

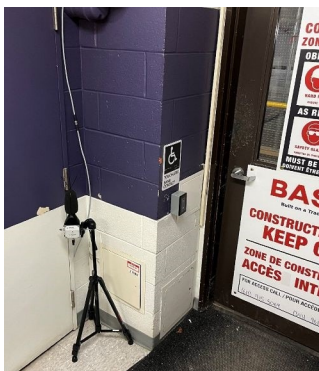
# Noise and vibration monitoring, underground parking and office floors



INFRA D10 connected to multiple sensors, to monitor sound and noise



Sparks street underground parking and office floors: monitoring noise and vibration during construction work



INFRA S50 monitoring noise

GKM Consultants was entrusted with overseeing the noise and vibration monitoring throughout the duration of a parking garage and office floors construction on Sparks Street in Ottawa. The construction schedule was thoroughly planned in stages to minimize disruptions to other areas of the premises while ensuring the safety and comfort of all occupants. The parking garage and loading dock area are expected to be closed off to the public during construction.

The requirement is to install monitoring sensors and equipment throughout the building. We submitted a vibration monitoring plan, to the satisfaction of the Departmental Representative.

The complexity of the project is that all the installations must not damage existing building fabric or structure. We have successfully installed and monitored 20 vibration sensors and 10 microphones throughout the building structure. Prior to any demolition work, GKM diligently monitored all sensors for a comprehensive week-long period and therefore were able to submit a baseline noise and vibration report for each individual sensor, preceding the commencement of the demolition.

The complexities of monitoring three underground levels necessitated an innovative approach. GKM implemented a hybrid solution, seamlessly integrating cabled and wireless systems. Leveraging cutting-edge technology such as Infra C22, Infra V12, Infra S50, and Infra D10 sensors, the team

ensured real-time monitoring capabilities that aligned perfectly with the client's specifications. The significant advantage of the infra sensors is its ease of installation. The process involved simply positioning the seismograph in a designated corner of each room, ensuring level placement, and activating the recording function. Another benefit of using Sigicom's INFRA system is the online data platform INFRA Net, offering access to the status of all units on a single remote screen. INFRA Net also collects measured data in real time, enabling the end user to download vibration data at their discretion and generate data reports. This user-friendly approach not only expedited the installation process but also minimized operational complexities.

GKM's commitment to excellence was evident during the commissioning phase. Over a few days, all units were meticulously calibrated and directly connected to a reliable power supply. This proactive measure ensured uninterrupted functionality, with provisions in place for seamless battery swaps as needed.

Through meticulous planning, innovative solutions, and unwavering dedication to quality, GKM Consultants successfully executed comprehensive vibration and noise monitoring for the parking garage repair project. Their commitment to excellence and client satisfaction set a benchmark for future projects in the construction industry.



INFRA V12 monitoring vibration