

Reserve Study

Heritage Woods

Durham, NC

Inspection Date:
September 22 & 23, 2008

Prepared For:
Heritage Woods Homeowners Association

Prepared By:
Raymond Engineering, Inc.
127 Persimmon Hill
Pittsboro, NC

919-942-7000
919-933-7755 Fax

Report Number:
922080501

Inspector:
Bruce Raymond, P.E.



A handwritten signature of Bruce Raymond in cursive script.

Professional Engineer's License Number: 30017



RESERVE SCOPE

The scope of the Reserve Study for the Heritage Woods community in Durham, North Carolina is based on the proposal submitted August 21, 2008. As delineated in the proposal, the study covers the following portions of the community:

- Building exteriors (painting/caulking)
- Building exteriors (painting/caulking)
 - 38 townhome buildings (172 units)
 - Roofing (all buildings)
- Grounds
 - Landscaping
 - Signage
 - Entrance
 - Retaining Walls
 - Decks
 - Mail Stations
 - Sidewalks and pavement (roads and parking lots)
 - Storm Drains
- Each deck received an individual visual inspection at no additional cost.

Excluded from the study are:

- Normal routine maintenance such as vegetation maintenance (pruning, replanting, etc.), lawn maintenance and small touch-up/repair items (some are noted in Immediate Repair section)

The property was inspected on September 22 and 23, 2008. The inspection included: examination of the exterior of the buildings (38 buildings), examination of the grounds (mail stations, retaining walls, storm drains, roadways, parking areas, landscaping, sidewalks and signage) and “walking the roofs” of the following buildings:

- Weathersfield building containing units 112-120
- Shady Springs building containing units 124-128
- Old Maple building containing units 106-112
- Long Shadow building containing units 123-133
- Timber Ridge building containing units 120-126
- Hollow Oak building containing units 116-120 & 119 & 121
- Apple Cross building containing units 119-123

CONDITIONS & ASSUMPTIONS

The study projects the cost over the next 12 years for the maintenance and the replacement of major items and systems. Routine and customary maintenance are not included. As with any study of this nature, the further into the future the study goes, the less reliable the data. Unforeseen economic events can alter costs significantly. The study is based on industry standard replacement costs (National Construction Estimator, Means Building Construction Cost Data or Means Facilities Maintenance & Repair Cost Data Publications). A flat inflation rate of 4.5% was used to project costs calculated in year 2008 dollars.

SUMMARY

Table I provides an overview of immediate repairs and reserves that will be necessary. Details are provided in Table II (Immediate Repairs) and Table III (Replacement Reserves). The roofing repairs needed at the wooden chases (chimneys) assume that all chases will need some repair.

The overall condition of Heritage Woods is good. Suggestions that will help maintain Heritage Woods, potentially reduce future costs, and that can be performed by the property owners, are provided in the Helpful Suggestions section. These are items that can extend the life of certain items, as noted. Some of the items noted are individual owner’s responsibility and are provided as an aid.

HELPFUL SUGGESTIONS

- **Observation:** Vegetation should be kept clear of the buildings. Vegetation close to buildings holds moisture close to the building, and provides an entryway for insects.



Sample of vegetation too close to buildings

- **Observation:** Many of the foundation vents were closed and some were blocked. Keeping vents opened, except in extreme cold weather, will help the crawl spaces to stay drier. This will reduce the potential of moisture damage and or mold/mildew on the floor framing.



Sample – blocked vent

- **Observation:** There were a couple of leaning exterior heat pump units. The units should be re-leveled to prevent damage to the units.



Sample – leaning unit

- **Improve:** The siding/trim in several locations is in contact with the landscape covering (mulch). The siding/ground should be modified such that there are a couple of inches of clearance between the ground and the siding. This condition may attract wood destroying insects and promote rot. The clearance will provide an inspection gap to monitor for the presence of wood destroying insects.



Sample – mulch too close to siding/trim

- **Observation:** It is assumed that screening, storm windows and doors are individual property owners' responsibility. Several screens and a couple of storm windows were missing/damaged. One storm door was noted as missing its glass.

OBSERVATION / NO REPAIR

The curbing along the side of Timber Ridge (next to Highgate Road) is cracked and missing. The slope of the grade in this area of the complex does not warrant a curb. The curb can be repaired; however, it is not a necessary repair.



Missing/broken curb, no repair necessary cover

IMMEDIATE REPAIRS

The following items are in need of immediate repair. A cost estimate is provided in Table II for each significant item. Small repairs are considered routine maintenance (typically cost less than \$500) and are not contained in Table II.

Site/Grounds

Topography/Drainage

- **Repair:** A water meter cover in front of Weathersfield Building containing Units 100-110 is missing. This is a safety issue (cover needs to be re-installed). This item is not in Table II as the water company should be responsible for replacement.



Missing cover

- **Repair:** There are open pipes in front of two buildings in Hidden Oak (building containing units 116- 119 and units 101-109). These need to be properly capped as this is a safety issue (trip hazard). There is no cost estimate for this repair, as it should be included in routine maintenance.



Pipes to be properly capped



- **Repair:** There is an open sewage pipe and erosion behind Shady Springs building containing units 130-136. This needs to be repaired as it is a safety issue. There is no cost estimate for this repair, as it should be included in routine maintenance.



Open sewage pipe and erosion

- **Repair:** Storm drains, a catch basin and a culvert need cleaning. A couple of storm drains (see below) should be cleaned (all should be checked for silt build-up). The catch basin on the downhill side of Weathersfeild building containing units 112-120 needs to be re-graded, as the catch basin lip is above grade. The exit of the culvert behind Long Shadow building containing units 141-147 should be cleaned as necessary. The collected debris will cause the drains/culverts to back up. The raised culvert will not collect water as intended.



Sample of storm drains needing cleaning:
Shady Springs
Timber Ridge



Catch basin raised lip, Weathersfield
Culvert exit needing cleaning, Long Shadow



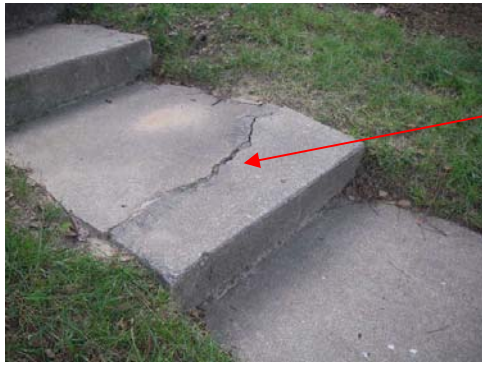
- **Repair:** The grading between Weathersfield building containing units 101 – 109 and building containing units 111 – 121 needs to be improved. The current grade directs water to building containing units 101-109.



Area to be re-graded

Pavement & Parking

- **Repair:** The sidewalk in front of Hollow Oak building containing units 106 - 114 is uneven and could be a trip hazard. The sidewalk in front of Timber Ridge building containing units 118- 126 is also cracked such that it will likely worsen over time. There is no cost estimate for this repair, as it should be included in routine maintenance.



Uneven sidewalk
Cracked sidewalk



- **Repair:** The roadways at the following locations need minor repair: lower end of Weathersfield, in front of Shady Springs building containing units 106 – 112, in front of Old Maple building containing units 100 – 104, lower end of Old Maple, in front of Long Shadow building containing units 106 – 114, in front of Timber Ridge building containing units 134 – 138, and in front of Apple Cross building containing units 101 – 105. These areas should be patched with asphalt.



Sample – areas
needing
patching:

Lower end of
Weathersfield

Shady Springs



Sample – areas
needing patching:

Old Maple

End of Old Maple



Sample – areas
needing patching:

Long Shadow

Timber Ridge





Sample – area needing patching:
Apple Cross

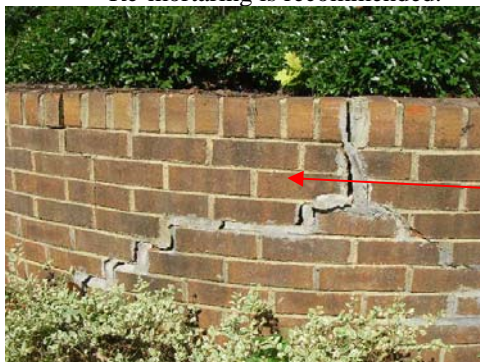
Landscaping

- **Repair:** Several mailboxes were loose to their supports. This is considered normal routine repair and is not included in Table II.
- **Repair:** The front entrance signage light on the east side is broken. This is a safety issue and should be repaired immediately. This is considered normal routine repair and is not included in Table II.



Broken light

- **Repair:** The front entrance retaining wall is in need of repair. The west wall has split and the wall is leaning. A structural repair could restore the structural integrity and avoid wall replacement. A licensed structural engineer should be consulted for repairs. Estimate in Table II assumes partial re-build with strengthening to preclude replacement of the wall. The cracking in the east side walls is more cosmetic and does not require structural repair. Re-mortaring is recommended.



Entrance wall – area needing repair
Leaning wall





Re-mortar walls



Signage

- **Repair:** The main entrance speed limit sign is loose in the ground. This should be secured. This is considered routine maintenance and is not included in Table II.

Buildings

Roofing (Gutters/Downspouts)

- **Repair:** There was drainage work in process during the inspection. Some of the downspout leaders exit into a hole placed in the soil. Drainage from the hole should be employed. This was the case in several locations throughout the complex. There were damaged leaders at other locations. It is assumed that this is work in process: all damaged leaders are being addressed and proper drainage will be added as necessary.

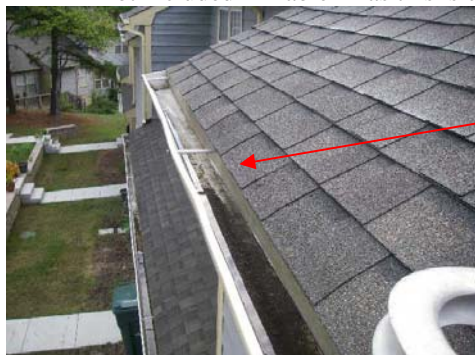


Leader existing into hole

Sample – damaged leader



- **Repair:** A qualified repair person should review the gutters and downspouts for the following: there were a couple of loose gutters, downspouts not connected to gutter, and leaders (pipes) not connected to downspouts. The cost is not included in Table II as this is considered normal maintenance.



Loose gutter

Poor downspout to piping connection





Disconnected downspout

Exterior

- **Repair:** There is a missing foundation brick in the rear of Weathersfield building containing units 111 – 121. This needs to be replaced. There is no cost estimate for this repair, as it should be included in routine maintenance.



Missing foundation brick

- **Repair:** The wooden chases (chimneys) are in need of repair. Seven roofs were inspected by walking the roofs. This allowed for close examination of 32 chases. All 32 were in need of some repair. Based on this evidence, it is assumed that all 160 chases will need some repair. While performing the inspection of the building exteriors, it was noted that there was damage (rot) at the bottom of some of the chases. This could imply that the damage travels over the entire height of the chase. The decks in these cases will need repair and, as such, chase repair of this larger magnitude is included in the deck replacement. The cost projected is based on an average cost for repair to each chase times all 160 chases. The photographs below provide a representation of the damage noted. A rough estimate of \$400 per chase was used in Table II to provide a budgetary estimate. A contractor should be contacted to quote this effort. Some chases will need extensive work and some will need minor repair.



Samples of Chase conditions:
Rot
Replaced wood, not painted





Samples of Chase conditions:
Siding rot (engineer's knife shown)
Missing siding (hand inside chase)



Samples of Chase conditions:
Tarp on chase
Damaged loose siding



- **Repair:** There are exterior repairs necessary on several buildings. In some locations, paint was applied over rotten wood (windowsills). A competent contractor should review each building and replace damaged wood. Several of the windows in the Apple Cross buildings are in need of re-glazing. This cost is included in the estimate in Table II for windows in Apple Cross building. A contractor should review and provide a quote/estimate. All buildings need some repair. A rough estimate of \$1500 per building was used in Table II to provide a budgetary estimate.

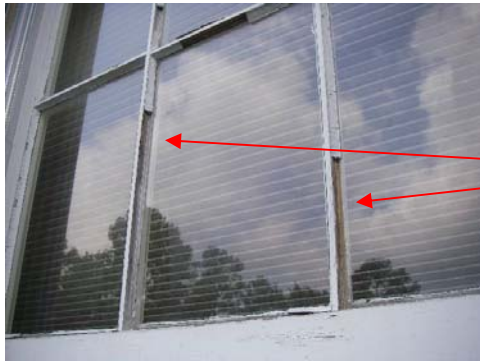


Samples of damaged exterior:
Eave end rot
Rake trim rot



Samples of damaged exterior:
Siding rot
Rotten windowsill painted





Sample – missing glazing

- **Repair:** There is cracking in the front porch of Shady Springs Unit 136 and Long Shadow Unit 129. The condition needs to be reviewed by a licensed structural engineer to determine the cause and the appropriate repair.



Cracking:
136 Shady Springs
129 Long Shadow



RESERVES

The sidewalks and stoops were reviewed as part of the property evaluation and found to be in generally good condition. Some minor repairs as noted in the immediate repair section are needed. As the reserve study is projected 12 years into the future there is no entry for sidewalks or stoops as their projected life is beyond the 12 years. However, weather events, especially severe droughts could alter this conclusion as the soil type in Heritage Woods is affected by drought conditions.

The following information is being provided to support Table III.

- The pavement is cracking in various locations. As there are several areas in the pavement needing immediate repair as noted above. Sealing the pavement is recommended to extend the life of the pavement. The sealing is recommended to be done two years out. The sealing has an average life of 5 years. Table III assumes repaving is to be performed 5 years after sealing is applied. The paving should be evaluated 5 years after sealing, as re-paving may be postponed a few years beyond the 5-year sealing life.



Sample of pavement

- The Chase (chimney) caps are heavily rusted. Painting with a rust preventative paint will extend the life and be less costly than replacement. Painting has been included in lieu of replacement.



Sample of chase cap

- Most of the decks are in need of repair or replacement. The decks were most likely constructed without proper attachment to the buildings and without proper flashing. In some cases, the attachment to the cantilever chase (chimney) was improper in that the chase was not designed for the attachment of a deck. The higher decks are not properly cross-braced. Some of the step attachments were not properly supported. Several of the original support columns are rotten. It is recommended that a separate quotation from a contractor be obtained for deck repair/replacement, as the cost can vary significantly. The reserve study assumes 152 decks will be replaced:
 - 160 Units
 - 6 units have concrete patios
 - 2 units have new decks (Shady Spring 103 & Old Maple 120)
 - 1 unit has new deck, should be replaced/repared as chase rot is visible at bottom of the chase
 - Total decks to be replaced = 160 minus 6 (patios) minus 2 new decks = 152 decks

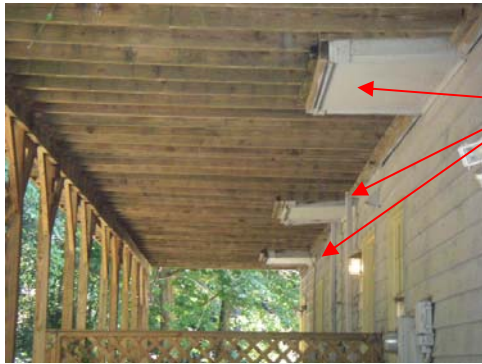
The cost projected in Table III is based on a standard cost (\$5500) to replace an average sized deck and the following assumptions.

- Decks will be replaced over a three-year period (51 decks year 1, 51 decks year 2 and 50 decks year 3)
- As the most costly decks will be replaced year 1, these decks have a 30% multiplier applied to the average cost (higher, more damage)
- The decks for year 2 have no multiplier
- The decks for year 3 have a 30% reduction as they will require the least work.



Rot in chase supporting deck
Rotten support column (engineer's knife shown)





Chases dropped due to applied deck load
Leaning step landing support



Improper lateral support (bowing column)
Lack of attached stair support



Column not resting on footer

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Table I, Reserve Summary

Client: Heritage Woods (CAS)

Survey Date: September 22/23, 2008

Address: Woodcroft

Analysis Term: 12 years

City & State: Durham, North Carolina

Buildings: 38

Item	Condition					Immediate Repairs	Reserves
	Excellent	Good	Fair	Poor	N/A		
Site/Grounds							
Topography/Drainage		✓				\$2,300.00	\$3,200.00
Pavement & Parking			✓			\$2,000.00	\$190,382.06
Landscaping		✓				\$2,600.00	
Signage		✓					\$1,200.00
Amenities			✓				\$8,400.00
Utilities					✓		
Buildings							
Roofing		✓					\$209,104.35
Exterior		✓				\$126,000.00	\$175,863.02
Decks			✓				\$856,688.46
Framing					✓		
Foundations					✓		
Basement/Attic					✓		
Interiors							
Finishes					✓		
Components					✓		
Systems							
Plumbing					✓		
HVAC					✓		
Electrical					✓		
Fire/Safety					✓		
Code Compliance							
Code Compliance					✓		
Other							

Dollars shown are current (2008) dollars

Raymond Engineering, Inc.

Table II, Immediate Repairs

Client: Heritage Woods (CAS)
 Address: Woodcroft
 City & State: Durham, North Carolina
 Buildings: 38

Survey Date: September 22/23, 2008
 Analysis Term: 12 years

Item	Recommended Work	Qty	Unit Cost	Unit Description	Est. Cost	Comments
Site/Grounds						
Topography/Drainage	Open piping					Considered Routine maintenance, see Pg 6
	Clean storm drains & culverts	8	\$200	Per catch basin/culvert	\$1,600.00	Each basin/culvert to be inspected; estimate is based on 8 (all) units needing cleaning, see Page 6/7
	Grading between buildings	1	N/A	Lot Sum	\$700.00	Grade between Weathersfield buildings, see Pg 7
Pavement & Parking	Sidewalk repair					Considered Routine maintenance, see Pg 7
	Roadway patching	7	N/A	Lot Sum	\$2,000.00	Customary minimum charge, see Page 7/8
Landscaping	Mailboxes, loose		N/A			Considered Routine maintenance, see Pg 9
	Broken entrance light		N/A			Considered Routine maintenance, see Pg 9
	Front entrance wall	1	N/A	Lot Sum	\$2,600.00	Engr Evaluation included, see Pg 9
Signage	Loose Stop Sign					Considered Routine maintenance, see Pg 10
Amenities	None					
Utilities						
Buildings						
Roofing	Gutter/downspout/Leader repair					Considered Routine maintenance, see Pg 10
Exterior	Chases (chimneys)	160	\$400	Per Chase	\$64,000.00	Budgetary estimate, see Pg 11/12
	Exterior repairs	38	\$1,500	Per building	\$57,000.00	Budgetary estimate, see Pg 12/13
	Foundation cracks	2	N/A	Lot Sum	\$5,000.00	Rough estimate, cost may be lower, need Engr evaluation, see Pg 13
Framing	None (not inspected)					
Foundations	None (not inspected)					
Basement/Attic	None (not inspected)					
ADA	None (not inspected)					
Interiors						
Finishes	None (not inspected)					
Components	None (not inspected)					
Systems						
Plumbing	None (not inspected)					
HVAC	None (not inspected)					
Electrical	None (not inspected)					
Fire/Safety	None (not inspected)					
Code Compliance						
Code Compliance	None (not inspected)					
Other						
N/A						

Total \$132,900.00
 1.25 Multiplier \$166,125.00

