Demand for rental properties is spurring an increase in multi-family housing construction across the U.S. Many of these structures employ wood-framed construction and design features that are prone to problems if not properly addressed during both design and construction. Coupled with concerns that design professionals and contractors skilled in single-family construction may be unable to make a successful transition to multi-family projects is cause for concern. Design professionals considering the growing multi-family construction market need to make sure they take steps to manage professional liability exposures.

**Client & Project Selection**
Managing risk starts with client and project selection. The Hanover has developed two risk management tools:
- Client Selection Scoreboard
- Project Metrics Scoreboard

These two comprehensive, easy-to-use checklists provide guidance that can be used in evaluating apartment clients and their projects.

**Building Site**
More and more projects are being built on “recycled” sites where the history of previous construction and usage is sketchy at best. Design professionals should resist any requests to provide the geotechnical report or perform any services related to demolition or hazardous waste removal. Assuming the vicarious liability for these subconsultants can needlessly put your insurance deductible and policy at risk. The apartment developer should contract directly for any demolition and hazardous waste removal that is needed. The apartment developer should also provide a detailed geotechnical report of the proposed site and all available information relating to previous usage.

**Codes/ADA**
Unless you are well versed in the ADA requirements and their local interpretation specifically for apartments, consider retaining someone that is. Failing to meet ADA requirements often comes down to a fraction of an inch.

**Cathedral & Vaulted Ceilings**
Condensation and moisture problems are inherent in ceilings that fit tight to the roof line. If not properly insulated and ventilated, condensation and moisture damage is likely to occur during the winter months especially in colder climates.

**Utilities**
Extending utilities to the construction site can take time and impact the project schedule. Accessible fire hydrants usually need to be in place before starting any construction above the foundation. Counsel the developer on the role that utilities play in the construction process, so a realistic timeline can be developed.
Project Schedule
Developers have a lot riding on every apartment project and there is nothing more important than completing construction on time. The developer’s marketing plan, pre-leasing and move-in dates all rely on the construction going according to plan. Therefore, the overall project schedule including design and construction timelines must be doable in a world where things rarely, if ever, go exactly as planned. Work with the developer’s contractor or seek advice from construction professional that can help the developer develop an overall project schedule.

Design-Build Subcontractors
Apartment developers often rely on subcontractors to provide the design as well as the construction for key building components including mechanical, electrical, plumbing, fire protection and life safety systems. This makes design performance requirements critically important. Design professionals must work closely with developers and their design-build contractors to clearly define the operational requirements for the apartment complex. Disputes over zoning of HVAC systems, maintenance access, and excessive noise levels are all too common and can be avoided with a detailed project program document.

Providing design-build contractors electronic files for use in preparing their design drawings can also be problematic. All design-build contractors should be required to execute an electronic file agreement that limits the design professional liability for unauthorized changes to electronic files and protection against file corruption. Additionally, design-build contractors should be experienced in apartment design and construction. Contractors moving from residential to apartment construction may not have the resources or expertise for the larger, more complex apartment market. Before signing the contract, have the developer identify their design-build contractors. These players should be required to carry appropriate professional liability insurance for their design liability exposures.

Wood Frame Construction
Apartments constructed using wood framing come with unique quality concerns. The structural integrity of the apartment and the quality of the wood framing also influences the quality of interior finishes. Out of plumb walls can impact windows, wall coverings, woodwork and door swings.

Wood is more susceptible to moisture problems than concrete or steel. The contractor should provide a moisture mitigation plan that addresses the steps that will be taken to assure that moisture is controlled including a protocol for identifying and removing water damaged wood materials. Developers also should pre-qualify contractors with special attention given to the quality of their wood framing. Apartment projects have more complex structural requirements than a typical single family dwelling. Any contractor that proposes using a framing subcontractor with limited apartment framing experience should be questioned.

Moisture Intrusion/Mold
Reducing the growth of mold during and after construction starts with addressing the issue at the very beginning of the design process. There are numerous cost and time tradeoffs that need to be considered. First and foremost is developing a design, which, if properly constructed, will minimize moisture infiltration. This includes paying close attention to the building envelope, roof, roof penetrations, skylights and windows. Using mold-resistant materials for duct chases, elevator shafts and other moisture prone areas is also a consideration.

Construction sequencing also plays a significant role in managing moisture problems and limiting mold growth. Construction schedules that have drywall and interior finishes starting when the construction is still exposed to the elements involve more risk than delaying these activities until the structure is enclosed and given ample time to “dry out.” Developers need to choose between extending the construction time or accepting the risk of increased moisture and mold. This decision is
best made with input from the general contractor or construction professional that can provide the time and cost impacts for an extended construction schedule. Design professionals, however, should not make any recommendations or warrant that any decision made by the developer will provide a solution to moisture and mold problems. There are simply too many variables outside the designer’s control to make any guarantees.

Be extremely careful not to get stuck in the middle of a dispute over who’s responsible for what someone might consider to be “excessive” mold. Savvy developers and contractors understand the risks and are skilled at deflecting the liability exposures.

Jobsite Safety
Apartment construction involves safety risks that can lead to serious jobsite injuries. Working on and around steep pitched roofs and balcony openings and erecting floor and roof joists are among some of the more hazardous tasks. Contractors that do not have or do not enforce site safety requirements put everyone at risk including the design team.

Injured employees are usually limited to benefits subscribed by state workers’ compensation regulations and are prohibited, by law, from suing their employer. This leaves the developer and design team as likely targets for a lawsuit. Developers should be encouraged to qualify apartment contractors based, in part, on their safety record. Design professionals need to be extremely careful not to assume any responsibility for anything related to jobsite safety including supervision of the work, contractor means/methods and stop work authority.

Mockups
Mocking up a typical apartment unit early-on in construction can go a long way to clearly define construction details and implement needed changes. The repetitive nature of apartment construction makes mockups well worth the effort. Solving problems once at the front end is far better than correcting the same mistake, over and over again, one apartment at a time at the back end.

Millwork
The quality of installed millwork is influenced by more than the quality of the craftsmanship. To assure good result, millwork materials should be acclimatized before installation starts. A controlled environment close to post-occupancy indoor temperature and humidity is desirable during millwork installation. A conditioned space limits excessive expansion and contraction that can lead to quality problems including open joints in millwork and buckling of wood floors.

Noise
Excessive noise is a reoccurring problem for multi-family dwellings. Retaining the services of an experienced sound consultant can go long way to avoid noise problems from occurring on your apartment projects.

Pre-installation Meetings
Even the most detailed set of construction documents benefit from meeting in the field prior to the start of key construction activities. These pre-installation meetings provide an opportunity for everyone to get on the same “sheet of music”. The responsible design professionals, general contractor, subcontractors, suppliers, superintendent, foremen and craftspeople should be in attendance. Reviewing the drawings, specifications, approved shop drawings and submittals assures there is a clear understanding of what’s required and by whom. Construction activities to consider for pre-installation meetings include:

- Waterproofing
- Framing
- Building Envelope
- Roof/Roof Penetration
- Skylights
- All flashings
- Windows

HANOVER ARCHITECTS & ENGINEERS ADVANTAGE
**Site Drainage**

Site drainage in and around apartment complexes can be tricky. Failing to consider the impacts that sidewalks, patios, barbeques, ADA ramps and playgrounds have on site drainage can lead to standing water. Design coordination is critical. To assure that all changes occurring throughout the design process are addressed, a detailed interdisciplinary review of the final design should occur before releasing the drawings for construction.

**Swimming Pools**

Swimming pools should be designed by qualified professionals experienced with the safety demands and requirements of an apartment complex. These professionals, like all consultants, should carry sufficient professional liability insurance coverage. The geotechnical report should provide definitive information relating to pool location including water table readings. Specific attention must to be given to specifying non-slip surfaces in all wet areas.

**O&M**

Many claims made against design professionals involve debates over whether the problem is design-related, faulty construction or operational and maintenance failures. To mitigate liability to these types of claims, design professionals need to “over-manage” the operational and maintenance training to assure that the owner’s maintenance staff receives adequate training. The training should address the use of chemicals for snow and ice removal on stairways, sidewalks and balconies. Advising renters of the limits put on these chemicals is important. The use of salt to melt ice should be prohibited. Videoing all training sessions is a good idea.

**Warranty-Ending Inspections**

Scheduling and conducting warranty ending inspections is good risk management. These inspections are designed to identify material and equipment problems while still under warranty and provide an opportunity for apartment owners to evaluate the adequacy of the maintenance staff.

**Invoices/Late Payments**

Development of any kind is risky. Getting paid is one of the risks. Don’t help developers finance their apartment projects. Making the situation worse, efforts to collect overdue invoices may lead to threats of a professional liability claim. Stay on top of your accounts receivables or risk the chance of having a problem collecting at the end of construction including being surprised by a questionable professional liability claim.

**Construction Phase Services**

Construction phase services are always advisable and certainly for apartment complexes. The Hanover’s “Constructing the Case for Construction Phase Services” white paper provides guidance on convincing clients of the value of construction phase services and how to deal with those that don’t see any need for your participation in the construction process.