

**REVISED APPENDIX B
DEVELOPMENT DESIGN CRITERIA
{THIS VERSION INCORPORATES BULLETINS #2 & #4}**

The terms of these mandatory design criteria are the minimum requirements for any project awarded LIHTCs. Required documents must be prepared by engineers and architects licensed to do business in South Carolina.

Once final plans and specifications have been completed, owners must submit them to the authority (24" x 36" hard copy and electronic version via the application system) and receive approval before commencing site work or construction. At all times after award, the owner is responsible for promptly informing the Authority of any changes or alterations which deviate from the final plans and specifications approved by the Authority. The owners must not take action on any material change, the site layout, floor plan, elevations or amenities without a completed change order approved by the Authority. This includes changes required by local governments to receive building permits.

I. DESIGN DOCUMENT STANDARDS

A. Code Compliance

Construction must be in compliance with:

1. 2018 International Residential Code with South Carolina Building Code Council Modifications.
2. 2018 International Building Code with South Carolina Building Code Council Modifications.
3. 2018 International Mechanical Code with South Carolina Building Code Council Modifications.
4. 2018 International Plumbing Code with South Carolina Building Code Council Modifications.
5. 2018 International Fuel Gas Code with South Carolina Building Code Council Modifications.
6. 2017 International Electrical Code with South Carolina Building Code Council Modifications.
7. 2018 International Fire Code with South Carolina Building Code Council Modifications.
8. 2009 International Energy Conservation Code with South Carolina Building Code Council Modifications
9. Current *Adopted* Edition of the NFPA Codes and Standards.
10. ANSI 17.1 – 2017 Edition.
11. Americans with Disability Act.
12. Fair housing Act.
13. Section 504
14. *HD Housing Quality Standards (HQS).*
15. *HUD Minimum Property Standards (MPS).*
16. *HD Uniform Physical Condition Standards (UPCS).*

These code standards are not meant to replace Federal, State or local codes.

B. Application Plan Requirements

1. Plans must be submitted in electronic via the application system.
2. All new construction developments must submit a complete site specific soils report and boring site plan, not more than six months old at the time of application.

- a. The soils report and boring site plan must reflect the results of laboratory tests conducted on a minimum of:
 - i. One soil borings per every 3,000 square feet of planned building ('s) footprint.
 - ii. One soil borings per every 300 linear foot of road way.
 - iii. One soil boring for every 3,000 square foot of at the planned paved parking areas of the development.
 - b. A registered professional engineer or a certified testing agency with a current license to practice in the State of South Carolina must prepare the report.
 - c. Rehabilitation projects adding any new building foundations must also submit a foundation specific soils report and boring site plan as stated above.
 - d. All geotechnical recommendations must be incorporated into plans and cost estimates.
3. Site & Civil plans using a scale of 1" = 30' or 40' with a north arrow that include:
- a. Phased site plan.
 - b. Vicinity map.
 - c. Street name(s) where site access is made.
 - d. Site acreage with Tax map #'s.
 - e. Adjacent properties with descriptions Tax map #'s
 - f. Flood plains and wetlands.
 - g. Site zoning restriction including setback, right of ways and boundary lines.
 - h. Existing elevations and proposed elevations.
 - i. Location of existing and any proposed changes to existing structures, buildings, roadways and parking areas.
 - j. Finished floor elevations for all buildings.
 - k. Building(s) layout with locations of proposed specialty units including but not limited to handicapped and sensory impaired locations.
 - l. Site features such as community building, playground, picnic shelter, gazebo, walking trails, refuse collection area, postal facilities and site entrance signage.
 - m. Planed roads and parking areas with parking spaces clearly depicted.
 - n. Development site lighting plan.
 - o. Retaining walls.
 - p. Planed landscaping.
 - q. Underground utilities.
 - r. Detention pond.
 - s. Fencing.
4. Proposed Landscaping plans must follow any applicable landscape municipal ordinance and include:
- a. Marking of existing trees and shrubs.
 - b. Existing plantings
 - c. Proposed plantings
 - d. Use of native drought resistance plants.
 - e. Provide list of all plants to be added include both the common and botanical name of the plant.
 - f. Prescriptive to preserve and protect existing trees during construction
 - g. There must be 20' minimum of sod extending out from each exterior building wall. A lesser amount will be permitted if sod extends from building wall to property line or road.
 - h. An Irrigation/sprinkler system serving all landscaped areas.
 - i. All disturbed areas not sodded must be seeded.
5. Architectural plans that include:
- a. Front, rear and side elevations of all building types and identify all materials to be used on building (s) exterior using a scale of 1/8" = 1'.
 - b. Building plans using a scale of 1/8" or 1/4" = 1'

- c. Building plans to include total square footage and heated total square footage.
- d. Dimensioned floor plans for all unit types using a scale of 1/4" = 1" that include heated square footage, total square footage and individual bedroom square footage.
- e. **Plans are to be redlined** for projects involving renovation and/or demolition of existing structures, proposed changes to building components and design and also describe removal and new construction methods.
- f. For projects involving removal of asbestos and/or lead based paint removal, general notes identifying location and procedures for removal.

C. Final Plan and Specification Requirements

No later than ten (10) months after the Reservation Date, all awarded projects must submit a full set of completed Plans, Specifications and Geotechnical Soil Reports that include all application plan requirements and any changes from the application plan submittal.

All of the following requirements must be followed:

1. Title Sheet
2. Geotechnical Soil Report (s) must be bound with in the project specifications.
3. Site, Civil, Architectural and Structural.
 - a. Must incorporate all Geotechnical recommendations included in the soil report(s).
 - b. Complete sections and details.
 - c. Window and Door Schedules must be complete.
 - d. Details and Sections pages for all site features and amenities.
4. Mechanicals (HVAC, Plumbing and Electrical) and Fire Sprinkler.
 - a. Plumbing drawings must include waste and domestic water riser diagrams.
 - b. All electrical, plumbing and HVAC fixture schedules must be complete.
 - c. HVAC, manuals J, S & D must be included in the plans.
 - d. Natural air calculations.
 - e. Outside air calculations.
5. Updated landscaping plans (see (B)(4) above)
6. Development Site Lighting plans with representative photometrics shown on plan.
7. Plans and Specs must include all Mandatory and Optional Design Criteria.
8. Site and Civil plans using a scale of 1" = 30' or 40'.
9. Building plans using a scale of 1/8" or 1/4" = 1'
10. Floor Plans using a scale of 1/4" = 1' scale.
11. Elevations and Sections using a scale of 1/8' or 1/4" = 1'.

II. MANDATORY DESIGN CRITERIA

A. ACCESSIBILITY

Developments must meet all federal, state and local accessibility standards, as well as all Authority accessibility requirements.

All owners must contract with a third party Qualified Accessibility Consultant to conduct the following:

1. A pre-construction plan and specification review to determine that the proposed property will meet all required accessibility requirements, including initial comments from the consultant and all documents related to resolution of identified accessibility issues. The Consultant report must be included with the initial construction documents submitted to the Authority.
2. Provide at least two training sessions to the Architect, General Contractor, Job Superintendent, and a representative of every subcontractor group that will affect accessibility (grading, concrete, framing, electrical, plumbing, sheetrock, and cabinetry)

regarding accessibility requirements. One training session must be on site. Maintain a written description of the training sessions and documentation of the events.

3. An inspection of the construction site after framing. The Authority must receive a copy of the consultant's report and documentation that all issues have been resolved.
4. A final inspection of the property after construction completion to determine that the property was constructed in accordance with all accessibility requirements. The Authority must receive a copy of the consultant's report and documentation that all issues were resolved prior to cost certification submission. Developers must contact the qualified accessibility consultant directly, and contract to provide the accessibility compliance services.

NOTE: The above outlines the minimum Accessibility Consultant work scope requirements. The project team should further discuss the scope of the specific project with the Accessibility Consultant to determine the actual number of site visits/reviews the project will require in order to ensure compliance with all federal, state, and local accessibility standards.

The Accessibility Consultant must complete Exhibit AA, Accessibility Consultant Qualifications Statement. The consultant must:

1. possess the required knowledge to inspect multifamily properties for compliance with all federal, state and agency accessibility requirements and meets the following experience requirements and qualifications;
2. not be a member or have an identity of interest with any member of the Development Team;
3. have no less than five (5) years of experience performing accessibility compliance assessments for affordable rental housing projects; and
4. carry the minimum insurance coverage as required by current industry standards.

The Qualified Consultant must arrange enough visits with the Development Team to observe all areas of accessibility and to verify completion of recommended corrections.

Modification Requirements:

1. The Authority requires that all accessibility modifications be in place upon completion of new construction and/or completion of substantial rehabilitation, including kitchen and closet shelving, grab bars, and appliances. The ability of the applicant to adapt a unit to the required standard upon request is generally not sufficient to meet this requirement. However, removable or adaptable base cabinets are permitted under kitchen and bathroom sinks and under kitchen work surfaces if written instructions for their removal and adaptation is on file in the leasing office
2. In addition, the following equipment may be stored onsite for installation at the tenant's request:
 - a. Under-sink pipe guards.
 - b. Visual/hearing impaired equipment.
 - c. Tub seats.

Refer to Uniform Federal Accessibility Standards (UFAS) 4.34 for additional unit design standards and consumer information that must be available to the tenant in an accessible unit.

Required Accessibility Unit Standards:

1. **Mobility Disabled Units:** Type A, at least 5% of the total units (but no less than one unit) must be equipped for the mobility disabled, including for wheelchair restricted residents. Roll-in showers must be incorporated into all of the Type A mobility equipped units. Mobility units with more than one bathroom must have at least one bathroom with a roll-in shower.

2. **Hearing and Sight-Impaired Units:** Type B, at least an additional 2% of the total units (but no less than one unit) must be equipped for hearing and sight-impaired residents. To provide hearing and sight-impaired accessibility, HUD recommends compliance with ICC/ANSI A117.1 Section 1006, which includes audio and visual notification on fire alarms and at the primary unit entrance.
3. **5% and 2% requirement:** The same unit(s) cannot be used to satisfy the 5% and 2% requirement.

Older Persons 55+ Developments:

1. **Elevators:** There must be an ADA compliant elevator to all units above the ground floor.
2. **Furnished Gathering Areas:** Buildings with multi-story construction must have interior conditioned and furnished gathering areas located throughout the complex, including but not limited to areas near elevators.
3. **Accessible and Adaptable:** 100% of the units must be accessible and adaptable (Type B), as defined by the Fair Housing Amendments Act of 1988. *For rehabilitation projects refer to the Fair Housing Amendment Act of March 13, 1991.*

Emergency Alert System:

1. All Mobility and Hearing and Sight-Impaired Units must have a wireless or hard-wired emergency alert system installed, including a pull cord located in every bedroom and bathroom that either triggers an audible and visual notification outside of the dwelling unit or notifies the staff and 911 during work hours, and 911 after work hours.
2. If a building fire alarm system is required, the hearing and sight-impaired units are undesignated, and the required equipment is not installed, then all units must be wired into the building fire alarm system.

B. UNIT SIZE & BASE REQUIREMENTS

1. All residential units must meet minimum unit size requirements. The square footage measurements below are for heated square feet only, measured interior wall to interior wall, and do not include exterior wall square footage. The area occupied by the stair case may only be counted once. Unheated areas such as patios, decks, porches, stoops, or storage rooms cannot be included.

Studio	500 square feet
1 Bedroom	750 square feet
2 Bedroom	850 square feet
3 Bedroom	1,100 square feet
4 Bedroom	1,250 square feet

For supportive housing units, the minimum square footage for studio and 1 bedroom units is 350 square feet. The requirements in section (B)(2) below are applicable.

No more than 20% of the total number of residential units may be Studio units.

The above square footage requirement do not apply to rehabilitation projects. Please see Section V. Rehabilitation of Existing Housing for square footage requirements of rehabilitation projects.

2. Units must also meet the following requirements:
 - a. Studio Apartment: the bedroom, living area and full kitchen may be contained in the same room; must have one full bathroom and laundry room.
 - b. One Bedroom Apartment: at least six rooms including a living room, dining room, full kitchen, one bedroom, one full bathroom and laundry room.

- c. Two Bedroom Apartment: at least seven rooms including a living room, dining room, full kitchen, two bedrooms, one full bathroom and laundry room.
 - d. Three Bedroom Apartment: at least nine rooms including a living room, dining room, full kitchen, three bedrooms, two full bathrooms and laundry room.
 - e. Four Bedroom Apartment: at least ten rooms including a living room, dining room, full kitchen, four bedrooms, two full bathrooms and laundry room.
3. **Bedroom Size:** The primary bedroom in each unit must be at least 170 square feet. All other bedrooms must be a minimum 120 square feet. The minimum bedroom square footage excludes the closet space. *Does not apply to rehabilitation projects.*
4. **Living Room Size:** The living room must be at least 150 square feet with a minimum dimension of 11'6". *Does not apply to rehabilitation projects.*
5. **Bathroom Requirements**
 - a. Full Bathroom: must contain a toilet, vanity with sink and a 32" x 60" one piece fiberglass tub/shower combination.
 - b. Half Bathroom: must contain a toilet and a vanity with sink.
 - c. ADA/ SECTION 504 UNITS: Type A, Any unit that is required to meet ADA/ Section 504 accessibility requirements shall have the accessible bedroom and bathroom with one roll-in shower located on the accessible floor.
 - d. Town Homes without a bed and bath on the main floor will be required to have a half bathroom located on the main floor. *Does not apply to rehabilitation projects unless it's a gut rehab including plumbing.*
 - e. Whirlpool tubs are prohibited.
6. All units must have a balcony, sunroom, or patio.
 - a. Patios and balconies must be 65 square feet minimum
 - b. Sunroom must be 70 square feet minimum and:
 - i. Contain a minimum of three operable window units.
 - ii. Have distinct architectural separation from the living room.
 - iii. Front porches are not considered patios.
 - c. Applicants may request a waiver for this requirement before the submission deadline if building zoning or design restrictions prohibit.
 - d. *Does not apply to rehabilitation projects.*
7. Hallways, interior:
 - a. 40" minimum width in all family units.
 - b. 42" minimum width in all older persons units.
 - c. *Does not apply to rehabilitation projects.*
8. Breezeways: 48" minimum path of travel is required through building breezeways. *Does not apply to rehabilitation projects although all current egress and accessibility codes and regulation must be met.*
9. Moisture resistant gypsum board must be installed on all ceilings and walls of bathrooms, on all walls of laundry rooms, mechanical closets and exterior storage closets, and behind kitchen sink base and dishwasher.
10. Water-resistant gypsum board or equivalent shall be provided behind any tub/shower unit located on an exterior wall.

11. Signage for designated common areas and all units must be in Braille and meet ANSI A117.1, Section 703 standards.

12. Fireplaces are prohibited in residential units.

13. Swimming pools are prohibited.

C. COMMUNITY ROOM(S), SITE AMENITIES & FACILITIES

Community room(s) and amenities must be consistent with the design and appearance of the residential buildings. Development lighting is required for all amenities. Amenities should be usable beyond leasing office hours and on weekends.

A Phased Development with a previously funded phase will not share amenities with a previous phase without the Authority's prior written consent.

1. Community room(s) and site amenities may be incorporated into the resident/ unit buildings therefore eliminating the need for a community building. If a community building is provided, it must be at least 1,200 square feet and include the community multi-purpose room and ADA compliant handicapped toilet facilities. The community building may include a leasing office of 200 square feet minimum, laundry rooms, and storage/ maintenance rooms. Screened porch(es), sunroom(s), and covered patio(s) may be incorporated into the community building, but their square footage will not be included as part of the 1,200 square foot minimum for the community building. All primary entrance doors in the community building and site amenities must be either half lite or full view glass, unless otherwise noted, to allow residents a view of the outside/inside. This does not include the maintenance or storage room doors. Blinds are prohibited on these doors. *Does not apply to rehabilitation projects.*

2. Family developments must include the following amenities:

- a. Community multi-purpose room must be adequately furnished and equipped with folding tables and chairs. Must contain a minimum of 8 square feet for each unit, rounded up, never being less than 250 square feet regardless of developments total units. *Does not apply to rehabilitation projects.*
- b. Kitchenette with a minimum of 6 linear feet of counter top that is equipped with refrigerator, microwave, sink and a 5lb. fire extinguisher. *Does not apply to rehabilitation projects.*
- c. An exercise room equipped with a minimum of three low impact cardio machines. *Does not apply to rehabilitation projects.*
- d. Tenant computer room equipped with two new current and updated computer systems that include scanners and printers for each. Computers must be connected to a high speed internet service. All equipment must be kept current for the entire compliance period. All expenses associated with supplies, updates, internet service and replacement of the computer equipment is the responsibility of the development. *Does not apply to rehabilitation projects.*
- e. Playground.
 - i. Equipment must be of commercial design and quality.
 - ii. All playgrounds must each contain at least four play stations/activities.
 - iii. Playground must be located away from areas of frequent automobile traffic and situated such that the play area is visible from the office and maximum number of residential units.
 - iv. Playground must be accessible to persons with mobility impairments

- v. A bench that is weather resistant, metal or composite, have a back, and be anchored permanently.
- vi. Surface conditions and materials must meet the following guidelines and standards:
 - ASTM F1951 (Specification for Determination of Accessibility of Surface Systems)
 - ASTM F1292 (Specification for Impact Determination)
 - ASTM F1487 (Standard Consumer Safety Performance Specification)
 - ASTM F2020 (Standard Specification for Engineered Wood Fiber.
 - ASTM F2479 (Specification Guide for Products and Installation of Poured-In-Place Surfaces)
- vii. A letter from the playground floor material provider stating the material meets or exceeds the above ASTM requirements is required. A certificate from a third-party firm licensed to perform playground surface testing stating the installation of approved floor coverings was installed per manufacturer's requirements and that the finished floor surface(s) meet the above ASTM standards is also required.

3. Older Person 55+ developments are to include the following amenities:

- a. Community multi-purpose room must be adequately furnished and equipped with folding tables and chairs. Must contain a minimum of 6 square feet for each unit, rounded up, never being less than 250 square feet regardless of developments total units. *Does not apply to rehabilitation projects.*
- b. Kitchenette with a minimum of 6 linear feet of counter top that is equipped with refrigerator, microwave, sink and a 5lb. fire extinguisher. *Does not apply to rehabilitation projects.*
- c. An exercise room equipped with a minimum of three low impact cardio machines. *Does not apply to rehabilitation projects.*
- d. Tenant computer room equipped with two new current and updated computer systems that include scanners and printers for each. Computers must be connected to a high speed internet service. All equipment must be kept current for the entire compliance period. All expenses associated with supplies, updates, internet service and replacement of the computer equipment is the responsibility of the development. *Does not apply to rehabilitation projects.*
- e. For a single building high rise development a covered drive thru at building main entry with 13' vehicle headroom clearance minimum. *Does not apply to rehabilitation projects.*

4. Laundry Facilities:

- a. Laundry facilities are required for all developments not providing washers and dryers in all rental units
- b. Entry into the laundry facility must be available at all times and days.
- c. The number of commercial grade washers and dryers required per development is based upon the total units in the development as follows:

<i>0-15 units</i>	<i>2 Washers and Dryers</i>
<i>15-30 units</i>	<i>3 Washers and Dryers</i>
<i>30- 60 units</i>	6 Washers and Dryers
61-100 units	8 Washers and Dryers
101-150 units	10 Washers and Dryers
151-250 units	12 Washers and Dryers
250+ units	15 Washers and Dryers

- d. The entrance must have a minimum roof covering of 20 square feet and have adequate lighting functioning from dusk to dawn.
- e. The primary entrance door to the laundry facilities must be full view/ full length glass to allow residents a view of the outside/inside. Blinds are prohibited.
- f. Contain adequate seating
- g. A working surface for folding cloths must be installed.
 - i. 24" x 48", 8 square feet minimum
 - ii. Must provide working space of 8 square feet per every twelve washer/dryers provided.
- h. One of every twelve washer/dryers provided must be ADA complaint and accessible with one working surface also being ADA complaint and accessible.

5. Postal Facilities:

If not located within the building, the postal facility must:

- a. have a roof covering which offers residents ample protection from the rain while gathering mail;
- b. be located adjacent to available parking and sited such that tenants will not obstruct traffic while collecting mail; and
- c. have adequate lighting functioning from dusk to dawn.

6. Office and Maintenance Room:

- a. Development must have an office on site of 200 square feet minimum.
- b. Development must have a maintenance room of 200 square feet minimum.
- c. The office must contain ADA complaint toilet facilities.
- d. Office must be clearly marked and visible with exterior signage on or close to building

7. Parking, Roads, Sidewalks & Development Sign:

Nothing in this section shall be construed to modify or eliminate any legally imposed requirement, including those governing accessibility issues.

- a. Parking and side walk lighting must be provided.
- b. All roads and parking areas are to be asphalt or concrete paved.
- c. Curbing is required for all roads and parking areas throughout the development site.
- d. Parking areas must be located on the development site.
- e. All sidewalks and walkways shall be a minimum of 48" in width, must be made of concrete, and must comply with the following requirements:
 - i. Provide access to all parking spaces, front entryway doors, amenities, driveways and leasing office.
 - ii. Sidewalks may not exceed a 2% cross slope regardless of where located. Provide a non-skid finish to all walkways.
 - iii. Switchbacks are not permitted from handicap parking spaces or access aisles to building entrance in new construction projects.
 - iv. Be ADA accessible and compliant as required within the development with clearly marked ramps, crosswalks, signage, etc. in accordance with ADA regulations.
 - v. The developments sidewalks must join the local existing sidewalks if they exist.

The Authority requires that developments provide adequate parking spaces as outlined below. If local guidelines mandate parking less than the Authority requirement, the development must receive Authority approval prior to application submittal. If local guidelines mandate more parking than the Authority, the development most follow those mandates:

- a. All developments require a minimum number of parking spaces per unit size as follows:
 - i. One bedroom units are 1.0 parking spaces per unit.
 - ii. Two bedroom units are 1.5 parking spaces per unit.

- iii. Three and four bedroom units are 2.0 parking spaces per unit.
- b. There must be at least one handicap parking space for each designated accessible unit that must be the nearest available parking space to the unit.
 - i. All handicap parking spaces and associated aisles must be concrete.
 - ii. Handicap ramps may not protrude into parking lot.
 - iii. Access aisles cannot be installed through vehicular paths of travel.
- c. All non-handicap parking spaces must be an asphalt or concrete solid surface with a minimum dimension of 8 feet wide and 18 feet deep. Compact parking spaces may be included in addition to those required to meet Agency requirements but will not count towards the minimum required in (a.) (i.) (ii.) (iii.) above.
- d. If tenants are required to pay for parking, those charges must be included in the rental fees and are subject to the LIHTC allowable rent limitations.
- e. Existing properties being submitted for acquisition or rehabilitation are not required to increase existing parking as stated in (a.) (i.) (ii.) (iii.) above.
- f. Development sign at all property entrances designed with brick or stone columns with lighting and be consistent with the design and appearance of the residential buildings. affixed with a Fair Housing logo

8. Refuse Collection Area (s) & Recycling

- a. Collection area(s) should not be placed at the entrance or exits of the development unless the collection area provides the following:
 - i. A pull off from the main road consisting of a cul-de-sac / turn around.
 - ii. Dumpster drop off or pick up that does not stop or impede the flow of traffic.
 - iii. Tenant use that does not stop or impede the flow of traffic.
- b. Provide an easily-accessible area that serves the entire development for the refuse collection area and recycling area. These can be combined into one area.
- c. Dumpsters / trash compactors and recycling area must be ADA accessible and located on an ADA accessible route with ADA parking near the collection area(s).
- d. Provide a collection and storage area of non-hazardous material for recycling, to include paper, corrugated cardboard, glass, plastics, and metals.
 - i. Property management is responsible for prominently displaying a sign stating exactly which materials are and are not accepted for recycling.
 - ii. Property management is responsible for ensuring that these recyclables are actually recycled.
- e. The pad and approach pad to the dumpster must be concrete. The approach pad must be 12” thick minimum. At a minimum, the dumpster pad must include two painted pipe bollards installed behind each dumpster.
- f. Pedestrian paths of accessible travel must be marked/identified (painted in yellow or white) on dumpster pad surfaces.
- g. The dumpster/ trash compactor and recycling pad/ area must be enclosed on at least three sides with materials that will be consistent with the design and appearance of the residential buildings. An enclosure combining masonry, cementitious products or composite products are acceptable enclosures or these products can be used independently. PVC or vinyl fencing is acceptable. Chain link and wood fencing are not acceptable.

D. SITE AND SITE LIGHTING

- 1. Utilities (gas/electric, cable and phone) are required to be underground throughout the development site. *Does not apply to rehabilitation projects.*
- 2. Lots must be graded so as to drain surface water away from foundation walls. The final grade away from foundation walls must fall a minimum of ≥ 0.5 inches per foot away from building

- for ≥ 10 ft. See National Water Management System Requirements under Energy Star Multifamily New Construction.
3. Provide positive drainage at all driveways, parking areas, ramps, walkways and dumpster pads to prevent standing water.
 - a. Utilize yard drains if needed, piped to storm water system or to daylight.
 - b. No corrugated pipe.
 4. All water from roof and gutter system must be discharged no less than 6 feet from building foundation. See gutter requirements.
 5. All retention and/or detention ponds must be fenced. The storm water retention/detention basin design, maintenance and management shall be the sole responsibility of the owner/developer and shall be in strict accordance with all applicable federal, state, local and environmental regulations governing storm water retention/detention basins.
 6. Site lighting is required for all parking, sidewalks, buildings and site amenities and should be directed down to diminish nuisance light in residential units. Lighting plans to be completed using photometrics software.
 7. No part of the disturbed site may be left uncovered or un-stabilized once construction is complete.
 8. Burying construction waste on-site is prohibited.

E. BUILDING FOUNDATIONS, SLABS AND RADON

1. All new construction developments must submit a complete site specific soils report and boring site plan, not more than one year old at the time of submission of final plans and specifications, bound within the project specifications. See Section I (B) for specific requirements.
2. Sites located in a Radon Zone-1 (highest level) will require Radon Resistant New Construction Practices. Rehabilitation projects must meet the Radon Mitigation Standards as required by the Environmental Protection Agency. Check applicable federal, state, and local building codes to see if more stringent codes apply.
3. All units and community buildings must be elevated 24" minimum above the base flood elevation. Base Flood Elevation - The elevation of an area in relation to the mean sea level expected to be reached during a flood. Based on historic data, these figures indicate which areas are most likely to be flooded. This includes all flood years (100, 500, and 1000 year) and both FEMA maps and Local flood hazard areas.
4. Slab constructed buildings/ structures. Slab to be elevated a minimum of 8" above finished grade on all elevations.
5. Slab foundations will consist of a brick or stone veneer at a minimum height of 16" above finished floor elevation on all elevations. ***Does not apply to rehabilitation projects.***
6. Crawl space constructed home/structures will have a minimum of 30" clearance from the bottom of the lowest structural floor system framing member to grade. ***Does not apply to rehabilitation projects. Rehabilitation projects will be required to meet current code requirements with plans that demonstrate accessible access to the entire crawl space.***
7. Crawl space foundations will consist of brick or stone veneer installed up to the finished floor elevation at a minimum on all elevations.

F. BUILDING EXTERIOR

The building exteriors should create a residential image appropriate to the market area. Building design must use different roof planes and contours to break up roof lines. Wide window and door trim should be used to accent siding. If horizontal banding is used between floor levels, use separate color tones for upper and lower levels. If possible, use horizontal and vertical siding applications to add detail to dormers, gables, and extended front facade areas.

All materials must be installed using standard construction methods and means, and result in the issuance of written manufacturer's warranty and guarantees. No exterior wood finishes may be used.

Exterior wall finishes

1. Exterior wall faces must have an excess of 30% brick or natural or manufactured stone on each of the exterior wall surfaces, including the front wall face, each side's wall face and the rear wall face of the buildings(not to the interior wall faces of open breezeways). On all exterior walls the brick/stone must extend to all areas of grass, landscaping and other areas of soil or mulch.
 - a. *30% Brick requirement does not apply to single family homes, townhomes or duplexes.*
 - b. *30% brick requirement does not apply to rehabilitation projects.*
2. High quality durable low maintenance materials are required for exterior building coverings on all elevations including all exterior trims, fascia, soffits, ceilings and vents and can consist of:
 - a. **Brick** must be installed per manufacturer's requirements to achieve at least a 30 year warranty.
 - b. **Portland Cement Stucco** (No EIFS) must be installed per manufacturer's requirements to achieve at least a 30 year warranty.
 - c. **Stone-** natural or manufactured must be installed per manufacturer's requirements to achieve at least a 30 year warranty.
 - d. **Fiber Cement Siding & Trims** must be 5/16" thickness or greater and be installed per manufacturer's requirements to achieve at least a 30 year warranty.
 - e. **Vinyl Siding** must have a .044" thickness or greater and be installed per manufacturer's requirements to achieve at least a 30 year warranty.
 - f. **Vinyl Soffit** must have a .046" thickness or greater and be installed per manufacturer's requirements to achieve at least a 30 year warranty.
 - g. **PVC or Vinyl Composite Trim Boards** must be installed per manufacturer's requirements to achieve at least a 30 year warranty.
 - h. **PVC Coated Trim Coil** must have a .024" thickness or greater for fascia and freeze boards only- must be installed per manufacturer's requirements to achieve at least a 30 year warranty.

Developments must provide the Authority a written manufacturer warranty confirming a 30 year minimum warranty for all of the above items with the placed in service application.
3. Where exterior brick does not extend to an eave line, aluminum flashing shall be installed that extends a minimum of 5" under/behind the above exterior wall surface material and over the outer edge of the brick to prevent water penetration.
4. Weep holes must be below finished slab elevation and not covered by finished grade or landscaping.
5. Siding applications require all exterior penetrations to be installed in plastic J-boxes.
6. Metal z-flashings must be installed behind on top of and below all band boards and be of appropriate size for materials being flashed.
7. Metal flashings must be installed behind on top of and below all veneer material changes.
8. Metal flashing or 20 mil polyethylene when used in conjunction with a self-adhering polyethylene laminate flashing, must be installed above all exterior door and window units.

Exterior Stairs, Railings, Columns & Signage

1. Columns must be sized and loaded properly and consist of fiberglass, polyurethane or aluminum. Must be installed with stand offs, bases, caps and vents per manufacturer's

- recommendations. 4X4, 4X6, 6X6 etc. treated wood post wrapped with coil stock are prohibited. Steel post and treated post may be utilized if built up with cement trims.
2. Exterior steps at porches and patios and porches will be constructed of brick/stone foundation veneers with concrete deck/slab.
 3. Multi story second, third, or fourth floor elevated porch or patio may be constructed utilizing concrete slabs or 5/4" composite materials for the deck. Be constructed in such a manner that no wood is exposed. Concealment of wood shall be with composite materials such as PVC coated coil stock, vinyl 1x's composite 1x's, and fiber cement trims.
 4. Hand rails and/or guard rail systems used at steps, porches, and patios shall be code compliant systems made of composite materials such as vinyl, fiberglass, galvanized steel (field painted) or aluminum.
 5. Public use stairway components, such as stringers, treads, and risers must be constructed from galvanized steel (field painted) and/or concrete. Handrails and pickets must be constructed from galvanized steel (field painted) or aluminum, and be completely under roof cover.
 6. Buildings and units must be identified using clearly visible signage and numbers. Building and unit identification signage must be well lit from dusk till dawn and meet ANSI A117.1, Section 703 standards.
 7. For Type A units,
 - a. ADA Handicap ramp components must be constructed from one of the following:
 - i. galvanized steel (field painted) and/or concrete
 - ii. concrete slab with brick ribbon and sidewalls
 - iii. aluminum ramp system.
 - b. Handrails and pickets must be constructed from galvanized steel (field painted) or aluminum.

G. ROOFING AND GUTTERS

All roofing to be installed in accordance with the current IBC/ IRC Chapter 9 and the Authority standards listed below. Developments are required to provide the Authority a written manufacturer warranty confirming a 30 year minimum warranty has been acquired for the installed roof system. This can be submitted with the placed in service application.

Asphalt Shingles

1. Roof pitch to be a minimum of 4/12.
2. Architectural (dimensional) anti-fungal shingles must be used and:
 - a. Must be high quality and durable.
 - b. Must be installed per manufacturer's requirements to achieve at least a 30 year warranty.
 - c. The following shingle manufactures products must be used underlayment, leak barriers, starter strip shingles and hip & ridge cap shingles. No exceptions.
3. Synthetic underlayment is required and must be of the same brand as the shingle.
4. Leak barriers must be of the same brand as the shingles being installed and be the mineral surfaced type.
 - a. Leak barriers must be installed a minimum of 5" up all side walls.
 - b. Leak barrier must be installed a minimum of 24" around all roof penetration on the roof deck.
 - c. Ice barriers to be installed per IBC/IRC R905.1.2.
5. All flashing are to be installed per manufacturer's recommendations to obtain a minimum 30 year warranty and:
 - a. Step flashing to be 5"x5"x7" minimum
 - b. Be a minimum of 0.019" (0.5 mm) in thickness
 - c. Be factory painted

- d. Each shingle is to be step flashed. Continuous flashings are not acceptable.
- e. Drip edge to be installed on all eaves and rakes per IBC/IRC R905.2.8.5 at a minimum.

Metal Roofing

1. Roof pitch to be a minimum of 4/12
2. Standing Seam panels must be used and:
 - a. Be 24 gauge or thicker.
 - b. Have 1 ½" seam height minimum.
 - c. Have striations or stiffing ribs.
 - d. Have a galvalume coating.
 - e. Must have a 30 year minimum paint warranty.
 - f. Be installed per manufacturer's recommendations.
 - g. Must be installed by certified installers.
3. Synthetic underlayment is required on roof deck.

Low Slope Roofing (Flat roofing is prohibited)

1. All low slope roofing products are to be installed per manufacturer's recommendations to achieve at least a 30 year warranty.
2. Products must be installed by certified installers.
3. Acceptable products are
 - a. Metal panels with a 3" seam height minimum.
 - b. Single-Ply membranes
 - i. PVC or,
 - ii. TPO or,
 - iii. EPDM
 - c. Modified Bitumen must:
 - i. Be a 2 ply system.
 - ii. Be Torch down.
 - iii. Have a ceramic surface.
4. All low slope roof products to be installed with heavy duty walkway pads:
 - a. Walkway must be a different color.
 - b. Must be from same manufacture as roofing material or approved by manufacture for use.

For rehabilitation projects the roofing requirements above do not apply if the remaining useful life of the existing roof system is 15 plus years and the existing roof meets code requirements.

Gutters

Seamless 6" minimum gutter and downspout systems complete with leaf guard systems to be installed on all buildings.

1. Downspouts must be installed so as not to drain across pedestrian paths of travel
2. All water from roof and gutter system must be discharged no less than 6 feet from building foundation by:
 - a. Concrete splash blocks with positive sloped drainage away from foundation; or
 - b. Be piped underground to an appropriate location.
3. No screen wire leaf guard systems allowed.

H. BUILDING ENVELOPE, INSULATION & SOUND PROOFING

1. All buildings must be wrapped with an exterior air and water infiltration barrier. All wall penetrations are to be taped for moisture protection.
2. Seal all penetrations to prevent moisture and air leakage.
3. All attics to be vented.
4. Framing must provide/ allow for complete building insulation.

5. Framing of roof and ceiling systems to allow the full depth of ceiling insulation to extend over the top plate of the exterior wall. *Does not apply to rehabilitation projects.*
6. Exterior walls R-13 insulation. *Does not apply to rehabilitation projects unless the scope requires opening of the wall.*
7. Attics R-38 insulation.
8. Crawl Space floors R-19 insulation.
9. Unit party walls and floor assemblies require sound proofing (sound batt insulation) to achieve a rating of STC 54.
10. *Noise - All projects must have an interior noise level of no more the 45 decibels (db) in prescriptive with the outside noise level. Plans must identify the STC ratings to achieve HUD's acceptable interior level of 45 decibels. Sites with Exterior noise levels of 75 decibels or higher are not eligible for funding. Please refer to Bulletin #3 for further guidance.*

I. WINDOWS AND DOORS

All windows and exterior doors must be Energy Star rated for zone south central be of high quality, durability and must be installed per manufacturer's requirements to achieve at least a *10 year warranty for windows and a 1 year warranty for Fire Rated doors.* Developments are required to provide the Authority a written manufacturer warranty confirming the warranty has been acquired for the windows and exterior doors. This can be submitted with the placed in service application. An accessible automatic door opener is required for the primary entrance into and out of older person's congregate buildings.

1. All interior doors must:
 - a. Be side hinged
 - b. Be *hollow core* paneled hardboard, paneled solid wood or *hollow core flush hardwood* doors.
 - c. Bedroom doors must be 3-0. *Does not apply to rehabilitation projects.*
 - d. Bath doors minimum of 2-8. *Does not apply to rehabilitation projects.*
 - e. Closet doors minimum of 2-6. *Does not apply to rehabilitation projects.*
 - f. Pantry doors minimum 2-0. *Does not apply to rehabilitation projects.*
 - g. Hollow core, *flush lauan* doors are prohibited.
 - h. ADA accessible doors at common areas and Type A units must:
 - i. Have ADA lever hardware.
 - ii. Be 3-0 minimum.
 - i. Have a 3/4" minimum air space at bottom of door measured from finished floor for air circulation.
 - j. Louvered doors at HVAC closet for air handler return are acceptable.
2. All exterior doors must be Energy Star metal-clad or fiberglass doors and must:
 - a. Metal clad steel edge doors and frames are acceptable for use in firewalls only.
 - b. Provided door manufacturers data sheet (s) with plans.
 - c. Be side hinged.
 - d. Be a minimum of 3-0 in width (34" clear width). *For rehabilitation projects 2-10 width doors shall be permitted and shall provide a clear width of not less than 32 inches where measured between the face of the door and the stop, with the door open 90 degrees if door is located in a masonry wall prohibiting increasing the door width.*
 - e. Be paneled.
 - f. Have a rot proof jamb.
 - g. Include a peephole on main entry door.
 - h. Have a thumb latch/ lever style deadbolt lock.

- i. ADA accessible doors at common areas and Type A units must:
 - i. Have a maximum threshold height of ½”
 - ii. Have ADA lever hardware.
 - iii. Include a peephole a maximum of 48” AFF at primary unit entry door only.
 - iv. Have spring hinges at the unit’s primary unit entry door only.
 - j. Primary unit entry doors must have a minimum roof covering of 3’w x 5’d with corresponding porch/pad or be located in the breezeway.
 - k. Exterior full glass doors must:
 - i. Have blinds between the glass provided by the door manufacture.
 - l. Exterior half lite doors must:
 - i. Have blinds between the glass provided by the door manufacture.
 - m. High quality vinyl sliding glass doors are acceptable for use at the back door to the patio or deck and must:
 - i. Have multi point locking hardware keyed alike.
 - ii. Include costal hardware.
 - iii. Have blinds between the glass provided by the door manufacture.
3. Windows must be Energy Star rated for zone south central and must:
- a. Have blinds for each window installed.
 - b. Metal blinds are prohibited.
 - c. Provide window manufacturers data sheet (s) with plans.
 - d. Be single hung, double hung, casement or awning. Sliding windows are prohibited.
 - e. Be vinyl.
 - f. Have appropriate design for exterior finishes.
 - i. Windows installed in brick or stucco veneer should not have a J-channel.
 - ii. Windows installed in siding veneers should have the correct J-channel width.
 - iii. Windows installed with 1x perimeter trim should have no J-channel.
 - g. Not be installed over bath tub/shower.
 - h. Be continuously caulked behind the flange and taped per the manufactures recommendations.
 - i. Be installed per window manufactures recommendations.
 - j. In ADA Type A units, all windows must meet or exceed all State and Federal accessibility requirements.

J. KITCHENS

- 1. All kitchen cabinets shall be constructed with solid wood or plywood stiles, rails, doors and drawer fronts. All cabinets will conform to the performance and fabrication requirements of ANSI/KCMA A161.1-2000 and bear the KCMA Certification Seal.
 - a. Drawers must have dual slide tracks.
 - b. Accessible cabinets with removable fronts must be manufactured to be removable with only a screwdriver.
 - c. Site built cabinets are prohibited.
- 2. Each kitchen must have at the least the following minimum linear footage of clear countertop that are at or below 36 inches in height above finished floor, excluding the sink and range space:

Studio	5.0 linear feet minimum
1 Bedroom	8.0 linear feet minimum.
2 Bedroom	10.0 linear feet minimum.
3 Bedroom	12.0 linear feet minimum.
4 Bedroom	13.0 linear feet minimum.

Counter top linear footage does not apply to rehabilitation projects.

- a. Counter tops may be manufactured post form, granite or solid surface.
- b. Site built tops countertops must be constructed of 3/4" AC plywood. No particle board, press board or fiber board will be allowed.
3. All units must have an 18 cubic foot minimum Energy Star rated frost free refrigerator freezer with ice maker; **rehabilitation projects must provide a 14 cubic foot minimum Energy Star rated frost free refrigerator. Ice maker not required in rehabilitation projects if cost prohibitive base on plumbing.**
 - a. Doors must open beyond 90 degrees to allow bin removal.
 - b. Ice maker box (cold water supply) with shut off must be installed behind the refrigerator.
 - c. In Type A units, the refrigerator must also be ADA **compliant**.
4. All units must have an Energy Star rated dishwasher and be installed beside the kitchen sink. **Does not apply to rehabilitation projects.**
5. All units must have a double bowl kitchen sink 8" deep minimum with the exception of ADA units.
6. All units must have over the range microwave. With exception of ADA units, see (J)(13)(g) below.
7. All units must have a slide in range that is at least 30 inches wide or a cooktop and wall oven.
 - a. A backsplash panel must be installed behind the cooktop and cover the entire wall behind the cooktop.
 - b. Anti-tip devices must be installed on all kitchen ranges and be securely fastened to the floor.
 - c. In Type A units, the range must be ADA **compliant**.
8. All units must have a Fire Stop or comparable extinguishing system over the stove. Alternatively, the range must have SmartBurner elements installed in the range.
9. Each unit must be equipped with a 5 lb. ABC rated dry chemical fire extinguisher readily accessible in the kitchen and mounted to accommodate handicapped accessible height in accessible units. If contained in the cabinet/pantry area must have proper signage identifying the location.
10. A 24" wide pantry cabinet, same manufacture as kitchen cabinets, or a pantry closet with a 24" interior door and a minimum of 24" deep must be provided in the kitchen. **Does not apply to rehabilitation projects.**
11. Fluorescent lighting or LED lighting is required in the kitchen.
12. The aisle width between cabinets and/or appliances is 42" minimum.
13. For Type A units:
 - a. The refrigerator must be ADA **compliant**.
 - b. Kitchen sinks must be ADA **compliant** and:
 - i. Be 6 1/2" deep maximum.
 - ii. Be rear-draining.
 - iii. Sink bottoms insulated if bottom of sink is at or below 29 inches above finished floor.
 - c. Pull-out worktops are prohibited
 - d. Workstations must be installed beside the range with no wall to the left or right of the workstation.
 - e. The wall cabinet mounted over the work station must be 48 inches maximum above finished floor to the top of the bottom shelf.
 - f. Provide cabinet microwave shelf with microwave or counter top microwave.
 - g. Unit must have a 30" range hood.
 - h. The range hood fan and light must have separate remote switches.
 - i. Kitchen ranges with cooktop can be no higher than 34" above floor.
 - j. Provide ADA complaint cabinet handles/pulls on cabinet doors and drawers. Knobs are prohibited.

K. BATHROOMS

1. All bathroom vanities/cabinets shall be constructed with solid wood or plywood stiles, rails, doors and drawer fronts. All cabinets will conform to the performance and fabrication requirements of ANSI/KCMA A161.1-2000 and bear the KCMA Certification Seal and:
 - a. Drawers must have dual slide tracks.
 - b. Accessible cabinets with removable fronts must be manufactured to be removable with only a screwdriver.
 - c. Site built cabinets are prohibited.
2. Vanities/cabinets shall be provided in all units and must be 36” minimum. *Vanities/cabinets for rehabilitation projects shall be 24” minimum.*
3. All full bathrooms must have:
 - a. Ceiling light and exhaust fan on the same switch and must provide adequate lighting to the tub/shower
 - b. Vanity light must be provided and be on a separate switch.
4. All half bathrooms must have:
 - a. Ceiling light and or vanity light, must provide adequate lighting
 - b. Exhaust fan.
 - c. These can be switch together or separately.
5. Mirror length must extend from the top of vanity backsplash to 6’ minimum above finish floor.
 - a. Framed decorative mirrors are excepted if they meet the above requirements.
6. Tub/shower units must be 32” x 60” minimum one piece fiberglass based units with slip resistant floors.
 - a. Shower head to be mounted 80” above finished floor.
7. Water closets must be centered, at a minimum, 18 inches from sidewalls, vanity/lavatories and bath tubs and be clearly marked on the plans. *Does not apply to rehabilitation projects unless UFAS unit or a gut rehab including plumbing; however it must meet current code requirements.*
8. Type A units:
 - a. Must contain a roll in shower and:
 - i. Be one piece fiberglass based unit with slip resistant floor.
 - ii. Be ADA *compliant* from manufacture.
 - iii. Have factory installed grab bars.
 - iv. Have a 36” x 60” minimum useable floor space.
 - v. Have a collapsible water dam or beveled threshold that meets code
 - vi. Approaches to roll-in showers must be level, not sloped
 - vii. Have adjustable shower rod and weighted curtain installed before occupancy
 - viii. Shower floor may not be used for code required 67” clear floor space in bathrooms.
 - ix. The shower head with wand must be installed on a sliding bar and within code required reach ranges by the seat.
 - x. An additional diverter must be installed to provide water to a shower head on the short shower wall in front of the seat, mounted 80” above finished floor.
 - b. Accessible cabinets with removable fronts must be manufactured to be removable with only a screwdriver.
 - c. All cabinets in designated handicap accessible units must be installed at ADA mounting heights.
 - d. Provide ADA complaint cabinet handles/pulls on cabinet doors and drawers. Knobs are prohibited
 - e. All tub/showers in designated handicap accessible units must come complete with “factory- installed grab bars”.

- f. Provide solid blocking at all toilets and tub/shower units for grab bar installation.
- g. If providing a wall hung sink in an ADA unit it must have solid blocking behind the fixture and a recessed medicine cabinet or a storage cabinet must be provided.
- h. A wireless or hard-wired call for aid station is required in all bathrooms

L. BEDROOMS, CLOSETS AND STORAGE CLOSETS

- 1. The primary bedroom must have at least 170 square feet, excluding the closet(s). *Does not apply to rehabilitation projects.*
- 2. Secondary bedrooms must have at least 120 square feet, excluding the closet(s). *Does not apply to rehabilitation projects.*
- 3. Every bedroom must have a closet at a minimum of 24" deep and contain a 5' long minimum wire shelf and closet rod. *Does not apply to rehabilitation projects.*
- 4. All interior and exterior mechanical and storage closets must have finished floor coverings.
 - a. Interior closets must have carpet or resilient flooring.
 - b. Interior mechanical closet must be resilient flooring
 - c. Exterior storage or mechanical closets may have sealed and or painted concrete floors.
- 5. Newly constructed residential units must have an exterior storage closet *provided for* each individual unit (interior common area only for congregate) with:
 - a. A minimum of 16 unobstructed square feet.
 - b. The square footage utilized by a water heater or HVAC air handler in the exterior storage closet may not be included in the 16 square foot calculation.
 - c. Storage closets may not have any dimension smaller than 36 inches in width or depth.

M. LAUNDRY ROOM

- 1. All developments must have a washer and dryer hookup in each unit and:
 - a. Have a minimum depth of 36" measured from the back of the door.
 - b. Must accommodate a full sized 30" washer and dryer adjacent to each other. *Does not apply to rehabilitation projects.*
- 2. Stacked washer/dryers are prohibited.
- 3. Washer water shutoff valves must be installed right side up with the hose connection below the shutoff handle.
- 4. Dryer vent connection box must be galvanized metal and be 2 inches maximum above finished floor.
- 5. In Type A and Type B units,
 - a. Each clothes washer and dryer must be centered for a side approach only. *Rehabilitation projects can utilize front or side approach.*
 - b. The washer and dryer clear floor space areas may overlap.
 - c. All electrical, plumbing, and venting rough-ins must be centered behind each washer and dryer to allow them to be centered for side approach.

N. FLOOR COVERINGS

All materials must be installed to manufacturer's specifications using standard methods and resulting in the issuance of a manufacturer's guarantee / warranty. Manufacturer's written warranties must be provided to the Authority with the placed in service application.

- 1. Living Areas must have Luxury Vinyl Tile (LVT), Ceramic Tile, Laminate Flooring or Hardwoods.
- 2. Bedrooms may have carpet.
- 3. Kitchens, Bathrooms, Laundry room, Mechanical closets, Dining areas, and Foyer/ entrance area must have resilient flooring LVT, Sheet Vinyl, VCT or Ceramic Tile. Shoe molding must be installed in all resilient flooring areas.

4. LVT must have a 12mil wear layer and provide a minimum 15-year residential warranty. LVT installed in kitchens, bathrooms, laundry areas and mechanical closets must be 100% waterproof.
5. Sheet vinyl must be a minimum 0.095 thickness and provide a minimum 20-year residential warranty.
6. VCT must be at minimum 0.080 thickness.
7. Ceramic floor tile shall be minimum 12" x 12" and installed over poured concrete slab or cementitious backing material.
8. Carpeting shall comply with FHA -HUD Use of Materials Bulletin No. 44d.
9. Carpet pad must be installed under all carpeting and shall comply with FHA -HUD Use of Materials Bulletin No. 72a.
10. Carpets used in Type A units bedrooms must be glue-down type without padding.

O. MECHANICALS

1. Non-Unit, "development", spaces must have separate HVAC systems. AKA "House System"
 - a. Must have a 15 SEER Energy Star rated HVAC system.
 - b. All refrigeration lines must be insulated.
 - c. Must be located within the developments building space.
2. All units must have individual central heat and air, HVAC
 - a. Manuals J, S & D must be utilized for design requirements.
 - b. All units must have a 15 SEER Energy Star rated HVAC system.
 - c. All refrigeration lines must be insulated.
 - d. Traditional air handler, heat pump and ducted HVAC system are acceptable.
 - e. Mini split ducted or ductless systems are acceptable.
3. All HVAC air handlers must be contained within the unit.
4. Bottom of returns must be 12" minimum above FFE.
5. All openings in duct work at registers and grilles must be covered after installation to keep out debris during construction.
6. The use of duct board is prohibited.
7. Connections in duct system must be taped and sealed with mastic and fiberglass mesh.
8. Ductwork located in unconditioned spaces must be insulated with R-8 minimum.
9. Galvanized metal or aluminum must be used for plenums and mixing boxes.
10. Electric mechanical condensate pumps are not allowed.
11. All hub drains serving HVAC condensate lines must be piped to the outside. Piping to the sanitary sewer is not allowed unless a primed p-trap is installed.
12. All bedroom closets, interior storage rooms, coat closets, and laundry rooms/closets must have a 4 inch tall by 8 inch wide minimum pass-thru grille above doors for air circulation in those areas that do not get conditioned.
13. There must be a minimum of ¾ inch air space under all interior doors measured from finished floor for air circulation.
14. All bath exhaust fans shall be rated at 70 CFM minimum vented to the exterior of the building using hard ductwork along the shortest run possible.
 - a. Venting through the roof is prohibited.
15. Dryer vents must be vented to the exterior of the building using hard ductwork along with the shortest run possible: maximum run is 35' including deductions for elbows.
 - a. Vent connection must be centered behind the dryer.
 - b. Venting thru the roof is prohibited.

P. PLUMBING

1. Sanitary sewer main lines cannot be located under the slab of a building/ structure. The main line must run on the front, side or back of the building/ structure and tie ins made by unit modules.
2. Water meters are required for each unit. *Does not apply to rehabilitation projects.*
3. Unit water cut offs are to be placed in an easily accessible area and clearly marked with signage.
4. All domestic water line cut off valves must have metal handles, not plastic.
5. Domestic water lines are not allowed in unconditioned spaces.
6. Offset toilet flanges are prohibited.
7. All shower valves to be anti-scald.
8. Water sense fixtures must be used:
 - a. Toilets 1.28 GPM or less.
 - b. Showerheads, Kitchen faucets and Bath faucets 1.5 GPM or less.
9. Washer/dryer hookups in all units. *Does not apply to rehabilitation projects.*
10. Toilets to be ADA height in all units.
11. Toilets must be centered, at a minimum, 18 inches from sidewalls, vanity/lavatories and bath tubs and be clearly marked on the plans. *Does not apply to rehabilitation projects unless UFAS unit or gut rehab including plumbing; however it must meet current code requirements.*
12. Water heater for each unit:
 - a. Electric water heaters to have 0.93 UEF minimum, without blanket.
 - b. Gas water heaters to have 0.68 UEF minimum, without blanket.
 - c. 40 gallon for one and two bedroom units.
 - d. 50 gallon for three and four bedroom units.
 - e. Prohibited to be mounted above equipment or appliances.
 - f. Located in the units insulated envelope.
 - g. Placed in drain pans with drain piping plumbed to disposal point as per the latest approved addition of the International Plumbing Code.
 - h. Pipe all Water Heater Temperature & Pressure (T&P) relief valve discharges to disposal point as per the latest approved edition of the International Plumbing Code.
 - i. Elevated if necessary for proper pan drainage
 - j. Use of gas tankless water heaters is allowed with above requirements.
 - k. Use of electric tank less water heaters is allowed with the above requirements and the electrical panel must be rated at 200 amps or greater.
13. All hub drains serving HVAC condensate lines and water heater lines must be piped to the outside. Piping to the sanitary sewer is not allowed unless a primed p-trap is installed.
14. Frost-proof exterior faucets must be provided on every building with in a high rise development on the “House” water supply. Locations should be maintenance based.
15. All single family, Townhouse, Duplex and single story development must supply a frost-proof faucet at the front and rear of each unit on the unit’s water supply.
16. *Safe Drinking Water – the architect must certify on the final plans and/or specifications that the project will be constructed using lead-free pipes, solder, and flux. Applications proposing the rehabilitation of structures built 1988 or earlier must have the pipes, solder, and flux tested for lead and include a copy of the report with the Application. Items testing positive for lead must be included in the PNA for replacement.*

Q. ELECTRICAL

1. Units must have separate electrical systems.
2. Non-residential, “development”, spaces must have separate electrical systems. AKA “House”
3. Hardwired interconnected Smoke Detectors and Carbon monoxide detectors are to be installed as required by all applicable codes and regulations local, state and federal.

4. All switches and thermostats to be mounted no more than 48" above the FFE.
5. All receptacles, telephone jacks, and cable jacks to be mounted 15" minimum above FFE.
6. All lighting fixtures to be Energy Star rated.
7. All bulbs to be Energy Star rated.
8. All units must have an Energy Star rated ceiling fan and light fixture located in the living room and all bedrooms with the light and fan being wall switched separately.
9. Overhead lighting is required in all bedrooms, bathrooms, laundry rooms, closets, and storage rooms and to be wall switched.
10. Exterior lighting is required at each unit entry door and to be wall switched by door unit. Buildings with conditioned interior corridors with access doors at each end with 24/7 "House" lighting are exempt from this requirement at the unit main entry door only.
11. All units pre-wired for high speed Internet hook-up with:
 - a. One centrally located connection port with connection ports in each bedroom,
 - b. Or one centrally located port with wireless internet network provided, per unit.
 - c. All internet lines must be toned and tagged properly to each unit.
 - d. Each building must have an internet termination and demarcation box for internet vendor connection
12. All units pre-wired for telephone with jacks installed in the living room and one per bedroom.
 - a. All telephone lines must be toned and tagged properly to each unit.
 - b. Each building must have a telephone termination and demarcation box for telephone vendor connection.
13. All units pre-wired for cable television with jacks installed in the living room and one per bedroom.
 - a. All cable lines must be toned and tagged properly to each unit.
 - b. Each building must have a cable termination and demarcation box for cable vendor connection.
14. Development Lighting
 - a. Serviced by the "House" electrical panel.
 - b. Must be located in all common areas, breezeways, corridors, and stairwells.
 - c. Open areas must be activated by a photo cell placed on the east or north side of the building.
 - d. Conditioned or closed common areas require 24/7 lighting.
15. All call for aid devices must be installed beside or below ceiling light switches in bedrooms and bathrooms.

R. ENERGY STAR

1. New Construction Multi Family Developments will:
 - a. Be built to meet and receive the Multi Family New Construction Energy Star Certification. This includes all mandatory measures; MFNC Rater Design Review Checklist, MFNC Rater Filed Checklist, MFNC HVAC Functional Testing Checklist, MFNC Water Management System Requirements.
 - b. All reports must be provided to the Authority with final inspection request.
 - c. Developments will use the Energy Star Portfolio Manager and must allow The Authority full access to this data for a minimum of five years. To share a property with The Authority, users should send a connection request to development@SCHousing.com.
2. New Construction Single Family, Townhouses and Duplex Developments will:
 - a. Be built to meet and receive the Version 3.0 Energy Star Certification. This includes all mandatory measures; National Rater Design Review Checklist, National Rater Checklist, National HVAC Design Report, National HVAC Commissioning Checklist, National Water Management System Builder Requirements.
 - b. All reports must be provided to the Authority with final inspection request.

3. If the development fails to meet the requirements outlined in this section, the Authority may adjust the allowable costs for construction and may reduce the LIHTC allocation.

S. SINGLE FAMILY, TOWNHOUSE AND DUPLEX DEVELOPMENTS

1. All detached single family homes must contain a minimum of two (2) bedrooms.
2. Duplexes may have one bedroom if mixed development two (2) bedrooms if not mixed.
3. Townhouses must contain:
 - a. a minimum of two (2) bedrooms
 - b. Town Homes without a bed and bath on the main floor will be required to have a half bathroom located on the main floor.
 - c. *Townhouse definition: A single family dwelling unit constructed in a row of three or four attached units two or three stories tall in which each unit extends from foundation to roof with a yard or public way in the front and back. Each unit would be on a separate lot (property line between units) with its own separate street address. These units would be considered IRC R-3 buildings.*
4. Must have concrete driveways, curbing at street and front entry walkways. Curbing at street will be waived for scattered site developments.
5. May use “Herbie Curbie” container if the locality provides such and:
 - a. Must provide enclosed storage at each unit for the “Herbie Curbie”.
 - b. Must have one for each unit.
 - c. Must provide letter stating this service is available.

T. OLDER PERSONS UNITS

1. All units must be Type B units
2. All older persons (55+ years) and elderly developments will be one-story structures, or if greater than one story, all stories will be accessible by an ADA complaint elevator (s).
3. Hallways must have a minimum width of 42 inches. *Does not apply to rehabilitation projects.*
4. Corridors in any common areas must have a continuous suitable handrail on both sides mounted 34 to 38 inches above finished floor, and be 1 ¼ inches in diameter.
5. Provide a minimum 18 inch grab bar in all tub/shower units. The grab bar must be installed centered vertically at 48 inches A.F.F. on the wall opposite the controls.
6. Provide solid blocking at all toilets and tub/shower units for grab bar installation.

U. SIGHT AND HEARING IMPAIRED UNITS.

1. The unit(s) must be roughed in to allow for smoke alarms with strobe lights in every bedroom, bathroom, and living area.
2. The units must have a receptacle next to telephone jacks in units for future installation of TTY devices.
3. Each overhead light fixture and receptacle must be wired to accommodate a 150 watt load.
4. A lighted doorbell button connected to an audible and strobe alarm installed in each bathroom, bedroom, and common area is required for each sight and hearing-impaired unit.
5. Unit must be Type B.

V. REHABILITATION OF EXISTING HOUSING

1. Developments that have units, by bedroom size, smaller than the following square footages are considered to be obsolete developments and are not eligible for funding:

Bedrooms per Unit	Minimum Heated Sq. Ft. per Unit
Studio	400
One	500
Two	700
Three	850
Four	1,000

2. All developments must have central heat and air. If HVAC units are replaced, they must be at least 15 SEER and all refrigeration lines must be insulated.
3. The following are mandatory items unless replaced on or after January 1, 2012 with the exception of item (a) which must be done in all rehabilitations.
 - a. Entire unit (all rooms and ceilings) including doors and trims must be repainted.
 - b. Replace and install new flooring in each unit. At a minimum, tile must be VCT or better.
 - c. New bathroom fixtures must be installed to include the following:
 - i. New tub shower, re-glazing not allowed. Three piece surround insert is acceptable. All caulking must be replaced.
 - ii. Shower valves and heads.
 - iii. Replace sink, vanity and plumbing fixtures with new. Vanity to include, at a minimum, a pull out drawer and/or storage area.
 - iv. New toilet.
 - v. Install new exhaust fan.
 - vi. Install new water supply valves.
 - d. New kitchen fixtures must be installed to include the following:
 - i. Dual track sliding drawers.
 - ii. New double sink and plumbing fixtures.
 - iii. New stove with re-circulating exhaust fan.
 - iv. New Energy Star rated refrigerator, with ice maker that is a minimum of **14** cubic feet. *Ice maker not required in rehabilitation projects.*
 - v. Install new water supply valves.
 - e. Replace all water heaters.
 - f. All exterior doors must be Energy Star metal-clad or fiberglass doors and must be paneled, and have a peephole.
 - g. Replace all windows with Energy Star rated, for zone south central, vinyl windows with screens.
 - h. Upgrade insulation in attic to R-38.
 - i. All units wired for high speed (broadband) Internet hook-up with at least one (1) centrally located connection port or wireless computer network. All wires to be hidden.
 - j. Units with existing washer/dryer connections must replace and install new water supply fixtures and valves.
 - k. All older persons (55+ years) and elderly acquisition/rehabilitation developments may have more than one-story, provided that existing elevators are ADA complaint, receiving regular maintenance, are in good working condition as of the Application deadline and service all upper level rental units. Those developments without existing elevators will be required to install ADA complaint elevators.
 - l. Window blinds and exterior window screens to be replaced.
 - m. Replace all damaged and worn interior doors, jams, frames, and hardware.
 - n. Reseal all asphalt parking and roadway services throughout the development.
 - o. Existing exterior wooden stair systems may not be repaired. Instead they must be replaced in their entirety with new powder-coated galvanized steel or concrete stair systems.

W. ADAPTIVE RE-USE OF EXISTING STRUCTURES

The definition of “adaptive reuse” is the conversion of an existing non-residential building(s) into a residential building(s). The architect must certify on Exhibit G that the development will meet the following requirements:

1. A minimum of fifty percent (50%) of the square footage of each existing building(s) must be converted to residential use: and

2. If additional buildings/units are constructed to provide additional space, the total square footage of the previously existing building(s) must constitute a minimum of fifty percent (50%) of the total square footage of the entire development.
3. Reseal all asphalt parking and roadway surfaces throughout the development.