

# 2019 ARCHITECTURAL MANUAL APPENDIX I

## ARCHITECTURAL STANDARDS

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## I. INTRODUCTION

In accordance with federal requirements established by 24 CFR 92.25 (HOME), IRC Section 42 (LIHTC), and the 1989 Georgia General Assembly Housing Trust Fund (HTF) for the Homeless, the Georgia Department of Community Affairs (DCA) has established these Architectural Standards. All projects receiving DCA resources for the construction of new and/or rehabilitation of existing rental housing, including HOME, 9% LIHTC, 4% LIHTC/Bonds, and/or Housing Trust Fund (HTF), must meet these Architectural Standards. The Project Team is responsible for ensuring 100% compliance with this Manual (and approved DCA Architectural Waivers).

The Qualified Allocation Plan requires that projects funded under the Plan meet applicable Federal, State, and DCA codes, acts, and regulations. These architectural standards do not replace Federal, State or local codes. These standards are in addition to the following:

- Georgia State Minimum Standard Codes (with Georgia Amendments)
  - i. International Building Code
  - ii. International Energy Conservation Code
  - iii. International Fire Code
  - iv. International Fuel Gas Code
  - v. International Mechanical Code
  - vi. International Plumbing Code
  - vii. International Residential Code
  - viii. National Electrical Code
- HUD Housing Quality Standards (HQS)
- HUD Minimum Property Standards (MPS)
- HUD Uniform Physical Condition Standards (UPCS).

The Qualified Allocation Plan requires that all projects funded under the Plan meet all applicable federal and state accessibility standards as well as all DCA accessibility requirements. This Architectural Standards document, in addition to the QAP and Rehabilitation Standards, contains more on materials longevity and component replacement requirements.

DCA may determine that projects which exceed customary and reasonable construction costs, even if within published per unit cost limits, represent an inappropriate use of resources and may fail Threshold.

Applicants must submit all waivers at the pre-application stage. Refer to the relevant 2019 DCA guides and manuals for further guidance. The Applicant must demonstrate efforts to meet the minimum design criteria.

Waiver requests for accessibility related items must include a legal opinion, clearance letter of approval from accessibility consultant, and information (i.e. feasibility analysis, site conditions, etc.) that could justify a waiver, as outlined in DCA QAP and manuals. DCA cannot waive items required by Federal and State law. Refer to the 2019 DCA Accessibility Manual for further guidance.

For any project using HOME funds, a **Pre-construction Conference** must be scheduled prior to construction commencement to review federal compliance requirements and draw request procedures. Also, monthly onsite OAC Meetings must be scheduled and notifications sent to the DCA Construction Project Manager via email about OAC meetings dates and times.

## **II. DESIGN SUBMITTALS AND CONSTRUCTION MONITORING**

### **A. Drawings and Specifications:**

Construction documents, including architectural drawings and specifications, are required for both new construction and rehabilitation projects. Architectural drawings and specifications must meet industry standards, be clear and consistent, and realistically depict the project's design, location, and dimensions. Refer to the Architectural Submission Requirements for document format and submittal requirements.

### **B. Building Permits:**

All DCA program-funded work requires building permits. Proof of inspections and approvals by local officials, including Certificates of Occupancy, are required for final allocation of Low Income Housing Tax Credits (LIHTC). See Architectural Submission Requirements and contact DCA LIHTC and HOME underwriters for specific information.

### **C. Soils and Materials Testing:**

Test all new soils and structural concrete to ensure compliance with engineered specifications. Test additional materials as dictated by industry standards. A licensed and state accredited testing lab, using standardized testing procedures, must conduct these tests.

### **D. Construction Monitoring:**

DCA will monitor construction to ensure quality standards and completion dates through inspection reports and other sources. Reports will address construction methods, construction draw requests, percentages of completion, progress and budget analysis, and adherence to codes and standard building practices.

**For 4% bond and 9% projects only**, the owner must reimburse DCA for construction-monitoring cost, as described in Exhibit A (DCA Post Award Deadlines and Fee Schedule) of the Core QAP. **For HOME projects**, the Owner is billed the cost of the DCA construction monitoring.

Periodically, DCA may require Owners to submit additional construction inspection reports generated by construction managers, architects, and/or engineers. DCA reserves the right to inspect all properties prior to issuance of Final LIHTC Allocation. Make sure to correct non-compliance with building codes, accessibility codes, and/or DCA requirements before applying for the Final LIHTC Allocation. Refer to the QAP for further DCA and IRS requirements.

## **III. SITE DEVELOPMENT STANDARDS**

### **A. Environmental Conditions:**

Carefully evaluate surrounding environmental conditions. Correct or alleviate negative environmental conditions (i.e., ditches, canals, railroad tracks, expressways, noise sources, flood prone areas, etc.) through approved mitigation measures. Refer to the Environmental Phase I Site Assessment standards published in the DCA Environmental Manual for the environmental documentation and review process. All applications are required to submit a Phase I Environmental Site Assessment and a Phase II investigation if recommended in the Phase I report.

**B. Parking:**

Parking spaces must meet local zoning requirements, unless otherwise approved by local municipalities with supporting documentation. In the absence of any other requirements, there must be no less than 1.5 spaces per unit for family tenancy projects and 1 space per unit for senior tenancy projects. Parking areas must be concrete, asphalt paving, or pervious pavement (porous asphalt, plastic grids, permeable interlocking concrete pavers, permeable clay brick pavers, resin-bound paving, bound recycled glass porous pavement) and have curbs.

All handicapped parking spaces must meet federal and state accessibility requirements. All newly constructed handicapped parking spaces must be concrete paving and clearly delineate accessible routes along the pavement surface (i.e. striping,). Please refer to the DCA Accessibility Manual for more information.

**C. Vehicle Circulation:**

For tenants, guests, and emergency services providers, design vehicle circulation routes to provide safe ingress and egress to and from all buildings and amenities. Roads must be concrete, asphalt paving, or pervious pavement (porous asphalt, plastic grids, permeable interlocking concrete pavers, permeable clay brick pavers, resin-bound paving, bound recycled glass porous pavement) and have curbs and sidewalks.

**D. Pedestrian Circulation:**

Pedestrian circulation must be paved accessible routes to parking, buildings, and amenities. Streets (except crossing routes), grass and gravel/sand surfaces are not acceptable pedestrian circulation routes. Provide accessible ramps and no-step access, as applicable.

**E. Open Spaces:**

If there are open landscaped spaces or green belts they must be included in the overall site design.

**F. Landscaping:**

Landscaping must be appropriate for the climate zone, appealing, and convey a residential image. Low maintenance plant materials are preferred. For appropriate landscape options, please refer to *Landscape Plants for Georgia*, published by the Cooperative Extension Service, The University of Georgia College of Agricultural and Environmental Sciences.

**G. Site Lighting:**

One foot-candle is the general standard for site lighting. All parking, building, amenity, and site lighting must be sufficient for its purpose (i.e. evening mail collection, etc.), and be directed down to diminish nuisance light. Additionally, units must have exterior entry and porch door lights controlled from within the unit.

**H. Site Amenities:**

Standard and additional selected amenities must meet applicable federal, state, and DCA accessibility requirements and the DCA Amenities and Accessibility Manuals. Locate site amenities, such as the playground, in centrally visible locations while other noise prone amenities may be appropriately sited on the property.

Standard and additional selected site amenities identified in the application submission must be in the final construction documents and budget.

**I. Trash Collection:**

Screen trash collection sites from residential and community areas and place at a distance from the tenant dwelling units and amenities that minimizes objectionable sights and odors.

The collection areas must be accessible to disabled persons while convenient to tenants and service vehicles. Place dumpsters on concrete slabs with concrete approach aprons at least 10'-0" in depth.

**J. Signage and Fixtures:**

Building signage must meet the requirements of local 911 service providers. Illuminate the property entrance sign.

**K. Site Grading and Drainage:**

Site grading and positive drains must direct storm water away from buildings and site amenities while eliminating pooling, puddling, etc. All on-property retention and detention areas must be fenced and, for maintenance and safety purposes, a properly securable gate may be provided.

Design inlet or outlet drainage ways to prevent resident entry. Maintain on-property retention ponds. Foundation walls must prevent the entrance of water, insects, and rodents into the basement or crawl space areas. Access and ventilation of basement and crawl spaces must meet code requirements and be secured from the exterior as appropriate.

**L. Security:**

. As necessary, incorporate security measures, such as:

- Define property lines and private areas with landscaping, post-and-pillar fencing, pavement treatments, architectural features, and/or signage.
- Keep shrubbery lower than 3' under windows and 2' for groundcover, and trees cleared at least six feet up. Keep fences low or not opaque.
- Avoid creating blind spots or hiding places, such as near dumpsters.
- Site exterior doors to be pedestrian friendly and visible from the street or neighbors.
- Install security cameras and HVAC cages.
- Unit entry doors must be equipped with a viewer and bell or buzzer.
- All doors must have hardware that complies with ANSI/BHMA Standards.
  - Exterior doors and windows must be equipped with automatic locks to prevent access from the outside.

**M. Site Utilities:**

All utility distribution systems must be underground where possible. All projects must have requisite access and connectivity to the existing public utilities. Refer to the Qualified Allocation Plan, Appendix I, and Threshold Criteria for more information.

**IV. BUILDING EXTERIOR DESIGN STANDARDS**

Building exteriors must create a residential image appropriate to the market. DCA encourages the use of materials that provide low maintenance and longevity for the life span of the property. All materials are to be installed using standard construction methods and means, and result in the issuance of manufacturers guarantees.

**A. Roofing:**

Anti-fungal dimensional (architectural) shingles with a minimum 30-year warranty are required for all shingle roof applications. Flat roofs are not encouraged, but DCA will allow flexibility in roof design if it is part of an energy conservation green building component or a roof design that mimics existing contextual surroundings. Applicants must obtain DCA pre-approval before using

one of these alternatives. All edges of the roof must have an aluminum drip edge that extends a minimum 3" under the shingles, 2" onto the fascia and have a minimum ½" 45 degree kick out at the bottom end of the fascia extension.

#### **B. Gutters and Downspouts:**

Seamless gutters and downspouts are mandatory for all construction and on all buildings.

#### **C. Exterior Cladding:**

1. Brick: See Appendix I, Threshold Criteria, Architectural Design & Quality Standards, Qualified Allocation Plan.
2. Insulated vinyl siding must be impact resistant commercial grade with a minimum thickness of .046" and a minimum 30-year manufacturer warranty and must meet or exceed ASTM D3679 & ASTM D7856 standards.
3. Fiber Cement/Cementitious Siding must be 5/16" nominal thickness with a 30-year manufacturer warranty.
4. Natural or manufactured stone.
5. Other materials: The use of exterior insulation and finish systems (EIFS), and stucco must be pre-approved by DCA prior to application submission. Wood siding is not permitted. All exterior trim, including fascia and soffits, window and door trim, gable vents, etc. must also be constructed of no or very low maintenance materials. Vinyl soffit must be commercial grade with a minimum thickness of .046" and a minimum 30-year manufacturer warranty. Completely cover wood fascia with prefinished aluminum with a .024" minimum thickness.

Where exterior brick does not extend to an eave line, aluminum flashing must be installed that extends a minimum of 2" under/behind the above exterior wall surface material and over the outer edge of the brick to prevent water penetration.

#### **D. Exterior Doors and Windows:**

1. Exterior doors must be 1 ¾" high durability, insulated (such as steel or fiberglass) and meet the requirements of the *Georgia State Minimum Standard Codes and Amendments*.
2. All primary entries must be in a breezeway or have a minimum 3' deep by 5' roof covering, and a corresponding porch or concrete pad.
3. Exterior doors for fully accessible units must include spring hinges.
4. Window and door glazing must meet the requirements of the *Georgia State Minimum Standard Codes and Amendments*.
5. Wood windows and exterior entry doors are not permitted.
6. Windows must not be located within a shower surround area or over shower units.
7. Install a continuous bead of silicone caulk behind all nail fins before installing new windows per manufacturer's specifications.
8. Skylights, windows and locations, sizes and operable panels must meet the requirements of the *Georgia State Minimum Standard Codes and Amendments*.

#### **E. Exterior Stairs:**

All exterior stairs must be covered and protected from the elements in new and rehabilitation buildings.

### **V. BUILDING INTERIORS DESIGN STANDARDS**

#### **A. Room Configuration:**

Room configuration must be functional while providing economic use of space:

1. The primary bathroom must be accessible from a common area such as a hall. Exceptions may be considered for one-bedroom unit rehabilitations.
2. The kitchen must be accessible from the entry.
3. Bathrooms must not open from areas of food preparation or be used as a sole passageway to a habitable room, hall, basement, or the exterior.
4. No habitable rooms are permitted in basement or cellar spaces unless egress is provided according to applicable fire codes.
5. All windows in bedroom units must comply with all local and state life safety requirements. DCA will consider windowless bedrooms with an architectural standards pre-application waiver and documentation showing approval of such by the local code official and/or State Fire Marshal.

**B. Unit Sizes:**

The following criteria are the minimum requirements:

Net Rentable (Leasable) Square Footage

The unit net rentable area is calculated for each individual dwelling type and measured from the inside face of each of the unit’s perimeter walls. DCA’s definition as it pertains to the QAP and related documents is as follows:

1. Net area includes air-conditioned space only.
2. Measure from the inside (paint) face of all unit perimeter walls.
3. Do not include any patio, balcony, or breezeway areas.
4. Do not include any outside storage closets.
5. Do not deduct any interior walls.
6. Include non-revenue units in total net rentable living area (Total Residential Unit Square Footage)

**C. Minimum Unit Sizes**

DWELLING TYPE	MINIMUM SQUARE FOOTAGE	KITCHEN	BATHROOM
Studio	375	Cooking area	1
Efficiency	450	Full kitchen	1
1 bedroom	650	Full kitchen	1
2 bedroom	850	Full kitchen	1
3 bedroom (+)	1,100	Full kitchen	2

**D. Kitchen Requirements**

UNIT TYPE	MINIMUM CLEAR COUNTERTOP FRONTAGE	MINIMUM LINEAR FOOTAGE OF CABINETS (includes base & wall cabinets, pantries, combined)
1 bedroom	6'-9"	16
2 bedroom	7'-9"	18
3 bedroom (+)	8'-9"	20

## **E. Closets**

1. Provide a suitable number of closets for each dwelling unit. .
2. All closets designed to contain clothes must be a minimum of 2'-0" deep.
3. Closets and defined storage areas must not be included in the room area square footage computations.
4. Closets and storage spaces in accessible units must meet applicable reach range requirements.

## **F. Ceiling Heights**

1. Flat ceilings must be a minimum of 8'-0" above finished floor.
2. Sloped ceilings must not be less than 5'-0" for the purposes of computing floor areas.
3. Ceiling heights must meet minimum requirements established by the *Life Safety Code* and the Georgia State Fire Marshal's Office.

## **G. Floor Finishes:**

Floor finishes must be the following or better.

- Living Areas and Bedrooms: Carpet or LVT
- Bathrooms, Mechanical Closets, Laundry Areas, Kitchen and other high moisture areas: Sheet Vinyl, VCT, LVT or Ceramic Tile.

DCA will evaluate kitchen and living room flooring materials for appropriate marketability, durability, sound transmission, and tenant comfort.

Install all materials to manufacturer's specifications by standard methods and receive a manufacturer's guarantee. DCA may approve material upgrades with improved maintenance qualities, durability, safety and/or indoor air quality for the tenants. The Owner must receive manufacturer's warranties from the General Contractor.

1. Carpet: Unit carpeting may have a level loop, textured loop, level cut pile, or level cut/uncut pile texture. DCA may approve alternate carpeting materials and installation methods in units intended for the elderly or disabled. Carpeting must comply with HUD's Use of Materials Bulletin No. 44d.
2. Install the intended carpet pad under all carpeting and in compliance with HUD's *Use of Materials Bulletin No. 72a*.
3. Sheet vinyl must be a minimum 0.095" thickness and provide a 20-year residential warranty.
4. Ceramic floor tile must be minimum 12" x 12" and installed over poured concrete slab or cementitious backing material.
5. VCT must be at minimum 0.080" thickness.
6. Luxury Vinyl Tile (LVT) must have a 12mil wear layer and provide a 15-year residential warranty. LVT installed in kitchens, bathrooms, laundry areas and mechanical closets must be 100% waterproof.

## **H. Additional Requirements:**

1. Bathrooms must have adequate storage. Medicine cabinets can supplement storage space. Do not place medicine cabinets in party walls unless fire separation is continuous behind and around the cabinet installation.

2. Install plastic laminate material the full width and depth of the bottom shelf of vanity sink cabinets and kitchen sink cabinets. Installation must be sealed/caulked around the full perimeter to all cabinet sides to prevent moisture/water penetration.
3. Construct kitchen countertops of a 3/4" plywood base with laminate top or solid surface material. No particle board, press board or fiber board will be allowed.
4. Seal all open voids above and below upper and lower kitchen cabinets with caulk or cabinet matching material/finish. Caulk all cabinets where the cabinet meets a wall surface to prevent pest infestation. No open voids will be allowed. Seal all open voids/holes in cabinet backs with matching cabinet material, caulk or expandable foam and all pipe penetrations must be covered with an escutcheon.
5. Provide kitchen cabinets above and below countertops. Construct cabinets with solid wood or plywood boxes, stiles, rails, doors and drawer fronts. All cabinets must conform to the performance and fabrication requirements of HUD Severe Use and *ANSI/KCMA A161.1* and bear the KCMA Certification Seal. No particle board, press board or fiber board will be allowed.
6. All windows must have neutral color horizontal mini-blinds. All glass doors must have either mini-blinds or vertical slat blinds.
7. Provide cable outlets in the main living area and in all bedrooms. Provide one internet router outlet.
8. All interior finishes, especially interior paint, must be low in Volatile Organic Compounds (VOCs) as defined in the EarthCraft Multifamily program (<http://www.earthcraft.org/multifamily>).
9. In new construction and adaptive re-use projects, all water heater tanks must be placed in an overflow pan piped to the exterior of the building, regardless of location and floor level, unless a primed p-trap is installed. Pipe the temperature and relief valve to the exterior. Place water heaters in closets to allow for their removal and inspection by or through the closet door. Do not install water heaters over the clothes washer or dryer space.
10. Bathroom shower walls must be either ceramic tile, solid surface material, one-piece fiberglass tub/shower enclosure or one-piece fiberglass shower enclosure. Install ceramic wall tile over cementitious backing material.
11. All dwelling units must have washer and dryer hookups.

### **I. Appliances:**

All units must include:

- microwaves
- refrigerators with ice maker (14 ft.<sup>4</sup> minimum for one and two bedroom units; 16 ft.<sup>4</sup> minimum for three bedroom units)
- ranges
- dishwashers (except in senior USDA or HUD properties)

Kitchen appliance sizes must be appropriate for the unit and number of tenants. Provide appropriate appliances as listed in US EPA's Energy Star program. Further information is available at <http://www.energystar.gov/>.

In-unit washers must be equipped with a drain pan or floor drain, as required by the *Georgia State Minimum Standard Codes and Amendments*. Owner-furnished washers in mobility units and community laundries must be front-loading and Energy Star rated.

#### **J. Mechanical**

Mechanical system equipment must meet the requirements of the *Georgia State Minimum Standard Codes and Amendments*.

#### **K. Electrical, Plumbing, and Indoor Air Quality:**

The minimum requirements for this section are located in *Appendix I, Threshold Criteria, BUILDING SUSTAINABILITY, Qualified Allocation Plan*.

#### **L. Electrical**

Minimum panel size for electrical distribution systems are 100 amps, or per code. Electrical switches, outlets, thermostats, phone and television jacks and other controls are to be installed per Fair Housing Act Design Manual requirements in qualified units and per appropriate accessibility law in accessible units. All penetrations of smoke partitions and rated assemblies must comply with local fire codes.

#### **M. Acoustical Isolation:**

Acoustical isolation requires a minimum STC rating of 52. Acoustical isolation surpassing the required minimums will increase unit quality. Noise levels on funded properties must meet DCA and HUD noise limitations:

- Exteriors: 65 dB
- Interiors: 45 dB

In areas where daytime/nighttime noise levels are above these limitations, documentation of the construction and mitigation methods must accompany the application for funding.

The following minimum standards apply:

1. Between units: 1 hr. rated UL assembly with one layer 5/8" GWB on each side (minimum or per local fire requirements if greater) with two sets of staggered 2x4 studs (or metal stud equivalent), sound-insulated with blanket material to STC rating of 52. All wall edges must be caulked
2. Within unit: one layer 1/2" GWB on each side 2x4 studs (or metal stud equivalent)
3. Floor to floor: 1 hr. rated UL assembly with a minimum STC rating 52. A minimum of 1" lightweight concrete or 3/4" gypcrete topping over wood sub floor (optional floor construction may be considered for the rehabilitation of existing residential units).

#### **N. Thermal Insulation:**

Thermal insulation must meet minimum standards as defined in *Georgia State Minimum Standard Energy Code (International Energy Conservation Code)*. <sup>(08)</sup>

#### **O. Radon:**

Build all new construction in accordance with current EPA requirements for radon resistant construction techniques, including, but not limited to, *ASTM E1465 – 08a Standard Practice for Radon Control Options for the Design and Construction of New Low-Rise Residential Buildings*. Test new construction and rehabilitated buildings, prior to tenant occupancy, for compliance with EPA's established radon level limits. For rehabs with rolling or scattered relocation, submit radon testing and reports at project completion.

## **VI. FIRE AND LIFE SAFETY**

The property design must provide a safe environment for all tenants. Projects must adhere to the most recently adopted editions of the *Georgia State Minimum Standard Codes and Amendments* and to local requirements (fire department, code, and other authorities). This includes but is not limited to the following:

- A. Smoke detectors must be hard-wired and located per code for all construction. DCA will not waive this requirement for rehabilitation proposals. Carbon Monoxide Detectors must be in accordance with NFPA 101 Life Safety Code and NFPA 720.
- B. Fire alarms and sprinklers.
- C. Attics must be constructed or rebuilt to include draft stop walls, and rated ceiling, floor, and wall assemblies.
- D. All through-penetrations of smoke walls, draft stops, and rated assemblies. Disaster mitigation-related requirements.

## **VII. ACCESSIBILITY**

Design the Property to meet all applicable federal, state, local and DCA requirements for accessibility by the disabled. Incorporate the accessibility characteristics in the layout and design of open spaces, building locations and unit designs. Refer to the "2019 DCA Accessibility Manual" for additional information. Projects receiving DCA funding must meet federal, state and local accessibility laws and meet the requirements of the DCA 2019 QAP and the 2019 DCA Accessibility Manual. Please note that DCA requirements may be more stringent than federal or state requirements.