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DEFICIENCY REPORT

FOR

Hiddenbrooke Condominium

Springfield, Virginia

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DEFICIENCY REPORT

INDEX

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Introduction

This introduction contains the necessary clarifications and qualifications for the Deficiency Report for the Hiddenbrooke Condominium located in Springfield, Virginia. This report will provide a narrative description of building and site components and associated deficiencies found with those elements. Excerpts from Construction Codes and manufacturers' information that support the Deficiency Report are included as an Appendix. Also included in the Appendix are the results we received from the questionnaires which were supplied to the residents.

This report and the Engineer's identification of deficiencies do not relieve the Developer from delivering a properly constructed and Code compliant facility. Such responsibility includes proper inspection and quality control procedures which remain exclusively his and do not devolve onto the Association or their consultants. The Developer is required to correct the deficient condition wherever it exists or occurs within the project. His responsibility for the correction of deficiencies is not limited to the identified locations in this report, and the Engineer is not to be considered his inspecting agent. Also, note that our scope of work is limited to a "sampling" style inspection program, the intended purpose of which is to establish and define the existence of deficiencies, not to quantify them in finite and/or comprehensive terms.

In performing this inspection, it is necessary for us to utilize plans provided by the Developer. It is not possible for us to know if these were in fact, the original plans, or if revisions of these plans were used in the construction.

Any known Code violation which remains uncorrected can be cited by the governing construction authorities, if discovered by one of their inspectors. In these situations, fines can be assessed against the Association.

The buildings were inspected to the extent possible, as limited by access. Certain limitations are inherent in an inspection at this stage of the construction. Hidden construction such as foundations and piping, gypsum board type labeling that have been covered by paint and all other aspects of the construction that require inspection during construction cannot be dealt with in this study.

All observed deficiencies are noted in this report but due to the above mentioned limitations, and the sampling procedure utilized for a transition phase inspection, the total deficient condition requires correction whether noted in this report or not. The scope of this project does not include items such as property metes and bounds, subsurface soil conditions and environmental issues.

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In the review of this complex, references may be made to the applicable Construction Building Codes, including Mechanical and Plumbing Codes, and the National Electrical Code. Specific Codes, either partially or completely, have been adopted by the governing City or Virginia County, as the governing Construction Codes. Also, references may be offered pertaining to the installation instructions, specifications, and recommendations of various manufacturers and trade associations for the products used at this complex. In instances where the above mentioned Codes are silent in respect to any material, equipment, system, or method of construction, a manufacturer's recommendation shall be considered to be accepted engineering practice. It is also necessary to establish that when the Code is silent or ambiguous on an issue, established practice is accepted as being in the public's best interest, and becomes a Code established requirement.

The defects contained in this report shall be those defects in components constituting any unit or common element which reduce the stability or safety of the structure below accepted standards or restrict normal intended use of all or part of the structure and which require repair, renovation, restoration or replacement.

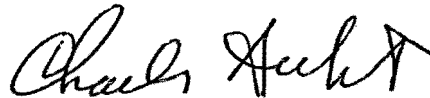
In this report examples are given of identified deficiencies. These examples are illustrations only and should not be considered inclusive of the deficiency in its entirety.

The information in this report is current as of its commencement. Becht Engineering reserves the right, upon authorization by the Condominium, to supplement this report with additional information which either becomes available, or is otherwise discovered.



William J. Hasselman
Associate
Construction Expert

December 5, 2006
Date



Charles Becht, PE
Senior Principal Engineer
VA Professional Engineer
License No. 034366

December 5, 2006
Date

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Narrative

Hiddenbrook Condominium is a 91 unit complex consisting of four, four-story buildings. Access to the complex is by Rolling Woods Court off Hunters Village Drive. Major highways serving the area include Interstates 95, 395, and 495 Beltway.

The community consists of the four buildings, 7860, 7870, 7871, and 7880, which contain dwelling units of various models and sizes. A percentage of the units have been provided with grade level garage units. Additional resident parking is provided in parking spaces throughout the community. Elevators have also been provided within the building design, and centrally located common hallways provide access to the individual dwelling unit spaces.

The dwelling units exist typically as individual one story unit spaces. Dwelling units have been provided with concrete patios or elevated wood framed balcony decks with a synthetic lumber decking surface material. Attic access is provided on the fourth floor of each building through common area hallway ceiling hatches in the stairways.

The buildings are designed as wood frame and masonry construction on reinforced concrete footings and slabs. First floor foundations consist of cast-in-place concrete slabs supported by integral and concrete/masonry footings.

The roofs are supported by prefabricated wood trusses spaced on two foot centers with plywood sheathing and composite strip shingles. Attic ventilation is achieved through the use of soffit venting provisions, ridge vents, and power vents within the roof deck. Attic space insulation is blown-in materials.

Each dwelling is provided with an individual heating and cooling system. Domestic hot water and heat are provided by gas fired water heaters located in mechanical closets on the balconies. The air handler equipment is either contained within the mechanical closets on the balconies or within a closet inside the unit. This conditioned, forced air is supplied to individual rooms by means of ductwork, insulated flexible ducting through ceilings, attic spaces, and diffusers. The air cooling system utilizes the same duct network in conjunction with individual refrigerant condenser units.

All roadways are asphalt paved and provided with concrete curb and gutter. Cast-in-place concrete sidewalks are located around the buildings where necessary to provide access.

All utility service is underground. Electrical service is from surface mounted transformers. Residences have individual gas and electric service.

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Roof drainage is provided by gutters and leaders which terminate to a storm sewer system below grade. Concrete curbing enhances street gutter drainage to storm water catch basins.

For this report, an agreed number of dwellings were selected for interior inspections. These dwellings were selected based on the results of the resident questionnaires, and input from the Board of Directors and Property Management. On August 24, 2006, interior inspections were performed at the following Unit Addresses:

7860, Unit #305
7860, Unit #407
7870, Unit #101
7870, Unit #401
7870, Unit #407
7871, Unit #302
7871, Unit #305
7871, Unit #408
7880, Unit #103
7880, Unit #308

For this study, a set of Construction Design Documents for the complex was made available for our use by the Association. The plans are entitled Hiddenbrook 510 Series, Fairfax, Virginia, prepared by The Martin Architectural Group of Philadelphia, Pennsylvania, with final permit revision on August 27, 2003. The information provided to us included the following.

Architectural – Sheets A0.01 through A9.01-1.
Structural - Sheets S2.01 through S9.05
MEP - Sheets M-1 through M-6, E-1 through E-4, and P-1 through P-11

A complete set of Site Development Plans was not provided to us for review. We were provided with a copy of one sheet entitled Site Plan - Rolling Woods, Sheet 3 of 34.

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DEFICIENCY INDEX

1. **Deficiency: Absence of Marked Fire Dampers and Access Panels in the HVAC Trunk Lines**
2. **Deficiency: Smoke Detector Placements**
3. **Deficiency: Traps Absent on Condensate Piping of HVAC System**
4. **Deficiency: Ineffective Attachment of Plumbing Pipes**
5. **Deficiency: Water Infiltration, Window/Roof Leaks**
6. **Deficiency: Absence of Arc Fault Circuit Protection**
7. **Deficiency: Improper Discharge of the HVAC System Condensate**
8. **Deficiency: Improper Termination of HWH Pressure Relief Valve Piping and Missing Drain Pan on HWH**
9. **Deficiency: Undersized Drainage Pan Provisions for HVAC Units**
10. **Deficiency: Missing Combustion Air Provisions for HWH Mechanical Closets**
11. **Deficiency: Incomplete Sprinkler Head Replacement Kit**
12. **Deficiency: Penetrations in Fire Rated Ceiling Assemblies**
13. **Deficiency: Balcony Trim Spacer Wooden Material, Not Exterior Grade**
14. **Deficiency: Improperly Sealed Duct Work Connections**
15. **Deficiency: Exposed Electrical Wires, Cover Plates Absent**
16. **Deficiency: Insulation Provisions in Attic, at Uppermost Ceiling**
17. **Deficiency: Interior Water Damage on Drywall, HVAC Equipment Closet**
18. **Deficiency: Water Infiltration in Lobby / Incomplete Repair to Drywall Ceiling**
19. **Deficiency: Improperly Installed Standing Seam Roofing, at Bay Windows**

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20. **Deficiency: Attic Deficiencies**
21. **Deficiency: Incomplete Grass Coverage**
22. **Deficiency: Roof Drainage, Guttering System Deficiencies**
23. **Deficiency: HVAC System Controls, Common Hallways**
24. **Deficiency: Shingled Roofing and Flashing Deficiencies**
25. **Deficiency: Roof Truss Installations, Un-braced Near Attic Access Hatches**
26. **Deficiency: Absence of Lighting in Attic**
27. **Deficiency: Unsealed Penetrations/Holes in Draft Stop Walls**
28. **Deficiency: Dryer Exhaust Ineffective Connections**
29. **Deficiency: Hardie-plank Installations at Rubber Roof Membrane**
30. **Deficiency: Flashing Details at Balcony Deck Membrane (Dura Deck)**
31. **Deficiency: Column Top Flashings, Absent at Balcony Decks**
32. **Deficiency: Asphalt Core Sample Results (Insufficient Compaction)**

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Deficiency Items

In addition to the narrative descriptions offered in the listing below, supportive citations from the applicable Codes and photographs of the specific items have been provided where relevant. These referenced supportive materials are included in latter sections within this report.

1. Deficiency: Absence of Marked Fire Dampers and Access Panels in the HVAC Trunk Lines

Based to inspect

Location: We were unable to confirm the presence of fire damper access panels in Unit 7871, #408. Also, all access panels observed during our inspections are not labeled. They are also not labeled on the common HVAC systems in Buildings 7871 and 7880.

Citation: Section 718.3 of the 1996 BOCA National Building Code and Section 607.1 and 607.5 of the 1996 International Mechanical Code

Comments: All HVAC systems installed in this type of construction must be provided with labeled access panels for the required fire dampers.

2. Deficiency: Smoke Detector Placements

Location: Unit 7871 #302 and Unit 7880 #103 (SEE PIC #1)

Citation: Section 920.3.2 of the 1996 BOCA National Building Code

Comments: We noted during our inspection of the two units mentioned above, that there were no smoke detectors installed in the vicinity of the bedrooms, as is required by Code.

3. Deficiency: Traps Absent on Condensate Piping of HVAC System

Based to inspect

Location: Unit 7880 #308, Unit 7881 #408, and Unit 7860 #305

Citation: Section 307.2.5 of the 1996 International Mechanical Code

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Comments: We observed that the condensate lines from the HVAC system of the dwelling units listed above were not provided with the required traps. These were noted in the HVAC systems that are installed in the interior closets of the dwelling units.

4. Deficiency: Ineffective Attachment of Plumbing Pipes

Location: Mechanical closets (examples in Unit 7860 #305, Unit 7870 #101, Unit 7871 #305), Laundry closet in Unit 7871 #302, and Common area pipes of Building 7880 (near HWH closet)

Citation: Section 8.0 of the 1996 International Plumbing Code and Section 305 of the 1996 International Mechanical Code

Comments: We noted during our inspections that the PVC piping in the mechanical closets is not secured properly. Prior to our visit, we were informed of joint fitting failures in sections of the common area piping lines in Building 7880, which resulted in major water leaks which resulted in significant damage in the hallways and units.

*Band
to inspect*

5. Deficiency: Water Infiltration, Window/Roof Leaks

Location: Unit 7860 #305 and Unit 7871 #305 (Bay windows)

Citation: Section 1405.3.10 of the 1996 BOCA National Building Code

Comments: During our inspections we were informed of water leaks at various locations. Several instances were reported at the bay window/roof areas, specifically at the units referenced above. Additional invasive inspections at these areas should be performed in order to determine that the proper flashings have been provided at the window installations and bay roof intersections with the main building wall.

6. Deficiency: Absence of Arc Fault Circuit Protection

Location: All units inspected

Citation: Section 210-12(b) of the 1996 National Electric Code

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Comments: Arch Fault Circuit Interrupters are required for receptacle outlets in all bedrooms.

*7. Delete
let owner
handle*

Deficiency: Improper Discharge of the HVAC System Condensate

Location: Unit 7871 #305 (SEE PIC #2)

Citation: Section 307.2.1 of the 1996 International Mechanical Code

Comments: In the unit referenced above, we were unable to confirm the provision of a complete condensate piping drainage system for the HVAC system. Typically, in all of the other units inspected, the condensate piping is drained independently to a separate common drain system and the HVAC drain pan is supplied with a drain or an electric float cut-off switch.

*Must
DO*

8. Deficiency: Improper Termination of Pressure Relief Valve and Missing Drain Pan on HWH

Location: At all grade level units. An example can be seen at Unit 7880 #103 (SEE PIC #3)

Citation: Section 504.6.1 and 504.7 of the 2000 International Plumbing Code

Comments: The pressure relief valve on the domestic hot water heater terminates on the closet floor at grade level units. In the event of an emergency discharge, this will cause damage to the adjacent interior areas of the unit, and or the contents of the dwelling. Also, we noted that there is no drain pan under the hot water heater. Code requires drain pans under hot water heaters and these pans must be drained to an approved drain.

9. Deficiency: Undersized Drainage Pan Provisions for HVAC Units

Location: Unit 7860 #407 and Unit 7880 #103 and Building 7870 3rd floor common HVAC system pan (SEE PIC #4)

Citation: Section 307.2.3 of the 1996 International Mechanical Code

Comments: In the two units above, we noted that the drain provisions for the HVAC pans were ineffective. In Unit 7860 #407, the pan was full of water and the

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drain outlet was clogged, due to the fact that the pan was undersized and the drain opening was principally blocked by the HVAC equipment cabinet itself. In Unit 7880 #103, we noted the drain float cut-off switch was jammed against the side of the cabinet, due to the installation of undersized auxiliary drainage pans. In the event of a condensate drainage system failure, water filling the pan would not allow the switch to function properly. In Building 7870 the pan for the HVAC system is broken/bent, allowing water to escape onto the flooring.

10. Deficiency: Missing Combustion Air Provisions for HWH Mechanical Closets

Location: All units inspected

Citation: Section 704.1 of the 1996 International Mechanical Code

Comments: We noted the lack of combustion air provisions for the mechanical closets where the gas fired hot water heater is located. Provisions must be met in order to meet Code requirements.

11. Deficiency: Incomplete Sprinkler Head Replacement Kit

Location: All common sprinkler rooms

Citation: Section 2-2.7 of the NFPA 13 Fire Protection Code

Comments: The code requires a spare sprinkler head replacement kit, complete with companion wrenches. We noted the spare sprinkler heads but the wrenches was absent in the common area sprinkler rooms.

12. Deficiency: Penetrations in Fire Rated Ceiling Assemblies

Location: Building 7880 Main Sprinkler/Gas Meter Room, Recessed Lighting Fixtures in Lobby areas of all Buildings (SEE PIC #5)

Citation: Section 714.2.6 of the 1996 BOCA National Building Code

Comments: During our inspections, we noted unsealed penetrations in the sprinkler room referenced above. We also noted recessed lighting ceiling fixtures in the dwelling units and lobby areas in all of the buildings. The ceilings in the units and common hallways have a fire rating and the Code requires specific protection

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specifications for this condition. We request confirmation of the fact that these recessed light installations are Code compliant.

13. **Deficiency: Balcony Trim Spacer Wooden Material, Not Exterior Grade**

Location: An example can be seen on Building 7860 front entry (SEE PIC #18)

Citation: Industry and Design Standards and Accepted Practices

Comments: We noted un-treated plywood installed as "packing" on the front of the balcony deck rim board trim assemblies, installed behind the PVC solid lumber trim. This plywood noted to staining and evidencing signs of premature deterioration, and is an improper material type for this use and exposure.

14. **Deficiency: Improperly Sealed Duct Work Connections**

Location: Duct work at the common HVAC systems

Citation: Industry Standards

Comments: We noted throughout the common HVAC closets of the buildings that the duct work was connected and sealed in an unworkmanlike manner. While the systems were operating, we noted air escaping from the duct work connections. All connections must be sealed effectively, so as to allow the system to function properly and efficiently.

15. **Deficiency: Exposed Electrical Wires, Cover Plates Absent**

Location: Building 7860 and 7880, at the attic light switch and in the community room mechanical closet (SEE PIC #6)

Citation: Section 300-31 of the 1996 National Electric Code

Comments: Left uncovered, these open electrical wires represent potential hazards, in the form of electrical shock and also as a fire safety risk.

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16. Deficiency: Insulation Provisions in Attic, at Uppermost Ceiling

Location: All Buildings near the attic hatch area (SEE PIC #8)

Citation: Section 723.3 and 723.3.1 of the 1996 BOCA National Building Code

Comments: We noted incomplete insulation provisions near the attic hatch area in the attic space of all buildings. Additionally, at several locations we noted exposed sprinkler pipes which must be covered effectively for freeze / break protection in these unconditioned spaces.

17. Deficiency: Interior Water Damage on Drywall, HVAC Equipment Closet

Location: Building 7860 common HVAC closet 3rd floor (SEE PIC #7)

Citation: Industry Standards

Comments: We noted mold / fungus and staining developing on the drywall in the HVAC closet near the HVAC system at the above referenced location. It appears that an undetermined water source exists in this area, which has generated the growth of mold / fungus in the affected area.. This drywall must be removed for replacement, and the moisture source must be confirmed and resolved.

18. Deficiency: Water Infiltration in Lobby / Incomplete Repair to Drywall Ceiling

Location: Building 7860 Lobby Area

Citation: Industry Standards

Comments: We were informed of a water leak in the lobby ceiling at Building 7860 that was caused by the dwelling unit above. This has since been corrected, however, the drywall repair has not been completely finished.

19. Deficiency: Improperly Installed Standing Seam Metal Roofing

Location: Building 7871 (SEE PIC #15)

Citation: Industry Standards

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Comments: We noted that the copper metal roof on this building was installed over the face of the Hardie-plank siding, and is not flashed behind. The flange of the copper metal roof is exposed and caulked to the siding. This flange is to be installed onto the building wall and then the siding installed over top of the flange.

20. **Deficiency: Attic Access Deficiencies**

A. Improper Attic Access Hatch Dimension

Location: Building 7880 4th floor stairways

Citation: Section 1211.2 of the 1996 BOCA National Building Code and Approved Architectural Plans pg A1.02 #10.5

Comments: We noted that the attic access hatch opening in this building measured 18" x 18". The Code requires an attic access opening of not less than a 22" x 30". All of the other buildings have a properly sized attic access.

B. Missing Keys for Attic Access Hatches

Location: All Buildings

Citation: Section 1211.2 of the 1996 BOCA National Building Code

Comments: All of the fire rated metal attic access hatches were not provided with turn knobs or "keys" to open the hatch in order to gain access into the attic. These hardware provisions must be in place, rendering the passages readily accessible.

C. Inoperable and / or Incomplete Draftstop Wall Passage Doors

Location: All Buildings (SEE PIC #9)

Citation: Section 717.5 of the 1996 BOCA National Building Code

Comments: Throughout our inspections of the attics, we noted that the draft stop doors do not self close properly and/or were never installed. At several locations, required passage openings have been provided, but the doors were never installed.

D. Absence of Maintenance Access Walkways and Ladders

Location: All Buildings

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Citation: Mechanical Code and Approved Architectural Plans (A2.05 Attic Notes)

Comments: According to the Approved Plans, a wood walkway above the insulation and a permanent ladder was to be installed in the attic spaces of each building to provide access to the mechanical ventilators (power vents).

21. **Deficiency: Incomplete Grass Coverage**

Location: Rear of Building 7870(condensate pipes) and dead grass at the rear of Building 7860

Citation: Industry Standards and Approved Site/Landscaping Plans

Comments: We noted the absence of an established grass cover behind Building 7870. Erosion and the loss of topsoil materials were also evidenced at this location. Additionally, the HVAC condensate pipe releases are ineffectively installed, and are contributing to the failed stabilization of grass coverage and related surface drainage issues.

22. **Deficiency: Roof Drainage, Guttering System Deficiencies**

Location: All Buildings

Citation: Construction Code and Approved Architectural Plans (A2.05)

Comments: We noted during our inspections that the installed locations of specific downspouts do not correspond with the Approved Design Plans. As an example, the plans show downspouts to be installed at both ends of the gutter above the front bay window. This is also the window/roof area which has had reports of water infiltration issues within the dwelling interiors (Deficiency #6). It is apparent that the architectural design of the roof generates a problematic area on the front of the building, where a very large roof area is drained through multiple guttering routs, and is channeled into one small gutter at the first floor level. This last element in the path is obviously overwhelmed by the compounded volume of water, and causes this gutter to overflow during normal rain events. Correction of this deficiency will require a re-design and / or reconfiguration of the gutter sizings and additional downspout re-routings.

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Additionally, we noted that the rear gutters on Building 1 are larger (6") than those on the front of the buildings. Gutter sizings are not indicated on the plans.

23. **Deficiency: HVAC System Controls in Common Hallways**

Location: All Buildings

Citation: Industry Standards

Comments: We have been informed of an excessive heating condition in the common hallways of the buildings. According to the HVAC contractors it is due to the high wattage and number of wall sconce lights in the hallways. We suggest that a further analysis of the HVAC system, including specifically the return air provisions and the system controls, to determine if there is a design or installation deficiency within the systems provided.

24. **Deficiency: Shingled Roofing, Flashing Deficiencies**

A. Improper Installation of Counter Flashing at Brick Veneer

Location: All Buildings (SEE PIC #12)

Citation: Industry Standards

Comments: The metal counter flashings on the brick veneer are face caulked to the brick face and not provided with a sealed reglet. This installation is not an approved industry standard practice, and the application of sealants across the top edge of these installations is known to be ineffective. Additionally, this sealant application is not in compliance with the product usage recommendations and requirements of the sealant manufacturers.

B. Improper Installation of Roof Step Flashing, Exposed Outside of Trim

Location: Building 7871 (SEE PIC #13)

Citation: Industry Standards

Comments: The roof step flashing is installed over the PVC solid lumber trim,

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instead of behind properly interfaced with the wall subsystem underlayments behind the outermost facing materials. This will allow water to infiltrate behind the flashing at these locations and into the building structure.

C. Protruding Nails on Roof and Unworkanlike Roof Flashings

Location: Building 7871 Elevator Vent Hood (SEE PIC #14)

Citation: Industry Standards

Comments: During our roof walk-over inspections, we noted protruding nails at the elevator vent hood installation. These nails create unprotected penetration through the roofing system, allowing water to infiltrate into the building structure. We also noted unworkmanlike shingling / flashing detailing across the top edge of the elevator vent hood, where sealant has been heavily and abnormally applied. This detailing should be re-worked in a manner compliant with the installation requirements of all of the material products involved.

25. Deficiency: Roof Truss Installations, Un-braced Near Attic Access Hatches

Location: Building 7870 and 7860

Citation: Industry Standards and Approved Structural Plans

Comments: We noted several unstable / loose roof trusses in several attic spaces near the attic hatch area. We recommend that a further investigation be performed to determine the details of the original design and installation intent for these truss installations.

26. Deficiency: Absence of Lighting in Attics

Location: Building 7860 (Corridor A)

Citation: Mechanical Code and Approved Architectural Plans (A2.05 Attic Notes)

Comments: According to the Approved Plans, lighting is to be provided in the attic spaces. During our inspections, we noted the absence of lighting in the attic of Building 7860.

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27. Deficiency: Unsealed Penetrations/Holes in Draft Stop Walls

Location: All Buildings (SEE PIC #10)

Citation: Section 721.4 of the 1996 BOCA National Building Code

Comments: We noted electrical wiring penetrations, and miscellaneous unsealed areas in the attic draft stop walls throughout the buildings. These must be sealed to prohibit the free transfer of air, so as to fully provide the proper resistance to fire transfer.

28. Deficiency: Dryer Exhaust Ducting Ineffective Connections

Location: Building 7880 Attic Space

Citation: Product Usage Requirements and Industry Standards (SEE PIC #11)

Comments: We noted ineffective piping connections for one of the dryer ducting exhaust piping installations in the attic space referenced above. This can affect the safe and proper operation of the dryer, and must be corrected.

29. Deficiency: Hardie-plank Siding Installations at Rubber Roof Membrane

Location: All Buildings (SEE PIC #16)

Citation: Product Usage Requirements and Industry Standards

Comments: We noted that where the siding on the vertical exterior walls meets the flat roof membrane, that the siding has been cut tight to the roof deck. There is also a bead of sealant at this interfacing of materials. This is not an accepted detail for this type of installation. The manufacturer of the siding material requires that a free space must be left at all base row installations, to prevent the panels from wicking up moisture from below. Additionally, the existing deficient condition is prone to entrap water behind the siding panels, promoting premature deterioration and product failures within the siding panels.

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30. Deficiency: Flashing Details at Balcony Deck Membrane (Dura Deck)

Location: An example can be seen on the front of Building 7860 above the entry (SEE PIC #17). Also, on Building 2 (7880), we have been informed of a leak from these balcony deck membranes.

Citation: Product Usage Requirements and Industry Standards

Comments: The flashing details on the balcony deck membrane are faulty at the areas beneath the door threshold. We noted that the membrane is not flashed across its top edge in this critical area. This deficient condition will allow water to infiltrate behind the membrane. Additionally, at the decks' outer corners on the building wall, the membrane is not properly flashed and counterflashed onto the brick veneer. The Dura-dek membrane product requires specific detailing and controlled installation by a certified contractor, in order for the product to have a valid warranty by the product manufacturer.

31. Deficiency: Column Top Cap Flashings, Absent at Balcony Decks

Location: An example can be seen on Building 7860 front entry

Citation: Industry Standards

Comments: We were unable to confirm the presence of any form of cap flashings at the tops of the column posts at the balcony decks. It is apparent that the existing open construction allows for direct water infiltration into the structural posing assemblies at these locations. This represents a significant concern, as load bearing assemblies which support the decks are directly involved.

32. Deficiency: Asphalt Core Sample Results (Insufficient Compaction)

Location: All Core Samples (six randomly selected locations on the site) (PIC #19)

Citation: Industry Standards

Comments: Our core samples revealed apparent deficiencies in the form of insufficient compaction during placement procedures. We noted an abnormally porous final product, with an excessive amount of voids within the wearing course. Insufficient compaction density can result in the premature deterioration of the paving, as it is vulnerable to water penetration and resultant freeze/ thaw cycling

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damages. Specific testing of the core samples will be required to scientifically determine and document the specific nature of this apparent deficiency.

Core Sample Results

Core Sample #	Base	Wearing Course
1 (Front of 7871)	2 1/4"	2 1/4"
2 (Front of 7880)	2"	2"
3 (Front of 7870)	2 3/8"	1 3/4"
4 (Driveway between 7870 and 7860)	2"	2"
5 (Front right side of 7860)	1 3/4"	2 1/4"
6 (Entrance down hill towards 7860)	2 1/4"	1 3/4"

Photographs