

Protecting residents from noise and vibration during major construction at Canterbury Christ Church University

March 2019



Case Study Key Facts

- Canterbury's 19th century prison is being partially demolished and converted by Christ Church University
- The EDGE Hub will add an additional 1250 graduates to the labour market by 2024
- The facility will open in 2020
- Innovative approaches to teaching will be delivered at the multi-million pound campus

For more than 50 years, Canterbury Christ Church University has been a big part of the Kent community. The educational facility opened in 1962 as a teacher training college and has since expanded to offer multi-discipline courses at both undergraduate and postgraduate level. Today, the University positions itself as a centre of research excellence, focusing on critical social issues of both national and global significance.

In 2014, the University purchased the former Canterbury Prison site as part of an ambitious redevelopment plan for their main campus. By 2020, this five-acre site will form the new Engineering, Design, Growth and Enterprise (EDGE) Hub, a state-of-the-art four storey building housing medical and mortuary teaching suites alongside engineering workshops and chemistry laboratories. In November 2018, it was announced that Gilbert-Ash would be the main contractor overseeing the project.

- Construction work taking place in a **busy, multi-purpose environment**
- Essential for noise and vibration levels to be **constantly monitored and managed**
- Imperative that breaches of upper limits were **clearly alerted**
- Highly effective monitoring **a key requirement of safety management and evidencing systems**

Monitex Noise Monitor

Benefits:

- Measuring range from 30dB to 120dB
- Built-in log that saves measurements for 90 days
- Easy wireless data transfer
- Visual alarm when hearing protection is required
- Email notification of critical alarm levels
- Adjustable alarm trigger levels

Monitex Vibration Monitor

Benefits:

- Industry-leading 5 month battery life
- GPRS modem enables remote control of monitors
- Online access and analysis
- Automatic alerts via text and email
- Web based application - no software needed

The challenge

Canterbury Christ Church University stipulated that noise and vibration levels needed to be monitored throughout demolition and construction, to protect people and buildings in the immediate vicinity of the works.

Gilbert-Ash's Project Manager sought sensitive monitoring equipment to also ensure that noise and vibration wouldn't breach limits set by the HSE. Breaching these levels would put contractors' and local residents' health at risk and could damage infrastructure, potentially delaying work on-site.

The project phase included intensive sub-structure works, piling, excavations and drainage and this complexity meant that Gilbert-Ash needed monitoring equipment that would be portable, simple to use and effective in its alerting capabilities. They engaged RVT to deliver a suitable monitoring solution.

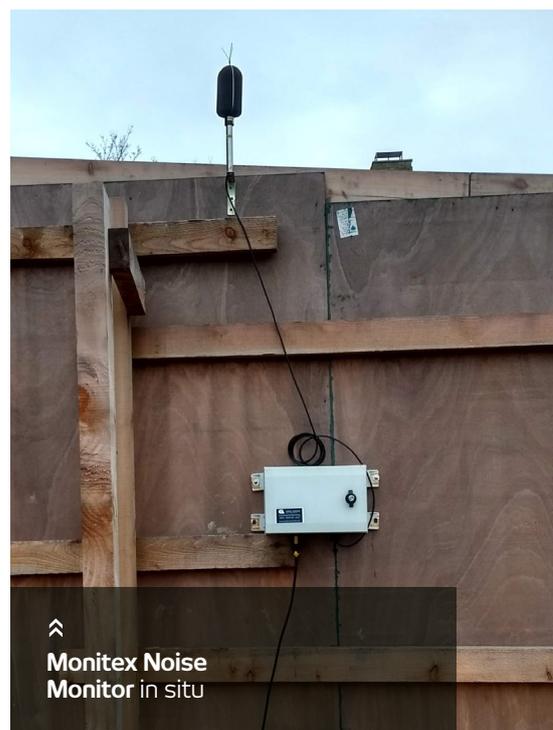
The RVT solution

RVT's recommendation was for Gilbert-Ash to use the Monitex Real Time Noise Monitor and the Monitex Vibration Monitor in tandem to fully monitor both risks. This monitoring equipment ensured that levels did not exceed the upper limits defined by the HSE. The resulting data was streamed live to a web portal, providing the Contractor with easy and accessible information.

The equipment provided simple but effective measurements of noise and vibration levels across the critical work locations, and facilitated real-time monitoring, even in harsh outdoor conditions. Setup of the instruments in optimal locations was straightforward. Both monitors automatically store data which makes them ideal for evidencing compliance. Additionally, the alerting capabilities of the Monitex Noise Monitor and the Monitex Vibration Monitor gave Gilbert-Ash the peace of mind that in the event of high levels of noise and vibration, the hazard would be instantly identified and preventative action could be taken before damage was done or complaints lodged. All these factors contributed to seamless completion of the initial stages of redevelopment.

"I was extremely pleased with the service and product RVT provided for the scheme. RVT provided an overview of the products at tender stage with a design input for best locations for the monitoring devices. RVT also provided a system that was within our allocated budget."

Project Manager, Gilbert-Ash



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**Monitex Noise
Monitor in situ**

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