

NCAHMA Spring Underwriting Forum – April 7-8, 2010 Physical Needs Assessments

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1. What is a CNA?

a) Comprehensive review of the physical condition of an existing building or buildings. The review may include an existing apartment complex or a building to be converted to housing. The assessment is known by several names including Physical Needs Assessment, Capital Needs Assessment, Comprehensive Needs Assessment and sometimes both Physical and Capital Needs Assessments.

b) Reserve for replacement study and schedule of anticipated replacement costs over a 20 year, 30 year, or longer time period.

c) CNAs are also a tool to examine the energy efficiency of an existing apartment community and a tool to optimize the ongoing energy requirements for the apartments.

2. Market Opportunities for Housing Consultants

a) **Fannie Mae Physical Needs Assessment** (HUD Mark-to-Market Program)

b) **Capital Needs Assessment** (Rural Development)¹

i) Multi-Family Housing Preservation and Revitalization Program

ii) Transfer

iii) Rehab

USDA has a comprehensive training website on preparation of RD CNAs. See:

<http://www.rurdev.usda.gov/RHS/mfh/MPR/cna-download.htm>

c) **Physical Needs Assessment** (form HUD-52832 / Comp. Grant Program)²

d) **Comprehensive Needs Assessment** (form HUD-9602 Project Profile³; form HUD-96003⁴ Project Summary; and, Unit Survey Comprehensive Needs Assessment (form HUD-96001⁵ [tenant survey]) American Recovery and Reinvestment Act of 2009 (ARRA) requires

¹ Rural Development Unnumbered Letter re: Guidance on the Capital Needs Assessment Process. This letter includes Forms and Expected Useful Life Tables developed for Fannie Mae by On-Site Insight of Needham, MA. <http://www.rurdev.usda.gov/RHS/mfh/MPR/CNA%20UL%202009-0820.pdf>

² <http://www.hud.gov/offices/adm/hudclips/guidebooks/7485.3G/74853gx4x1GUID.pdf>

³ <http://www.hud.gov/offices/adm/hudclips/forms/files/96002.pdf>

⁴ <http://www.hud.gov/offices/adm/hudclips/forms/hud9a.cfm>

⁵ <http://www.hud.gov/offices/adm/hudclips/forms/files/96001.pdf>

Public Housing Authorities to obtain Physical Needs Assessments as a condition of accepting ARRA funds.

e) **State Agency Physical / Capital Needs Assessments** (title varies) For example: Georgia DCA: Physical Needs Assessment or: Kentucky Housing Authority: Physical/Capital Needs Assessments.

3. **Provider Qualifications**

a) **Rural Development** requires that the provider “Be trained in evaluating site and building systems, health and safety conditions, physical and structural conditions, environmental and accessibility conditions, and estimating costs for repairing, replacing, and improving site and building components;” *and* “Be knowledgeable of applicable site and building standards and codes, including federal, state, and local requirements on environmental and accessibility issues.”

b) **State regulations:** Some state statutes may narrowly define the physical examination of existing buildings as the practice of architecture or engineering. When in doubt, check the state statutes or call the architectural or engineering registration boards for clarification.⁶ For example, Kentucky Housing Corporation requires that the physical needs inspector “shall be architects and/or engineers who are licensed to operate in the State of Kentucky.”

RD and many state agencies do not require professionally licensed CNA providers; however, many state housing agencies and some state statutes may define the evaluation of buildings as the practice of architecture or engineering. Market Analysts may need to add a registered architect or engineer to their team in certain states when providing capital or physical need studies. Notwithstanding the licensing requirements, market analysts are overall uniquely qualified to analyze the reserve requirements and consequences thereof in determining optimal for a to-be-renovated building. The particular skill set required for a good CNA includes an understanding of market amenities; choice of heating / cooling equipment for long-term benefit to the project as a market amenity; choice of floor coverings; project amenities (green design) and other building components that may affect the long-term marketability of the to-be-renovated project. (See the section on CNA Optimization below.)

⁶ To find state architectural registration boards, call the National Council of Architectural Registration Boards or check the agency website: <http://www.ncarb.org/>

4. How to Prepare a CNA – Based in RD’s 2009 CNA Provider Training

Project Summary

- Identification of provider, owner, and project.

Narrative

- Description of property: rehabilitated? Family or elderly? 1 or 2 story? Crawlspace or slab?
- Health and Safety issues?
- Site, Architectural and structural elements, Mechanical and Electrical systems, Dwelling Units.
- Compliance with Accessibility requirements
- If available, Owner to provide copy of Self Evaluation / Transition Plan to CNA Provider
- Environmental concerns (LBP, mold, etc.)

Recommendations

- Any professional reports necessary?
- Description of work, funding source, completion year, and total estimated costs
- CNA based on “post rehab” needs if work will begin within 12 months
- Include rehab items in 20 year CNA if appropriate
- Verify rehab items against owner’s info
- If no 3rd party funds or no rehab, “as is” CNA

Inspected Units

- List of units inspected & percentage
- HC units visited? If not, why not?
- Site
- Architectural
- Building exteriors, common areas, etc.
- Mechanical & Electrical
- Dwelling Units

Executive Summary

- Sums repair expenses
- Photos
- Pictures of apartment complex
- Item description
- Expected Useful Life (EUL)
- Age of item, material, or system
- Remaining Useful Life (RUL) / (RUL=EUL minus Age)
- Condition: Excellent, Good, Fair, or Poor

- Needed action: Repair, Replace, Maintain, Construct, or No Action
- Duration (number of years work will take)
- Quantity
- How many of the item?
- Unit (of measurement) / Each? Square foot? Linear foot?
- Unit Cost / Cost of that quantity (each, sq ft, lf)
- Multiply: Quantity x Unit Cost
- Comments or field notes relevant to report
- Capital Needs tables
- Costs sorted by year

Calculating Reserves

• Provider shall NOT analyze the adequacy of the property's existing or proposed reserve account nor its deposits (this will be addressed during underwriting)

Reserve Analysis:

Each agency has different but similar requirements. The reserve analysis consists of a list of components that should be replaced during the life of the project which are scheduled according to their Estimated Useful Life (EUL). Almost all agencies use the Expected Useful Life Tables developed for Fannie Mae by On-Site Insight of Needham, MA. For instance, appliances have an EUL of 15 years. The CNA will list the appliances (range, refrigerator, rangehood) and the present value of the replacement cost of the component to include the cost of the appliance; the installation cost; and, the removal or recycling cost of the existing appliance. The estimated present value of the replacement cost is then projected out 15 years with a yearly inflation factor (about 3%) and the reserve amount per year is then adjusted to include the cost of the replacement. So, for example, if the present value of replacement, installation and recycling of a refrigerator is \$750, the inflated cost in 15 years will \$1,065 and require a reserve in the amount of \$90 per unit or \$7.50 per month. Yearly/monthly contributions to the reserve account also accrue interest usually at the Fed Fund rate of interest.

Estimated Cost of Components:

A. One generally accepted source for estimating the cost of replacement is: RSMeans Residential Repair & Remodeling Costs 2010: Contractor's Pricing Guide. The guide includes the estimated cost of most residential building components and a schedule of *Location Factors* based on the site location. For example, the component cost is reduced to \$0.82 in Dallas and increased to \$1.34 in New York City.

B. Another, sometimes more reliable source, is the actual records from the existing project site. If the management has a documented history of acquiring replacement refrigerators for \$700, that price is usually acceptable to the agencies reviewing the CNA.

C. Finally, actual construction estimates may be used for the CNA. For instance, a paving contractor might provide an estimate for the re-paving of the existing parking lot.

5. CNA Optimization

Perhaps the most important contribution the CNA provider can make to the process is to provide a collaborative evaluation of the materials and components that are going to be part of the to-be-renovated apartment community. Design decisions regarding the amenities and components that become part of the project have a direct effect on the marketability of the project and the long term operation of the project. For instance, is gas heat or a heat pump the best choice for heating? Why? What is the economic effect of either in terms of the operating costs to the tenants (Utility Allowance) or possible increase in reserve requirements? Let's look at a few examples.

Gas Heat vs. Heat Pumps:

Heat Pump Estimated Useful Life (EUL): 15 years

Gas Furnace with Split AC (EUL): 20 years

According to the EUL Tables, the heat pump will need to be replaced in 15 years and included on the CNA. Assuming a present value replacement cost of \$3,000 for the heat pump in year 15, the reserve requirement will need to be increased by \$165 per unit per year or an additional \$14 per month. However, the increase (if any) in the UA must be considered before making this recommendation. If the UA for gas is \$14 or more than the UA for heat pumps then it is better to select heat pumps.

Capital Needs Assessment Projected Over 30-Year Term

Project: Apts \$165 Reserve/Unit/Year
 (with 3% per year increase)
 Number of Units: 1 \$0 Beginning reserve deposit
 Number of Buildings: 1
 (including the office)

No.	ITEM	EUL (1)	NET QUANTITY	UNIT COST	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15		
	HVAC	15	1	\$3,000	\$3,000																\$3,000	
Sub-Total Un-Inflated					\$3,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,000
Inflation Factor 3.0%					\$3,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,350
Per Unit					\$20	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$29

NOTES: (1) EUL: from Fannie Mae Expected Useful Life tables
 (2) RUL: Remaining Useful Life - calculated or estimated based on the expected life of the component minus the age of the item.
 (3) HVAC estimate is based on 14 SEER heat pump with gas heat backup for below-freezing outdoor temperatures.
 (4) Beginning reserve deposit based on existing reserve as of 5.29.09

Reserve Account Analysis

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
Beginning of the year balance:	\$0	\$165	\$342	\$530	\$732	\$947	\$1,176	\$1,420	\$1,680	\$1,956	\$2,249	\$2,561	\$2,892	\$3,243	\$3,615	\$4,009
Annual reserve deposits:	\$165	\$170	\$175	\$180	\$186	\$191	\$197	\$203	\$209	\$215	\$222	\$228	\$235	\$242	\$250	\$257
Withdrawal:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$4,350)
Sub-Total:	\$165	\$335	\$517	\$711	\$917	\$1,138	\$1,373	\$1,623	\$1,889	\$2,171	\$2,471	\$2,790	\$3,127	\$3,485	\$3,865	\$4,266
Annual interest on reserve account: 4%	\$0	\$7	\$14	\$21	\$29	\$38	\$47	\$57	\$67	\$78	\$90	\$102	\$116	\$130	\$145	\$160
End of the year balance:	\$165	\$342	\$530	\$732	\$947	\$1,176	\$1,420	\$1,680	\$1,956	\$2,249	\$2,561	\$2,892	\$3,243	\$3,615	\$4,009	\$77

Carpet vs. Wood or Parquet Flooring:

Carpet EUL: 7 years

Wood or Parquet Flooring: 30 years

Carpet will require an additional \$120 per year or \$10 per month increases in the CNA.

Other examples applicable to a 30 year CNA include:

Concrete pavement (30 year EUL) compared to asphalt pavement (25 year EUL).

Asphalt shingles (20 year EUL) compared to 30 year asphalt shingles or Pre-Formed metal roofing (40 years).

6. Sample CNA Spreadsheet

Capital Needs Assessment Projected Over 30-Year Term

Project: Happy Valley Apartments

\$475 Reserve/Unit/Year
(with 3% per year increase)

Term: 30-year Year 30 Balance **\$138,211**

Number of Units: 24
Number of Buildings: 5
(including the office)

\$1,711 Beginning reserve deposit

No.	ITEM	EUL (1)	RUL (2)	QUANTITY	REPLACED	NET QUANTITY	UNIT COST	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30	Total	
SITE ELEMENTS																																								
	Re-stripe parking	10		24		24	\$40	\$960											\$960																			\$1,920		
	Re-grade and landscape	15		24		24	\$200	\$4,800																\$4,800																\$4,800
	Building signage	15		24		1	\$100	\$100																\$100																\$100
	Handicap signage	20		24		4	\$100	\$400																					\$400									\$400		
	Dumpster Screening	20		24		1	\$1,500	\$1,500																					\$1,500									\$1,500		
	Concrete Dumpster Pads	20		24		1	\$2,400	\$2,400																					\$2,400									\$2,400		
	Reserve parking lots	25		24		24	\$900	\$21,600																											\$21,600			\$21,600		
EXTERIOR BUILDING ELEMENTS																																								
	Rearranging stairs	15		24		24	\$200	\$4,800																\$4,800															\$4,800	
	Exterior doors	15		24		24	\$500	\$12,000																\$12,000															\$12,000	
	Roof replacement	20		1		4	\$4,000	\$16,000																				\$16,000										\$16,000		
	HardPlank Siding	25		24		24	\$1,200	\$28,800																											\$28,800			\$28,800		
	Soffits	25		24		24	\$400	\$9,600																											\$9,600			\$9,600		
	Exterior windows	30		24		24	\$1,450	\$34,800																														\$0		
MECHANICAL & ELECTRICAL																																								
	Replace heat and air (3)	15		24		24	\$3,200	\$76,800																\$76,800															\$76,800	
	Hot water heaters	15		24		24	\$550	\$13,200																\$13,200															\$13,200	
	Range hoods	15		24		24	\$75	\$1,800																\$1,800														\$1,800		
	Exterior Lighting / Breezeways	25		24		24	\$100	\$2,400																											\$2,400			\$2,400		
	Interior Unit lighting	25		24		24	\$200	\$4,800																										\$4,800			\$4,800			
LIFE SAFETY / FIRE PROTECTION																																								
	Smoke detectors	10		24		24	\$45	\$1,080											\$1,080																			\$1,080		
INTERIOR ELEMENTS																																								
	Painting	5		24		24	\$450	\$10,800						\$10,800										\$10,800														\$10,800		
	Window coverings (miniblinds)	5		24		24	\$60	\$1,440						\$1,440										\$1,440													\$1,440			
	Bath countertops & sink	10		24		24	\$225	\$5,400																														\$5,400		
	Kitchen countertops & sink	10		24		24	\$500	\$12,000																														\$12,000		
	New door hardware	15		24		24	\$40	\$960																														\$960		
	Vinyl tile	15		24		24	\$400	\$9,600																	\$9,600													\$9,600		
	Refrigerator	15		24		24	\$650	\$15,600																	\$15,600													\$15,600		
	Stove	15		24		24	\$600	\$14,400																	\$14,400													\$14,400		
	Dishwasher	15		24		24	\$400	\$9,600																	\$9,600													\$9,600		
	Laminate wood flooring	30		24		24	\$700	\$16,800																													\$0			
	Interior doors	30		24		24	\$150	\$3,600																													\$0			
								\$338,040	\$0	\$0	\$0	\$0	\$0	\$12,240	\$0	\$0	\$0	\$0	\$31,680	\$0	\$0	\$0	\$0	\$175,900	\$0	\$0	\$0	\$0	\$51,980	\$0	\$0	\$0	\$0	\$79,440	\$0	\$0	\$0	\$0	\$351,240	
								\$338,040	\$0	\$0	\$0	\$0	\$14,443	\$0	\$0	\$0	\$0	\$0	\$0	\$42,134	\$0	\$0	\$0	\$260,332	\$0	\$0	\$0	\$0	\$84,727	\$0	\$0	\$0	\$0	\$141,403	\$0	\$0	\$0	\$0	\$543,040	
									\$2,254	\$0	\$0	\$0	\$0	\$0	\$96	\$0	\$0	\$0	\$0	\$281	\$0	\$0	\$0	\$0	\$1,736	\$0	\$0	\$0	\$0	\$565	\$0	\$0	\$0	\$0	\$943	\$0	\$0	\$0	\$3,620	

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Reserve Account Analysis

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30
Beginning of the year balance:	\$1,711	\$13,111	\$25,377	\$38,487	\$52,483	\$67,413	\$83,326	\$99,828	\$103,281	\$121,854	\$141,602	\$162,587	\$184,737	\$164,700	\$188,029	\$212,794	\$239,066	\$6,591	\$25,697	\$46,132	\$67,967	\$91,276	\$31,407	\$54,507	\$79,186	\$105,527	\$133,617	\$22,144	\$48,352	\$76,369	\$106,288
Annual reserve deposits:	\$17,400	\$17,742	\$12,094	\$12,457	\$12,821	\$13,276	\$13,812	\$14,021	\$14,441	\$14,874	\$15,321	\$15,780	\$16,254	\$16,741	\$17,244	\$17,761	\$18,294	\$18,842	\$19,408	\$19,990	\$20,590	\$21,207	\$21,844	\$22,499	\$23,174	\$23,869	\$24,585	\$25,323	\$26,082	\$26,865	\$27,671
Withdrawal:	\$0	\$0	\$0	\$0	\$0	(\$14,443)	\$0	\$0	\$0	\$0	(\$42,134)	\$0	\$0	\$0	(\$260,332)	\$0	\$0	\$0	\$0	\$0	(\$84,727)	\$0	\$0	(\$51,980)	\$0	\$0	(\$141,403)	\$0	\$0	\$0	\$0
Sub-Total:	\$13,111	\$24,853	\$37,472	\$50,944	\$65,314	\$80,629	\$82,495	\$99,848	\$117,723	\$136,728	\$156,923	\$136,233	\$158,990	\$181,441	\$205,272	\$230,554	\$2,912	\$25,433	\$45,104	\$66,122	\$88,557	\$27,756	\$53,250	\$77,006	\$102,360	\$129,396	\$16,799	\$47,467	\$74,435	\$103,234	\$133,959
Annual interest on reserve account:	4%	\$0	\$524	\$1,015	\$1,539	\$2,099	\$2,697	\$3,333	\$3,433	\$4,131	\$4,874	\$5,664	\$6,503	\$7,399	\$8,352	\$9,363	\$264	\$1,028	\$1,845	\$2,719	\$3,651	\$4,643	\$5,694	\$6,814	\$8,003	\$9,261	\$10,598	\$12,024	\$13,539	\$15,144	\$16,839
End of the year balance:	\$13,111	\$25,377	\$38,487	\$52,483	\$67,413	\$83,326	\$99,828	\$103,281	\$121,854	\$141,602	\$162,587	\$184,737	\$164,700	\$188,029	\$212,794	\$239,066	\$6,591	\$25,697	\$46,132	\$67,967	\$91,276	\$31,407	\$54,507	\$79,186	\$105,527	\$133,617	\$22,144	\$48,352	\$76,369	\$106,288	\$138,211