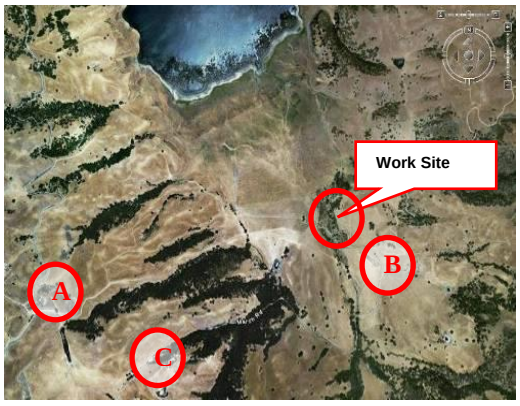
VACC, Inc. DBA
VIBRO-ACOUSTIC CONSULTANTS

Construction: noise & vibration impact planning & monitoring

Many construction projects require advance planning to manage noise and vibration impacts on adjacent communities and structures, followed by careful monitoring to avoid exceeding local regulations. We can monitor not only land-based projects, but also water-based projects such as the wildlife impact of pile-driving in bridge construction. We own and maintain a full suite of noise and vibration monitoring instruments, capable of both attended and remote operation. The remote systems can be programmed to monitor noise and vibration levels **continuously in real-time** and issue exceedance alerts via SMS message and email. Our construction services can begin at the project planning stage: our engineering staff can develop mitigation strategies to minimize the chance of unacceptable impacts. Below are some construction projects in which we performed site surveys, impact planning and real-time monitoring of noise and vibration levels.

Crystal Springs Bypass Tunnel (San Mateo County, CA): VACC is providing long-term noise and vibration monitoring and design support for the construction of a 0.8 mile tunnel. Our client is the tunneling contractor, who is obligated to provide extensive monitoring and public outreach for the project. The tunnel is part of the Hetch Hetchy pipeline upgrade for the San Francisco Public Utilities Commission (SFPUC). Our work is based on specifications provided by SFPUC for the project, and includes noise and vibration monitoring for blasting, tunnel boring machine (TBM) excavation, and typical construction activities. A design for noise barrier and mitigations was provided in the contract documents, but the contractor has asked us to perform addition barrier/mitigation design using updated data to reduce project costs and improve performance where possible.



Calaveras Dam Replacement (Alameda and Santa Clara Counties, CA): VACC performed construction noise monitoring. URS asked us to provide noise measurement and monitoring in support of the dam replacement project for SFPUC. Constructing the new dam requires excavation of earth from one side of the reservoir, near a rural residential community. We worked with URS develop a cost-effective noise spot-measurement and short-term monitoring approach that results in high-quality data to support this part of the project. As construction progresses, these data may be applied to models accounting for new activities at the site.

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Peninsula Pipelines Seismic Upgrades, SFPUC: CEQA studies for construction noise and vibration at five upgrade sites in four Bay Area municipalities. The project was complicated by the presence of a total of five jurisdictions. This required alignment of analysis methodology in the face of five separate ordinances. We authored the EIR chapter on noise and vibration and successfully accommodated major scope expansion without allowing the budget to explode.

US Army Medical Research Institute Replacement Facility (Aberdeen, MD): VACC performed environmental noise and vibration monitoring and a construction noise impact assessment for a new building site at Aberdeen Proving Ground. and artillery activities. We characterized the impact of a helipad and an adjacent Central Utilities Plant. We performed field testing to predict construction-noise impact on the training center. We found that the impact of heavy equipment could be mitigated by improvements to emergency exit doors in the training center auditorium.

University of Washington / Sound Transit Light Rail (Seattle, WA): VACC provided ongoing support and review of the vibration and noise impact from the construction and operation of a subway. The University asked us to represent their interests in this infrastructure project. We performed campus-wide environmental vibration monitoring and vibration isolation design reviews. Attention then turned to a monitoring system for operational vibration as well as construction-phase vibration and noise impact. Since the project required a tunnel boring machine (TBM) to cross campus, the UW asked us to quantify the potential vibration impact at the surface. We performed *in-situ* monitoring of TBM-generated surface vibrations in a nearby residential neighborhood. We also reviewed the construction noise impact report for the University Station Excavation Support Project.