1. Introduction

1.1. Property Condition Assessment

The Property Condition Assessment ("PCA") is a comprehensive evaluation of the:

- overall physical condition of a multifamily residential property (the "Property") at a specific point in time; and
- anticipated capital expenditures required at the Property over a specified evaluation period.

The PCA is a capital planning and risk assessment tool that may be used by a multifamily property owner (the "Property Owner"), property manager (the "Property Manager"), mortgage lender (the "Lender"), mortgage loan servicer (the "Servicer"), or Fannie Mae ("Fannie Mae"; the Property Owner, Property Manager, Lender, Servicer, and Fannie Mae are each referred to in these Instructions as a "User"). The PCA provides:

- an assessment of the Property's current physical condition;
- for each of the Property's systems and components, an estimate of (i) the effective age, and (ii) the remaining useful life;
- an evaluation of past and current operating and maintenance practices at the Property, and suggestions for future operating and maintenance practices; and
- an identification of current and future physical needs, including all significant (i) capital replacement costs, (ii) deferred maintenance, and (iii) on-going maintenance costs, that are anticipated at the Property during the term of the proposed mortgage loan (the "Mortgage Loan"), plus two years beyond the maturity date of the Mortgage Loan (the "Evaluation Period").

1.2. Instructions for Performing a Multifamily Property Condition Assessment

These Instructions for Performing a Multifamily Property Condition Assessment (the "Instructions") provide the scope of work for the firm, project team, or individual conducting the PCA (the "PCA Consultant") and preparing the report documenting the findings of the PCA (the "PCA Report"). The Instructions are not intended to take away from the professional judgment of the PCA Consultant. Rather, these Instructions will provide the PCA Consultant with:

- the minimum scope of assessment for all asset classes of multifamily properties that may secure a Mortgage Loan to be purchased by Fannie Mae; and
- a standardized format for the PCA Report detailing the findings and opinions of the PCA Consultant.

The Users may have additional requirements for the PCA and PCA Report that the PCA Consultant must meet in addition to these Instructions. Any additional User requirements must be detailed in the contract between the Lender and the PCA Consultant. The PCA Consultant is responsible for using its best professional judgment in determining whether additional property components beyond those specified in these Instructions should be assessed and included in the PCA Report.

1.3. Requirements and Qualifications of PCA Consultant

A. PCA Consultant Selection by Lender; Reliance by Users

By entering into the agreement with the Lender to conduct the PCA in accordance with these Instructions, the PCA Consultant agrees and acknowledges that Fannie Mae is an intended third-party beneficiary of the PCA and the PCA Report and will act in reliance on the PCA and the PCA Report.

B. PCA Consultant Independent Third-Party Status

The PCA Consultant, its personnel and any subcontractors hired by the PCA Consultant must be independent third-parties, unrelated to, and not have any financial or economic interest in, the Property, the Property Owner, or any affiliated entity of the Property Owner. The PCA Consultant must disclose in the PCA Report if the PCA Consultant is an employee or affiliate of the Lender.

C. PCA Consultant Qualifications

The PCA Consultant must not be under suspension or debarment by HUD or Fannie Mae, involved as a defendant in criminal or civil action with HUD or Fannie Mae, and not be on the FHFA's Suspended Counterparty Program list. The PCA Consultant, individually or collectively, must meet the minimum qualifications, professional education, training, and experience set forth below to perform site visits, evaluate multifamily property components and building systems, and prepare the PCA Report to the specifications set forth in these Instructions. The PCA Consultant must be in compliance with these qualifications from the time of engagement by the Lender through the delivery of the final PCA Report. The PCA Consultant shall include its statement of qualifications in Exhibit F to the PCA Report. The minimum qualifications of the PCA Consultant are set forth below. The Lender may require additional qualifications or impose alternate qualifications and, in each case, such additional or alternate qualifications must be described in the final version of the PCA Report. The PCA Consultant must maintain copies of all required certifications and documented experience for each individual responsible for working on the PCA and the final PCA Report.

1. Education. A qualified PCA Consultant must have a Bachelor of Science degree in engineering, architecture, construction management, historic preservation, construction/building science, or building facilities management.

2. Professional Experience. A qualified PCA Consultant must have the following minimum professional experience:

   (a) 5 years of professional experience in one or more of the following disciplines:

   - architecture;
   - engineering (structural, mechanical, or civil); or
   - construction management and cost estimating (which may include cost estimating experience associated with the preparation of a PCA Report).

   (b) within the last 3 years, have experience performing multifamily property condition physical needs assessments, completed a minimum of 5 property inspections, and reporting of property condition assessment findings in a manner consistent with these Instructions or ASTM E2018-08, as amended or restated from time to time;

   (c) prior experience evaluating multifamily properties with comparable building systems and components;

   (d) knowledge and experience with ASTM E2018-08 "Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process", as amended or restated from time to time; and

   (e) knowledge of applicable federal, state, and local building codes and regulations of the Property jurisdiction.

D. Field Observer Qualifications

The representative of the PCA Consultant performing the on-site walk-through survey or site inspection is the "Field Observer". The Field Observer must meet the following qualifications:

1. Professional Experience. A qualified Field Observer must have the following minimum professional experience:

   (a) 3 years experience performing property condition assessments and have completed a minimum of 5 property inspections at multifamily properties;

   (b) prior experience evaluating multifamily properties with comparable building systems and components;

(c) knowledge and experience with ASTM E2018-08 "Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process" or most current version; and

(d) knowledge of applicable federal, state, and local building codes and regulations of the Property jurisdiction.

2. Professional Certifications, Registrations and Training. A qualified Field Observer must possess or have successfully completed one of the following current professional certifications, registrations, or training programs:

(a) Bachelor of Science degree or 2-year Associate Degree program in engineering, architecture, construction management, historic preservation, construction/building science, or building facilities management;

(b) Commonground University's Property Condition Assessment online course offered by EDR;

(c) Property Inspection Risk Management course offered by the MBA;

(d) Real Estate Assessment Center ("REAC") for the Department of Housing and Urban Development ("HUD") as a Certified Home Inspector;

(e) Building Performance Institute (BPI);

(f) American Society of Home Inspectors ("ASHI");

(g) International Association of Certified Home Inspectors ("InterNACHI");

(h) At least 12 years assessing multifamily properties and preparation of ASTM E2018 compliant reports; or

(i) other Fannie Mae approved professional certifications, registrations, or training.

The PCA Report delivered to the Users be reviewed and certified by a professional engineer or by a licensed or registered architect, in good standing, or by an individual with appropriate experience and certifications in the construction field. The PCA Report must be signed by an employee of the PCA Consultant (i) with experience commensurate with the subject property type and scope (i.e., size, complexity, etc.), (ii) who has reviewed and certified the findings and conclusions of the collective PCA project team set forth in the PCA Report, and (iii) who is not a subcontractor of the PCA Consultant.

E. Consultant Insurance Requirements

The PCA Consultant must have the following insurance coverage in place, in amounts consistent with the market for the scope of its responsibilities:

- Commercial General Liability Insurance;
- Professional Liability Insurance;
- Worker's Compensation insurance; and
- Automobile Liability Insurance for all owned (if any), non-owned and hired vehicles.

The above policies should be issued by an insurance carrier rated by AM Best A-VI or higher. The PCA Consultant should also have appropriate insurance coverage in place for traveling to and from the Property and conducting work at the Property.

The Lender and its successors and/or assigns must be listed as an additional insured on the PCA Consultant's Commercial General Liability Insurance. The PCA Consultant must deliver proof of the required insurance coverage to the Lender, unless previously delivered to the Lender within the past 12 months in connection with another PCA.

2. Overview of the Multifamily Property Condition Assessment

2.1. Base PCA

The Base PCA sets forth the minimum due diligence, observation, evaluation, and reporting that must be performed by the PCA Consultant for a multifamily property without regard to property type, tenant-mix, or any specific program financing requirements. The Base PCA must include an expanded evaluation of the ASTM Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Baseline Property Condition Assessment Process (ASTM 2018-15), as updated or restated from time to time, and other property condition considerations as identified in these Instructions.

2.2. PCA Modules

In addition to the Base PCA required for all Properties, specific Modules may be required by the Lender. The Modules address unique Property types and uses, as well as specific program financing or other Fannie Mae requirements.

If PCA Consultant determines that a Module is appropriate but not included in the scope of work provided by the User at project engagement, the PCA Consultant should consult with the User to determine whether additional Modules are to be completed. If the PCA Consultant determines that specific Modules are appropriate, but were not included in the scope of work provided by the Lender at the time of engagement, the PCA Consultant must contact the Lender immediately to determine whether additional Modules are to be completed.

Module findings are integrated into the PCA Report and are required for the following Property types, Fannie Mae financing product, or as otherwise required by the Lender or requested by a User:

- Student Housing Properties;
- Seniors Housing Properties;
- Manufactured Housing Communities
- Cooperative Properties;
- Modular Housing/Modular Construction;
- Properties with multifamily residential mixed with commercial or retail use; and/or
- Properties with an existing solar photovoltaic system (“Solar PV System”).

Three additional Modules should only be completed by the PCA Consultant if specifically included in the PCA scope of work:

- Properties requiring an Integrated Pest Management Plan (IPMP);
- Properties requiring a High Performance Building (HPB) Evaluation; and/or
- Properties requiring a Technical Solar Assessment.

3. PCA Scope of Work

The PCA consists of three phases with the minimum requirements for each phase described in this Section.

- PHASE 1: Preliminary Due Diligence
- PHASE 2: Site Visit
- PHASE 3: PCA Report

3.1. Phase 1: PCA Preliminary Due Diligence

Preliminary due diligence will provide the PCA Consultant with an overall understanding of the Property and its past and current operations and performance. The preliminary due diligence will also allow the PCA Consultant to better define the on-site visit scope of work and provide a more efficient and effective site visit.

A. Data Collection and Document Review

Review of the following recommended documentation will provide the PCA Consultant with the knowledge necessary to plan the on-site visit and prepare the PCA Report:

- previously completed reports on the Property's condition, including any prior PCA report, seismic report, or environmental assessment;
- Certificates of Occupancy;
- the following items typically found in the Comprehensive Facilities Operation and Maintenance Manual (CFOMM), but which may be requested independently if the Property does not have a CFOMM:
    - Property specifics:
        - Site Survey;
        - As-built Drawings;
        - Finishes and Materials List; and
        - Vendor Data, etc.;
    - Operating Procedures:
        - Systems Overview; and
        - Operating Procedures, etc.;
    - Maintenance Program:
        - Preventative Maintenance Requirements; and
        - Corrective Maintenance Requirements;

- Deliverables:
    - Operations and Maintenance Plans (e.g., Asbestos, Lead, Mold, other Known Problematic Buildings Materials and Property Design Issues);
    - Maintenance reports, contracts, and receipts;
    - Maintenance and repair contracts in place for planned or future capital items
    - Inspection Records and Certificates (i.e., elevator, boiler, and safety inspection records); and
    - Warranties; and
- Training Manuals, etc.;

- any additional information related to maintenance and replacement of the Property's capital items;
- any pending proposals for work to be completed or outstanding repair tickets;
- a listing of any planned capital improvements, the scope of work, and project timeline for such improvements.

B. Special Hazards, Zoning, Building and Fire Code Violations and Regulatory Compliance

Upon engagement, the PCA Consultant should make all appropriate inquiries to obtain and review any relevant information relating to the Property from the local governmental agencies and departments having jurisdiction over the Property (which is typically reproduced and provided upon request to the municipality under the Freedom of Information Act). The review of governmental records and additional inquiries by the PCA Consultant will allow the PCA Consultant to reasonably determine whether the Property has any existing code violations, including building, health, fire, regulatory, and zoning compliance violations. The PCA Consultant will include copies of any such documentation in Exhibit E to the PCA Report. Any information requested but not received should also be documented in Exhibit E to the PCA Report, including any requests made under the Freedom of Information Act.

C. Pre-Site Visit Questionnaire

Prior to the PCA Consultant's site visit, the Lender or the PCA Consultant should deliver a pre-site visit questionnaire to the Property Owner or the Property Owner's representative (the "Property Point of Contact" or "POC") for completion and the PCA Consultant shall make reasonable efforts to review the pre-site visit questionnaire prior to the site visit. The pre-site visit questionnaire will provide the PCA Consultant with an understanding of the components and systems at the Property and facilitate an effective and efficient site inspection. (See Appendix B to these Instructions, "Pre-Site Visit Questionnaire", for a sample pre-site visit questionnaire.). If the pre-site visit questionnaire is received prior to the Field Observer's site visit, the PCA Consultant should interview the Property Point of Contact to address any needed clarifications and coordinate the on-site scope of work.

3.2. Phase 2: Site Visit

The site visit will provide the PCA Consultant with the information and visual observations necessary to provide a comprehensive evaluation of the overall condition of the Property, its systems and components in order to make a reasonable determination of the Property's functionality and sustainability. The site visit is to be a visual and non-invasive inspection of observable and accessible areas of the Property by the Field Observer. The Field Observer shall use its professional experience, combined with recognized industry standards, to assess the condition, capacity, and appropriateness of maintenance practices of existing Property systems and components, taking into account the local climate and the use of the Property. The Field Observer will determine and compare the effective age of the Property's systems and components to the year the Property was constructed (including identification of the phases of construction with consideration for significant renovations) as a tool to assess past and current maintenance practices. **If the PCA Consultant does not deem current repair and maintenance practices or procedures sufficient to maintain the Property, then the PCA Report should note all deficiencies and provide appropriate recommendations for each.**

A. Site Visit Approach

The Field Observer will conduct a walkthrough of the Property observing the Property's systems and components to identify deferred maintenance items, physical needs and unusual or unique features. The Field Observer is not required to perform diagnostic testing as part of the PCA unless otherwise specifically stated in these Instructions or as required by the Lender or another User. All building exterior surfaces must be observed unless inaccessible. If portions of building exteriors are not accessible, the Field Observer will describe the limitations or obstacles to access. The Field Observer should use its professional judgment if additional systems and components (not included in these Instructions) are present that should be observed and included in the PCA Report.

B. Interviews

The Field Observer shall conduct on-site interviews with the Property Owner or the Property Owner's representatives or employees who are knowledgeable of the Property's history, documenting the years of relevant multifamily experience and employment at the Property of such individuals. If not already received, the Field Observer should collect and review the pre-site visit questionnaire, and address any missing information where appropriate. **The Field Observer must make reasonable efforts to interview the maintenance supervisor and the Property's on-site manager. If these individuals are not available or accessible, the PCA Consultant is to document this as a limitation in the PCA Report.** The PCA Consultant should inquire whether the Property Owner or on-site manager have received any resident complaints regarding the physical conditions of units, including heating, cooling, utility expenses, noise control and scent or odor penetration. The PCA Report should summarize any relevant interviews with Property Owner representatives or employees. Casual interactions with tenants should not be used to discuss Property condition issues unless initiated by the tenant. If a tenant raises Property condition concerns, the Consultant should determine whether the issue is building-wide or affects other tenants.

C. Observation of Dwelling Units

The PCA Consultant should inspect a sufficient number of each dwelling unit type and system in each dwelling unit to opine on the present and probable future condition of the dwelling units and their systems. Based on the PCA Consultant's due diligence, site observations, current property operations and maintenance procedures, any planned capital improvements and other available information, the PCA Consultant should use its professional judgment to opine on whether the property and dwelling units will continue to operate in a manner consistent with its current or anticipated (if immediate repairs or renovations are planned) physical condition.

The PCA Consultant must make reasonable effort to select units for inspection based on a random distribution of unit type, buildings, and floors. To facilitate a random sampling of dwelling units, the PCA Consultant, in a timely manner (typically 24 to 36 hours prior to scheduled on-site visit), will provide the POC with a list of dwelling units to be inspected to allow the Property Manager to provide advance notice to those tenants. The POC may identify or recommend additional or replacement dwelling units as deemed appropriate. **The PCA Report will identify the dwelling units inspected, including building and unit number, unit type, occupancy status and floor. The PCA Report must identify whether dwelling units were randomly selected by the PCA Consultant or, if not randomly selected, (i) how the dwelling units were selected for inspection, and (ii) the limitation preventing a random selection.** The following schedule provides the minimum number of dwelling units required to be accessed and inspected:

(i) Properties with 5 to 50 units:

- A minimum of 5 occupied units will be surveyed.
- Survey all vacant units, up to a maximum of 15, including all units that have been vacant longer than 90 days. If all inspected units do not exhibit a clear and consistent pattern of maintenance and age of components, additional vacant units should be inspected.
- Survey all "down" units (i.e., units not currently in rentable condition).

(ii) Properties with 51 to 300 units:

- Survey a minimum of 10% of all units (occupied or vacant).
- Survey all units that have been vacant longer than 90 days. If all inspected units do not exhibit a clear and consistent pattern of maintenance and age of components, additional vacant units should be inspected.
- Survey all "down" units.

(iii) Properties with more than 300 units:

- Survey a minimum of 5% (but not less than 30) of all units (occupied or vacant).
- Survey all units that have been vacant longer than 90 days. If all inspected units do not exhibit a clear and consistent pattern of maintenance and age of components, additional vacant units should be inspected.
- Survey all "down" units.

If the PCA Consultant is unable to meet the minimum unit inspection requirements set forth above, the PCA Consultant must still be able to make a reasonable determination of the overall condition of the dwelling units at the Property. If the minimum unit inspection requirements were not satisfied, the PCA Consultant must (i) notify the Lender, and (ii) document in the PCA Report the deviations from the minimum unit inspection requirements and any limitations preventing compliance.

D. Photographic Documentation

The PCA Consultant shall provide photographic documentation representative of the Property, sufficient in quantity and quality to appropriately document the Property's current physical condition. The photographs should be representative of typical site improvements, amenities, and interior dwelling units. The PCA Report must include photographic documentation of all identified Immediate Repair Items and Replacement of Capital Items (representative photographs may be used as appropriate), clearly illustrating the nature and scope of the required repairs with appropriate description and location identified. All major building systems, equipment, and nameplates should be photographed and included in the PCA Report. If not removed from the appliances, the PCA Report should also include a representative sample of dwelling unit appliance Energy Guide labels according to the Federal Trade Commission's Appliance Labeling rules.

3.3. Phase 3: PCA Report

The PCA Report must provide definitive guidance for each deficiency identified by the PCA Consultant and recommend a course of action for the Property Owner.

The PCA Report must conform to the following format, incorporating the findings of the applicable Module within the appropriate section of the PCA Report. Further instructions for observing and reporting of Property characteristics and components are discussed in greater detail in Section 4 of these Instructions.

Section 1: Executive Summary

1.1 Summation of PCA Findings

1.2 Summary of Recommended Repairs and Replacement Cost Estimates

1.3 Identified Known Problematic Building Materials Table

1.4 Members of PCA Consultant Team

Section 2: Cost Estimate Schedules: Immediate Repair and Replacement of Capital Items

2.1 Immediate Repair Items: Life Safety, Critical Repair, Deferred Maintenance Items

2.2 Replacement of Capital Items (physical needs over the Evaluation Period), including Property Remaining Useful Life

Section 3: Property Characteristics

3.1 Site Components

3.2 Structural Frame and Building Envelope (Architectural Components)

3.3 Mechanical/Electrical/Plumbing Components

3.4 Interiors/Dwelling Unit Components

Section 4: Moisture and Microbial Growth and Pest Management

4.1 Moisture and Microbial Growth

4.2 Pest Management

Section 5: Special Hazards, Zoning, Building and Fire Code Violations and Regulatory Compliance

5.1 Special Hazards

5.1.1 Peak Ground Acceleration (PGA)

5.1.2. Hazards/Geographic Conditions/Catastrophic Event Potential

5.1.3. Flood Zone

5.2 Zoning

5.3 Building and Fire Code Violations

5.4 Regulatory Compliance

Section 6: Areas of Additional Assessment

6.1 Known Problematic Building Materials

6.2 Summary and Evaluation of Historical Capital Repairs and Replacements, Work in Progress, and Planned Capital Improvements

Section 7: Report References, Procedures, and Limitations

7.1 References used by the PCA Consultant for Preparation of PCA Report

7.2 Assessment Methodology

7.3 Limitations

PCA Report Exhibits

Exhibit A: Photo Documentation

Exhibit B: Location Map, Aerial Photo and Site Plan (if available)

Exhibit C: Structural Risk Evaluation Questionnaire (if applicable)

Exhibit D Pre-Site Visit Questionnaire

Exhibit E: Record of all Documents Reviewed, Interviews, and Supporting Information

Exhibit F: Statement of Qualifications (individual qualifications of the PCA Consultant's project team contributing to PCA Report)

Exhibit G: Statement of Energy Performance (if required)

4. Property Condition Assessment Report

The specific instructions for observing and reporting the base PCA are detailed in this section.

4.1. PCA Report Section 1: Executive Summary

A. Summation of PCA Findings

The PCA Executive Summary will:

- indicate that the report is a Property Condition Assessment, at whose request the PCA was ordered, and certifying that the PCA Report was prepared in accordance with, and meets the minimum scope of work and other requirements of, these Instructions (including the date of the Instructions and version number);
- state the purpose of the Property Condition Assessment, if known;
- state which Modules are incorporated;
- provide a summary description of the Property, including, but not limited to:
    - name of the Property;
    - location;
    - use;
    - size (including number of buildings, square footage and number of dwelling units);
    - age;
    - construction type, including whether modular construction (**NOTE**: If not identified prior to the site visit that the Property includes any prefabricated construction, the PCA Consultant must notify the Lender immediately. See Modular Housing/Modular Construction Module for additional requirements when completing a Fannie Mae Property Condition Assessment);
    - visibility and accessibility from major or public roadways; and
    - occupancy type;
- describe which standards and protocols were used for preparation of the PCA Report and a certification by the PCA Consultant that required minimum protocols and standards were met, including reliance language;
- state the site visit date;
- state the names of the individuals from the PCA Consultant, the Property Point of Contact, and all Property Owner representatives providing information or attending the Property site visit;
- describe the weather and conditions at the time of the site visit;
- identify whether any limitations or constraints prevented the PCA Consultant from performing the entire required scope of the PCA as set forth in these Instructions; and
- provide a concise summary of the conclusions reached by the PCA Consultant concerning the overall condition of the Property, including the PCA Consultant's professional opinion, based on the collective due diligence, site observations, current Property operations and maintenance procedures, any planned capital improvements, and other available information, of:
    - the quality of the current maintenance programs;
    - the Property's prospects, and whether the property will continue to operate in a manner consistent with its current or anticipated (if immediate repairs or renovations are planned) physical condition; and
- note any deficiencies and provide appropriate recommendations if the PCA Consultant does not deem that planned improvements or current repair and maintenance practices are sufficient to maintain the Property in its current condition or improve the condition of the Property.

B. Summary of Recommended Repairs and Replacement Cost Estimates

The Executive Summary will include the Summary of Recommended Repairs and Replacement Cost Estimates table summarizing the PCA Consultant's professional opinion of probable costs (as set forth in Section 4.2).

C. Known Problematic Building Materials Identified Table

The Executive Summary will include a summary table that includes a summary of identified Known Problematic Building Materials and Property Design Issues as set forth in Section 4.6 of these Instructions. Additional information on Known Problematic Building Materials and Property Design Issues is included in Appendix G - "Known Problematic Building Materials", to these Instructions. Appendix G is not meant to be an all-inclusive list of all known building material and design issues, and the PCA Consultant should use its professional judgment to determine the presence of any additional problematic building material or design issues at the Property.

D. Members of PCA Consultant Team

The Executive Summary will also list the names, titles and certifications of the individuals who actively participated in the PCA and the preparation of the PCA Report, followed by the signatures of each qualified participants and his or her qualifications as required by these Instructions.

4.2. PCA Report Section 2: Opinion of Probable Costs - Cost Estimate Schedules for Immediate Repairs and Replacements of Capital Items

The PCA Report will present the PCA Consultant's professional opinion of the probable cost, including installation, for each (i) item needing immediate repair (an "Immediate Repair"), and (ii) capital item reasonably expected to need replacing (a "Replacement of Capital Item") during the Evaluation Period. All cost estimates provided as part of the PCA must reference the source.

A. Determination of Probable Costs

When estimating the costs of repairs or the required replacement of a capital item, the PCA Consultant should consider:

- reviewing data from contractors and vendors on unit pricing and labor costs (but excluding labor costs if work can be performed satisfactorily by the Property maintenance staff);
- obtaining base materials and labor costs from the R.S. Means handbook or other industry standard estimating guide (the Means or other handbook used should be no more than two years in age, and the PCA Consultant should (i) inflate costs 3% per year for each year out of date, and (ii) use City Indices, as the differences between cities can be significant);
- accounting for associated demolition, construction and finishing work that may be required for installations;
- including "hidden costs" (i.e., asbestos or lead abatement, sidewalk bridges and scaffolding for window repair/replacement, etc.) or explicitly state otherwise and recommend if an additional assessment is necessary;
- including design, analysis and construction management costs, to the extent reasonable, and overhead and profit (O&P), as appropriate, in the cost estimate (e.g., if design of a new heating system is required, the cost of this design must be included as part of the cost of the heating system, allowing for the cost effectiveness of measures to be more fairly and accurately assessed); and

- including construction management and third party inspector fees, if required, in the overall project costs.

The cost estimates for the repair or replacement of all systems or components are to be based on parts and equipment that meet the most stringent of (i) minimum specifications mandated by applicable federal, state and local building codes, fire codes, and regulations for renovations, (ii) the current minimum guidelines established by the Department of Energy (DOE) energy efficiency standards for certain appliances and equipment pursuant to the Title III of the Energy Policy & Conservation Act of 1975 (42 U.S. Code, § 6291-6313, as amended), or (iii) other Fannie Mae approved sources.

B. Cost Estimates for Immediate Repair

The cost estimates for Immediate Repairs include the categories discussed below and will be detailed in an "Immediate repairs" table. Immediate Repairs include:

- Immediate Repair Items are items that, in the PCA Consultant's professional judgment, if left in the current condition, have the potential to cause injury, illness, or death to employees, residents, or guests at the Property, and include:
  - Life Safety Items (these Instructions do not attempt to define Life Safety, instead relying on the professional opinion of the PCA Consultant to identify Life Safety items unless considered a Life Safety violation by federal, state, or local law, ordinance, or code);
  - required remediation related to the presence of moisture, microbial growth, and pests; and/or
  - repairs necessary for the Property to comply with all federal, state, or local retro-commissioning, energy audit and reporting, or other energy-related compliance requirements;
- Critical Repair Items are items requiring immediate remediation to:
  - prevent additional substantial deterioration to a particular system;
  - address an immediate need observed by the PCA Consultant; or
  - extend the life of a system critical to the operation of the Property.

  Critical Repairs include equipment or property components with extreme deficiencies that will cause damage or continued deterioration of a system if left unmitigated. Critical Repairs also include corrections of conditions that adversely affect ingress or egress and sustained occupancy at the Property. Critical Repair items are those items that should typically be addressed immediately or within 6 months from the date of the PCA Report); and
- Deferred Maintenance Items are non-recurring capital items, such as material systems, components, or equipment that are approaching, have reached, or have exceeded their estimated useful life, and which:
  - require repairs, maintenance, or replacement to maintain the Property in a sound and marketable manner; and
  - failing to remediate in a timely manner (typically within 12 months from the date of the PCA Report) would potentially affects the Property's financial and operational performance.

C. Cost Estimates for Replacement of Capital Items

The cost estimates for Replacement of Capital Items include the Property's material systems, components, and equipment expected or required to be maintained or replaced at the Property over the Evaluation Period. Replacement of Capital Items are items anticipated, in the PCA Consultant's professional judgment, to meet or exceed their Remaining Estimated Life during the Evaluation Period, and which, if not repaired or replaced, have the potential to materially affect the Property's financial or operating performance. The PCA Consultant should evaluate the sufficiency of the Property Owner's cost estimates and implementation schedule for capital items already scheduled by the Property Owner to be replaced at any time during the Evaluation Period, but not include such items on the Cost Estimate Schedule for Replacement of Capital Items, unless specifically requested by either the Lender or the Property Owner. The cost estimates for Replacement of Capital Items will not include the cost estimates for repairs included in the Cost Estimate Schedule for Immediate Repair Items unless additional recurring maintenance to these same items will also be required during the Evaluation Period.

The PCA Report should provide a recommendation regarding anticipated capital items replacements, with appropriate detail on the timing, location, and nature of the anticipated capital replacement needs. The PCA Report will document the Replacement of Capital Items with a schedule titled "Cost Estimate Schedules for Replacement of Capital Items". The Schedule of Replacement of Capital Items will include itemized current replacement cost and inflation adjusted replacement costs. A 3% annual inflation factor will be added to the cost estimates for Replacement of Capital Items from the date of the PCA Report through the scheduled replacement date.

The completed Property Useful Life Table (Se e Appendix D to these Instructions, "Guidance on Preparing PCA Report Schedules and Tables", will be included in the Executive Summary section of the PCA Report. The Property Useful Life Table will include the PCA Consultant's professional opinion of the effective age and remaining useful life of the Property's systems and components, incorporating environmental, geographic, maintenance, resident or other factors, beyond normal wear and tear, that may impact the Effective Age ("Eff Age") and Remaining Useful Life ("RUL"). To complete the Property Useful Life Table, the PCA Consultant will reference the standard useful life tables for multifamily property systems and components set forth in Appendix F to these Instructions, "Estimated Useful Life Tables". The Estimated Useful Life (EUL) Tables represent average Estimated Useful Life values and are not intended to replace the professional judgment of the PCA Consultant in determining the Effective Age and Remaining Useful Life of the Property's systems and components.

The PCA Consultant will evaluate and rate the Property systems, components and equipment based on a 1 (best) through 5 (worst) scale and further defined in Appendix D to these Instructions - "Guidance on Preparing PCA Report Schedules and Tables". Any Property component with a Remaining Useful Life that does not extend beyond the Evaluation Period (or where the Property Rating indicates substandard maintenance practices) should be addressed in the PCA Report, either in the Cost Estimate Schedules or providing a justification for exclusion (e.g., the component is included in routine maintenance or covered by warranty, etc.). The PCA Consultant must state a specific conclusion on the condition of the Property systems, components, and equipment, and is not permitted to use the term "varies" as a conclusion.

4.3. PCA Report Section 3: Property Characteristics

The PCA Report will include a description of the condition of the Property systems, components, and equipment, including recommended replacement specifications, repairs, maintenance, and scope of work for any recommended repairs or replacements. The precise physical location of each recommended repair or improvement must be identified. The PCA Consultant will evaluate and rate the Property systems, components, and equipment on a 1 (best) through 5 (worst) scale. Property Condition Standards and Ratings are further defined in Appendix D to these Instructions, "Guidance on Preparing PCA Report Schedules and Tables".

The PCA Consultant should include the following assessments and evaluations.

A. Site Components

1. Site Configuration and Size: Report on the number of separate parcels of land, shape, general topography, and acreage, and explicitly state whether all parcels are parcels are contiguous, non-contiguous, or scattered site.

    - A "contiguous Property" consists of either (i) a single parcel, or (ii) multiple parcels of multifamily residential properties that are either adjoining or separated by dedicated or private streets that are not major arterials, and have the following characteristics:
        - all parcels of the Property have been operating as one project;
        - the parcels are within a reasonable distance from each other (no more than 0.25 miles apart), and are all within the same submarket;
        - any shared amenities on any parcel are available to all tenants;
        - the location of amenities on one parcel does not materially adversely affect the rents at another parcel without amenities; and
        - no elevated vacancy level exists at one parcel due to the Property's configuration.

- A "non-contiguous Property" consists of multiple parcels of multifamily residential properties that are (i) either not adjacent or are separated by dedicated or private streets that are major arterials, or (ii) does not otherwise meet all of the above characteristics for a contiguous Property.
- A "scattered site Property" is comprised of several non-contiguous parcels of non-multifamily housing units (e.g., single-family townhomes) dispersed throughout an area, community, or development.

2. Utility Providers: Provide a table that lists each utility provider to the Property and the utility provided.

3. Site Landscaping, Grading and Drainage: Identify site appurtenances, including irrigation systems, water features, signage (monumental, roadway, and parking signage), and ponds, including detention and retention ponds. Observe landscaping, noting types and extent of trees, ornamental shrubberies, and landscape planting areas. Observe the site topography, unique features or conditions. Report the storm water collection and drainage system.

4. Water and Sanitary Lines: Identify and report on major utility and plumbing systems including piping (supply water, storm and sanitary lines. If available identify and report the type of utility provided plumbing materials. If applicable, identify timing of known or needed replacements including anticipated operations and maintenance, presence of unique design features, as well as the suspected or known presence at the Property of any known problematic building materials or design issues identified in Appendix G to these Instructions, "Known Problematic Building Materials and Building Design Issues".

5. Ingress/Egress: Observe ingress and egress to the site. Identify condition of paved areas and if the Property is located in a walkable neighborhood, determine whether site side walks and pathways are connected to neighborhood walkways. Describe site security type or secured site ingress or egress.

6. Flatwork, Parking Areas, and Walkways: Observe drive and parking area material, paving, and curb systems. Interview building maintenance personnel to obtain a general idea of the maintenance and performance history of the drive and parking areas, if not already provided. Visually examine sufficient portions of the pavement surface to evaluate overall conditions and to identify the type, extent, and severity of existing problems. Determine whether there are any serious underlying deficiencies. Provide recommendations as to the types of repairs that are needed to restore or maintain a serviceable pavement. Observe sidewalks, pool decks, and patios.

7. Site Lighting: Identify and observe all site lighting systems. Identify lighting system controls such as programmable timers, occupancy sensors and photocell technology. Asse ss the "effectiveness" of the site lighting systems, including a determination whether:
   - light fixtures are operational;
   - lamp covers are free from excessive staining;
   - light fixtures are non-obstructed by landscaping or other material; and
   - the Property appears to have sufficient lighting.

   Assessment of the "effectiveness" of the site lighting is intended to be a visual inspection during the site visit, as a night site visit is outside the scope of work of these Instructions.

8. Site Fencing and Retaining Walls: Observe types, locations, and conditions of site fencing and retaining walls.

B. Structural Frame and Building Envelope (Architectural Components)

1. Building Structures: Observe the number, stories and exteriors of all apartment buildings. Observe every structure, including offices, clubhouses, garages, and maintenance buildings. Observe different ages or phases of construction and identify different construction materials. Determine the age of the Property through the review of building permits and certificates of occupancy; identify phases of construction and significant renovations to assist in establishing the effective age of the Property's systems and components to determine the remaining useful life.

2. Foundations: Observe type of foundation noting the presence of basements or crawl spaces. Observe conditions identifying signs of movement or distress. To the extent visible from the point of access, observe crawl space for finish, insulation, cracks, and moisture. If crawl space is not accessible, explicitly state that crawl space is not accessible.

3. Framing: Identify the basic type of each structure at the Property (e.g., wood frame, steel frame, prefabricated modules, cast-in-place concrete, precast concrete, or concrete block). Describe floor and roof framing systems, including condition.

4. Building Cladding (i.e., Exterior Wall Finishes): Observe building envelope noting types of exterior cladding (e.g., brick, wood, composite, vinyl, cement fiber, etc.). Exterior conditions are generally viewed from ground level. Observe conditions and maintenance practices as well as the presence of graffiti or evidence of vandalism. If information or documentation is readily available, the PCA Report should document type and age of insulation at the Property.

5. Roof Systems: Observe roof type, noting access, slope, coverings, color, and flashing, including copings, parapets, and chimneys. Look for evidence of damage, leaks, or ponding of water on the roof systems. Indicate whether roof access is permitted by residents. Report roof age and remaining term of roof warranty. Inquire with POC regarding roofing insulation type and age. If readily ascertainable, identify if roof utilizes "green" technologies such as roof top gardens and "cool roofs" that can deliver high solar reflectance, or have a solar reflectance index (SRI) rating, etc. If a Solar PV System is located on the Property, refer to the Solar Photovoltaic System Module and, if applicable, include an assessment regarding the roofs or other structures on which the Solar PV System is mounted (e.g., carports).

6. Appurtenances: Observe all exterior stairways, balconies, decks, railings, patios, and breezeways. Identify type (e.g., balcony, French balcony, inset balcony, deck, floating deck, cantilevered deck, porch, patio, veranda, terrace, porte-cochere, etc.) and construction materials (e.g., wood, steel, concrete, etc.), and report observed conditions. Observe for storage of materials that would otherwise be prohibited by Property rules or regulations, local code or regulations, or that would be considered a fire code violation.

7. Doors and Windows: Observe a representative number of windows and doors, noting material types, hardware, and condition of weather-stripping and door sweeps.

8. Amenities: Observe and report on all building amenities and structures (including leasing office, clubhouse, laundry facilities, swimming pools, car washes, sports courts, tot lots, presence of bicycle parking, and/or storage areas), Wi-Fi accessibility, etc. Report existence of ENERGY STAR® and/or WaterSense®-rated appliances and ratings of appliances, if available, and other observed equipment.

C. Mechanical/Electrical/Plumbing Components

If the number or percentage of mechanical, electrical and plumbing components or systems to be inspected is not specified by the Lender, the PCA Consultant should inspect sufficient site systems to state with confidence the present and probable future condition of each system at the Property.

1. Water Distribution and Domestic Hot Water System: Identify and observe the plumbing system materials (domestic hot and cold water). Identify and observe hot water equipment, any special equipment, such as water softeners, and condition of insulation at supply lines. Identify and, if appropriate, recommend:

   - installation of low-flow devices, including toilets, shower heads, faucets, or faucet aerators or
   - insulation of all hot water supply lines or steam pipes.

   Unless mandated by federal, state, or local building codes, recommendations for installation of water conservation fixtures or insulation features for hot water supply lines should not be included in the Cost Estimate Schedules.

2. Sanitary Waste and Vent: Observe and identify the sanitary system components and materials. Determine performance based upon interviews and physical observations. All public underground utilities must comply with local conditions and code requirements. The PCA Consultant should alert the Lender immediately if a private sewage treatment plant, septic system, or private water is present, if not previously disclosed by the Lender to the PCA Consultant. If a private sewage treatment plant, septic system, or private water is present, the PCA Consultant should identify components and estimated costs for maintaining the systems. When evaluating private water and sewage treatment facilities, the PCA Consultant should consider the following:

   - Determine whether the facility is owned by a separate entity than the Property Owner.
   - The facility's historic performance must be evaluated to ensure satisfactory compliance with all applicable state and local government requirements. Verify that any historical violations were minor in nature and that corrective actions have been properly and permanently implemented.
   - The facility and its operator, including its employees and contractors, must meet or exceed all applicable federal, state and local government requirements necessary to perform the facility's ongoing operation and maintenance. If the operator of the facility is a related entity of the Property Owner, the PCA Consultant should verify the availability of a local, qualified vendor that could be retained if it is necessary to obtain substitute services.
   - After exercising reasonable due diligence, including contacting municipal agencies, the PCA Consultant shall determine if the Property has been required to connect to a municipal water and sewage system by some future date, and the cost estimate to comply with any current (or likely future) requirement to connect to a municipal water and sewage system.

3. Heating/Cooling System and Controls: Observe and identify the HVAC and, if applicable, renewable energy systems using nameplate analysis and include types of units, size of units, capacity of units, distribution systems, and thermostats. Determine the age of the components and any apparent upgrades and replacement components. Report on operation and maintenance practices, such as condition of mechanical rooms, filter replacements, preventative maintenance, etc. Observe and report on EnergyGuide Labels or ENERGY STAR rating of system equipment, if available. Identify whether the Property utilizes programmable thermostats and/or Equipment Management Systems (EMS). If programmable thermostats are present, the PCA Consultant shall inquire whether the thermostats have been pre-programmed.

4. Ventilation Systems: Observe and comment on the adequacy of ventilation systems, through interviews and the on-site visit. Address the following ventilation items within the PCA Report. (**Note**: these Instructions do not require the diagnostic testing of the ventilation system.):

   - Observe and report whether ventilation vents appear to be functioning properly or have excess dust or dirt build up.
   - Report whether the Property utilizes roof fans. If the Property has roof fans, confirm they are operational.
   - Observe and document the Property's smoking policy. Identify whether there are smoke-free areas, such as buildings, playgrounds, common areas, etc.

   Following is a list of additional items recommended for review and observation of ventilation systems. Non-observable items may be excluded. The on-site survey is intended to be a visual non-invasive observation of visible and accessible areas of the Property.

   - Determine whether the ventilation system is operating in the manner in which it was intended and appears to be properly installed.
   - Identify the type of controls by which the ventilation is run, including whether the ventilation system is on a timer or if the system runs continually. Observe estimated ventilation speed (i.e., maximum, high, medium low, off).
   - If observable, verify air ducts are sealed and free from cracks and gaps.
   - If observable, verify the connection between building duct work and sheetrock or plaster is free from cracks and gaps.

5. Electrical Service: Identify the service size and the distribution system including, transformers, meters, distribution panels, lighting systems, and other electrical equipment or systems. **For individually metered properties, Fannie Mae requires a minimum amperage (as determined by the amperage rating stated on the main breaker for each individual unit) of 60 amperes for each dwelling unit. The minimum amperage identified at the Property for dwelling units may be determined by the PCA Consultant based on a representative sample of dwelling units and must be included in the PCA Report.**

   NOTE: Adding all of the individual breakers at the dwelling unit level subpanel is not adequate. The amperage must be a minimum of 60 amps. If the amperage is below 60 amps, the PCA Consultant should further evaluate the adequacy of the electrical service based on:

   - Property characteristics, such as unit sizes, fuel sources for the mechanical equipment, cooking, and typical living styles;
   - interviews with Property staff and residents, as available, to determine whether the fuse blows or breakers trip on a frequent basis; and
   - discussions with Property maintenance staff regarding the configuration of outlets and amperage to identify whether appliances that demand high current (such as heating appliances) are connected to a low amperage circuit. Note that the refrigerator should always be on its own circuit.

   All dwelling units should have circuit breakers, not fuses, as circuit overload protection. However, if fuses are identified in units, fuses must be tamperproof, local code compliant and not a life safety issue for the Property. If aluminum wiring is present, see Appendix G to these Instructions, "Known Problematic Building Materials and Property Design Issues", for further discussion of potential issues, such as Aluminum branch wiring, fused subpanels, and Federal Pacific Stab Lok breakers, as well as appropriate evaluation of such issues.

6. Fire and Life Safety Systems: Identify and observe condition and age of life safety and fire protection systems and equipment, including sprinklers, hydrants, alarm systems, water storage, smoke detectors, extinguishers, emergency lighting, and carbon monoxide detectors. Carbon monoxide detectors are required in dwelling units and common areas with attached garages or a fossil fuel source (e.g., natural gas, heating oil, propane, etc.).

7. Elevators and other Vertical Transportation: Identify equipment type, number of elevators, and capacity. Observe condition of cabs and audible communication equipment. Identify maintenance contractor (if existing). Verify certifications are current and provide copies in the PCA Report and verify that no violations exist with the city, county or state governmental authorities. Identify stairs and other vertical transportation, and observe conditions. Identify components and costs if major replacements are anticipated during the Evaluation Period.

8. Site Security: Observe and identify security systems and components, including on-site guards, offsite contractors, cameras and alarms.

D. Interiors; Dwelling Unit Components

1. Common Area Interior Finishes: Identify and observe conditions of all common area interior finishes (e.g., floor and wall coverings, etc.) in common areas. Identify common area furniture, fixtures, and equipment.

2. Dwelling Unit Summary: Provide a summary table of unit count by unit type, including number of occupied units, vacant units, and down units (i.e., units not currently in rentable condition), and dwelling units under renovation. The PCA Report must disclose units inspected by the Field Observer during the site visit.

3. Down or Vacant Units: Observe conditions and identify any needed repairs and cost estimates to restore down units to a rentable condition, and whether systems, components, or appliance poaching (i.e., management making vacant units not rentable by moving systems, components, or appliances from vacant or down units into rentable units) is observed.

4. Unit Finishes: Observe and identify finishes and general conditions, and report on maintenance practices and frequency of routine unit inspections.

5. Cabinets, Counters, and Sinks: Observe and identify materials, conditions and age. Note history of replacement vs. refurbishment. Identify whether water conservation devices are being utilized at the Property.

6. Appliances: Observe and identify appliance package, age, and condition**.** Based a representative sample, observation and appliance model numbers, report on appliance EnergyGuide labels per the Federal Trade Commission's Appliance Labeling rule in effect since 1980. If EnergyGuide labels are not visible or available, the PCA Consultant may use the manufacturer's website to look up and print a copy of the EnergyGuide label for a representative sampling of dwelling unit appliances.

7. Bathroom Vanities, Washbasin, Shower/Tub, and Toilet: Observe and identify materials, conditions, and age. Note history of replacement vs. refurbishment. Identify whether water conservation devices are being utilized at the Property.

8. Cable or Internet Availability: Report on accessibility, type of access, provider and speed.

4.4. PCA Report Section 4: Moisture and Microbial Growth and Pest Management

The Moisture and Microbial Growth and Pest Management section of the PCA Report will include the following scope of work.

A. Moisture and Microbial Growth

The PCA Report must address the presence of moisture intrusion and microbial (mold) growth in the areas requiring inspection, as well as if the Property has a history of mold issues. The PCA Consultant shall:

- observe visual and olfactory evidence of microbial growth;
- make inquiries regarding current moisture intrusion or any known microbial growth issues;
- make inquiries regarding tenant complaints pertaining to mold or microbial growth;
- inspect all areas reported and observed to have moisture intrusion, mold, or microbial growth; and
- identify any defective of problematic material that may result in water intrusion.

Inquire whether a Moisture Management Plan ("MMP") is in place. The Moisture Management Plan provides procedures to safely identify and mitigate risks related to moisture and mold. The Moisture Management Plan follows a tiered approach of controlling moisture so mold growth is not promoted and, if mold is discovered, minimizing its impacts and preventing further contamination by isolating and remedying the source of the problem and any affected materials. If a Moisture Management Plan is in place, obtain a copy, review and report whether it adequately addresses the PCA Consultant's current findings. Verify that any Moisture Management Plan currently in place is being implemented. If a Moisture Management Plan is not in place but deemed necessary, the PCA Consultant should recommend that a Moisture Management Plan be implemented.

B. Pest Management

Observe for the presence of pests and vermin. If pests are observed, recommend appropriate pest control measures. Determine if there is a site pest management plan incorporating a range of practices for economical control of pests. If pests are observed and a plan is in place, recommend additional investigation or correction of any deficiencies in the plan, if apparent. Observe for the presence of termites and other wood destroying organisms. If evidence of termites is observed, identify how evidence was observed and extent of observation and include sufficient photographic record. If evidence of termites is observed, recommend additional assessments or inspections.

4.5. PCA Report Section 5: Special Hazards, Zoning, Building and Fire Code Violations and Regulatory Compliance

A. Specials Hazards

1. Peak Ground Acceleration (PGA); ASTM Seismic Risk Assessment:

Determine the Peak Ground Acceleration (PGA) for the Property based on the Property address or longitude and latitude using the United States Geological Survey (USGS) Peak Ground Acceleration (PGA) Calculator Tutorial. If the PCA Consultant is not able to identify the site specific PGA for the Property, an approximate PGA range based on the Property's county or state is acceptable. The PCA Consultant must state whether the Property is located in an area with a Peak Ground Acceleration (PGA) equal to or greater than 0.15g (15% of the acceleration of gravity (g), using a 10% in 50-year exceedance probability, as shown by the most recent United States Geological Service data for the area Peak Ground Acceleration). If this threshold is met, the PCA Consultant must then identify the site specific Peak Ground Acceleration using the Property's address or its latitude and longitude. If the Property is located in a region where there exists less than a 10% probability of the maximum Peak Ground Acceleration exceeding 0.15g at any point in a 50-year period, the maximum PGA value for the Property region may be identified in lieu of the specific PGA for the Property.

A Structural Risk Evaluation (SRE) Questionnaire (see Appendix C to these Instructions, "Structural Risk Evaluation Questionnaire") must be completed for any Property identified as having a PGA greater than 0.15g as described above.

The Seismic Risk Assessment must be performed in accordance with (a) ASTM E2026-16a "Standard Guide for Seismic Risk Assessment of Buildings", which requires loss estimations for each improvement on the Property, and a total aggregate loss estimation for the entire Property, and (b) ASTM E2557-16a "Standard Practice for Probable Maximum Loss (PML) Evaluations for Earthquake Due-Diligence Assessments", as the same may be amended from time to time. Upon the Lender's request, a Level 1 Seismic Risk Assessment, including Appendix X4 – ASTM E2557-16a Summary Findings Form, shall be prepared and included with the Seismic Risk Assessment.

The Seismic Risk Assessment must also state whether any building or site stability condition exists and, if so, under what conditions. The SEL, SUL, building stability, and site stability conclusions must be determined using the 10% in 50-year exceedance probability (the 475-year return period).

If instructed by the Lender for a Small Mortgage Loan, the SRA field investigation may be performed by the PCA Consultant or Field Observer if that professional has at least 2 years of experience performing seismic risk assessments of buildings.

2. Hazards/Geographic Conditions/Catastrophic Loss Potential and Expansive Soil Potential:

State whether the PCA Consultant believes that (a) the region has a propensity toward any of the events below, and (b) whether specific conditions at the Property, such as expansive soils, would impact the performance of the Property during such events. If yes, (i) comment on the construction types and their expected performance in such event, and (ii) identify the specific conditions, such as expansive soils, and their impact on the performance of the Property during such catastrophic event.

- Earthquake;
- Volcanic activity;
- Flood;
- Hurricane;
- Tornado;
- Wind;
- Sinkhole;

- Landslide; or
- Wildfire.

3. Flood Zone:

   Review FEMA flood map and provide the flood zone or zones in which all portions of the Property are located. Identify the map number and date of publishing.

B. Zoning

Identify the zoning code and requirements applicable to the Property, and any zoning code violations that may exist, or whether the Property is a permitted non-conforming use.

C. Code Violations

1. Building Codes: Identify violations observed during the site walk through and request information for all building code violations cited by the local governmental authority that have not been remedied. Determine the timing and costs to remediate any open code violations and make recommendation to achieve compliance. Documentation of all violations must be included in Exhibit E to the PCA Report.

2. Fire Codes: Identify violations observed during the site walk through and request information relative to violations cited by the fire department that have not been remedied. Determine timing and costs and make recommendation to achieve compliance.

D. Regulatory Compliance

1. Americans with Disabilities Act (ADA) and Fair Housing Act (FHA): Perform a visual survey of the Property's compliance to the extent applicable with the ADA, FHA, and similar state and local laws. The ADA visual survey should include, but not be limited to: (a) number of on-site ADA-designated parking spaces, (b) overall accessibility, including, but not limited to, sidewalks, entrances, restrooms, and access to common areas such as the leasing office and property amenities, and (c) elevator controls, notices and safety features. If the Property is not in compliance and immediate repairs are required, such costs must be included in the Immediate Repairs cost estimates. Any repairs needed to comply with the ADA, FHA, and similar state and local laws must be included as a Critical Repair Item.

2. Energy Retro-Commissioning: If applicable, determine compliance with local, state or federal retro- commissioning, energy audit or other energy benchmarking compliance actions. If the Property is not compliant, the PCA Report should state that the Property is not compliant and recommend additional assessment.

3. Energy Performance Metrics: For a Property subject to federal, state, or local energy and/or water consumption reporting requirements, the PCA Report must include the ENERGY STAR Score for Existing Multifamily, Source Energy Use Intensity (Source EUI), EPA Water Score, and Water Use Intensity (WUI) for the Property, as generated by Portfolio Manager®. The metrics should be calculated for the most recent calendar year available. Both metrics are calculated by ENERGY STAR Portfolio Manager (www.ENERGYSTAR.gov). The energy consumption reporting period must be for the same 12-month period as used by the Property for reporting its annual financial information.

   A copy of the current Statement of Energy Performance and EPA Water Scorecard from the Property's account in ENERGY STAR Portfolio Manager provided by the Property Owner should be included as Exhibit G to the PCA Report.

4.6. PCA Report Section 6: Areas of Additional Assessment

A. Known Problematic Building Materials and Property Design Issues

The PCA Report must identify, evaluate, and report on any observed, reported, or suspected known problematic building materials or design issues currently installed, in use at or located on the Property. (See Appendix G to these Instructions for a partial list.)

B. Summary and Evaluation of Historical Repairs and Replacements, Work in Progress, and Planned Capital Improvements

1. Summary of Historical Repairs and Replacements. If available, the PCA Report will include a summary of major capital expenditures over the prior three years, including improvement name and brief description, timing of improvement, and cost.

2. Work in Progress. The PCA Report will include all relevant information concerning any work observed to be underway at the Property during the site visit or that is known to be under contract. For purposes of the Cost Estimate Schedules, work in progress should not be assumed to be complete. The PCA Consultant should discuss the work schedule with the POC and the Lender to determine whether the estimated completion time is within the Evaluation Period. Regardless of the estimated completion date, if work in progress is observed to be unacceptable in quality or scope, the cost of an acceptable remediation should be included in the Cost Estimate Schedules. Work is only considered complete when all work is done, paid in full and lien-free.

3. Planned Capital Improvements. The PCA Report will include a summary of all capital improvement items that are already scheduled by the Property Owner to be completed at any time during the Evaluation Period, along with the PCA Consultant evaluation of the sufficiency of the Property Owner's cost estimates and implementation schedule, as well as the PCA Consultant's evaluation of whether the planned capital improvements are (i) discretionary, or (ii) necessary to maintain the value and marketability of the Property. The Cost Estimate Schedules must include the cost of all planned capital improvements that are determined by the PCA Consultant as necessary to maintain the value and marketability of the Property.

4.7. PCA Report Section 7: Report References, Procedures and Limitations

A. References used by the PCA Consultant for Preparation of PCA Report

The PCA Consultant shall reference any federal, state or local codes used in connection with preparation of the PCA Report.

The PCA Report must disclose all relevant documentation and sources used in preparation of the PCA Report including the Cost Estimate Schedules for Immediate Repairs and Replacement of Capital Items in Exhibit E of the PCA Report. If a source used by the PCA Consultant is not a commercially recognized source, the PCA Report must include documentation supporting the cost estimates derived from such source. The PCA Consultant shall have available, at the Lender's request, electronic copies of all relevant documentation used in preparation of the PCA Report. All documentation requested by the PCA Consultant but not received from the Property Owner, the Point of Contact, or the Lender will also be documented in Exhibit E to the PCA Report.

All calculations and models, if any, used in preparation of the PCA Report must be transparent, consistent with industry standards, and supportable.

B. Assessment Methodology

The PCA Consultant shall reference the standards and protocols applied to the PCA Consultant's preparation of the PCA Report, including the additional requirements of any User.

C. Limitations

The PCA Consultant shall also describe all limiting conditions encountered during the conduct of the PCA and the preparation of the PCA Report.

D. Frequently Asked Questions (FAQ): PCA Reports

The PCA Report FAQ document provides additional information regarding PCA Reports.

5. PCA Modules

5.1. General

A. Additional Scope of Work

A PCA Module requires additional assessment by the PCA Consultant, building on the findings of the Base PCA. The findings of the PCA Module are integrated directly into the PCA Report and not as an appendix, exhibit, or attachment to the PCA Report or a stand-alone document. Modules apply to specific asset classes or property uses, program financing requirements or otherwise as required by the Lender. For each required Module, the PCA Consultant must satisfy the additional required scope of work described below for that Module.

B. Additional Required Qualifications

In addition to the qualifications required in Section 1.3 of these Instructions, a qualified PCA Consultant must have previous experience in performing property condition assessments and property inspections for multifamily asset classes or in connection with loans having special product features comparable to those in the Module required for the Property's asset class or the special product feature or execution of the Mortgage Loan to be secured by the Property as required by the Lender. Additional qualifications may be specified in the specific PCA Module. The PCA Report must include a summary of PCA Consultant's prior experience completing each Module required for a Property.

5.2. MODULE: Student Housing Property

A Student Housing Property requires specific components to be observed and reported that are specifically associated with these types of facilities, such as furniture, fixtures, and equipment. When determining Estimated Useful Life (EUL), the PCA Consultant will refer to the student column of the EUL table in Appendix F of these Instructions.

In addition to the assessments and evaluations required in the Base PCA, the PCA Consultant must also observe and identify:

- furniture in common areas;
- equipment such as televisions, computers, recreational equipment, wi-fi equipment, security equipment, etc.; and
- whether the furniture, fixtures and equipment are owned or leased by the Property Owner or other. If owned by the Property Owner, include in Estimated Useful Life Table.

5.3. MODULE: Seniors Housing Property

A Seniors Housing Property may include any of the following types of facilities:

- Independent Living Facilities (if appropriate based on the level of service and/or amenities);
- Assisted Living Facilities;
- Alzheimer's/Dementia Care Communities;

- Skilled Nursing Facilities; or
- Continuing Care Communities.

In addition to the Base PCA, the Senior Housing Module will require the observation and evaluation of specific systems and components appropriate to the specific type of Seniors Housing to determine the Cost Estimate Schedule for any Immediate Repairs or the Replacement of Capital Items for the Evaluation Period. When determining Estimated Useful Life (EUL), the PCA Consultant will refer to the seniors housing column of the EUL table in Appendix F of these Instructions.

In addition to the assessments and evaluations required in the Base PCA, the PCA Consultant must evaluate the following components when assessing a Seniors Housing Property:

- furniture in common areas;
- equipment such as televisions, computers, physical therapy equipment, etc.;
- commercial kitchen equipment;
- facility required life safety equipment;
- the percentage of the common areas and units that have a sprinkler system and whether it is a wet or dry sprinkler system and
- whether furniture, fixtures and equipment are owned or leased by the Property Owner.

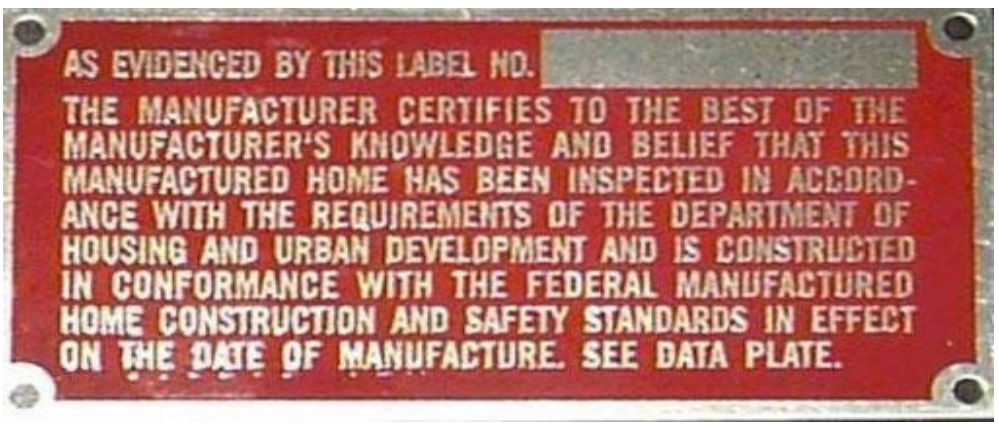
5.4. MODULE: Manufactured Housing Community

A Manufactured Housing Community is a residential real estate development consisting of pads for Manufactured Homes, related amenities, utility services, landscaping, roads and other infrastructure. The residents, who own the Manufactured Homes, lease the pad in the Manufactured Housing Community where the Manufactured Homes are placed and connected to utility services.

All Manufacture d Homes in the Manufacture d Housing Community must conform to the requirements of the Federal Manufactured Home Construction and Safety Standards of 1974 ("HUD Code") (42 USC Chap. 70; 24 CFR Part 3280). The HUD Code requirements were implemented in 1976 and set a national building code for Manufactured Homes.

In addition to the Base PCA, the Manufactured Housing Module requires that the Manufactured Housing Community is evaluated based on certain qualitative criteria that are to be observed and reported. The following are to be included when assessing Manufactured Housing Communities:

1. The number of Manufactured Homes that do not conform to the requirements of the Federal Manufactured Home Construction and Safety Standards of 1974 ("HUD Code") (42 USC chap. 70; 24 CFR Part 3280). The HUD Code requirements set a national building code for Manufactured Homes and went into effect in 1976, so compliance cannot be assumed for all homes built after 1974. If a Manufactured Home complies with the HUD Code, the following red tag should be present at the rear of the home. While the source of verification is up to the engineer, the following red tag at the rear of the home is usually present.



2. Whether the Manufactured Home Community is age-restricted or is open to residents of all ages.

3. Number of Manufactured Homes owned by the Property Owner or any entities related to the Property Owner.

4. Condition and type of Manufactured Home pads. Note surface components of patios and parking spaces. Note the type of entries to homes (e.g., patios, raise porches, etc.). Confirm Manufactured Home installation on the pads meets local and state requirements.

5. Number of Manufactured Home pads that will accommodate doublewide homes.

6. Number of Manufactured Home professional skirted and overall skirting condition.

7. Number of exposed hitches on a Manufactured Home.

8. Number of parking spaces per Manufactured Home pad. Note whether parking is on or off street. The standard is two on-site parking spaces for each Manufactured Home pad.

9. Number of Manufactured Home with exteriors or site s in poor condition and the number of abandoned Manufactured Homes.

10. Number of pads for Manufactured Homes and density of pads per acre.

11. Road surface and type of curbing, if any.

12. Condition and type of common area amenities.

13. Condition of landscaping, and quality and condition of signage.

5.5. MODULE: Cooperative Property

The Base PCA is utilized to assess and report the condition of a Cooperative Property. A Cooperative Property should be no different in appearance or condition than a conventional multifamily property. Cooperative properties are owned by a cooperative corporation or other legal entity, and are governed by legal documents that may include Articles of Incorporation, Bylaws, Subscription Agreement, Regulatory Agreement, and Recognition Agreement (collectively referred to as "Cooperative Governing Documents"). The Cooperative Governing Documents define the cooperative structure, operations and obligations of the cooperative entity and its members. The members, also referred to as resident owners, are typically responsible for the dwelling unit interior and systems and the cooperative entity is responsible for the land, building (outside of the interior units), building systems, and common areas. The PCA Report must clearly identify the scope of work that is being assessed and clearly identify the responsible party (i.e., the cooperative entity or the resident owner) for each Property component and system identified. The Cost Estimate Schedules for Immediate Repair Items and Replacement of Capital Items should only reflect those Property components that are the responsibility of the cooperative entity. The PCA Consultant is required to follow the same site visit protocol as required in the Base PCA and as set forth in Section 3 and Section 4 of these Instructions to identify systemic issues, such as repetitive plumbing leaks, roof leaks, etc.

5.6. MODULE: Modular Housing/Modular Construction

Modular construction is a building technique where the bulk of the construction of a building is done in a factory off-site, and the components, sometimes called modules, are then transported to the site and assembled. The finished modules include plumbing, wiring, appliances, cabinets, and other finishes – all installed in the factory. The multifamily units may be virtually complete by the time they arrive on the site. Once installed on site, the structure is not designed or intended to move.

The PCA Consultant must identify whether any of the multifamily units at the Property include any modular construction and, if present, immediately notify the Lender of (i) all modular construction details, including the manufacturer, and (ii) the presence of any "Heightened Property Condition Concerns", as indicated below. Modular Homes must conform to the state and local building codes where the Property is located applicable to the construction of non-modular multifamily buildings.

In addition to the Base PCA, the Modular Housing/Modular Construction Module must be evaluated based on certain qualitative criteria that are to be observed and reported. The following must be included when assessing a Property that includes any Modular Housing/Modular construction:

- year constructed/manufactured/assembled;
- name and location of the manufacturing facility;
- name of multifamily modular home builder, if different from manufacturing facility;
- photo of any tags identifying multifamily modular builder, year built, etc.;
- confirm construction quality and materials are consistent with comparable stick-built multifamily housing built on site; and
- the PCA Consultant's determination of any of the Indications of Substandard Component Construction Quality and Heightened Property Condition Concerns (per the table below) being present at the Property.

Building Component	**Indications of Substandard Component Construction Quality and Heightened Property Condition Concerns**
Construction Materials	Use of materials with known performance or durability concerns (e.g., lower-durability wood panel siding), which could indicate elevated long-term risk.
Exterior Envelope Performance	Widespread or recurring deterioration, indicative of inherent envelope performance limitations rather than isolated maintenance issues, including any evidence of wicking, swelling, warping, buckling, or blistering of the material.
Plumbing Systems	Presence of polybutylene (PB) piping or comparable materials with a documented history of premature failure or leakage.
Foundation Configuration	Crawl space construction combined with CMU block foundations presenting elevated moisture or long-term durability risk, or presence of any loose or hanging insulation.
Crawl Space Conditions (if applicable)	Presence of elevated moisture levels, inadequate ventilation, any loose or hanging insulation, or lack of effective vapor barrier, which could indicate durability concerns.
Structural Performance	Observable floor deflection, sagging, or unevenness, suggesting inadequate long-term structural support.

The PCA Consultant must discuss in the PCA Report:

- the presence of any of the "Heightened Property Condition Concerns" indicated above; and
- any other construction features of the modular components at the Property that would affect the overall Property condition.

5.7. MODULE: Commercial/Retail Use

A multifamily property with commercial or retail mixed use requires that specific components be observed and reported. The Commercial/Retail Module will evaluate the conditions of these specific components to determine the Cost Estimate Schedules for any Immediate Repairs or Replacement of Capital Items required for the Evaluation Period. The PCA Consultant will inspect 100% of the commercial or retail areas. The following components are to be included in the PCA Consultant's assessment of a multifamily property with mixed commercial or retail use:

1. Leased Spaces.
   - Identify number and size (square feet) of tenant spaces.

- Identify differences in parking requirements for commercial tenants and residential tenants.
- Observe and identify specific mechanical, electrical and plumbing systems for commercial tenants.
- Observe and identify interior finishes of commercial spaces.

2. Cost Estimate Schedules for Immediate Repairs and Replacement of Capital Items.

   - Identify cost estimates for Immediate Repairs and Replacement of Capital Items for commercial or retail spaces anticipated over the Evaluation Period and required to be paid for by the Property Owner.

5.8. MODULE: Solar PV System

A. Purpose and Module Scope

1. Purpose. The Solar PV System Module is required for:

   - any Property with an existing Solar PV System that is (i) owned by the Property Owner, or (ii) owned by a party other than the Property Owner and:
     - the Property Owner leases a portion of the Property to the owner of the Solar PV System;
     - the Property is subject to an easement in favor of the owner of the Solar PV System; or
     - Property Owner is obligated to purchase power generated by the Solar PV System under a power purchase agreement or other arrangement; or
   - any Property where the PCA Consultant has been advised that a Solar PV System will be installed on or before the Mortgage Loan origination date, regardless of whether the Solar PV System is to be owned by the Property Owner.

   For a Green Rewards Mortgage Loan, use Module: Solar Technical Assessment.

2. Scope of Work. The PCA Consultant must evaluate the following components on any Solar PV System located on the Property:

   - each roof and any other structure, such as a carport, on which any component of the Solar PV System is or will be mounted (which may be accomplished by physical inspection or review of the roof conditions reported in the Base PCA), including:
     - roof type, age, physical condition, and remaining useful life;
     - leaks, damage, and membrane condition;
     - any structural deficiencies, rooftop clutter or no/low parapet wall; and
     - details of any roof warranty and whether the installation of the Solar PV System has or will void any roof warranty;
   - electrical access and condition, including:
     - confirmation that the Property is connected to the local utility grid;
     - utility provider;
     - type of service (e.g., underground or overhead power lines); and
     - any electrical access constraints (e.g., cluttered rooftop; conduit hard to access).
   - the existing or any proposed Solar PV System, including:
     - location (e.g., roof, carport, ground-mounted, or other);
     - age and operating condition (if existing);
     - technical specifications, including:
       - total system size (kW DC);

- array/racking type;
- equipment/component specification and quantity;
- stated annual output (kWh) on the proposal or Permission to Operate (or other similar documentation);
- actual annual electrical offset of system (%);
- energy storage specifications (if applicable); and

- details of any manufacturer and/or performance warranties, and/or operations and maintenance contracts for the Solar PV System.

B. Technical Solar Consultant Qualifications; Standard of Conduct

1. PCA Consultant Qualifications. The PCA Consultant performing the Solar PV System Module must have the minimum skills, credentials, and experience required to effectively perform the analysis described in this Section. These qualifications are in addition to the qualifications set forth in Section 1.3 of these Instructions for the Base PCA, and pertain to the Solar PV System Module project team as a whole, and not to any single individual.

   The PCA Consultant performing the Solar PV System Module must hold at least one of the following professional designations, in good standing:

   - PV Installation Professional (PVIP) certification, certified by North American Board of Certified Energy Practitioners® (NABCEP®);
   - PV Design Specialist (PVDS) certification, certified by NABCEP®;
   - PV Installer Specialist (PVIS) certification, certified by NABCEP®; Certified Energy Manager (CEM) or Certified Energy Auditor (CEA), certified by the Association of Energy Engineers (AEE);
   - Multifamily Building Analyst (MFBA), certified by the Building Performance Institute, Inc. (BPI);
   - High-Performance Building Design Professional (HPBD) certified by ASHRAE; or
   - Building Energy Assessment Professional (BEAP) certified by ASHRAE.

2. Technical Solar Consultant Conduct Standards. The Consultant must comply with applicable professional standards for ethics as defined by the NABCEP Code of Ethics & Standards of Conduct, the Association of Energy Engineers Code of Ethics for Certified Energy Managers and/or the Building Performance Institute, Inc. (BPI) Code of Ethics.

C. Solar PV System Module Integration with the PCA Report

1. The PCA Report must summarize the specification details of any existing or planned Solar PV System, including:

   - location (e.g., roof, carport, ground-mounted, or other);
   - age and operating condition (if existing);
   - technical specifications, including:
     - total system size (kW DC);
     - array/racking type;
     - equipment/component specification and quantity;
     - stated annual output (kWh) on the proposal or Permission to Operate (or other similar documentation);
     - actual annual electrical offset of system (%); and
     - energy storage specifications (if applicable); and
   - details of any manufacturer and/or performance warranties, and/or operations and maintenance contracts for the Solar PV System.

2. The Solar PV System Module to the PCA Report must include the PCA Consultant's determination and confirmation of the following:

   - for any existing Solar PV System, the Property is connected to the local utility grid;
   - any existing Solar PV System complies with all building codes and permits as evidenced by a Permission to Operate or other similar documentation from the utility;
   - the cost estimate to replace any existing Solar PV System equipment if required during the proposed Mortgage Loan term;
   - whether a roof replacement (or replacement of any other structure on which the Solar PV System is mounted) is needed during the Mortgage Loan term (which may be determined by reviewing the roof analysis in the Base PCA Report), and the cost estimate any roof or other structural replacement, and the cost to re-install the Solar PV System;
   - the cost estimate to repair or upgrade any electrical, physical, or electrical access to facilitate the proposed Solar PV System and, if applicable, energy storage;
   - if the Solar PV System is or will be carport mounted, or other structures have been or will be constructed or installed to support the Solar PV System, those structures have been specifically designed for that purpose; and
   - for an existing Solar PV System, all equipment and systems are being operated in a safe and prudent manner.

3. The Solar PV System Module to the PCA Report should include the following photographic and other documentation for any existing or planned Solar PV System:

   - a copy of the Permission to Operate, notice of commercial operation or in-service date, or other similar documentation from the utility;
   - existing or proposed array location, including ground and roof level, and looking south;
   - general site views, including buildings from street (include view of existing or potential Solar PV System); and
   - any areas of concern or question.

5.9. MODULE: Integrated Pest Management Plan

The Integrated Pest Management Plan Module (IPMP Module) documents the pest condition at the Property and reviews any O&M Plan for pest management in place at the Property. The Integrated Pest Management Plan Module is required for any Asset Classes or product types as may be required by the Lender or requested by another User.

As part of the PCA, an Integrated Pest Management Plan may be required by the Lender or requested by another User. An Integrated Pest Management Plan is not required for all new Mortgage Loans, and does not replace a Termite Report where the Termite Report is required. In the Base PCA, the PCA Consultant is required to document the pest condition of the Property and review the pest management plan, if any, in place at the Property. The inspection of the current level of pest infestation may reveal the need for additional repairs or site changes that are to be included in the first year rehabilitation needs, including an evaluation of existing pest control practices and procedures.

A. Pest Management Contractor Qualifications

The Contractor completing the Integrated Pest Management Inspection must:

- be certified by QualityPro Green, GreenShield, or EcoWise;
- be trained to evaluate and treat the interior and exterior of multifamily (and commercial, if applicable) structures for pest infestations, in accordance with Integrated Pest Management standards;
- have the work performed by an employee who is licensed or certified by the state for residential pest control (if

required), or be QualityPro Green certified and who has produced reports of this nature that are well regarded in the marketplace in terms of content, timeliness and responsiveness;

- not be under suspension or debarment by HUD or Fannie Mae, involved as a defendant in criminal or civil action with HUD or Fannie Mae, and not be an FHFA prohibited party; and
- Have the capacity to complete the project inspection and prepare the report in a time frame acceptable to the Lender or the User requesting the Integrated Pest Management Plan.

B. Statement of Work

1. The Contractor shall perform an Integrated Pest Management Inspection, provide the property manager and each tenant with information on glue traps, and prepare an Integrated Pest Management Inspection report for each location specified by the Lender (or the User requesting the Integrated Pest Management Plan) and report the findings.

   NOTE: These instructions assume the Contractor will make two visits to the Property, with the first used to interview property management about existing pest control practices and place the glue traps. During the second visit, the glue traps will be retrieved, and the necessary unit and property inspections will be conducted. The User requesting the Integrated Pest Management Plan has the authority to modify these instructions to require only one visit by the Contractor in those situations where the User believes the onsite property management can place the glue traps correctly and provide the glue trap handout to the tenants.

2. The Contractor shall conduct the first onsite visit/inspection to:
   - obtain an understanding of the configuration of buildings.
   - obtain an understanding of the existing pest control practices.
   - review the "Using Glue Traps" handout with the property manager and provide it to each tenant or leave it in each unit where glue traps are placed;
   - place the glue traps to assess cockroach infestation within each unit and common areas such as laundry rooms, storage rooms, and interior trash handling areas;
   - advise the property manager that the contractor will retrieve the glue traps and set a date certain for that follow-up visit/inspection; and
   - observe and identify the presence of bed bugs or other pests that may be present.

3. The Contractor shall conduct the second onsite visit/inspection within 5 to 8 days of first onsite visit/ inspection to:
   - collect the glue traps from each unit, observe conditions in the units, and include in the report a unit-by- unit summary of the glue trap findings;
   - collect the glue traps from each unit, observe conditions in the units, and include in the report a unit-by- unit summary of the glue trap findings;
   - review the findings from the glue traps to help determine which units should be inspected, with the Contractor then conducting inspections of a minimum of 10% of all units (unless otherwise guided by the glue trap findings, units shall be randomly sampled while taking into consideration occupied and unoccupied units and the unit size mix, i.e., one bedroom, two-bedrooms, etc. If a significant number of units are found to have infestations not reflected in the glue trap findings, the User requesting the Integrated Pest Management Plan may require that additional units be inspected at the time the glue traps are collected);
   - inspect the exterior of all buildings for evidence of pest infestation or conditions which could attract or harbor pests, and inspect and identify all areas where the building envelope has been penetrated and all points of ingress or egress, looking for any entry points for pests. If identified, the Contractor must determine and document all corrective measures, both immediately and long-term; and
   - inspect the trash disposal, laundry, common areas, office space, maintenance work area, and storage areas

for evidence of infestations.

4. The Contractor shall prepare a narrative Integrated Pest Management Inspection report, that:

   - identifies any pest infestations as a result of glue trap findings, a visual survey, a review of any pertinent documentation related to past infestations and pest control measures, or interviews with the Point of Contact, management staff, and tenants;
   - includes color photographs and a detailed narrative describing the Property's pest infestation, if any, and provide a corrective course of action for each infestation, and if needed, specific actions for serious infestations within individual units.
   - includes a Glue Trap Summary which identifies in detail the quantity and variety of pest trapped, and any obvious general areas, floors, or structures with significant infestations (e.g., if a cluster of adjacent dwelling units appear to have a more severe infestation when compared to the overall building), and identifying groups of infested units as "High", "Moderate", or "Low" infestation and detail corrective measures for each; and
   - details an immediate course of action, being specific as to physical items needed (e.g., door sweeps) and treatments needed, if any, and estimated costs to address the pest infestations for each identified group (see prior paragraph) and a continuing course of action for using Integrated Pest Management principles at the Property.

5. The Contractor shall prepare a report regarding existing pest control practices that:

   - documents the existing pest control strategies, practices, and outcomes;
   - evaluates the existing pest control strategies and practices;
   - identifies the deficiencies in the existing pest control strategies and practices; and
   - recommends practices consistent with Integrated Pest Management principles that will achieve better outcomes.

C. Subcontractor Requirements

If the services of a subcontractor were secured to inspect the Property and complete the Integrated Pest Management Inspection report, the Contractor shall review the inspection for quality, consistency, and agreed upon format and conformance with these requirements.

5.10. MODULE: High Performance Building Assessment

A. Purpose and Module Scope

1. Purpose. The High Performance Building Module is required for:

   - Green Rewards Mortgage Loans; and
   - other Asset Classes or product types as may be required by the Lender or Fannie Mae.

   The results of the HPB Module will be documented in the HPB Report. The HPB Report may be a standalone document or added as a final section to the end of the PCA Report. The Scope of Work for the HPB Report is the same, regardless of the report format.

   The HPB Report will identify and quantify Energy and Water Efficiency Measures (Efficiency Measures or EWEMs) that may improve the operating performance, durability and quality of the Property. These Efficiency Measures are in addition to items included in the Cost Estimate Schedules for Immediate Repairs and for the Replacement of Capital Items in the Base PCA Report.

2. HPB Report Scope of Work. An HPB Report must:

- Identify all applicable and practical energy and water efficiency measures at the Property, and include those measures in the HPB Report regardless of cost, rate of return, or payback period. The Property Owner or Lender may not limit the measures identified to a pre-determined set of measures.
- Be consistent with a Level 2 Energy Audit as defined by the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) "Procedures for Commercial Building Energy Audits", as amended or restated from time to time ("ASHRAE Procedures").
- Include an ENERGY STAR Score, Source Energy Use Intensity (Source EUI), EPA Water Score, and Water Use Intensity (WUI) as generated by Portfolio Manager for the Property for the previous 12 months.
- Use calculations and models that are transparent, consistent with industry standards, and supportable, and that are able to reasonably project consumption and cost reductions at the Property.
- Use Form 4099.H to document all Efficiency Measures identified at the Property, conduct certain calculations, and identify additional key information regarding the Property.

B. HPB Consultant Qualifications; Standard of Conduct

1. HPB Consultant Qualifications. The HPB Consultant must have the minimum skills, credentials, and experience required to effectively perform the analysis described in this section. **These qualifications are in addition to the qualifications set forth in Section 1.3 of these Instructions for the Base PCA.** These additional qualifications of the HPB Consultant pertain to the HPB Consultant project team as a whole, and not to any single individual.

   The HPB Consultant shall have effectively completed not less than five multifamily energy and water audits within the prior two years that included:

   - an energy audit according to the guidelines of the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) Level 2 - Energy Survey Analysis;
   - a water audit equivalent in scope to the ASHRAE Level 2 using industry-accepted analytical methods;
   - using industry-accepted energy modeling software; and
   - using ENERGY STAR Portfolio Manager.

   The HPB Consultant must hold at least one of the following professional designations, in good standing:

   - Certified Energy Manager (CEM) or Certified Energy Auditor (CEA), certified by the Association of Energy Engineers (AEE);
   - Multifamily Building Analyst (MFBA), certified by the Building Performance Institute, Inc. (BPI);
   - High-Performance Building Design Professional (HPBD) certified by ASHRAE; or
   - Building Energy Assessment Professional (BEAP) certified by ASHRAE.

2. HPB Consultant Conduct Standards. The HPB Consultant shall comply with applicable professional standards for ethics as defined by the Association of Energy Engineers Code of Ethics for Certified Energy Managers and/or the Building Performance Institute, Inc. (BPI) Code of Ethics.

C. HPB Report and 4099.H Deliverables

The HPB Report findings and recommended measures are in addition to the requirements of the Base PCA previously described in these Instructions. The HPB Report must be dated as of the date of the site visit by the HPB Consultant, which must not be more than 6 months prior to the date specified by the Lender as the "Commitment Date". All Efficiency Measures recommended by the HPB Consultant and selected for implementation by the Property Owner must be listed on the "Lender Validation" tab of Form 4099.H. The HPB Consultant must deliver the HPB Report and the completed 4099.H to the Lender.

If the HPB report is completed by a consultant other than the PCA Consultant, then the HPB report may be delivered as a

"Standalone HPB Report", as described in Section 5.10.C.1. If the PCA Report and HPB Report are completed by the same Consultant, the HPB results may be incorporated into the PCA report producing one unified document, as described in Section
5.10.C.2. However, a standalone HPB Report does not need to be reviewed by a professional engineer or registered architect, as required of the PCA in Section 1.3.D.

1. Standalone HPB Report. The HPB Report must include the following sections and exhibits.

Section 1: Executive Summary

- Summary of HPB Report findings, including high level assessment of property conditions and recommended improvements;
- The table titled "EWEM Cost Savings", from Form 4099.H Report-EWEM Cost Savings tab, listing projected implementation costs and energy and water cost savings;
- Certification by the HPB Consultant that the HPB Report meets the minimum ASHRAE Level 2 Energy Survey Analysis standards and requirements and standards of the Instructions for this HPB Report; and
- Statement regarding Reliance by Users per section 1.3.A.

Section 2: Historical Energy and Water Performance Metrics

- Data and analysis summarizing the prior 12 months consumption for each energy type and water serving all areas of the Property. This data and analysis should include:
  - a description of the metering, bill payment method, and payer for each energy and water utility;
  - a description of the method used to gather whole building energy and water consumption data;
  - an end use breakdown;
  - monthly data tables of energy and water use and cost, if available;
  - an explanation of irregular billing or consumption; and
  - the table titled "Historical Annual Energy and Water Consumption and Costs" from Form 4099.H Report-Utilities tab.

Section 3: Existing Systems and Equipment and Identified Efficiency Measures

- A comprehensive Property description that includes unit count and unit mix;
- An inventory of existing systems and equipment identified in Section 5.10.D.3, an evaluation of their current condition, and recommended Efficiency Measures for each (Note: Recommended Operations and Maintenance activities for existing systems and equipment should be detailed in Exhibit E to the HPB Report.);
- Calculations used to estimate energy and water consumption or savings, and a brief narrative if conditions require non-standard calculations or assumptions outside of industry norms;
- The table titled "EWEM Projected Cost Savings" from Form 4099.H Report-EWEM Cost Savings tab; and
- The table titled "EWEM Projected Consumption Savings" from Form 4099.H Report-EWEM Cost Savings tab.
- The chart "Modeled Impacts" and table titled "Potential Electrification Opportunities and Barriers" from Form 4099.H Report-Electrification tab.

HPB Report Exhibits

Exhibit A: Photo Documentation of any existing equipment or features related to recommended Efficiency Measures;

Exhibit B: Statement of Qualifications (individual qualifications of the HPB Consultant's project team contributing to HPB Report);

Exhibit C: Portfolio Manager Statement of Energy Performance and EPA Water Scorecard;

Exhibit D: Savings calculation methodology and assumptions. Screen shots, tables or other supporting documentation describing or showing assumptions and calculations related to the HPB report calculations;

Exhibit E: Recommended Operations and Maintenance Activities to Reduce Energy/Water Consumption;

Exhibit F: PVWatts® Calculator Results (Note: Not needed if a technical solar study has already been completed by a specialist); and

Exhibit G: Technical Solar Assessment (Form 4099.I) (Note: Required only if the Property Owner selects a solar photovoltaic system from among the recommended Efficiency Measures).

2. HPB Report Integration with the PCA Report. The following adjustments are required when the HPB Report is integrated with the PCA Report:

- PCA Report Section 1: Executive Summary. Include the recommended Efficiency Measures in the Summary of Recommended Repairs and Replacement Cost Estimates.
- PCA Report Section 2: Cost Estimate Schedules for Immediate Repairs and Replacement of Capital Items. Incorporate recommended Efficiency Measures into the Immediate Repair items as needed, along with any necessary adjustments to Cost Estimates for Immediate Repairs. In addition, add a second Replacement of Capital Items schedule that incorporates the recommended Efficiency Measures as needed.
- PCA Report Section 8: High Performance Building Report. A new Section 8 must be added to the PCA Report that includes all Standalone HPB Report content outlined in Section 5.10.C.1.

3. Form 4099.H. Form 4099.H must be completed and submitted to the Lender and to Fannie Mae in Excel format along with either the Standalone or the integrated PCA/HPB Report. This Form provides standardized input forms and output formats so that the Property's eligibility for a Green Mortgage Loan and projected consumption and cost savings for each Efficiency Measure can be easily assessed by the Property Owner, Lender, and Fannie Mae.

D. Methodology

The HPB Consultant must follow this methodology when completing the HPB Report.

1. ASHRAE Procedures core phases.

- PHASE 1: Preliminary Due Diligence. Prior to conducting the site visit, the HPB Consultant must do the "Preliminary Energy Use Analysis" as described in the ASHRAE Procedures, and use a similar methodology for the analysis of water consumption at the Property.
- PHASE 2: Site Visit. The site visit must include the components of an ASHRAE Level 1 – Walk-Through Survey and on site components further detailed in the ASHRAE Procedures, and use a similar methodology for the analysis of water consumption at the Property. The water analysis must include measurements of a sample of water flow and flush rates for faucets, showerheads, and toilets installed at the Property, using the minimum unit sampling rates in Table 5.9.D.4.
- PHASE 3: Energy and Water Survey Analysis. The analysis must include the components of the Level 2 – Energy Survey and Engineering Analysis. As part of the engineering calculations, an energy and water baseline model of the Property's pre-retrofit actual and post-retrofit projected performance shall be completed.

2. Capital Improvement Efficiency Measures; Operations and Maintenance Activities. All recommended Efficiency Measures must involve capital improvements to the Property. Operations and Maintenance activities such as repairs to existing equipment or modification of set points are not eligible to be counted toward the minimum energy and water consumption reduction requirements for Green Financing Mortgage Loans. Any needed Operations and Maintenance activities noted by the Consultant during its analysis should be listed in Exhibit E to the HPB Report, but not included among the recommended Efficiency Measures.

3. Scope of Evaluation. Regardless of any initial assumptions, the HPB Consultant must evaluate all areas of the Property for existing conditions and identify each recommended Efficiency Measure, including:

   - Building Envelope;
   - Heating, Ventilation, and Air Conditioning (HVAC);
   - Domestic Hot Water;
   - Lighting;
   - Appliances;
   - Laundry;
   - Flush and flow fixtures;
   - Irrigation;
   - Water features, such as decorative fountains and pools;
   - Renewable energy or onsite generation systems; and
   - Any other major energy-using or water-using feature or system.

4. Electrification Opportunity Assessment. The potential for building equipment electrification upgrades and potential barriers to pursuing electrification should be evaluated. The HPB Consultant must assess the applicability of common upgrades and barriers in the Form 4099.H in the "Input-Electrification" tab.

5. Minimum Units Required for Site Visits and Data Sampling. The "Required Unit Sampling Rate" table below provides both:

   - the minimum number of dwelling units required to be physically assessed as part of the Phase 2 – Site Visit; and
   - the minimum number of units for which energy and water consumption data must be sampled to calculate tenant consumption and cost savings to increase the Green Rewards Mortgage Loan's Underwritten NCF.

   Table 5.10.D.4. Required Unit Sampling Rate

Number of Units	• Minimum Number of Units in Sample
Less than 20	• 3 units
20 – 99	• Greater of (i) 5 units, or (ii) 10% of total units
100 or more	• Greater of (i) 10 units, or (ii) 5% of total units, but not more than 30 units

6. Historical Energy and Water Data. The most recent consecutive twelve (12) months of historical energy and water consumption and cost data for all sources and meters serving the whole Property must be collected. The 12 months of data must reflect the Property at stabilized occupancy. If the most recent 12 months of historical energy and water consumption and cost data for the Property do not reflect stabilized occupancy, the Consultant should contact the Lender immediately. The report should indicate the source of all historical consumption data. Historical whole Property data must be used wherever local utilities make this information available to building owners. Historical whole Property data must be separated to represent consumption and costs paid by the Property Owner from those paid by the tenants if all energy and water meters are not billed directly to the Property Owner.

   Even if historical whole Property data is not available, the HPB Consultant must always collect the most recent consecutive twelve (12) months of historical energy and water consumption and cost data for all energy and water meters paid by the Property Owner. The Property Owner data may not be sampled, modeled, or use national or regional averages. If the most recent 12 months of historical energy and water consumption and cost data for all

energy and water meters paid by the Property Owner do not reflect stabilized occupancy, the Consultant should contact the Lender immediately.

Twelve (12) months of tenant energy and water consumption and cost data must be added to the Property Owner historical data to calculate the entire Property's energy and water data for the prior twelve (12) months. Tenant data may be complete historical data, sampled historical data, or modeled.

Tenant energy and water consumption and cost data should be determined according to the following priority:

(a) Complete Historical Tenant Data: Best efforts must be made to collect actual historical energy and water consumption and costs data for all units at the Property.

(b) Sampled Historical Tenant Data: Actual historical tenant data may be sampled using the schedule provided in Table 5.10.D.4. "Required Unit Sampling Rate", and those data may be used to estimate the total tenant consumption.

(c) Modeled Tenant Data: If complete actual or sampled tenant data is not available, tenant data may be modeled or estimated using simulation software or other analytical tools (i.e., using no actual, historical data). The report must indicate that the data was modeled and identify the modeling methodology.

7. Data Limitations. Any data limitations should be clearly noted and explained. This includes anomalous data or limited missing data.

8. Assumptions. All major assumptions used to perform the calculations and analysis must be clearly stated in the HPB Report. Assumptions and calculations should be consistent with comparable properties and industry standards, where applicable. If non-standard assumptions are used, an explanation for deviating from standards must be provided.

9. Utility Reimbursements. In scenarios where the Property Owner bills the tenants for energy or water costs, the projected savings are considered to accrue to the tenants.

10. ENERGY STAR and WaterSense Data. ENERGY STAR Portfolio Manager must be used to calculate the Property's ENERGY STAR Score for Existing Multifamily, the Source Energy Use Intensity, the EPA Water Score, and the Water Use Intensity. The HPB Consultant must:

- use an existing ENERGY STAR Portfolio Manager Property account, if available, or establish a new account and transfer control of the account to the Property Owner upon completion of the HPB Report.
- use 12 months of historical consumption and costs for all energy and water meters according to the requirements below. If actual historical whole Property data is not available, the estimate of the Property's annual consumption and costs developed per Section 5.10.C. should be used as the inputs for Portfolio Manager.
    - energy and water data should be disaggregated by the Property Owner and Tenant when tenant-paid utilities are present and indicated in the 4099.H;
    - tenant data should be reported under one or more separate meters, indicated with "tenant" in the meter name;
    - energy and water data should be disaggregated by monthly meter entries when monthly billing is present;
    - for utilities that may not be billed on a monthly cycle such as water and delivered fuels (e.g., propane), the actual billing cycle should be reflected in the meter entries; and
    - indicate "Estimated" on meters that use sampled or modeled data;
- share the Property's account with the Fannie Mae ENERGY STAR Portfolio Manager account "FANNIEMAE".
- Confirm the Portfolio Manager ID used to share the Property with Fannie Mae matches the Portfolio Manager ID entered in the 4099.H.

- Optional but recommended: Set the Baseline in ENERGY STAR Portfolio Manager to be the same time period as the Year Ending Date for the ENERGY STAR Score and EPA Water Score reported in the 4099.H.

11. Analytical Approach. The analytical approach and methods should be chosen as appropriate for the property type, level of complexity of the Efficiency Measures evaluated, and quality of data collected, as recommended in the ASHRAE Procedures. If modeling software is used, the HPB Report must identify the software package and include a description of the input assumptions. All analyses must account for variations in weather, property physical conditions and operations, and existing equipment. All consumption and cost savings results from the analyses must be verified against historical consumption from utility bills, known conditions, and usage profiles existing at the Property, and against industry standard values.

12. Efficiency Measure Interactivity. If recommended Efficiency Measures would have interactive effects when implemented together, projected consumption and cost savings for each Efficiency Measure should take such interactivity into consideration. However, Efficiency Measure selections will not be made until after the HPB Report is complete. Therefore, each Efficiency Measure narrative must note interactivity with other measures that pose the potential for significant impact to projected savings.

13. Commercial Kitchens in a Seniors Housing Property. If a Seniors Housing Property has a Commercial Kitchen that primarily serves the residents, the energy and water usage of that facility must be incorporated into the whole Property historical usage data, and Efficiency Measures should be identified and quantified for the commercial kitchen.

14. Retail or Commercial Spaces. If a Property contains retail or other commercial spaces that serve the public, these retail/commercial spaces should also be assessed for inclusion in the High Performance Building Report. The Report should describe any retail or commercial aspects of the Property, and should indicate whether the energy or water serving those spaces is separate from, or combined with, the energy and water serving the multifamily units or common areas. If the utilities for the retail/commercial spaces are metered as part of the Property Owner's expenses, then these spaces should be evaluated for Efficiency Measures. If the utilities for the retail/commercial spaces are metered separately to the tenants, then those spaces should be excluded from the analysis.

15. Existing Onsite Renewable Energy. Any currently existing onsite renewable energy generation should be captured in Form 4099.H, but this energy usage should not be combined with the whole Property historical usage. The historical energy usage data should only reflect purchased energy against which any potential reduction in Property's energy consumption is to be evaluated.

16. Recommended Renewable Energy Efficiency Measures. If not already present on the Property, the potential for new onsite renewable energy should be evaluated. For solar photovoltaic systems, the potential should be evaluated using the National Renewable Energy Laboratory's PVWatts® calculator, unless a technical solar study has already been completed by a specialist.
If the HPB Consultant concludes that a solar photovoltaic system is suitable for the Property and will be a recommended Efficiency Measure, and the Property Owner selects the recommended solar photovoltaic system as an Efficiency Measure for Green Rewards eligibility, then the HPB Consultant must incorporate the recommendations from the Technical Solar Assessment Module related to the solar photovoltaic system and any applicable required roof replacement from Form 4099.I at the "Lender Validation" tab into Form 4099.H at both the "Input-Solar" tab and the "Input-EWEM" tab.

17. HPB Report for a Property Consisting of Non-Contiguous Parcels. Each Property being assessed generally requires a separate HPB Report. If the Property consists of non-contiguous parcels, then the Lender must specify if the Consultant is to prepare a single HPB Report covering all such non-contiguous parcels.

18. Recommended Fixtures and Appliances. For each Efficiency Measure, if an ENERGY STAR certified or WaterSense certified fixture, product, or appliance is available on the market, then the recommendation must specify that an ENERGY STAR or WaterSense certified fixture, product, or appliance is to be used.

5.11. MODULE: Technical Solar Assessment

A. Purpose and Module Scope

1. Purpose. The Technical Solar Assessment Module is required for:

   - a Green Rewards Mortgage Loan where the Property Owner elects to install a Solar PV System as an Efficiency Measure; and
   - other Asset Classes or product types as may be required by the Lender or Fannie Mae.

   The results of the Technical Solar Assessment must be documented in a Technical Solar Report. The Technical Solar Report may be a standalone document or added as a final section of the PCA Report. The Scope of Work for the Technical Solar Report is the same, regardless of the report format. The Technical Solar Report must always be accompanied by, and its recommendations incorporated into, the HPB Report.

   The Technical Solar Report will identify and quantify the renewable energy potential at the Property and detail the recommended solar photovoltaic system specifications. The costs of these renewable energy measures are in addition to the items included in the Base PCA Report in the Cost Estimate Schedules for Immediate Repairs and for the Replacement of Capital Items.

2. Technical Solar Report Scope of Work. A Technical Solar Report must:

   - identify practical and achievable solar photovoltaic system design and specifications at the Property, and include those measures in the HPB Report regardless of cost, rate of return, or payback period. The Property Owner or Lender may not limit the measures identified to a pre-determined set of measures;
   - use calculations and models that are transparent, consistent with industry standards, and supportable, and that are able to reasonably project consumption and cost reductions at the Property; and
   - use Form 4099.I to document all renewable energy measures identified at the Property, conduct certain calculations, and identify additional key information regarding the Property.

B. Technical Solar Consultant Qualifications; Standard of Conduct

1. Technical Solar Consultant Qualifications. The Technical Solar Consultant must have the minimum skills, credentials, and experience required to effectively perform the analysis described in this Section. These qualifications are in addition to the qualifications set forth in Section 1.3 of these Instructions for the Base PCA and in Section 5.10.B for the HPB Report. These additional qualifications of the Technical Solar Consultant pertain to the Technical Solar Consultant project team as a whole, and not to any single individual.

   The Technical Solar Consultant must have effectively completed at least 5 multifamily technical solar assessments within the prior 2 years for solar photovoltaic systems greater than 20kW that used industry- accepted energy modeling software.

   The Technical Solar Consultant must hold at least one of the following professional designations, in good standing:

   - PV Installation Professional (PVIP) certification, certified by North American Board of Certified Energy Practitioners® (NABCEP®);
   - PV Design Specialist (PVDS) certification, certified by NABCEP®; or
   - PV Installer Specialist (PVIS) certification, certified by NABCEP®.

2. Technical Solar Consultant Conduct Standards. The Technical Solar Consultant must comply with applicable professional standards for ethics as defined by the NABCEP Code of Ethics & Standards of Conduct.

3. The Technical Solar Consultant must engage with a structural engineer and partner on the on-site roof inspection to determine the age of the roof and roof condition.

C. Technical Solar Report and 4099.I Deliverables

The Technical Solar Report findings and recommended measures are in addition to the requirements of the Base PCA and

the HPB Report described in these Instructions. The Technical Solar Report must be dated as of the date of the site visit by the Technical Solar Consultant, which must not be more than 6 months prior to the date specified by the Lender as the Commitment Date. The Technical Solar Consultant must deliver the Technical Solar Report and the completed 4099.I to the Lender and the HPB Consultant.

If the Technical Solar Report is completed by a consultant other than the PCA Consultant, then the Technical Solar Report may be delivered as a "Standalone Technical Solar Report", as described in Section 5.11.C.1. If the PCA Report and Technical Solar Report are completed by the same Consultant, the Technical Solar Assessment results may be incorporated into the PCA report producing a unified document, as described in Section 5.11.C.2.-4. However, a standalone Technical Solar Report does not need to be reviewed by a professional engineer or registered architect, as required of the PCA Report in Section 1.3.D.

1. Standalone Technical Solar Report. The Technical Solar Report must include the following sections and exhibits.

Section 1: Executive Summary

- Summary of Technical Solar Report findings, including high level assessment of property conditions and recommended renewable energy improvements;
- Certification by the Technical Solar Consultant that the Technical Solar Report meets the standards of the Instructions for this Technical Solar Report; and
- Statement regarding Reliance by Users per section 1.3.A.

Section 2: Site Information and Existing Systems

- A comprehensive Property description;
- Detailed description of all site visits performed by the Technical Solar Consultant;
- Details of the Property's existing electrical system, including:
    - utility provider and service (e.g., underground or overhead power lines);
    - fuse ratings;
    - switch gear bus rating; and
    - recommendations for any needed electrical upgrades to facilitate installation of solar photovoltaic system and, if applicable, energy storage;
- Details of the Property's existing conditions, including:
    - detailed assessment of Property's roof condition for each building or structure where the solar photovoltaic system will be installed (with documented input from the structural engine er), including:
        - roof type, age, and warranty;
        - leaks and membrane condition;
        - damage;
        - cluttered rooftop;
        - excessive shade;
        - no/low parapet wall; and
        - structural deficiencies;
    - detailed assessment of electrical access, including:
        - cluttered rooftop;
        - conduit hard to access; and
        - other electrical access constraints;
    - surrounding structures which would impede renewable energy potential, including:

- trees for removal; and
- other shading; and

- recommendations to address physical conditions or electrical access concerns to facilitate installation of solar photovoltaic system and, if applicable, energy storage.

Section 3: Renewable Energy Project Overview

- A narrative detailing the recommended solar photovoltaic system specification details, including:
  - total system size (kW);
  - array/racking type;
  - equipment/component specification and quantity;
  - estimated annual output (kWh);
  - total solar resource fraction (TSRF);
  - estimated annual electrical offset of system (%); and
  - energy storage specifications (if applicable);
- Calculations used to estimate renewable energy generation, and a brief narrative if conditions require non-standard calculations or assumptions outside of industry norms;
- Detail of project costs, including hard costs (e.g., solar photovoltaic panels) and soft costs (e.g., permits, interconnection fees, network upgrade fees, labor, operations and maintenance contact);
- Details of the local jurisdictional permitting and utility interconnection approval process and requirements, including estimated completion timelines; and
- Detailed explanation of incentives available to the project including Solar Renewable Energy Certificates (SRECS), local, state or federal tax credits, grants, and rebates.

Technical Solar Report Exhibits

Exhibit A: Photo Documentation, including:

- Proposed array location, including ground and roof level, and looking south;
- General Site Views, including buildings from street (include view of potential solar photovoltaic system);
- Electrical Room and Service, including:
  - electrical service (e.g., overhead power lines); and
  - electrical room, including:
    - all equipment and surrounding wall areas;
    - conductors and fuse ratings to and from main switch;
    - available switch gear interconnection point; and
    - utility meter face;
- Conduit Run, including:
  - planned/potential conduit paths;
  - locate fire escapes and document;
  - estimate linearly conduit run; and
  - proposed inverter locations;
- Roof, including:
  - all roof surfaces, structures, and obstructions clearly captured; and

- any areas of concern or question; and

- Other pre-existing conditions.

Exhibit B: Statement of Qualifications (individual qualifications of the Technical Solar Consultant's project team contributing to Technical Solar Report)

Exhibit C: Site Map, including location of planned solar electric system components including: modules, inverters, storage, disconnects, interconnection point, utility meter and obstructions on or near roof

Exhibit D: Documentation of shade analysis for Total Solar Resource Fraction (TSRF) calculation using industry standard tools and reporting (Solmetric Suneye, Solar Pathfinder, Helioscope, or equivalent)

Exhibit E: Energy generation calculation methodology and assumptions. Screen shots, tables or other supporting documentation describing or showing assumptions and calculations related to the Technical Solar report calculations

Exhibit F: Estimated annual output report (PVWatts® Calculator Results or equivalent)

2. Technical Solar Report Integration with the PCA Report. The following adjustments are required when the Technical Solar Report is integrated with the PCA Report:

- PCA Report Section 1: Executive Summary. Include the recommended renewable energy measures in the Summary of Recommended Repairs and Replacement Cost Estimates.
- PCA Report Section 2: Cost Estimate Schedules for Immediate Repairs and Replacement of Capital Items. Incorporate recommended renewable energy measures into the Immediate Repair items as needed, along with any necessary adjustments to Cost Estimates for Immediate Repairs. In addition, add a second Replacement of Capital Items schedule that incorporates the recommended renewable energy measures as needed.
- PCA Report Section 9: Technical Solar Report. A new Section 9 must be added to the PCA Report that includes all Standalone Technical Solar Report content outlined in Section 5.11(C)(1).

3. Form 4099.I. Form 4099.I must be completed and submitted to the Lender and to Fannie Mae in Excel format along with either the Standalone or the integrated PCA/Technical Solar Report. This Form provides standardized input forms and output formats so that the Property's eligibility for a Green Rewards Mortgage Loan and projected consumption and cost savings for each renewable energy measure can be easily assessed by the Property Owner, Lender, and Fannie Mae. If the Technical Solar Report is completed by a consultant other than the PCA Consultant, the Technical Solar Consultant must work with the HPB Consultant to incorporate the recommendations from Form 4099.I into the HPB Report and Form 4099.H.

D. Methodology

The Technical Solar Consultant must follow this methodology when completing the Technical Solar Report.

1. Core Phases.

- PHASE 1: Preliminary Due Diligence. Prior to conducting the site visit, the Technical Solar Consultant must conduct a preliminary energy use analysis to understand the property's existing energy consumption, usage, and metering.
- PHASE 2: Site Visit. The Technical Solar Consultant must conduct a site visit to document existing conditions and potential for solar photovoltaic system as required by the report and exhibits as referenced in section 5.11(C)(1).
- PHASE 3: Renewable Energy Analysis. The Technical Solar Consultant must conduct engineering calculations and analysis to assess and report on the property's potential for renewable energy generation and recommendations for installation, including project financials and recommended system type and

equipment.

2. Capital Improvement Efficiency Measures; Owned Solar Photovoltaic System. All installed renewable energy measures must be:

   - capital improvements to the Property; and
   - owned by the Property Owner and not financed through a lease or power-purchase agreement.

3. Historical Energy Data. The Technical Solar Consultant should coordinate with the HPB Consultant at the direction of the Lender to access the most recent consecutive (12) months of historical energy consumption and cost data.

4. Data Limitations. Any data limitations should be clearly noted and explained. This includes anomalous data or limited missing data.

5. Assumptions. All major assumptions used to perform the calculations and analysis must be clearly stated in the Technical Solar Report. Assumptions and calculations should be consistent with comparable properties and industry standards, where applicable. If non-standard assumptions are used, an explanation for deviating from standards must be provided.

6. Utility Reimbursements. In scenarios where the Property Owner bills the tenants for energy costs, the projected savings are considered to accrue to the tenants.

7. Analytical Approach. The analytical approach and methods should be chosen as appropriate for the property type, level of complexity of the Efficiency Measures evaluated, and quality of data collected. If modeling software is used, the Technical Solar Report must identify the software package and include a description of the input assumptions. All analyses must account for variations in weather, property physical conditions and operations, and existing equipment. All consumption and cost savings results from the analysis must be verified against historical consumption from utility bills, known conditions, and usage profiles existing at the Property, and against industry standard values.

8. Existing Onsite Renewable Energy. Any currently existing onsite renewable energy generation should be captured in High Performance Building Assessment (Form 4099.H). The Technical Solar Assessment and Form 4099.I should only be used for a new or expanded solar photovoltaic system.

9. Technical Solar Report for a Property Consisting of Non-Contiguous Parcels. Each Property being assessed generally requires a separate Technical Solar Report. If the Property consists of non-contiguous parcels, then the Lender must specify if the Consultant is to prepare a single Technical Solar Report covering all such non-contiguous parcels.

10. Solar Photovoltaic System Requirements. The Technical Solar Consultant must only recommend and confirm that the proposed installation of the solar photovoltaic system meets the following requirements:

    - Is sized to serve no more than the historic energy needs of the property based on the most recent consecutive 12 months of whole property historic energy consumption data.
    - The Property will remain connected to the utility grid even if solar photovoltaic system energy production is large enough to provide all of the Property's energy needs.
    - Does not result in the Property Owner becoming subject to regulation as a public utility.
    - Specified system components for the solar photovoltaic system must meet the following minimum manufacturer warranty requirements:
      - 10-year product warranty and 25-year performance warranty for solar panels;
      - 10-year product warranty for inverters;
      - 10-year product warranty for racking systems; and
      - 10- year product warranty for batteries as part of energy storage.

- If the specified solar photovoltaic system is carport mounted, or other structures are being constructed or installed to support the solar photovoltaic system, those structures must be specifically designed for that purpose, suitable for the site, and recommended as an Efficiency Measure on Form 4099.I.
- If the specified solar photovoltaic system is a roof-mounted system, then the age, condition, and warranty status of each roof must be assessed based on the requirements below, and documented in Section 2 of the Technical Solar Report and the 4099.I.

11. Requirements for Roof-Mounted Solar Photovoltaic Systems. The Technical Solar Consultant must initially confirm with the Property Owner if roof replacement is already included in either the cost estimates for Immediate Repairs or Replacements of Capital items in Section 4.2 of the Base PCA. If replacement is already included in the cost estimates for replacement of Capital Items or is required below, then the cost estimate of any new roof must be a recommended Efficiency Measure on Form 4099.I at the "Lender Validation" tab, and completed as part of the installation of the solar photovoltaic system.

If roof replacement is not already included in the capital improvement plan, the Technical Solar Consultant must determine for each roof on which any part of the solar photovoltaic system will be mounted: (a) whether the condition of that roof for the installation of a photovoltaic system is excellent, good, fair, or poor, as specified in Form 4099.I, (b) the age, and (c) the warranty status, as follows:

- for any roof in fair or poor condition, or with any other indication of needing to be replaced within 8 years of the Commitment Date, the Technical Solar Consultant must advise the HPB Consultant to include a roof replacement as a recommended Efficiency Measure as part of the solar photovoltaic system installation;
- for any roof determined by the Technical Solar Consultant to be in good or excellent condition, the warranty status and age of the roof must then be ascertained, and if:
    - 8 years or less remain on the warranty, the Technical Solar Consultant must advise the HPB Consultant to include a roof replacement as a recommended Efficiency Measure;
    - more than 8 years remain on the warranty, the Technical Solar Consultant must attempt to confirm with the roof manufacturer whether the installation of a solar photovoltaic system would void the warranty; or
    - if warranty information cannot be obtained, or if it is determined that the installation of a solar photovoltaic system would void the warranty, the Technical Solar Consultant must then determine the age of the roof, and if:
        - 12 or more years old, advise the HPB Consultant to include the roof replacement as an eligible Efficiency Measure; or
        - less than 12 years old, factor into the total estimated cost of the system any additional costs incurred for an installation contract that provides for the removal and replacement of the solar photovoltaic system following any future roof replacement.

For any roof (i) in good or excellent condition, (ii) having more than 8 years remaining on the warranty, and (iii) for which the manufacturer has confirmed that the installation of a solar photovoltaic system would not void the warranty, a new roof is not required as a recommended Efficiency Measure on Form 4099.H in connection with the solar photovoltaic system. The Technical Solar Consultant must advise the HPB Consultant of any instance above where roof replacement is required as part of the solar photovoltaic installation, and the HPB Consultant must include the new roof as a recommended Efficiency Measure on Form 4099.H at both the "Input-Solar" tab and the "Lender Validation" tab, and completed as part of the installation of the solar photovoltaic system.

12. Solar Photovoltaic System Operation and Maintenance Requirements. The Technical Solar Consultant must include as part of its assessment:

- the estimated annual cost of securing an operations and maintenance contract from a qualified service provider for the lesser of (i) the Mortgage Loan term, or (B) 10 years, and that includes a performance guarantee clause that specifies the expected annual output of the solar photovoltaic system for each year of the term of the operations and maintenance contract and obligates the service provider to operate

and maintain the solar photovoltaic system to achieve the expected annual output; and

- for systems over 500 kW, the estimated annual cost of a performance guaranty, which would reimburse the Property Owner if the system does not perform and produce the projected kilowatt hours guaranteed by the installer.

13. Energy Storage. The Technical Solar Consultant may recommend energy storage. Any battery storage system recommended for installation must only be designed for on-site uses (e.g., peak shaving or back up power in the event of an extended power outage), and only if these services do not commit the Property to an arrangement with any utility, third-party, or off-site use.

6. Appendices to the Instructions for Performing a Multifamily Property Condition Assessment

The following appendices are included with these Instructions to assist in the completion of the PCA, and for inclusion as Exhibits to the PCA Report, as required:

- Appendix A: Streamlined Property Condition Assessment Guidance (Form 4099.A)
- Appendix B: Pre-Site Visit Questionnaire for Property Condition Assessment (Form 4099.B)
- Appendix C: Structural Risk Evaluation Questionnaire (Form 4099.C)
- Appendix D: Guidance on Preparing PCA Report Schedules and Tables (Form 4099.D)
- Appendix E: Property Condition Assessment Data Supplement (Form 4099.E)
- Appendix F: Estimated Useful Life Tables (Form 4099.F)
- Appendix G: Reference Document: Known Problematic Building Materials and Property Design Issues (Form 4099.G)
- Appendix H: Analysis Tool for a High Performance Building Report (Form 4099.H)
- Appendix I: Analysis Tool for a Technical Solar Assessment (Form 4099.I)