



Vermont Housing Finance Agency



**Vermont
Housing &
Conservation
Board**

PO Box 408, Burlington, VT 05402-0408
802 864 5743 | www.vhfa.org

149 State St., Montpelier, VT 05602
802 828 3250 | www.vhcb.org

VHFA, VHCB, DHCA (VCDP) Capital Needs Assessment Guidance July, 2007

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This document has been developed as guidance for housing developers, asset managers and property managers who rely on capital needs assessments as a tool for the long term physical health of affordable housing properties. These guidelines are divided into five (5) sections with two (2) appendices:

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VHFA, VHCB, DHCA (VCDP) Capital Needs Assessment Guidance

For the purpose of this document, capital expenses are considered expenses involving the replacement of building components over time. They are not annually recurring expenses and differ from routine building maintenance expenses in this way.

Definition of Capital vs. Maintenance Operating Expense

Capital Expense – Major capital improvements to maintain the physical integrity and upkeep of a property are usually funded from the Replacement Reserve account. Funds from this account should be restricted for uses consistent with the CNA unless otherwise approved by the funding agencies. Typical uses include : new appliances, heating equipment, hot water heaters, reroofing, exterior painting and repair, kitchen and bathroom fixtures, doors and windows, flooring, plumbing equipment, kitchen cabinetry, elevators, grounds maintenance equipment, major sitework modifications, septic/sewer line repair, sprinkler and alarm systems, electrical equipment, and similar improvements or replacements.

Maintenance Expense – any and all regular and recurring expenses associated with maintaining the physical integrity and upkeep of a property not otherwise considered a capital expense.

Capital Needs Issues to Consider During the Development Process

Several critical areas play an important role in assuring both new and existing properties are able to meet future capital replacement costs. They include:

- Annual replacement reserve deposits for **new projects** should be adequately sized based on a high quality capital needs assessment.
- When acquiring and/or rehabbing an **existing building**, the scope of rehabilitation work and CNA must be in sync so that the CNA for a rehabbed property reflects the new infrastructure and systems. This will also result in establishing accurate replacement reserve deposit levels so reserves can accumulate prior to the need for replacement of building components.
- Funds for completing the first post-construction or rehabilitation CNA should be included in the development budget.
- Accurate assumptions in the development and underwriting phase are critical to a property's ability to fund reserves in the required amount. Income, expense and trending estimates must be realistic and based on experience of asset management staff using the most similar properties' actual history.

Pre-Capitalized Reserves and Completion of Initial CNA

- The funding agencies strongly encourage and in some cases may require the capitalization of a replacement reserve account initially during the development stage in combination with required ongoing deposits in order to help match the future funds needed with actual replacement costs.
- New construction properties must complete a Capital Needs Assessment no later than six months from the date of construction completion. If a CNA has not been completed at the time the property is placed in service, a pre-capitalized reserve in the amount of \$1,000/unit is strongly recommended. If the CNA is provided at closing or construction completion, the replacement reserve deposit levels in the operating budget should reflect the amount indicated in the CNA.
- New loan/grant applications for existing buildings not undergoing substantial rehabilitation must include a CNA to support the budgeted reserve deposit levels. For the purpose of this document, substantial rehabilitation is defined as rehabilitation that involves the upgrading or replacement of the majority of building components to achieve a “like new” condition. Moderate rehabilitation is defined as selective replacement of building components that have come to the end of their useful life or are within five years of coming to the end of their useful life, or need to be upgraded to meet current building code requirements. In general, the cost of construction in a building undergoing moderate rehabilitation is less than 25% of the total development cost (consult with funders’ staff on a case by case basis).

General CNA Report Requirements

- Initial CNA’s on all projects must be completed by an approved third party who does not have an identity of interest relationship with the developer, owner or sponsor.
- Each CNA report must cover a period of twenty (20) years for both existing (rehab.) projects and new construction.
- Each CNA report must include a cash flow model, in spreadsheet format, providing an analysis of existing capital reserves and a detailed year by year schedule of expected repairs and replacement costs incurred. An inflation factor that is consistent with actual experience and historical data shall also be built into future replacement cost projections. (We recommend that an electronic copy of the spreadsheet be provided to the developer, owner or sponsor so that it can be used as an interactive record of capital costs and reserve balances moving forward.)

CNA Updates

- Each CNA must be updated every five (5) years for the life of the project. Updated CNA’s should be incorporated into the yearly annual budget process as an integral part of capital planning and should reflect any changes in federal, state or local codes which may impact on future capital needs.

Property owner/managers will have two options for fulfilling the requirement for five (5) year CNA updates:

Option 1: Owners/managers will hire a third party approved CNA provider to provide a new/updated CNA every five years.

Option 2: Owners/managers who show the interest and capacity (in the opinion of funders) to perform an “in house” CNA review and update will be permitted to do so at the 5,15,25 year review period. The requirement for a formal third party CNA will be for years 1,10,20.... Owners/managers wishing to pursue Option 2 shall perform the following:

- 1) Submit a letter of intent to the Asset Management Staff of your funding agency outlining the property to be reviewed, the name/s of the in house staff tasked with performing the review, the qualifications of this/these staff member/s to perform a CNA review, and the current reserve balance surplus/shortfall projection based on the previous formal third party CNA which is to be reviewed and updated.
- 2) In house staff in performing the CNA review/update shall assess all appropriate building systems. EUL estimates provided with these guidelines together with on site experience and other sources shall be utilized to extend the review period an additional five years maintaining a 20 year projection time horizon.
- 3) Upon completion of the update/review process a report shall be submitted to VHCB/VHFA/DHCA Asset Management staff outlining the findings of the CNA update/review together with a projection spreadsheet reflecting the new extended 20 year time horizon. This report shall be reviewed and signed by owner/manager’s Director of Asset Management (or equivalent) as well as by the owner/manager’s Executive Director.

Required Components of a Capital Needs Assessment (CNA)

An effective CNA is composed of the following elements:

The inventory component must include all of the building systems, not just those that may require attention during the twenty year report period. Any item that has recently been replaced, and may not be expected to need attention again for the next twenty years or more, should still be listed for reference. If the assessor has made an assumption that a particular item represents an operating cost concern, the analysis should be shown to facilitate discussion and remediation.

Each system or item included must have its age identified. In older properties, ages of components may not coincide with the development’s age. Ages may vary widely between items and even across a single item. i.e., Unit flooring may have been installed over a five-year period, which began eight years ago.

Expected useful life (EUL) estimates are the key to replacement timing. Capital planning is built on the idea that even systems that operate properly now will eventually fail. EULs should be adjusted from the norms found in various tables to the actual conditions at each development. EULs should be adjusted for climate, original materials and installation, maintenance practices, and resident demographic profiles. For example, elderly and family occupancy present different issues. Tables

for typical estimated useful life cycles may be found on the Fannie Mae website and are attached as Appendix II as an example.

Cost estimating is a critical part of capital planning and the CNA consultant should take into account replacement costs adjusted for the local area. The ability to adjust costs for individual building circumstances and the relative purchasing power of the developer/owner/manager are equally important. *RS Means* and *Marshall and Swift* are reliable resources for this information.

A detailed year-by-year cost summary of all of the anticipated capital needs should list not only how much needs to be spent but when. While a steady level may be desirable from a financial viewpoint, peaks and valleys will more accurately describe the real needs of the property, especially at single-building developments.

Narrative presentations should describe the current condition, maintenance history, and the rationale behind the consultant's cost and timing decisions (an Executive Summary is especially helpful). Narratives allow for a description of the cause of current problems, details on location of problems, or discussion of alternatives like rebuilding a pump motor instead of replacing the whole pump.

Photographs are required and are an invaluable tool when the report has a non-technical audience or is shared with a third party. These readers may never have been in a boiler room or crawl space and may be unfamiliar with technical terms. Photographs can also support the findings and recommendations of the consultant. Showing the extent of the siding damage or the width of the foundation cracks can overcome a lot of resistance.

Capital Need Assessments must incorporate plans to install or maintain required building code requirements and improvements required under ADA, Section 504 and/or Fair Housing Guidelines.

Optimum Energy Efficiency is critical. In today's escalating and volatile utility markets, properties must be as energy efficient as possible and meet the highest standards possible to assure long-term operating sustainability. Recommendations on energy and utility efficiency improvements must be included as an essential part of the CNA. VHCB, VHFA & VCDP Energy Standards (please refer to Efficiency Vermont's website www.encyvermont.com) should be used as a frame of reference in achieving optimum energy efficiency.

Most importantly, in order to be useful, the CNA must evaluate existing capital reserves and annual contributions to reserves against the long-term spending plan. This analysis, presented as a spreadsheet cash flow analysis, will indicate the optimum annual contribution to reserves in a way that can be convincingly presented to funding agencies. The reserve plan should reflect real life constraints that are at odds with making the "optimum" contribution. Please go to www.on-site-insight.com, www.freddiemac.com/multifamily/mf_forms/pdf/fl105.pdf or www.efanniemae.com/mf/guidesforms/pdf/forms/III-12.PDF for detailed information and an example of what we consider good models of CNA formats.

Appendix I - VHFA Approved Independent CNA Consultants
March 1, 2007

Tom Dillon Consulting
8453 Route 116
Hinesburg, VT 05461
(802) 999-6175 cell
(802)482-3735 home or fax
tdillonconsulting@yahoo.com

David Whiston
On-Site Insight
100 Crescent Rd.
Needham, MA 02492
(781) 449-7752
osi@on-site-insight.com

Jerome L. Wuebbolt
RIGHT-TRAK DESIGN, INC.
58 Beaver Pond Road
Weare, New Hampshire 03281- 5800
(603) 529-2022
www.righttrakdesign.com

Criterion LaLancette
P.O. Box 6348
Rutland, VT 05701
802-747-4535
800-639-4535
Fax : 802-747-2307
E-Mail: Engineer@sover.net
Website: www.criterion-engineers.com

Brian Roy
DKM Consulting, LLC
PO Box 10506
Bedford, NH 03110-0506
(603) 641-3851
www.b.roy1@comcast.net

Appendix II - Expected Useful Life (EUL) Tables

	Family Development	Elderly Development	Action
Site Systems			
Note: 50+ = "long-lived" systems: EUL based on location and use-specific conditions			
Basketball Courts	15	25	
Built Improvements (playgrounds/site furniture)	20	20	
Catch Basin	40	40	
Cold Water Lines	40	40	
Compactors	15	15	
DHW/Supply/Return	30	30	
Dumpsters	10	10	
Dumpster Enclosures	10	10	Fence Only
Earthwork	50+	50+	
Electrical Distribution Center	40	40	
Emergency Generator	15	15	
Fencing			
Chain Link	40	40	
Wrought Iron	50+	50+	
Stockade/Basketweave	12	12	
Post and Rail	25	25	
Gas Lines	40	40	
Heating Supply/Return	40	40	
Incinerators	50+	50+	
Irrigation System	30	30	
Lift Station	50	50	
Mail Facilities	10	10	
Landscaping	50+	50+	
Parking			
Asphalt	25	25	Resurface
Gravel	15	15	Resurface
Pedestrian Paving	15	15	Resurface
Bituminous	15	15	
Concrete	30	30	
Retaining Walls			
Concrete	20	20	Fill cracks/Repoint
Masonry	15	15	Fill cracks/Repoint
Wood	15	15	Replace
Stone	15	15	Fill cracks/Repoint
Roadways			
Asphalt (Sealing)	5	5	Seal
Asphalt	25	25	Resurface
Gravel	15	15	Resurface (grade and gravel)
Sanitary Treatment	40	40	
Site Electric Main	40	40	
Site Gas Main	40	40	
Site Lighting	25	25	
Site Power Distribution	40	40	
Site Sanitary Lines	50+	50+	
Site Sewer Main	50+	50+	
Site Water Main	40	40	
Storm Drain Lines	50+	50+	
Swimming Pool – deck	15	15	Resurface deck
Mechanical equipment (filter/pump/etc)	10	10	
Tennis Courts	15	15	Resurface
Transformer	30	30	
Water Tower	50+	50+	

Mechanical/Electrical			
Note: 50+ = "long lived" systems: EUL based on location and use-specific conditions			
Central Unit Exhaust, roof mounted	15	15	
Chilled Water Distribution	50+	50+	
Chilling Plant	15	25	
Compactor	15	15	
Cooling Tower	25	25	
Electrical Switchgear	50+	50+	
Electrical wiring	50+	50+	
Elevator, Controller/Dispatcher	15	20	
Elevator, Cab	15	20	Rebuild interior
Elevator, Machinery	30	30	
Elevator, Shaftway Doors	20	30	Replace gibs and rollers
Elevator, Shaftways			
Hoist rails, cables, traveling equipment	25	25	
Hydraulic piston and leveling equipment	25	25	Re-sleeve piston
Emergency Call Alarm System, Station	15	15	
Emergency Generator	35	35	
Emergency Lights	10	10	Battery operated
Evaporator Cooler	15	15	
Fire Pumps	20	20	Pump motor
Fire Suppression	50+	50+	Piping
Gas Distribution	50+	50+	Piping
Heat Sensors	15	15	
Heating Risers and Distribution	50+	50+	
Heating Water Controller	15	15	
Hot and Cold Water Distribution	50	50	
HVAC			
Cooling Only	15	15	
Heating Only	15	15	
Heating and Cooling	15	15	
Master TV System	15	15	
Outdoor Temperature Sensor	10	10	
Sanitary Waste and Vent System	50+	50+	
Sewage Ejectors	50	50	
Buzzer/Intercom, central panel	15	15	
Smoke & fire detection system, central panel	15	15	
Sump pump			
Residential	7	7	Replace
Commercial	15	15	Replace motor
Water softening and filtration	15	15	
Water tower	50+	50+	
Boiler Room Equipment			
Blowdown and Water Treatment	25	25	
Boiler Room Pipe Insulation	With boiler	With boiler	
Boiler Room Piping	With boiler	With boiler	
Boiler Room Valves	15	15	Repack valves
Boiler Temperature Controls	With boiler	With boiler	
Boilers			
Oil-fired sectional	22	22	
Gas or dual-fuel-fired sectional	25	25	
Oil- gas- or dual-fired package, low MBH	30	30	

Building Architecture

Note: 50+ = “long-lived” systems: EUL based on location and use-specific conditions

Appurtenant Structures				
	Porches	50	50	Paint at 5 years
	Wood Decks	20	20	Paint at 5 years
	Storage Sheds	30	30	Paint at 5 years
	Greenhouses	50	50	
	Carports	40	40	
	Garages	50+	50+	
Basement Stairs		50+	50+	
Building Mounted Exterior Lighting		6	10	
Building Mounted HID Lighting		6	20	
Bulkheads		30	30	
Canopies				
	Wood/Metal	40	40	Replace
	Concrete	20	20	Re-roof
Ceilings, exterior or open		5	5	Paint
Chimney		25	25	Point
Common Area Doors (fire/hall/closet/etc)		50+	50+	
Common Area Floors				
	Ceramic/Quarry tile/Terazzo	50+	50+	Replace
	Wood (strip or parquet)	30	30	Replace portion/sand and finish
	Resilient flooring (tile or sheet)	15	15	Replace
	Carpet	7	7	Replace
	Concrete	50+	50+	Replace
Common Area Railings		50+	50+	
Common Area Ceilings				
	Concrete/Drywall/Plaster	50+	50+	Replace (Paint 5-8 years)
	Acoustic Tile	20	20	Replace
Common Area Countertop & Sink		20	20	
Common Area Dishwasher		15	15	
Common Area Disposal		5	5	
Common Area Walls		50+	50+	Replace (Paint 5-8 years)
Exterior Common Doors				
	Aluminum and Glass	30	30	Door only
	Solid Core (wood or metal)	25	25	Door only
	Automatic	15	30	Door and mechanism
Exterior Stairs				
	Wood	30	30	Replace
	Filled Metal Pan	20	20	Replace
	Concrete	50+	50+	Replace
Exterior Unit Doors		25	25	
Exterior Walls				
	Aluminum siding	15	15	Prep and Paint
	Brick or Block	40	40	Repoint
	Brownstone/Stone Veneer	20	20	Waterproof and caulk
	Glass Block	15	15	Recaulk
	Granite Block	40	40	Repoint
	Metal/Glass curtain wall	10	10	Recaulk
	Precast concrete panel	15	15	Recaulk
	Vinyl Siding	30	30	Replace
	Wood shingle, Clapboard, Plywood, Stucco	5	5	Prep and paint/stain
Fire Escapes		40	40	Resecure
Foundations		50+	50+	

Building Architecture (continued)			
Hatches/Skylights			
	Access hatch	30	30
	Smoke hatch or skylight	50+	50+
Insulation/Wall		50+	50+
Interior Lighting		25	25
Interior Railings		50+	50+
Kitchen Cabinets		20	20
Local HVAC			
	Electric fan coil	20	20
	Electric Heat/Electric AC	15	15
	Gas furnace with split DX AC	20	20
	Heat pump w/ supplementary electric	15	15
	Heat pump, water source	20	20
	Hydronic fan coil	30	30
	Hydronic heat/electric AC	20	20
Mail Facilities		10	30
Parapet Wall		50+	50+
Penthouse		25	25
Public Bathroom Accessories		7	7
Public Bathroom Fixtures		15	15
Radiation			
	Hydronic (baseboard or freestanding)	50	50
	Electric baseboard	25	25
	Electric panel	20	20
Railings Roof		10	10
Refrigerator, common area		15	15
Residential Glass Doors			
	Sliding	15	15
	Atrium/French	30	30
Roof Covering			
	Aluminum Shingles	40	40
	Asphalt Shingles	20	20
	Built-up (BUR)	20	20
	Membrane	20	20
	Metal (preformed)	40	40
	Slate, Tile, Clay or Concrete Shingles	50+	50+
	Wood Shingles	20	20
Roof Drainage Exterior (gutter and fascia)		25	25
Roof Drainage Interior (Drain covers)		50+	50+
Roof Structure		50+	50+
Slab		50+	50+
Service Doors		25	25
Soffits			
	Wood/Stucco/Concrete	5	5
	Aluminum or Vinyl	25	25
Stair Structure		50+	50+
Storm/Screen Doors		7	15
Storm/Screen Windows		20	20
Waterproofing Foundation		50+	50+
Window Security		40	40
Windows (Frames and glazing)		30	30
Wood Floor Frame		50+	50+

New door and pointing

Paint
Replace

Dwelling Units				
Note: 50+ = “long-lived” systems: EUL based on location and use-specific conditions				
Bath Accessories		10	15	
Bath Fixtures (sink, toilet, tub)		20	20	
Closet Doors		10	20	
Countertop and Sink		10	20	
Dishwasher		10	15	
Disposal		5	8	
Electric Fixtures		20	20	
Hallway Door		30	50	Door only
Heat Detectors		20	20	
Interior Door		30	50	Door only
Interior Stairs		50+	50+	
Kitchen Cabinets		20	25	
Living Area Ceilings	Concrete/Drywall/Plaster	50+	50+	Replace (Paint at 5-8 years)
	Acoustic Tile	20	20	
Living Area Floors	Ceramic/Quarry Tile/Terrazzo	50+	50+	Replace Replace portion/sand and finish
	Wood (strip or parquet)	30	30	
	Resilient Flooring (tile or sheet)	15	20	Replace
	Carpet	7	10	Replace
	Concrete	50+	50+	Replace (paint at 5-8 years)
Living Area Walls		50+	50+	Replace (paint at 5-8 years)
Local HVAC				
	Electric fan coil	20	20	
	Electric Heat/Electric AC	15	15	
	Evaporative Condenser (“swamp cooler”)	20	20	
	Gas furnace with split DX AC	20	20	
	Heat pump with supplementary electric	15	15	
	Heat pump, water source	20	20	
	Hydronic fan coil	30	30	
	Hydronic heat/electric AC	20	20	
Range		15	20	
Rangehood		15	15	
Refrigerator		15	15	
Smoke/Fire Detectors		10	10	
Unit Air Conditioning (Window)		15	15	
Unit Electric Panel		50+	50+	
Unit Level Boiler		25	25	
Unit Buzzer/Intercom		20	30	
Unit Level DHW		10	10	
Unit Level Hot Air Furnace		25	25	
Unit Radiation				
	Hydronic or Steam (baseboard or freestanding)	50	50	
	Electric baseboard	25	25	
Unit Vent/Exhaust		15	15	
Unit Wiring		99	99	
Vanities		20	20	
Window Covering		3 – 20	3 – 25	Material/User Specific