

# THE PRINCE GEORGE'S COUNTY GOVERNMENT Department of Housing and Community Development The Redevelopment Authority

# **CDBG Substantial Rehabilitation Standards for Single Family Homes**

Neighborhood Stabilization Program
GREEN BUILDING STANDARDS ADDENDUM

PROPERTY: 3413 GLENN DRIVE, SUITLAND, MARYLAND, 20746



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Project Manager: Patricia A. Omondi Email: Paomondi@co.pg.md.us

Introduction	Page Number 2-3		
DIVISION 1—General Requirements  DIVISION 2—Demolition and Site work  DIVISION 3—Concrete (No Green Amendments)  DIVISION 4—Masonry (No Green Amendments)  DIVISION 5—Metals (No Green Amendments)			
		DIVISION 6—Carpentry (including Doors & Windows)	7-12
	DIVISION 7—Moisture Protection	. 12-14	
DIVISION 8—(Doors and Windows No Green Amendments)  DIVISION 9—Finishes and Accessories  DIVISION 10—(Not Included)  DIVISION 11—Equipment  DIVISION 1214 (Not Included)  DIVISION 15Plumbing and Mechanical	19-29		
		DIVISION 16Electrical	40-44
		Appendices:	
		Manual D	

Manual J

**Manual S** 

#### **ENERGY STAR**

Should any provision of the CDBG Substantial Rehabilitation Standards for Single Family Homes Specifications be in conflict with this Green Addendum, applicable provision of the Green Addendum will prevail and supersede the conflicting provision of the CDBG Substantial Rehabilitation Standards for Single Family Homes Specifications.

### INTRODUCTION

This Green Addendum to the CDBG Substantial Rehabilitation Standards provides Specifications and guidance for implementation of the Green Suitland NSP3 Acquisition and Rehabilitation Activity and other NSP activities to be undertaken.

#### **Definition of Construction Project Types**

**Substantial Rehabilitation:** A project that includes the demolition and removal of all interior components down to bare stud walls, which exposes significant portions of the structure and the building envelope through demolition, that replaces/improves major building systems and finishes, or that includes the treatment of framing subjected to mold and mildew.

**Moderate Rehab:** A project that through selective demolition, partially exposes the structure and air barrier of the building envelope and/or replaces or improves major building systems.

**Minor Rehab:** A project that involves only cosmetic repairs, replacements and/or may replace faulty heating, electrical or plumbing equipment.

#### **GREEN Addendum Definitions**

ACCA (Air Conditioning Contractors of America) The national trade association for HVAC contractors. Also the source of the Most recognized systems for calculating heating and cooling loads, selecting HVAC equipment to meet those loads and for designing ductwork to deliver the appropriate conditioned air to buildings. See Manuals J, S, and D below. ACCA also is the only source at present for training HVAC contractors to meet the requirements of ENERGY STAR Version 3.0.

**ASHRAE** (American Society of Heating, Refrigerating and Air-Conditioning Engineers) Standard **62.2-2010:** Establishes minimum requirements for ventilation and acceptable indoor air quality in low-rise residential building. <a href="https://www.ashrae.org/technology/page/548">www.ashrae.org/technology/page/548</a>).

**CFM (cubic feet per minute):** A standard unit of measurement for airflow that indicates how many cubic feet of air is passing through a fixed point per minute.

**ECM (electronically commutated motor):** A DC electric motor that uses electricity efficiently, particularly at lower speeds, also known as a "brushless DC motor."

**ENERGY STAR:** A voluntary labeling program designed to identify and promote energy efficient products to reduce greenhouse gas emissions. Introduced by the EPA in 1992, ENERGY STAR Qualified Homes represent an accepted, national standard for single-family and low-rise residential New Construction projects. Light fixtures and appliances may also be ENERGY STAR Qualified Products and carry the ENERGY STAR label.

**Engineered wood products:** Wood building materials manufactured by gluing particles, fibers, or veneers to increase strength.

**Formaldehyde:** A chemical used widely by industry to manufacture building materials and numerous household products. Formaldehyde is also a by-product of combustion and certain other natural processes, and thus may be present in substantial concentrations both indoors and outdoors. Health effects include eye, nose, and throat irritation; wheezing and coughing; fatigue; skin rash; and severe allergic reactions. Formaldehyde is a known carcinogen. <a href="https://www.epa.gov/iag/formalde.html">www.epa.gov/iag/formalde.html</a>.

### **INTRODUCTION (Continued)**

**Green Compliant:** Examples of green compliant material requirements include but are not limited to the use of the following:

- -- LOW-or NO VOC paints and sealant, Formaldehyde Free, Renewable and Sustainable Resource Recycled Materials Organic Material, Asbestos Free, Low Carbon Foot Printing, Natural Resource, Abundant Resource, Biodegradable Material, Meets E 1 Standards, Meets the Carpet and Rug Institutes Green Label Certification
- -- Types Of Flooring –, carpet, concrete, cork, hardwood, laminate, rubber, stone, tile and sheet vinyl Note: Various entities list particular products as "Green" but there is the potential for "Green Washing" by claiming a product is Green without the certification of such by a reputable third party.

HERS Index (Home Energy Rating System Index): A scoring system established by the Residential Energy Services Network (RESNET) in which a home built to the specifications of the HERS Reference Home (based on the 2006 International Energy Conservation Code) scores a HERS Index of 100, while a net zero energy home scores a HERS Index of 0. The lower a home's HERS Index, the more energy efficient it is in comparison to the HERS Reference Home. Each 1-point decrease in the HERS Index corresponds to a 1% reduction in energy consumption compared to the HERS Reference Home; thus a home with a HERS Index of 85 is 15% (or 75 is 25%) more energy efficient than the HERS Reference Home, which has an index of 100.

**Manual D:** Manual prepared by the Air Conditioning Contractors of America (ACCA) on residential duct design and sizing.

**Manual J:** Manual prepared by ACCA on residential load calculations.

**Manual S:** Manual prepared by ACCA on residential equipment selection.

**VOCs (Volatile Organic Compounds):** A large group of carbon-based chemicals that easily evaporate at room temperature. <a href="www.epa.gov/iaq/voc.html">www.epa.gov/iaq/voc.html</a>

#### **Specifications**

The burden of proof is on the contractor to show that all materials, preparation, finishing and workmanship, are compliant with the projects specifications and industry standards.

#### **Prince George's County Building Permits**

 Contractor shall provide building permits as required for the rehabilitation project and shall have specialty contractors provide permits for plumbing, heating and air-conditioning and electrical work to be performed. Provide inspection approvals from county inspectors and the NSP Construction Manager before close-in.

#### **Addendums & Warranties**

Contractor is to provide a packet containing all manufacturer's manuals and warranties on all the installed equipment, fixtures and appliances, at the time of the Final Inspection. Any/All pre-existing items are exempt unless required in the work write-up. Final invoice will not be processed until packet is provided.

#### **DIVISION 1- GENERAL REQUIREMENTS**

#### **Energy Efficiency and Testing**

- **Standard:** The target Energy Efficiency performance is to meet or exceed the current ENERGY STAR requirement for the region at the time of project completion. Projects completed by 6/30/2012 will be subject to the ENERGY STAR version 2.5. Projects completed after that date will be subject to ENERGY STAR Version 3.0.
- Testing: Testing to determine compliance with ENERGY STAR shall be done by an independent
  third party, Certified HERS Rater. Moderate and Minor projects will be modeled and tested but will
  not be held to the ENERGY STAR standard. However energy efficiency to the greatest extent
  feasible will be a high priority for all projects including Moderate and Minor Rehabs. The NSP
  Construction Manager will review all projects to ensure that the energy efficiency requirements of
  this Green Building Standards Addendum are met and are fully addressed in the specifications.
- Rater(s): Cost for the HERS Rater should be included in construction budget. Only a Redevelopment Authority approved HERS Rater may be used.

#### **Building Envelope Air Tightness and Testing**

**Standard:** Air tightness of building enclosure (envelope) -0.40 CFM 50 per sq. ft. of building enclosure (measured at 50 Pascal's (Pa)) (The building enclosure includes the floors, walls and ceilings that are part of the building envelope).

• **Testing:** Before a project is determined to be completed by the NSP Construction Manager, the house shall undergo a blower door test by a third party HERS Rater to verify that the air tightness of the building enclosure (envelope) meets the current standard listed above.

#### **HVAC Equipment and Ductwork Installation and Testing**

- **Standard:** All duct connections shall be sealed with a UL listed low VOC mastic product designed for that purpose.
- Standard: New HVAC equipment shall be sized using the current edition of the Air Conditioning
  Contractors of America (ACCA) Manual J Heat loss calculation tool
  https://www.acca.org/store/category.php?cid=2 (calculate manual J based on the post rehab
  building envelope), and equipment shall be selected for installation using the current edition of the
  ACCA Manual S. If new ductwork is installed the current edition of the ACCA Manual D shall be
  required to design and size ductwork. The completed ACCA Manuals J, S and D (when D is
  required) must be reviewed by the HERS Rater for approval prior to installation.
- Standard: Combustion appliances must meet the Building Performance Institute (BPI) standard for Combustion Safety and Carbon Monoxide Protection of occupants as certified by a BPI certified Building Analyst Professional.
- Testing: Provide any ACCA Manuals J, S & D reports that are required by the Standard above
  with first Draw documents to the HERS rater. Combustion safety, balanced delivery of conditioned
  air per ACCA Manual design, and approved levels of ductwork leakage are required and must be
  tested by the HERS rater. The completed ACCA Manuals J, S and D (when D is required) must
  be reviewed by the HERS Rater for approval prior to installation.
- Standard: Duct leakage shall be measured by the HERS rater. Total Rater-measured duct leakage shall be less than 6 CFM25 per 100 sq. ft. of conditioned floor area. Rater -measured duct leakage to outdoors shall be less than 4 CFM25 per 100 sq. ft. of conditioned floor area. (ENERGY STAR requirement)

#### **DIVISION 1- GENERAL REQUIREMENTS**

#### **Lead Safe and Lead Paint Clearance Testing**

Standard: For all properties constructed prior to 1978, renovation repair and painting shall comply with the EPA Mid-Atlantic Region Lead-Based Paint Renovation, Repair, and Painting Rule, requiring the use of certified /, using certified renovators and workers trained in lead-safe work practices, and the Code Of Maryland Regulations (COMAR 26.02 and 26.16) and OSHA 29CFR 1926.62. Testing: For all properties constructed prior to 1978, testing shall be conducted by an inspector & laboratory accredited by the Maryland Department of the Environment.

#### **Inspecting Energy Related Features**

To verify the installation of energy-related features, such as those listed below in bullets, all homes shall have at least 4 on-site inspections by the Developer's Construction Manager and the NSP Construction Manager

- 1. After air sealing and mechanical rough-in before insulation installation
- 2. After the installation of exterior doors and windows while the flashing details are visible
- **3.** After insulation installation
- **4.** At construction completion

The HERS Rater's inspection schedule may differ slightly but ideally would be coordinated these inspections.

Examples of energy efficient components to be inspected include:

- Duct installation and sealing.
- Building envelope air sealing details.
- Proper installation of insulation, including no gaps, voids, or compressions.
- Insulation is accurately fitting cavity
- Windows and doors are to be flashed, caulked, and sealed properly.

#### **Materials**

- Use pre-cut or pre-assembled building systems or methods.
- Use building materials that require no additional resources to complete application onsite.
- Use recycled-content building materials.
- Use materials from renewable resources or agricultural byproducts.

#### **Material Protection and Moisture Prevention**

- Protect unused moisture-sensitive materials from water damage through just-in-time delivery, storing unused materials in a dry area, or tenting materials and storing on a raised platform.
- Maintain moisture content of materials to industry standards.

#### **Integrated Pest Management**

- Use Integrated Pest Management methods to control pests where and when possible.
- Seal all cracks, holes and crevices on interior surfaces and exterior surfaces to prevent access by pests.
- Place a thin dusting of 98% boric acid under kitchen cabinets, in wall cavities, cracks and crevices in the kitchen.

#### Disposal/Recycle

- Recycle all cardboard generated by construction and all cardboard trash in the house to the local recycling plant.
- Recycle all construction and demolition debris where possible.

#### Allowances

Appliances have been specified so no allowance is provided for their purchase. See Division 11

#### Site-Work

- Demolish garage/shed and slab, driveways, walkways, patios, fences, trees and plantings per plans and specifications
- Furnish and install driveways, fieldstone stepping stones, walkways, fences and new plantings per plans and specifications
- Furnish and install grade topsoil to create a minimum slope of 5% (6") for the first 10 ft. away from building.
- All gutter, downspouts and conductors are to divert the water away from the foundation through an under-ground plastic perforated piping system. Run perforated piping to nearest outfall.
- If site conditions will not allow for the installation of the grading & piping system requirements listed above, the inability to perform the requirements must be approved by the NSP Construction Manager.

#### Landscaping:

- Landscaping in the front of the home is required to provide a pleasant curb appeal.
- A budget of at least \$3,000 is required for landscaping.
- Demolish trees and plantings per plans and specifications
- Furnish new plantings per plans and specifications
- Furnish and install topsoil over seeded area per landscape plan.
  - ► Note: Plant No Silver Maple Trees

#### **Surface Water Management**

- For erosion control, if portions of lot are located on a steep slope, reduce long-term runoff effects through use of terracing and retaining walls.
- For erosion control, plant one tree, four 5-gallon shrubs, or 50 square feet of native groundcover per 500 square of disturbed area
- For runoff from roof, install permanent storm water controls (e.g., vegetated swales, on-site rain garden, dry well, or rain-water cistern) designed to manage runoff from the home.

#### **Conserve Existing Onsite Vegetation**

- Minimize disturbance of and damage to trees and other existing vegetation, except all foundation damaging trees/plants which shall be removed from site.
- Prepare designated existing trees and vegetation for impact of construction by pruning, root pruning, fertilizing and watering.

#### **Minimize Soil Disturbance and Erosion**

- Schedule construction activities to minimize exposed soil.
- Use alternative means to install utilities, , use of smaller equipment, shared trenches or easements.
- Designate limits of clearing and grading.

#### Framing Techniques and Plans

- Create a framing order waste factor limit. Limit the overall estimated waste factor to 10% or less. **Oriented Strand Board (OSB)** 
  - Use as an alternative to plywood for sheathing, flooring and roofing unless otherwise specified.

#### **Exterior Doorways**

Minimum net clear width shall be 36".

#### **Interior Doorways**

All interior doors shall be installed per specifications and plans

#### **Exterior Components**

#### **Fascia and Trim**

- Demolish existing siding, sheathing, roofing ,soffit boards and wood trims for all exterior doors and windows per plans and specifications
- Furnish and install siding, sheathing, roofing soffit boards and wood trims for all exterior doors and windows per plans and specifications

#### **Deck and Porch**

- Demolish porch and decking per deck plans
- Furnish and install new Trex deck and porch per plans
- Deck and Porch to be Madeira Color
- Install two rows of Winchester Grey Trex decking boards on outer edges of the deck and porch, and also on the steps of deck and porch (\*see picture #1)

#### **Specifications**

• Type: Trex Select®

Colors: Madeira and Winchester Grey
 Size: 1" Square Edge Boards
 Supplier: Home Depot or other Vendor

#### **Deck and Porch Railing**

- Demolish existing railing per plans
- Furnish and install new Vinyl railing per plans and specification

#### **Specifications**

• Type: Trex Select®

Colors: WhiteType: Vinyl

Supplier: Home Depot or other Vendor

#### **Wood Blocking**

- Wood blocking shall be installed in between framing members of the following areas to support all handrails and grab-bars. The blocking shall be nominal 2" thick lumber of a width sufficient to keep all fasteners a minimum 1" from the edge of the blocking.
- Blocking shall fit snugly between framing members and shall be securely attached to the framing.
   All bathroom walls, Shower stalls, Tub/Shower areas and in stairway wall to 2nd floor.

#### **DIVISION 6 (Interior Components)**

#### Handrail

Furnish and install new hand rails per plans. Furnish and install stain on handrail

#### **Specifications**

Type: Stair Simple Hemlock Axxys

Color: Primed

Size: 8 ft. Hand Rail (Un-Drilled)

Supplier: Home Depot Model #: HE268/T08A

#### **Trim and Molding**

Paint molding before installation with two coats of paint

- Demolish all existing trim in the house. Furnish and install baseboard trim throughout the house
- Furnish & install and crown molding on all windows, in the kitchen, living, dining, all bed rooms
- Furnish and install shoe molding in entryway, living room, dining room, kitchen in all bedrooms.
- Furnish and install and chair rail with backer in the living room, dining room and all bedrooms, in second bedroom chair rail height to be 24in below ceiling
- Furnish and install wainscoting in the, living, and dining rooms
- Furnish and install coffered ceiling in living and dining area
- Furnish and install paneling in hall bath
- Furnish and install window and door trim/molding/casing on all doors and windows

#### Baseboard

#### Base Trim

#### **Specifications**

Type: MDF Primed Base Molding CMPC LWM 623

Color: Primed

Size: 1/2 in. x 3 1/4 in. x 144 in

Supplier: Home Depot Model #: 592715

Shoe Molding
Specifications

Type: Finished Elegance FE 129.FEMDF

Color: Finished white Size: 11/16 in. x 7/16 in

Model #: FMD0129 Supplier: Home Depot

#### **Coffered Ceiling**

#### **Specifications**

Type Flat boards
Color Poplar boards

Size: 1x4 (\*see attached picture)

Model #: 775659 Supplier: Home Depot

#### **Paneling**

#### **Specifications**

Type: House of Fara overlapping wainscoting paneling kit

Color: White

Size: Height: 36in Length: 8ft

Model#: 32MDFKIT
Supplier: The Home Depot

# Wainscoting **Specifications**

Type: Wall design painted HDF recessed wainscot

Color: White
Height: 2-5/8-ft
Length: 48inches

Model#: PANLOWESPWSCT3248

Supplier: Lowes

Chair Rail Molding (\*Chair Rail Molding Backer)

**Specifications** 

Type: Wood grain Millwork WM 390 Finger-Jointed

Color: Prime

Size: 7/16 in. x 4-1/2 in Manufacturer: American Heritage

Supplier: Home Depot
Model #: AMH-959-PFJ
Chair Rail Molding (\*Chair Rail)

**Specifications** 

*Type:* Wood grain Millwork WM 390, Prime Finger-Jointed,

Color: Primed

Size: 2-5/8 in. x 11/16 in. x 192 in Manufacturer: Elliotii Pine Chair Rail

Supplier: Home Depot Model #: PFP0390

Crown Trim (Crown Molding)

**Specifications** 

Type: Pine Finger Jointed Crown Molding

Color: Primed

Size: 11/16 in. x 5-1/4 in

Manufacturer: Alexandria Molding
Supplier: Home Depot
Model #: HR696-J3192C-SW

Window and Door Trim/Casing/Molding

**Specifications** 

Type: WM Primed Finger-Jointed Pine Casing Door Pack

Color: Primed

Size: 11/16 in. x 2-1/4 in. x 420 (5-Pieces/7 ft.) 366 in.

Manufacturer: Wood grain Millwork

Model #: 108376 Supplier: Home Depot

#### **Kitchen Cabinets**

#### Wall

- Furnish and install wall cabinets constructed of solid hardwood face-frames, doors and drawer fronts with ½"wood /plywood carcasses and floors. Drawer boxes shall be wood/plywood. Carcasses will be joined using wood, metal or plastic corner bracing.
- All particleboard components shall meet ANSI A208.1 for formaldehyde emission limits or all
  exposed particleboard shall be sealed with a clear low-VOC sealant or have a factory-applied
  sealant prior to installation. All MDF edges shall meet ANSI A208.2 for formaldehyde emission
  limits or all exposed MDF edges shall be sealed with a clear low-VOC sealant or have a factoryapplied low-VOC sealant prior to installation.
- Measure, order, furnish and install glass doors and shelves for kitchen cabinets per kitchen drawings. Contractor to use supplier of choice for glass panes and shelves, minimum specifications for cabinet doors 1/8" tempered glass and for glass shelves 1/4" thick, tempered heavy glass

#### Base

- Furnish and install new base cabinets with toe kick
- All base cabinet fronts at sink area must be of the removable style/design for the purpose of
  accessibility. Install base cabinets constructed of solid hardwood face-frames, doors and drawer
  fronts with ½" wood/plywood carcasses and floors.
- All cabinet doors and drawers shall have loop or U shaped style handles installed as low as
  possible on wall cabinets and as high as possible on base cabinets.
- Base cabinets are to include a pull out workspace such as a pull out cutting board or an accessible
   30 inch AFF work station can be substituted for the pull out work space
- Drawer boxes shall be wood or plywood, and joined using wood, metal or plastic corner bracing.
- Use cabinets that are Environmentally Certified under Kitchen Cabinet Manufactures Association's (KCMA) Environmental Stewardship Program (ESP).
- Cabinets shall be of a height to accommodate the countertop height of 36

#### **Pulls and Knobs**

- Furnish and install pulls on all Kitchen drawers
- Furnish and install knobs on all Kitchen cabinets

#### **Wall and Base Cabinets**

#### **Specifications**

Manufacturer: Wolfe Classic Cabinets
Line: Hudson Cabinets
Color: Painted Antique White
Supplier: Mid-South Building Supply

# Drawer Pulls Specifications

Width: 3 inches

Type: Double Beaded

Color: Black

Model #: PBF809Y-FB-C
Manufacturer: Liberty Hardware
Supplier: Home Depot

#### **Kitchen Cabinets (continued)**

#### Knobs

#### **Specifications**

Size: 1-3/8 in

Type: Double Beaded

Color: Black

Model #: PBF808Y-FB-C
Manufacturer: Liberty Hardware
Supplier: Home Depot

- After field measure for sizing, install granite countertop to a maximum height of 36". Seal all
  exposed surfaces including the underside of the countertop with a low VOC sealant.
- Provide end-caps and cutout for sink.
- Caulk countertop to adjoining walls with low VOC caulking to match wall color.
- All cabinet doors and drawers shall have pulls installed as low as possible on wall cabinets and as knobs installed as high as possible on base cabinets.
- Base cabinets are to include a pull out workspace such as a pull out cutting board or an accessible
   30 inch AFF work station can be substituted for the pull out work space

#### **Bathrooms**

#### **Base Wood Cabinets**

- Furnish and install new bathroom cabinets with toe kick
- All base cabinet fronts at sink area must be of the removable style/design for accessibility.
- Install base cabinets constructed of solid hardwood face-frames, doors and drawer fronts with ½" wood/plywood carcasses and floors.
- Drawer boxes shall be wood or plywood, and joined using wood, metal or plastic corner bracing.
- Use cabinets that are Environmentally Certified under Kitchen Cabinet Manufactures Association's (KCMA) Environmental Stewardship Program (ESP).
- \*Wolf Cabinets specified are Environmentally Certified under Kitchen Cabinet Manufacturers Association's (KCMA) Environmental Stewardship Program (ESP))
- Cabinets shall be of a height to accommodate the countertop height of 36

#### **Hall Bath**

#### **Specifications**

Door Style: Wolfe Classic Cabinets Dartmouth

Color: White

Supplier: Mid-South Building Supply

Species: Maple

### Master bath Specifications

Door Style: Wolfe Classic Cabinets Dartmouth

Color: Dark Sable

Supplier: Mid-South Building Supply

Species: Maple

Siding/Exterior Finish

- In homes where siding is replaced, a minimum ½" foil faced Polyisocyanurate rigid foam insulation board shall be installed behind the new siding. (This is also a requirement for meeting the requirements for rebate eligibility of the upcoming PEPCO Energy Star incentive program.)

  Brick, Fiber Cement Boar, Wood, Wood Composite, Stucco and Vinyl Siding
- Demolish existing siding, per plans and specifications
- Furnish and install cement board siding per plans and specifications
- Match existing color

#### **DIVISION 7**

#### Roofing and Roof Elements

#### **Sheathing**

• All sheathing shall be OSB board and of proper thickness for spacing of roof rafters.

#### Standards for Replacement and Repair of Roof Coverings

Dimensional 30 Year fiberglass or asphalt Shingle Shall Be Used On All Prince George's Funded Projects (total replacement)

For repairs, only the items listed below that are applicable to the necessary repairs will apply:

- If existing sheathing is in poor condition replace with 7/16" OSB sheathing at right angles to rafters; nailed every 10" at center and 6"on edges with 8d common nails. Clean roof deck thoroughly to remove debris and to make ready to accept roof covering. Install minimum of 1 ply, 15 lb. 36" wide asphalt felt with minimum 16" selvage, and 30 year life, 3 tab asphalt or fiberglass shingles, minimum 300 lb. class A, shingles in accordance with the shingle manufacturer's written specifications and with a minimum of four (4) nails per shingle.
- Install self-adhesive Ice-Guard (ice dam protection) beneath all flashings and on all edges and ridges and valleys and extend the ice-guard back at least 2' past the interior wall.
- Install new aluminum, enamel-finish drip edge flashing on all edges.
- Install new boot flashings on all vent stacks
- Install new roof ridge vent per manufacturer's printed instructions and install soffit or gable vents to complete the venting system. If house has no existing gable vents, provide soffit vents and mechanical turbine roof ventilators.
- Install new metal flashings; (chimney, counter, step, and valley).
- All debris shall be placed in a dumpster at the end of each day.

#### Roofing

- Demolish existing per plans and specification
- Furnish and install per plans and specifications

#### Roofing

#### **Specifications**

Manufacturer: CertainTeed Traditional

Line: XT-30

Type: 30 year fiber-glass Color: Match Existing Color

#### **Insulation & Air Sealing Structure**

#### Air Seal Structure

- Furnish and install insulation and sealants per plans and specifications
- Insulation and sealing must be inspected and approved by the NSP Construction Manager and the HERS rater.
- The ENERGY STAR Version 3 Thermal Enclosure System Rater Checklist shall be completed to document that the air sealing is complete. See section 3 - Fully-Aligned Air Barriers and Section 5 - Air Sealing.
- Seal all accessible cracks, gaps and holes in the building envelope (the barrier between the indoor conditioned space and the outside) with either low VOC caulk if less than 1/4" wide or expanding foam if greater than 1/4" wide.
- Seal all top plate and bottom plate penetrations. If the foundation masonry wall is open core
  concrete block seal the tops of the block with expanding foam.
- Seal all penetrations created by plumbing, gas lines, electrical boxes and outlets.
- Seal large accessible gaps around windows between house framing and window frame use special care on large sliding-glass doors and vinyl-framed windows. Do not use expansive foam on these.
- ► Note: Take care to seal all joints without excess sealant.
  - Seal any gaps in the building envelope adjacent to flues with carefully cut to fit sheet metal that is securely fastened to framing, then sealing all seams and gaps with fire rated caulk.
  - Ensure that any recessed light fixtures in ceilings that are a part of the building envelope are rated
    for insulation contact (ICAT rated) and properly gasketed (sealed) to the drywall. If they are not,
    replace them with fixtures rated for insulation contact or remove the fixture(s) and seal the resulting
    opening(s) with plywood on top of the ceiling finish that is securely fastened to the ceiling and
    install an electrical box to connect a new surface mounted fixture that will cover the resulting hole.
  - Attic access panels and drop-down stairs will be equipped with a durable ≥R-10 insulated cover that is gasketed (i.e. not caulked) to produce continuous air seal when occupant is not accessing the attic.
  - All mechanicals shall have the rough-in inspections signed off first, before any unit can be air sealed.
  - Air sealing must be done and inspected/approved by the NSP Construction Manager, prior to the installation of insulation.

#### **Crawl Space Air Seal and Insulate**

- Install a 6 mil poly vapor barrier on ground in crawl space and up foundation walls to an end
  product that will provide a water tight seal between the interior of the crawl space and the walls and
  floor of the crawl space. All penetrations including but not limited to those created by plumbing,
  electrical and HVAC equipment will be sealed tight.
- Provide crawlspace vents in accordance with code requirements.
- Insulate the perimeter wall of the crawlspace with foil faced foam and turning it into conditioned space.
- Area to be completed (insulated and sealed) without voids, and any gaps shall be sealed with polyurethane foam sealant.

#### **Insulation & Air Sealing Structure**

#### Air Seal Structure

**Insulation Performance Standards and Testing** 

- Furnish and Install insulation
- Standard: Rim Joists: R-19 minimum
- Standard: Exterior Wall System: R-13 minimum.
- **Standard:** Attic: R-38 minimum, or the current ENERGY STAR required level, including the backside of the access panel door. Provide sufficient air-flow area for attic ventilation from soffit vents and provide gable end venting for cross ventilation. Supplement attic venting if needed with turbine-type mechanical vents.
- Testing: Developer and NSP Construction Manager Inspection of materials and workmanship prior to covering and the HERS rater rough inspection on insulation and air sealing prior to close in.
- Existing Walls Not Being Demolished, Blow-in insulation to meet R-13 value or greater.

#### **Water Lines**

Copper Only

- Insulate all exposed and accessible hot and cold water lines with closed cell polyethylene slip on pipe insulation, sized to fit pipe diameter.
- Seal seams with 5 mil pipe insulation sealing tape or closure clips designed for pipe insulation placed every 4".
- Seal all butt joints between sections of pipe with 5 mil pipe insulation sealing tape.
- Neatly miter all angled junctions.

#### **Spray Foam**

For Rim/Band Joist Areas (to R-19 minimum)

- After cleaning the area thoroughly, apply Green-compliant, expanding foam either separately or in combination with batt insulation to achieve a minimum R19, and meet building code fire retardancy requirements. Apply to the rim joist at the entire perimeter of the basement and/or crawl space exterior walls. Install to R 19 at a minimum.
- Use a foam product that meets International Residential Code (IRC), Section R314.5.11, and Underwriters Laboratories, Inc. (UL) classification Certificate R7813.
- Insulate and air seal the rim and band area between the first floor subfloor down to the top of the foundation wall and seal all penetrations and the top of the foundation.
- Seal all openings within the area of the rim joist created by plumbing, gas lines, electrical boxes or any other penetrations.
- When exposed through removal of wall, ceiling or floor surfaces, the Rim/Band joist between floors shall be sealed as described above.

#### Flashing

 Effective flashings must be used on all rough openings, including membrane flashing on bottom of all rough openings for windows, (pan flashing with back dam), and doors using adhesives compatible with drainage plane materials. Also install window and door jamb and head flashing that integrates with drainage plane.

#### **Division 8: Doors**

# **Exterior Doors Security Doors**

- Demolish existing front and rear security doors
- Furnish and Install front and rear security door per plans, specifications and manufacturer's instructions
- All locksets shall be lever handle style

#### **Front Security Door**

#### **Specifications**

Make: Bella Model with Hardware/Lockset Type: Black Pre-hung Left/Right hand

Model #: 36847

Size: 36"x80" (\*2 week lead times)

Supplier: Home Depot

#### **Rear Security Door**

#### **Specifications**

Make: Unique Home Designs, Inc

Type: Su Casa Out swing Patio Security Door

Model #: SPD02020721054

Color: Black

Size: 60 in x 80 in, 72in X 80in and 96in x 80in

Supplier: Home Depot

#### **Rear Security Door Lockset**

#### **Specifications**

Make: Kwiset Lockset

Type: Lock set and deadbolt set

Color: Nickel
Model #: 182-071
Supplier: Home Depot

#### **Entry Doors**

- Demolish existing front entry door. Furnish and install an ENERGY STAR Certified fiberglass door, complete with lockset and deadbolt lockset.
- All locksets and deadbolt locks shall be keyed alike. The door must also include one 180 degree peep hole at 59 " above finished floor. ( See section on peep holes)
- The threshold is to be no higher than ½" if the entry is at the visit-ability/accessibility route. All doors, front/rear/side, shall be 36" wide.
- Demolish trim and frame of the door
- Furnish and install new trim and frame
- Demolish existing weather strips
- Furnish and install new weather strips

# **Division 8: Exterior Doors Entry Doors (continued)**

#### **Front Door**

#### **Specifications**

Make: Feather River Door Medina ¾ Oval Primed

Type: Fiberglass Pre-Hung / Inswing

Color: White
Model # 131105
Size: 36in x 80in
Supplier: Home Depot

#### Lock

#### **Specifications**

Make: KS Dakota Lockset
Type: Lock set and deadbolt set

Color: Nickel
Model #: 182-071
Supplier: Home Depot

#### **Patio Doors**

#### **Specifications**

Make: Masonite 15 Lite Fiberglass, with Brick mold Type: Fiberglass Primed Pre-Hung / Inswing

Color: White
Model # 45937
Size: 72in x 80in
Supplier: Home Depot

#### Lock

#### **Specifications**

Make: KS Dakota Lockset
Type: Lock set and deadbolt set

Color: Nickel
Model #: 182-071
Supplier: Home Depot

#### **Peep Holes**

- A second 180 degree peep hole shall be installed at 45" above the finished floor.
- All Exterior Entry Doors shall have peep holes, except the following:
  - -- Exterior doors with clear view side-lite(s).
  - -- Exterior doors with lite(s).
  - -- Garage, Service Door

#### **Division 8: Interior Doors**

- Demolish all existing interior doors including bathroom, closet and utility doors.
- Furnish and install new doors in all rooms, all closets, all bathrooms and utility rooms
- Furnish, install complete with passage latch set, privacy set on the bathroom(s) and bedroom(s).
- All doors that are not fiberglass, solid wood or pre-finished shall be sealed using a low/no VOC product on all six sides and the pre-drilled lock-set hole(s) shall also be sealed..

#### **Doors**

#### **Specifications**

Make: JELD-WENType: 6 Panel Slab Door

Color: WhiteModel: 138343

• Size: 24" X 80", 30" x 80" or verify sizes

Supplier: The Home Depot

#### **Louvered Doors**

#### **Specifications**

Make: Home Fashion Technologies

Type: Plantation 3 in. Louver Bi-Fold Composite Door

Color: White
Model: 7302480100
Supplier: The Home Depot

#### **Bifold Doors**

#### **Specifications**

Make: JELD-WEN Hollow Core Bostonian

Type: 6 Panel Bifold Door

Color: White Model: 05316

Supplier: The Home Depot

#### **Interior Door Latch Sets**

All latch sets shall be lever knob or handle style. Furnish and install knobs for all interior doors

#### Interior Door Knobs

#### **Specifications**

Make: Kwikset

Type: Cove Nickel Bed/Bath Knob

Color: Satin Nickel
Model: 300CV 15 6AL RCS
Supplier: The Home Depot
Interior Hall, Stair and Closet Knobs

#### **Specifications**

Make: Schlage Bell

Type: Hall and Closet Knob

Color: Satin Chrome
Model: F 10 BEL 626
Supplier: The Home Depot

#### Windows

- All operable primary windows installed shall have a sill height minimum of 24" and a maximum height of 30" from the finished floor or as required by code. A primary window is defined as a window in a living area above grade. Each room/living space must have at least one primary window.
- Exceptions
  - -- Kitchen The height standard does not apply to windows over cabinets.
  - -- Bathroom For the reason of privacy, the height standard does not apply, however, if the bathroom window is above the bathtub, the sill height must be 59" above the floor or safety grilles must be installed to prevent falling against the glass sash..
    - -- Historic structure
    - -- Existing brick structure
    - -- Secondary windows

#### **Windows**

- Demolish all existing windows
- Furnish Install new window per plans, specifications, window and door schedule
- Field verify sizes and window requirements
- Windows shall have 6lite grill patterns for upper sash

#### **Specifications**

Make: JELD-WEN

Type: Premium Vinyl Windows

Color: White Width: Verify sizes

Model: Per window and door schedule Supplier: The Home Depot or other vendor

#### **Window Screens**

- Demolish all existing window and door screens
- Furnish and install screens for all operable glass doors and windows

#### Paints & Finishes

#### **Application**

- All paints and finishes shall meet the Green Seal Standard GS-11.
- Application shall be one coat primer and two coats of finish.
- Doors shall be finished on all six sides.
- Furnish and install paint for all the walls, ceilings, interior doors, interior trim and exterior trim

#### **Exterior Trim**

#### **Specifications**

Make: Benjamin Moore Type: Semi-Gloss Color: Absolute White Supplier: The Home Depot

#### Interior trim and doors

#### **Specifications**

Make: Kilz Pro-X Semi-Gloss Type: Color: Absolute White

Model #: PXW45

Supplier: The Home Depot

#### Living Room, Entry Hall Way and Dining Area

- Furnish and install wainscoting color **below** the chair rail
- Furnish and install paint above the chair rail

#### **Specifications**

Make: Kilz Pro-X Type: Flat

Vanilla View Color: PX04

Model #:

Supplier: The Home Depot

#### Ceilings

Furnish and install paint on all the ceilings except bathrooms.

#### **Specifications**

Make: Kilz Pro-X Sheer: Flat

Color: Navajo White Model #: PXW16

Supplier: The Home Depot

# **DIVISION 9: Finishes and Accessories** (Paints & Finishes) **Bathrooms**

Furnish and install paint in all the bathroom walls and ceilings

#### **Specifications**

Make: Kilz Pro-X
Sheer: Egg Shell
Color: Linen White
Model #: PXW03

Supplier: The Home Depot

#### **Master Bedroom**

• Furnish and install paint **below** the chair rail. Furnish and install paint **above** the chair rail

#### Paint above chair rail

#### **Specifications:**

Make: Kilz Pro-X Type: Flat

Color: Vanilla View Model #: PX04

Supplier: The Home Depot

#### Paint below Chair Rail

Make: Kilz Pro-X Type: Flat

Color: Leatherette Model #: PX0592

Supplier: The Home Depot

#### Bedroom #1

Furnish and install paint <u>below</u> the trim. Furnish and install paint <u>above</u> the trim

#### Paint Below Trim

#### **Specifications:**

Make: Kilz Pro-X Sheer: Flat

Color: Vanilla View Model #: PX04

Supplier: The Home Depot

#### **Paint Above Trim**

#### **Existing Color Specifications**

Make: Kilz Pro-X
Type: Flat
Color: Aged Ivory
Model #: PXW12

Supplier: The Home Depot

#### Paints & Finishes

#### Bedroom #2

- Furnish and install paint below chair rail
- Furnish and install paint above the chair rail

#### Paint above Chair Rail

#### **Specifications:**

Make: Kilz Pro-X Sheer: Flat Color: Vanilla View

Model #: PX04

Supplier: The Home Depot

#### **Paint below Chair Rail**

#### **Existing Color Specifications**

Make: Kilz Pro-X Type: Flat

Color: Aged Ivory Model #: PXW12

Supplier: The Home Depot

#### Kitchen

Furnish and install paint

#### **Specifications**

Make: Kilz Pro-X
Sheer: Egg Shell
Color: Navajo White
Model #: PXW16

Supplier: The Home Depot

#### **Laundry and Mechanical Room**

Furnish and install paint

#### **Specifications**

Make: Kilz Pro-X
Sheer: Egg Shell
Color: Navajo White
Model #: PXW16
Supplier: The Home

#### Caulking

All caulking shall be a 25-year or better, paintable Low/No VOC caulk

#### **Exterior Painting**

Furnish and install Benjamin Moore semi-gloss latex paint per plans and specifications

#### **Counter Tops**

- Furnish and install new granite counter tops, back splashes and side splashes in the Kitchen
- After field measure for sizing, install granite countertop to a maximum height of 36". Seal all
  exposed surfaces including the underside of the countertop with a low VOC sealant.
- Provide end-caps and cutout for sink.
- Caulk countertop to adjoining walls with low VOC caulking to match wall color.

#### **Granite Counter Tops**

#### **Specifications**

Color: Black Galaxy
Edge: Quarter Round-Over

Cut Out: Double Bowl Under-Mount Sink (Model No.769-905)

Sink Type: Stainless Steel (SS)
Supplier: Mid-South Building Supply

#### Solid Surface Countertops

#### **Cultured Marble Vanity tops**

- Demolish existing integral sinks and countertops
- After field measure for sizing, furnish and install new cultured marble vanity tops with integral sinks, back splashes side splashes and counter tops in powder room, master bath and hall bath
- Install a 24" or wider, plywood vanity with cultured marble integrated top, (no higher than 36"), bowl and backsplash and single lever brass bodied chrome faucet with a maximum 2.0 GPM flow rate.
- Include PVC DWV with Air Admittance Valve, type L copper with brass bodied stops or PEX supply piping, and escutcheon plates on all supply and waste lines.

#### Master Bath

#### **Specifications**

Cultured marble tops and back splash

Make: Virginia Marble

Size: 81"

Color: Walnut Granite

Sink Type: Integral Model #: 011-2341-00

Supplier: Mid-South Building Supply

#### Hall Bath

#### **Specifications**

Cultured marble tops and back splash

Make: Virginia Marble Color: White vein white

Sink Type: Integral Size: 36" Model # 101

Supplier: Mid-South Building

#### Floor Coverings

- All adhesives used shall be no/low VOC products
- All floor tile, sheet goods and wood flooring in the kitchen must be extended under the base cabinet at the sink area because it shall have a removable front.
- All bathrooms shall have non-slip green compliant flooring that meets the FloorScore® certification.
- Install an approved Green Compliant, LEED or Enterprise Green Communities Standards compliant product: Tile, Sheet Goods and Wood
- ▶ NOTE: At all entryway floor areas at the exterior doors, must be covered with water-resistant flooring; no carpet. The dimensions shall be a minimum of a 4' X 4' area.

#### Tile

#### **Adhesives**

All adhesives used shall comply with the following:

The volatile organic compound (VOC) content of adhesives, adhesive bonding primers or adhesive primers in this project shall not exceed the limits defined in Rule 1168 – "Adhesive and Sealant Applications", amended 1 January 2005): South Coast Air Quality Management District (SCAQMD), State of California, http://www.aqmd.gov/rules/download.html

#### **Ceramic Tile Surrounds**

- Use highly durable, moisture-resistant materials in all tub/shower enclosures such as cement board and fiberglass-reinforced paperless drywall.
- ▶ Note: Cement Board is required in bathrooms behind tile. Cement Board or Green Board is permitted in kitchens, basement and laundry rooms.

#### **Laundry Area**

- Furnish and install tile on floor
- All adhesives, sealants and grout used shall be no/low VOC products

#### Tile

#### **Specifications**

Make: Daltile

Type: Fantesa Cameo Model #: FN99912HD1P2

Color: Tan
Size: 9 in x 12 in
Supplier: Home Depot

# Accent tile Specifications

Make: Daltile

Type: Copper Mystery Decorative Wall Accent

Model #: ST66212DCOCC1L

Size: 2in x 12in Supplier: Home Depot

#### Kitchen Floor

#### **Specifications**

Make: Marazzi Type: Imperial Slate

Model #: UE25
Color: Rust
Size: 12 in x 12 in
Supplier: Home Depot
Accent Tile (floor and wall)

#### **Specifications**

Make: Daltile

Type: Copper Mystery Decorative Wall Accent

Model #: ST66212DCOCC1L

Size: 2in x 12in
Supplier: Home Depot
Backsplash (\*Kitchen wall)

#### **Specifications**

Make: Marazzi Type: Veranda Rust

Model #: UE3P
Color: Rust
Size: 6 in x 6 in

Supplier: The Home Depot

#### **Bathrooms**

Demolish existing flooring in hall bath and master bath. Furnish and install floor and accent tile

#### **Master Bathroom**

#### **Flooring**

#### **Specifications**

Make: Marazzi
Type: Topaz Ice
Model #: UJCF

Color: Beige/Cream
Size: 12 in x 12 in
Supplier: The Home Depot

#### **Flooring Accent Tile**

#### **Specifications**

Accent Tile: Daltile

Type: Deco Universal Ceramic Trim and Accent Tile

Model #: CO87312DCOCC1P2

Color: Gold
Size: 3 in x 12 in
Supplier: The Home Depot

#### **Bath Floor Tile Pattern:**

Tile pattern for the bathroom floor shall be 9inx12in with 2x12in accents as shown in picture/drawing

Master Bath Shower Floor Specifications

Make: Marazzi
Type: Topaz Ice
Model #: UJCM

Color: Beige/Cream Size: 6 in x 6 in

Supplier: The Home Depot

#### **Shower Floor Accent Tile**

**Specifications** 

Accent Tile: Daltile

Type: Deco Universal Ceramic Trim and Accent Tile

Model #: CO87312DCOCC1P2

Color: Gold
Size: 3 in x 12 in
Supplier: The Home Depot

#### **Shower Floor Tile Pattern**

#### **Shower Floor**

• Tile pattern for the bathroom floor shall be 6inx 6in with 2x12in accents as shown in picture/drawing.

#### Master Bath Wall Shower tile

- Furnish and wall install tile and decorative accent to full height of shower wall, from floor to ceiling
- Accent used on shower floor and shower wall will be the same

#### Pattern

Tile pattern from tub to ceiling shall be as follows:

• The walls shall be tiled with 6x6 tile with the following accents pattern

Crown From ceiling install \(^3\)4 round, 2x6 chair, accent tile 3x12,, \(^3\)4 round

Chair (middle) 3/4 round, accent tile 3x12, 3/4 round

Base: From floor install, Tile Baseboard, <sup>3</sup>/<sub>4</sub> round, accent tile 3x12, <sup>3</sup>/<sub>4</sub> round

(See attached drawing/ picture)

#### Wall Tile

**Specifications** 

Make: Marazzi
Type: Topaz Ice
Model #: UJCM
Color: Beige/Cream

Size: 6 in x 6 in

Supplier: The Home Depot

# **DIVISION 9: Finishes and Accessories** (Master Bath Wall Shower tile continued)

#### **Specifications**

#### Three Quarter Round

3/4 Round Daltile

Type: Fantesa Cameo Model #: FN99A106CC1P

Size: 1 in. x 6 in Supplier: Home Depot

Chair

**Specifications** 

Chair Tile: Daltile

Type: Fantesa Cameo

Model #: FN9926CRWCC1P2

Size: 2 in x 6 in Supplier: Home Depot

#### Accent Tile (Shower floor and wall)

Accent Tile: Daltile

Type: Deco Universal Ceramic Trim
Model #: CO87312DCOCC1P2

Color: Gold
Size: 3 in x 12 in
Supplier: The Home Depot

#### Hall Bath

Floor Tile Specifications

Make: Marazzi
Type: Topaz Ice
Model #: UJCF

Color: Beige/Cream
Size: 12 in x 12 in
Supplier: The Home Depot

#### Floor Accent Tile

**Specifications** 

Accent Tile: Marazzi

Type: Porcelain and Listello Accent Tile

Model #: UJ7R

Color: Tuscan Brown
Size: 2 in x 12 in
Supplier: The Home Depot

#### **Hall Bath Wall Tile**

#### Tile Pattern

Tile pattern from tub to shall be as follows: The walls shall be tiled with 1x2 tile with the following

accents:

**Base:** from floor install, Tile Baseboard, <sup>3</sup>/<sub>4</sub> round, accent tile 3x12, <sup>3</sup>/<sub>4</sub> round,

Chair (middle) <sup>3</sup>/<sub>4</sub> round, accent tile 3x12, <sup>3</sup>/<sub>4</sub> round

**Crown** from ceiling install \(^3\)4 round, 2x6 chair, accent tile 3x12, 2x6, \(^3\)4 round

Chair

**Specifications** 

Chair Tile: Daltile Briton

Type: Chair Rail Ceramic Wall Tile

Model #: BT0126CRWLCC1P

Size: 2 in x 6 in Supplier: Home Depot

#### Three Quarter Round

#### **Specifications**

% RoundDaltile Briton Bone.Type:Ceramic Wall TileModel #:BT01A106CC1P2Size:3/4 in. x 6 inSupplier:Home Depot

# Hall Bath Wall Tile Specifications

Tile: Daltile Briton Bone

Type: Mosaic Tile

Model #: BT0121BWHD1P2?

Color: Whites

Size: 2 in x 1 in (will be installed in a 1x2 pattern)

Supplier: Home Depot

#### **Hall Bath Wall Tile Accent**

#### **Specifications**

Accent Tile: Marazzi

Type: Porcelain and Listello Accent Tile

Model #: UJ7R

Color: Tuscan Brown
Size: 2 in x 12 in
Supplier: The Home

\*Tile Baseboard: Furnish and install tile baseboard trim in lieu of wood base board trim in the kitchen, bathrooms and laundry room areas entry area

# Division 9: Floor Coverings Carpet with Padding

- Demolish existing carpet and pad.
- Furnish and install FHA approved carpet
- Install over ½" medium density pad with a minimum of seams.
- Carpet, carpet adhesives and pad must meet the Carpet and Rug Institutes Green Label certifications.
- Stretch carpet to eliminate puckers, scallops and ripples.
- Include tackles strips, metal edge strips and mending tape.
- Carpet is to cover the entire floor including any closets in the room.
- No carpet in kitchen and bathrooms.

#### Stairs and Second Floor

#### **Specifications**

Manufacturer: Soft Collection Cressbrook II (T)

Brand Name: Cressbrook II
Model Number: HDA080TX31
Color: Sugar N Spice

Face Weight: 50.7

Supplier: The Home Depot

#### Pad

#### **Specifications**

Manufacturer: Scotchgard

Brand Name: Scotchgard Thick Foam Premium Carpet Pad

Model: BZ0307 Size: ½ in

Supplier: The Home Depot

#### Dining Area, Living Area and Bedrooms

Refinish existing wood flooring per plans and specifications, match existing color.

#### Mechanical/Utility Room

Vinyl Sheet Specifications

Manufacturer: Armstrong Wide River Park Rustic

Color: Oak Butterscotch

Model: G4830 Size: 12ft Wide

Supplier: The Home Depot

#### **Division 9:**

#### **Shower Enclosure**

Furnish and install shower enclosure for master bath

**Specifications** 

Manufacturer: Foremost Tides. Framed Neo-Angle Shower Door in Oil Rubbed

Color: Bronze and Clear Glass Model: TDNA0570-CL-OR

Size: 18-1/2 in. x 24 in. x 18-1/2 in. x 70 in. H

Supplier: The Home Depot

#### **Wall Mirrors**

- The mirror shall be mounted with the bottom edge of the reflecting surface no higher than 40" above the finished floor
- Furnish and install new bathroom mirrors in hall and master bath
- Mirrors should be full width of the vanity tops
- Frame the mirrors in the bathrooms white for hall bath and java color for master bath
- The mirrors should be framed around with 1x4,3/4 round and a crown molding header (see picture)

#### **Medicine Cabinets**

- Furnish and install new bathroom medicine cabinets in master bath and hall bath
- The medicine cabinet shall have at least one usable shelf no higher than 44" above the finished floor.
- The medicine cabinet mirror shall have the bottom reflective edge no higher than 40" above the finished floor.

#### **Hall Bath**

#### **Specifications**

Manufacturer: American Classic

Type: Surface Mount Medicine Cabinet

Color: White Size: 21in

Model: S2126-WH-R Supplier: The Home Depot

#### **Master Bath**

#### **Specifications**

Manufacturer:

Type: Surface Mount Medicine Cabinet

Color: Java/ Dark Size: 20in

Model: SC20SD-JAV Supplier: The Home Depot

Any/All appliances that can be purchased with an ENERGY STAR rating shall be installed

#### **Dehumidifier**

- Provide an ENERGY STAR Certified (50 pint minimum) dehumidifier in the basement.
- Furnish and Install a drain hose from the dehumidifier to the floor drain

#### Specifications:

Make: SPT Dehumidifier with Energy Star

Color: White Size: 65pint Supplier: Sears Model: SD-65E

#### Gas Range

Furnish and install range for the Kitchen. Furnish and install anti-tip device

#### **Specifications**

Make: Kenmore

Type: 30" Freestanding Gas Range

Color: Stainless Steel

Model #: 70613 Supplier: Sears

#### Micro-hood

- Furnish and Install an ENERGY STAR Certified, exterior ducted, enameled micro hood with integral minimum 2 speed fan control and filter and light switched separately capable of a minimum 150 cfm at a maximum of 10 scones.
- Include metal vent, to the exterior, with all seams sealed with duct mastic, and roof or wall cap/damper assembly flashed appropriately for the exterior finish.

#### **Specifications**

Make: Frigidaire

Type: Micro-hood Combination 1.6 cu.ft

Color: Stainless Steel

Size: 30"
Model #: FFMV164L
Supplier: Sears

#### **Dishwashers**

Furnish and Install an ENERGY STAR Certified Dishwasher, must meet the following:

(Maximum annual energy use of 324 kwh/yr and a water requirement of 5.8 gallons/cycle.)

#### **Specifications**

Make: Whirlpool

Type: Built –in Dishwasher with Sani-Rinse

Color: Stainless Steel

Size: 24"

Model #: WDF510PAYS Supplier: Sears

#### Refrigerator

- Furnish and Install Refrigerator for the Kitchen
- The refrigerators shall be an accessible style refrigerator per the Fair Housing Act Guidelines.

#### **Specifications**

Make: Kenmore

• Type: Bottom Freezer Refrigerator

Color: Stainless Steel

Size: 32.6"?Model #: 72003Supplier: Sears

#### **Clothes Washers**

- Furnish and Install side by side washer and dryer for the laundry room.
- All appliance manuals to be provided to the NSP Construction Manager
  - -- CEE Tier 2 or higher
  - -- Modified Energy Factor of 2.2 or greater
  - -- Water factor 4.5 or less

#### **Specifications**

Make: Kenmore
Type: CEE Tier III
Color: White
Width: 27.13"
Model #: 21302
Supplier: Sears

#### **Clothes Dryers**

- Natural Gas clothes dryers are highly recommended over electric clothes dryers because of their relative cost of operation.
  - -- Minimum 7.0 cubic feet capacity
  - -- Sensor Dry System
  - -- 5 Temperature Levels (High, Medium High, Medium, Low and Ultra Low)

#### **Specifications**

Make: Kenmore
Size: 7 cu.ft
Color: White
Width: 27.13"
Model #: 71202 Gas
Supplier: Sears

#### **DIVISION 12-14 Not Included**

#### Floor Drains

Mandatory on all projects, except those with hung sewer lines

For existing basement floor drains, install back water valves.

#### **Sump Pumps**

If deemed necessary with NSP Construction Manager having the final approval.

#### Plumbing, Bathroom

▶ Note: All water lines are to be run inside an insulated conditioned/envelope space.

#### Commode

- Install 1.28 Gallon per Flush (GPF) close coupled commode tested through the latest Maximum Performance (MaP) testing sponsored by Canadian Water and Wastewater Association (CWWA), the California Urban Water Conservation Council (CUWCC), the U.S.-Canadian Alliance for Water Efficiency (AWE) and Veritec Consulting Inc. that has shown to score 800 or better on the (Map)
- Furnish and install seat, supply pipe, shut-off valve, and wax seal.
- Demolish existing commodes
- Furnish and install commodes in master bath and hall bath

#### Commodes

#### **Specifications**

Make: KOHLER Cimarron 2-Piece High Efficiency Elongated Toilet

Size: 1.28 GPF Color: White

Width: 12 in. rough-in Model #: K-3609-0

Supplier: The Home depot

#### **Toilet Seat**

#### Hall Bath

#### **Specifications**

Make: American Standard Laurel Elongated Closed Front Toilet Seat

Size: Depth 14.25in

Color: White Width: 14in

Model #: 5311.012.020 Supplier: The Home Depot

#### Master bath

#### **Specifications**

Make: BEMIS Slow Close STA-TITE Elongated Closed Front Toilet Seat

Size: Depth 14.25in Color: Espresso Brown

Width: 14in

Model #: 1200SLOWT 248 Supplier: The Home Depot

#### **Lavatory Faucets**

- Install all metal, washer-less faucet with drain pop-up lever, with a maximum flow rate of 1.5 GPM.
- Installation shall include supply lines and shut off values.

#### **Separate Shower Area and Tubs**

- The shower is to have a low step-up entry and with a floor area of minimum 3' x 4',
- Shower control to be no higher than 48" from floor.
- Shower-head shall be an adjustable height spray hand-held model with a maximum 2.0 GPM flow rate.
- The walls are to be finished as green compliant as possible and all adhesives to be low/no VOC.
- All controls shall be single lever style and with an anti-scald device.
- Tub design to have a wide, flat edge that can be sat on when entering and exiting the tub.
- All shower floors shall be of a non-slip material.-

#### **Bathtubs**

#### Master Bath and Hall Bath

- Demolish existing bath tubs in hall bath and master bathroom
- Furnish and install new ceramic tubs (steel or cast iron)
- Install a lever operated pop-up drain and overflow, all drain pipes, shower rod, a single lever shower diverter tub/shower faucet or an approved equal with an anti-scald device and a hand-held adjustable height showerhead with a maximum 2.0 GPM flow rate.
- Shower controls shall be no higher than 48" or lower than 18" from the tub/shower floor.
- All tubs shall have non-slip bottoms and a wide flat edge that can be sat on when entering and exiting the bathtub.

#### Bathtub

#### **Specifications**

Make: Bootz Industries Maui

Size: 5ft
 Color: White
 Depth: 16"

Model #: 011-2341-00Supplier: The Home depot

#### **Bathroom Sinks**

#### Powder Room, Master bath and Hall Bath

- Demolish integral sinks and countertops
- Furnish and install new cultured marble integral sinks and counter tops in powder room, master bath and hall bath
- Install a 24" or wider, plywood vanity with cultured marble integrated top, (no higher than 36"), bowl and backsplash and single lever brass bodied chrome faucet with a maximum 2.0 GPM flow rate.
- Furnish and install PVC DWV with Air Admittance Valve, type L copper with brass bodied stops or PEX supply piping, and escutcheon plates on all supply and waste lines.

#### Master Bath

#### **Specifications**

Make: Virginia Marble

• Size: 81"

Color: Walnut Granite

• Model #: 420

Supplier: Mid-South Building Supply

#### Hall Bath

#### **Specifications**

Make: Virginia Marble

• Size: 48"

• Color: White Vein White

• Model #: 101

Supplier: Mid-South Building Supply

#### Plumbing, Kitchen

All water lines in Substantial Rehabs are to be run inside an insulated conditioned/envelope space.

#### **Double Bowl Sink**

- Furnish and install a 22 gauge 33"x22"x8" double bowl with self-rimming kitchen sink including a steel, metal body faucet, rated at 2.0 GPM or less, with a 15 year drip- free warranty, grease trap, supply lines, full port ball type shut-off valves and escutcheon plates on all supply and drain lines.
   NOTE: All copper is to be soldered (no compression fittings) & all PVC fittings glued. No exceptions.
  - Double bowl stainless steel sink by granite supplier
- Cut-out for under mount stainless steel sink, double bowl, by granite supplier

#### **Faucets**

All faucets will be caulked with a low VOC sealant to decrease water damage

#### Kitchen

- Furnish and install new faucet with sprayer, all metal, washers-less with a maximum flow rate of 2.0 GPM.
- If using a faucet with a higher rate than 2.0 GPM, It must be Retro-Fitted with a different aerator to accommodate the 2.0 GPM or less, standard.
- Installation shall include supply lines and shut off values. Sprayer may be separate or Faucet / Sprayer combination style.

#### **Specifications**

Make: Moen

Type: Bradbury single handle pull-out

Color: Stainless Steel
 Model #: CA87010SRS
 Supplier: The Home Depot

#### **Master Bath**

Furnish and install new faucets

#### Sink

#### **Specifications**

Make: Moen

Type: Bradbury center set two handle

Size: 4inch

Color: Brushed Nickel
Model #: CA84912SRN
Supplier: The Home Depot

#### Bath and Shower

#### **Specifications**

Make: Glacier Bay Builders

Type: Single-Handle Tub and Shower Faucet

Color: Brushed Nickel
Model #: F1AA4217BNV
Supplier: The Home Depot

#### Hall Bath

Furnish and install new faucets

#### Sink

#### **Specifications**

Make: Moen

Type: Bradbury center set two handle

Size: 4inch

Color: Brushed Nickel
Model #: CA84912SRN
Supplier: The Home Depot

#### Bath and Shower Set

#### **Specifications**

Make: Glacier Bay Builders

Type: Single-Handle Tub and Shower Faucet

Color: Brushed Nickel
Model #: F1AA4217BNV
Supplier: The Home Depot

#### **Garbage Disposal**

Remove existing disposal. Furnish and install new disposal with a minimum ½ hp rating.

#### **Specifications**

Make: HP Waste King 1001

Model #: 1001 Size: 1/2hp Supplier: Sears

#### **Water Heaters**

#### Installation

- For safety, set water heater temperatures no higher than 120 degrees Fahrenheit.
- Water heater to be located within 30 feet of pipe run of all bathrooms and kitchen if feasible.

#### Tankless Water Heater W/Storage Tank

- Install an Energy Star certified, natural gas, interior, tankless water heater system with a minimum 7 gallon per minute flow rate.
- Include pressure and temperature relief valve, discharge tube to within 6" of floor, owner's manual and all venting, piping. All duct work to power vent to exterior
- Provide separate electrical circuit and gas inlet and water inlet and outlet shut off valves to code...
- Furnish and install a drip pan and overflow pipe. The vent pipe and cap should be installed.
- The water heater should be reconnected to the plumbing system and tested

#### **Specifications**

Manufacturer: Rheem Direct Vent

Make: Indoor Tank less Water Tank

Type: 11,000-199,900 BTU Model: RTGH-95DVLN

Supplier: Tankless King or other Vendor

#### **Bath Accessories**

- Furnish and install bath accessories in all the bathrooms
- Furnish and install soap dish to match bathroom wall tile color and texture.
- Furnish and install, grab bars and toilet paper holders

#### **Specifications**

Manufacturer: Delta Greenwich Color: Satin Nickel

Type: 3-Piece Bath Accessory Kit

Model: 138283

Supplier: The Home Depot

#### **Closet Wire**

Furnish and install closet wire, poles and or shelves in all closets per plans and specifications.

#### **Door Stoppers**

Furnish and install door stoppers on all doors

Provide a Whole House Ventilation System to meet the Current ASHRAE 62.2 Standard Bathroom Exhaust Fan with Constant Background Ventilation

- Furnish and Install an ENERGY STAR Certified bathroom exhaust fan that has both a background constant ventilation setting adjustable in CFM to meet the ASHRAE 62.2 ventilation standard, and a boost setting with a minimum 80 CFM rating.
- Install the fan in a centrally located full bathroom. Switch both the fan and bathroom light together (either the light in the fan, if present, or the main bathroom light).
- The fan shall also have a time delay setting that will enable the fan to continue its boost run time past the time when it is switched off. The time delay shall be set to 20 minutes.

#### **Bathroom Fans**

#### **Specifications**

Make: Panasonic

Type: Whisper Lite 80 CFM Ceiling Exhaust Bath Fan with Light ENERGY STAR\*

Model #: FV-08VQL

#### Bathroom Fan Switches

#### **Specifications**

Make: Panasonic

Type: Whisper Control 3-Function On/Off Switch with Humidity Control and Timer

Model #: FV-WCCS1-A

#### Passive Fresh Air Intake:

If blower door testing or combustion safety testing dictates that additional fresh air is required for the safe operation of the whole house ventilation system, install a passive intake vent, installed through the specified exterior wall, flashed to be weather tight, and sealed to the building envelope's air barrier and interior & exterior finishes. The inlet should be carefully located on an outside wall to avoid the addition of contaminants or moisture into the return air system and must be placed a minimum of 10 feet away from sources of auto exhausts, clothes dryer exhaust, outside cooking facilities, laundry dryer vent, exhaust vent of heating units or bath and kitchen exhaust fan vents.

#### **Return Air Transfer System**

• In absence of return air ductwork in the bedrooms or bathrooms, install a Return Air Pathway, 12" X 6" or 12" X 12", Sound and Light restricted by-pass grill to balance forced-air system. Install in specified room and common space to provide return air. Seal to wall finish and install flange trim.

#### **Dryer Vent**

- Furnish and Install 4" rigged metal vent tubing from the specified dryer location to a 4" wall mounted dryer vent hood with a back-flow preventer and NO screening.
- Do not fasten with nails, screws or other fasteners that protrude into the interior of the exhaust duct
- Seal all seams in the system with duct mastic or aluminum foil tape, not duct tape. Secure duct and hood to framing.

#### **Radon Gas**

- Furnish and Install a passive radon gas vent system during construction with an electric outlet installed in the attic. Install the outlet less than 3 ft. from the vent pipe, to make the system an active system if need to be after testing for radon gas.
- After house has been air-sealed, test for radon gas and if test shows elevated levels then install an
  active system to vent radon and soil gases.
- Home must not have high levels of radon gas after construction is complete& home is air sealed.
- ► NOTE: Only a Maryland licensed mitigator can test and treat a home for radon gas. Project Manager to Schedule testing

#### **HVAC**

- Furnish and install a new HVAC system with all its components, per plans and specifications
- Size heating and cooling equipment and design ductwork for distribution in accordance with the Air Conditioning Contractors of America (ACCA) Addendum, Parts J, S and D, to prevent short-cycling of heating or air conditioning and ensure adequate dehumidification.
- Contractor is to supply copy of their calculation report. Installation of an improper size furnace and or air conditioner will be replaced by the contractor, at their expense.
- All reports be reviewed for accuracy by the HERS rater prior to the purchase or installation of any HVAC components, including ductwork.

#### **HVAC** contractor shall perform/verify the following:

- -- Start-up procedure according to manufactures instructions.
- -- Refrigerant charge verified by super-heat and/or sub-cooling method.
- -- Burner set to fire at nameplate input.
- -- Air handler setting/fan speed.
- -- Total airflow within 10% of design flow.
- -- Total external system static should not exceed equipment capability at rated flow.

NO HVAC DURING CONSTRUCTION – Mask off all HVAC outlets during construction. Avoid any use of the HVAC equipment during construction if at all possible. Otherwise, have all HVAC ducts and coils cleaned by a professional company at the time of completion on the project.

#### **FURNACE:**

- Furnish and install a 90+ gas fired forced air furnace with minimum AFUE rating of 92% on 2" patio block to existing duct work & gas line.
- New furnace to be vented with PVC piping per manufacturer's specifications.
- New furnace will have minimum limited warranty of: 20 years on the heat exchanger and 5 years on parts.
- Include programmable set back thermostat control, and new shut- off valve.
- Rework cold air return if necessary to ensure easy access, good fit & easy replacement of air filter.
- An exterior return air filter box shall be installed on one side, either sides, or bottom of new furnace.
- Seal all exposed duct joints as a part of this item with Duct Mastic.
- ▶ Note: Upon completion of the project and after the ducts and furnace has been cleaned, install a new furnace filter and leave one extra for future homeowner use. Use Nature Air, 3M-Filtrete or any other brand of filter that has at least a MERV 8 rating. Insure a gasketed or substantially airtight filter cover,

#### **Air Conditioner**

- Furnish and Install AC unit per plans and specifications
- For new AC units install an ENERGY STAR, minimum 20 SEER rated air conditioner (SEER, the Seasonal Energy Efficiency Ratio, measures Energy efficiency), the higher the SEER, the greater the level of efficiency.
- Sizing and proper installation are critical to the Energy efficiency and home comfort, so it is important to hire a qualified technician. Air Conditioner shall use Puron instead of Freon

#### **Thermostat**

- Furnish and install a 7 day ENERGY STAR Certified, programmable thermostat with large readable digital numbers.
- Install with the top of the control no higher than 48" at center AFF

#### **Registers**

• Furnish and install new registers

#### Specifications:

Make: Decor Grates

Size: 2-1/4 in. x 12 in or 4 in. x 14 in

Type: Solid Brazilian Cherry Wood Floor Register with Damper Box

#### **Duct Work:** (Size and design to meet the requirements of ACCA Manual D)

- Install all duct work, cold air returns and floor/wall registers to code. Seal all joints, collars, flex duct, connections and seams in metal duct work, gaps at/on elbows, register boot seams and plenums with a 1/16" coating of UL 181A or UL 181B listed duct mastic over approved fiberglass mesh tape of 9 X 9 minimum weave per inch and a thickness of a minimum of 0.006".
- Do not install ducts in exterior walls unless extra insulation is added to maintain the overall UA for exterior wall without ducts.
- In standard rehab project, use at least R-6 insulation around ducts in unconditioned spaces.
- In new construction and Substantial Rehabs, all ductwork shall be contained within insulated envelope to prevent conditioned air loss in unconditioned areas.
- Avoid installation of ductwork in walls of the building envelope.
- Ducts in interior wall cavities must be fully ducted (i.e., do not use the wall cavity as the duct).
- THERMO-PAN can be used in lieu of sheet metal in constructing return air ducts between joists and stud cavities. All connections and seams shall still be sealed with a 1/16" coating of UL 181A or UL 181B listed duct mastic over approved fiberglass mesh tape of 9 X 9 minimum weave per inch and a thickness of a minimum of 0.006". (Back panel and sides shall be inspected and approved by the rehab tech before installing the front sheet metal panel)

#### **Slab Homes**

 Duct work shall not be run in or under the slab, due to the possibility of condensation or water infiltration which will cause mold and mildew.

#### Attic

 Duct work running thru the attic shall have insulated wrap installed to a R-8 before installing attic insulation.

#### **Electrical**

#### Main Electric Service Box

Main electric service box to be installed on first floor if possible.

It is mandatory that the main electric service box be installed on the first floor for all projects presented as meeting 100% Accessible/Universal Design.

Main electric service box shall have provisions for at least four, (4), additional circuits.

#### **Electrical Service**

- Furnish and install new electrical system per plans and specifications
- Evaluate existing circuitry
- Furnish and Install a 200 amp 3 wire service complete with breaker type panel box, with all circuits labeled and balanced. Leave provision for at least 4 additional circuits.
- Provide separate appliance circuits in kitchen.
- New service is to have arc fault breakers, per local code. Include new exterior meter panel.
- Service box shall be installed on first floor if possible

#### **Smoke Alarms**

 Furnish and Install one interconnected, hard-wired smoke detector with battery back-up in each sleeping room, outside each separate sleeping area in the immediate area of the bedrooms and on each additional story of the dwelling, including basements but not including crawl spaces and uninhabitable attics.

#### ► ► EXCEPTION:

Smoke alarms in existing areas shall not be required to be interconnected and hard wired where the alterations or repairs do not result in the removal or opening-up of interior wall or ceiling exposing the structure, unless there is an attic, crawl space or basement available which could provide access for hard wiring and interconnection without the removal of interior finishes.

#### **Carbon Monoxide Detectors**

• Furnish and Install one on each floor area and basement, all to be hardwired and inter-connected.

#### **▶** ► Exception:

Carbon monoxide detectors in existing areas shall not be required to be interconnected and hard wired where the alterations or repairs do not result in the removal or opening-up of interior wall or ceiling exposing the structure, unless there is an attic, crawl space or basement available which could provide access for hard wiring and interconnection without the removal of interior finishes.

All homes equipped with combustion appliances or an attached garage shall have a carbon monoxide (CO) alarm installed in a central location in the immediate vicinity of each separate sleeping zone. (e.g. in a hallway adjacent to bedrooms.) See IAP spec for additional details.

#### **Fixtures**

#### (1). Ceiling Mount

#### **Specifications**

Manufacturer: Design House Ironwood

Color: Bronze

Type: Flush Mount Ceiling Light Fixture2-Light Statuary

Model: 509216

Supplier: The Home Depot

#### (1.a). Ceiling Mount w / Lenslite

#### **Specifications**

Manufacturer: Design House Ironwood

Color: Bronze

Type: Flush Mount Ceiling Light Fixture2-Light Statuary

Model: 509224

Supplier: The Home Depot

#### (2)Basic Baffle-----Not applicable

#### (3). Shallow Ceiling Baffle 5"

#### **Specifications**

Manufacturer: Progress Lighting

Color: White Size: 5 Inches

Type: Shallow Baffle Trim

Model: P8375-28

Supplier: The Home Depot

#### 4. Bathroom Lights

#### (4.a). Vanity Sconce hall bathroom

#### **Specifications**

Make: Progress Lighting Torino Collection

*Type:* Vanity Sconce Master Bathroom,4-Light Forged Bronze

Size 34in Color: Bronze

Model #: Model # P2884-7
Supplier: The Home Depot

(4.b). Vanity Sconce Master bathroom (2)

#### **Specifications**

Make: Progress Lighting Torino Collection

Type: Vanity Sconce Master Bathroom, 3-Light Forged Bronze

Size 25in Color: Bronze

Model #: Model # P2883-7
Supplier: The Home Depot

#### (5). Interior Sconce

#### **Specifications**

Manufacturer: Design House Ironwood
Color: Bronze Half Round Sconce

Type: Flush Mount Ceiling Light Fixture1-Light Statuary

Model: 509232

Supplier: The Home Depot

#### (6).Exterior Sconce

#### **Specifications**

Make: Heath Zenith Bayside Mission

Type: Outdoor Motion-Sensing Lantern150-Degree Size 4.5 in wide, 9.5 in height, 6.75 in depth

Color: Black

Model #: Model # SL-4132-BK
Supplier: The Home Depot

#### (7).Pendant Lights

#### **Specifications**

Manufacturer: Design House Ironwood

Color: Bronze

Type: Mini Pendant Light Ceiling Light Fixture1-Light Statuary

Model: 509208

Supplier: The Home Depot

### (8). Fluorescent **Specifications**

Make: Philips Day-Brite Lens Troffer

Type: Recessed Size 2x4 Color: White

Model #: TG8-TG PL3

Supplier: Branch Electric Supply

#### 9. Under Cabinet Lighting

#### **Specifications**

Make: Sea Gull Lighting Ambiance Transitions
Type: 3-Light Directional Track Lighting Kit

Color: Light Antique Bronze

Model #: 94478-71 Supplier: Home Depot

#### (V and VI) Bathrooms Fans and Light

Bathroom Exhaust Fans With Light

- Shall be Energy Star certified and no louder than 1.0 scones
- One bathroom shall be a continuous motion fan with motion activated fan boost with the continuous CFM setting adjusted to meet the constant ventilation requirements of ASHRAE Standard 62.2. All other bathrooms shall have fans with a time delay setting.

#### **Exhaust Fans**

Hall Bathroom

#### Fan Switch

#### **Specifications**

Make:

Type: Panasonic Whisper Control 3-Function On/Off Switch with Humidity Control & Timer

Color: White

Model #: FV-WCCS1-W Supplier: Home Depot

**Fans** 

#### **Specifications**

Make: Panasonic Whisper Lite

*Type:* 80 CFM Ceiling Exhaust Bath Fan with Light ENERGY STAR

Color: White

Model #: FV-08VQL

Supplier: Home Depot

#### **Exterior Wall Entry Door/Porch Light Fixture**

#### **Specifications:**

Progress P5203-30 with two 100watt PAR38 lamps

#### 10. Ceiling Fans

#### **Master Bedroom**

#### **Specifications**

Make: Hampton Bay Gazebo II 52 in

Type: Indoor/Outdoor Color: Weathered Bronze

Model #: YG188-WB Supplier: Home Depot

#### Hall Bedroom

#### **Specifications**

Make: Hunter

Type: Low Profile II 48 in fan

Color: White
Model: 52062
Supplier: Home Depot

#### **Box Extenders**

• Furnish and Install box extenders for electrical outlets on the wainscoting covered walls in the living and family area.

#### **Specifications**

Carlon 14.0 cu in 1 Gang Old Work Plastic Electrical Box Item# 70990 Loewes

#### **Electric Device Height**

Measure To The Center Of Device AFF

- -- Wall Outlet 18"
- -- Wall Switch 42"
- -- Phone Jack 18"
- -- Cable Connection 18 "
- -- Thermostat 48"
- -- Door Bell Button 42".
- ▶ NOTE: If an outlet or switch is obstructed by a base cabinet or countertop, then the maximum height for the switch or outlet shall be 46" above finished floor.

All bidding questions should be emailed to Patricia A. Omondi at Paomondi@co.pg.md.us. If the construction schedule, RWC warranty approval and cost break down sheets are not all attached, the bid will be considered non-responsive and will be rejected.

#### Patricia Omondi

Redevelopment Authority Community Developer IV 9201 Basil Court, Suite 155 Largo, Maryland, 20774 <u>Tel:(301)883-5304</u> Fax:(301)883-5291 Email: Paomondi@co.pg.md.us