New Construction Noise and Vibration Monitoring Technology is Shaking Things Up

Example of One Long-Term Noise and Vibration Monitoring System used by Pinchin. Photo Courtesy of Sigicom August 9, 2017

Requirements for construction noise and vibration monitoring are increasingly found in tender specifications from public organizations such as Metrolinx and the Toronto Transit Commission. Monitoring is also a more frequently required during construction projects to show compliance with municipal by-laws.

Monitoring can be accomplished using a variety of technologies. Sound level meters (SLMs) can be used for attended, in-person measurement and observation, or be deployed and left unattended for a period of days or weeks while recording anomalously high noise levels or vibration amplitudes. More complex instrumentation systems can be deployed and left unattended, with occasional maintenance, for years if necessary.

Attended, in-person measurements offer the benefit of first-hand observation of the noise levels and vibration amplitudes being documented through the use of an SLM. This short-term approach does pose potential significant costs, as a skilled professional must be onsite throughout to make such observations and operate equipment.

In circumstances where data collection is required over a period of time, it is possible to deploy an SLM to a construction site, left unattended, to gather noise level and vibration amplitude information for a period of days or weeks. Many of the newest SLMs offer the prospect of only recording events where onsite noise or vibration exceeds a predefined threshold. This allows engineers to clearly identify time intervals where unacceptable construction-site conditions may have occurred. While this approach is

often very cost-effective, it is still necessary to retrieve the data in person, resulting in costs for travel to the construction site.

For situations where data collection is required over a period of weeks, months, and even years, newer technologies offer all of the essential functionality of an SLM for measuring noise and vibration but allow for remote access of the terminals through cellular telephones, product-specific databases and accessible websites. With such remote access, it is possible to largely eliminate the costs of travel while still having confidence that project construction noise and vibration is accurately measured and under control.

Pinchin has studied these issues in depth and can support client initiatives where objective and accurate information is sought about construction noise and vibration using appropriately selected and cost-effective instrumentation solutions. For more information please contact Todd Busch at 905-363-1330 or tbusch@pinchin.com.

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