

**Tab 34 Project Capital Needs Assessment & Energy Audit**

All Preservation developments must submit **both** of the following:

**A. Project Capital Needs Assessment** – A Project Capital Needs Assessment (PCNA) must be completed by an independent third party not involved in the design or preparation of drawings and specifications for the development. A minimum of \$20,000 per unit in construction costs on major systems and components is required to be considered for funding from the Preservation Preference. Refer to the PCNA Requirements for specific guidelines on completing this Assessment. The date of the Assessment must be less than 12 months prior to the submission date of the Application.

To the greatest extent possible the design should include the scope of work to provide up to 5% of the units meeting current accessibility standards and up to 2% meeting current audible/visual standards. Further, VisitAbility features should be included in the design for as many units as economically feasible.

**B. Energy Audit** - A diagnostic and comprehensive energy audit prepared by a Building Performance Institute (BPI) Certified Multifamily Building Analyst must be conducted in accordance with the PHFA guidelines attached. The energy audit report must be included in the application. Measures to reduce both development-paid and tenant-paid utilities must be evaluated. The date of the Assessment must be less than 12 months prior to the submission date of the Application.

For purposes of this Tab, a preservation development is any currently-occupied residential housing development and is not limited to applicants seeking Tax Credits through the Preservation Preference outlined in the Allocation Plan.

## A. PROJECT CAPITAL NEEDS ASSESSMENT GUIDELINES

Preservation applicants for rehabilitation must submit a PCNA and replacement reserve analysis. The PCNA must have been performed within **12 months** of the submission date of the Application.

The PCNA shall include the following five (5) major components:

1. **Critical Repair Items.** All health and safety deficiencies or violations of Section 8 housing quality standards, including any/all Federal Lead Based Paint requirements, and FHA's regulatory agreement standards that require immediate remediation.
2. **Twelve-Month Physical Needs.** An estimate of the repairs, replacements, and significant deferred and other maintenance items that will need to be addressed within 12 months. Includes the minimum market amenities needed to restore the property to the non-luxury standard adequate for the rental market for which the development was originally approved. If the standard has changed over time, the rehabilitation may include improvements to meet the current standards.
3. **Long-Term Physical Needs.** An estimate of the repairs and replacement items beyond the first year that are required to maintain the development's physical integrity over the next **twenty (20) years**, such as major structural systems that will need to be replaced during this period.
4. **Analysis of Reserve for Replacement.** An estimate of the initial and monthly deposit to the Reserve for Replacement account needed to fund the development's long-term physical needs for a minimum 20-year period, accounting for inflation, the existing Reserve for Replacement balance, and the Expected Useful Life (EUL) of major building systems. This analysis shall include the cost of twelve-month physical needs, but not any work items that would be treated as operating expenses.
5. **Costing.** A Cost Estimate must be part of this report. All items included in components #1 Critical Repair Items, #2 Twelve Month Physical Needs and the abatement of environmental hazards must be included in the scope of work proposed in the Application. The scope of work for the proposed rehabilitation should also include items shown for replacement within the first five (5) years of component #3 Long-Term Physical Needs.

### Statement of Work

1. The report shall be written with detailed narrative and accompanying color photographs and shall describe the property's exterior and interior physical condition, including architectural and structural components, and mechanical systems.
2. The report shall:
  - a) Identify in detail any repair items that represent an immediate threat to health and safety, and all other significant defects, deficiencies, items of deferred maintenance, and material building code violations (individual and collectively, "Physical Deficiencies") that would limit the expected useful life of major components or systems. Deficiencies regarding significant life safety issues must be identified;

- b) Provide estimated costs to remedy the detailed Physical Deficiencies (Critical Repair items, 12-month physical needs, and the first five years of long term physical needs); and
  - c) Prepare a Replacement Reserve Schedule, including an estimate of the initial and annual deposits (projected to increase at the operating cost adjustment factor) for a minimum period of 20 years.
3. The report shall identify any Physical Deficiencies as a result of:
- a) A visual survey;
  - b) A review of any pertinent documentation; and
  - c) Interviews with the property owner, management staff, tenants, interested local community groups and government officials.
4. The report shall provide a description of directly observed or potential on-site environmental hazards including but not limited to above and below ground tanks which are not in use. The report shall also include copies of laboratory testing results for the presence of radon, lead in domestic water, lead based paint, where applicable, and asbestos, where potential asbestos containing materials exist.

Radon must be tested in at least 25% of the units and community spaces on the ground floor, plus at least 10% of all units above the ground floor with a minimum of one test per floor.

Testing for lead in the water shall be performed at a minimum of two locations per building, and shall be based on two samples from each location; an initial draw sample taken after a period of no water use, and a sample taken after thoroughly flushing the system.

Lead based paint testing shall be performed using an X-ray Fluorescence spectrum analyzer (XRF) and in accordance with HUD's "Final Rule", 24 CFR Part 35, as amended June 21, 2004. (Lead based paint testing is not required for buildings constructed after 1978 or for those buildings with occupancy limited to individuals 62 years of age and older.)

A survey of all buildings shall be performed to identify suspect asbestos containing materials. All such material shall be tested using polarized light microscopy (PLM).

The test locations of each test mentioned above shall be identified.

If any of the results from the above tests are above the "action" level, remediation of the hazards must be included in the scope of work. Post-remediation testing, and additional remediation work if required, must be performed until satisfactory results are documented.

5. The report shall assess the twelve-month physical needs. The standard is a non-luxury standard adequate for the rental market. The physical needs identified should be those necessary for the development to retain its original market position as an affordable development in a decent, safe and sanitary condition (recognizing any evolution of standards appropriate for such a development). The twelve-month physical needs should include those improvements required for the development to compete in the market. Where a range of options exists, the most effective options for rehabilitation should be chosen, when both capital and operating costs are taken into consideration.

6. The report must be prepared by an independent third party consultant, who must be versed in all applicable codes currently in effect in the locality in which the development is located.
7. The report shall explain how the development will meet the requirements for accessibility/VisitAbility for persons with disabilities, to the extent applicable.
8. Prepare a PCNA report, which in addition to the five major aforementioned components and at a minimum shall include the following subcomponents.
  - a) Development Summary Sheet;
  - b) Executive Summary (discussion of the physical condition of the property and any major repair/rehab items observed);
  - c) Index;
  - d) Introduction to the Report;
  - e) Building Evaluation (property identification, including location, description, and age);
  - f) Site Improvement Evaluation/Analysis (utilities, parking, paving, sidewalks, sewer and drainage, landscaping, trash enclosures/compactors and general site improvements);
  - g) Building Architectural and Structural Systems Evaluation (foundations superstructure and floors, roof structures and roofing, exterior walls and stairs, siding, downspouts, and common areas energy efficiency, tenant amenities, playgrounds and playground equipment);
  - h) Building Mechanical and Electrical Systems Evaluation (building HVAC, plumbing, electrical, elevators, fire protection/security systems, smoke detection and carbon monoxide detection systems);
  - i) Interior Dwelling Units Evaluation (interior finishes, all floors, walls, ceilings, paint, kitchens and appliances, carpet, vinyl, interior doors, shelves, cabinets, vanities, closets, interior HVAC, plumbing, bathroom fixtures, electrical fire protection systems, security systems) A minimum of 20%, but not less than five, of the units must be inspected. This shall include every unit size and configuration. The inspected units must be identified in the report;
  - j) Evaluation/Analysis of all common areas and accessory spaces;
  - k) Estimated Useful Life Analysis (computation of Repairs and Replacement Reserves);
  - l) The basis for identifying any item for repair or replacement;
  - m) Unit cost breakdowns shall be provided for multiple items (i.e., stoves, refrigerators, cabinets, bathroom fixtures, etc.);
  - n) Acknowledgments (who prepared report, when report was prepared, who received report and when report was reviewed);
  - o) Appendices (photographs, site plans, maps, etc.);
  - p) Identification of any observed hazards, flammable or explosive facilities/operations in the immediate area of the development; and
  - q) State whether the development is located in a Flood Plain.

## B. ENERGY AUDIT GUIDELINES

A diagnostic and comprehensive energy audit performed by a Building Performance Institute (BPI) Certified Multifamily Building Analyst must be conducted in accordance with the following Agency guidelines. The energy audit report must be included in the Application. Measures to reduce both development-paid and tenant-paid utilities must be evaluated. The energy audit must have been performed within **12 months** of the submission date of the Application.

The audit is a detailed examination of how the multifamily facility uses energy and other controllable utilities, quantification of the building's energy and water consumption, the cost of energy, technical analysis of the building and associated systems, and in conclusion a set of recommendations to reduce the energy costs. The energy cost reduction will be categorized by building envelope, equipment (mechanical, electrical, plumbing) and operational changes.

The guidelines below and the scope of the audit may be simplified based on the Owner's proposed scope of work for the preservation project (i.e. if the furnaces are already scheduled for replacement due to age or condition, they do not need to be evaluated in the energy audit). Therefore the scope of services required of the auditor should be coordinated with the Owner. The goal of the audit is to identify energy and water saving measures that might otherwise be overlooked during the preservation work.

The audit should include:

- Analysis of existing energy (electric, natural gas, liquid propane, fuel oil and water) consumption. A minimum of one year's bills should be evaluated. Evaluate consumption levels and patterns. Audited financial statements are not acceptable.
- Review maintenance and repair records.
- Review Record Drawings (As-built).
- Fuel usage data should be normalized with local weather data.
- Discuss building with management. The discussions should include building performance, HVAC systems, electrical, and building envelope. Occupant comfort and complaints should be included in the discussions.
- Site visit should be conducted using acceptable techniques for building type and size (i.e. small building with independent entries may utilize blower testing, large building with common entrances and hallways may utilize visual inspection and measurements to calculate leakage).
  - Sampling should include 10% of total existing units.
  - All unit types (bedroom count, HVAC system type, location in building) shall be taken into account.
  - Field verify blue prints.
  - Inventory MEP equipment.
  - Identify moisture problems.
  - Identify ventilation system.
  - Field verify fan operation.
  - Assess building airflow.
  - Evaluate building envelope.
- Energy modeling should be conducted, according to the American Society of Heating, Refrigerating and Air-conditioning Engineers (ASHRAE) Fundamentals

Chapter 31. TREAT, EA-QUIP or other multifamily energy audit software approved by the U.S. Department of Energy (DOE) must be used for energy modeling. The energy model shall be calibrated against the previous 12 months actual usage to verify the accuracy of the model. Assumptions and calculation methods should be documented.

- Economic analysis
  - Account for inflation and discount rates utilizing the Savings-to-Investment Ratio formula.
  - Cost estimates for all energy efficiency measures. Provide back-up for cost estimates (RS Means is acceptable). Provide in spreadsheet format for local verification.
  - Calculate energy dollar savings (annual savings, life cycle savings, show payback period) per recommended efficiency measure.
  - Include benefits to end use bill payers.
  - Identify non-energy related benefits.
- Mechanical Systems
  - Provide a detailed list of HVAC equipment, include age, capacities, make and model numbers.
  - Identify equipment as either common area or tenant area, and if equipment is central or individual systems within tenant area.
  - State condition of equipment.
  - Provide combustion efficiencies for combustion equipment
  - Identify distribution systems and state condition of distribution systems and components.
- Electrical Systems
  - Provide a schedule of lighting, motors, and major appliances.
  - Identify savings, consumption and dollars for retrofits, in common space and units.

## Reporting and Review

- Deliverable - Report including:
  - Executive Summary including Detailed Table of All Measures with
    - Annual Savings in kilowatt-hours, MMBTU, and gallons
    - Annual Savings in dollars
    - Life of Measure
    - Life Cycle Savings of Measure
    - Estimated Cost (RS Means is acceptable)
    - Savings-to-Investment Ratio (SIR\*) based on Estimated Cost
  - Building Description - Include the following,
    - Building Envelope
    - Mechanical Equipment and appurtenances
    - Electrical Equipment and appurtenances
    - Plumbing Equipment and appurtenances
  - All Evaluated Measures
    - Description
    - Rational
  - Analysis of Fuel and Electricity Bills
  - A copy of the auditor's current BPI certification must be included

\* Savings-to-Investment Ratio (SIR): The present value of the lifetime dollar savings divided by the cost of the installed measure (a discount rate of 3% must be used). Energy efficiency recommendations will be prioritized based on the SIR. SIRs (and payback period) must be based on the total cost of the product and installation. SIRs cannot be based on incremental costs.



U.S. Department of Housing and Urban Development

Offices of Multifamily & Public and Indian Housing



# Rental Assistance Demonstration

Guide to the RAD Physical Condition  
Assessment (RPCA)

March 30, 2015



## Introduction

The RAD Physical Condition Assessment (RPCA<sup>1</sup>) is one of the most critical elements in a successful RAD conversion. This Guide is intended for RAD applicants, primarily public housing agencies (PHAs), so that they will have a greater understanding of the importance of this resource. Many PHAs who participated in the early RAD conversions told HUD that they wished they had fully understood and appreciated the importance of the RPCA from the outset of the RAD processing. This Guide offers suggestions on how to procure and prepare for the RPCA and, critically, gives guidance on what to do once the draft RPCA is submitted by the provider.

## Why does HUD have an RPCA requirement?

Before a project converts to project-based assistance, HUD wants to be sure that the project can address all physical needs now and for the 20 years after conversion from public housing to project-based Section 8. The RPCA therefore drives the project scope of work, the development budget, and the initial and annual deposits to replacement reserves.

## What does an RPCA Include?

There are two major components of the RPCA: the Narrative Report and the RPCA Tool:

- The Narrative Report has three parts:
  - Part 1—Physical Conditions Assessment Identifying Needs and Comparing Traditional and Green<sup>2</sup> Requirements
  - Part 2—Energy Audit
  - Part 3—Utility Consumption Baseline
- The RPCA Tool is an Excel spreadsheet with various tabs to collect and analyze data on your property. The information entered by the RPCA Contractor into the RPCA Tool determines:
  - The amount of initial repairs,
  - The Initial Deposit to Replacement Reserve (IDRR), as needed, and
  - The Annual Deposit to Replacement Reserve (ADRR).

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<sup>1</sup> The RPCA tool is compliant with current FHA Multifamily Accelerated Processing (MAP) lender guidance. In the near future, FHA will provide updated guidance for property inspections and a Capital Needs Assessment electronic tool (CNA e-Tool). At that time RAD will adopt the new MAP standard for all transactions, with a reasonable grandfathering provision for any PHAs that have already procured an RPCA. The information here will continue to be helpful in thinking about how these types of assessments fit into the contemplated RAD transactions. Once the FHA CNA e-Tool is published, the RAD Program will replace the term PCA with CNA.

<sup>2</sup> “Green” means energy and water efficient components, and other components that are less harmful to the environment.

## The Interaction between Initial Repairs, the IDRR, and the ADRR

The need for an IDRR is created when the cost of needed replacements in a given year exceeds cumulated net funds deposited via the ADRR. This often happens if there are significant replacements in early years but may also happen if a significant replacement in later years causes the Reserve balance to drop below the reserve floor.<sup>3</sup> Some owners prefer a larger IDRR to a larger ADRR because a large ADRR can create a large ending balance at year 20 (where the ADRR accumulates more than needed in later years) and the smaller ADRR means more cash flow for debt service coverage. Generally speaking, a higher ADRR means a lower IDRR because more Reserves are accrued to timely fund replacements and avoid falling below the “floor.” Attachment A provides an example of the kinds of interactions between the initial repairs the IDRR, and the ADRR.

## When is an RPCA Required?

The full RPCA, i.e., both the Narrative Report and the RPCA Tool, is currently required in all transactions, except the following:

- New construction, both FHA 221(d)4 loans and conventionally (non-FHA) financed loans
- Public housing built within the last five years without FHA financing

Only the RPCA Tool is required in the following subset of transactions:

- Substantial rehabilitation that retains structural frame only, also known as “gut rehab”
- Non-FHA Low Income Housing Tax Credit (LIHTC) properties

In the case of substantial rehab, if the rehab is not considered “gut rehab”, the full RPCA will still be required. For FHA loans, refer to the Multifamily Accelerated Processing (MAP) Guide for the definition of “gut rehab”.

## When Should the RPCA be Procured?

HUD recommends that PHAs plan to contract<sup>4</sup> with the selected RPCA Contractor as soon as possible in order to have the RPCA in hand within 90 days after award. This timeframe will allow sufficient time to review the results and then make any changes either in the RPCA or the financing plan (for example, if physical needs come back greater than expected). The PHA will

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<sup>3</sup> HUD guidance establishes a floor for the Reserve for Replacement Account as 5% of the un-inflated total of the 20 year needs times the inflation factor. Example: With un-inflated 20 year total needs of \$5,000,000 and an annual inflation factor of 3%, the minimum balance in the Reserve for Replacement Account would be: \$250,000 in year 1 (\$5,000,000 times 5%); \$257,500 in year 2 (\$250,000 times 3%); \$265,225 in year 3 (\$257,500 times 3%); and so on.

<sup>4</sup> The FHA lender may contract for the RPCA.

not be able to obtain financing or prepare the Financing Plan until the RPCA is finalized. We suggest that the PHA anticipate:

- 30 days for the RPCA contractor selection process
- 45 days for the field work and draft report, and
- 15 days to revise the draft with input from PHA, Lender, investor, Construction Contractor, etc.

## **How Should a PHA Prepare for an RPCA?**

**Prior to the site visit**, the PHA will want to provide the RPCA contractor with key background information on the project. HUD recommends that the PHA, with staff who best know the property, conference with the selected RPCA Contractor immediately after selection, to discuss the information needs of the contractor. It will be extremely helpful if the PHA pulls together the project information listed below. Failing to provide this information up front often results in repeated adjustments to the scope of work, which costs the PHA time and money, and is a source of frustration long term.

- Capital improvements
  - Recent (within the last 5 years) major maintenance and capital improvements and any plans for immediate replacements;
  - Details of recurring problems including recurring tenant complaints<sup>5</sup>;
  - Details of any planned rehabilitation;
  - Choice of “Green Building Standard”, as applicable;
  - Results of REAC inspections completed in last two years;
  - Environmental remediation in past 10 years
- Utility information
  - Gather PHA-paid utility information;
  - If tenant-paid, get releases from tenants for their utility bills for 12 months of usage (ideally from all but at least 25% of units )

**During the site visit**, the PHA will want to:

- Make sure that the RPCA Contractor has copies of the information on repairs, environmental reviews, etc., that was provided before the visit.
- Make sure all areas of property are accessible to RPCA Contractor and have maintenance staff available for consultation.
- Provide sufficient notice to tenants of upcoming unit inspections by the RPCA Contractor.

## **Special Requirements that Might be Imposed by Lenders or Investors**

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<sup>5</sup> Tenant complaints help identify poorly performing or poorly designed systems.

If the PHA has secured outside funding for the conversion, those funding sources might have special requirements related to the RPCA. For example:

- In tax credit (“LIHTC”) projects, the investors often want to maximize the up-front rehab budget (to maximize tax-credit basis) and minimize replacement reserve requirements (to enhance loan leveraging).
- In debt-only transactions, the lenders may have requirements for what systems must be replaced up-front and which can be funded with on-going replacement reserve draws.

Consequently, in some debt or tax credit transactions, the lenders/investors might prefer to see more work done up-front as opposed to funded through the ADRR.

## **Who Selects the RPCA Contractor?**

While there is no RAD requirement in terms of who selects the RPCA Contractor, in leveraged transactions (with a Lender and/or Investor), the selection of the RPCA Contractor should be a collaborative process between the Lender, Investor and the PHA. The Lender (especially in an FHA-financed transaction) or Investor may have preferred providers or may want to be involved in the selection process. However, the work product produced by the contractor is critically important to the PHA, and consequently, the PHA should always be involved in this process. In PHA self-financed transactions, the PHA generally selects the RPCA Contractor. The PHA always has a primary interest in making sure that the RPCA Contractor is qualified, experienced, and considers the PHA's needs and timing of capital. The Contractor will need to communicate well with the PHA regarding the planned rehab budget and the 20 year needs.

An inexperienced RPCA Contractor costs everyone time, frustration, and money, and may jeopardize HUD milestone compliance or even project feasibility.

## **The RFP for an RPCA Contractor**

Check [www.radresource.net](http://www.radresource.net) for a sample Request for Proposal (RFP) for selection of an RPCA Contractor, which includes suggested required qualifications.

Note that if the RAD conversion is a scattered site project, the RFP will need to outline the required “sampling” of the buildings at each site and a method should be agreed upon for how each subset is grouped together. Coming to an agreement on this sampling before the field work is started saves time and money. For example, scattered sites that were built at different times might be grouped by construction year, or all garden style apartments might be grouped together while single family units might be separately grouped. While the RPCA is in the draft stage, contractors may want to do an informal roll-up chart of the groupings to get a sense of the overall IDRR vs ADRR balance.

Regardless of the groupings and numbers of RPCA Excel Tools that are required for the scattered site, once those tools have been finalized, the PHA should submit each tool to the RAD Resource Desk so that they can be consolidated into a single tool for the entire conversion. While some RPCA Contractors have the capability to produce this roll up, most do not, and it is not a requirement for them to do so. However, only finalized tools should be sent to the RAD Resource Desk for roll up, as modifications after the roll up has been completed should be minimal.

## **PHA Role in Reviewing the Draft RPCA**

It is important to keep in mind that what the RPCA Contractor submits is a “draft.” It is essential for the PHA and, where applicable, the Lender and LIHTC investor to review the draft. (If the Construction Contractor is selected by this time, this Contractor should also be involved in review. If the work is anticipated to be minor and will be performed by PHA staff, involve PHA staff in the review). If FHA financing is involved, HUD will also have input into the final scope of work.

The final rehab scope of work is therefore an “iterative” document. Information that affects timing and scope is expected to be exchanged between the PHA and the RPCA Contractor. The experience in the early RAD transactions was that an RPCA draft went back and forth between RPCA Contractor and client, with the Excel Tool being re-run several times. More qualified and experienced RPCA Contractors, combined with better preparation and comprehension of the process by PHAs, should cut that number, which would be a significant savings in time and cost.

The RPCA drives the scope of rehab work, the development budget, and the initial and annual deposits to replacement reserves. Therefore, the narrative portion must properly reflect the site, the site improvements and their condition, recommendations for improving condition, including energy and water saving improvements, critical needs, non-critical needs, and longer term rehab needs. The narrative should be telling a story familiar to the PHA. The RPCA Contractor populates the RPCA Excel tool with options for repair and replacement. The PHA will populate the tool with information on the property, financing and repair and rehabilitation choices. After the PHA completes its input to the tool, has discussions with the development team, and examines resources, initial budget and ongoing budgets, further iterations of the RPCA Excel tool may be necessary to reflect the finalized plan. The following tasks have been shown to be critical in RAD transactions:

### **Task 1. Review the Statement of Work (SOW), then the Narrative portion for accuracy and compliance with the SOW**

Note: The PHA and/or Lender must discuss any apparent material errors or omissions with the RPCA Contractor.

### **Task 2. Review and complete, as needed, all RPCA Excel Tool worksheets**

Note: The Excel tool has several worksheets and the PHA will become familiar with navigating among them. Many of the sheets interact with each other. For example, a decision to add an item to up-front rehab, such as a roof, deletes a near term replacement in the 20 year schedule and sets up a new end of useful life replacement later. It also increases the needs for a rehab funding source while decreasing near term reserve needs. As a result of the linkages each worksheet needs attention. Before making any alterations or additions you should save the file under a new name. Make any modifications to the new file and keep the original as a back-up and record.

### **Task 2a. Check Flag Summary worksheet**

Note: This is the last tab to the far right and will flag any internal inconsistencies in the draft tool—which the RPCA Contractor should correct.

### **Task 2b. Complete Global Input worksheet (including identifying sources and amounts of financing)**

### **Task 2c. Complete Primary Input worksheet (basically a project summary)**

**Task 2d. Make selections on the Cap Needs Input worksheet.** Go through each component and choose:

- Select “Green” or “Traditional.”
- Replace now or at end of estimated useful life (EUL) cycle.
- Check whether provider has spread work items reasonably. For example, property owners seldom replace all refrigerators at a fixed point in time through the Reserves for Replacement account. More likely, they undertake replacement over a few years. It is possible to “smooth” reserve needs by spreading larger cost replacements (floors, etc.) over 2-3 years.
- Choose funding source.

### **Task 2e. Review Critical Needs worksheet**

### **Task 2f. Accept and/or modify 20 Year Detail and 20 Year Schedule worksheets**

Note: This is where the PHA can have input into spreading larger repair and/or replacement items over several years, which can have a major impact on the size of Replacement Reserves.

- It is preferable to have the RPCA Contractor make any adjustments in timing of replacements.
- If necessary, PHA can override the Contractor’s timing recommendations. These overrides will show in aqua and PHA must provide a justification for the change in the comment line.

- Spreading should be reasonable and will be carefully reviewed by HUD.

**Task 2g. Complete the Rehab Specifications worksheet.**

Note: Do this when final decisions on an item have been made. The description should be sufficiently detailed to obtain bids from vendors and include all work. Basically, the PHA will enter a description of each rehab item with a dollar amount in the scope of work requirement for the Financing Plan. The RPCA scope of work is the project scope of work.

*Tip: An Environmental Review is also required as part of RAD. Be sure that any remedial work that is identified as necessary is incorporated into the RPCA.*

**Task 2h. Review Rehab Escrow needs worksheet:**

- Confirm completeness.
- Modify through Cap Needs Input worksheet (if necessary).
- Ensure owner-initiated repairs are included.

**Task 2i. Finalize Reserves 20 Year Schedule worksheet:**

- Complete IDRR; any first year reserve deposit, and confirm ADRR.
- Default reserve needs, year-by-year are created by the RPCA Excel Tool, but may be adjusted in the 20 year detail worksheet, (e.g., spreading replacements over multiple years, etc.).

Note: This is the most iterative section of the RPCA and understanding the interaction between the rehab budget, IDRR and ADRR can be essential to project feasibility. The key is for the PHA to know with confidence:

- How much funding does the PHA have to put in the project up-front? This funding must cover initial repairs, the rehab budget (plus a 10% contingency), the IDRR, and in some cases, the first year deposit to the Reserve for Replacement account.
- How much cash flow will the project generate after covering operating expenses? Can the PHA operate more efficiently, so that there is sufficient cash flow to cover a large ADRR every year? A larger ADRR reduces the need for a large IDRR and thus reduces the up-front funding requirement for the PHA.

An example of how this interplay works is provided at Attachment A. Note that in a more highly leveraged transaction, all the financial participants (Lender, Investor, etc.) will have input into this decision on the up front rehab as well as the size and timing of the IDRR and ADRR.

## **RPCA's On-going Relevance**

The scope of work developed in the Final RPCA, after review and acceptance by HUD, becomes the scope of work for the transaction and must be used for contractor bidding. If the PHA desires to include additional work, beyond that required by the RPCA, it must be added to the RPCA scope of work (and subsequently added to the RPCA Excel Tool).

If the PHA and Development Team (if any) have not raised sufficient capital resources to cover the work described in the RPCA, the PHA can request additional time to pursue other financing (gap financing, LIHTC, etc.) or the PHA will be required to return its award because the project does not work i.e., the project is not financially viable.

## **RPCA Lessons Learned**

Some of the key lessons learned from earlier RAD transactions are:

- The RPCA is not just a formality and/or more paperwork. It is of central importance. It determines the financial viability of the RAD conversion. In short, the RPCA determines whether the project is feasible.
- The RPCA is substantially different from the physical needs tools currently used in the public housing program, particularly in the fact that the RPCA is designed to generate an IDRR and ADRR.
- **There is no substitute for an experienced, qualified RPCA Contractor.**
- Good PHA preparation for the site visit saves time, money, and frustration.
- The PHA should take an active role in understanding the RPCA draft and identifying potential corrections.
- The RPCA scope of work should be identical to the contractor-bid scopes of work.



## ATTACHMENT A

### **Finalizing the 20-Year Schedule of Reserves for Replacement when Uses Exceed Sources**

#### **Background:**

The Draft RPCA will estimate needs for the property. It will report critical repairs, immediate repair and rehab items (generally, any item that has exceeded its useful life), and market comparable and/or owner-initiated upgrades. Each of these categories will create a need for rehab funding at closing – or what we often refer to as “initial repairs.”

In addition to these initial repairs, in order to provide for future replacement of components, the RPCA assesses the remaining useful life of existing components and the Excel Tool sets replacement at the end of the useful life. The 20-year Detail page shows each component replacement choice with replacement scheduled based on useful life. The 20-year Summary page rolls this up by category over the 20 years and allows adjustments as to timing.

The Reserves 20-year Schedule page assesses and establishes resources to fund replacing components as set forth in the 20-year Summary page. Funding consists of two major sources, an Initial Deposit to the Reserve for Replacement (IDRR) and an Annual Deposit to the Reserve for Replacement (ADRR).<sup>6</sup> The need for an IDRR is created when the cost of needed replacements in a given year exceeds cumulated net funds deposited via the ADRR. This often happens if there are significant replacements in early years but may also happen if a significant replacement in later years causes the Reserve balance to drop below the reserve floor.<sup>7</sup> Some owners prefer a larger IDRR to a larger ADRR because a large ADRR can create a large ending balance at year 20 (where the ADRR accumulates more than needed in later years) and the smaller ADRR means more cash flow for debt service coverage. The IDRR is a closing need that must be identified as a use of funds in the Sources & Uses of Funds. The ADRR comes from project cash flow and is identified as an expense in the Pro forma. IDRR affects ability to close and ADRR affects ongoing feasibility. Generally speaking, a higher ADRR means a lower IDRR because more Reserves are accrued to timely fund replacements and avoid falling below the “floor.”

If the PHA has identified adequate resources to meet the draft RPCA results (i.e., adequate funds to meet initial repairs and any IDRR), then these results may simply be accepted. Frequently, though, the results from the draft RPCA will identify immediate or long-term capital

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<sup>6</sup> Calculated needs are also affected by interest earned on the Reserve account and anticipated inflation in costs.

<sup>7</sup> HUD guidance establishes a floor for the Reserve for Replacement Account as 5% of the un-inflated total of the 20 year needs times the inflation factor. Example: With un-inflated 20 year total needs of \$5,000,000 and an annual inflation factor of 3%, the minimum balance in the Reserve for Replacement Account would be: \$250,000 in year 1 (\$5,000,000 times 5%); \$257,500 in year 2 (\$250,000 times 3%); \$265,225 in year 3 (\$257,500 times 3%); and so on.

needs that are greater than the PHA anticipated – and greater than the resources the PHA had identified to support the transaction. Obviously, one way to fill a “development budget gap” is by increasing the source of funds available to a project – say, with additional Capital Funds or Operating Reserves. Or, a PHA can take another look at operating expenses (to increase Net Operating Income and, therefore, the amount available to support debt service or ADRR). But sometimes a PHA can fill the development gap, and meet all capital needs, by adjusting the amount of initial repairs, the IDRR, or the ADRR. The following provides an example of the kinds of interactions between these three items.

**Example:**

**Project Description:** The PHA received a CHAP to convert a 100-unit high-rise to RAD. Prior to procuring the RPCA, the PHA had anticipated a rehab budget, including all associated soft costs, of \$850,000, which it was going to pay for with available Capital Funds (no outside financing). The PHA had also estimated an ADRR of about \$500/unit and cash flow of \$50,400 per year. It did not anticipate that it would need any IDRR, i.e., the ADRR would be sufficient to meet needs as they occurred and, therefore, there was no need to start the reserve account with any initial deposit.

**RPCA Results:** When the PHA receives the draft RPCA, long-term capital needs are somewhat greater than had been anticipated. More importantly, the timing of those repairs is such that the PHA needs to make an IDRR of \$500,000, without which the project will fall below the permitted “floor” or have negative replacement reserve balances in out-years. While the Operating Pro Forma remains balanced, the Development Budget now has a gap of \$360,000, as shown on the following pages:

UNITS	100	AMOUNT
<b>SOURCES</b>		
New First Mortgage Loan		\$ -
PH Operating Reserves		\$ 850,000
PH Capital Funds (Prior Years)		\$ -
Repl'ment Hsing Factor Funds		\$ -
Other		-
	<b>Total Sources</b>	<b>\$ 850,000</b>
<b>USES</b>		
<b>Payoff Existing Loans (CFFP, EPC, other)</b>		0
<b>Construction costs (from RPCA)</b>		
Critical	\$ 30,000	
Rehabilitation +10% conting.	\$ 550,000	
	<b>Total construction costs</b>	<b>\$ 580,000</b>
<b>Relocation costs</b>		\$ -
<b>Professional Fees</b>		\$ -
Architecture +engineering		\$ -
RPCA		\$ 15,000
Legal		\$ 10,000
Environmental Reports		\$ -
Appraisal/Market Study		\$ -
Survey		\$ -
Other		\$ -
<b>Fees and Costs</b>		\$ -
Title work and recordation		\$ -
<b>Reserves (from RPCA)</b>		
Initial Deposit to RR (IDRR)		\$ 500,000
First Year Deposit to Annual RR (if req'd)		\$ 50,000
Other		\$ -
<b>Developer Fees</b>		\$ 55,000
	<b>Total Uses</b>	<b>\$ 1,210,000</b>
	<b>GAP</b>	<b>\$ (360,000)</b>

	AMOUNT
<b>REVENUE</b>	
Gross Potential Rent (GPR) RAD	\$ 780,000
Vacancy and Bad Debt Loss	\$ (54,600)
Other Income	\$ 15,000
<b>Total Revenue</b>	<b>\$ 740,400</b>
<b>EXPENSES</b>	
Administrative	\$ 126,000
Property Management Fee	\$ 125,000
Tenant Services	\$ 12,000
Utility Expense (not pd by residents)	\$ 30,000
Maintenance Expenses	\$ 245,000
Protective Services	\$ 10,000
Real Estate Tax and/or PILOT	\$ 25,000
Property Insurance (from quote)	\$ 21,600
Liability Insurance (from quote)	\$ 20,000
Other General Expenses	\$ 25,400
<b>Total Operating Expenses</b>	<b>\$ 640,000</b>
Replacement Reserve Deposit (ADRR)	\$ 50,000
<b>Net Operating Income (NOI)</b>	<b>\$ 50,400</b>

**Strategies:** When a PHA's RPCA comes back with capital needs that are greater than anticipated funding, even if a PHA could potentially find additional capital sources, the PHA should first examine the following strategies before it looks to other ways to increase sources or reduce uses:

- ◆ **First, see if the project can support a higher ADRR through operating cash flow, thereby reducing the IDRR.** In this particular case, the project shows \$50,400 (\$42 per unit monthly, or pum) in annual operating cash flow and, because there is no debt service, there is no lender coverage requirement; consequently, this option is worth exploring. Once the PHA determines how much additional ADRR it is willing to support (by way of reduced cash flow), it can plug this higher ADRR into the Excel Tool to determine what effect it has on reducing the IDRR. The need for IDRR has a lot to do with timing of scheduled replacements. Consequently, simply increasing the ADRR by \$18,000/year, which would raise \$360,000 over the 20-year period, might not necessarily result in a corresponding decrease in the IDRR, but it will certainly help contribute to closing the development gap.

- ◆ **Second, see if there are certain large-ticket components scheduled to be replaced in a single year but that could be spread out over several years.** As discussed above, replacement timing is calculated based on estimated useful life of each component. As a result, if all water heaters are replaced in rehab, the Excel Tool will automatically schedule them all for replacement in year 11. But in practice some may be replaced earlier due to premature failure and some will be replaced later because they continue to work. In the Excel Tool, the IDRR and/or the ADRR can be greatly affected by large-ticket items. Remember, the Excel Tool establishes a floor for the amount that must be maintained in any year in the replacement reserve account as described above. Therefore, if there is a large-ticket replacement item or a cluster of items in, say, year 11, the Tool might be calculating a larger IDRR or ADRR to cover those one-time expenses. Sometimes, spreading the replacement of large-ticket items can reduce the formula-driven IDRR or ADRR. For example, spreading the water heater replacement into years 10, 11, and 12 would lessen a spike in needs and lessen a need for such a large IDRR or even ADRR. There are two reasons this happens. One, a portion of the replacements are moved away from a peak year; and, two, a portion are delayed one year while additional deposits accrue providing that year is a net increase overall.

The above examples show strategies for altering the IDRR and ADRR requirements without modifying the initial repairs. The schedule of initial repairs impacts the 20 Year Schedule and, therefore, the IDRR and ADRR. Adding more components to the initial repairs will generally reduce the ADRR and moving initial repairs to later years will generally increase the ADRR. The PHA's options in making these modifications are limited:

- ◆ **If the PHA wants to evaluate a potential reduction to the ADRR by increasing the initial repairs,** access to additional sources of funds to close are required. Generally, the PHA would look at the first five years of scheduled replacements on the 20 Year Schedule as potential targets to complete in rehab. As the PHA makes changes to the Excel Tool to “replace now” rather than “replace at end of cycle”, the Excel Tool will reflect the calculated changes to the IDRR and ADRR.
- ◆ **If the PHA wants to evaluate a potential increase to the ADRR by decreasing the initial repairs,** the components targeted must be working and not beyond the end of their EUL. As the PHA makes changes to the Excel Tool to “replace at end of cycle” rather than “replace now”, the Excel Tool will again reflect the calculated changes to the IDRR and ADRR.

The purpose of this attachment is to provide a greater understanding of the interaction between the amount of initial repairs, the IDRR, and the ADRR. Increasing one account can reduce one or the other accounts, which could be helpful in solving the feasibility of a particular transaction.

# Rental Assistance Demonstration (RAD): Physical Condition Assessment Statement of Work and Contractor Qualifications

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## Introduction:

HUD has drafted the RAD Physical Condition Assessment (RPCA) with the specific intention that it not only meet the RAD Program requirements, but that it also be compliant with the requirements, as they may be modified from time to time, of HUD Multifamily Accelerated Processing (MAP) and the American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc. (ASHRAE) Procedures for Commercial Building Energy Audits, Second Edition 2011, Level II guidelines.

## Overview:

The RPCA has three parts:

**Part 1: PCA Report Comparing Traditional and Green Requirements** – It is the traditional PCA that identifies repairs necessary in the first year following restructuring and the repairs and replacements during the next 20 years; it only offers “traditional” and “green” components that meet local building code; it estimates costs using both “traditional” and “green” principles; and it provides comments on the benefits (financial and otherwise) of the green alternative.

**Part 2: Energy Audit** – It evaluates how energy and water is used at the property. It documents prudent utility-related improvements (water and energy) to the property, the cost of the improvements, and a simple financial payback analysis (however, note that a more sophisticated analysis is available for systems with multiple components with varying estimated useful lives and where the full lifecycle cost analysis is useful). It includes an initial assessment of potentially viable alternatives for generating electricity, heating water, and heating and cooling the conditioned space at the building.

**Part 3: Utility Consumption Baseline** – It contains data on all utility usage at the property, both tenant-paid and owner-paid, and including all common areas for a full 12-month period. It establishes a baseline to allow for benchmarking, and for future measurement of consumption and costs. As such, the utility baseline creates a whole building consumption profile, addressing missing utility data, vacancies, and weather patterns, in achieving its aim of establishing that standard on which future consumption can be compared.

The RPCA contractor may complete any of the components for which it has the necessary qualifications; otherwise, the contractor may subcontract to others who have the necessary qualifications. The RPCA Contractor must integrate and evaluate the findings and recommendations and incorporate all three components into one report.

## **PART 1. PCA REPORT COMPARING TRADITIONAL AND GREEN REQUIREMENTS**

### **1. Qualifications:** The contractor must

- A. Have training and experience to evaluate building systems, health, and safety conditions, and physical and structural conditions, and to provide cost estimates for maintaining, rehabilitating, or improving deficiencies, using both traditional and Green principles. Must also have environmental expertise, as inspection will include environmental issues as well. Must have any required licenses.
- B. Have the designation of Leadership in Energy and Environmental Design Accredited Professional (LEED AP), in either the United States Green Building Council's LEED New Construction and Major Renovation or the LEED Existing Building Maintenance and Operations examination tracks, or an equivalent designation.
- C. Have completed 10-hours of education in the last calendar year in the areas of Green Building, Sustainability, Energy Efficiency, or Indoor Air Quality.
- D. Have knowledge of the requirements for the "green building" standard, if any, identified by the owner, which may include: Enterprise Green Communities, LEED-H, LEED-H Midrise, LEED-NC, ENERGY STAR New Homes, ENERGY STAR Multifamily High Rise, EarthCraft House, EarthCraft Multifamily, Earth Advantage New Homes, Greenpoint Rated New Home, Greenpoint Rated Existing Home (Whole House or Whole Building label), and the National Green Building Standard (NGBS) or other industry-recognized green building standard deemed acceptable by HUD in its sole discretion.
- E. Have acceptably completed written evaluation reports for similar types of multifamily rental housing projects in similar physical condition and age in the subject market or in similar areas, preferably including two (2) or more buildings that were receiving Section 8 or public housing assistance when the report was prepared.
- F. Have an acceptable record of performance with HUD. Not be under suspension or debarment by HUD, or involved as a defendant in criminal or civil action with HUD.
- G. Have produced reports that are well regarded in the marketplace in terms of content, timeliness and responsiveness. The contractor should have this personal experience, not just the company.
- H. Have the capacity to complete the project inspection and prepare the report in a time frame acceptable to the Lender/Owner<sup>1</sup>.

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<sup>1</sup> Throughout this Statement of Work and Contractor Qualifications document, "Lender/Owner" is used to describe the party ordering, reviewing, and accepting the RPCA (the client for the RPCA contractor). If the owner is pursuing financing as part of the RAD conversion, then a Lender is the client. If not, then the Owner is the client. All RPCAs are subject to HUD's review and acceptance.

**2. Statement of Work:** The contractor shall

A. Perform a Physical Condition Assessment (PCA) for each asset specified by the Lender/Owner and report the findings.

- (i) The report shall be prepared according to the Fannie Mae document: “Physical Needs Assessment Guidance to the Property Evaluator” (Exhibit 1), except as modified herein. This standard is meant to meet or exceed ASTM E 2018-08, Annex 1.1 concerning multifamily properties as well as Appendix XI.1 concerning qualifications, XI.2 concerning verification of measurements and quantities based on as-built drawings when available or field counts or measurements when necessary, XI.3 concerning service company research. Appendix XI.5 concerning the recommended table of contents is also recommended. Further, this report must be “MAP-compliant,” fully meeting or exceeding the current requirements of HUD Multifamily Accelerated Processing.
- (ii) The report shall include color photographs and a detailed narrative describing the property’s exterior and interior physical elements and condition, including architectural and structural components, and mechanical systems.
- (iii) The Contractor shall conduct and document site inspections of enough dwelling units to be able to formulate an accurate estimate of repair, replacement and major maintenance needs and all office, community space, and common areas. In no event shall the inspection be of less than 25% of occupied units, and 100% of all vacant units and common areas.
  - a. In some cases, depending on the size and condition of the Project, all or nearly all units will need to be inspected by the Contractor.
  - b. In other cases, a lesser number of units may need to be inspected by the Contractor. But in no event shall the number of units be less than specified in subparagraph (iii) above.
  - c. The Department expects that appropriate statistical sampling methods and techniques will be used by the Contractor to reach conclusions about repair needs. Units shall be randomly sampled while taking into consideration occupied and unoccupied units and the unit size mix, i.e. one bedrooms, two-bedrooms, etc. If a significant number of units are found to be in poor condition, the Lender/Owner may require that additional units be inspected. The Contractor may also determine that additional units and/or common areas require inspection to fully achieve the objective of considering green building principles, and if so, must coordinate the parameters of the inspection with the Lender/Owner.
- (iv) The inspection must document individual building write ups for all multi-building complexes,
- (v) For older structures the Contractor/ and lender should consider forensic investigations of primary building systems, including but not limited to structural, building envelope, conveyance, mechanical, electrical and plumbing systems, where visual or non-invasive examination alone may not be sufficient to support a conclusion about the condition or remaining useful life of system components.



While recognizing that age and condition of structures are not always related, a guideline for use of forensic methods is structures 30 or more years of age. It is the responsibility of the lender to assure that the Contractor employs investigative methods appropriate to the age, condition, physical composition of the property and the local environment.

When undertaken, a forensic examination should result in a written report, attached to the PCA, which report should include at a minimum the following:

- a. A statement of the examiner's particular experience, education, technical or trade certifications or other qualifications establishing the examiner's expertise relevant to the matter examined.
  - b. A description of the physical component(s) or system examined including the portions, quantities, and/or locations examined and the relevant products and materials found installed.
  - c. A description of the trade or industry recognized techniques, tests or analytical methods of examination used.
  - d. A summary of the estimated age, condition, and serviceability of the products, materials or system examined.
  - e. The examiner's recommendation of any repairs and/or replacements.
  - f. The examiner's estimate of the remaining useful life of the system or component assuming any recommended repairs or replacements are completed.
- (vi) Using the RPCA model<sup>2</sup> provided by the Lender/Owner, the Contractor will complete the Component Replacement Summary, Utility Types and Rates, Cap Needs Input, Utility Savings, cell D28 of the Water Savers, Utility Baseline – Summary, Utility Baseline – Monthly, and the Reserves 20 Year Schedule worksheets, considering the factors described below (note that completion of the RPCA model worksheets overlaps with the Energy Audit and Utility Consumption Baseline statements of work, Parts 2 and 3 herein). By completing the herein named worksheets in the RPCA model, the 20 Year Schedule and Detailed 20 Year Schedule worksheets will automatically be populated. The Contractor is to review that worksheet to ensure the data inputs on the other worksheets are generating the desired results. The Water Savers worksheet is an optional approach to estimating water savings, but **cell D28 must be completed** (and it links to the Utility Savings worksheet).

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<sup>2</sup> The RPCA model is available at [www.hud.gov/RAD](http://www.hud.gov/RAD)

(vii) The report shall include:

- a. **Critical items:** Identify in detail, and report immediately to property management and the Lender/Owner, any repair item(s) that represents a critical repair.

Critical repairs include:

1. Remedies for exigent health and safety hazards or code violations;
2. Correction of conditions that adversely affect ingress or egress;
3. Correction of conditions preventing sustaining occupancy;
4. Correction of accessibility deficiencies.

It is the lender’s responsibility to assure that accessibility requirements are accurately applied to projects by the Contractor with knowledge of Federal and, where applicable, state and local requirements. These requirements are:

- (1) The Fair Housing Act design and construction requirements apply to all multifamily housing built after March 13, 1991.
- (2) Section 504 of the Rehabilitation Act of 1973 applies to all Federally assisted programs, facilities and housing.
- (3) The Americans with Disabilities Act of 1990 (ADA) applies to public accommodations and commercial facilities and to any such portion of a multifamily property.
- (4) Summary Table of Applicable Federal Accessibility Requirements

ACTIVITY & YEAR BUILT	MARKET RATE APARTMENTS	AFFORDABLE (not assisted, e.g. LIHTC’s)	FEDERALLY ASSISTED**
Projects built (1st occupancy*) after 3/13/1991	Fair Housing Act Requirements	Fair Housing Act Requirements	Fair Housing Act & 504/UFAS Requirements
Projects built from 7/11/1988 to 3/13/1991	None	None	504/UFAS Requirements
Sub Rehab of projects built after 7/11/1988	None	None	504/UFAS Requirements (load bearing wall exception)
Refinance of projects built prior to 7/11/1988***	None	None	504/UFAS Requirements (load bearing wall and financial/administrative burden exceptions)
All Public Accommodation	ADA	ADA	ADA & 504 UFAS

\*1<sup>st</sup> occupancy means a building occupied for any purpose, not just for housing.

\*\*\*"Federally assisted" projects include those financed or assisted by Project Based Vouchers, 202/811, HOME, HOPWA, Rent Supplements, 236, TCAP, BMIR, etc.

- (5) **State and Local Accessibility Laws.** The Fair Housing Act does not preempt state and local government measures affording persons with disabilities greater access than is required by the Fair Housing Act and some state and local governments do apply more stringent requirements. When state or local requirements exceed the Fair Housing Act design and construction requirements, the former prevail to the extent of such excess.
  - (6) **Adaptable Does Not Mean Deferrable.** A common misinterpretation of the Fair Housing Act design and construction requirements holds that the term “adaptable” contemplates a delay or deferral of the time when “features of adaptable design” required by the statute or regulations may be completed. This is inaccurate. The “features of adaptable design” described in the Fair Housing Act design and construction standards are required at original design and construction. Adaptable for purposes of Section 504 is defined at 24 CFR 8.3 and contemplates limited future physical changes to meet specific needs of particular persons with disabilities.
- b. **Repair/Rehab items (Short Term Physical Needs):** Identify and estimate the cost of the repairs, replacements, and significant deferred and other maintenance items that will need to be addressed within 12 months of closing (do not include items that are not broken but may need replacement in the near future). The items evaluated (both recommended and not recommended) are explained in the narrative report and the recommended items are documented in the Cap Needs Input worksheet of the RPCA model. That data input automatically generates the rehab escrow needs that appear in column B of the 20 Year Schedule worksheet of the RPCA model. Review column B of that worksheet to ensure the data input generated the correct result.
  - c. **Market Comparable Improvements:** After discussion with the Lender/Owner and the Lender’s appraiser, the inspector may include repairs or improvements that are necessary for marketability in the list of Repair/Rehab needs. The repairs/ improvements identified should be those necessary for the project to retain its original market position as an affordable project in a decent, safe and sanitary condition (recognizing any evolution of standards appropriate for such a project). The project should be able to compete in the non-subsidized market on the basis of rents rather than amenities. Where a range of options exists, the least costly options for repair or rehabilitation should be chosen, when both capital and operating costs are taken into consideration.
  - d. **Long-term Physical Needs/ Reserve Items:** Identify and provide an estimate of the major maintenance and replacement items that are required to maintain the project’s physical integrity over the next twenty (20) years. (Note that the Fannie Mae Guidance to the Property Evaluator only requires an 18-year assessment maximum). The items evaluated (both recommended and not recommended) are explained in the narrative report and the recommended items are documented in the Cap Needs Input worksheet of the RPCA model. That data input automatically

generates the 20 Year Schedule worksheet of the RPCA model. Review that worksheet to ensure the data input generated the correct result.

- e. **Reserve Costs.** The Contractor shall estimate the Initial Deposit to the Reserve for Replacement Account and the Annual Deposit to the Reserve for Replacement Account based on the cost of “Near Term” replacement and major maintenance needs of the Project.
- f. **Environmental Concerns:**
  - (1) This applies to all existing properties constructed prior to 1978 which have not been demonstrated to be LBP- and/or asbestos-free. For projects that contain LBP and/or asbestos, the Contractor is responsible for engaging the services of a qualified LBP and/or asbestos abatement contractor(s) to prepare a scope of work for the abatement of LBP and/or asbestos. Where the scope of abatement work consists of permanent enclosure or encapsulation, but not removal, of LBP and/or asbestos, the qualified abatement contractor(s) must also prepare, separate from the scope of abatement work, an Operations and Maintenance (O&M) Plan for LBP and/or asbestos. The O&M Plan contains ongoing maintenance activities for LBP and/or asbestos, to be followed for as long as the LBP and/or asbestos remains in place. All abatement work and ongoing maintenance activities for LBP and/or asbestos shall conform to the following Regulatory requirements:
    - a. For LBP, 24 CFR Part 35;
    - b. For asbestos, 40 CFR Part 61.
  - (2) The report shall provide a description of directly observed potential on-site environmental hazards and include a completed Environmental Restrictions Checklist (see Exhibit 2).
  - (3) The report must meet HUD’s requirements, as they may be modified from time to time, for the detection and remediation of radon. These requirements were initially described in HUD Mortgagee Letter 2013-07, issued January 31, 2013.
- g. **Green Building Principles:** An objective of the report is to identify all opportunities to improve energy efficiency, maximize water efficiency, use re-used and recycled materials where practical, safeguard the indoor air quality of the property, be of less harm to the environment generally, and remove/ re-use replaced materials and construction debris appropriately. The Contractor is required to evaluate all components in the building, all building systems, and all components on the property, and the property itself, to identify all opportunities to achieve the stated objective. **The Contractor is expected to consider the most promising types of improvements being used generally in applicable green buildings, to identify all alternatives considered, to provide a justification for the green alternative recommended and a brief explanation of why the non-selected alternatives are less appropriate for the subject property.** Each line item must identify the:

- (1) costs of the traditional repair/replacement to meet local building code, as applicable, and the alternative using green building principles;
  - (2) cost estimate for both the traditional and green approaches; and
  - (3) expected benefits of the green alternative, both financial and non-financial.
- (viii) The report shall identify any physical deficiencies as a result of:
- a. a visual survey;
  - b. a review of any pertinent documentation; and
  - c. interviews with the property owner, management staff, tenants, interested local community groups and government officials, where appropriate.
- (ix) The report shall include the Contractor's professional opinion as to whether tenant relocation is necessary to complete the recommended scope of work for rehabilitation.
- B. The RPCA must also include the following subcomponents:
- (i) Acknowledgements (who prepared report, the preparer's qualifications or a certification that the preparer meets the qualifications required in Part 1.1, when report was prepared, who received report, and when report was reviewed).
  - (ii) Appendices (color photographs, site plans, maps, etc.).
- C. In addition, the contractor shall:
- (i) Recommend any additional professional reports needed, for example, to determine the presence or degree of structural defects, or to complete additional investigation into an environmental issue, such as radon testing that was not envisioned at the time of engagement. The Lender/Owner will be responsible for obtaining such reports.
  - (ii) If requested by the Lender/HUD, the RPCA Contractor will review the requirements of a particular "green building standard"<sup>3</sup> and include in the RPCA its professional opinion on whether the rehabilitation recommended in the RPCA will meet the requirements of the particular "green building standard".
  - (iii) If the services of a subcontractor were secured to inspect the property and complete the report, the contractor shall review the inspection for quality, consistency, and agreed upon format and conformance with these requirements.
  - (iv) If requested by the Lender/Owner, attend a formal kick-off meeting to clarify the requirements and scope of the work to be performed.

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<sup>3</sup> Must be an industry-recognized standard for green building, such as the Enterprise Green Communities Criteria, LEED-H, LEED-H Midrise, LEED-NC, ENERGY STAR New Homes, ENERGY STAR Multifamily High Rise, EarthCraft House, EarthCraft Multifamily, Earth Advantage New Homes, Greenpoint Rated New Home, Greenpoint Rated Existing Home (Whole House or Whole Building label), and the National Green Building Standard (NGBS) or other industry-recognized green building standard in HUD's sole discretion.

### **3. Deliverables**

- A. A draft narrative report and RPCA model (with completion of these worksheets: Component Replacement Summary, Utility Types and Rates, Cap Needs Input, 20 Year Schedule, Detailed 20 Year Schedule, Rehab Escrow Needs, Utility Savings, **at least cell D28** of Water Savings, Utility Data Collection, and the Reserves 20 Year Schedule) shall be submitted electronically, as instructed by the Lender/Owner, for review prior to completion of the final report.
- B. The Lender/Owner will review the draft deliverables and discuss any necessary corrections with the Contractor that are necessary for the drafts to be finalized.
- C. The final narrative report shall be completed in the number of originals and copies requested by the Lender/Owner. It will also be submitted electronically along with the RPCA model, as instructed by the Lender/Owner.

**NOTE:** The final deliverable from the RPCA contractor shall consist of two files:  
1- PDF file, including the narratives from all three parts of this statement of work (PCA, Energy Audit and Utility Consumption Baseline.)  
2- EXCEL file of the completed RPCA model.

## **PART 2. ENERGY AUDIT**

### **1. Qualifications:** The contractor shall

- A. Be certified to complete building energy audits by RESNET or BPI (or their training providers), or be a Certified Energy Manager (CEM), or be a State equivalent certified energy auditor, or be a professional architect, or be a registered professional engineer, or be a RESNET certified Home Energy Rater or BPI Certified Building Analyst.
- B. Not be under suspension or debarment by HUD, or involved as a defendant in criminal or civil action with HUD.
- C. Produce reports that are well regarded in the marketplace in terms of content, timeliness and responsiveness. The contractor should have this personal experience, not just the company.
- D. Have the capacity to complete the project inspection and prepare the report in a time frame acceptable to the Lender/Owner.

### **2. Statement of Work**

These requirements are intended to fully satisfy and exceed the requirements in the American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc. (ASHRAE) Procedures for Commercial Building Energy Audits, Second Edition 2011, Level II guidelines.

- A. An energy audit identifies how energy and water is used in a facility.
  - (i) Data is collected on energy and water use and costs and a physical inspection of the property and energy-related equipment is performed.
  - (ii) The physical inspection reviews equipment and space conditions, past maintenance schedules, remaining useful life, and system performance, along with building envelope characteristics and conditions.
  - (iii) Physical inspection may also consider indicators of performance issues such as leaking or soiled heat exchangers, high humidity, poor space temperature control, and comfort concerns. Some of these characteristics may be indicators of improperly sized heating or cooling equipment.
  
- B. An energy audit analyzes utility costs of the existing property, including separate rates, if any, for owner and tenant accounts, such as for electricity. Utility data is trended and benchmarked against similar properties with like heating and cooling requirements, and used to provide estimates of energy and water savings that may be gained by implementing cost effective conservation measures.
  
- C. An energy audit provides a prioritized list of recommended cost-effective energy and water efficiency improvements to reduce utility costs.
  - (i) Cost-effective energy and water efficiency improvements are energy or water conserving measures whose estimated utility savings exceed the installed cost of the improvement over the measure's useful life.
  - (ii) Recommendations are based on engineering and economic analysis and consider factors such as operating hours, equipment efficiency, and building and occupant energy and water demand characteristics.
  - (iii) Costs are generally developed through industry norms or available historical project information.
  
- D. Insulation in attics, walls, basements, floors, and ducts for heating and cooling circulation, should, at a minimum, be upgraded to current local building code for new construction, unless prevented by physical obstructions. Additional insulation beyond code should be recommended if cost-justified.
  
- E. In addition, the energy audit includes a recommendation on whether additional caulking and sealing is a cost-justified expenditure.
  
- F. An energy audit report includes the following:

- (i) Current energy, water and sewerage usage and costs (kilowatt-hour, therms, ccf, utility cost) input in the RPCA model. NOTE: This requirement includes all utility usage at the property, both tenant-paid and owner-paid, and all common areas.
- (ii) Evidence that the Contractor used the Air Conditioning Contractors of America (ACCA) Manual J guide or another recognized methodology to size the recommended heating and cooling systems. The sizing shall consider other energy-related improvements being made to the property, including additional insulation, energy-efficient windows, etc. The Lender/Owner may request the Contractor prepare several calculations based on possible improvements or may contact the Contractor subsequent to the completion of the initial calculation and ask for a revision based on a specific set of improvements.

Exception: There are two exceptions to the requirement to complete a load calculation to appropriately size the heating and cooling systems:

- a. When the existing units are already the smallest available and there are no known property management or tenant complaints indicating that the existing systems may be inadequate. To justify this exception, the Contractor must inquire of the site property management and of any tenants encountered during the inspection of units, and not receive comments that would cause the Contractor to question the adequacy of the existing systems.
  - b. When the existing units use electric baseboard heat and conversion to another heat system has been determined to be infeasible. To justify this exception, the Contractor must consider any comments about unit heating received from inquiring of the site property management and of any tenants encountered during the inspection of units and state why conversion to another source is infeasible.
- (iii) Evidence that the contractor analyzed the existing size of hot water heaters and analyzed the appropriate efficient replacement size using First Hour Rating (primarily for individual tenant hot water heaters) or other professionally recognized sizing tools with a goal of providing sufficient but not excess capacity.
  - (iv) Evidence that the contractor inspected the ductwork for leakage and recommended and priced appropriate repairs. HUD's objective is to identify energy-saving opportunities and is relying on the contractor's professional judgment as to the extent of inspection, testing, cleaning and repair that is warranted for the specific property. If the ducts are accessible, the contractor is to conduct a visual inspection and make recommendations for repair of any loose/ broken connections or other leaks. If the ducts are not accessible, the contractor is to provide an opinion on the likely cost-benefit analysis of repairing the ducts and the approach recommended to do so (including use of an aerosol-based product).
  - (v) Completed "Utility Types and Rates" worksheet in the RPCA model provided by the Lender/Owner.
  - (vi) Completed "Utility Savings" worksheet in the RPCA model provided by the Lender/Owner.



- (vii) Completed “Water Savers” worksheet with **at least cell D28** being populated (otherwise this worksheet is an optional approach to estimating water savings);
- (viii) Prioritized list of recommended energy efficiency improvements. At a minimum, in evaluating recommended improvements, the contractor evaluates and comments on:
  - a. Wall, ceiling and basement (if applicable) insulation – describe existing, cite the local code for new construction
  - b. Exterior doors – weather stripping, caulking, insulation characteristics, possible needed replacement and standards
  - c. Storm doors (where they currently exist) – weather stripping, caulking, insulation characteristics, possible needed replacement and standards
  - d. Dishwashers (where they currently exist) – efficiency standard, age, replacement options
  - e. Windows/sliding glass doors – considering age, weather stripping, caulking, air conditioning sleeves
  - f. HVAC – age, size and rated efficiency of units, age and type of thermostat
  - g. DHW – age, size and rated efficiency of units, insulation, temperature setting and set-backs, appropriate efficiency and size for replacement units
  - h. Refrigerators – age, size, rated efficiency of units, potential replacements
  - i. Water – flow rate of shower and faucets, hot water temp at tap, hot water pipe insulation, toilet tank size
  - j. Ventilation – kitchen and bath ventilation (recirculating or outside), appropriate size for replacement units
  - k. Apartment lighting – existing lighting methods, over-lighted conditions, conversion to CFL bulbs or fixtures
  - l. Lobby, common area, corridor – exterior doors (see above), existing lighting methods, lighting (sufficiency/excess, conversion to CFL bulbs and/or fixtures, T-8 (or smaller) electronic ballast fluorescent, LED exit light and automatic control potential)
  - m. Exterior lighting (including parking area) – existing number, type, sufficiency/excess illumination levels and efficiency of lighting type, conversion potential to more efficient lighting type, automatic controls
  - n. Central Plant Boilers/Hot water - efficiency, age, potential for combined heat and power (CHP), set backs
  - o. Laundry Area – identify if leased or owned, number and type of appliances, size, age, efficiency rating
  - p. Other commercial or office space – same evaluation
  - q. Possibility of cost effective change in fuel/ heating system type

- r. Evaluation of rate options, if any, with the utility companies for different site uses, e.g., residential/ commercial rates, peak load management rates.
- (ix) An initial assessment of the potential feasibility of installing alternative technologies for electricity, heating and cooling systems, and hot water heating (collectively called Green Energy Technologies) at the property. The auditor is to comment specifically on each of the following:
  - a. Photovoltaic for electricity
  - b. Solar thermal for hot water heating
  - c. Wind turbine
  - d. Combined heat and power
  - e. Geothermal heat pumps, and
  - f. Fuel cells.

As an initial assessment of potential feasibility, the auditor's comments are to conclude and justify, for each of the six technologies, whether further study is recommended. Specifically, the auditor is to state that the property: is a potentially viable candidate and a feasibility study is recommended or is not a viable candidate and further study is not recommended.

NOTE: HUD expects a few sentences of discussion for each of the six technologies. For example, "Combined heat and power: The property has less than 80 units (a rule of thumb for minimum number of units for feasibility) and does not have a central power source. Further study is not recommended." Another example, "Geothermal heat pumps: The property has sufficient acreage to drill wells and uses enough energy for heating and cooling that this technology may be feasible. Further study is recommended."

- (x) Installed cost estimates for recommended energy and water efficiency measures.
- (xi) Expected useful life of recommended energy and water conservation measures.
- (xii) Annual energy and water saving estimates (consumption and cost reductions). In considering cumulative savings, the auditor should consider how measures may interact and be realistic about the overall portion of existing utility use that might be conserved.<sup>4</sup> The utility savings estimates will be contained in the Utility Savings worksheet of the RPCA model (note that the auditor may use the optional "Water Savers" worksheet of the model but **must complete** cell D28 of that worksheet for the total estimate of water savings).
- (xiii) Simple payback period in years for each evaluated measure, whether recommended or not. If more than one measure was evaluated, include a brief discussion of all measures evaluated and a justification for the one recommended in the narrative report. Include the recommended measure in the Cap Needs Input worksheet of the RPCA model.

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<sup>4</sup> The installation of individual components, taken individually, may support a certain level of utility savings that will not be realized when all the recommended components are installed as a package. In addition, some components (e.g., the first-time installation of air conditioning) will serve to increase utility usage.

G. The RPCA should also include acknowledgments (who prepared report, the preparer's qualifications or a certification that the preparer meets the qualifications required in Part 2.1, when report was prepared, who received report and when report was reviewed).

H. In addition to the above, the auditor shall:

- (i) Recommend any additional professional reports needed (including, for example alternate energy system feasibility studies, air infiltration tests for energy loss and ventilation needs, blower door tests, infrared imaging, duct blasting, etc.). The Lender/Owner will be responsible for obtaining such reports.
- (ii) If the services of a subcontractor were secured to perform the RPCA, the Contractor shall review the inspection for quality, consistency and agreed upon format and conformance with the report requirements.
- (iii) If requested by the Lender/Owner, attend a formal kick-off meeting to clarify the requirements and scope of the work to be performed.

### **3. Deliverables**

The report and completed worksheets of the RPCA model are made a part of the overall RPCA deliverables submitted by the RPCA contractor. See Part 1, paragraph 3 for instructions on delivering the draft and final narrative reports and RPCA model to the Lender/Owner.

## **PART 3. UTILITY CONSUMPTION BASELINE**

### **1. Introduction**

- A. Overview: The goal of this statement or work is to establish a twelve month consumption baseline for normalized heating, cooling, lighting, and other electric, gas and water usage (not cost) by property.
- B. Consumption Period for Demonstration Due Diligence: The contractor, in consultation with the owner, will establish a twelve-month consumption period, generally ending just prior to the application to the RAD program and maximizing availability of actual data. The twelve month period covered should be recent and similar for each utility and should conclude prior to any rehabilitation beginning at the property.
- C. Consumption Data Collection: The result will be to understand and document what types of utilities are used, from what sources, how they are used and in what amounts they are used. Information on how utilities are used will come from the owner and RAD Physical Condition Assessment (RPCA) through the Energy Audit. In order to obtain the data, the contractor will receive releases from the owner, including releases the owner has

obtained from tenants for tenant accounts so that the contractor can obtain consumption data directly from each utility provider. The owner may also provide actual billing data.

- (i) For each property paid utility, the releases will be executed by the owner and obtained from the owner by the Contractor.
- (ii) For tenant paid utilities, the releases will be executed by tenants, obtained from the tenants by the owner, and obtained from the owner by the Contractor. Releases will be requested from tenants who have been in residence 12 months or more and new entrants. For non-metered fuel sources, such as propane or heating oil, the Contractor will obtain releases from the owner to obtain 14 months of billing history from the supplier(s), or if suppliers are not willing/ capable of providing histories, the Contractor will obtain copies of bills from the owner.

D. Data Ownership: All energy usage data and analysis is the property of HUD.

**2. Qualifications:** The contractor shall

- A. Have experience in collecting utility consumption data and in using industry-recognized methods for estimating missing data and normalizing it for weather occurrences and property vacancies.
- B. Not be under suspension or debarment by HUD, or involved as a defendant in criminal or civil action with HUD.
- C. Produce baselines that are well regarded in the marketplace in terms of content, timeliness and responsiveness.
- D. Have the capacity to complete the project inspection and prepare the report in a time frame acceptable to the Lender/ Owner.

**3. Statement of Work:** A contractor shall construct a Consumption Narrative Report containing at a minimum:

- A. Project identifiers -PIC Number , property name, property location, name of contractor, ownership name and contact information, management agent contact information, if any, etc.
- B. For all utilities associated with the property:
  - (i) Identify vendors/sources.
  - (ii) Identify use for residential: heat, hot water, lighting, a/c.
  - (iii) Identify use (generally on separate meters) for non-residential: common/exterior lighting, laundry, office, maintenance shop, commercial (some projects have commercial leases).
  - (iv) Identify how the utility is used, for example, central steam boiler, forced air furnaces, heat pumps, window type air conditioners, central air, electric baseboard heat, common area lighting (incandescent or fluorescent, other) exterior lighting (type of lighting device).

- (v) Identify party responsible for payment, owner or tenant.
- (vi) Note any non-metered fuel source usage such as heating oil or propane.
- (vii) Note any observed anomalies regarding rate structure, metering, on-site generating via solar panels, wind turbines, etc.; and
- (viii) To the extent possible and applicable, estimate the commercial and non-residential portion of the use versus the residential use.

C. The Narrative is submitted as a PDF file.

D. Completed Utility Baseline – Summary and Utility Baseline – Monthly worksheets in the RPCA model, including:

- (i) General property information, utility provider information, and a property profile that includes the number of buildings, square footage, vacancy, and number of units.
- (ii) An overall summary of annual utility consumption across the entire property by utility type.
- (iii) An overall summary of annual utility consumption for each utility type and each meter at the property.
- (iv) Monthly utility consumption for each meter at the property.
- (v) For non-metered fuel sources such as heating oil or propane, attach detail for 14 months of consumption, and document how the estimate of twelve month consumption was reached.
- (vi) Adjust the actual consumption (usage) to produce weather-normalized summary consumption (usage). Use appropriate localized weather pattern data. Document the weather-normalization calculation in the Narrative. Note that HUD requires both raw and weather-normalized data.
- (vii) Adjust usage, based on available data, to a pro-forma 100 % occupancy by estimating additional use for unoccupied units. (This is in addition to, and complements, estimation for data gaps on occupied units.) This may affect some utilities, like water or electric, more than others, for example if heat is centrally provided.
- (viii) Establish an optional pro-forma adjustment factor to the consumption for cases where the RAD transaction involves changes in services provided at the property, for example the addition of air conditioning. If requested, supply estimate of utility consumption for the added service.
- (ix) Supply the completed RAD Utility Consumption workbook in Microsoft Excel, in the format required by HUD.

**NOTE:** The RPCA model also includes instructions for completion of the two utility consumption worksheets in a third worksheet titled, Utility Baseline – Instructions.

#### **4. Deliverables**

The narrative report and completed Utility Consumption – Summary and Utility Consumption – Monthly worksheets in the RPCA model are made a part of the overall RPCA deliverables submitted by the RPCA contractor. See Part 1, paragraph 3 for instructions on delivering the draft and final narrative report and the EXCEL workbook to the Lender/Owner.

**Exhibits (available on the RAD website at [www.hud.gov/RAD](http://www.hud.gov/RAD)):**

- 1 Fannie Mae Physical Needs Assessment Guidance
- 2 Form 4.4 Environmental Restrictions Checklist
- 3 Accessibility Law Compliance