



DEPARTMENT OF THE ARMY

Assistant Secretary of the Army
Installations and Environment
110 Army Pentagon
Washington, DC 20310-0110

25 NOV 2003

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Minimum Construction Standards for the Residential Communities Initiative (RCI) Family Housing Program -- Update #1

The purposes of this memorandum are to provide: (1) the annual update to the December 2, 2002 standards, and (2) guidance and instructions for the implementation of these updated standards. (Enclosure)

Our goal is that these minimum standards will result in better housing that meets or exceeds competitive housing in the local community. Accordingly, the enclosed minimum standards and instructions are provided for your immediate implementation at all current and future RCI sites/projects. Compliance with these standards will be monitored during RCI Portfolio/Asset Management annual audits.

I appreciate all the hard work you and your teams have devoted to the RCI process, and I am confident that these minimum construction standards will contribute to the success of our projects.

Mario P. Fiori

Enclosure: a/s

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THE ARMY'S RESIDENTIAL COMMUNITIES INITIATIVE

*Quality communities
for Army families.*

MINIMUM QUALITY STANDARDS FOR NEW AND REPLACEMENT RESIDENTIAL COMMUNITIES INITIATIVE (RCI) FAMILY HOUSING

INTRODUCTION

The Military Housing Privatization Initiative (MHPI) legislation allows developers to build housing to local standards. The intent is to improve the housing for military families by providing quality housing that is built in attractive neighborhoods, avoiding the stereotypical appearance common in much of our existing inventory.

Now that the RCI standards have been in the field for close to a year, comments and lessons learned have been received to update, add, and/or modify the standards for new and replacement construction. Therefore, the following update to the standards is provided for use during CDMP preparation. These standards should be considered minimums and should be adapted to accommodate local requirements, health/safety regulations and statutes, building codes, environmental considerations, requirements related to accessibility and historic preservation, private sector innovations, and/or improvements to the industry standard. Above all, these standards ensure delivery of an equitable housing product at all RCI sites and guide to CDMP teams. Ultimately, the objective of these guidelines is to create housing that meets or exceeds competitive housing in the community. Where conditions exist that preclude implementation of a minimum standard or different standard is proposed, the Garrison Commander shall request exception through the Director, Installation Management Activity (IMA) and Assistant Chief of Staff for Installation Management (ACSIM), to the HQDA RCI Program Office, OASA(I&E). Furthermore, compliance with these standards will be monitored: (1) during the CDMP, transition and closing processes by project managers, and (2) via the Army's RCI Portfolio/Asset Management Program after closing.

MINIMUM RCI STANDARDS

1. General. RCI projects will comply with the local codes found at, and approved by, the local jurisdiction having authority over the private land holdings in the surrounding area. In addition, all construction/alterations will comply with the Uniform Federal Accessibility Standards (UFAS) and Americans with Disabilities Act Accessibility Guidelines (ADAAG); Army's Sustainable Design and Development Principles including the U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) rating system as adapted by the Army's Sustainable Project Rating Tool

(SPiRiT) rating system (i.e., minimum “GOLD” SPiRiT rating); and Department of Defense Anti-Terrorism Standards for Buildings (Unified Facilities Code, UFC 4-010-01, under Mil-Std-3007). These codes/standards will be supplemented/modified by local best practices. Furthermore, construction will be in compliance with: (1) Commander’s Guide -- Army Installation Standards, and (2) Installation Design Guide. NOTE: Until such time that LEED includes a residential component, the Army SPiRiT rating system/standards will be used.

2. Site and Grounds.

- a. Two off-street, paved parking spaces of no less than 9 feet in width and 20 feet in length will be provided for each dwelling unit, with at least one of these spaces enclosed by a garage or carport, arranged so the 2nd car does not block the 1st car. Also, provide at least: 1 parking space per dwelling unit for guest parking in low density areas, .5 spaces in medium density areas, and .25 spaces in high density areas.
- b. Sidewalks will be provided on the sides of streets that have housing and walkways that lead to amenities, and made of concrete.
- c. Curbs/street gutters should be at least 6” high (barrier type) for non-mountable curb types. Valley gutter and sloped/roll-back curbs will be in conformance with local codes. Curbs shall be depressed at entrances to driveways, and curbs/street gutters will comply with local codes and UFAS.
- d. Residential style energy efficient street, park and playground lights with photoelectric sensors should be provided generally at each intersection and at reasonable intervals throughout the community.
- e. Buried cables should be provided in new housing areas. Service drops shall be underground, and systems shall conform to NEC/NFPA codes as implemented and required locally.
- f. A fully developed landscaping plan will be executed in all housing areas.
- g. All improved green space will utilize regionally native plantings, trees and natural/other grasses appropriate for the area and climate. An invasive species list will be reviewed before selection of plants.
- h. Drought tolerant, xeriscape or other appropriate “native” landscaping in lieu of sprinklers and/or irrigation systems are preferred, adverse effects to natural habitat will be minimized, and water-efficient practices will be established.
- i. Existing trees and natural vegetation will be retained, particularly in corridors.
- j. Construction in wetlands is not desired, and, if necessary, is subject to all State, local and federal requirements.
- k. Playgrounds, Tot Lots, and Parks should be accessible without crossing “major” streets. Any playground or tot lot located within 100’ of a major street may be fenced if needed for safety as determined by the Garrison Commander. ADAAG and standard, consumer safety performance specifications for playground equipment for public use should be followed.
- l. Housing units per acre by site density are shown in the table below. This table provides guidelines, NOT minimums. Also, density guidelines do not include acreage required for roads and parks.

Grade	Low Density Units/Acre	Medium Density Units/Acre	High Density Units/Acre
SSG & Below	4-7	8-10	11-15
SFC – SGM	3-5	6-9	10-12
LT – CPT	3-5	6-9	10-12
MAJ – LTC	2.5-3	4-5	6-9
COL	2	3	4-6
BG & Above	1	2	3-4

- m. Amenities such as basketball courts, tennis courts, and jogging/bike trails should be placed throughout the housing areas.
- n. Fire hydrants shall be provided in accordance with the Installation Fire Department standards.
- o. Paving, to include driveways, and other road construction materials shall comply with local codes or State Department of Transportation requirements and should be appropriate for proposed level of use, e.g., main thoroughfare, cul-de-sac, etc.
- p. All new construction shall employ termite/other wood-destroying insect resistant design and materials subject to local codes and regulations.
- q. Setbacks from street will be in accordance with local codes and allow for safety and adequate space for off-street parking.
- r. Housing built in tornado-prone areas will include appropriate shelters.

3. Building Exterior and Foundation.

- a. Replacement/new roof coverings should be fungus-resistant and carry a 20-25 years warranty as a minimum.
- b. Rain gutters, downspouts and diverters with splash blocks shall be used to the greatest extent possible. Finished grading around buildings shall ensure water run-off away from the building.
- c. The primary entrance door shall be a minimum of 3' wide. All windowless front entrance doors shall have a viewer. A fire-rated door, a minimum of 3' wide, will be available between the garage and dwelling unit.
- d. A low-voltage doorbell will be provided at the front door.
- e. Exterior doors will be of high quality steel, fiberglass, or better construction.
- f. Basements and/or crawlspaces shall have sufficient general ventilation to avoid high humidity and/or growth of molds.
- g. Exterior hose bibs shall be installed accessible to the front and rear of quarters. Hose bibs should include freeze protection in colder climates.

- h. One switched light fixture and one ground fault protected outlet shall be provided at the exterior of each dwelling entrance including the garage and patio entrances into the dwelling.
- i. Garage doors will have electric door openers.
- j. Common walls in multi-family units shall be constructed so as to comply with local building and NFPA codes, and shall include sound attenuation construction techniques and materials in accordance with local codes.
- k. Windows should be double-pane insulated glass, and engineered to permit ease of cleaning from the interior of the house. Operable windows that have screens will allow screens to be removed from the inside.
- l. Siding will be of high quality materials/finishes commensurate with practices found in modern residential subdivisions in the area. Finishes will be low maintenance and resistant to rot and insect infestation.
- m. Manufactured housing units are acceptable provided they meet all other quality standards as outlined in this document and are assembled in whole or in modular part on-site on full foundations or slabs, have never had an axle, and are approved by the installation command and HQDA (SAIE-RCI).
- n. A patio or deck (minimum 150 SF) will be provided for each residential unit, and apartment balconies will have a minimum 6-foot depth and a minimum of 72 SF.
- o. Each dwelling unit will provide a passive-ventilated bulk storage room; secure, well lit, out of weather, and conveniently located. Wherever possible, this space will be accessible from the exterior, or through the garage.
- p. Visually screened exterior storage space should be provided on the side of the dwelling nearest the curbside pickup location. Capacity will be for at least two 40-gallon refuse containers (or one 95-gallon refuse cart). Townhouse garages should contain garbage containers if size/space permit.
- q. Privacy fencing, if provided, should be aesthetically pleasing, retain pets and small children, and yet promote a sense of neighborhood.
- r. A street address number will be placed at the front of each residence.
- s. In areas where radon is prevalent, venting will be included during new construction and major renovations in accordance with local codes.

4. Building Interior.

- a. Electrical:
 - Electrical work will comply with the NEC.
 - Electrical fixtures and systems will meet local code.
 - All homes will be pre-wired with a minimum installed capacity for three telephone lines to each dwelling unit and a minimum of one telephone jack in each room except bathrooms, utility and storage rooms, and garage. Cable television wiring/outlets are to be provided in the living room, family room, and each bedroom.
 - Capacity will be provided to allow for state-of-the-art internet service.
 - Individual electrical circuits shall be provided for smoke/carbon monoxide detectors, clothes washer, clothes dryer, dishwasher, garbage disposal, furnace, air conditioning unit, and water heater as per code.

- Provide switch-operated light fixtures in all habitable rooms and in halls, storage and utility rooms and above mirrors in baths.
 - Ceiling-mounted light fixture boxes in all living, family, dining and bedrooms shall be capable of supporting ceiling fans.
 - Primary electrical service and all associated distribution equipment and wiring shall be rated at 200 amps service for all dwelling units containing three or more bedrooms. Where natural gas service is available, electrical panels may be sized for actual loads (per code) and include additional spare capacity.
 - All lighting will be located to provide adequate/efficient illumination.
- b. HVAC:
- Climate controlled environment should be provided as appropriate for compliance with the selected energy standards and local climate zone.
 - Conditioned airflow requirements as well as sizing of heating and cooling systems shall be computed using ASHRAE standards for residential applications. Heating and cooling will be distributed to all habitable rooms including bathrooms. Adjustable distribution terminal vents shall be provided to control airflow to the appropriate levels or areas as required.
 - One return air vent shall be provided for each floor.
 - Consider locating mechanical equipment in a closet directly accessible from the exterior of the building for ease of maintenance and to lessen the inconvenience to residents/workers.
- c. Attic access shall be provided in compliance with local building code.
- d. Plumbing:
- Water piping shall not be located in attics unless absolutely necessary.
 - Water piping located in exterior walls, crawlspaces or attics shall be insulated.
 - For each residence, provide one master water shut-off valve, and provide hot/cold water shut-offs at each sink and toilet as required by local code.
 - Provide gate valves, spaced throughout the neighborhoods to facilitate line maintenance, services and repairs.
 - Hot water heaters shall be a minimum of 40 gallons for a 3-bedroom or smaller home; 50-gallon size for 4-bedroom and larger homes.
- e. A coat closet shall be provided near the primary entrance, and a linen closet shall be provided near the bedrooms. A length of 2' for linen closets and 3' for guest closets should be considered minimums.
- f. Minimum gross square feet (GSF) standards follow: 3 bedrooms -- 1,630 GSF; 4 bedrooms -- 1,940 GSF, and 5 bedroom -- 2,300 GSF. (Gross floor area (also gross square feet or GSF as defined by the total area measured within the exterior faces of exterior walls (or center line of party walls between dwelling units). Area includes both finished and unfinished spaces including stairways. Area excludes garages, carports, openings to the floor below, crawl spaces, attic area below 5ft ceiling height, exterior bulk storage, trash enclosures, open or insect-screened porches (which may not be heated or cooled), terraces, patios, decks, balconies and entrance stoops)

5. Living, Family, and Dining Rooms.

- a. Design shall accommodate efficient circulation, functional arrangement and indoor/outdoor integration.
- b. Design should enhance individual and family group recreation, leisure and entertainment.
- c. Floor covering shall be high quality wood systems, sheet vinyl, ceramic tile, stone, or cut-pile carpet/pad stretched (not glued).
- d. Semi-gloss paint or natural finished wood will be used on doors and trim.

6. Bathrooms.

- a. Design considerations shall incorporate privacy.
- b. A minimum of two full bathrooms shall be provided for each dwelling unit. One bathroom will serve the master bedroom and the other will serve the other bedroom(s). The master bathroom will be larger than the other bathroom(s). A half bath (minimum) will be available on the first floor of all two-story houses.
- c. Regardless of the presence of an operable window, all bathrooms/toilet areas should be ventilated mechanically through a low-noise exhaust fan that discharges outside the structure.
- d. Master bathrooms will have double sinks.
- e. Shower/tub surrounds will be aesthetically pleasing and made of high quality materials.
- f. Floor coverings shall be sheet vinyl or matte finish (non-slip) hard tile.
- g. Provide 1 mirror above each lavatory sink with at least 1 medicine cabinet per bathroom.
- h. Semi-gloss or similar finished paint will be used on all walls and ceilings.

7. Kitchen.

- a. Design considerations should incorporate an efficient work triangle.
- b. Kitchens will include an eat-in area (may adjoin kitchen) or breakfast bar.
- c. Provide refrigerator with icemaker (and water line), dishwasher, range and garbage disposal.
- d. Cabinets/shelves shall be made of quality materials. Preference shall be for solid surface countertops.
- e. Kitchen will have double compartment sinks, a minimum of 7-8" depth.
- f. General/countertop lighting shall meet local building codes.
- g. Range hood shall be provided with an integral light and two-speed, low-noise fan.
- h. Ground Fault Circuit Interrupter (GFCI) equipped small appliance utility outlets shall be provided in accordance with code.
- i. Floor covering materials shall be high quality sheet vinyl, ceramic tile, stone, plank vinyl and wood/ceramic laminates.

8. Bedrooms.

- a. All new homes will have a minimum of three (3) bedrooms.
- b. Bedroom size and design shall accommodate efficient traffic flow and reasonable furnishings for the number of people anticipated for the room. The minimum sizes are 150 SF for master bedrooms and 120 SF for all others. (The prescribed bedroom area does not include the space allotted for the closet.)
- c. Closet spaces will be provided in all bedrooms, and a walk-in closet should be provided for the master bedroom.
- d. Floor covering shall be high-grade cut-pile carpet/pad stretched (not glued).

9. Utility Systems.

- a. For each residence, exterior-reading electric/gas meters will be installed.
- b. Pad-mounted electric transformers will be provided and located with regard to access and visual effect.

10. Laundry Room/Closet.

- a. Laundry facilities will be located in a laundry/utility room or closet.
- b. Water and electric connections will be installed for washers and dryers.
- c. A dryer shall vent to the home exterior in compliance with code.
- d. Adequate space should be planned for laundry baskets/supplies.
- e. Storage shelf/shelves and/or cabinets will be provided.

APPLICABILITY

These standards are applicable to all new/replacement housing constructed under the Army's RCI. During CDMP negotiations, similar standards will be negotiated for renovated, revitalized and/or historic housing, recognizing that universal application may be limited by existing dwellings, cost factors/economics or other local conditions.

The RCI standards will be reviewed and updated annually. The HQDA RCI Program Office will: (1) request updates through ACSIM and HQ, IMA no later than 1 July each year, (2) staff and incorporate approved changes, and (3) issue revised standards no later than 30 September each year.

The quality standards outlined in this document are effective at all RCI installations effective immediately. All previously negotiated CDMPs should be reviewed for compliance and designs should be revised to reflect these standards prior to approval of the next annual operating/construction budget.

These standards will remain in effect until rescinded or revised by the RCI Program Office, Headquarters, Department of the Army.