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Multi-Family Dwellings

New Construction and Renovations

Acoustical Quality Issues

Acoustics are an important factor in the quality of life for residents of multi-family dwellings. The character of the interior, and exterior, soundscapes of a dwelling strongly determine a resident's perception of these spaces. The quiet enjoyment of one's home is a source of satisfaction and well being. It is also a legal right which people have come to expect. Conversely, a noisy environment in one's dwelling place can be the cause of dissatisfaction, and even serious harm for residents. Also, a noisy residential environment is very difficult to mitigate after a project is complete. For these reasons, it is imperative that the acoustical quality aspects of a dwelling be first addressed in the early concept and design phases of the project.

In order to protect the future residents from excessive and harmful noise, it is critical that diligent acoustical engineering be applied to the design of this project. Further, it is imperative that noise control designs be implemented fully and completely to be effective.

Issues that must be addressed include:

1. Site acceptability based on HUD environmental noise requirements per 24 CFR 51.103.
2. Site plan design which makes the most advantageous use of site resources to create a pleasant and satisfying exterior soundscape.
3. Interior plans which optimize unit adjacencies for maximum sound isolation.
4. Unit demising wall and floor/ceiling assembly designs which meet building code requirements and HUD guidelines for sound transmission class (STC) and impact insulation class (IIC), in order to minimize noise disturbances between adjacent dwelling units, and between dwelling units and public spaces.
5. Design for the control of noise and vibration generated by mechanical systems in the building interior spaces.
6. Design for the control of mechanical system noise at the project property line to meet code, ordinance and regulatory requirements.
7. Development of thorough specifications which embody noise goals and design requirements.
8. Construction observation, management and enforcement of specifications to ensure that acoustical project requirements are achieved as-built.

Just as a water-tight roof may not be fully appreciated until it fails, a problem-free acoustical environment will pay many dividends in resident satisfaction. The wise developer knows that planning, designing and building for acoustical quality is a "sound" investment!