WILSON IHRIG
ACOUSTICS, NOISE & VIBRATION

CALIFORNIA
WASHINGTON
NEW YORK

26 August 2019

Molly Erickson, Esq.
STAMP | ERICKSON
479 Pacific Street, Suite One
Monterey, California 93940

Subject: Monterey High School Athletic Field Improvements
Proposed Mitigated Negative Declaration
Review of Noise Impact Analysis

Dear Ms. Erickson:

As requested, we have reviewed the noise section of the *Proposed Mitigated Negative Declaration - Monterey High School Athletic Field Improvements*, EMC Planning Group, 24 July 2019 ("PMND") for the subject project proposed in Monterey, California.

Wilson, Ihrig & Associates, Acoustical Consultants, has practiced exclusively in the field of acoustics since 1966. During our 53 years of operation, we have prepared hundreds of noise studies for Environmental Impact Reports and Statements. We have one of the largest technical laboratories in the acoustical consulting industry. We also regularly utilize industry-standard acoustical programs such as Environmental Noise Model (ENM), Traffic Noise Model (TNM), SoundPLAN, and CADNA. In short, we are well qualified to prepare environmental noise studies and review studies prepared by others.

Executive Summary

In my professional opinion, the noise analysis – or, rather, lack thereof – does not support the determination that "there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent." There is no support for this determination whatsoever because the PMND does not even consider any of the foreseeable direct or attendant operational noise sources such as loudspeaker noise, crowd noise (including feet stomping on metal bleachers and air horns), band and instrument noise, or noises associated with attendees parking their cars in the surrounding neighborhoods.

The PMND does not adequately investigate, consider, disclose, assess, and/or mitigate likely potential noise impacts. Based on my initial review, in my professional opinion, noise from the

project is likely to result in substantial, or potentially substantial, adverse change to the environment.

The sole noise source the PMND does consider is construction noise, but no quantitative analysis has been made. Rather, construction noise is deemed to be mitigated by virtue of limiting (broadly) the permissible hours of construction work without regard to the actual decibel levels at any receptor. This mitigation is not adequate to reduce the noise impacts to less than significant because it does nothing to reduce the actual decibel levels. Furthermore, it does nothing to reduce total noise exposure because construction would not take place outside the broadly prescribed hours in any event.

This letter outlines the noise analysis that should have been done. This letter also presents evidence why it is likely that noise resulting from the proposed improvements to the athletic field and stadium will result in a significant, un-mitigatable noise impacts on the surrounding residential community.

Background

The existing stadium with stone bleachers was built in 1938. For the past approximately 10 or 12 years, four or five nighttime games per year have been enabled by temporary field lighting.

Neighbors of the field report that during games they can clearly hear announcements from the field's public address (PA) system, crowd cheers, band music, and air horn sounds. In the current context of primarily daytime contests and only four nighttime contests, they find this noise acceptable. However, the introduction of permanent lights will enable many more night games, practices, concerts, etc. Moreover, the project will introduce two new attendant noise sources into the area: metal bleachers which fans routinely use as a rallying noise-generator by stomping their feet and cars parked throughout the surrounding residential neighborhoods because the project will eliminate the dirt lot that currently serves as the most proximate parking lot to the stadium for hundreds of cars.

To try to comply with CEQA, the lead agency for the project (Monterey Peninsula Unified School District) developed the *Proposed Mitigated Negative Declaration - Monterey High School Athletic Field Improvements* document. Operational noise from the project's two major components – nighttime use of the existing stadium and use of the new Multi-Use Field – is not considered in any meaningful way in the PMND. Noise from the new Multi-Use Field is summarily dismissed because "it is located in an existing athletic-designated area with existing athletic-related noises". [PMND at p. 59] (Using this logic, any street could be turned into a freeway without there being any possibility of creating a significant noise impact.) Noise from the expansion or nighttime use of the existing stadium is not mentioned at all.

General Comments About Athletic Noise

Residents in the area surrounding Dan Albert Stadium at Monterey High School are not unique in their concern about sports facility noise. I have previously been involved in numerous matters in which such noise was contentious, including high school sports field developments in Albany and the Brentwood neighborhood of Los Angeles, a Little League field development in Atherton, and a batting cage in Castro Valley. Sport field noises are unnatural, unusual, in the ears of many unnecessary, and may also potentially be loud. These are all factors that many cities take into consideration when determining if a noise unreasonable and, therefore, prohibited. Many cities include in their noise control regulations a list of factors to be considered in assessing a noise impact similar to the following taken from the California Model Noise Ordinance:

1. The sound level of the objectionable noise.
2. The sound level of the ambient noise.
3. The proximity of the noise to residential sleeping facilities.
4. The nature and zoning of the area within which the noise emanates.
5. The number of persons affected by the noise source.
6. The time of day or night the noise occurs.
7. The duration of the noise and its tonal, informational, or musical content.
8. Whether the noise is continuous, recurrent, or intermittent.
9. Whether the noise is produced by a commercial or noncommercial activity.[1]

One key point of these factors is recognizing that the level of noise in decibels, while important, is not the sole factor in determining whether a noise is acceptable to the community. Given the nature of and heighted potential for annoyance from sports field noise and the foreseeable noises that the proposed project will generate, these are factors that should be considered in a fully developed Environmental Impact Report.

Temporal Assessment of Noise Impacts

Noise is fundamentally defined as "unwanted" or "undesirable" sound. As such, noise, in and of itself, cannot be quantified. While it is well established that sound levels (decibels) correlate somewhat with people perceiving a sound as "noise", the situation is much more complex than captured by typical noise ordinances and noise policies. This is not to say that the latter are not useful as public policy, rather, it is to say that limiting noise assessment to only those aspects that can be quantified is to short-change the impact assessment on those impacted.

In this matter, the addition of permanent lighting portends much more evening and nighttime games with all of their attendant sounds such as fans cheering, blowing air horns, and stomping their feet on the metal bleachers; players yelling; referees blowing whistles; and the P.A. system

[1] *Model Community Noise Control Ordinance*, Office of Noise Control, California Department of Health, April 1977.

announcing play-by-play, scores, information about the players and other upcoming events, and concession stand prices. Even evening and nighttime practices will bring coaches and players yelling and whistles, all of which is typically unwanted by residents within earshot of athletic facilities.

From the perspective of neighboring residents who predate the temporary lighting installed approximately 12 years ago, there are already four evenings per year that have been given over to football games in Dan Albert Stadium. Once the permanent lights and metal bleachers are installed, there will be no limit on the number of nights that will be disrupted by athletic and other events at the stadium, as the PMND describes no limit on the number of events.

Cautionary tales comes from the San Diego Unified School District. After installing permanent lights at Clairemont High School stadium, neighbors report that the usage increased from "five or six times a year to well over a hundred".[2] Neighbors near Point Loma High School sued San Diego Unified to block similar expansion of that school's stadium. One resident near Point Loma High School and a plaintiff in the lawsuit described the Homecoming Game – which was one of a few games already played at night under temporary lights – as "Like a carnival, with lights and noise, it's very busy." Regarding parking, the resident added, "Huge traffic problem. This neighborhood is not built for it. We're small streets."[3] Geographically, the situation around Dan Albert Stadium is similar. Neighbors over 1,000 ft from the stadium report hearing P.A. announcements clearly and air horns during the four or five yearly games that are currently played at night.[4]

In conclusion on this point, *noise* is defined as "unwanted" or "undesirable" sound. To the residents around Dan Albert Stadium, if the nighttime use is expanded beyond the four nights they already tolerate, all future, audible nighttime sounds from the stadium would be a reminder that what is now essentially a peaceful, quiet residential enclave of Monterey has been transformed into an intensive athletic and other even zone in which sports noises, music, talking, vehicles, and other sounds are pervasive. There also would be audible sounds from the additional traffic and from attendees who park in the neighborhoods as they go to and from their vehicles to attend the numerous events. Regardless of the decibel level, these audible sounds are unwanted, undesirable noise to these residents and their impact should be assessed on the marked increase in exposure time. This assessment should be prepared in addition to a quantified analysis of sound levels prepared for an Environmental Impact Report for this project, if the project proponent chooses to proceed with the project.

---

[2] Video: "Residents Near Clairemont High School Discuss the Impact of Commercialization and Lighting of the Athletic Field" [https://www.youtube.com/watch?v=tVutvv5VKas&app=desktop]

[3] "Residents suing over high school stadium upgrade", ABC New 10 San Diego, 24 June 2016 [https://www.10news.com/news/residents-suing-over-high-school-stadium-upgrade-062416]

[4] Steve Pondick (comment letter to MPUSD, 25 August 2019); Tony Tollner (comment email to MPUSD,25 August 2019), Marta Kraftzeck (comment letter to MPUSD, 21 August 2019); Susan Nine (letter to MPUSD, 22 August 2019); Molly Erickson (personal communication speaking as a resident, 19 August 2019)

Outline of Operational Noise Analysis

1. **Establish Thresholds of Significance**

Court rulings have held that the CEQA lead agency is required to "consider both the increase in noise level and the absolute noise level associated with a project" in evaluating whether a project has significant noise impacts.[5] Because the PMND has eschewed any type of technical noise analysis, there is no quantitative ambient noise level information currently available. However, residents do report that at 10 PM they can hear a lone bugler playing taps at the Presidio of Monterey which is over 3,500 feet away. Residents also report hearing the barking of the sea lions at the wharves/Coast Guard pier, which are over 3,000 feet away.[6] That and the lack of any major transportation noise sources or other operational noise sources in the immediate area indicate that the existing, nighttime ambient noise level is low. The Federal Transit Administration (FTA) characterizes the typical background noise level in a "Small Town Residential Area" as 50 dBA L_{dn}, which indicates a noise level around 50 dBA during the evening hours. Given the resident's observations, this is a reasonable estimate of the existing noise level. Pervasive noises such as those produced by events at the stadium should be considered a substantial increase and, therefore, a potentially significant noise impact if – at a minimum – 10 dB higher than that. For the purposes of this letter, I will provisionally use 60 dBA as the threshold of significance for a substantial increase in ambient noise levels.

The most pertinent absolute standards established in the local general plan or noise ordinance are the Maximum Noise Standards by Zoning District in the City of Monterey Municipal Code (Section 38-111 Performance Standards). For Residential Districts the standards are:

	7 AM – 10 PM	10 PM – 7 AM
Baseline limit	60 dBA	55 dBA
Limit for noise produced no more than a cumulative 5 minutes per hour	65 dBA	60 dBA
Limit for noise produced no more than a cumulative 1 minute per hour	70 dBA	65 dBA

Speech and music are particularly annoying to people because of the intelligibility of the content. Whereas waves, wind, and rain noises are all broadband and essentially devoid of information, speech and music are intended to communicate something to humans. Not surprisingly, humans are therefore predisposed to try to understand it. While the City of Monterey noise regulations

[5] *Keep our Mountains Quiet v. County of Santa Clara* (2015) 236 Cal.App.4th 714.

[6] Tony Tollner (email to MPUSD, 25 August 2019), Steve Pondick (letter to MPUSD, 25 August 2019); Susan Nine (letter to MPUSD, 22 August 2019); Molly Erickson speaking as a resident (personal communication, 21 August 2019)

do not include an additional penalty for speech, the noise regulations of many cities do. The California Model Noise Ordinance contains the following to address this phenomenon:

> Correction for Character Of Sound: In the event the alleged offensive noise, as judged by the Noise Control Officer, contains a steady, audible tone such as a whine, screech, or hum, or is a repetitive noise such as hammering or riveting, or contains music or speech conveying informational content, the standard limits . . . shall be reduced by 5 dB. [emphasis added]

2. Quantification and Assessment of Project Noise Levels

The expansion of Dan Albert Stadium in terms of both number of seats and time of usage would introduce many noise sources into the evening and nighttime environment around Monterey High School. Of the many sources listed elsewhere, in this section I will use as an example the one that is most easily quantified at this time: crowd cheering.

The existing home bleachers seat 1,180 people. Assuming 1/3 of the crowd cheers loudly when the Monterey High School Toreadores score or make a key play, approximately 400 people would be cheering. Further assuming that half cheering are male and half female, and that 50% are cheering with a "loud" vocal effort, 30% with a "raised" vocal effort, and 20% with a "shouting" vocal effort, I have estimated by calculation the following noise levels at three nearby residences.[7]

Address	Distance to Home Bleachers	Cheering Noise Level
699 Larkin Street	334 ft	74 dBA
29 Herrmann Drive	509 ft	71 dBA
47 Logan Lane	707 ft	69 dBA

Assuming cheering cumulatively occurs more than 1 minute but less than 5 minutes out of an hour, all of these would exceed the daytime Monterey Maximum Noise Standard by 4 to 9 dB. If the cheering occurred for more than 5 minutes, it would exceed the Monterey Maximum Noise Standard by 9 to 14 dB. In either case, cheering noise likely exceeds the existing ambient by something on the order of 20 dB, which is 10 dB greater than my provisional threshold of significance for a "substantial temporary increase" in the ambient noise level.

[7] There are hundreds of residences that can hear the nighttime noise coming from the stadium. These three are relatively close and, therefore, it is simple to estimate the noise levels at them. The area around Monterey High School is topologically complex. While the topology may reduce the noise level at some residences, many are on the hills above the school, and their elevation may cause the noise level to be higher than it would be were the area flat. This is something which should be taken into account in a full-fledged noise analysis.

In addition to the cheering noise, it is reasonable to expect that the play-by-play announcer would be describing the play and exhorting to crowd to cheer the team. This announcement would necessarily have to be at a higher level than the crowd cheer to be intelligible, which would only increase the noise level. Furthermore, fans at the Dan Albert Stadium football games in the last ten years are known to blow air horns which purposefully make a piercing noise.

Altogether, it is evident that the combined noises coming from sports events at the stadium would exceed the Monterey Maximum Noise Standards for daytime, and even more so for nighttime noises after 10 PM. Additionally, given how quiet the neighborhoods in the hills surrounding the stadium are, it is extremely likely that the cheering noise would exceed the existing evening ambient noise level by more than 10 dB, perhaps by as much as 20 dB.

This simple calculation and discussion provide substantial evidence that noise from the stadium lighting and expansion project will exceed local noise standards and substantially increase the ambient noise levels on event nights and should, therefore, be identified as a significant and unavoidable impact under CEQA. The project requires a full analysis of noise, to include the additional noise throughout the game of the loudspeaker announcements, stomping the noise made by the fans of the visiting team, and the other noise sources. The consideration of known and foreseeable noises has not yet been adequately done. A thorough noise study and assessment is an essential part of CEQA compliance for this project that is surrounded on three sides by residential neighborhoods.

Concluding Remarks

A major part of the fun of a sporting event is cheering and the amped-up feeling amongst the fans when the home team does well. That should be allowed and encouraged as long as it's done in a location that does not impact others not in attendance. That is not the situation here.

Given that a lone bugler can be heard at a distance over 3,500 feet, it is evident that cheering will be heard over a greater distance by literally thousands of residents. The brunt of the noise, however, will impact those residents in the immediate area who live on streets such as Van Buren Street, Larkin Street, Herrmann Drive, El Caminito, Martin Street, Woodcrest Lane, Logan Lane, and other streets. Not only will the game/event noise be loud at these residences, they will also have to tolerate the noise that comes from people returning to their cars, opening and closing their car doors, and then queuing up to drive from the area. On many more evenings, they will be subjected to whistles and yelling by evening and night practices.

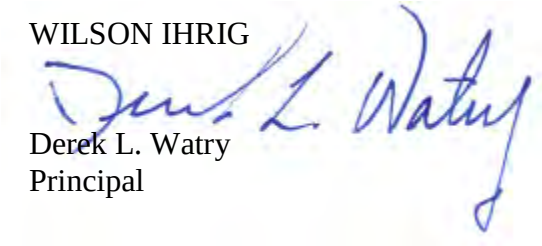
In contrast to introducing this evening and nighttime noise into the residential neighborhoods surrounding Monterey High School, from a noise perspective, continuing the current tradition of playing the larger football games at Monterey Peninsula College Track & Football Field is a far superior alternative because it is an existing facility with far fewer residential neighbors, and it is adjacent to a major transportation noise source.

* * * * *

Please let me know if you have any questions about these comments on the *Proposed Mitigated Negative Declaration - Monterey High School Athletic Field Improvements* noise determination.

Very truly yours,

WILSON IHRIG



Derek L. Watry
Principal

Attachment: Derek L. Watry C.V.

DEREK L. WATRY

Principal

Since joining Wilson Ihrig in 1992, Derek has gained experienced in many areas of practice including environmental, construction, forensic, architectural, and industrial. For all of these, he has conducted extensive field measurements, established acceptability criteria, and calculated future noise and vibration levels. In the many of these areas, he has prepared CEQA and NEPA noise technical studies and EIR/EIS sections. Derek has a thorough understanding of the technical, public relations, and political aspects of environmental noise and vibration compliance work. He has helped resolve complex community noise issues, and he has also served as an expert witness in numerous legal matters.

Education

- M.S. Mechanical Engineering, University of California, Berkeley
- B.S. Mechanical Engineering, University of California, San Diego
- M.B.A. Saint Mary's College of California

Project Experience

12th Street Reconstruction, Oakland, CA
Responsible for construction noise control plan from pile driving after City received complaints from nearby neighbors. Attendance required at community meetings.

525 Golden Gate Avenue Demolition, San Francisco, CA
Noise and vibration monitoring and consultation during demolition of a multi-story office building next to Federal, State, and Municipal Court buildings for the SFDPW.

911 Emergency Communications Center, San Francisco, CA
Technical assistance on issues relating to the demolition and construction work including vibration monitoring, developing specification and reviewing/recommending appropriate methods and equipment for demolition of Old Emergency Center for the SFDPW.

Central Contra Costa Sanitary District, Grayson Creek Sewer, Pleasant Hill, CA
Evaluation of vibration levels due to construction of new sewer line in hard soil.

City of Atascadero, Review of Walmart EIR Noise Analysis, Atascadero, CA
Review and Critique of EIR Noise Analysis for the Del Rio Road Commercial Area Specific Plan.

City of Fremont, Ongoing Environmental Services On-Call Contract, Fremont, CA
Work tasks primarily focus on noise insulation and vibration control design compliance for new residential projects and peer review other consultant's projects.

City of Fremont, Patterson Ranch EIR, Fremont, CA
Conducted noise and vibration portion of the EIR.

City of King City, Silva Ranch Annexation EIR, King City, CA
Conducted the noise portion of the EIR and assessed the suitability of the project areas for the intended development. Work included a reconnaissance of existing noise sources and receptors in and around the project areas, and long-term noise measurements at key locations.

Conoco Phillips Community Study and Expert Witness, Rodeo, CA
Investigated low frequency noise from exhaust stacks and provided expert witness services representing Conoco Phillips. Evaluated effectiveness of noise controls implemented by the refinery.

Golden Gate Park Concourse Underground Garage, San Francisco, CA
Noise and vibration testing during underground garage construction to monitor for residences and an old sandstone statue during pile driving for the City of San Francisco.

Laguna Honda Hospital, Clarendon Hall Demolition, San Francisco, CA
Project manager for performed vibration monitoring during demolition of an older wing of the Laguna Honda Hospital.

Loch Lomond Marina EIR, San Rafael, CA
Examined traffic noise impacts on existing residences for the City of San Rafael. Provided the project with acoustical analyses and reports to satisfy the requirements of Title 24.

Mare Island Dredge and Material Disposal, Vallejo, CA
EIR/EIS analysis of noise from planned dredged material off-loading operations for the City of Vallejo.

Napa Creek Vibration Monitoring Review, CA
Initially brought in to peer review construction vibration services provided by another firm, but eventually was tapped for its expertise to develop a vibration monitoring plan for construction activities near historic buildings and long-term construction vibration monitoring.

San Francisco DPW, Environmental Services On-Call, CA
Noise and vibration monitoring for such tasks as: Northshore Main Improvement project, and design noise mitigation for SOMA West Skate Park.

San Francisco PUC, Islais Creek Clean Water Program, San Francisco, CA
Community noise and vibration monitoring during construction, including several stages of pile driving. Coordination of noise and ground vibration measurements during pile driving and other construction activity to determine compliance with noise ordinance. Coordination with Department of Public Works to provide a vibration seminar for inspectors and interaction with Construction Management team and nearby businesses to resolve noise and vibration issues.

San Francisco PUC, Richmond Transport Tunnel Clean Water Program, San Francisco, CA
Environmental compliance monitoring of vibration during soft tunnel mining and boring, cut-and-cover trenching for sewer lines, hard rock tunnel blasting and site remediation. Work involved long-term monitoring of general construction activity, special investigations of groundborne vibration from pumps and bus generated ground vibration, and interaction with the public (homeowners).

Santa Clara VTA, Capitol Expressway Light Rail (CELR) Bus Rapid Transit (BRT) Update EIS, CA
Reviewed previous BRT analysis and provide memo to support EIS.

Shell Oil Refinery, Martinez, CA
Identified source of community noise complaints from tonal noise due to refinery equipment and operations. Developed noise control recommendations. Conducted round-the-clock noise measurements at nearby residence and near to the property line of the refinery and correlated results. Conducted an exhaustive noise survey of the noisier pieces of equipment throughout the refinery to identify and characterize the dominant noise sources that were located anywhere from a quarter to three-quarters of a mile away. Provided a list of actions to mitigate noise from the noisiest pieces of refinery equipment. Assisted the refinery in the selection of long-term noise monitoring equipment to be situated on the refinery grounds so that a record of the current noise environment will be documented, and future noise complaints can be addressed more efficiently.

Tyco Electronics Corporation, Annual Noise Compliance Study, Menlo Park, CA
Conducted annual noise compliance monitoring. Provided letter critiquing the regulatory requirements and recommending improvements.

University of California, San Francisco Mission Bay Campus Vibration Study, CA
Conducted measurements and analysis of ground vibration across site due to heavy traffic on Third Street. Analysis included assessment of pavement surface condition and propensity of local soil structure.