



VACC Recent Key Projects: University of Washington UW Research & Technology Building Site Vibration and Noise Monitoring Seattle, Washington

Owner
University of Washington

VACC Monitoring Scope
Environmental Noise
Ground Vibration

Project Value
\$31 Million

Design-Build Prime
M.A. Mortenson Company

Architect, Engineers
CollinsWoerman
McKinstry, DCI, KPFF, Sasco

Total Building Area
90,000 sq. ft.

The Research & Technology Building was designed for a challenging and awkwardly-shaped site: bounded by a waterfront industrial zone, bike trails, and an existing neighborhood. Notably from an environmental noise and vibration perspective, an interstate passes close to the site.

The new building was designed to serve a variety of research interests. Not only were environmental noise and vibration important to occupant comfort, but potentially critical to achieving the stable laboratory environments required by some types of research.

We performed an environmental noise and vibration assessment of the site. The noise assessment revealed significant site noise. Daytime noise levels of nearly 75dB(A) were clearly dominated by traffic noise on the I-5 overhead. The noise profile during a brief traffic break caused by an accident provided definitive evidence for the identity and magnitude of the noise source.

Additional studies were carried out with respect to ground vibration. Because facility vibration performance is limited by the ambient vibration in the site soils, our findings revealed the potential limitations of the site. A comparison of the R&T Building site to other high-end laboratory sites on the UW campus helped guide the design team in identifying uses for which the final facility performance would or would not be appropriate.

The Research & Technology building was constructed and is currently operated under an innovative funding and financial initiative. Unlike most campus buildings, the R&T Building was conceived in the “DBOM” delivery variation: Design/Build/Operate/Maintain.

