

SUBMISSION GUIDE FOR ARCHITECTS

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SECTION 6.01
SUBMISSION REQUIREMENTS FOR
PRESERVATION DEVELOPMENTS

6.01.1. OBJECTIVE

For purposes of this document, the term “Preservation” refers to PHFA’s goal of preserving existing developments as affordable housing by remodeling them to the extent necessary for them to remain decent, safe and sanitary housing for the next twenty years. PHFA has set-aside funds for this purpose as well as the funds made available through the normal PennHOMES application process.

Submission requirements for new construction must be followed except as modified by this section.

Preservation Developments must follow these guidelines to the greatest extent practical. It is not our intent to burden a development with unnecessary Work, however, we do expect the development to have a minimum 20 year life expectancy after preservation Work is completed.

6.01.2. PHYSICAL NEEDS ASSESSMENT

- A.** The Physical Needs Assessment procured by the Owner must be prepared by an independent third party consultant. The Assessment must follow the requirements set forth in Exhibit T of the PennHomes Application.
- B.** During the application process, PHFA staff will visit the site and compare the Physical Needs Assessment to the physical condition of the building(s) in question. At this site visit the staff may add, subtract, and/or alter the Work outlined in the Scope of Work to better suite the intent of the Preservation program.
- C.** It is the Sponsors responsibility to assure that the Architect is given a copy of the Physical Needs Assessment to incorporate its findings in the Scope of Work.
- D.** It is the Sponsors and the Architects responsibility to assure that the Scope of Work is adequately communicated to the Contractor so s/he can prepare a cost estimate for the Work.
- E.** Allowances in the Construction budget are not permitted. The Architect must clearly identify the scope of all work in the contract documents.

6.01.3. ENVIRONMENTAL REQUIREMENTS

- A.** As part of the Physical Needs Assessment, Exhibit T, tests for the following environmental hazards shall be performed by the Sponsor with results reported in the application. The Architect shall include remediation measures for any hazardous materials found in the Scope of Work for cost estimation by the Contractor.
 - 1. Lead-Based Paint
 - 2. Lead in the Water
 - 3. Asbestos Containing Materials
 - 4. Radon

6.01.4. ACCESSIBILITY REQUIREMENTS

- A.** Pennsylvania Uniform Construction Code.
- B.** Section 504 of the Rehabilitation Act of 1973 as amended, requires that if the project consists of 15 or more dwelling units and the cost of the alterations is 75% or more of the replacement costs, the new construction provision for accessibility shall apply.
- C.** In order to provide equal housing opportunities to all residents of the Commonwealth, PHFA strongly suggests that Accessibility Standards for new construction be followed to the greatest extent possible for all Preservation Developments. Applicants will be asked to explain why these requirements cannot be met if it appears that they have not been met to the greatest extent possible by the reviewing staff.

SECTION 6.02
SCHEMATIC SUBMISSION REQUIREMENTS
FOR PRESERVATION DEVELOPMENTS

6.02.1. PRE-PROCESSING MEETING

Some form of Schematic Design documents are typically included with the PHFA application. Usually these documents are insufficient to describe the development adequately. Before commencing with formal Schematic Design documents, the Architect, Owner and Contractor (if selected), must attend the Preprocessing Meeting held at the local PHFA office. Applicants receiving approval will be notified of the date and time of the meeting. This meeting is intended to inform the developers and their design professionals of the PHFA requirements and to establish a timeline for submissions. A Schematic Design Submission should be made to PHFA as soon as practical after the Preprocessing Meeting. The same level of documentation is required to be submitted for Design-Bid-Build, Negotiated and Design-Build methods of development delivery. Preservation developments shall include the following documentation as applicable to each development. Contact the Technical Services Division review Architect for approval of the scope of documentation acceptable to PHFA for submission. Based on the completeness of the Architectural documents submitted with the Application, the Schematic Design Submission may be waived at the discretion of the PHFA Technical Services staff.

6.02.2. GENERAL REQUIREMENTS The Schematic Submission must include the following in duplicate:

- A. Schematic Drawings** – Of any new construction and substantial rehabilitation
- B. Outline Specifications** in the CSI format
- C. Preliminary Construction Cost Estimate**
- D. Environmental Reports**

6.02.3. DRAWING REQUIREMENTS

A. Cover and Title Sheet must include:

- 1. Name of the proposed development
- 2. Development Address
- 3. PHFA Development Number
- 4. Developer's name and/or entity
- 5. Design Architect's name
- 6. Date of Submission
- 7. A location map encompassing an area of ½ mile radius around the site
- 8. Development Tabular Schedule

B. Site Plans:

1. Minimum scale of 1"=30'
2. Indicate property lines with bearings and distances
3. Indicate all building, sidewalks, paved areas and site features such as trash enclosures and recreation areas
4. Existing and proposed contours at one foot intervals is available
5. Ground floor elevations for all buildings
6. Identify the locations of accessible and hearing/vision units for townhouse developments, and accessible parking spaces
7. Number all buildings for ease of reference
8. Indicate site acreage
9. Indicate location of utility tie-ins and proposed on-site layout
10. Indicate building setbacks

C. Floor Plans:

1. Building Floor Plans:
 - a. Scale: 1/8" = 1'-0"
 - b. Include all floors
 - c. Indicate locations of accessible and hearing/vision units
 - d. Indicate gross square footage per floor
 - e. Include overall dimensions
2. Dwelling Unit Plans:
 - a. Scale: 1/4" = 1'-0"
 - b. Provide plans for all unit types and sizes, including accessible units
 - c. Indicate furnishings
 - d. Indicate clear floor area requirements in accessible and VisitAble units
 - e. Indicate gross and net square footage for each unit plan
 - f. Include overall dimensions and room sizes

D. Elevations:

1. Include all sides and orientations
2. Indicate all exterior finishes

E. Typical Exterior Wall Section:

1. Scale: $\frac{3}{4}'' = 1'-0''$
2. Show materials and method of construction from foundation to roof
3. Indicate insulation levels with "R-" values
4. If more than one type of construction is proposed, provide a wall section for each type
5. Provide dimensions from footing to finish grade and finish floor to ceiling

F. Mechanical and Electrical Plans:

1. If available, provide building plans showing schematic layout of mechanical and electrical systems
2. If available, provide unit plans showing preliminary mechanical and electrical payouts

G. Specifications:

1. Provide outline specifications in CSI 16 Division format
2. Include a brief description of all major materials, finishes, products, equipment and systems proposed

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SECTION 6.03
DESIGN DEVELOPMENT REQUIREMENTS CHECKLIST
FOR PRESERVATION DEVELOPMENTS

Development Name _____

Design Architect (Signature) _____

PHFA No. _____

Date _____

Check the appropriate line if the development conforms to the requirement. Note N/A if it is not applicable.

The Design Development requirements for preservation developments will be reviewed on an individual development basis, but the below listed requirements will apply to the greatest extent possible.

1. **Minimum Unit Sizes Requirements** - The following matrix establishes the minimum allowable square foot area of **new units** funded by PHFA and only apply to Preservation jobs where unit layouts are being revised. As an example, if two efficiency units are converted into a new one bedroom unit, the following minimum areas must be achieved to the greatest extent possible. A 10% maximum deviation may be permitted at PHFA's discretion for preservation developments. As a general rule the gross square footage living area of PHFA funded rental units will be within the ranges listed below. The living area does not include unfinished outdoor storage space or spaces for heating and cooling equipment located outside the unit. These guidelines are not intended to be absolute and averages are not intended to be optimum sizes. The space utilization and design of the units are more important than the actual size.

	<u>FLATS</u>	<u>TOWN HOUSES</u>
_____ SRO	90 minimum	
_____ EFF	350-450	
_____ 1 BR	500-600	600-850
_____ 2 BR	650-850	850-1,000
_____ 3 BR	900-1,000	1,000-1,200
_____ 4 BR	1,050-1,200	1,200-1,400
_____ 5 BR	1,250-1,400	1,400-1,600

2. **Minimum Room Size Requirements** - A 10% maximum deviation may be permitted, at PHFA's discretion, for preservation developments.

_____ A. Primary or Master Bedroom - 120 sq. ft. (least dimension 10'-0")

_____ B. Second Bedroom - 100 sq. ft. (least dimension 9'-0")

_____ C. Third Bedroom - 96 sq. ft. (least dimension 9'-0")

_____ D. Fourth and Fifth Bedroom - 90 sq. ft. (least dimension 8'-6")

_____ E. Living Room – 150 sq. ft. (least dimension 11'-0")

3. **Elderly Facilities Amenities:**

_____ A. Ties to supportive social services, e.g., adult day care services, recreation and cultural activities.

_____ B. Physical and design accommodation features and amenities such as:

1. Handrails on one side of corridors

2. Lever hardware

3. Community spaces with kitchens & storage

4. Coat closets & generous general storage in units

5. Emergency call provisions

6. Accessible public restrooms

7. Public water fountain

8. Air conditioning

_____ C. Access to public transportation.

_____ 4. **Accessibility (Facilities, Apartments and Parking)** - All applicable local, State and Federal regulations and PHFA requirements shall be followed to the greatest extent possible. Refer to Section 6.01.4. of this TAB for additional information.

_____ 5. **Community Space** - Preservation developments should follow the following suggestions to the greatest extent practical, especially when revisions to existing facilities are proposed. All developments should be designed with adequate community space to accommodate functions and services offered at the facility. Developments should provide for a Rental Office, Waiting Area and Conference Room. Public toilets should be provided for all developments. It is suggested that General Occupancy developments have a Community Room sufficient to hold a meeting with about 80% of tenants in attendance. Elderly developments should be designed with a Community Room of sufficient size to hold a meeting with all tenants in attendance, a Kitchen to prepare refreshments for functions, and a room to house health screening and supportive services functions.

General Occupancy Development Community Rooms must be planned for 15 square feet minimum per unit. This allows 7.5 s.f. per household head (husband and wife) to be seated in folding chairs for a tenant meeting.

Elderly Development Community Rooms must be planned for 15 square feet per potential occupant. This allows room for each resident to be seated at a table for a meal or other function.

- 6. **VisitAbility^{cm*} Goal** - PHFA has adopted the goal of providing access to as many units as possible for the purpose of allowing persons with disabilities the ability to visit neighbors and friends. Please refer to our VisitAbility^{cm*} Guidelines included within this Design Guide.
- 7. **Air-Conditioning** - Please refer to the Mechanical Requirements Checklist.
- 8. **Building Security:**
 - A. All developments with shared entrances (high, mid-rise and garden apartments) should be equipped with an apartment intercom system or equivalent security system at the main entrance.
 - B. Apartment entrance doors should be equipped with dead bolt lockset, a passage latch set and a door knocker with viewer.
 - C. All apartment entrance doors should be equipped with an apartment identification number.
- 9. **Bathrooms:**
 - A. One and a half baths for three bedroom and two baths for four bedroom and larger units should be provided (one may be a shower).
 - B. Bathroom floor finish must be ceramic tile or sheet vinyl.
 - C. Accessories - Vanity bases should be provided for all bathrooms and powder rooms. Removable fronts are suggested for handicapped adaptable units. All bathrooms should have a minimum of 2 - 24" towel bars, a tooth brush/tumbler holder, a toilet paper holder, a soap dish and shower rod in tub/shower unit, and a medicine cabinet with mirror. A light fixture must be located over the mirror.

10. Kitchens:

_____ **A.** Ducted range hoods with fans and lights should be provided above all ranges. Exceptions: Recirculating range hoods may be used in kitchens where permitted by local code and in kitchens with windows. They may also be used in kitchens with an entrance or pass-thru that opens directly into an adjacent space that has code compliant natural light and ventilation sufficient to serve both the kitchen and the adjacent space.

_____ **B.** Kitchen cabinets must meet ANSI A161.1, NKCA and PHFA standards. (Refer to PHFA Kitchen Cabinet Minimum Standards). Cabinets in accessible units must have loop type hardware throughout.

_____ **C.** A minimum of one 15" wide drawer base should be provided in all kitchens.

_____ **D.** Refrigerators must be provided with all units. All refrigerators must be frost-free and must have two doors (separate doors for freezer and refrigerator compartments). Minimum sizes must be:

1-Bedroom	11.5 cu. ft.
2-Bedroom	13.0 cu. ft.
3-Bedroom	15.0 cu. ft.
4-Bedroom	17.0 cu. ft.

_____ **E.** Ranges must be provided with all units. All units with two or more bedrooms must be equipped with 30" wide ranges (30" ranges are preferred for all units). If the range abuts a partition or tall cabinet on one side, a protective shield must be located on that partition or cabinet. Ranges less than 30" in width must not be located abutting partitions. A protective shield must be provided for the section of wall directly behind all ranges and on any abutting partitions. The protection must extend from the top of the range to the underside of the hood or cabinet above for the width of the range or more. Protective Shields must be high-pressure plastic laminate, enameled steel or stainless steel.

_____ **F.** In General Occupancy units with 2 or more bedrooms, double bowl sinks are required unless dishwashers are provided.

11. Carpeting:

- _____ A. Carpet must meet the acceptance criterion of Federal Standard DOCFF1-70 for flammability or Class II, 0.22 watts/cm² per the International Building Code, 2003, whichever is greater. Carpeting in units must be a minimum of 24 oz. goods, and in public spaces a minimum of 28 oz. goods. Carpet must meet HUD UM 44D requirements. Parquet, hardwood, tile or equal quality flooring may be substituted where sound transmission is not a factor.
- _____ B. Carpet padding must be used in all living spaces and must be a minimum of Class 2, 8.5# goods meeting HUD UM44D requirements except as indicated below.
- _____ C. Direct glued down carpet should be considered in elderly units.
- _____ D. Direct glued down carpet must be used in units for persons with disabilities.
- _____ E. Provide carpeting in public corridors and lobbies with the exception of the entrance vestibules where a hard surface and a floor mat should be provided.
- _____ F. Provide carpeting throughout the apartments with the exception of utility closets, laundry areas, bathroom, kitchens and entrance foyers where entry is directly from outside, e.g., as in townhouses.

12. Furnishings & Signage:

- _____ A. All windows, sliding doors and patio doors within habitable spaces must be equipped with: (1) curtain rod and vinyl shade, or (2) mini-blinds.
- _____ B. Community areas must be furnished with drapery tracks, drapes and liners, blinds, shades, etc., as appropriate for the intended use of the space.
- _____ C. Drapery liners must be provided throughout the development where aesthetic and/or energy conservation requirements are paramount.
- _____ D. A building or development identification sign must be provided in a highly visible location (may be free-standing or attached to the building).
- _____ E. Room identification signs must be provided for all community, management, maintenance and public spaces.

13. **Lobbies** - A durable washable, wall covering must be provided for elevator lobby walls. A floor identification sign must be provided on the wall opposite the elevator doors.

14. **Closets:**

A. All closets must have doors that fully conceal the contents of the closet.

B. The height of closet doors must not exceed 6'-8" unless the specified door and installation has been reviewed and approved by PHFA.

C. All closet shelves and rods 5'-0" or longer must be provided with center supports, except accessible units must meet ADA guidelines.

D. Pantry and linen storage should be provided.

E. Provide adequate storage space - All units types should have a minimum of ten (10) square feet, plus ten (10) additional square feet in each bedroom within a unit. Family units should have an additional twelve (12) square feet outside of the unit in a basement or other space for bikes, tires, etc.

15. **Laundry Facilities:**

A. Laundry facilities must be provided unless individual washers and dryers are provided in each unit. For developments consisting of numerous buildings, several small facilities may be provided in lieu of one facility.

B. At least one washer and one dryer should be provided for every twelve (12) apartments (2 washers and dryers minimum per development). The ratio may be one washer and dryer for every twenty (20) units for elderly developments.

C. A built-in sorting counter, hanging rod or space for a table and portable hanger should be provided, as well as space for chairs in all laundry facilities.

D. The equipment may be coin-operated type leased from a concessionaire.

16. **Development Facilities and Maintenance:**

- _____ A. Maintenance space for storage of building and ground maintenance equipment, tools and supplies, and a workshop should be provided. Note that where hazardous materials such as gasoline are stored, special precautions must be taken (does not apply if all maintenance services and repairs are contracted out).
- _____ B. Space for lockable tenant storage bins may be provided elsewhere on the development if sufficient storage space cannot be provided within the apartments.

_____ 17. **Natural Light & Ventilation** - Must be provided for all habitable spaces in conformance with code requirements.

18. **Interior Painting:**

- _____ A. A semi-gloss, eggshell or equivalent high quality washable, latex paint should be specified for all kitchens, bathrooms and public restrooms throughout the unit for developments with children and for all public stairs, corridors, and vestibules, unless a protective wall covering such as vinyl wall covering or paneling is provided.
- _____ B. Semi-gloss or high gloss enamel must be specified for laundry, maintenance, storage, and utility rooms.

19. **Parking:**

- _____ A. The parking ratio must be in conformance with the local zoning ordinance unless a variance is obtained.
- _____ B. A minimum of 5% of the total number of parking spaces must meet the latest ANSI standards. If the total number of parking spaces is less than 20, at least two (2) spaces for persons with disabilities must be provided. Refer also to Section 1.02, Accessibility Requirements.
- _____ C. All parking lots must be paved.
- _____ D. In municipalities without a Zoning Ordinance or parking regulations, a minimum of one parking space per dwelling unit plus one space per employee and two guest spaces must be provided.

20. **Indoor and/or Outdoor Recreational Facilities** - Should be considered if none exists in close proximity to the development site. List the play equipment planned for the development below:

- A. _____
- B. _____
- C. _____

21. **Outdoor Furnishings, Equipment, Landscape and Recreational Structure:**

A. Benches, tables, chairs and play equipment and structures must be of the following materials or combinations thereof:

1. Wood must be decay-resistant species, pressure-treated (labeled in accordance with the applicable AWPB Standard) vacuum and non-pressure treated (conforming to NWMA-IS-A and bearing the NWMA seal of approval) or a minimum of two (2) coats of high quality exterior grade sealer, stain or paint must be applied on all sides, edges and ends. The wood must be guaranteed for a minimum of one (1) year to be free of objectionable splinters, checks, shakes, warping, loose knots, decay and stains.
2. Concrete must be precast reinforced concrete, sealed with a minimum of two (2) coats of acrylic sealer. If color is specified, it must be cast integrally.
3. Metals must be anodized aluminum or galvanized steel.
4. Fiberglass must be "super-strength" fiberglass. Lightweight fiberglass is not permitted.

B. All hardware must be corrosion and vandal-resistant, e.g., hot-dipped galvanized or high-tensile strength bolted connections requiring special wrenches for dismantling, galvanized nails for fencing and enclosures.

C. All railroad ties used for curbs, steps, wheelstops, retaining walls, etc., must be pressure-treated CCA-C AWFA C2, C9 .40 pcf.

22. **Waste Disposal** (Check applicable system used):

A. Garbage disposals are recommended where wet garbage presents sanitation problems. Disposals are required in mid or high-rise buildings if trash chutes and compactors are not provided.

B. Trash Room(s)

C. Trash Compactor

D. Dumpster(s)

E. Recycling provisions - The size, number and design of collection area(s) must conform to the requirements of the local recycling ordinance

F. Outdoor Collection - See Section 2.01.B.15.E., Page 2.10

23. **Fire Extinguishers** - Provide a minimum of one 5-pound, A: 10B: C Rated fire extinguisher in all units with a range or cook top. Other fire extinguishers must be provided for the development as required by code.

24. **Windows** - At least one window per room must be a ventilating type window with a full screen for open area of window.

25. **Basements** - Must have 4" thick concrete floors with vapor barriers over 4" gravel base.

26. **Termite Infestation** - Measures must be taken to protect the building from termite infestation. This may be done by soil poisoning or other means. It is recommended that careful environmental considerations be taken in the selection of the method chosen to protect the building.

27. **Environmental Remediation Requirements** - The Architect must indicate in the Contract Documents any environmental remediation work to be performed on the site. This must be shown as part of the Scope of Work described in the Contract Documents. This is required to identify that remediation work needs to be done, so the proper officials will be made aware of the need to certify the Work was properly performed. In the case where the environmental remediation work is not part of the Scope of Work, it must be clearly noted in order to place the responsibility clearly on the party responsible for the Work.

28. **Sound Insulation:**

<u>Location</u>	<u>IIC*</u>	<u>STC**</u>	
	Partitions		50(55)
	Floor/Ceiling	50(55)	50(55)

* **Impact Insulation Class** for floor/ceiling assemblies separating living units from other living units, and from public spaces and service areas with moderate noise levels.

** **Sound Transmission Class** for partitions separating living units from other living units and from public spaces and service areas with moderate noise levels.

(55) represents the IIC and STC Class for separations between living units and high noise areas, e.g., mechanical, emergency generator and trash compactor rooms, elevator, trash chases and chutes, laundry and maintenance areas, etc.

The Owner must submit a written request to PHFA for any waiver of the PHFA Development Requirements.

SECTION 6.04
DESIGN DEVELOPMENT SUBMISSION REQUIREMENTS
FOR PRESERVATION DEVELOPMENTS

6.04.1. GENERAL

- A.** After PHFA has reviewed the Schematic Submission, the Owner must direct the Design Architect to prepare the DESIGN DEVELOPMENT DRAWINGS AND SPECIFICATIONS. The same level of documentation is required to be submitted for Preservation Developments, as any other project. Preservation developments must include the following documentation as it applies to each development. Contact the Technical Services Division review Architect for approval of the scope of documentation acceptable to PHFA for submission. The Design Development submission must include, but is not limited to, the following:
1. Two (2) sets of drawings. The level of completion must be sufficient (90% - 100% of contract drawings) for the Contractor to prepare the Construction Cost Estimate and for PHFA to conduct a cost review.
 2. Two (2) sets of specifications of an equal level of completion as the drawings. Please refer to the enclosed Specifications Procedures.
 3. Where additions are proposed, one (1) copy of the Boundary Outline Survey, Surveyor's Report and Legal Description. The survey must conform to the instructions listed on the back of the Surveyor's Report in Section 2.02.G. The survey must be signed and sealed by a surveyor registered in the Commonwealth of Pennsylvania.
 4. One (1) copy of the completed Construction Cost Estimate.
 5. Structural Engineer's Report by a registered Structural Engineer, if required (rehabilitation developments only).
 6. Subsoil Investigation Report with design recommendations by a qualified geotechnical firm (for new construction and new additions).
 7. One (1) completed copy of each of the following checklists included in this Guide as they apply to the Preservation project. Mark "NA" to items that do not apply.
 - a. 6.03 Design Development Requirements Checklist for Preservation Developments
 - b. 2.02.C Development Tabular Schedule (also include the same information on the cover sheet of the drawings)
 - c. 2.02.D Development Security and Maintenance Requirements Checklist for Urban Locations
 - d. 2.02.E Mechanical Requirements Checklist
 - e. 2.02.F Electrical Requirements Checklist

- f. 2.02.H Estimated Utility Costs
- 8. Proof of compliance with all certificates submitted as part of the Loan Application.

6.04.2. **DRAWING REQUIREMENTS-ARCHITECTURAL**

A. Cover and Title Sheet - Same as for the Schematic Submission with revised date and a schedule of drawings.

B. Site Plan - Same as for the Schematic Submission with the following added:

1. The relationship of the development to adjacent storm water flow or drainage, and vice versa.
2. Ground floor finish elevations for all new buildings and areas within buildings where a change in elevation occurs.
3. Spot elevations where necessary.
4. Passive and active recreational areas.
5. Landscape planting plan including details and plant schedule (common name, number and size for all materials).
6. Show the relationship of the site lighting and other site utilities to the overall site development. Coordinate with plumbing and electrical site utility drawings.
7. All site details, dimensions, paving sections, curb cut and road radii, trash enclosures, recreational areas, access ramps, etc.
8. Accessible route details to handicapped and VisitAbility_{cm}* units.
9. Positive drainage away from all buildings.
10. Evidence of Land Development Planning Approval (if applicable and available).
11. A copy of the Survey and Surveyor's Report, must accompany the submission for review by Technical Services staff. The Deed and Legal Description will be submitted by the Owner to PHFA prior to initial closing.

C. Typical Floor Plans - Same as for Schematic Drawings with all dimensions shown.

1. Basement and roof plans must be included where applicable
2. Unit plans should be drawn at 1/4" = 1'-0" scale

D. Schedules and Details - must include the following:

1. Finish Schedule
2. Door and window schedules, elevations, and jamb, sill and head details. Key to floor plans and building elevations
3. Typical details for clothes, storage and linen closets, including mounting heights and details for rods and shelves
4. List of work items
5. Other as applicable

E. Elevations - Must include:

1. Exterior Elevations - For new additions and where Work is proposed:
 - a. Exterior elevations for each orientation clearly indicating:
 - 1) All exterior finishes, openings and fenestrations
 - 2) Relationship of finished floor to finished grade for ground floor basements
 - 3) Height of each story (floor-to-floor) parapet or roof
1. Interior Elevations:
 - a. For all kitchens and bathrooms, including dimensions, materials, and mounting heights
 - b. All other required, e.g., gang mailboxes, lobbies, etc.

F. Building Sections - Must include the following as applicable to the building type:

1. Typical exterior walls (including roof and foundation)
2. Longitudinal and transverse sections through new construction and the entire building where fire ratings, insulation or other changes are made
3. Typical new stairs: public and private
4. New elevator shafts
5. New trash chutes
6. All typical new interior walls, partitions and chases

G. Building Details - Must be included as necessary for the construction of the building(s).

H. Specifications - Must be prepared in accordance with the CSI format.

6.04.3. DRAWING REQUIREMENTS - STRUCTURAL

A. Plans, Sections, Details and Notes - Must be included in a scope sufficient to construct the particular development. The scope will vary depending upon the type of development, e.g., one and two-story wood frame townhouses, to steel and concrete high-rises. At a minimum, the following must be included where new construction or alterations to the existing structure are proposed:

1. Design loads
2. Framing systems and sizes of members
3. Foundation design consistent with recommendations made in the subsoil investigation report
4. Governing codes, regulations and standards

6.04.4. DRAWING REQUIREMENTS - MECHANICAL

A. General - The intent of this submission is to set forth design development for mechanical work in sufficient detail to:

1. Clearly define the concept and elements of the mechanical systems proposed for the development.
2. Provide proper coordination with architectural, structural, and electrical specifications.
3. Allow for technical review of adequacy, economy, and compliance of proposed design with applicable regulations and codes.
4. Prepare a detailed cost estimate for mechanical work in accordance with cost estimate requirements specified above.
5. Identify specific items of material and equipment contained in specifications for electrical work prepared in accordance with instructions noted above.

B. Mechanical Plans:

1. The orientation of Mechanical drawings must follow the same pattern as established on the Architectural drawings. Titles of rooms corresponding to titles on the Architectural drawings must be noted on the Mechanical plans.
2. In general, design development drawings must include site plans, floor plans, schematic and riser diagrams, necessary equipment schedules, and pertinent details.
3. Site plans must show the routing of all underground services, site drainage, manholes, catch basins and connections to existing systems, etc. Crossovers which are possible points of conflict with Work to be done by other trades or under different contracts must be shown, with inverts given and clearances worked out. Details of connections to utility company lines, building entrances, and manholes must be shown.

4. Floor plans must show each typical area indicating location and space requirements for equipment, fixtures, piping, air ducts, grilles, diffusers, and any other pieces of equipment. Care should be taken in working out hung ceiling depth, equipment rooms, and shafts with adequate clearances provided, e.g., 7'-8" clear height for public corridors.
5. Routing of major ductwork and piping may be shown as single line. Schematic and/or riser diagrams must show all major pieces of equipment, piping, ductwork, etc., with capacities and sizes listed for each. A schedule of all pertinent data for each piece of equipment proposed must be provided.
6. Drawings must be checked for completeness, clearness, interference with structural features and other branches of the electrical or mechanical equipment, and coordinated with the Architectural drawings.

C. Other Requirements - The enclosed Mechanical Requirements Checklist and applicable portions of the Estimated Utility Costs must be completed and submitted to PHFA.

6.04.5. DRAWING REQUIREMENTS - ELECTRICAL

A. General - The intent of this submission is to set forth design development for electrical work in sufficient detail to:

1. Clearly define the concept and elements of the electrical systems proposed for the development.
2. Provide proper coordination with architectural, structural, and mechanical drawings and specifications.
3. Allow for technical review of adequacy, economy, and compliance of proposed design with applicable regulations and codes.
4. Prepare a detailed cost estimate for electrical work in accordance with cost estimate requirements specified above.
5. Identify specific items of material and equipment contained in the specifications for electrical work, prepared in accordance with instructions noted above.

B. Electrical Plans:

1. The orientation of Electrical drawings must follow the same pattern as established on the Architectural drawings. Titles of rooms corresponding to titles on the Architectural drawings must be noted on the Electrical plans.

2. In general, Design Development Electrical drawings must include Site Plan, Floor Plans, Details, Schedules and a One-Line Schematic, all as outlined below.

3. Site plans must show:

- a. Utilities – proposed and existing
- b. Topography – proposed and existing
- c. Site lighting and circuitry
- d. Fuel system location
- e. Building outline
- f. Location of temporary services, if applicable
- g. Pertinent dimensions

4. Floor plans must show each typical area in indicating the location and electrical circuitry to new:

Outlets	Electrical Equipment
Switches	Receptacles
Special Systems	Lighting Fixtures
Mechanical Equipment	Panel Boards
Smoke Detectors	Hearing & Vision Fixtures

5. Details (as required by individual development) must include:

Transformer Pads	Site Luminaries
Counterpoise	Emergency System
Grounding	Generator including:
Manholes	duct systems
Concrete Structures	exhaust systems
	and fuel systems

6. Schedules (as required by individual development) must include:

Lighting Fixtures	Transformers
Electrical Equipment	Special Apparatus
Panel Boards	Mechanical Equipment
Main Distribution Boar	requiring electrical service
Heat Transfer Appliance	

Schedules must show (as applicable) symbols, abbreviations, interrupting capacity, etc.

7. One-line schematic (depending upon the scope of the development) must show:

Service Entrance	Security
Power Distribution	Fire Alarms
Grounding	TV System
Telephone	Heat & Smoke Detectors
Communications	

- | 8. Additional drawing data requirements:
 - | Conduit type and size to be specified.
 - | Conductor insulation, gauge, voltage, circular mill area and material to be specified.
 - | Voltage configuration to be complete at all pertinent locations of change.
- | 9. Other requirements:
 - | Catalog cuts or manufacturer's descriptive literature must be provided for all major equipment items.
 - | The enclosed Electrical Requirements Checklist and the applicable portions of the Estimate Utility Costs must be completed and submitted to PHFA.

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