

SUBMISSION GUIDE FOR ARCHITECTS
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DEFINITIONS

Preservation Developments – Existing affordable housing stock that has come to a point in its life where it is in need of moderate or substantial renovation or is in danger of converting to market rate housing. *Developments undergoing major rehabilitation, where a majority or all interior walls, systems and etc. are scheduled to be replaced, will be considered a “gut preservation” and reviewed under the guidelines for New Construction/Substantial Rehabilitation.* The agency wishes to preserve this housing as affordable and will provide funding to perform the renovation work necessary to give the building(s) a new lease on life for a minimum of 20 years.

Substantial Rehabilitation – Conversion of an existing structure from its original use to housing. This can also be called adaptive reuse. Existing buildings used for housing may be defined as substantial rehabilitation if the building is being completely gutted and/or reconfigured. The Agency reserves the right on a case-by-case basis to decide if the Scope of Work proposed qualifies as substantial rehabilitation.

Moderate Rehabilitation – Complete replacement of two or more major components of an existing building used for housing. Components can include boilers, windows, finishes, kitchen cabinets, appliances, bathroom fixtures, etc.

Renovation – Partial replacement of components in an existing building used for housing. Components can include boilers, windows, finishes, kitchen cabinets, appliances bathroom fixtures, etc. The Agency reserves the right on a case-by-case basis to decide if the Scope of Work proposed qualifies as renovation.

1.01 OUTLINE FOR TECHNICAL SERVICES PROCESSING

(Applicable to PennHOMES Developments)

PRE-FEASIBILITY (Optional) – (Conducted by PHFA personnel and the Owner’s Development Team at the site visit)

1. Technical overview of site(s) for new construction and/or site(s) and structure(s) for rehabilitation developments including, but not limited to:
 - A. Availability and location of existing utilities (electric, gas, water, sewage, etc.)
 - B. Appropriateness of site topography for the proposed development.
 - C. Access to site.
 - D. Potential and existing environmental hazards.
 - E. Structural adequacy and suitability for adaptive re-use for existing structures proposed for rehabilitation.
 - F. Compatibility with existing neighborhood.
 - G. Study Accessibility/VisitAblitycm* issues.

ARCHITECTURAL SUBMISSION REVIEWS – 3 Stages

1. Separate drawings must be submitted for the site, architectural, structural, mechanical, plumbing and electrical work for each submission.
2. The use of notes, cross-referenced by number or letter designation, will not be accepted unless they are on the same page as the drawings.
3. When responding to the Technical Services review letters, a written response is required as well as making the necessary changes to the drawings and specifications. *The written response must appear on the architect’s letterhead.*
4. **Schematic Submission Review** – including, but not limited to:
 - A. Schematic Site Plan, Floor Plans, Elevations, Typical Wall Section and Outline Specification.
 - B. Schematic Design Requirements Checklist.
 - C. Schematic Design Construction Cost Estimate *(use the form provided in Section 2.03).*
 - D. The Schematic Review may be waived, at the discretion of the Technical Services Division, if adequate information is submitted with the Application.
5. **Design Development Submission Review** – including, but not limited to:
 - A. Design Development Drawings and Specifications (90-100% complete Contract Documents).
 - B. Estimated Utility Costs.
 - C. PHFA Checklists: Design Development Requirements Checklist, Design Development Checklist for Green Building Criteria, Development Tabular Schedule, Development Security and Maintenance Requirements Checklist for Urban Locations, Mechanical Requirements Checklist, Electrical Requirements Checklist and Estimated Utility Costs.
 - D. Design Development Construction Cost Estimate *(use the form provided in Section 2.16).*
 - E. Survey, Surveyor’s Report and Legal Description.
 - F. Contractor’s Qualification Statement (AIA Form A305) and description of previous experience if not included in the Application.
 - G. Subsoil Investigation Report *(Additions/New Construction only).*
 - H. Structural Engineer’s Report (for rehabilitation developments only, this requirement may be waived upon request depending on the state of the building to be renovated).
6. **Contract Document Submission Review** – Including, but not limited to:

- A. Contract Drawings and Specifications – 100% complete.
- B. Any unresolved or outstanding items from the previous review stages.
- C. *Loan Closing Construction Cost Breakdown* – based on 100% completed Drawings and Specifications (*use the form provided in Section 2.18*).

NOTE: At each stage, a review letter is sent to the Architect with copies to the Owner and the PHFA Development Officer.

INITIAL LOAN CLOSING

1. A closing date will be scheduled by PHFA legal staff a loan commitment has been granted.
2. *For PennHOMES Developments* - Drawings and specifications must be signed by the Owner, Architect, Contractor and other parties if applicable (e.g., Housing Authority for moderate rehabilitation developments). A minimum of *two (2)* sets of hard copies and one (1) electronic copy (PDF's on a CD) of all closing Contract Drawings and Specifications including any Addenda and Value Engineering lists are required. (*See Section 5 – PHFA Addendums*)

CONSTRUCTION PHASE

1. The construction of the development is monitored by the Technical Services Representative for conformance to Drawings and Specifications, general quality of construction, and percentage of completion in relation to the construction schedule and monthly draws.
2. Shop Drawings, Catalog Cuts and Field Change Orders are reviewed by the Technical Services Representative assigned to the development and PHFA's Architects and Engineers as appropriate. (*PennHOMES and PHARE Developments only*)
3. *For Requirements during Construction see PHFA's website. www.phfa.org/mhp/technicalservices.*

1.02 ACCESSIBILITY REQUIREMENTS

Design and Construction of all PHFA developments must conform to the *Fair Housing Amendments Act of 1988*, the *Pennsylvania Uniform Construction Code* and *Section 504 of the Rehabilitation Act of 1973*, as amended.

The site, building(s) and dwelling units must conform to the *Uniform Federal Accessibility Standards (UFAS)*, the *ANSI A117.1-2009*, and/or the *2010 ADA Standards for Accessibility Design*, as applicable.

The Owner and Architect of the development shall be responsible for the design of the development to meet all applicable accessibility requirements. The following is not intended to include all requirements for meeting accessibility design requirements, and PHFA does not intend the use of this information to be construed as the only accessibility requirements that must be met.

SECTION 504, ANSI A117.1-2009, AND UNIFORM FEDERAL ACCESSIBILITY STANDARDS REQUIREMENTS

For developments with federal funding and subject to the Uniform Federal Accessibility Standards (UFAS), note that HUD allows conformance with the 2010 ADA in lieu of UFAS, with a few limitations (see <https://www.federalregister.gov/documents/2014/05/23/2014-11844/nondiscrimination-on-the-basis-of-disability-in-federally-assisted-programs-and-activities> for details).

New Construction

1. A minimum of 5% of the total dwelling units (or at least one unit) must be accessible by persons with mobility impairments. These units must include audible and visual signaling devices for hearing/vision impaired.
2. An additional 2% (or at least one unit) must be accessible by persons with a hearing or vision impairment. These units shall not be equipped for persons with mobility impairments.

This must include the following at a minimum:

- A. Strobic visual signal wired to the dwelling unit smoke detectors, visible in all rooms of the dwelling unit including the bathroom.
 - B. Strobic visual signal wired to the central fire alarm system (if one is required by code), visible in all rooms of the dwelling unit including the bathroom. This signal must be distinguishable from that in paragraph "A" above.
 - C. A doorbell at the dwelling exterior or corridor entrance door with a visual signaling device.
 - D. TTY capable telephone in the unit.
 - E. In buildings with a common entrance, a means for a hearing impaired individual to identify visitors without leaving his/her dwelling unit.
3. For Items 1 and 2, Federal, State and Local Authorities may prescribe a higher percentage or number upon request by an affected recipient or by a State or Local Government Agency or Authority. Certifications made in the application may increase the number of units required under Item 1.
 4. Building(s) and site facilities provided for the use of the tenants must be accessible to persons with disabilities. Parking spaces must be provided for mobility impaired tenants and visitors. The parking spaces must be designed in accordance with the Uniform Federal Accessibility Standards, ANSI A117.1-2009 and ADA. A minimum of 5% of the parking spaces (no less than two spaces) must be designed for persons in wheelchairs. If parking spaces are provided for each unit, accessible spaces must be provided for each accessible unit.

5. The accessible dwelling units must be distributed throughout the building(s) and site in a sufficient range of sizes and amenities to allow a choice of living arrangements for persons with disabilities, generally comparable to that of other persons.
6. In accordance with ANSI A117.1-2009, Section 1003.1, an accessible route shall be provided to all spaces and elements in accessible units.

Rehabilitation – General

1. If the development contains 15 or more dwelling units and the cost of alterations is 75% or more of the replacement cost of the completed development, the New Construction Requirements above apply.
2. Otherwise, alterations shall be made to be readily accessible to and usable by individuals with disabilities. Once 5% of the units in a development are readily accessible and usable, no additional dwelling units or portions thereof are required to be made accessible, unless otherwise certified in the application.
3. Alterations to common areas or parts of facilities that affect accessibility of an existing development are required if it does not impose undue financial and administrative burdens on the operation of the development.
4. Rehabilitation developments shall strive to meet the requirements of the Fair Housing Act, to the greatest extent possible.

Rehabilitation – Historic Buildings – (Buildings listed or eligible to be listed in the National Historic Register of Historic Places or similarly listed pursuant to a State, County or Local statute or ordinance).

1. The requirements of the General Rehabilitation above apply unless it can be documented (e.g. by the *State Historic Preservation Office*, or other jurisdictional authority) that providing accessibility would substantially impair the historic features of the property or result in undue financial and administrative burdens. Documentation must be submitted to PHFA.
2. For developments containing 15 or more dwelling units where the cost of alterations is more than 75% or more of the replacement cost of the completed development and a historic designation precludes providing accessibility for persons with disabilities (e.g. ramps for wheelchairs), two percent (2%) of the dwelling units must be designed to be accessible and usable by persons with hearing or vision impairments. The number of units may be increased if indicated by need assessments conducted by local bodies.

It is the responsibility of the design professionals to design the development to meet the most restrictive requirements of all disability guidelines and codes applicable to the development.

Preservation Developments

1. Preservation developments are encouraged to modify at least 5% of the dwelling units to meet the current accessibility standards and provide adaptable and visitable features wherever possible.

PHFA SUPPLEMENTAL ACCESSIBILITY REQUIREMENTS – Supplement to the Uniform Federal Accessibility Standards, ANSI A117.1-2009 and Section 504.

Dwelling Units & Common Areas Designed for Mobility Impairments:

1. A full width kick plate must be provided on both sides of all exterior entrance doors, all accessible unit entrance doors and all common area doors that permit tenant access.

2. Wall corner guards (textured, vinyl 1 ½" x 1 ½" minimum) must be provided at all outside wall corners in all common areas.
3. All developments must be designed with 5% minimum accessible units and an additional 2% minimum hearing/vision impaired units.
4. All Accessible units shall conform to the requirements for ICC/ANSI A117.1-2009 "Type A Units" with the following provisions:
 - A. A full width kick plate must be provided on both sides of all interior doors that permit passage and on one side of all other doors.
 - B. Wall corner guards (textured vinyl 1 ½" x 1 ½" minimum) must be provided at all outside corners within accessible units.
 - C. Grab bars must be installed at all required locations.
 - D. A minimum of 50% of the accessible units shall include a bathroom with an accessible shower. (Not applicable to dwelling units in General Occupancy developments with only one bathing fixture). All accessible showers shall have a maximum curb height of ½". The remaining accessible units may have an accessible bathtub/shower. A removable seat as shown in ANSI Figure 610.2 shall be provided in all accessible tub/showers.
 - E. All bathrooms with ½" curbed showers shall have a floor drain provided in the bathroom floor outside of the shower. *(Recommended but not required in Preservation Developments)*
 - F. Accessible showers must be provided with a folding seat firmly secured to the shower walls, shower controls and a hand held shower head within reach of the seat and a compressible dam at the shower entrance threshold.
 - G. Shower heads and mirrors in accessible units shall be mounted to permit use by those with mobility impairments and those without.
 - H. Due to the requirement for knee space beneath the sink and work counter in accessible kitchens, the lavatory in accessible bathrooms and the minimal accessibility of wall cabinets, accessible pantry and linen cabinets or closets must be provided in accessible units.
 - I. Removable kitchen and bathroom base cabinets may be installed at the area requiring knee space. These cabinets must be removable without disconnection of any plumbing lines. The walls, floors and sides of adjacent cabinets must be finished and wall base installed during the initial construction.
 - J. Protection on drain and water piping beneath kitchen sinks and bathroom lavatories must be installed even if removable cabinets are installed at these locations.
 - K. Refrigerators should be located to allow doors to swing 180°.
 - L. A 30" work surface with knee space (or removable cabinet) beneath must be provided beside the oven in all accessible kitchens.
 - M. Accessible bedrooms must have a minimum 30" access on both sides and at the foot of the bed. The primary bedroom must accommodate a queen size bed. All other bedrooms must accommodate a twin size bed.
 - N. At the exterior entrance to an accessible, adaptable or visitable unit an overhang or porch roof is required to protect the entrance door from rain and snow.
 - O. A minimum of (1) accessible parking space must be provided for visitors.

VisitAbilitycm*

1. All developments should be designed implementing "VisitAbilitycm*" access methods to the greatest extent possible. *See Section 1.08* for VisitAbilitycm* Guidelines.

The **UNIFORM FEDERAL ACCESSIBILITY STANDARDS (UFAS)** may be obtained from the Architectural and Transportation Barriers Compliance Board, Washington, DC 20202, 1-800-872-2253

The **2010 ADA STANDARDS FOR ACCESSIBLE DESIGN** may be obtained on the Department of Justice ADA website www.ADA.gov.

The **ICC/ANSI A117.1-2009 STANDARDS** can be obtained from the American National Standards Institute, Inc. 11 West 42nd Street, New York, NY 10036, (212) 642-4900.

1.03 PROFESSIONAL FEE SCHEDULE

Architect's Fees

The maximum allowable Architectural Fees for both design and construction administration are computed as a percentage of the "improvement cost" of the development. "Improvement Cost" is defined as the sum of the subtotal for structures and includes overhead and profit, general requirements, site work, payment and performance bonds and contingency funds. The exact amount of the allowable fee must be determined by interpolation based on the following chart. The design fee shall not exceed 75% of the total fee; the construction contract administration fee shall not be less than 25% of the total fee. For applications following the construction management form of product delivery, the same fee breakdown must followed. For applications with a separate Landscape Architect, the combined fee is subject to the limitations set forth below. Job conferences *for HOME and PHARE Developments* must be held a minimum of once every two weeks *and monthly for all other Developments*. When not needed, job conferences may be canceled with approval of the Owner, Architect and PHFA Technical Services Representative. **All reimbursable expenses must be included in the Architect's Fee.**

Total Construction Cost (including Contingency)	Regular Developments	Complex Developments	Substantial Rehabilitation Developments
\$100,000	9.50	10.00	10.50
\$1,000,000	7.31	7.53	7.91
\$3,000,000	6.57	6.72	7.01
\$5,000,000	6.04	6.19	6.50
\$7,000,000	5.50	5.65	5.93
\$10,000,000	4.83	4.98	5.23
\$15,000,000	4.63	4.78	5.02
\$20,000,000	4.42	4.59	4.82
\$25,000,000	4.27	4.46	4.68
\$30,000,000	4.12	4.31	4.53
\$35,000,000	3.97	4.16	4.38
Over \$35,000,000	To be negotiated and approved by Agency Staff		

Professional fees must be based on the construction cost budget established and submitted with the Application, including contingency funds.

Regular Developments – is defined as townhouses, walk-up flats, cottages, duplexes and single family homes.

Complex Developments – is defined as low-rise, mid-rise, high-rise, elevator buildings and buildings with central heating and hot water heating systems, etc.

Substantial Rehabilitation Developments – is defined as buildings that are being converted from another use into housing or a major renovation/rehabilitation of an existing building currently used for housing.

Preservation Developments will typically be considered "Complex Developments"; however, the Agency reserves the right to adjust the Architect fee for these developments based on the Scope of Work associated with the development and the services being provided.

The architect is responsible for the production of Drawings and Specifications for all architectural, structural, interior design, mechanical, electrical, plumbing and sprinkler work as required by the AIA B101 or B108 and Agency Addendum to the same, and AIA Document A201 as amended by the *Agency Supplemental General Conditions*. *(See Section 5 for the PHFA Addenda)*. Contract administration duties shall include site visits at a minimum frequency of once every two weeks *for PennHOMES and PHARE Developments and monthly for all other developments*.

Design Build contracts are not allowed.

The Agency may consider increased fees for additional services such as energy conservation consultant's certification, historical reviews and approvals, detailed or extensive conditions survey.

Professional fee for site development must be established by a separate prime contract between the Civil Engineer and the Owner. The Architect and Civil Engineer must fully and completely coordinate their design work and documents. During construction, the Civil Engineer must make site visits as needed and be present at each monthly pay-out meeting where payment for site work is requested. Civil Engineer professional fees must include fully executed Land Development planning Documents approved by the governing municipality and Construction Documents at sufficient detail to construct that development in conformance with the approved Land Development Plan and PHFA requirements.

Engineering Fees

On new construction developments, civil engineering fees shall not exceed 20% of the total of Sitework and Offsite Improvements costs listed on the Construction Cost Estimate and the Development Budget in the Multifamily Housing Application. Higher fees may be allowed by the Agency if a waiver request is submitted with a detailed justification for the increased fee.

1.04 PROFESSIONAL FEE RETENTION

(Applicable to PennHOMES and PHARE Developments only)

Contracts for Design & Construction Contract Administration Services

1. If the architectural contract is for design and construction contract administration services, retainage in the amount of three thousand dollars (\$3,000) will be withheld from the design fee. This retainage will be released upon construction completion and receipt by PHFA of complete as-built drawings (Record Drawing) in PDF format on a CD satisfactory to PHFA. The architect must submit an invoice to PHFA after issuance of the Record Drawings to receive payment.
2. Retainage in the amount of three thousand dollars (\$3,000) will be withheld from the construction contract administration fee. This retainage will be released in three equal installments, as provided on PHFA's website at <http://www.phfa.org/mhp/technicalservices>, after the architect attends and completes the required 4, 8 and 11 month guarantee meetings. The architect must submit an invoice to PHFA after each guarantee meeting to receive payment.

Contracts for Design Services Only

1. If the architectural contract is for design services only, retainage in the amount of three thousand dollars (\$3,000) will be withheld from the design fee. This retainage will be released upon construction completion and receipt by PHFA of complete as-built drawings (Record Drawing) in PDF format on a CD satisfactory to PHFA. The architect must submit an invoice to PHFA after issuance of the Record Drawings to receive payment.

Construction Contract Administration Services Only

1. If the architectural contract is for construction contract administration services only, retainage in the amount of three thousand dollars (\$3,000) will be withheld from the construction contract administration fee. This retainage will be released in three equal installments, as provided on PHFA's website at <http://www.phfa.org/mhp/technicalservices>, after the architect attends and completes the required 4, 8 and 11 month guarantee meetings. The architect must submit an invoice to PHFA after each guarantee meeting to receive payment.

1.05 ELEVATOR POLICY

(Applicable to PennHOMES Developments only)

Elevators must be provided in PHFA funded developments under the following conditions:

AN ELEVATOR IS REQUIRED IF:

1. **General Occupancy Developments** – The building is 4 stories or greater in height.
2. **Elderly Developments** – The building is 2 stories or greater in height.

A SECOND ELEVATOR IS REQUIRED IF:

1. **General Occupancy Developments** – The development is 5 stories or greater in height **and** 50 or more bedrooms are located on and above the 4th story.
2. **Elderly Developments** – The development is 3 stories or greater in height **and** 30 or more bedrooms are located on and above the 2nd story.

NOTES:

1. For the purposes of this policy, a story shall be any floor in a building that contains a dwelling unit or common area for the use of the tenants. The lowest level with units or common areas will be considered the first floor.
2. For all developments with more than one elevator, it is recommended that one elevator be connected to an auxiliary generator.
3. For elderly developments, at least one elevator must be large enough to accommodate a stretcher (i.e. 5'-8" ± x 7'-3"±). Submit information confirming a stretcher will be accommodated by the stretcher.
4. For elderly developments, adequate space for seating must be provided at lobby and hallway areas directly adjacent to elevators.
5. A comprehensive, preventative maintenance and repair contract must be obtained through an Elevator Manufacturer's Certified Service Representative for all elevators.

1.06 MINIMUM INSULATION STANDARDS

1. All developments up to 3 stories in height shall meet or exceed the requirements of Chapter 4, “Residential Energy Efficiency” of the *International Energy Conservation Code*, (edition currently adopted by the PA UCC). All developments over 3 stories in height shall meet or exceed the requirements of Chapter 5, “Commercial Energy Efficiency” of the *International Energy Conservation Code*, (Edition currently adopted by the PA UCC).
2. New construction and substantial rehabilitation developments up to 3 stories in height shall exceed the Insulation and Fenestration Requirements of Chapter 4 of the International Energy Conservation Code by at least 10%, as verified by the submission of a REScheck certificate.
3. New construction and substantial rehabilitation developments *over* 3 stories in height shall exceed the Building Envelope *Requirements* of Chapter 5 of the International Energy Conservation Code by at least 3%, as verified by the submission of a COMcheck certificate.
4. All piping and heating/cooling ductwork must be located within the conditioned space, (on the *living* unit side of the air barrier *required* on the interior of the exterior *side of the building envelope*). *No ductwork will be allowed on the roof or on the exterior of the building.*
5. Blown-in type insulation will be checked for proper depth/thickness at the Final Guarantee Meeting. Should the required total depth/thickness of the insulation at the time be found less than that which is specified, the Contractor must provide additional insulation in order to satisfy the requirements at no additional cost.
6. All roof trusses with insulation located along the bottom chord of the truss shall be “energy” or “raised heel” trusses which allow for the *full depth (uncompressed)* insulation to *extend* to the *exterior* face of the *insulation*.
7. *Interior wall insulation at all below grade walls* shall be foil-faced rigid insulation board rated for an exposed installation (*in storage or mechanical rooms*) or rigid foam insulation board covered with *a code compliant approved material (in all finished areas)*. All joints in the insulation board shall be air sealed. Fiberglas or cellulose insulation will not be allowed.
8. Rim joists *that are not* insulated on the exterior shall be air sealed and insulated with unfaced rigid foam insulation with edges sealed with closed cell spray foam insulation or entirely with closed cell spray foam insulation.
9. The foundation insulation at all slab-on-grade construction shall *begin* at the top of the slab and extend the code required depth below grade. The top of the insulation may be beveled at a 45° angle per the *2009 International Energy Conservation Code*.

**1.07 INSURANCE REQUIREMENTS DURING DESIGN
AND CONSTRUCTION CHECKLIST**

(Applicable to PennHOMES Developments only)

Evidence of Insurance, per the following requirements, must be provided to PHFA before Initial Closing can take place on a development. Insurance must be placed with companies carrying a minimum A.M. BEST rating of B+ (very good) or better. The limits set forth in the insurance Requirements Checklist are minimums required by PHFA. Parties to the development contract must individually determine if higher limits are appropriate to protect their interests.

OWNER INSURANCE REQUIREMENTS

The property must be insured with acceptable Property and Liability Insurance policies and meeting the requirements described below. The Named Insured in each policy must be the Owner, also known as the Partnership Name.

Evidence of Insurance must be provided to PHFA before Initial Loan Closing can take place. Evidence may be in the form of a binder (Acord Form 75-S 2/29) or Evidence of Property Insurance (Acord Form 27) until the policy is issued. A complete original or certified copy of the policy, including coverage parts, must be provided to PHFA once it is issued.

The property must be covered by the equivalent of a Fire Policy endorsed to include all the extended coverage perils, plus vandalism, malicious mischief, theft, or other broad form perils. In addition, the policy must include the following:

1. The Named Insured of the property must be Owner, General Contractor, and any Subcontractors, as their interest may appear.
2. Builder's Risk Coverage – completed value.
3. All Risk or Special Coverage.
4. Standard Mortgages Clause naming "Pennsylvania Housing Finance Agency" as Mortgagee. Note – *For all FHA INSURED LOANS; the Federal Housing administration must also be listed as Mortgagee on property policies.*
5. Building Coverage to be carried at 100% of completed value. *The Contractor and Subcontractors are responsible for insuring stored materials not permanently incorporated into the development.*
6. Property deductible of \$10,000 or less. Insurance policies with deductibles greater than \$10,000 must include proof of a self-insured retention fund established for the payment of property deductibles.

Examples of proof: (A) Trust fund Agreement that includes payment of property deductible
(B) Third-party Administrator (TPA) Agreement of Insurance Company agreement with specific funds contractually set aside for deductible
(C) Self-Insurance Surety Bond in an amount approved by PHFA

In no event may development operating funds be used to fund the self-insured retention fund.

7. Business Income Coverage (rental value) for 100% of annual projected rental value.
8. Permission for Partial Occupancy Endorsement is required for developments that to be staged, have scattered locations or multiple buildings.
9. An endorsement that states in the event of cancellation, reduction in coverage, or non-renewal, that a 60 day written notice will be sent to the Mortgagee (PHFA) and General Contractor.

If a development is occupied by tenants during the entire construction period, in addition to all the above, the following are also required:

10. Acknowledgement on the policy that *“the Insurance Company hereby acknowledges that the building(s) is/are under renovation”*.
11. Replacement Cost Endorsement.

OTHER REQUIRED COVERAGE WHERE APPLICABLE

1. Contents coverage (lobby and office furnishings) where applicable.
2. Flood Insurance – If the property is located in a 100 year flood zone, flood insurance must be purchased and evidence submitted to PHFA.
3. A general Boiler and Machinery Policy is required where steam boilers, pipes, turbines, engines or other pressure vessels are in operation on the property. The policy must be in the amount equal to 100% of the full replacement cost of the building(s) housing the equipment. The coverage must be comprehensive. Named Insured to include Owner and Contractor.
4. Mine Subsidence/Earthquake Insurance is required on those properties in areas that are prone to the exposure.

COMMERCIAL GENERAL LIABILITY INSURANCE – OWNER

1. Commercial General Liability Insurance is required with a minimum limit of \$1,000,000 per occurrence and \$2,000,000 general aggregate per location (CG2504). Liability coverage must provide for claims to be made on an occurrence basis.
2. PHFA named as Additional Insured as Mortgagee, Assignee or Receiver.
3. Business Automobile Liability – ***ONLY for developments with development owned vehicles***. Minimum limit of \$500,000 per accident for bodily injury and property damage, including coverage for hired and non-owned autos.
4. Umbrella (Excess) Liability – Necessary amount of coverage to increase general liability aggregate limit to a minimum of \$2,000,000. Follow form coverage to apply.
5. Garage Keeper’s Legal Liability – ***ONLY if garage facilities are provided with the property or attendants are employed for outdoor parking facilities***.

GENERAL CONTRACTOR INSURANCE REQUIREMENTS

Certificate of Insurance indicating a minimum of the following categories:

1. Commercial General Liability specific to the development including: (a) premises and operations, (b) product/completed operation with permission to partial occupancy, (c) personal injury, (d) contractual liability (e) explosion, collapse and underground hazards coverage – minimum limit of \$1,000,000 per occurrence and \$2,000,000 aggregate liability per development(CG2503). Coverage must provide for claims to be made on an occurrence form.
2. Business Automobile Liability – \$1,000,000 minimum limit per accident for bodily injury and property damage.
3. Worker’s Compensation – Statutory limits.
4. Umbrella (Excess) Liability – Necessary amount of coverage to increase underlying general liability aggregate limits to a minimum of \$2,000,000. Follow form coverage to apply.
5. Owner, Architect, Architect’s Consultants, PHFA and agents and employees of any of these entities, named as Additional Insured for this development on General Liability and Umbrella policies.
6. All Risk Property Coverage for on-site stored material that is not the property of the Owner and not permanently incorporated into the development.

7. Certificates must indicate Owner and PHFA as the Certificate Holder.
8. Certificates must include a 60 day Notice of Cancellation or Nonrenewal to Owner and PHFA.

ARCHITECT'S INSURANCE REQUIREMENTS

A Certificate of Insurance is required with PHFA listed as the certificate holder. A 60 day Notice of Cancellation is required, and the following coverage:

1. Architects Professional Liability Insurance is an amount not less than \$1,000,000 per claim. The policy must be kept in place for one year following construction completion. (Applies to design and contract administration architects)

1.08 VISITABILITY^{CM*} GUIDELINES

VisitAbility^{cm*} is a design criteria that affords all persons basic access to residential buildings. The VisitAbility^{cm*} standard is lower than full accessibility. Therefore, VisitAbility^{cm*} is not the same as Americans with Disabilities Act (ADA) compliant accessibility. ADA compliant dwellings will automatically be VisitAble; however, VisitAbility dwellings are not necessarily ADA compliant.

All newly constructed single family houses, townhouses, units in elevator buildings and all ground floor units in walk-up apartment buildings shall be visitable. Rehabilitation developments should strive for 100% visitability, but a minimum of 25% of the units shall be visitable unless it is unfeasible due to structural or other existing conditions that cannot be readily corrected. Preservation developments are exempt from this requirement but are encouraged to provide VisitAble units where feasible.

DESIGN FEATURES

1. **Zero-Step Entrance** – For a *building and a* unit to be VisitAble, it must provide at least one zero-step entrance with a 36" wide door. A zero-step entrance is one with no step at the exterior door and with less than a ½" difference between the inside and outside surfaces or with a threshold with less than a ½" rise. When selecting sliding doors, choose those with the lowest bottom track and providing at least 32" clear opening.

The methods of achieving a zero-step entrance include consideration of grade when planning a site. Grading an accessible route flush with the entrance of a unit is typically less costly than constructing a ramp and often less than installing steps. At the zero-step entrance to a unit an overhang or porch is required to protect the entrance door from rain or snow.

2. **Wider Doors** – All doors, doorways and passage ways on the entry level floor of a unit *must* be 36" wide (minimum). Wider doorways make movement of people, furniture and assistive devices such as wheelchairs, walkers and crutches safer and easier.
3. **Convenience Facilities** – A 36" clear path of travel to the bathroom or powder room and a clear floor space within the room and at the plumbing fixtures in accordance with the Fair Housing Act Design Manual is required. A parallel approach or front approach (with knee and toe clearance) is required at the vanity. If a front approach is provided, additional storage in the form of a cabinet or closet is required.
4. **Grab Bars** – A 24" minimum grab bar shall be provided beside the toilet for visitability. The grab bar can be used as a towel bar in the ground floor bathrooms or powder rooms and placed so they can double as grab bars for visitors who may need them. Walls behind grab bars must have reinforcement (¾" plywood or OSB over studs [preferred] or at least 2" x 8" blocking between studs). Blocking should be centered at 34" above the floor. Grab bars must be rated to hold at least 250 lbs. of static weight, stand away for the wall 1 ½" and be 1 ¼" to 1 ½" diameter.
5. **Accessible Routes** – Make hallways as wide as possible; 36" is the minimum (42" is preferable). Exterior accessible routes should be considered when designing the site. Care should be taken to locate VisitAble units in close proximity to access to services without congregating them together. Also, locate these units where they have easy access to neighboring units that have incorporated VisitAbility^{cm*} features in their designs. *A clear pathway to the living and dining areas is required.*

* VisitAbility^{cm} is used by permission of Concrete Change.

For more information, please contact:

<http://www.sdhp.org/>

The Center for Universal Design

<https://projects.ncsu.edu/design/cud/>

IMPORTANT DIMENSIONS

1. Wheelchair clear floor space.....30" x 48"
2. Preferred door widths..... 36"
3. Typical grab bar height from floor or bottom of tub.....33"- 36"
(Bathroom walls should be reinforced at this height for safe future installations)
4. Preferred width of hallways.....42" min.
5. Maximum safe slope for a graded walk or ramp.....1:12
(Requires handrails)
6. Preferred slope for graded walk or ramp.....1:20
(Does not require handrails)
7. Preferred height for light switches and thermostats.....42" - 48"
8. Preferred height for electrical outlets.....18"- 24"
9. Zero-step entry – No more than ½" threshold difference

1.10 WAGE RATE DETERMINATION POLICY

GENERAL WAGE RATE INFORMATION

1. Developments receiving Federal funding from any source are generally subject to the Davis-Bacon Wage Rate requirements (29 CFR §1.5 and §1.6).
2. Developments receiving state funds may be subject to Pennsylvania State Wage Rate requirements. If a development is receiving both Federal and State funding, federal wage rate requirements supersede state requirements.
3. PHFA will monitor developments that receive Federal HOME Program funds through the Agency. If Federal funds are acquired through a Participating Jurisdiction and not through PHFA, the PJ is responsible for providing and monitoring the wage rate determinations.
4. The Architect, Owner or Contractor must supply in the space provided on the PHFA Design Development Construction Cost Estimate and the *Loan Closing Construction Cost Breakdown*, the date of the wage rate determination used for pricing the work.
5. The Architect must bind the printed wage rate determination into the Specifications for the development. The date on this determination must coincide with that on the PHFA Construction Cost Estimate forms.

FOR DEVELOPMENTS RECEIVING FEDERAL FUNDS THROUGH PHFA (Non-PJs)

1. The Owner, Architect or Contractor shall request a wage rate determination from PHFA.
2. If a wage determination is not used during its effective period, it is void. If it appears that a determination may expire before the “Start of Construction” a new determination shall be requested.
3. Ninety (90) days prior to the anticipated date of the “Start of Construction”, PHFA will issue a Davis-Bacon Wage Rate Determination to the Owner through the Compliance Officer.

For purposes of this policy, the HUD definition of “Start of Construction” shall be utilized (as may be amended or modified by HUD). “Start of Construction”, as that term is used in connection with labor standards and wage requirements, means the beginning of initial site clearance and preparation, provided those activities are pursued diligently and are followed without appreciable delay by other construction activity.

1.11 MODULAR HOUSING CONSTRUCTION REQUIREMENTS

(Applicable to PennHOMES Developments only)

The following must be met for all developments using Modular and/or manufactured building products:

- 1.** Submit a financial statement of both Modular Manufacturer and General Contractor for review.
- 2.** Modular Contractor shall be a Subcontractor to the General Contractor hired by the Owner.
- 3.** The contract between the Modular Manufacturer and General Contractor shall be submitted for review.
- 4.** Modular Manufacturer's construction drawings shall be submitted for review.
- 5.** A 100% payment and performance bond or an unconditional and irrevocable letter of credit in the amount of 25% of the contracts covering the modular construction and site construction must be submitted.
- 6.** Submit Evidence of Insurance Coverage for the Modular Manufacturer (PHFA is not requiring to be named as an insured but requires evidence that the manufacturer is adequately covered).
- 7.** Follow normal PHFA required insurance coverage for the site construction (General Contractor).
- 8.** Follow normal PHFA development contingency fund requirements.
- 9.** Follow normal PHFA construction contingency requirements.
- 10.** Follow normal PHFA retention requirements.
- 11.** The General Contractor must fund the normal upfront modular construction deposit. The General Contractor will be reimbursed for the deposit from the Owner's equity at Initial Loan Closing.
- 12.** Payment (less retention) shall be made to the Modular Manufacturer when boxes are delivered and installed on foundations, made weather tight and inspected and approved by PHFA.
- 13.** On-site inspection and written acceptance of foundations by the Modular Manufacturer prior to delivery and installation of boxes is required.

1.12 DESIGN ARCHITECTS CERTIFICATIONS FOR SELECTION AND THRESHOLD CRITERIA

At the Application phase, it is not necessary for the Design Architect to have completed more than a Schematic Design for the development. Detailed amenities and features intended to be incorporated into the design need not be shown as part of the Schematic Design. The Design Architect may elect to certify that she/he has or will design the features into the development at a later date. The Developer/Applicant must also sign off on these certificates to make sure all parties are aware of the intent of the certifications and that the costs are incorporated in the construction budget.

Failure to incorporate certified amenities and features into the development construction will result in non-compliance with PHFA requirements.

A summary of all certifications made by the architect in the loan application must be included on the cover sheet of the drawings.

1.13 ENERGY CONSERVATION MEASURES

1. Energy Star Equipment

- A. New Construction and Rehabilitation Developments:** All appliances, HVAC equipment with a capacity less than 60,000 btuh, gas fired water heaters, windows, ceiling fans, exhaust fans, range hoods and exit signs, shall be Energy Star® labeled. (Exception: *Programmable thermostats do not need to be provided and* windows in buildings over three stories in height may comply instead with ASHRAE Standard 189.1-2009) (Packaged terminal air conditioners (PTACs) and packaged terminal heat pumps (PTHPs) may only be used if it can be proven that they comply with the prescriptive requirements of Energy Star Version 3.1 for air source equipment). In addition, 100% of the permanent room light fixtures in the dwelling units shall be equipped with LED bulbs or high efficiency fluorescent *lamps* with electronic ballasts; and 100% of the community room and common area corridor and stair lighting shall be high efficiency fluorescent with electronic ballasts or shall utilize LED bulbs.
- B. Preservation Developments:** Existing refrigerators more than 15 years old shall be replaced with Energy Star® labeled type. Existing heat pumps, air conditioning condensing units and through-wall air conditioners more than 20 years old shall be replaced with Energy Star® labeled type, when such equipment exists. Existing furnaces and boilers more than 25 years old shall be replaced with Energy Star® labeled type, when such equipment exists. (*Programmable thermostats do not need to be provided*). In addition, existing community room and common area corridor and stair lighting more than 15 years old shall be replaced with fluorescent fixtures with electronic ballasts or fixtures that utilize LED Bulbs. Where windows are scheduled for replacement, they shall be Energy Star® qualified products, except in buildings over three stories in height, *wherein* window *replacement* may comply instead with ASHRAE Standard 189.1-2009.
- C. Developer Certification:** By signing the certification form in the loan application, the developer certifies that when existing equipment, appliances, and products are replaced, they will be replaced with Energy Star® labeled products, when such products exist.

2. Exceeding Energy Code Requirements

- A.** *In* new construction and substantial rehabilitation developments, *the overall U-value of the exterior building envelopment must exceed the requirements of the 2009 International Energy Conservation Code Chapter 4 by 10% for buildings three stories or less in height as verified by a REScheck certificate. Buildings four or more stories in height must exceed the requirements of the 2009 International Energy Conservation Code Chapter 5 by 3%, as verified by COMcheck certificate.* Air sealing of the exterior building envelope and attic plane shall be included. Trade-offs available in the REScheck software for mechanical equipment will not be allowed. (*Not applicable to Preservation Developments*).

3. Green Building, Energy Efficiency and Sustainability Criteria: All newly constructed multifamily buildings shall comply with the requirements of the 2015 Enterprise Green Communities program criteria 5.1a or 5.1b.

All substantially rehabbed multifamily buildings shall comply with the requirements of the 2015 Enterprise Green Communities program Criteria 5.c or 5.1d.

(see <http://www.enterprisecommunity.org/solutions-and-innovation/green-communities/criteria>)

in addition to the following PHFA Green Building Criteria:

- A.** No piping shall be located outside of the interior finish of the insulated building envelope. (Not applicable to existing piping in preservation developments).
- B.** All domestic water pipes except for PEX piping shall be insulated (Not applicable to concealed piping in preservation developments).
- C.** Termite shields or borate based wood treatment shall be provided with low VOC caulking at all floor joints and penetrations to prevent insect infestation. Borate treatment shall be applied to all wood framing and sheathing to a height of 24" above the "at grade" floor level. Chemical soil treatment or bait stations shall not be used. (Not applicable to existing buildings).

1.14 ON-LOT WELL AND SEPTIC SYSTEM REQUIREMENTS

WELL REQUIREMENTS

1. Prior to Loan Commitment the Owner must demonstrate compliance with *PA DEP Guidelines and Pennsylvania's State Safe Drinking Water Code* (PA Code Title 25, Chapter 109).
2. Evidence that all Local Government requirements have been met must be submitted to PHFA. This may be achieved by submitting a copy of all permits and approvals for use of the system to PHFA. If there are no local regulations, please state such. PHFA requires that evidence be submitted indicating adequate quantity and quality of the water before the well is put into use.
3. Design Development Site Plan must show proposed location of the well indicating all "Setbacks" and/or restricted areas.
4. Floor plans must include a mechanical room showing the design of the pumps, pressure tanks, filters and treatment systems, etc.
5. PHFA recommends the Developer consult with a Geologist to located the well and assist with the process of bringing the well on line.

SEPTIC REQUIRMENTS

1. Prior to Loan Commitment, the Owner must obtain a permit for an on-lot sewage system.
2. Evidence that all Local Government requirements have been met must be submitted to PHFA. This may be achieved by submitting a copy of all permits and approvals for use of the system to PHFA. If there are no Local regulations, please state such.
3. Design Development Site Plan must show location of on-lot system.
4. PHFA recommends the Developer consult with an Engineer specializing in on-lot septic system design.

1.15 POLICY FOR NEW CONSTRUCTION OF BUILDINGS IN FLOOD-PRONE AREAS

LOCATION

Each site will be evaluated utilizing a Federal Emergency Management Agency (FEMA) Flood Insurance Study Map. Sites that are located within a floodway, 100 year floodplain, or a coastal high hazard area will be rejected. Sites that are located within areas adjacent to the floodplain will be evaluated base upon their proposed elevation, occupancy and design. Sites will also be studied to determine if they would become inaccessible from dry land during flood events.

ELEVATIONS

FEMA Flood Insurance Studies provide Flood Insurance Rate Maps and profiles for area rivers and streams. These maps and profiles show how high the river or stream would rise at a given location under floods of various magnitudes. The lowest floor (including basements) of all proposed structures must be located at least one and one-half feet (1'-6") above the elevation of the 100 year flood at the site location. Letters of Map Amendment (LOMA) and Letters of Map Revisions (LOMR) may be issued by FEMA. Refer to <https://www.fema.gov> for more information.

PROPOSED OCCUPANCY

The type of housing occupancy being proposed will be considered and the possible impact of flooding upon the residents will be assessed. Flood risk will be given special scrutiny when elderly, frail elderly or assisted living facilities are proposed.

DESIGN

Each proposed development will be reviewed for design features which may mitigate the impact of flooding. These include installing electrical, heating and mechanical components above expected flood levels, the anchoring of heating oil tanks, LPG tanks, and light frame buildings to prevent flotation and provision for access to and from buildings during flood events.

Questions Regarding Finding Floodplain Maps – <https://msc.fema.gov/portal/home>

1.16 POLICY FOR REHABILITATION OF BUILDINGS IN FLOOD-PRONE AREAS

LOCATION

Each site will be evaluated utilizing a Federal Emergency Management Agency (FEMA) Flood Insurance Study Map or other authoritative floodplain delineation map for the area.

- A. Existing Non-Residential Buildings:** Developments which are located within a floodway, 100 year floodplain, or a coastal high hazard area are not eligible for Low Income Housing Tax Credits or PennHOMES funding.
- B. Existing Multifamily Residential Buildings:** Developments which are located within a floodway are not eligible for Low Income Housing Tax Credits or PennHOMES funding. Developments which are located within a 100 year floodplain or a coastal high hazard area will be evaluated on a case by case basis, based on upon elevation, proposed occupancy and design. Sites will also be studied to determine if they would become inaccessible from dry land during flood events.

ELEVATIONS

FEMA Flood Insurance Studies provide flood profiles for area streams. These profiles show how high the stream would rise at a given location under floods of various magnitudes. All buildings proposed to be rehabilitated will be evaluated to determine how high a 100 year flood would rise above their lowest damageable floor and lowest living floor elevations. The potential economic loss and disruption of resident's lives will be considered. The cost of flood insurance will be included as an annual expense.

PROPOSED OCCUPANCY

The type of housing occupancy being proposed will be considered and the possible impact of flooding upon the residents will be assessed. Flood risk will be given special scrutiny when elderly, frail elderly or assisted living facilities are proposed.

DESIGN

All dwelling units must be located a minimum of one and one-half feet (1'-6") above the level of the 100 year flood and must allow egress during a flood on dry land.

Each proposed rehabilitation development will also be reviewed for design features (existing and proposed) which may mitigate the impact of flooding. These include (A) components such as furnaces, heat pumps, water heaters, electrical panels, and transformers installed above expected flood levels (B) specification of less damageable materials such as ceramic tile, vinyl, and masonry products, and (C) the anchoring of heating oil tanks, LPG tanks, and light frame buildings to prevent flotation.

INSURANCE

All buildings located within a 100 year floodplain are required to be covered by Flood Insurance.

Questions Regarding Finding Floodplain Maps – <https://msc.fema.gov/portal/home>

1.17 LEAD-BASED PAINT HAZARD REDUCTION POLICY

Lead is a highly toxic metal which produces a range of adverse health effects, particularly in children, infants and unborn children. Because it was widely used as a paint pigment for years, most older buildings contain some, often undetected, Lead-based Paint Hazards (LBP). The most common definition of LBP is derived from the Department of Housing and Urban Development (HUD) and includes paint or other surface coating that contains lead equal to or exceeding 1.0 milligrams per square centimeter or 0.5 percent by weight or 5,000 parts per million (ppm) by weight.

The Federal Government through HUD has issued regulations outlining notice requirements, testing requirements and acceptable protocols for LBP Hazard Reduction Activities. These regulations have been in effect since 1992 (See the Residential Lead-based Paint Hazard Reduction Act of 1992 and accompanying regulations).

As of June 1, 2004, new regulations became effective governing notification, evaluation, and reduction protocol, practices and standards for LBP hazards in housing receiving various forms of Federal assistances and in Federally owned residential properties. These new regulations are found at *24CFR Part 35* and are herein referred to as the “*Final Rule*”.

The Pennsylvania Housing Finance Agency (PHFA) will require compliance with all aspects of the *Final Rule* as well as applicable Local standards in all PHFA financed developments. Applicable laws will govern the protocol for assessing LBP hazards, providing notices to residents of affected properties, remediation methodology and practices, testing and clearance procedures, and ongoing maintenance and safety standards and practices for all LBP affected properties.

The *Final Rule* may be downloaded from the HUD website at https://www.hud.gov/program_offices/healthy_homes or by calling **1-800-424-LEAD**. You are urged to obtain a copy of the *Final Rule* and to review the requirements with all members of your Development Team as early as possible in the PHFA financing Application process.

You may obtain additional information on HUD’s website at https://www.hud.gov/program_offices/healthy_homes and by contacting the PA Department of Labor and Industry at

www.dli.pa.gov/laws-regs/regulations/Pages/Lead-Based-Paint-Occupation-.aspx.

Specific compliance requirements for LBP Hazard Reduction under the *Final Rule* will vary depending upon the type of property, the level of LBP hazards detected, and the nature of the reduction activity, etc. You will be responsible for all aspects of compliance with the *Final Rule*, and the agency will require that you and your Development Team members certify to such compliance as a condition to receiving Agency financing or assistance. In addition, we urge you to consult with your Development Team to ensure that your proposed activity is compliant with all Local and State laws and regulations. Some communities have requirements governing LBP which are more stringent and restrictive than the *Final Rule*. In all instances, PHFA will require certification that you are in compliance with the most restrictive requirements applicable to the property and the proposed activity.

In addition the Environmental Protection Agency’s “Renovation, Repair and Painting” rule will apply to any residential unit below built before 1978 that may house children less than 6 years old. For information, see: <https://www.epa.gov/lead/renovation-repair-and-painting-program>.

PHFA also encourage Owners to consider the future occupancy of the development when reviewing and planning for the implementation of LBP hazard reduction requirements. Development Owners need to be aware that change in occupancy status may ultimately trigger different LBP requirements that could impose significant financial burdens on the development. For Instance, should an Owner decide to change the occupancy status from housing for older persons 62 and older to housing for persons age 55 and older, the new LBP hazard reduction requirements could be triggered.

SPECIFIC PROPERTIES IMPACTED BY FINAL RULE

Please note that, in general, each of the following types of properties will be impacted by the *Final Rule*:

1. Developments containing ANY building that was constructed before January 1, 1978; or
2. Developments involving rehabilitation, adaptive reuse or renovation of any building (or part of a building) that was constructed prior to January 1, 1978; or
3. Developments receiving Federal subsidy or assistance each year. (This includes properties receiving Section 8 through housing assistance payments or through resident vouchers or certificates).

SPECIFIC TIMEFRAME FOR LBP HAZARD REDUCTION ACTIVITY AND PHFA PROCESSING REQUIREMENTS

The following is an outline of processing information required by PHFA during its review of a development for financing. PHFA reserves the right to require additional information as necessary at any time during the processing of Development for financing.

1. ALL developments seeking PHFA financing must complete the *LBP HAZARD REDUCTION SURVEY FORM*, see page 36.
2. Any property with existing occupants which has been identified to have potential LBP hazards must comply with all resident notices and temporary relocation requirements of the *Final Rule* during all phases of the PHFA Application process.
3. All Properties must submit a **Phase 1 Environmental Site Assessment** as soon as possible after Feasibility Approval is granted by PHFA. The Phase 1 Assessment must specifically address the assessment of protocol and findings for LBP.
4. If identified of the Phase 1 Assessment, a **Phase 2 Environmental Site Investigation** addressing LBP hazards must be completed (prior to Commitment) following the testing standards and protocol outlined in the *Final Rule*.
5. If identified on the Phase 2 Environmental Site Investigation, **LBP Hazard Reduction Implementation Plan** (Scope of Work) (See Guideform, page 38) must be submitted (prior to Commitment) incorporating all *Final Rule* protocol and budgeting for insurance and safe work practices, relocation, all testing procedures and utilizing an approved trained and/or Certified LBP Entity. Such LBP hazard reduction activity specified in the implementation plan must be incorporated into the construction budget and the construction timeframe and must provide adequate time for all testing and clearance activity. Additional requirements regarding liquidated damages for delays and required posing of security during the completion of LBP hazard reduction activity may be imposed by PHFA at its discretion.
6. **PHFA Closing Documents** will require **certification** from members of the Development Team that they have undertaken or will undertake (and that they have a continuing obligations to comply with) all necessary evaluations, notices, protocol and processing in accordance with the *Final Rule* and with any other applicable Federal, State or Local law, code ordinance or regulation governing the treatment of LBP hazards.
7. All LBP hazard reduction activity must be conducted by qualified workers must comply with all safe work practices and must meet all CLEARANCE CERTIFICATIONS set forth by the *Final Rule*.

- A. **Clearance Certification** must be provided for all LBP hazard reduction work by a qualified Lead-based Paint Inspector, Risk Assessor or Clearance Technician. Such Clearance Certification must be provided to PHFA as soon as possible after the completion of LBP hazard reduction work.
 - B. In developments involving rehabilitation, there may be a requirement to obtain Clearance Certification after the LBP hazard reduction work is completed (prior to beginning general construction), AND again, prior to occupancy. Development Owners are encouraged to refer to the Final Rule for clarification and guidance.
8. **A Preventative Maintenance Plan** (to be included with the management plan) must be submitted upon completion of the LBP hazard reduction work and prior to occupancy.
- This Preventative Maintenance Plan must:
- A. Be kept with the management plan on site at the property.
 - B. Address any ongoing notice and maintenance requirements that may be required by the *Final Rule* after the LBP Clearance Certification has been issued.
 - C. Provide ongoing management staff with a specific floor plan identifying any remaining areas of the building which may have any LBP present after Clearance Certification; and
 - D. Provide guidance to the development's on-site management staff about any ongoing notice requirements for residents that may be triggered by the Application of the *Final Rule*.

1.18 PHFA LEAD-BASED PAINT HAZARD REDUCTION SURVEY

Development Name: _____

PHFA No.: _____

1. CRITERIA THAT TRIGGER COMPLIANCE WITH 24 CFR PART 35:

- A. Any of the buildings comprising the development were constructed before January 1, 1978.
- B. The development is a rehabilitation, adaptive reuse or renovation of a building constructed before January 1, 1978.
- C. The development receives Federal subsidy each year.

2. THE DEVELOPMENT IS EXEMPT FROM COMPLIANCE WITH 24 CFR PART 35 IF:

- A. The development does not fall into any of the above criteria.
- B. The occupancy of the building will be limited exclusively to persons 62 years of age and older.
- C. The occupancy of the building will be limited exclusively to persons with disabilities.
- D. The building is for single room occupancy tenants only.
- E. The building consists of efficiency apartments only.
- F. The building is certified Lead-Free by a Certified Lead-based Paint Inspector (attach a copy of the certification).

3. EXEMPTIONS FROM 24 CFR PART 35 ARE NULLIFIED IF:

- A. A resident under the age of six occupies a unit. (The occupied unit and all common areas shall comply with the *Final Rules*).
- B. The occupancy of the building is changed or will be changed from occupancy by persons at 62 years of age or older to a lower age bracket, (i.e., 55+).

Signature: _____ **Date :** _____

Type Name: _____ **Phone:** _____

Ownership Entity: _____

1.19 INSTRUCTIONS FOR GUIDEFORM

LEAD-BASED PAINT HAZARD REDUCTION IMPLEMENTATION PLAN

Read the Guideform and these instructions before preparing your plan.

1. **Applicability** – All Owners of developments that will be impacted by the Lead-based Paint Hazard Reduction Requirements, 24 CFR Part 35, must prepare and adopt a Lead-based Paint Hazard Reduction Implementation Plan.
2. **Timing of Plan Submission** – Development Owners must prepare and submit that plan to PHFA prior to receiving Commitment.
3. **Development Name** – Enter the development name as stated in the PHFA Multifamily Rental Housing Loan Application.
4. **Development Address** - Enter the development address as stated in the PHFA Multifamily Rental Housing Loan Application.
5. **PHFA Number** – Enter the PHFA number assigned to the development by PHFA.
6. **Staging Plan** – Provide a detailed explanation of how the development Owner will comply with the following types of lead-based paint requirements.
 - A. Distribution of lead hazard information pamphlet.
 - B. Evaluation of lead-based paint hazards.
 - C. Hazard reduction activities including occupant protection and safe work practices.
 - D. Notice to occupants of evaluation and hazard reduction activities.
 - E. Clearance.
 - F. Ongoing monitoring and re-evaluation.
 - G. Record keeping.

Owners must also provide a description of who they will contract with to conduct the evaluation, reduction and clearance of LBP hazards.

7. **Financing Plan** – Provide a detailed explanation of the financing plan, including associated costs (e.g., insurance, relocation) and financing sources to cover the costs of the staging plan.

1.20 GUIDEFORM

LEAD-BASED PAINT HAZARD REDUCTION IMPLEMENTATION PLAN

(for PHFA Funded Developments)

Development Name: _____ **PHFA No.:** _____

Development Address: _____

THIS GUIDEFORM MUST BE COMPLETED AND SUBMITTED FOR ALL DEVELOPMENTS ASSISTED WITH PHFA DEVELOPMENT FUNDS AND IMPACTED BY THE LEAD-BASED PAINT HAZARD REDUCTION REQUIREMENTS (24 CFR Part 35).

Consistent with the requirements specified in *Requirements for Notification, Evaluation and Reduction of Lead-based Paint Hazards in Federally Owned Residential Property and Housing receiving Federal Assistance* (24CFR Part 35), the *Development Owner* will take the following steps to ensure that current and/or future tenants, especially young children, will not be exposed to the hazards of lead-based paint in housing funded by PHFA.

1. Develop a plan for tenant notification, testing activity, remediation and clearance procedures which comply with the *Final Rule* protocol. Be sure to address the provisions for occupant protection, safe work practices and ongoing maintenance and re-evaluation. *Provide a detailed explanation of staging plan.*
2. Develop a financing plan to demonstrate how the costs of meeting all *Final Rule* protocol will be covered. Incorporate a budget line item for insurance and relocation, if applicable. You may need to engage an Environmental Consultant to assist with setting a cost estimate for the reduction work. *Provide a detailed explanation of the financing plan, including associated costs, if applicable and financing sources to cover the costs of the staging plan.*

Owner Signature: _____

Title: _____

Date: _____

1.21 GUIDELINES FOR RADON PROTECTION

Radon is a colorless, odorless, radioactive gas which results from the natural decay of uranium, primarily in soil and bedrock. It is now felt to be a significant health hazard in many parts of the United States. In fact, the Surgeon General was warned that radon is the second leading cause of lung cancer in the United States today.

- The U.S. Environmental Protection Agency predicts that structures in most areas of Pennsylvania (49 counties) will have an indoor radon level greater than 4 picocuries per liter of air (pCi/L) which is the EPA recommended “Action Level”.
- Radon levels above the 4 pCi/L “Action Level” have been found in buildings in all Pennsylvania counties for which data exists.
- Radon rates vary widely with geographic areas, and there is no reliable method of estimating levels before a structure is built.
- It is relatively inexpensive to incorporate radon resistant construction techniques during construction but technically more difficult and costly to undertake radon reduction activities after a building is built.

NEW CONSTRUCTION

1. For the above reasons, the Agency requires that radon resistant construction techniques be incorporated into all new construction. This requires the installation of a “passive” sub-slab depressurization system, vented through the roof. Architects should refer to the EPA publication, Building Radon Out_EPA/402-K-01-002 www.epa.gov/sites/production/files/2014-08/documents/buildradonout.pdf, for direction.
2. Because the incidence of radon in a building cannot be determined prior to construction, sub-slab depressurization systems need not have exhaust fans installed prior to occupancy of the building. When the building is complete, radon tests must be made in every ground floor or basement apartment and community space to determine the need for installation of exhaust fans. These tests must be performed after construction completion and prior to occupancy for all developments. All costs of testing are the responsibility of the Owner. Results of tests proving no hazard from radon contamination must be submitted to the Agency for approval. Any dwelling units or common areas with test results above the action level must install exhaust fans on the radon venting system and retest or modify the system until satisfactory results are obtained. Contractor must, as part of the original contract work, provide common house (non-tenant) power source in close proximity to vents for installation of fans if required. All costs associated with the purchase and installation of the fans is the responsibility of the Owner.

REHABILITATION DEVELOPMENTS

1. Existing buildings proposed for rehabilitation must be tested for radon as part of the Phase I Environmental Site Assessment process and in accordance with the Multifamily Housing Application Guidelines. Tests must be conducted by DEP listed testing firms. A copy of their report must be submitted to the Agency. If tests indicate radon levels exceeding the EPA recommended “Action Level” of 4 pCi/L, Architects must incorporate radon reduction techniques in the rehabilitation plans. All ground floor or basement apartments and community spaces must be tested after rehab work is completed and prior to occupancy. Any dwelling units with test results above the action level must install exhaust fans on the radon venting system and retest until satisfactory results are obtained. Most buildings are more air-tight after rehab than before, and a building with acceptable pre-

construction levels may have higher radon levels after construction completion. Therefore venting systems in rehab developments should be considered to avoid costly retrofit installations later if high levels of radon are found.

A. *Radon Reduction Methods, A Homeowners Guide*RD-681*; and

B. *Radon Reduction Techniques for Existing Detached Houses* EPA/625/R93/011* for guidance.

TESTING

1. Unless specifically stated otherwise by the Architect in the specifications, the costs for all radon testing and remediation shall be paid for by the Owner. All ground floor or basement apartments and community spaces must be tested for radon prior to occupancy and found to be below the "Action Level". If levels are above the "Action Level", an active mitigation system must be installed as necessary to achieve acceptable radon levels upon retesting.

Note: Firms providing radon testing, laboratory work or mitigation services for PHFA developments must be certified by the Pennsylvania Department of Environmental Protection. Contact DEP Bureau of Radiation Protection in Harrisburg for a listing of certified firms. Evidence of this certification must be submitted to the Agency.

1.22 HISTORIC PRESERVATION

In cooperation with the policy of the Federal Government, Federal and State laws, and Local regulations which require that all developments receiving Federal funds (HOME funds) from PHFA having a potential to affect historic or archeological resources must be reviewed by the *State Historic Preservation Office*.

To prevent a duplication of efforts with other *Commonwealth* Agencies, political subdivisions, and municipal authorities, the *Pennsylvania Housing Finance Agency* is responsible for monitoring compliance with these regulations for developments that are requesting HOME funds from the Agency. The Owner of the development is responsible for acquiring from the *State Historic Preservation Office* the requisite review letter (SHPO letter) covering the historic and archeological status of their development.

Architects are advised to verify with the Owner if the development being undertaken falls under these requirements, whether in a Non-Participating Jurisdiction or not. The Architect is responsible for addressing historic and/or archeological issues in their design documents. Cost estimates submitted to PHFA must include costs for meeting the requirements of any historic and/or archeological issues associated with the development.

Resources:

1. National Historic Preservation Act 1966, as amended through 2000.
2. 36 CFR Part 800.
3. Title 37, the History Code
4. Pennsylvania Municipalities Planning Code, Act of 1968, No. 247 as re-enacted and amended.
5. Pamela Reilly – DCED Historic Preservation Specialist
preilly@pa.gov
717-720-1441

1.23 SOUND LAND USE

PHFA relies upon Local Comprehensive Plans and Zoning Ordinances in the implementation of its program. Developments must comply with and be approved by Local authorities governing these land use requirements.

The *Governor's Executive Order 1999-1* and the *Governor's Executive Order 2003-2 (Agricultural Land Preservation Policy)* establishes statewide policy for sound land use and development. PHFA is committed to this statewide policy and encourages Developers to comply with this policy. Sound land use may include but is not limited to efforts to preserve farmland, minimize urban sprawl, alleviate traffic congestion, reduce environmental degradation, and contribute to more efficient long-term economic growth while preserving Pennsylvania's historical, cultural and education resources.

The following land use related approvals are required to be in place prior to PHFA Commitment of Funds. Architects must coordinate procurement of these documents and approvals with the Owner.

1. Final Zoning approval.
2. Final Subdivision Plan approval.
3. Final Land Use approval.
4. Utility capacity and availability letters.
5. Flood maps.
6. Market study.
7. *State Historical Preservation Office* review letter (Developments in Non-Participating Jurisdiction only).

1.24 ENVIRONMENTAL SITE ASSESSMENT GUIDELINES

GENERAL

Every development site is required to undergo an Environmental Site Assessment to determine if the site is negatively impacted by environmental factors. *ASTM E 1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Assessment Process* shall be followed. Preservation and rehabilitation developments shall have tests made for asbestos containing materials; lead-based paint, radon and lead in drinking water (see the Multifamily Tax Credit/Loan Application for specific test requirements). The Owner is responsible for procuring the assessment and the Architect and Site Engineer are responsible for implementing the recommendations of the assessment as they pertain to the construction and site development. Assessments will be reviewed in terms of procedures used and findings made. Each study must receive PHFA approval prior to Commitment. The following procedures, consisting of a phased approach to accomplishing the needed Environmental Site Assessment, are suggested as a method of addressing PHFA's concerns. If a Phase II Assessment is warranted, it shall be stated in the report including a cost estimate for the report and any anticipated testing needed.

When working with your Environmental Consultant, who will be performing the required Phase I ESA, make sure they follow the ASTM E 1527-13 standard, as well as the requirements listed below.

While there are a number of changes that came with the new ASTM E1527-13 standard, the most noteworthy are:

1. New definitions for a Recognized Environmental Condition (REC), a Historical Recognized Environmental Condition (HREC), a Controlled Recognized Environmental Condition (CREC) and a De Minimis Condition.
2. A greater focus on when regulatory file review should be conducted by the Environmental Professional (EP).
3. The change in definition of migration to include hazardous waste or petroleum products in any form, including vapor; along with this change comes the requirement that a Vapor Encroachment Survey be performed in accordance with ASTM E 2600-10 as part of the Phase I ESA.

Guidance from the ASTM Manual on *Technical Aspects of Phase I/II Environmental Site Assessments* (ESA) states that, "Considering the nature of potentially rapid change in the conditions of the subject property, the shelf life of a report could be perceived as extremely short. The Phase I ESA report could literally be considered obsolete by the time it is written. Recognizing the problem, the standard establishes some ground rules for the continued viability of the Phase I ESAs. Broadly speaking, Phase I ESAs are considered valid for six months (180 days).

For new applications, the Phase I ESA cannot be more than 12 months old at the time of the application submission. For an application that was unsuccessful in the previous year and is resubmitted, the developer may choose to have an update report provided by the Environmental Consultant that performed the original Phase I ESA rather than having a completely new report prepared. An update report is allowed only for a development whose Phase I ESA is between 12 and 24 months old at the time of the application submission. An update letter from the Environmental Consultant must certify that the (5) actions listed as items (i-v) under Section 4.6 Continued Viability of Environmental Site Assessment of the ASTM E1527-13 Environmental Site Assessment Standard have been met. Developments whose Phase I ESA or update report will be approaching 24 months old at the time of loan closing may be requested by PHFA to have the report updated.

PHASE I – ENVIRONMENTAL SITE ASSESSMENTS

A Phase I Environmental Site Assessment must be performed prior to the submission of the loan/tax credit application to determine the presence or likely presence of hazardous substances, petroleum products, or hazardous building/construction materials on a site or located off the site under conditions which may pose a risk to the site. Only the Executive Summary is required to be submitted in the loan application. If Feasibility Approval is granted, the full ESA must be submitted within three months after the approval. However, if the Phase I recommends further resting or remediation, the cost of these items should be included with the Executive Summary in the loan application.

The following are typical elements of a Phase I Environmental Site Assessment:

1. Documentation Review

Each site must be identified on a *U.S. Geological Survey (USGS) 7.5 Minute Topographic Map*. A site plan must also be provided.

A review of documents relating to former ownerships and former uses will identify activities which may have resulted in contamination and may provide clues for the site assessment. A number of sources (both current and historical) can provide information on ownership, site activities and soil/geologic conditions which could enhance the transmission of hazardous substances.

- A. County Recorder of Deeds records.
- B. Geological Survey Topographic Mapping.
- C. Municipal Building Maps.
- D. Fire Insurance Maps.
- E. City Atlas and Street Maps.
- F. County/Municipal Land Use Mapping Zoning/Land Use Records and Building Department Records.
- G. Municipal Business License and Permit Records.
- H. U.S. Department of Agriculture, County Soil Surveys.
- I. PA Bureau of Topographic and Geological Survey – General and County Geology Reports.
- J. Aerial Photography (current and historic).
- K. Well or Boring Logs.

2. Site Inspection

A Physical Inspection, following ASTM procedures, of the site must be conducted. The site inspection must establish the existing use of the property and adjoining properties as well as possible prior uses. It should focus on the visual and physical determination of site conditions and the existence or likely existence of hazardous substances or conditions including substances, which might migrate to the site. Not only must all required environmental hazards like Storage tanks, Odors, Pools of Liquid, Drums and PCBs be looked for but PHFA requires that the following ASTM W 1527-13 non-scope items be looked for as well:

- A. Asbestos or asbestos-containing materials.
- B. Lead or lead-based paint.
- C. Lead in water.
- D. Radon gas (in existing buildings).
- E. Mold.
- F. Wetlands.
- G. Floodways and Floodplains.
- H. High Tension Electric Lines/Towers and Cell towers
- I. Agricultural chemicals.

3. Interviews with Site Personnel and/or Residents

Owners, Managers, employees and former Employees of existing commercial or industrial properties must be questioned about materials and processes used, where activities took place and how wastes were disposed. Employees may also have knowledge concerning the location of site features such as underground storage tanks, wells, pumps etc. The name, title, and length of service of interviewed employees should be recorded. Persons living on or near a site can frequently provide information about activities that took place on the property. Long-term residents can help fill gaps in site documentation.

4. Regulatory Review

A number of Government Agencies have environmental functions involving registration, regulation and cleanup activities. The record databases of these agencies should be reviewed as appropriate to determine if the site under study or a nearby site is included on a database, the nature of the listing, the distance from the site and the possible impact of the site.

A. Federal Database Records

- National Priorities List.
- Comprehensive Environmental Cleanup Liability Information System (CERCLIS).
- Open Dump Report/Inventory.
- Civil Enforcement Docket.
- Resource Conservation and Recovery Information System (RCRIS) – large and Small Quantity, Generators and Treatment, Storage or Disposal (TSD) Facilities.
- Emergency Response Notification System (ERNS).
- EPA Facility Index System (FINDS) list.

B. State Database Records

- State Priority List.
- State Hazardous Waste Sites.
- Solid Waste Facilities/Landfills.
- Underground Storage Tanks (UST).
- Leaking Underground Storage Tanks (LUST)

These Governmental records may be reviewed directly or by utilizing a commercial service which provides access to them.

5. Conclusions and Recommendations

A summary of findings, conclusions, and any recommendations must be provided. At a minimum, the following should be included:

- A.** Listing of all findings and environmental conditions.
- B.** Assessor's opinion regarding the significance or impact of the conditions.
- C.** Any recommendations for further investigation, analysis or remedial action, with an estimate of the costs.
- D.** Recommendation for a Phase II Environmental Site Assessment, if necessary, with an estimate of its cost.
- E.** A cost estimate for any recommended remediation.

If the Phase I Environmental Site Assessment reveals not reason to expect the presence of contamination, the assessment process will conclude. The Owner will be required to properly

remediate any minor conditions disclosed during the Phase I Environmental Site Assessment. If additional contamination is detected during construction, it must be evaluated and remediated.

If a Phase I Environmental Site Assessment indicates possible contamination or the need for further investigation, on-site sampling of air, water, soil, and building materials and laboratory analysis may be required, followed by a plan for remediation of any confirmed hazard.

PHASE II – ENVIRONMENTAL SITE ASSESSMENT

If the Phase I Environmental site Assessment confirms the existence of likelihood of hazardous substances or conditions, it may conclude that further study is needed. If extensive on-site sampling and laboratory analysis is needed, this may involve Phase II activities. (Alternatively, the Phase I Environmental Site Assessment may recommend a quantification of hazardous substances and/or conditions and preparation of a Plan for Remedial Design and Implementations. These various elements may be done separately or combined into one process/report).

PLAN FOR REMEDIAL DESIGN AND IMPLEMENTATION

If hazardous substances or conditions are found to be present following the completion of the Environmental Site assessment (Phase I or Phase II), a plan for remedial design implementation is required. The following must be included:

1. Quantification of hazardous materials and/or conditions.
2. Remedial procedures to be undertaken.
3. Estimated cost of remedial work and source of funding.
4. Identification of the firm or firms which will perform the work.
5. Time schedule for completion of the work.

REQUIRED QUALIFICATIONS

Phase I Environmental Site Assessments must be performed and attested by qualified environmental professionals. The following are qualifications of an environmental professional (EP):

1. The EP must:
 - A. Hold a current P.E. or P.G. license and have the equivalent of 3 years of full-time relevant experience, or
 - B. Hold a current registration from a state, tribe, U.S. territory, or Puerto Rico and have the equivalent of 3 years of experience, or
 - C. Be licensed or certified by the Federal government, state, tribe, U.S. territory, or Puerto Rico to perform environmental inquiries and have the relevant 3 years of full-time experience.
2. A person who does not hold a relevant license or certificate may qualify as an EP if he/she has a Baccalaureate or higher degree from an accredited institution of higher education in a discipline of engineering or science and have the equivalent of 5 years of full-time experience.
3. A person who does not have a relevant license or degree and does not hold a university degree in a discipline of engineering or science can qualify as an EP if he/she has the equivalent of 10 years of full-time experience.
4. ASTM E 1527-13 states that the site assessment must be performed by the EP or *conducted under the supervision or responsible charge* of the EP.

Firms undertaking Phase II Environmental Site Assessments, Quantification of Hazardous Substances and/or Plans for Remedial Design and Implementation should meet the requirements for Phase I work, as well as the following:

1. Guidance and standards developed by American Society of Civil Engineers.
2. Meet all Federal and State licensing and certification requirements for sampling and identification of each of the suspected toxic material (i.e., radon, asbestos-containing materials, and lead-based paint).
3. Analysis must be done in laboratories certified by Federal and State Governments (wherever applicable) to analyze each specific material.
4. Persons undertaking the work must be professionally trained in an appropriate discipline (i.e., geology, hydrology, chemistry, hydrogeology, geophysics and geochemistry) with a minimum of 3 years of experience with similar developments.

ENVIRONMENTAL REMEDIATION MONITORING PROGRAM

If a Phase I ESA, Phase II ESA or any additional environmental resting report finds any environmental issues(s) that needs to be corrected through remediation, this remediation monitoring program must be followed:

1. PHFA's Environmental/Site Specialist will notify all interested parties that an environmental issue(s) exists and that remediation is required. These interested parties may include the Owner, the Architect, the General Contractor and other Divisions of PHFA.
2. The Environmental/Site Specialist will coordinate with all parties to make sure that either he/she or the Technical Services Representative assigned to the project is present on-site at least once during the environmental remediation work to verify that the required work is being performed.
3. An Environmental Closure or Final Clean-up Report must be submitted to the Agency showing that any and all environmental issue(s) have been remediated in the proper manner and that the site is environmentally "clean". This report will be performed by an entity certified in the environmental issue(s) in which the remediation took place. The findings of this report will be verified on-site to the best of their ability by either the Environmental/Site Specialist or the Technical Services Representative assigned to the development.

Resources:

1. ***Technical Aspects of Phase I/II Environmental Site Assessments*** ASTM Manual, by Zdenek Hejzlar.
2. ***Environmental Site Investigation Guidance Manual***, American Society of Civil Engineers.

1.25 KITCHEN CABINET MINIMUM REQUIREMENTS

(Applicable to PennHOMES Developments only)

For General Occupancy Developments:

1. Kitchen cabinets must meet or exceed ANSI/KCMA A161.1 Standards, HUD's Extreme/Severe Use Criteria, or the specifications listed below.
2. Metal cabinets are not permitted.
3. Low pressure vinyl and low pressure laminate finishes are not permitted.
4. A catalog cut (or sample upon request) must be submitted to PHFA for approval.
5. All cabinet face frames must be $\frac{3}{4}$ " minimum thick, kiln dried, and solid hardwood. All joints must be mortised and tenoned. All gluing and stapling to be done under pressure. No butt joint face frames will be accepted. Stiles to be $1\frac{1}{4}$ " wide. Mulls 3" wide. Rails $1\frac{3}{4}$ " wide. Stiles and top and bottom rails dadoed to receive ends, bottoms, and tops.
6. All base cabinets must have nominal $\frac{1}{2}$ " thick exterior hardwood bottoms let into end panels, front rails and installation cleats supported by $\frac{3}{4}$ " thick solid lumber braces 24" o.c. running front to rear of cabinet. All wall cabinet bottoms to be $\frac{1}{2}$ " thick exterior hardwood plywood let into dadoes in ends, installation cleats, and front frames, glued and stapled under pressure.
7. End panels to be $\frac{1}{2}$ " thick, 5-ply exterior hardwood plywood, dadoed a minimum of $\frac{1}{4}$ " deep to receive shelves, bottoms and tops. Ends shall be let into dado in face frame. All end panels either fully or partially exposed shall have a factory finished surface.
8. Backs of cabinets to be $\frac{1}{4}$ " thick 2-2 grade exterior hardwood plywood. Securely glued and stapled under pressure to ends, $3\frac{1}{2}$ " cleats and shelves.
9. All drawers shall be same material as doors. Sides and backs to be minimum $\frac{11}{16}$ " thick "C" grade solid lumber with sides dovetailed into fronts. Backs to be dadoed into sides. Drawer bottoms to be minimum $\frac{1}{4}$ " hardwood exterior plywood let into fronts, sides, and back. All drawer parts must be glued and stapled together under pressure. All drawers to be mounted on a pair of 100 lb. capacity side mounted metal guides that have built-in stops, self-closing and stay-closed features. Cabinet member of guides attached at rear $\frac{3}{4}$ " solid lumber hanging rail.
10. Doors and drawer fronts must be solid hardwood or plywood. Profile may be either "panel-in-frame" or flush panel.
11. Finish of all exposed surfaces to be factory applied consisting of stain, sealer and top coats, lightly sanded between applications. Sealer and top coats to be oven dried. All interior cabinet surfaces must have a smooth finish. Wood species and stain color to be selected from full range available.
12. Shelves must be $\frac{1}{2}$ " thick exterior grade hardwood plywood with wood banded front edge let into dadoes of end panels and braced behind mulls. Intermediate shelf supports must be provided for any cabinet exceeding 24" in width.
13. Heavy duty, self-closing, corrosion resistant semi-concealed wrap-around hinges are required.
14. All (matching) trim, filler strips, etc., required for a finished installation must be included.

16. Toe kicks must be a minimum of $\frac{3}{4}$ " solid lumber. Toe kicks to be painted (factory or field) in color selected by Architect.
17. Countertops must have continuous backsplashes at the rear and all ends, and must be scribed and fit to adjacent wall(s) surface(s), with remaining gap slicked-in with fine bead of silicone caulk to match counter or protective wall backsplash color. All countertops must be finished using a Euro Wrap (180 degree bullnose) detail on all exposed drip edges. The substrate for all countertops shall be constructed of industrial grade, high density (48 lb. minimum) particleboard.
18. Loop or lever type hardware must be provided on all doors and drawers in accessible units. All other units may have knob type hardware or door and drawer designs that do not require hardware, at the Owners option.
19. Installation must be in accordance with the manufacturer's recommendations. It is a requirement that all wall cabinets be mounted directly to structural framing otherwise solid wood blocking in wall behind cabinets is required. Wall cabinets to be mounted using appropriate fasteners thru the top and bottom hanging rails and spaced no farther apart than the framing members of the wall on which they are being mounted.
20. Wall cabinets that have their top edge mounted against a ceiling or bulkhead shall have those top edges scribed to fit tight against that surface, or shall have a finished piece of wood molding matching cabinet finish provided at that same intersection. Scribe fit installations should have remaining gap slicked-in with fine bead of paintable latex caulk.
21. Composite woods used in cabinetry shall be free of added urea formaldehyde or be encapsulated by a durable low VOC sealant that complies with SCAQMD Rule #1113. Cabinetry with KCMA Environmental Stewardship Program (ESP) certification shall be deemed to satisfy this requirement. (At existing buildings, this applies to new composite woods only)

For Elderly Developments:

1. Kitchen cabinets must meet or exceed ANSI/NKCA 161.1 Standards.
2. Metal cabinets are not permitted.
3. Exterior cabinet finishes must be wood veneer. Low pressure (vinyl wrap and laminate) exterior cabinet finishes are not permitted.
4. A catalog cut (or sample upon request) must be submitted to PHFA for approval.
5. All cabinet fronts must be $\frac{3}{4}$ " minimum hardwood or 48 lb. particleboard. All joints must be mortised and tenoned. No butt joint face frames will be accepted.
6. Doors and drawer fronts must be hardwood or 48 lb. particleboard with plastic laminate on both sides and all edges.
7. Exposed ends of cabinets must be $\frac{1}{2}$ " finished plywood or particleboard to match the fronts of the cabinets. Unexposed ends must be $\frac{1}{2}$ " plywood or high density particleboard.
8. All interior surfaces must have a smooth finish. Particleboard shelf edges must be vinyl banded or nosed with hardwood.

9. Shelves must be a minimum of ½" thick. Intermediate shelf supports must be provided for any cabinet exceeding 24" in width. Bottoms may be less than ½" thick only if they are supported every 12 inches maximum.
10. Where particleboard is used, it must be 48 lb. minimum density.
11. Metal, wood, or plastic corner bracing must be provided on all cabinets.
12. Self-closing hinges are required.
13. All (matching) trim required for a finished installation must be included.
14. Installation strips must be a minimum of 1" x 2" (nominal).
15. Toe kicks must be a minimum of ½" wood or ¾" particleboard and must be manufactured of moisture resistant material.
16. Countertops must have continuous backsplashes at the rear and all ends, and must be scribed and fit to adjacent wall(s) surface(s), with remaining gap slicked-in with fine bead of silicone caulk to match counter or protective wall backsplash color. All countertops must be finished using a Euro Wrap (180 degree bullnose) detail on all exposed drip edges. The substrate for all countertops shall be constructed of industrial grade, high density (48 lb. minimum) particleboard.
17. Loop or lever type hardware must be provided on all doors and drawers.
18. Installation must be in accordance with the manufacturer's recommendations.
19. Drawers must be capable of carrying a 75-pound load when open and pass a 50,000-cycle test.
20. For purposes of this Standard, Three-Ply MDF Core Construction and Three-Ply Particleboard Construction panels will be considered as "Particleboard" in lieu of "Plywood".
21. Composite woods used in cabinetry shall be free of added urea formaldehyde or be encapsulated by a durable low VOC sealant that complies with SCAQMD Rule #1113. Cabinetry with KCMA Environmental Stewardship Program (ESP) certification shall be deemed to satisfy this requirement. (At existing buildings, this applies to new composite woods only)

Any exceptions to these specifications must be brought to the attention of the PHFA's Review Architect in writing on a PHFA Waiver Form. PHFA will have final approval of any deviation from this standard.

1.26 WARRANTY, GUARANTEE AND MANUAL REQUIREMENTS

(Applicable to PennHOMES Developments only)

The Design Architect must include all applicable warranties and guarantees from, but not limited to, the list below. The following paragraph must be inserted into the Contract Specifications:

“Prior to the issuance of the Agency’s final certificate of occupancy, the General Contractor shall submit copies of all specified warranties and guarantees to the Agency. In addition, copies of all warranties and guarantees, bonds, and operating and maintenance manuals (for all materials, equipment, fixtures and appliances) shall be furnished to the Owner.”

List of Required Warranties and Guarantees:

1. **General Contractor** – One (1)-year guarantee for all labor and materials for the entire project.
2. **HVAC Contractor** – One (1)-year guarantee for all labor and materials and manufacturer’s standard guarantees for equipment within the scope of this contract.
3. **Plumbing Contractor** – One (1)-year guarantee for all labor and materials, and manufacturer’s standard guarantees for all fixtures within the scope of this contract.
4. **Electrical Contractor** – One (1)-year guarantee for all labor and materials, and manufacturer’s standard guarantees for all equipment and fixtures within the scope of this contract.
5. **Paving** – Two (2)-year guarantee minimum for sub-grade preparation, sub-base preparation, sub-base binder and wearing courses. (May be two or three separate 2-year guarantees each if portions of the work are done by separate Contractors.)
6. **Landscaping** – Guarantee for two (2) years’ (minimum) for labor and materials.
7. **Playground Equipment and Outdoor Furnishings** – Manufacturer’s standard guarantee for one (1)-year minimum.
8. **Roofing:**
 - A. ***Built-up, EPDM and Modified*** – Twenty (20)-year bond, or ten (10) - year guarantee labor and materials. (A 10 year roof inspection and service contract is recommended.)
 - B. ***Shingle*** – Manufacturer’s 20 year (minimum) warranty for materials and Contractor’s one 1 year guarantee for labor.
9. **Wood and Hardboard Siding** – Manufacturer’s standard guarantee, twenty (20)-year minimum.
10. **Stucco Systems, EIFS and other Cementitious Exterior Finishes** – Ten (10) year minimum.
11. **Waterproofing and Sealant Applications** – Contractor’s two (2)-year guarantee minimum.
12. **Windows and Doors** – Manufacturer’s standard guarantee, one (1)-year minimum.
13. **Carpeting** – Manufacturer’s standard material guarantee, plus one (1)-year minimum against faulty installation practice.
14. **Major Appliances** – Range, range hood, refrigerator, disposal, washer and dryer, thru-wall A.C. units, dishwashers, etc. – Manufacturer’s standard guarantees, one (1)-year minimum.
15. **Kitchen Cabinets** – Manufacturer’s standard guarantee, one (1)-year minimum and proof of conformance to KCMA Standards (and HUD Severe/Extreme Use Criteria in general occupancy developments).

16. **Trash Compactor and Chute** – Manufacturer’s standard guarantee, one (1)-year minimum.
17. **Elevators** – Manufacturer’s standard guarantee for labor and materials for one (1)-year minimum. A service contract is required.
18. **Architectural Specialties** – Varies with each project.
19. **Compressors** – Air conditioner and heat pump compressors shall be warranted for five (5) years.