



HOUSING RECOVERY PROGRAM MINIMUM CONSTRUCTION SPECIFICATIONS

Contents

1.	Version History and Policy Revisions	1
2.	Introduction.....	1
3.	Eligible Activities	2
5.	Warranty	3
Division 01 GENERAL REQUIREMENTS		3
Definitions		3
Execution, Correlation and Intent		3
Miscellaneous.....		4
Division 03 CONCRETE		4
3.1	Formwork	4
3.2	Reinforcing Steel.....	5
3.3	Vapor retarder	5
3.4	Concrete	5
3.5	Block Wall.....	5
3.6	Slab Finishes	6
Division 06 WOOD, PLASTICS AND COMPOSITES.....		6
6.1	General	6
6.2	Rough Carpentry	6
6.3	Exterior Finish Carpentry	8
6.4	Interior Finish Carpentry	8
Division 07 THERMAL AND MOISTURE PROTECTION.....		9
7.2	Sealants.....	9
7.3	Insulation	10
7.4	Roofing.....	10
7.5	Gutters.....	11
Division 08 OPENINGS		11
8.1	General	11
8.2	Doors	11
8.3	Windows	12
Division 09 FINISHES.....		12
9.1	Gypsum Board.....	12
9.2	Flooring: See Room Finish Schedule.	13
9.3	Paint and Coatings.....	14

Division 10 SPECIALTIES.....	15
10.1 Bathroom Accessories	15
Division 11 EQUIPMENT	16
11.1 Kitchen	16
11.2 Laundry	16
Division 14 CONVEYING EQUIPMENT	16
14.1 Vertical Platform Wheelchair Lifts.....	16
Division 22 PLUMBING	16
22.1 Codes and Regulations	16
22.2 Piping	16
22.3 Water Heater.....	17
22.4 Fixtures.....	17
Division 23 HEATING VENTILATING AND AIR CONDITIONING	17
23.1 Codes and Regulations	17
23.2 General	17
23.3 Air Conditioning/Heating Equipment.....	18
23.4 Duct Material.....	18
23.5 Ventilation Equipment.....	19
Division 26 ELECTRICAL	19
26.1 Codes and Regulations	19
26.2 Circuits and Wiring	19
26.3 Fixtures.....	19
26.4 Miscellaneous	20
Division 31 EARTHWORK.....	20
31.1 Termite Control	20
31.2 Grading.....	20
Division 32 EXTERIOR IMPROVEMENTS	20
32.1 Turfgrass Sod.....	20

1. Version History and Policy Revisions

The standards and specifications contained within this Manual may be supplemented or modified to address changes to rules, regulations or the changing unmet recovery needs of the applicant population. From time to time, the Program will issue revisions which may modify the contents of this Manual.

Each revision will be clearly outlined within this Manual, including the substance of the revision and the date for which the revision occurred (as described in the table below). The updated Manual will then replace the existing manual on the Resilient SRQ website.

Version Number	Adoption Date	Summary of Changes
1.0	5/30/2024	Original Version
2.0	8/15/2025	Revised to add 2024 Storms, minor revisions made throughout, added Appendix A and B.

2. Introduction

This Minimum Construction Specifications Manual (Manual) constitutes the construction standards and specifications for all single-family homes to be rehabilitated or reconstructed in whole or in part under the Sarasota County's **Resilient SRQ Housing Recovery Program** (Program) which consists of Rehabilitation/Reconstruction and Reimbursement activities for Hurricanes Ian (2022), Debby, Helene, and Milton (2024). These standards are not intended to reduce or exclude the requirements of any local, township, municipal, county, or state building or housing codes, standards, or ordinances that may be applicable.

The intent of these standards is to:

- Maintain consistency among the Program's construction general contractors (GCs) and subcontractors.
- Define the extent of work that the Program will undertake in homes to be rehabilitated or reconstructed.
- Identify the governing code(s) and applicable government standards.
- Identify the quality standards for new work performed within each rehabilitated home.

Applicable Standards and Code Compliance

The criteria for determining the need for and standards for rehabilitation work to be performed shall be as follows:

A. Storm Damage: All eligible storm damaged building components, equipment, and appliances shall

be repaired or replaced.

- B. HUD Housing Quality Standards (HQS) from HUD Handbook 7420.8: Any building component found deficient or non-compliant will be repaired or replaced.
- C. The 2023 Florida Building code is the governing code by which home repairs shall be judged.
- D. All work on rehabilitated homes will adhere to the HUD CPD Green Building Retrofit Checklist, with the following exception: All work completed prior to the date of the Initial Site Inspection is exempt from the Green Building Retrofit Checklist. See Appendix A for the HUD CPD Green Building Retrofit Checklist.

A variance for a specific project to any part of these standards can be submitted in writing through the County's system of record to Sarasota County detailing the project location, the need for the variance, and if required, the proposed alternative. If approved, no work should be performed prior to Sarasota County issuing a written notice and documenting the project file.

3. Eligible Activities

Eligible construction efforts include both rehabilitation and reconstruction work.

A. Rehabilitation may consist of:

- Repair work, defined as the restoration to good sound condition of materials, systems, and/or components that are worn, deteriorated, or broken using materials or components that are identical or similar to existing. Examples include replacing damaged door hardware with compliant accessible hardware or replacing broken glass with safety glazing.
- Renovation work, defined as the removal and replacement or covering of existing interior or exterior finish, trim, doors, windows, or other materials with new materials that serve the same purpose and do not change the configuration of the space. Examples include replacing aged water closets with water saving models per Green Building Retrofit Checklist or replacing damaged windows or doors with new units with thermal values established by the residential energy code the Green Building Retrofit Checklist.

B. Reconstruction

- Generally involves the demolition and rebuilding of a structure on the same site when the existing structure is beyond feasible rehabilitation. Reconstruction must comply with applicable building codes, floodplain requirements, Appendix B, and program standards.

4. General Contractor Standards

For all rehabilitation and reconstruction projects, General Contractors must:

- Whenever possible, make every effort to minimize the impact of the construction on the homeowner.
- Work shall be carried out swiftly and within the contractual timelines. The work area shall be secured at all times.
- The work area shall be left clean and free from clutter at the end of each day and the General Contractor will be responsible for storage of materials and tools.
- The General Contractor shall use the site and its facilities only for specified construction. The

electrical, water, sewer, and gas systems shall be used only for construction purposes and during the construction phase only.

- All materials used shall be new (unless otherwise specified) and of good quality. All work shall be performed with skilled craftsmen and accomplished with care.
- Where homeowner selection is allowed, samples shall be provided to homeowners for selection for the items specified by Sarasota County including, but not limited to, colors and quality of items such as paint, flooring, shingles, siding, door/window/drawer hardware, and countertops. Homeowners shall be provided with reasonable time to make selections.
- Upon completion of the work, remove all construction debris, clean and mop all floors, clean all new and existing paint from other finished surfaces, leave newly installed items in operating conditions, light pilots on gas water heater, stove/oven, and gas heaters, start all electrical and mechanical systems, install all hardware in operating condition, and schedule a meeting with the homeowner to furnish equipment manuals and provide operational and maintenance instructions as needed.

5. Warranty

All projects will have a 1-year workmanship and material warranty from the time of completion. Additionally, all new single-family construction (excludes mobile home units) will have a third party 2-year mechanical-and 10-year structural warranty.

Division 01 GENERAL REQUIREMENTS

Definitions

- A. The Work- Contractor shall understand that the Work specified herein and shown on any issued drawings shall be a finished and working in accordance to the Subcontract Agreement and any resulting Work Orders. All work shall comply with current Federal, State, Local building codes/ordinances, and Sarasota Resilient SRQ Housing Recovery Program requirements.
- B. Description of Materials-Appendix B provides a list of standard materials and equipment to be used in reconstruction projects whether or not shown on the drawings.
- C. Green Building Standard-a model code that contains minimum requirements for increasing the environmental and health performance of buildings, sites and structures.
- D. Energy Efficient Standard-Established requirements for building performance to reduce energy consumption and greenhouse gas emissions.
- E. Accessible Route- a continuous, unobstructed path connecting the parking space to an entry door.

Execution, Correlation and Intent

- A. Precedence - Addenda and Change Orders to Drawings and Specifications take precedence over the original Construction Documents. Should there be a conflict between any of the Construction

Documents, the most stringent of the conflicting requirements will apply. Contractor will consult with Program Implementation Vendor when conflicts arise.

Miscellaneous

- A. Contractor to secure and pay for all permits and file all required drawings, specifications and certifications with the City and/or County agency having jurisdiction.
- B. Contractor shall incorporate standards to meet Green Building Standards for each house. Homes shall meet ICC National Green Building Standard or equal. Approved equals include:
- ICC 700 National Green Building Standards
 - Florida Green Building Coalition
 - Enterprise Green Communities
 - LEED (New Construction)
 - EPA Indoor AirPlus
 - Any other equivalent comprehensive green building standard program acceptable to HUD
- C. Contractor shall incorporate standards to meet Energy Efficient Standards for each house. Homes shall meet Energy Star or equal. Approved equals include:
- Energy STAR (Certified Homes)
 - DOE Zero Energy Ready Home
 - EarthCraft House
 - Passive House Institute Passive Building or EnerPHit certification from the Passive House Institute US (PHIUS)
 - International Passive House Association
 - Greenpoint rated New Home,
 - Earth Advantage New Homes
 - Any other equivalent energy efficiency standard acceptable to HUD
- D. When required by the Work Order, Builder shall provide an accessible route, ramp, or where not possible, a wheelchair lift or ramp meeting ADA requirement to provide access to one (1) accessible exterior door entrance. Wheelchair lifts are to be installed under a roof line. Homeowner may select location, if feasible and approved by the Program.

Division 03 CONCRETE

3.1 Formwork

- A. Construct forms to the exact sizes, shapes, lines and dimensions shown, and as required to obtain accurate alignment, location and grades. Provide for openings, blocking, inserts and other features required for the work.
- B. Cleaning. Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt or other debris just before concrete is to be placed.

3.2 Reinforcing Steel

- A. Refer to site specific Structural Drawings for exact specifications and comply with the specified codes and standards.
- B. Accurately position, support and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers as required.
- C. Arrange, space, and accurately tie bars and bar supports together with tie wire to hold reinforcement accurately in position during concrete placement operations

3.3 Vapor retarder

- A. 6-mil (0.006 inch; 152 μ m) polyethylene or approved vapor retarder with joints lapped not less than 6 inches (152 mm) shall be placed between the concrete floor slab and the base course or the prepared subgrade where no base course exists.

Exception: The vapor retarder is not required for the following:

- Garages, utility buildings and other unheated accessory structures.
 - For unheated storage rooms having an area of less than 70 square feet (6.5 m²) and carports.
 - Driveways, walks, patios and other flatwork not likely to be enclosed and heated at a later date.
 - Where approved by the building official, based on local site conditions.
- B. Prior to placing concrete, inspect vapor barrier to ensure there are no holes or tears.

3.4 Concrete

- A. Concrete used for slabs shall be 3,000 psi 28-day compressive strength with a 5 ½ in. maximum and 3 in. minimum slump.
- B. Deposit concrete continuously or in layers of such thickness that no concrete will be placed on concrete that has hardened sufficiently to cause the formation of seams or planes of weakness within the section. If a section cannot be placed continuously, provide construction joints.

3.5 Block Wall

- A. Masonry construction shall be designed and constructed in accordance with the provisions of this section and Section R301.2.1.1, TMS 402, TMS 403 or TMS 404.
- B. Block shall be laid in a ½ running bond.

- C. Mortar shall be sufficiently plastic and block units shall be placed with sufficient pressure to extrude mortar from the joint and produce a tight joint. Deep furrowing of bed joints that produces voids shall not be permitted. Any units disturbed to the extent that initial bond is broken after initial placement shall be removed and re-laid in fresh mortar. Surfaces to be in contact with mortar shall be clean and free of deleterious materials.
- D. Beams, girders or other concentrated loads supported by a wall or column shall have a bearing of not less than 3 inches (76 mm) in length measured parallel to the beam upon solid masonry not less than 4 inches (102 mm) in thickness, or upon a metal bearing plate of adequate design and dimensions to distribute the load safely, or upon a continuous reinforced masonry member projecting not less than 4 inches (102 mm) from the face of the wall.
- E. Masonry cement conforming to ASTM C91 Type M S or N shall be not less than 2 coats where directly applied over masonry or concrete.

3.6 Slab Finishes

- A. Float Finish. Apply float finish to slab surfaces that are to receive trowel finish or other finishes. Consolidate the surface with power-driven floats, by hand-floating if the area is small or inaccessible to power units. Uniformly slope surfaces to drains. Immediately after leveling, re-float the surface to a uniformly smooth, granular surface.
- B. Trowel Finish. Apply trowel finish to monolithic slab surfaces that are to be exposed to view. After floating, begin the first trowel finish operation using a power-driven trowel.
- C. Broom Finish. Finishes that are exposed and subject to foot traffic shall receive a broom finish with a texture of plus or minus 1/16 in. or as designated in the Structural Drawings.

Division 06 WOOD, PLASTICS AND COMPOSITES

6.1 General

- A. All work shall be erected plumb, true and in accordance with drawings and specifications. Work shall comply with all structural drawings, notes, and specifications. Excessively scuffed, scratched, dented or otherwise damaged wood must be replaced. All framing work to conform to local building codes.

6.2 Rough Carpentry

A. General

1. Lumber Grades: Conform to the latest grading rules of the lumber manufacturers association under whose rules the lumber was produced.
2. Provide weather protection for all lumber delivered to the job.
3. Schedule for Structural Nailing: See Structural drawings, notes, and specifications.
4. Treated Wood: Sill or base plates in contact with concrete foundations, exposed to exterior conditions, or within 18" of ground level shall be treated. All stairs and decks shall be treated. All treated wood to be marked American Wood Protection Association (A.W.P.A. and stamp)

or Western Wood Preservers Institute (W.W.P.I. and stamp). Mark shall be visible when installed. Only hot dipped galvanized or stainless-steel fasteners approved for use with treated lumber shall be used. No aluminum materials shall be used in direct contact with treated wood.

5. Carpentry: Carpentry shall include all rough and dressed lumber and all work in connection with material installation. The contractor shall do all cutting and framing as required by any other trade for the completion of construction. All work shall be done accurately, neatly and securely fitted in the most workmanlike manner in accordance with the working drawings.

a) All framing to be per drawings. Framing to include any furring or “cut-outs” necessary for installation of air conditioning and other MEP systems.

6. Lumber: The lumber shall be classified, and grade marked to the codes and requirements of the Manufacturer's Associations or Residential Standards of the region. Lumber shall be live stock, thoroughly seasoned, and well manufactured. Materials generally shall be free from warp that cannot be corrected by bridging or nailing.

7. Plywood: All plywood which has any edge or surface permanently exposed to the elements shall be exterior type.

a) Exterior shear wall sheathing shall be 5/8" thick CDX plywood. Refer to structural drawings and specifications for installation requirements.

b) All roof sheathing to 5/8 CDX plywood. All roofs are to have a radiant barrier installed. This can either be with the radiant barrier adhered to the plywood or installed under the plywood between the plywood and rafters.

c) Floor sheathing shall be 3/4" thick tongue and groove plywood or Advantech or similar sheathing is to be glued and screwed; Refer to structural drawings and specific manufacturer specifications for additional installation requirements.

8. All clips, straps, hangers, hold-downs, fasteners, and associated devices shall be galvanized, as manufactured by Simpson Strong-Tie Co. Inc or other carrying a Florida product approval.

B. Beams:

1. All beams shall be made up of a number of 2x joists or engineer-specified Anthony power beam, or equivalent.

C. Joists:

1. Laterally support at ends and at each support by solid blocking except where the ends of joists are nailed to a header, band, rim joist, or adjoining stud. Solid blocking shall be no less than 1 1/2" thickness and shall match the depth of the joists.

2. For flush beam, install joist hangers at each end of each ceiling joist. Verify light fixture centerline locations and joist/truss placement prior to installation.

3. Bridging must be #2 southern yellow pine or fir, graded and stamped (fir to be used in non-load bearing areas only). Refer to structural drawings.

4. Remove all unused wood, including form lumber, scrap lumber, shavings and sawdust in contact with the ground. Leave no wood buried in fill or backfill.

6.3 Exterior Finish Carpentry

1. General: Use galvanized, stainless steel or treated nails as required. Install per manufacturer's instructions.
2. Fiber Cement Siding and trim: Manufactured by James Hardie or equivalent; to be concealed nailed installation, unless noted otherwise; in compliance with Florida Product approval and structural design pressure requirements, where required. Shall include all required accessories for complete installation.

Materials:

- A. Fascia Boards and Trim: 'HZ10' Hardie Trim, smooth finish, pre-primed. Texture finish may be substituted if smooth finish is unavailable.
- B. Lap Siding: 'HZ10' HardiePlank, 6 1/4", smooth or textured finish, pre-primed.
- C. Building Wrap: Dupont Tyvek© HomeWrap© or ThermaWrap© or similar weather resistant barrier on all exterior walls (ensure compliance with chosen Green Standard).
- D. Louver/ Gable Vent Design, as indicated on drawings; Provided metal screening at openings.
- E. Soffit-Vinyl soffit, white perforated. Manufactured by Ply Gen or equivalent. Installed per manufacturers recommendations and Florida Building Code. Soffit shall not span longer than 16" without support per Florida Building Code.
- F. Fascia cover shall be aluminum. It shall be installed in accordance with fascia manufacturer's product approval specification and limitations of use.
- G. Treated Wood Decking: Include all accessories for a complete installation.
- H. All stair risers shall be equal height on all exterior steps. Maximum height of riser shall be 7 3/4" The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8" (Landings shall have a minimum depth in direction of travel shall not be less than 36 inches).
- I. Decorative Rail: (Where indicated) Newell posts, top, and bottom rails and balusters, treated wood; design as indicated on drawings.

6.4 Interior Finish Carpentry

A. General:

1. Provide weather protection for all millwork delivered to the job.
2. Inspect finish materials (trim, doors, etc.) to ensure that no sub-grade, defective or machine marked pieces are installed. Use one piece for length wherever possible.

B. Window Stool and Apron: 3/4" thick white pine stool with gypsum board jamb; 1x4 apron. To be painted to match door wood trim.

C. Shelving:

1. Closets: Wire shelving with closet rod in bedroom closets, 12" deep, width of closet.
2. Utility Room: Place one row 12" wire shelving above washer/dryer
3. Pantry Closet: 5 shelves

D. Cabinets

1. All bathroom cabinets and doors to be face frame type stain-grade, plywood / solid wood, pre-finished or approved equivalent. Color to be per pre-selected finish schedule.
2. All kitchen cabinets and doors to be face frame type stain-grade, plywood / solid wood, pre-finished or approved equivalent. Stain color to be selected by Owner from pre-selected finish schemes.
3. No nail or screw holes or other fastening shall be visible on the exterior.
4. Toe bases to be 3 1/2" high, 3" deep;
5. The Cabinet Fabricator and General Contractor shall be responsible for all required appliance "cut-outs" taken from the manufacturer's installation instructions and templates, as selected.

E. Hardware:

1. Hinges: 1/2" overlay concealed hinges. Provided by manufacturer, chrome or brushed chrome finish.
2. Door Catches: As provided by manufacturer, chrome or brushed chrome finish.
3. Door and Drawer Pulls or Knobs: As provided by the General Contractor on cabinets.

F. Countertops:

1. Kitchen: Plastic laminate, matte finish, adhered to 3/4" particle board substrate made with exterior glue and binders containing no urea formaldehyde. 4" high integral backsplash with roll edge. Side splash as required. All laminate to be handled and installed in accordance with the Manufacturer's instructions and recommendations. Waterproof around sink cut out perimeter top, edge, and bottom. Contractor to provide Owner with pre-selected color samples for color selection.
2. Bathroom Vanity: Vanity top with integral sink, 1/2" thick solid polymer material adhesively joined with inconspicuous seams; standard edge details with integral bowl. Provide coved backsplash and side splashes.

Division 07 THERMAL AND MOISTURE PROTECTION

7.2 Sealants

- A. Materials: One part 100% liquid polymer, polysulfide or acrylic base compound, non-sagging, non-

staining, gun consistency. Rod stock backup shall be flexible, closed cell, expanded polyethylene round rodding 1-1/3 times the joint width in diameter conforming to Federal Specifications HH-f-341, Type 1, Class A and B. Color to be manufacturer's standard and chemically compatible with substrate per manufacturer's recommendation. Sealant to have a minimum 20-year warranty.

B. Location: Provide sealant at all joints and recesses in exterior and interior construction where required to prevent infiltration of water, moisture, air, sound, and light. Place continuous bead of acoustical sealant between exterior sill plate and floor.

C. Application: Before applying sealants, all surfaces shall be absolutely clean of dirt, grease, loose material, and foreign matter. Apply primers and sealants in strict accordance with manufacturer's printed instructions. All sealants in exposed or visible locations to be tooled smooth as recommended by sealant manufacturer. All window tops, sides and bottoms of door thresholds to have full bed of sealant. Complete sealant installation before the final coat of paint is applied.

7.3 Insulation

A. General: All building insulation to have a flame-spread rating of 25 and a smoke-developed rating of 50.

B. Roof/Ceilings: Use formaldehyde free, R-38 fiberglass batt or blown-in mineral wool insulation material, ASTM E-84, Class A, non-combustible. Provide insulation baffles at roof to accommodate venting.

C. Exterior Walls: Use formaldehyde free, unfaced, R-15 fiberglass or mineral wool batt insulation material for 2x4 walls or for block walls R7.1 multilayer reflective insulation installed over a 1-1/2" gap .

D. Underfloor (Elevated House): Use formaldehyde free, unfaced, R-19 fiberglass or mineral wool batt insulation material, ASTM E-84, Class A, non-combustible.

E. All voids around windows, exterior doors, and wall penetrations to be filled insulation per Manufactures recommendation. Do not use products containing Urea Formaldehyde.

7.4 Roofing

A. Warranty: Contractor warranty shall include all materials and labor to repair any defects or leaks that develop and repair or make good any damage caused by leaks and roof repairs for a period of one (1) year (transferable) from date of substantial completion.

B. Shingle Roof:

1. 30-year Architectural shingles, fiberglass-based asphalt shingles, choose from pre-selected color options.
2. All roofs are to be installed per Florida Building Code.

C. Roof Replacement other options (rehabilitation only)

1. For low pitch roofs, slopes lower than 2/12, install Modified Roofing in accordance with chapter 9 of the Florida Building Code 8th Edition.

2. Tile roofs-Only when required by Homeowners Association, Install tile roof in accordance with HOA guidelines and the 7th edition of the Florida High Wind Concrete and Clay tile Installation Manual

7.5 Gutters

- A. New construction is to come with 5” gutters and 4” downspouts. Gutters are to be K-style gutters .027” thick, white in color.
- B. Rehabilitation will replace what is necessary with a product that closely matches the existing size and color.

Division 08 OPENINGS

8.1 General

- A. All doors and windows shall be inspected to ensure that they are square, plumb, and accurate before installation and comply with size, thickness, and design as shown in the Construction Documents and Schedules and meet local codes. All scheduled doors shall be installed to be plumb, level, and square and operate freely, but not loosely, and shall be adjusted to function properly. Doors shall be free from rattling when in latched position.

8.2 Doors

- A. Standards: All wood doors and windows shall conform to standards set by AWI (Architectural Woodwork Institute) and NWMA (National Woodwork Manufacturer's Association). Provide one-year minimum guarantee against all defects.

- B. Schedule: Reference Door Schedule on plans for sizes, types, locations, etc.

1. Exterior Doors: See opening schedule. Insulated Steel. All exterior doors must be fabricated and installed to meet the engineered design pressures and must be Florida Product Approved. Per program, design pressure shall be a minimum of +/- DP50 or higher designation and “Impact Rated”. Refer to structural drawings. Energy Star qualified

Exterior Sliding Glass doors. (rehabilitation only)-Doors shall be installed to match existing opening. New door to match sliding pattern of existing door. All sliding glass doors shall be impact glass, low e, vinyl.

2. Interior Doors: 2 Panel, 1 3/8” thick Masonite, H/C Smooth. See opening schedule.

- C. Weather-stripping: Provide on all exterior doors.

- D. Threshold: When selected, at least one exterior door shall have aluminum, 2-piece interlocking threshold.

- E. Finish Hardware

1. Contractor shall completely install finish hardware as required, without damaging cabinetry and door finishes and in accordance with manufacturer's instructions.
2. Contractor will be responsible for all hardware delivered to the job site. Hardware must always be protected from damage prior to and after installation.

3. Exterior Hardware: All exterior door hardware shall comply with the specific Florida Product approved door units and meet ADA requirements. Include door locks, hinges, door stops, weather-strip, peepholes, and threshold. Provide compressible door seals with rubber bottom gasket where sound mitigation is required.
4. Interior Hardware: Shall meet ADA requirements. Include door locks, hinges and door stops. Chrome or brushed chrome finish. Bedrooms and bathrooms to have privacy locksets. All other doors shall have passage locksets.
5. Install lever type door handles meeting ADA requirements on all doors.
6. Door pulls shall be lever type, operable with a closed fist meeting ADA requirement.
7. Keying: All entrance locksets to be keyed alike (including deadbolts) Provide minimum two (2) keys

8.3 Windows

- A. Standards: All Windows must be fabricated and installed to meet the engineered design pressures and must have a Florida Product Approval Per program, design pressure shall be a minimum of +/- DP50 or higher designation. Windows shall be impact rated, Single hung, vinyl, insulated glass, low e, no grids, and Energy Star Rated. Installation shall be according to details and manufacturer's recommendations and Florida Product Approval All frames will be installed plumb, level and square to ensure proper functioning with regard to sliding, locking and weathering. Reference window schedule on plans for sizes, locations, etc. Replacement windows are to be sized to match existing opening.
- B. Each open area of operable windows must be supplied with removable screens covering the operable area.
- C. All operable windows must have a security device/lock.

Division 09 FINISHES

9.1 Gypsum Board

- A. Materials: Gypsum wallboard, tapered, manufactured by USG or equal.
 1. Ceilings: 1/2" thick ceiling rated or 5/8" thick, ANSI/ASTM C30, painted gypsum board with tape and accessories required for complete installation.
 2. Walls: 1/2" thick ANSI/ASTM C30, painted gypsum board with perforated tape and accessories. (Bathroom wall shall be reinforced with solid 2x12 lumber for potential installation of ADA grab bars. Refer to floor plans for reinforced wall locations.).
 3. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/4 inch (6.35 mm) in 4 feet (1219 mm) in any direction.
 4. Bathrooms, Kitchen, Washer / Dryer closet (all wet areas), use moisture resistant gypsum board, ANSI/ASTM C630. Hardi-Backer, or equal, shall be installed behind ceramic tile.

5. Fire Separation: 5/8" Type-X fire code gypsum wallboard at all walls and ceilings adjacent to habitable spaces at garages and accessible space under stairs.

6. Nails: 1 3/8" annular ring cement coated.

7. Corner and edge beads: USG or approved equal; 90-degree corner bead;

8. Tape and joint cement: USG or approved equal.

B. Installation: Install at right angles to framing members with end joints staggered and neatly fitted. Edges shall abut over supports. Tape and float joints to be level. Apply light texture shot or sprayed. Level 4 finish - orange peel for walls, knock down for ceilings. No holes over 1/2" in diameter will be permitted to be floated. Damaged area shall be removed, and a large patch of gypsum wallboard shall be reinstalled, properly nailed, and floated.

9.2 Flooring: See Room Finish Schedule.

A. Vinyl Plank: 20 mil wear layer 8mm rigid core luxury vinyl plank with foam back. Colors from contractors selection.

B. Transition Strip: Provide standard 1" sloped vinyl transition strip or reducer between all dissimilar flooring materials (avoid the bull-nosed style and any that has abrupt change of level).

C. Ceramic Tile

Materials:

1. Glazed Floor and Wall Tile: ANSI A137.1, and as follows:

a. Stone look porcelain or ceramic or equivalent product.

b. Moisture Absorption: 0.5 to 3.0 percent.

c. Size and Shape: 12x24 for floors (new construction only). For ADA showers: 3x12 or 4x12 for shower walls, 1.5" 12x12 matte for shower floors

d. Thickness: 1/4 inch to 3/8 inch.

e. Edges: Square for walls, cushioned at floors.

f. Surface Finish: Matte Glazed for ADA compliance at floors.

g. Colors: To be selected from manufacturer's standard range.

h. Trim Units: Matching base, in sizes coordinated with field tile.

i. Porcelain Tile Floor: Thin set to wall with organic adhesive ANSI – A136.1 Type 1

j. Shower floors-For ADA roll in showers-12x12 matted ceramic tile-from contractors pre-approved color options

D. Installation of Tile:

1. Install tile over concrete foundation using thin-set method directly to concrete foundation.

2. Install tile over wood subfloor according to ANSI 108, including suitable backer board and waterproof membrane.
3. Do not use grout between fixtures and tile. Fill these joints with sealant with color to match grout allowing for movement.
4. Tile showers to be installed with cement backer board and waterproofing membrane. Tile showers to include shampoo alcove and soap dish.

9.3 Paint and Coatings

A. General:

1. All paints, coatings, and finishes are to be applied in strict accordance with manufacturer's directions and carry a manufacturer's warranty.
2. Before commencing work, the Contractor shall make certain that the surface to be covered is in proper condition to receive the finish specified. The coverage of the surface shall be held to denote the acceptance of the surface.
3. Ceilings shall be flat white paint color.
4. All interior spaces are to be primed and painted as scheduled. Interior painting will not exceed a total of three paint colors; one wall color, one ceiling color, and one trim color. For new construction, colors to be selected from pre-selected color schemes. For rehabilitation, colors to match existing as close as possible, in the event of deep bases, contractor has the option to select new color with homeowner. Must achieve full coverage.
5. Exterior surfaces to be primed and receive minimum of two top coats of paint. Full coverage must be achieved. Colors to be selected from pre-selected color schemes.

B. Material: All paint, primer, enamel, stain, shellac, varnish, filler, and thinners shall be manufactured by Sherwin Williams, Monarch, PPG Pittsburgh or written approved equal.

C. Typical Paint Systems:

1. Exterior Paint:

- a. Fiber Cement Siding and Trim: Prime - 1 coat on all surfaces, equal to Sherwin Williams ProBlock (latex) B51W20 at 4 mils wet; 1.4 mils dry. Primer is not necessary on paint-ready Hardiplank; Finish - 2 coats equal to Sherwin Williams A-100 Latex Satin A82W151 at 4 mils wet; 1.5 mils dry per coat.
- b. Parging: 1 coat acrylic prime use Sherwin Williams Loxon acrylic primer 2 coats acrylic flat paint, equal to Sherwin Williams loxon self cleaning.
 - i. Painted: Prime - 1 coat equal to Sherwin Williams loxon at 4 mils wet; 1.4 mils dry. Finish - 2 coats equal to Sherwin Williams A-100 Latex Satin A82W151 at 4 mils wet; 1.5 mils dry per coat.

c. Metal: All exposed flashing, roof jacks, and vents; Prime - 1 coat equal to Sherwin Williams ProCryl B66W310 at 7 mils wet; Finish - 2 coats equal to Sherwin Williams Zero VOC Acrylic B66W611 at 9 mils wet; 3 mils dry per coat. For primed metal, touch up existing prime coat prior to finish coat. Vent piping exposed above roof shall be painted to match color of roof shingles.

d. For new construction, A color palette consisting of three (3) to four (4) colors will be offered on exterior, for siding, trim and other components. Colors will be selected by Owner from pre-selected color palettes provided by General Contractor. On rehabilitation, match existing paint as close to possible, or if the entire house is being painted, select color with homeowner. One color on walls, one color for trim.

e. Exterior paint must carry no less than a 15-year warranty.

2. Interior Paint:

a. Gypsum Wall Board: Primer - 1 coat equal to Sherwin Williams ProBlock (Latex) B51W20 at 4 mils wet; 1.4 mils dry. Finish - 2 coats equal to Sherwin Williams ProMar 200 Zero VOC B30W2651 at mils wet; 1.6 mils dry per coat, Satin finish.

b. Wood: Primer - 1 coat equal to Sherwin Williams ProBlock (Latex) B51W20 at 4 mils wet; 1.4 mils dry. Finish - 2 coats equal to Sherwin Williams Solo Semi-Gloss B21WJ8651 at 4 mils wet; 1.4 mils dry per coat, semi-gloss finish.

c. Interior Doors and Trim: See wood finish above, semi-gloss finish.

d. Metal: Primer - 1 coat equal to Sherwin Williams ProCryl B66W310 at 7 mils wet; 3 mils dry. Finish - 2 coats equal to Sherwin Williams Zero VOC Acrylic B66W611 at 9 mils wet; 3 mils dry per coat.

e. A color palette consisting of two (2) colors will be used on interior, for walls, trim and other components.

f. Interior paint must carry no less than a 10-year warranty.

Division 10 SPECIALTIES

10.1 Bathroom Accessories

A. Bathroom accessories shall be ASI, American Standard or other approved. All bathroom accessories shall be supplied by one manufacturer.

B. Towel bars, two (2), 18" long, chrome or brushed chrome finish;

C. Toilet tissue holder, single roll, chrome or brushed chrome finish;

D. Mirror, frameless, size as indicated on drawings;

E. Tub/Shower Enclosure: Install new white fiberglass shower/tub enclosure Include new overflow and drain with stop valve and water connections. Valve must be washerless and high-quality chrome-plated brass unit with dual control, lever type plumbing fixture handles. Install plumbing pipe access.

Provide shower curtain rod, chrome or brushed chrome finish; Rehabilitation, Multipiece Fiberglass tub/shower or shower unit unless windows necessitate tile walls.

F. Grab Bars: Provide (when required), ADA compliant grab bars at accessible tub and toilet, as indicated on drawings. Chrome or brushed chrome finish.

G. Faucets: ADA compliant lever handles, washerless, chrome or brushed chrome finish;

Division 11 EQUIPMENT

11.1 Kitchen

A. All equipment shall be Energy Star rated. Equipment items to be provided according to the following selection list (Residential ranges and microwaves are not available as Energy Star):

1. Range: 30" electrical range with smooth tops
2. Microwave Unit: with integral exhaust fan and light; exhaust to exterior.
3. Refrigerator: 18 cubic foot minimum size unit with an ice-maker.
4. Sink: 2 equal sized compartments, 22" x 33", 8" deep minimum, stainless steel finish.
5. Dishwasher and Garbage Disposal: 24" built-in, multi-stage dishwasher; 1/2-HP continuous feed garbage disposal.

11.2 Laundry

A. Provide hook-up and venting for electric clothes washer and dryer as shown on plans. Dryer exhaust vent connection shall be to exterior. Clothes washer and dryer are not in the contract, not to be supplied.

Division 14 CONVEYING EQUIPMENT

14.1 Vertical Platform Wheelchair Lifts

A. Provide manufacturer's standard pre-engineered lift system, where designated on drawings, complete with all required accessories. Equipment shall be rated for use in a marine environment. Wheelchair lifts shall be installed under a roofline.

Division 22 PLUMBING

22.1 Codes and Regulations

A. All work shall be performed by a licensed Plumbing contractor and conform to the requirements of the International Plumbing Code, City, County, and State Plumbing and Health Codes and/or Local Ordinances, most recent edition.

B. Contractor shall secure and pay for all permits and file all necessary drawings with the City and/or County agency having jurisdiction.

22.2 Piping

A. Soil waste and vent piping shall be Schedule 40 PVC as required by Code. All water piping (both hot and cold) shall be PEX with copper stub outs and shall be sized and installed so that no running water noise is audible in piping system. All hot and cold-water piping shall be installed inside of building insulation to prevent freezing.

B. Provide heavy brass hose-bibs with insulated cut-offs, mount with handles 4" from wall in locations as shown and noted on documents.

C. Provide escutcheons for exposed piping passing through floors, walls, partitions, and ceilings. Chrome or brushed chrome finish. Escutcheons shall be caulked or sealed to the structure penetrated by the pipe.

D. Contractor shall furnish and install all plumbing fixtures required including all items such as traps, supply tubing, stop and basin cocks, etc. All fixtures shall be furnished and installed without damage or replaced in case of damage.

22.3 Water Heater

A. One 40 gallon electric - glass lined, quick recovery, with a minimum five (5) year warranty for 2 or 3 bedroom house. One 50 gallon electric - glass lined, quick recovery, with a minimum five (5) year warranty for 4 bedroom house. Provide 2-1/2" galvanized drain pan. Energy Star rated; minimum 0.93 EF(electric).

22.4 Fixtures

A. For sinks, lavatories, bathtubs, stall showers (where required), Install lever type plumbing fixture handles. Chrome or brushed chrome finish accessories.

B. Toilets: WaterSense-compliant (1.6 gallons per flush), elongated; 17"-19" floor to bowl rim height, including the seat; Chrome or brushed chrome finish handle.

C. Bath: Fiberglass pre-fabricated tub (32" x 60") or shower (where required), as indicated on drawings.

D. Sink faucet with aerator to be WaterSense-compliant (2.0 gallons per minute); Chrome or brushed chrome finish.

E. Showerheads to be WaterSense-compliant (2.0 gallons per minute); Chrome or brushed chrome finish.

Division 23 HEATING VENTILATING AND AIR CONDITIONING

23.1 Codes and Regulations

A. All work shall be performed by a licensed HVAC contractor and conform to requirements of all applicable codes and ordinances.

B. Contractor shall secure and pay for all permits and file all necessary drawings with the City and/or County agency having jurisdiction.

23.2 General

A. Locations of outlets will be coordinated with lights and structure on the basis of appearance.

- B. Controls: Honeywell programmable thermostat or equal approved substitute; installed so that highest operable part no higher than 48" AFF.
- C. Testing, balancing, and adjusting: Balance system and test performance and operation of all equipment and make adjustments or corrections required for proper operation.
- D. Wiring: Furnish and install low voltage control wiring and high voltage wiring, including connections to equipment.
- E. Guarantee: Standard One (1) year for all parts and labor. In addition, furnish a minimum of five (5) year manufacturer's warranty for compressor, condenser coil, and heat exchanger.
- F. Return Air Ducts: Insulate with sound attenuating material.
- G. Piping: Refrigerant piping to be copper. Primary condensate drain to be 1" PVC. Run primary drain to nearest active trap of plumbing fixture. If no active trap is nearby, then line will be run to hub drain with a trap primer. Auxiliary drain piping to be 1" plastic. Provide 2" deep drain pan under equipment with auto cut off float switch.
- H. Foundation and Vibration Isolation: Furnish and install angles and vibration isolators necessary to prevent objectionable noise and vibration. Verify locations of all equipment.
- I. All equipment shall be set on suitable foundations and shall have vibration isolation to prevent noise. Equipment installed outside shall be set on pads at base flood elevation. All equipment shall have motor starters.
- J. A complete charge of refrigerant and oil shall be maintained throughout the one year warranty period.
- K. After the system has been completely installed, provide necessary testing, adjusting, and operating to place the system in satisfactory operating condition. After final inspection and approval, the system shall be guaranteed against defective workmanship and materials for a period of one year.
- L. Exterior A/C compressor unit shall be strapped or bolted to a permanent support platform in accordance with Florida Building Code.

23.3 Air Conditioning/Heating Equipment

A. Air-conditioning units shall be minimum 16 Seer with emergency backup heat. Unit shall be sized with ACCA Manual J and the entire system sized in accord with the Green Building Standards which shall take precedence over suggested minimum recommendations. All exterior mechanical equipment must be secured to meet Florida Building Code, where applicable.

23.4 Duct Material

- A. Supply: Flexible duct-runs and size per HVAC design.
- B. Return: Framed plenum. Flex duct.
- C. Registers: Prefinished metal, opposed blade, white.

D. Insulation: R-8 insulation.

23.5 Ventilation Equipment

A. Exhaust fan in bathrooms with no operable window: Provide exhaust fan/light/ adequate for room size per manufacturer's recommendation. Use Nu-Tone or equal substitute approved by Program. Exhaust through roof.

Division 26 ELECTRICAL

26.1 Codes and Regulations

A. All work shall be performed by a licensed electrician and conform to requirements of National Electrical Codes, State and Local Codes and Ordinances and Architectural Standards.

B. Contractor shall secure and pay for all permits and file all necessary drawings with the City and/or County agency having jurisdiction.

26.2 Circuits and Wiring

A. Contractor shall size all conductors, fuses, and switches as required by loads and provide space for two (2) additional circuits. Label all circuits in the panel box.

B. All 220-volt circuits shall be copper. All switch legs and 110-volt branch circuits shall be copper, BX, non-metallic "Romex," or equal. All joints shall be code approved. Circuit voltage drop shall conform to applicable codes.

C. Provide separate isolated circuits for refrigerator, dishwasher, range and microhood.

D. Provide main power disconnect switch installed as required by code.

E. Provide interior breaker panel enclosure with door and latch and, where required by code, provide with a main breaker. Enclosure shall be located 48" above the finish floor (maximum) to the centerline of the highest breaker.

F. Install GFCI device within 72" of any water source as specified in current IRC, to include dishwasher and washer.

G. GFCI receptacles shall be labeled in accordance with NEC 406.3.

26.3 Fixtures

A. Switch Plates: White faceplates, highest control no higher than 48" AFF, except as noted in documents. Switch plates should be set as close to door frame as practicable.

B. Convenience Plates: White faceplates, except as noted in documents.

C. All duplex outlets to be installed such that the lowest operable part is no lower than 15" AFF, except as noted in documents. Color to match faceplates.

D. Fixtures: Energy Star Rated; Chrome or brushed nickel finish, unless noted otherwise. Refer to Electrical Legend for required fixtures description.

E. Switches: Typical wall switch to be provided. Color to match faceplates.

26.4 Miscellaneous

A. Television: provide 1 RG-6 shielded cable from meter location to living room. Provide faceplate; color to match typical faceplates.

B. Internet: Provide CAT-5 wiring from meter location to living room. Provide faceplate; color to match typical faceplates.

C. Smoke Detector Alarm: Provide where required by code. Product of Kiddie FireX P12010 or other approved. Alarm devices shall be interconnected and hardwired 120VAC with 9VDC battery back-up and in compliance with UL 217, UL 2034 listing and NFPA 72.

1. Note: If house is occupied by a person(s) with audio/ visual impairment, each bedroom occupied by impaired person must have an audio/ visual alarm connected to and activated by the smoke alarm installed in the hall. Provide smoke detector/ alarm with 90db horn and flashing strobe light - Gentex # 7109-CS-C or other approved. Alarm devices shall be interconnected and hardwired 120VAC with 9VDC battery back-up and in compliance with UL 217, UL 2034 listing. Device shall be installed per governing authority building codes and NFPA 72.

D. Combination Smoke Detector / Carbon Monoxide Detector Alarm: Provide where carbon monoxide detectors are required by code. Product of Kiddie P3010K-CO or other approved. Alarm devices shall be interconnected and hardwired 120VAC with 9VDC battery back-up and in compliance with UL 217, UL 2034 listing and NFPA 72.

Division 31 EARTHWORK

31.1 Termite Control

A. All work shall be performed by a licensed contractor and conform to the requirements of all applicable codes and ordinances.

B. Provide termite control by treatment of soil with termiticides. Minimum one (1) year duration.

31.2 Grading

A. Grading below elevated floor slab shall provide positive drainage away from house footprint and prevent pooling under the house.

Division 32 EXTERIOR IMPROVEMENTS

32.1 Turfgrass Sod

A. Number 1 Quality/Premium, including limitations on thatch, weeds, diseases, nematodes, and insects, complying with "Specifications for Turfgrass Sod Materials" in TPI's "Guideline Specifications to

Turfgrass Sodding." Furnish viable sod of uniform density, color, and texture, strongly rooted, and capable of vigorous growth and development when planted.

B. Provide minimum 4 pallets of Bahia grass (site zone appropriate); Install at perimeter of foundation or house footprint where elevated.

End of Specifications

Appendix A
HUD CPD Green Building Retrofit Checklist

HUD CPD Green Building Retrofit Checklist

The CPD Green Retrofit Checklist promotes energy efficiency and green building practices for residential retrofit projects. Grantees must follow the checklist in its entirety and apply all measures within the Checklist to the extent applicable to the particular building type being retrofitted. The phrase "when replacing" in the Checklist refers to the mandatory replacement with specified green improvements, products, and fixtures only when replacing those systems during the normal course of the retrofit.

Note: CPD recognizes that not all elements of the checklist will be applicable in all climates and geographies. Because of this, CPD will consider exceptions to these standards based on climate or geography, if a grantee identifies the specific standards that aren't applicable, including offering alternatives if available, and CPD's Office of Environment and Energy accepts the grantees request.

WATER AND ENERGY CONSERVATION MEASURES

- ☐ **Water-Conserving Fixtures**
Install or retrofit water conserving fixtures in any unit and common facility, use the following specifications: Toilets-- 1.28 gpf; Urinals-- 0.5 gpf; Showerheads-- 2.0 gpm; Kitchen faucets-- 2.0 gpm; and Bathroom faucets-- 1.5gpm. [gpf = gallons per flush; gpm = gallons per minute]
- ☐ **ENERGY STAR Appliances**
Install ENERGY STAR-labeled clothes washers, dishwashers, and refrigerators, if these appliance categories are provided in units or common areas.
- ☐ **Air Sealing: Building Envelope**
Seal all accessible gaps and penetrations in the building envelope. If applicable, use low VOC caulk or foam.
- ☐ **Insulation: Attic** (if applicable to building type)

For attics with closed floor cavities directly above the conditioned space, blow in insulation per manufacturer's specifications to a minimum density of 3.5 Lbs. per cubic foot (CF). For attics with open floor cavities directly above the conditioned space, install insulation to meet or exceed IECC levels.
- ☐ **Insulation: Flooring** (if applicable to building type)
Install \geq R-19 insulation in contact with the subfloor in buildings with floor systems over vented crawl spaces. Install a 6-mil vapor barrier in contact with 100% of the floor of the crawl space (the ground), overlapping seams and piers at least 6 inches.
- ☐ **Duct Sealing** (if applicable to building type)

In buildings with ducted forced-air heating and cooling systems, seal all penetrations of the air distribution system to reduce leakage in order to meet or exceed ENERGY STAR for Homes' duct leakage standard.
- ☐ **Air Barrier System**
Ensure continuous unbroken air barrier surrounding all conditioned space and dwelling units. Align insulation completely and continuously with the air barrier.
- ☐ **Radiant Barriers: Roofing**
When replacing or making a substantial repair to the roof, use radiant barrier sheathing or other radiant barrier material; if economically feasible, also use cool roofing materials.

Appendix A
HUD CPD Green Building Retrofit Checklist

- ☐ **Windows**
When replacing windows, install geographically appropriate ENERGY STAR rated windows.
- ☐ **Sizing of Heating and Cooling Equipment**
When replacing, size heating and cooling equipment in accordance with the Air Conditioning Contractors of America (ACCA) Manuals, Parts J and S, or 2012 ASHRAE Handbook--HVAC Systems and Equipment or most recent edition.
- ☐ **Domestic Hot Water Systems**
When replacing domestic water heating system(s), ensure the system(s) meet or exceed the efficiency requirements of ENERGY STAR for Homes' Reference Design. Insulate pipes by at least R-4.
- ☐ **Efficient Lighting: Interior Units**
Follow the guidance appropriate for the project type: install the ENERGY STAR Advanced Lighting Package (ALP); *OR* follow the ENERGY STAR MFHR program guidelines, which require that 80% of installed lighting fixtures within units must be ENERGY STAR-qualified or have ENERGY STAR-qualified lamps installed; *OR* when replacing, new fixtures and ceiling fans must meet or exceed ENERGY STAR efficiency levels.
- ☐ **Efficient Lighting: Common Areas and Emergency Lighting** (if applicable to building type)
Follow the guidance appropriate for the project type: use ENERGY STAR-labeled fixtures or any equivalent high-performance lighting fixtures and bulbs in all common areas; *OR* when replacing, new common space and emergency lighting fixtures must meet or exceed ENERGY STAR efficiency levels. For emergency lighting, if installing new or replacing, all exist signs shall meet or exceed LED efficiency levels and conform to local building codes.
- ☐ **Efficient Lighting: Exterior**
Follow the guidance appropriate for the project type: install ENERGY STAR-qualified fixtures or LEDs with a minimum efficacy of 45 lumens/watt; *OR* follow the ENERGY STAR MFHR program guidelines, which require that 80% of outdoor lighting fixtures must be ENERGY STAR-qualified or have ENERGY STAR-qualified lamps installed; *OR* when replacing, install ENERGY STAR compact fluorescents or LEDs with a minimum efficacy of 45 lumens/watt.

INDOOR AIR QUALITY

- ☐ **Air Ventilation: Single Family and Multifamily** (three stories or fewer)
Install an in-unit ventilation system capable of providing adequate fresh air per ASHRAE 62.2 requirements.
- ☐ **Air Ventilation: Multifamily** (four stories or more)
Install apartment ventilation systems that satisfy ASHRAE 62.2 for all dwelling units and common area ventilation systems that satisfy ASHRAE 62.1 requirements. If economically feasible, consider heat/energy recovery for 100% of corridor air supply.
- ☐ **Composite Wood Products that Emit Low/No Formaldehyde**
Composite wood products must be certified compliant with California 93120. If using a composite wood product that does not comply with California 93120, all exposed edges and sides must be sealed with low-VOC sealants.
- ☐ **Environmentally Preferable Flooring**

Appendix A

HUD CPD Green Building Retrofit Checklist

When replacing flooring, use environmentally preferable flooring, including the FloorScore certification. Any carpet products used must meet the Carpet and Rug Institute's Green Label or Green Label Plus certification for carpet, pad, and carpet adhesives.

- ☐ **Low/No VOC Paints and Primers**
All interior paints and primers must be less than or equal to the following VOC levels: Flats--50 g/L; Non-flats--50 g/L; Floor--100 g/L. [g/L = grams per liter; levels are based on a combination of the Master Painters Institute (MPI) and GreenSeal standards.]
- ☐ **Low/No VOC Adhesives and Sealants**
All adhesives must comply with Rule 1168 of the South Coast Air Quality Management District. All caulks and sealants must comply with regulation 8, rule 51, of the Bay Area Air Quality Management District.
- ☐ **Clothes Dryer Exhaust**
Vent clothes dryers directly to the outdoors using rigid-type duct work.
- ☐ **Mold Inspection and Remediation**
Inspect the interior and exterior of the building for evidence of moisture problems. Document the extent and location of the problems, and implement the proposed repairs according to the Moisture section of the EPA Healthy Indoor Environment Protocols for Home Energy Upgrades.
- ☐ **Combustion Equipment**
When installing new space and water-heating equipment, specify power-vented or direct vent combustion equipment.
- ☐ **Mold Prevention: Water Heaters**
Provide adequate drainage for water heaters that includes drains or catch pans with drains piped to the exterior of the dwelling.
- ☐ **Mold Prevention: Surfaces**
When replacing or repairing bathrooms, kitchens, and laundry rooms, use materials that have durable, cleanable surfaces.
- ☐ **Mold Prevention: Tub and Shower Enclosures**
When replacing or repairing tub and/or shower enclosures, use non-paper-faced backing materials such as cement board, fiber cement board, or equivalent in bathrooms.
- ☐ **Integrated Pest Management**
Seal all wall, floor, and joint penetrations with low-VOC caulking or other appropriate sealing methods to prevent pest entry. [If applicable, provide training to multifamily buildings staff.]
- ☐ **Lead-Safe Work Practices**
For properties built before 1978, if the project will involve disturbing painted surfaces or cleaning up lead contaminated dust or soil, use certified renovation or lead abatement contractors and workers using lead-safe work practices and clearance examinations consistent with the more stringent of EPA's Renovation, Repair, and Painting Rule and HUD's Lead Safe Housing Rule.
- ☐ **Radon Testing and Mitigation** (if applicable based on building location)

Appendix A

HUD CPD Green Building Retrofit Checklist

For buildings in EPA Radon Zone 1 or 2, test for radon using the current edition of American Association of Radon Scientists and Technologists (AARST)'s Protocols for Radon Measurement in Homes Standard for Single-Family Housing or Duplexes, or AARST's Protocol for Conducting Radon and Radon Decay Product Measurements in Multifamily Buildings. To install radon mitigation systems in buildings with radon level of 4 pCi/L or more, use ASTM E 2121 for single-family housing or duplexes, or AARST's Radon Mitigation Standards for Multifamily Buildings. For new construction, use AARST's Reducing Radon in New Construction of 1 & 2 Family Dwellings and Townhouses, or ASTM E 1465.

FOUNDATION

- Mono slab or Stem wall foundation up to 36" high.

EXTERIOR WALLS

- 8" CMU Wall
- 8' tall ceilings

INTERIOR WALLS

- Studs: 2 x 4 - 16" on center

ROOF SYSTEM

- Framing: Engineered roof trusses
- Sheathing: 5/8" Plywood
- Radiant Barrier
- Roof system per Florida Building Code
- Shingles: 30-year Architectural
- Venting: Ridge or off ridge venting
- 16" vinyl soffit. Aluminum Fascia

EXTERIOR FINISH

- Entry doors: 6-panel steel Impact inswing doors
- Deadbolts: on entrance doors
- Keying-All exterior locks keyed alike
- Paint: 2 colors, one for walls, one for trim, 2 coats paint
- Windows: Low E, vinyl single hung impact rated windows, no grids.
- 5" gutters & 4" downspouts

INTERIOR FINISH

- Textured walls and Ceilings
- Laminate Kitchen Countertops
- Cultured Marble bathroom Countertops
- Cabinets & Vanities: All wood-choice of 3 colors.
- Interior doors: 2 panel Hardboard (paint grade)
- Baseboard Trim: 3-1/2" tall Finger joint
- Windows wrapped in drywall with window stool and apron
- Mirrors: above all vanities
- Ventilated wire shelving
- Luxury Viny Plank
- Ceramic tile in bathrooms

PLUMBING

- Water lines: PEX with copper stub-outs
- Sewer lines: PVC
- Water Heater: 40 gallon electric 2- or 3-bedroom house
- Water Heater: 50 gallons on 4-bedroom house
- Kitchen Sink: stainless steel dual sink with vegetable sprayer 8" deep
- Tubs/showers: one piece fiberglass embedded in bed of mortar.
- 2 Hose Bibs
- Lavatories: 1 in each bath
- Commodes: elongated
- Specialty Hook-Up: clothes washer
- Faucets: washer-less-single lever
- Kitchen faucet-single lever with vegetable sprayer

HEAT AND AIR SYSTEM

- 16 seer min energy efficient with backup heat.
- Thermostat: programmable control

WIRING

- Service: 150 AMP panel on all homes
- Ceiling fans/lights in living room and bedrooms
- Front Door Chime-Standard grade
- 2 Exterior Flood Lights

INSULATION

Insulation

- Ceiling: R-38 fiberglass with eave baffles
- Exterior Walls: 7.1 multilayer reflective insulation installed over air gap

ELEVATED HOMES

- Floor system insulated R-19 Batt
- Subfloor is 3/4" Tongue and Groove, glued and screwed.
- Pressure treated stairs with railings
- Porch railings to be pressure treated
- 4x4 Concrete Landing at bottom of stairs

APPLIANCES

- Black, White or Stainless steel
- Range: self-cleaning electric smooth top with lighted oven and timer
- Dishwasher:
- Micro hood vented to outside.
- Refrigerator-18 Cubic Feet with ice maker

WARRANTY

- 1-year limited warranty
- 10-year structural warranty
- Third Party 2-10 warranty