis Drake Blvd side) will have its own speaker, which will replace the current "visitor side speakers mounted to the press box aimed across the field". This current arrangement allows the sound to "continue past the visitor bleachers and into the neighborhoods behind". All speakers in the new system will be "aimed directly down onto the audience

Letter to:
Marin County Community Development Agency
December 19, 2012
Page 2

from a nearby mounting location. In no instance will speakers be aimed so they project out and across seats and on to neighborhoods beyond”.

Please note that Marin Catholic High School has always responded to noise complaints from neighbors in an expeditious and positive manner. When it received complaints about the ping of aluminum bats in the outdoor batting cage during the evening, it immediately banned the activity and when it received complaints of music during baseball practices, the sound system being used for the music was removed. The design of the replacement sound system is yet another example of Marin Catholic responding to it's neighbor's concerns.

If you have questions or comments, please communicate them to me as soon as possible. I can be reached via telephone at 415.597.8404 or email at peter@cmainscf.com.

Sincerely,



Peter McDonnell
Principal

Attachment: Grzebik Design Group Letter dated August 4, 2012 (two pages)

Cc: T. Navone, MCHS
B. Basso, MCHS
G. Isaacson, CMA
C. Ford, BRW Architects
J. Valinoti, GPOA
A. Peterson, KPAB



Conversion Management Associates, Inc.



August 8, 2012

Peter McDonnell
Conversion Management Associates, Inc.
455 Market Street, Suite 950
San Francisco, CA 94105

Re: Marin Catholic Stadium Sound System

Dear Peter,

Per your request, the design of the new sound system for the football field at Marin Catholic has been executed with one primary goal in mind, "minimizing impact on the surrounding neighborhoods". Several design approaches have been taken and technologies incorporated that differ from those present in the existing system, which will serve to reduce impact on neighboring homes.

The existing system design and equipment is typical of its age and is adequate for basic speech reinforcement, but makes no effort to contain sound only to the venue. Sound containment was likely not a consideration at the time of its design. There is much room for improvement as outlined below.

1. Loudspeaker Type

Paging horns, designed to send clearly intelligible speech over long distances, as are present in the current system, will not be used. Instead, small, short-throw, high fidelity speakers intended to work up to 40 or 50 feet will be used. Speakers of this type provide very uniform high quality sound near to the loudspeaker, but do not have the ability to focus sound for transmission over long distances.

2. Loudspeaker Placement

In the current system, all the loudspeakers are mounted to the top of the press box in a cluster type design. The new design uses numerous distributed speakers, significantly reducing the average distance between listeners and the speakers. Because the distance to the audience is less, the sound system will not need to be "turned-up" as loud to provide an adequate sound pressure level.

3. Visitor Side Speakers

Currently, the visitor side seats are covered by speakers mounted to the press box aimed across the field. With this arraignment, sound easily continues past the visitor bleachers and in to the neighborhoods behind. The new design utilizes speakers located on the visitor's side of the field for these seats. With speakers directly adjacent the visitor seats, the volume generated by the speakers will be approximately $\frac{1}{4}$ that of the speakers in the old design, further reducing leakage.



4. Loudspeaker Aiming

In all cases, the loudspeakers will be aimed directly down onto the audience from a nearby mounting location. In no instance will speakers be aimed so they project out and across seats and on to neighborhoods beyond.

5. Reflected Energy

The average mounting position for loudspeakers in the new design will be higher so that sound energy reflected off of surfaces such as the bleachers or track will on average be directed up and out of the venue more than out and across the venue and into neighborhoods.

6. Microphone and system compression

No user definable sound pressure level limits exist in the current system. The existing system relies entirely on the skill of the operator and announcer to function at a consistent volume. The new design employs a sophisticated DSP (Digital Signal Processor) that can be set to a predetermined sound level and make automatic adjustments should the operator inadvertently attempt to operate the systems louder. This will eliminate the unusually and unnecessarily loud event that may randomly occur currently.

Each of the above items represents an incremental improvement to the performance of the system as it relates to sound leakage. Sound from events held in this venue will still be audible in the surrounding neighborhoods, but it will be as little as is technically possible.

Barry Grzebik
Managing Director