

Building Isolation for 369 Unit Apartment Complex in Brooklyn, NY



Problem:

Rising land costs for commercial and residential space within core New York City neighborhoods creates demand in new, untapped areas. In Brooklyn, new residential and mixed use developments appear almost daily. One such project is the apartment complex at 475 Clermont / 810 Fulton Street. Extending from cross-street to cross-street along Fulton, the site is immediately adjacent to an underground MTA subway line. The US Federal Transit Administration (FTA) publishes design guidelines for construction projects in this situation. The goal is to reduce the occurrence of high levels of environmental noise and vibration that bother tenants in completed buildings.

The initial acoustic survey revealed subway trains would exceed design criteria as far up as the 7th floor. Without any mitigation, subway noise and vibration would be audible and disturbing. This could impact the desirability of the units, the economics of the project for the developer and quality of the space for tenants.

The initial developer transitioned the project to a new company. With less than 4 months to go before commencement of construction, the team approached Getzner and the acoustic consultant with strong concerns about schedule, performance, and budget.

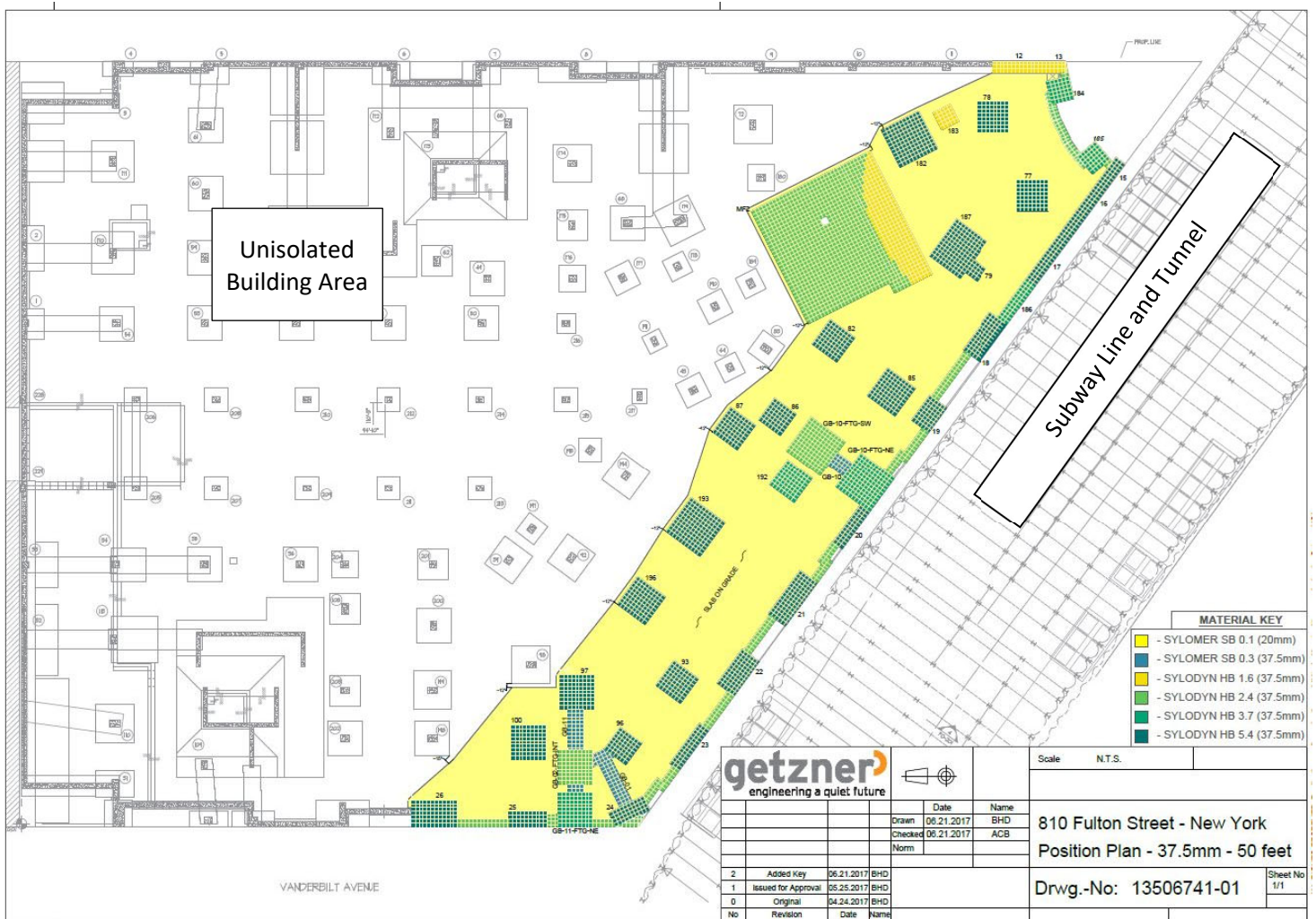
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Solution:

A short schedule, irregular plot and tight budget required a collaborative approach between the developer; Aufgang, the architect; AKRF, the acoustic consultant; and Getzner. An in-depth analysis by the acoustic consultant indicated that even though the subway tunnel was close by, only components of the building foundation within 50 ft of the line needed to be isolated.

Getzner isolation had to address multiple types of foundation elements, including mat foundation, footings, slab on grade and vertical installation against foundation walls. All had to provide sufficient performance as a failure of any one application would defeat isolation of the other elements.



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Getzner Solution

- Isolation Natural Frequency: 10.3 Hz
- Decoupled footings, mat foundation, slab on grade, foundation walls.
- Engineered solution reducing budget while maintaining required performances and schedule.

Results:

- No vibration complaints from tenants. Satisfied developer.
- No delays or extensions to construction schedule.
- Delivery of first components less than 4 months from first contact.
- Reduced costs with partial site installation.



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