

An "Inspection" of Transition Inspections What Are the Engineers Looking For?

By Andrew Amorosi, PE, RS

Transition is the process by which a Developer transfers ownership, governance and financial responsibility to a Community Association. Transition is the Association's opportunity to uncover potential deficiencies, and have these issues resolved before the Association becomes independent of the Developer's support, because after transition is complete, any unidentified or unresolved issues become the Association's complete responsibility. An effective transition therefore, should include thorough

inspection and associated documentation to ensure that the expenses and logistics of necessary repairs for construction deficiencies will not become a financial or operational burden for the Association.

Transition is perhaps the most crucial time for an Association to retain the services of a qualified professional engineering firm, to assist in identifying potentially large, costly issues. A qualified engineer can often detect such situations before they become obvious to the untrained individual. There are a myriad of common elements requiring inspection and testing in a typical condominium or townhome style community. At minimum, the community should ensure the following items are inspected and analyzed as part of the transition process:

- **Site grading and drainage:** These issues are among the most common initial construction deficiencies found in new communities. They are often difficult to definitively locate and identify (due to their dependence on recent sod installation and weather) and can be expensive to correct after construction is substantially complete. Nonetheless, common areas should be inspected and/or surveyed to ensure the establishment of proper grading and drainage, and the entire site, including soil characteristics, should be analyzed. (See our related article in *Engineering Matters, Drainage Deficiencies-Analysis and Repairs*, Volume 1, Issue 2.)



- **Stormwater system & components, including detention & retention facilities:** One of the most common issues found in these systems is poor drainage. Also, if such systems and facilities are not designed or constructed properly, a Community may experience future maintenance difficulty, so the inspection should ensure proper construction, location, capacity, function, and access for maintenance purposes, etc. (See our related article in *Engineering Matters, Drainage Deficiencies-Analysis and Repairs*, Volume 1, Issue 2.)

- **Concrete slabs on grade (i.e. side walks, patios, dumpster pads, etc.):** During transition, concrete installations are normally new enough that faults should not exist; if present, they are generally regarded as evidence of improper construction, materials, or workmanship. Deficiencies such as spalling, scaling, cracking, heaving, surface drainage, thickness, or potential

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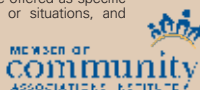
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The information presented here is for general knowledge purposes. It is not intended to be offered as specific advice for engineering projects or situations, and should not be treated as such. For specific advice or for more detailed information, please contact The Falcon Group.



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riser/tread dimensions which exceed specifications, should be identified and documented so they can be properly remedied.

• **Pavement installations (i.e. roadways, driveways, parking areas, etc.):** As with concrete slabs on grade, these installations are generally sufficiently new that failures should be regarded as very serious.

Deficiencies such as subgrade failure, settlement, raveling, cracking, improper surface drainage, thickness, etc., should be identified and documented to facilitate repair/replacement. (See our related article in *Engineering & Architecture Matters, Reconstruction of Asphalt Paving Systems: Proper Planning, Budgeting and Methods are Essential*, Volume 2, Issue 2).

• **Roofs:** Poor workmanship on roofs is generally very difficult, if not impossible, to identify without roof-level inspections, which should include all exterior roof elements. (i.e. chimney chases, exposed flues, vents, gutters, leaders, step walls, shingle installation, ice and water shield installation, etc.). Leaky roofs can lead to more than property damage; persistent moisture can lead to structural damage, and potential health hazards such as mold. (See our related article in *Engineering & Architecture Matters, Toxic Mold Environments-Is Your Building All Wet?*, Volume 3, Issue 1, and *Engineering Matters, No Margin for Error: What Associations Should Know About Roof Replacements*, Volume 1, Issue 2).



• **Foundations:** Water infiltration into basements is a serious problem but it is generally preventable. Accordingly, these inspections should include utility penetrations, wall condition, sill location/condition, adjacent grading, roof leader discharges, and floor slab conditions.

• **Stoops, decks, and balconies:** These inspections should include railings, structural support and connections, materials and attachments and stability. Decks and balconies are occasionally poorly constructed or inadequately protected against water/moisture damage, which can result in premature failure.

• **Common area landscaping:** the level of detail often limits the detail and precision of landscape inspections in the approved landscape plans. However, plantings should be inspected for size, type, location, installation and health.

• **Lighting:** Fixtures should be inspected and compared to specifications for size, type, location and proper installation. It may be useful to inspect the site after dark to determine illumination levels, coverage and "light spill" to ensure certain or all residents are not subjected to excessive light from overhead or other fixtures.

• **Building waterproofing and exterior finish materials (stucco, EIFS, and/or siding):** Due to the quality and visibility of these types of installations in most communities, issues involving the exterior finish materials can be expensive to correct. Installation and detailing should be inspected, as well as, penetrations, interface with dissimilar materials, flashings and grade clearance. (See our related article in *Engineering & Architecture Matters, Our Side of the Great Debate-Should Associations Reserve for Siding?*, Volume 3, Issue 1, and, *Engineering Matters, Synthetic Stucco-Attractive Alternative or Potential Disaster*, Volume 1, Issue 1).

• **Retaining walls:** Depending on their proximity to other structures and their accessibility, retaining wall failures can range from minor to catastrophic. Walls should be inspected for movement, settlement or deflections, stability and drainage.

• **Fences, decorative entrance structures, gazebos, stone or concrete paver walks, and other miscellaneous site structures:** should be inspected for type, sizes, condition and installation details, as well as for materials durability/maintainability.

• **Interior inspections:** should include the interior of the roof system, structural components of the unit, insulation, foundation walls and slabs in basements, any signs of settlement and proper ventilation, as well as functional HVAC and utility systems in common areas such as clubhouses. Interior inspections may also include spot testing of plumbing, wiring, or other systems, but these components are normally homeowner property and are generally not required in a transition evaluation.

• **Recreation facilities:** Buildings and sites should be analyzed in similar fashion to the items described above. All amenities, furnishings, appliances, fixtures, etc should be inspected to ensure installation and workmanship according to plans and specifications. (See our related article in *Engineering Matters-Playground Safety-Not Just for Kids: Protect Your Children and Your Association*, Volume 2, Issue 1).

Observations and inspections for all of the preceding structures and conditions should be compared to approved (site and building) design plans, code requirements and industry standards and guidelines that constitute acceptable workmanship.

There may be additional testing or destructive inspections that will need to be performed to better analyze a suspected condition. The developer should supply the Association with a complete set of design plans, as approved by the municipality, to facilitate the inspection process.

Upon conclusion of inspection, the final report should detail the analysis and findings, as well as recommendations for correcting any deficiencies. These should be reviewed with the Board, Management and Developer, and should be corrected prior to the transfer of ownership to the Association.

New Telecommunications and TV systems: Bad for Buildings?

**By J. Stewart Willis, RS
NJ Building Inspector, HHS
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Community Association residents are upgrading their telecommunications services to include high speed internet/cable, high definition television (HDTV), satellite television, fiber optic infrastructure, etc. These new high-technology services and the hardware to enjoy them have recently become more affordable for the average consumer. Correspondingly, we have seen satellite dishes, cables and wiring sprouting up. Often, wiring has been stretched across roofs, pushed through firewalls, and threaded through the roof gutters. This article reviews some of the issues we've observed, as well as some recommendations to help alleviate these concerns so that Communities can effectively balance their common interests with the desires of individual residents.

“Mounting” Pressures: Are Communities Being Wired for Trouble?

This continued embrace of technology should be viewed positively, but can lead to negative building structural, safety and aesthetic impacts. While an increasing number of new community buildings are being designed or conceived to integrate these new technologies into their building plans, the legacy design at most existing communities requires a retrofit in, and around, the existing building construction. Left unchecked, as often seems to be the case, unintended damages can be caused. Some of the more common harmful impacts are on the Community's common element weather protective envelope, its passive fire protection systems and aesthetic/curb appeal.

Occasionally, hidden plumbing and/or wiring can be severed, with consequences ranging from non-functional security systems, to plumbing leaks that can flood an interior.

Common examples of unchecked and unregulated (by the Community) telecommunications installation practices which can cause these negative outcomes include:

- Satellite dish mounts that breach a roofing system's weather protection membrane (including abandoned satellite dish mounting brackets no longer in use or lashed to a plumbing vent **Figures 1 and 2**)
- Cables pulled through opportunistic gaps in the eaves and roof edges to be run loosely across a roofing system to be reintroduced to the attic space on the other side
- Holes of various shapes and sizes punched through firewalls between dwellings in the attic space
- Loose, unorganized and unprotected cables run across a roof, or the ground, to a gap in the building siding (**Figure 3**).

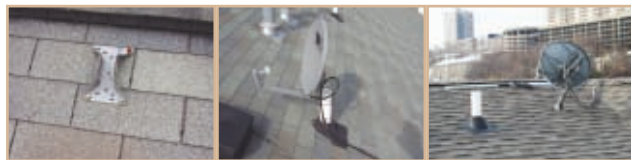


Figure 1 – Abandoned and Unsealed/Unflushed Satellite Dish Bracket. **Figure 2** – Satellite Dish Strapped to a Plastic Plumbing Vent. **Figure 3** – Unorganized Loose Cables and Satellite Equipment.

Additionally, It is not uncommon to see roof mounting brackets typically installed with screws driven directly through the roofing shingles or membranes, with or without the benefit of a dab of caulk to seal potential air or moisture leaks.

These problems are compounded by a certainty of financial costs. One such cost is that affected Communities' anticipated or planned re-roofing projects will be more costly due to the labor associated with removal/appropriate re-routing of such cabling and hardware. Additionally, some communities have incurred fines from the State Department of Community Affairs, who, during their five-year inspection process, identified violations in their regulations directly resulting from damages caused by these improper installations.

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New Telecommunications continued...

Standards, or Communications, Gap?

One reason for this proliferation of problems is that telecommunications upgrade projects are not currently regulated or inspected by local code officials, likely because the systems do not pose direct safety threats, in contrast with, as an example, an improper electrical system installation. Accordingly, telecommunications or TV retrofit projects are generally completed without guidance or inspection for adherence to appropriate standards for materials or installation. The Community Association itself may be the only entity with a vested interest in remediating these circumstances.

Good News and Practical Solutions

These unfortunate occurrences are avoidable. Products and methods exist to successfully and properly retrofit the upgrade systems and the required infrastructure, without damaging surrounding construction. Generally, the proper materials and methods add minimal cost to the project. This implies that these issues can successfully be addressed through improved communication with residents and with the provision of specific guidelines for installation methods and materials.

Certainly, Boards should check with their Attorney and Managing Agent to assure the best course of action in protecting its infrastructure while respecting resident rights. That said, we believe that Communities can, and should, take proactive measures regarding these installations, by establishing an administrative

process and technical standards to help provide a level of control during these projects.

For example, satellite dishes should be mounted to a bracket that is properly flashed into the roofing system. Traditional technologies, whether they are for heating and cooling equipment, conventional communications antennae, structural supports, etc., should be mounted to flashed mounting blocks or platforms, or use special brackets that extend up underneath roof shingles. This will prevent the creation of an opening that can be an entry point for moisture or other weather conditions. Experienced contractors in fields such as electrical supply and plumbing, generally have the knowledge and skills to maintain the integrity of fire resistant assemblies, such as firewalls or rated ceilings, by using approved firestop penetration devices and/or specially formulated fire performing materials around the penetration.

An architect or engineering professional can assist Community Associations in the development of standards and specifications which delineate the approved methods, materials, and even locations on the building, for proposed telecommunications projects, to ensure that residents can continue to enjoy these amenities. When all parties communicate and the process is carefully administered, everyone's goals can be accomplished without compromising the structural integrity of common elements, while avoiding potential negative impacts on community harmony and finances.

What's New?



The Falcon Group's new headquarters facility in Bridgewater, New Jersey.

Welcome to a new member of The Falcon Group family: **Alina Callas**, daughter of **Perry**, recently born 3/2/07

Welcome to the employees who have joined us at our New Jersey Headquarters:

Carlos Garcia: Architecture and Construction Inspections

James Milito, AIA: Architecture and Structural Evaluations

Edward Wieczorek: Construction Inspection and Analysis

Perry Callas: Site inspections and Analysis.

Welcome to our new employee who has joined us at our Philadelphia Office:

John Hoffner: Construction Inspection and Analysis.

Congratulations to **Mark McCann** on his promotion to Regional Vice President.

