



All work must comply with all state and local codes and regulations pertaining to home rehabilitation. Current codes are IBC and IRC (IEBC as an alternative.)

# **REHABILITATION LOAN PROGRAM SPECIFICATIONS**

**REVISED – 11/9/2015**

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## REHABILITATION LOAN PROGRAM SPECIFICATIONS

### SECTION 0100 -- HOME FUNDED PROJECTS

#### 0110--PROPERTY STANDARDS

##### **ACCESSIBILITY**

As applicable, all effort shall be placed on meeting ADA requirements for those in need of accessibility measures. This is to be done in accordance with Section 504 of the Rehabilitation Act, the Americans with Disabilities Act, and the Fair Housing Act.

##### **HEALTH AND SAFETY: Life threatening deficiencies:**

Initial site inspections shall be completed with emphasis placed on life threatening deficiencies that would impact the occupants. These include but are not limited to: air quality issues from sewer, propane, methane, or natural gases; electrical hazards such as exposed wires, with or without water presence or open panels; open or unsafely stored flammable materials; extant garbage or vermin presence; tripping hazards; insect infestations; mold or mildew; structural hazards; fire exit hazards; falling hazards; blocked fire exits; and missing or inoperable smoke/carbon monoxide detectors.

##### **MAJOR SYSTEMS FOR RENTAL HOUSING**

An estimate of the remaining useful life of major systems is required to be done with a capital needs assessment for projects with 26 or more units. If the remaining useful life is less than the remaining affordability period, we will require replacement reserve deposits to ensure that the project's major systems (i.e., structural work, roofing, exterior siding, windows, doors, gutters, plumbing, HVAC, and electrical) and physical needs can be adequately maintained and addressed throughout the affordability period.

For homeownership housing and homeowner rehabilitation, upon project completion, all major systems (i.e., structural work, roofing, exterior siding, windows, doors, gutters, plumbing, HVAC, and electrical) shall have a useful life of at least five years, minimally. If they do not meet this standard, they must be rehabilitated or replaced as part of the rehabilitation work.

## **DISASTER MITIGATION**

Disaster relief standards are available to mitigate the risk of potential disasters (such as earthquakes, fires, floods, etc.). The standards are accessible at [http://www.clark.wa.gov/thegrid/documents/WS\\_091813\\_EmPlan.pdf](http://www.clark.wa.gov/thegrid/documents/WS_091813_EmPlan.pdf). Please note that these standards are in the process of being updated on a continual basis. A final comprehensive set of standards will be placed into service mid-2016. (See link: <http://www.co.clark.wa.us/general-services/purchasing/documents/rfp690.pdf> for further date requirements regarding implementation).

## **SECTION 0200 -- SITE WORK**

### **SITE WORK**

No new outbuildings are allowed unless it is a pump house.

### **0210 -- DEMOLITION AND DEBRIS**

#### **DEMOLITION**

Areas of grass killed by demolition or by storage of debris and other materials shall be raked clean, leveled, re-seeded and mulched, or hydro seeded unless otherwise noted in the work list. All debris must be removed prior to final inspection and all areas be left in a neat condition.

Demolition work shall conform to the requirements of all applicable codes, ordinances and utility company regulations. Existing shrubs and trees to remain shall be protected until demolition is complete and the site is cleared. Demolition of a specific area shall include removal of specific materials and proper disconnection of all electrical, plumbing, heating, and gas in the area. Temporary support of the structure and safety precautions is required.

#### **DEBRIS**

All renovation related debris to be removed from site before final payment is released.

### **0220 – GRADING**

When yards are scheduled to be graded, they will be filled and/or raked smooth to finish grade that ensures proper drainage of the property. Backfill material shall be clean and free from debris, with no wood scraps. It will be placed according to acceptable practices. Where applicable, the top 4 inches shall be top soil suitable for plant growth. Rake smooth, reseed and mulch, or hydro seed as required. Grading permits shall be issued from the City of Vancouver prior to grading. VMC 17.14.270 J

#### **EXCAVATION**

All excavations shall comply with required depth, per standard building practices, local building codes, and approved plans. Access to property shall be approved by owner and local jurisdiction.

Contractor shall protect the owner's property and adjoining property from equipment traffic and excavation materials. Backfill shall be free of debris, properly built up to allow for settling, and prepared smooth. Rake smooth, reseed and mulch, or hydro seed as required. Disposal of soil shall comply with local codes and Department of Ecology requirements.

Rough grading shall establish a sub-grade parallel to and approximately 4 inches below the proposed finished grade. Finished grading shall ensure that surface and ground water does not collect either under slabs or at the outside face of basement and foundation walls. All surfaces adjacent to foundation or basement walls shall slope a minimum of 2% (1/4" inch per foot) to ensure adequate surface runoff. Storm water, including discharge from gutters, downspouts, swimming pools, hot tubs, spas, sump pumps or similar features shall not discharge water off the source premise unless expressly approved by the City of Vancouver. Reference VMC 17.14.270 J. Contact the City of Vancouver Development Review Services prior to any grading related project.

### **0230 -- GRADING OF CRAWL SPACES**

When a furnace is installed in a crawl space, grading shall be done according to clearances defined in Section 303.7 of the 2003 International Mechanical Code. Grading shall be done to take water away from furnace location.

### **0240 -- SITE DRAINAGE**

All local codes regulating the disposal of storm water, including type of piping, shall be followed.

#### **DRYWELLS**

A permit may be required to install, repair or replace a drywell; contact the City of Vancouver Development Review Services.

### **0250 – CRUSHED ROCK SURFACES REGRADING**

Crushed rock surfaces shall not be installed on grade in excess of 7% (7/8" per foot). The surface shall be crushed rock no less than 4 inches in depth. Borders shall be provided at all perimeter edges to retain rock.

### **0260 – LANDSCAPE**

No landscaping is permitted unless required by lead hazard reduction activities.

#### **PLANTINGS**

Type and size of new plantings shall be as indicated in the work write up.

#### **TREES**

All existing trees on private property that are 6 inches in diameter and greater may not be removed unless permitted through Title 20.770 (land use review, development permit) or through a written permit issued from the Planning Official. All trees located in a critical area or shoreline district are to be protected and preserved. Existing street trees and Heritage Trees are to be protected and preserved. A written permit from the Urban Forester is required to remove, destroy, cut, break, or injure, any street tree. Any hazard tree shall be removed from property or maintained in such a way that it does not threaten persons or property. Reference VMC 17.14.270 0.

## **FENCES**

Existing fences may be repaired to remove health and safety violations. Repairs to fences shall comply with local building codes, product manufacturer's installation specifications, and standard building practices. New and replacement fences shall comply with local building codes, product manufacture installation specifications, and standard building practices. Wood in contact with concrete or soil shall be pressure treated or approved equal. Pressure treated posts may be set in the ground with poured concrete, premix, or approved equal type mix. All nails shall have full penetration but not protrude through wood members creating an unsafe condition or cutting hazard. Post tops shall be neatly and cleanly cut flush with no uneven surfaces.

## **0270 -- PEST TREATMENT**

Premises shall be kept free from rodent, insect and vermin harborage and/or infestation as determined by the county health officer. Infestations shall be promptly exterminated by methods that ensure the public's health, safety, and welfare. Owners shall take preventive measures to protect buildings and premises from future infestations. Reference VMC 17.14.270 L. The Rehab Program Staff and owner shall approve any pest or debris removal proposals.

## **CHEMICAL**

All chemical applications, fungicide or insecticide, shall be made by a pesticide applicator holding State of Washington, Clark County, and local jurisdictional licenses. Application of all chemicals shall be subject to local and/or U.S. Department of Agriculture regulations regarding the use of controlled chemicals. Apply all treatment according to National Pest Control standard. Certificate of Application is required to release payment. All termite treatments shall be guaranteed against re-infestation for 5 years, unless specified otherwise on the work list. Pest inspections and treatments shall be subject to owner and the Rehab Program Staff approval. Inspection and treatment allowances shall be set in the work write up bid specifications.

## **SECTION 0300 – CONCRETE**

### **0310 -- GENERAL INSTRUCTIONS**

New concrete shall not be placed on extremely wet or frozen ground, and no concrete shall be placed when temperature is less than 40 degrees F. or greater than 90 degrees F., unless it is properly protected and controlled in accordance with recommendations of the American Concrete and the Portland Cement Association.

### **CONCRETE**

When patching concrete, apply a bonding agent prior to application of flush patching material. Repair and patching of walks, slabs, and concrete structures shall match existing in size, configuration, finish, and shall be prepared and applied per product application instructions. Work shall be subject to standard masonry practices and local building codes. Concrete shall be a minimum of four inches thick. Mesh and/or expansion joints shall be installed to prevent cracking and settling. All concrete shall be separated from wood with aluminum, stainless steel, or approved equal flashing.

## **FOUNDATION**

Foundations shall be designed and installed in accordance with all applicable codes and with an approved set of plans. Foundation patching, sealing, and surface repairs shall be prepared and applied per manufacturer's application specifications. Repairs that alter the walls, footing, or structure shall comply with local building codes, and requires a building permit. Repairs shall match existing materials as products permit.

## **0320 – SIDEWALKS**

New concrete shall be a minimum of four inches thick (4000 psi). Finished surface of new sidewalks shall be approximately parallel with that of adjacent soil; sidewalks shall be constructed so as not to impede drainage of surface water away from the house and off the property. Contraction (control) joints shall be placed 4 to 5 feet apart, but never more than 2-1/2 times in feet the thickness of the slab in inches. Depth of joint shall be 1/4 to 1/5 the thickness of the slab. Width of new concrete sections shall be as indicated in the work list. Wearing surfaces shall be floated with a wood float and receive a light broom finish. Concrete shall be properly sealed with a curing agent meeting ASTM standard 309 or kept moist for a period of three (3) days to ensure proper curing.

## **0330 – FLATWORK – FLOOR SLABS AND PATIOS**

New floor slabs and patios shall be a minimum of four inches thick (4000 psi). Slab shall be reinforced as needed for each installation. Provide flashing between the slab and wood construction. Slope the floor slab to drain away from the foundation wall. Wearing surfaces shall be troweled and have non-skid texture. Control joints shall be provided for all flatwork in accordance with industry standards. Base for slab shall be well-compacted 4 inch sand-gravel subgrade. New slab shall be a minimum of four inches thick (4000 psi).

## **0340 -- FOOTINGS**

All footings (i.e. pier and post) must comply with all state and local codes and regulations.

## **0350 -- WALLS**

New retaining/foundation walls and the repair of existing walls shall be constructed per job specifications and local code.

## **0360 -- STEPS**

New steps shall be as wide as the sidewalk and at least 6 inches to each side of the entry door. The treads shall be a minimum of 10 inches, the risers a maximum of 7 1/2 inches and a minimum of 4 inches. Rise and run shall have a variance of no more than 3/8 inch throughout flight. Provide 1/8 inch pitch for drainage. Wearing surfaces shall be troweled and have a non-skid texture. Bottom of porch and steps will be poured a minimum of 2 inches below grade so backfill can be placed.



## SECTION 0400 – MASONRY

Existing masonry units may be reused if undamaged and cleaned. New masonry units shall be true to size without cracks, chips, or other defects. New masonry units shall match existing as closely as possible. Repair and replace as specified in work write up. Where fresh masonry joins existing, the exposed surface of the set masonry shall be clean and lightly wetted so as to obtain the best possible bond with the new work. Lay masonry units plumb and square; properly anchor by keying units or utilizing manufactured ties. Lay all courses with a full mortar bed and tool all exposed joints. All grouted cells shall be vibrated twice. The color of mortar shall match existing as closely as possible. Where applicable, parge masonry below grade. Mortar shall be protected from freezing until it has set. Thoroughly clean all exposed new masonry and all repair areas. All new and repaired masonry installed below grade shall be sealed.

### 0410 -- REPOINTING / TUCKPOINTING

Rake out all old mortar to a depth equal to the width of the joint or 1/2 inch, whichever is greater. All deteriorated and loose mortar shall be removed, regardless of depth. Re-mortaring shall be done as specified under general instructions above. Trowel all mortar joints to a hard, smooth, water tight surface, matching the shape of the original joint. Remove all excess mortar and thoroughly clean all repaired areas.

### PARGING

Parging is applying a smooth coat of mortar on a foundation wall. The end result shall be a uniform smooth finish completely covering all exposed surfaces. Parging shall also include raking out old mortar to depth 1/2 inch. Deteriorated and loose mortar shall be removed regardless of depth.

### 0420 -- CHIMNEY REPAIRS

Existing chimney mortar joints shall be restored to a sound condition using Portland cement mortar or approved equal. All missing bricks shall be replaced to match existing as per available products. Damaged cap flashing shall be replaced using pre-painted or approved rust resistant type metal and shall be set in the mortar joint areas. All repairs shall comply with standard masonry practices, product manufacturer's instructions, and local building codes. All unused openings shall be closed with brick and mortar. When chimneys are torn down they shall be capped off below the roofline with brick and mortar.

When a chimney is to be repaired, this shall include repointing, replacing damaged or missing masonry, and installing a new cap or flue extension. New chimney cap shall be at least 4 inches thick at the outside edge and shall slope away from the flue. New flue extension shall be 5/8 inch fire clay. Joints shall be close fitting and left smooth on the inside. The top of the flue lining shall be at least 4 inches above the top of the chimney.

Demo and protection of the structure shall comply with standard masonry practices. New chimneys shall be constructed using new brick, mortar, and pre-painted flashing. Design and construction shall comply with all local building codes. New Chimneys shall be lined for combustion ventilation with approved manufactured liner.

### **0430 -- CHIMNEY RELINE**

Chimney relines, stainless steel, or inflatable form fire clay, shall be done in accordance with all applicable building and fire codes.

### **0440 – RETAINING WALLS**

All retaining walls must comply with job specifications and local code. They shall have a minimum 6 inch wide layer of gravel, crushed rock, or sand between the earth and the wall, extending the full height of the wall. Block shall be set in full mortar beds with joints tooled smooth, except where the exposed surface is to be parged. Reinforce block laterally and vertically where needed and fill cavities containing reinforcement with mortar. Place weep holes 10 feet on center, and at the lowest point possible above grade. All weep holes shall be screened. The top course shall contain a bond beam or be capped to provide a finished surface. All retaining walls constructed adjacent to the public right-of-way shall have the design approved by the City of Vancouver Development Review Services prior to commencement of work.

### **0450 -- BLOCK FOUNDATION WALLS**

Existing buildings shall be structurally sound and repairs economically feasible when replacing or installing a new foundation. Foundation patching, sealing, and surface repairs shall be prepared and applied per manufacturer's application specifications. Repairs that alter the walls, footing, or structure shall comply with local building codes and require a building permit. Repairs shall match existing materials as products permit.

Foundations shall be designed and installed in accordance with all applicable codes and with an approved set of plans. Concrete block, poured concrete or approved alternative is required. Posts, piers, beams, floor insulation, sill plates, ventilation, and ground cover vapor barrier shall be addressed when replacing or constructing new foundations. Adequate clearances shall be maintained under a dwelling per local building codes. Soil from excavation shall be removed off site.

## **SECTION 0500 -- METAL WORK**

Stairs, sheet metal, vents, railings, columns, and guardrails shall be constructed per local building codes and standard building practices. Rough draft drawings are recommended when submitting a bid. Contractor is responsible for plans and drawings to local building department. Used materials are not accepted.

### **SHEET METAL FIRE PROTECTION**

All sheet metal shields for fire protection for solid fuel burning devices (wood stoves, trash burners, ranges, furnaces) shall be installed in accordance with local code.

## **PREFABRICATED CHIMNEYS/VENTS**

All prefabricated chimneys, vents, and vent connectors installed for use with any fuel burning appliance shall be installed in accordance with the manufacturer's specifications and local code.

# **SECTION 0600 – CARPENTRY**

## **0610 -- GENERAL INSTRUCTIONS**

### **CARPENTRY**

The Rehab Program Staff must approve the repair of any materials. The repair of existing shall comply with any product manufacturer's instructions and local building codes.

All new carpentry, framing, and related woodwork shall comply with product manufacturer instructions, standard building practices, local building codes, and property owner and program approval.

### **FRAMING LUMBER**

All softwood framing lumber shall be #2 or better fir except for non-bearing partitions. Good quality hemlock (hem/fir) may be used for non-bearing partitions.

Framing lumber for girders, beams, posts, columns, and other structural members shall be of a species and grade which will provide sufficient strength and rigidity to support the design load without exceeding the allowable stresses consistent with good engineering practices. All framing lumber shall be identified by the grade mark of a recognized grading association. The moisture content of the lumber shall not exceed 19% at the time of installation. **Kiln dried** lumber shall be used as far as possible so as not to increase drying time for the project until drywall can be installed. Only **kiln dried** decking lumber or plywood shall be used for sub floor repairs prior to underlayment installation.

New lumber in contact with masonry shall be pressure treated. All framing members shall be accurately fitted and securely connected to each other. Under no circumstances shall insulation and drywall be placed when framing lumber has high moisture content.

**NOTE:** IF CDBG INSPECTOR IS UNABLE TO INSPECT STRUCTURAL POST AND BEAM AND/OR DECKING REPAIRS PRIOR TO COVER, CONTRACTORS SHALL TAKE PHOTOS OF WORK PRIOR TO COVERING. PHOTOS SHALL BE MADE AVAILABLE TO CDBG STAFF.

### **BOARD LUMBER**

The grade of board lumber shall be suitable for its intended use. In general, loose knots or knot holes shall not exceed 1/3 of the width of the piece. Splits are unacceptable. Boards with defects may be used if the defects are sawed out. Lumber shall bear the label of a recognized grading association. Moisture content shall not be above 19% at the time of installation.

### **PLYWOOD**

Plywood shall be Douglas fir and shall bear the label of a recognized grading association as to grade and type. Type and grade shall be suitable for its intended use as designed and shall be installed in accordance with local code.

### **FINISH LUMBER**

All finish lumber shall be dressed free of tool marks and other objectionable defects. Lumber for exterior trim and millwork shall be kiln-dried or otherwise seasoned; moisture content shall not be above 19%. All wood for interior wood trim shall be thoroughly kiln-dried to withstand dry artificial heat; it shall not be installed until all plaster and drywall is thoroughly dried out. Exterior wood trim and millwork shall be at least #2 or "D" cedar, except that casing for doors and windows may be of clear pine or fir. New wood for interior trim shall match existing as closely as possible in shape, size, and species. If not available, select pine or fir may be used to manufacture trim of the same style and shape.

## **0620 -- ROUGH CARPENTRY**

### **WOOD PORCHES**

When a new porch is scheduled to be built complete, it shall include piers, footings, beams, joists, 5/4 x 4 tight knot cedar decking, or other decking material as specified, railings if specified, 3 foot wide steps, and a roof, if specified. Wood railings shall be installed per Southwest Washington Chapter of ICC Specifications and local building code. The size of the porch shall be as indicated on the work write up. Treads shall be treated (outdoor wood) unless otherwise specified. Non-skid strips shall be installed when specified. Rise and run shall be no more than 3/8" variation throughout flight.

### **NEW STEPS**

When new steps are scheduled to be installed with rise and run the same as existing, they shall include new stair jacks, treads, and risers. Treads and risers shall all be even but an exception may be applied to maintain limited headroom to a non-living or storage area.

## **0630 -- FINISH CARPENTRY**

### **WOOD TRIM AND MILLWORK**

Exterior wood trim which cannot be repaired by re-nailing shall be replaced. Existing interior trim which is broken, splintered, cracked, chipped, warped or otherwise defective shall be replaced with new material. When drywall is being installed over existing wall finish and cannot be butted up to existing trim, room shall be re-trimmed (including door and window casings). All trim within a room shall be similar.

Insofar as practical, new trim and millwork shall be delivered, ready to be put in place. Mouldings shall be clean cut and sharp. Single lengths of wood shall be used whenever practical. Splicing or piecing of finish work shall be done with mitered joints over a solid backing. Finger jointed material is unacceptable for natural finish wood trim. Tooled materials shall be planed or sanded smooth. The woodwork shall be installed level and plumb, be scribed neatly to the walls, and be secured firmly in place. Exposed nails used in fabrication and installation shall be finishing nails, set 1/8 inch deep, holes to be filled with filler. The scribing, mitering, and jointing shall be secured to prevent separation. External corners shall be mitered unless trim style of existing house requires otherwise. Trim style and design of installation shall be determined prior to start of project, whether

casing will be butt or miter joint. If butt joints are used, care shall be taken to assure all rounded edges are continuous at perimeter. End cuts of butt joints shall be primed. Protect finish woodwork until time of painting.

## **0640 -- CABINETS/HARDWARE**

### **HARDWARE**

Hardware to be replaced shall include various knobs, catches, drawer slides, drawer rollers, etc., necessary when building a cabinet. When scheduled to be installed, all of the above found to be worn, defective, or missing shall be replaced. New hardware shall be brass or aluminum finish. All miscellaneous hardware within a room shall be similar in style and finish. Mixing painted with unpainted hardware is unacceptable.

### **CABINETS**

Replacement shall be with new medium-grade cabinets. Cabinet doors shall be wood flush or raised panel. Hardware and knobs or handles shall be included in the contract unless specifically stated. Shelving to be adjustable and drawers to have side mounted guides with nylon or ball bearing rollers. Owner shall select cabinet style, hardware, color, and layout prior to contractor ordering the cabinets. Particleboard shall be covered with melamine plastic or approved equal. A material allowance can be provided for bidding purposes.

Replacement parts and finishes shall match existing in size, color, and configuration per allowable materials available. All damaged or missing doors, drawers, and shelving shall be repaired or replaced as indicated in the work write up.

### **KITCHEN AND BATH CABINETS**

Contractor shall verify in the field all cabinets and countertop dimensions listed in the Invitation to Bid or shown on the drawings. Cabinet style and finish shall be indicated in the contractor's bid. Should new cabinets adjoin existing acceptable cabinets, the new cabinets shall match existing cabinets as closely as possible.

Both wall and base cabinet assemblies shall be custom built on the job or consist of individual units joined into continuous section, and with the exception of drawer cabinets, all units shall be fully enclosed with backs, bottoms and panels, including tops for wall cabinets. Face framed, when used, shall be of necessary thickness to provide rigid construction. Corner and lineal bracing shall be provided where needed to insure rigidity and proper jointing of components. Adjustable shelves shall be supported on ends and every 18 inches front and back. All shelves shall be solid wood, edge banded plywood or **wood** fiber board type material. Cabinets shall have all wood frames with face frames constructed of solid hardwood. Doors and drawer fronts may be constructed of plywood or fiberboard type material faced with birch, oak, or similar hardwoods. Doors and drawer fronts shall match cabinet fronts. Cabinet backs and sides may be particle board with a plastic or wood veneer covering. Base cabinets designed to rest directly on the floor shall provide a toe space at least 2 inches deep and 3 inches high. All exposed construction joints shall be fitted in a workmanlike manner, nails set, and holes filled. Swinging doors shall have a device sufficient to hold doors closed. The device may be spring catch, magnetic catch, self-closing hinges, or

equivalent. Doors shall be properly aligned and operate freely. Drawers shall have drawer guides with nylon glides and shall slide easily. Cabinet finish shall be clean and free from scratches and other defects. All wood surfaces, inside and out, shall be finished and sealed.

Cabinet units shall be installed level, plumb, and true to line. They shall be fastened to suitable grounds as per manufacturer's instructions. New upper cabinets shall be attached with wood screws; nailing cabinets is not acceptable. Use closers, filler strips, and finish moldings when needed for sanitary and appearance purposes. Upper cabinets shall be set 16-18 inches above the countertop and 24 inches at sink. At the range there shall a 30 inch vertical clearance to the bottom of the upper cabinet and 24 inches to the bottom of the range hood. Cabinets at the refrigerator shall be set to clear existing refrigerator.

### **0650 -- COUNTERTOPS**

New countertops and back splash shall be of an approved type high pressure laminate top (at least 1/16 inch thick) with edge and backsplash. Laminate backsplashes shall be complete with metal cove trim and shall be sealed to all surfaces. Provide 1-1/2 inch front edges and, unless specified otherwise, 4 inch back splash and end splashes. Base underlayment shall be a minimum of 3/4" high-density particle board or a/c plywood with sanded surface. Covering existing countertops shall require approval from the Rehab Program Staff. Tile countertops and backsplashes shall be installed over cement board and installation shall comply with manufacturer installation instructions. Color and pattern shall be chosen by the owner. Should new countertop adjoin existing, the new material shall match existing as closely as possible. If a new sink is not scheduled to be installed, re-installing the existing sink shall be part of the countertop installation.

The Rehab Program Staff must approve repair of any materials. All repairs shall comply with any product manufacturer's instructions, standard building practices, and local building codes. Pre-formed countertops are acceptable if approved by the rehab program and owner. Other materials such as tile counters, tile backsplashes, wood edge, and wood backsplash are acceptable if approved by the rehab program and the owner.

### **0660 -- BATH ACCESSORIES**

All bath accessories shall be chrome plated unless otherwise specified. All locations shall be checked with owner prior to installation. Bath accessories specified for handicapped must comply with the Washington State Barrier Free Design Manual.

### **0670 – DECKS**

New or replacement decking materials shall be pressure treated, cedar, or approved equal type decking that resists decay. Replacement decks shall match the existing size. Framing structure shall be pressure treated or approved equal framing materials that resist decay. All materials and installations shall comply with local building codes and standard building practices. Building permits are required per deck height and size per local building codes. Wood in contact with concrete or soil shall be pressure treated or approved equal.

Railings shall be installed per Southwest Washington Chapter of ICC Specifications and local building code.

Used materials are not acceptable. Reference VMC 17.14.270 A

## **SECTION 0700 -- THERMAL AND MOISTURE PROTECTION**

### **0710 -- INSULATION**

Insulation work shall comply with specifications and work write up. A certificate of insulation shall be posted on site and a copy sent to the Rehab Program Office. New installation shall meet local code and minimum R-value standards.

### **0720 -- SIDING**

New or replacement siding shall match existing in size and configuration as per products available. Work shall include new felt paper or house wrap. Vinyl siding placed over house wrap and foam backer board is acceptable (if it passes historic review). Materials and installations shall comply with product manufacturer's specifications and local building codes.

Remove all damaged sections before repairing existing siding. Sheathing and framing behind siding must be solid. Apply siding with corrosion resistant nails long enough to penetrate into studs, blocking and wood sheathing. Head lap and coursing shall be required to prevent entrance of moisture into walls. Stagger joints in adjacent pieces of horizontal siding. Replace all trim incidentals to this repair and caulk all joints, paying particular attention to where siding abuts trim or other material.

The Rehab Program Staff must approve repair of existing siding materials and related components. All repairs shall comply with product manufacturer's specifications, local building code, and standard building practices. Alternate siding materials may be considered if demonstrated cost effective. The Rehab Program Staff must approve manufactured wood siding products. All exterior wood components will have a minimum of two continuous coats of paint and no exterior painted surface will have any deteriorated paint.

### **PORCH SKIRTING**

New skirting shall be as specified in the Invitation to Bid. When new skirting is scheduled to be installed, existing skirting is to be removed completely. Install sufficient framing or backing for new skirting. All wood shall be at least 6 inches above grade unless pressure treated, cedar, or vinyl.

### **VINYL SIDING**

Prior to starting work, the contractor shall examine the exterior of the house, including the fascia and soffit areas, to determine if any additional repairs need to be completed that will affect the proper installation of the siding. If any unforeseen repairs are needed, the contractor will contact Rehab Program Staff and request a change order.

New vinyl siding shall also include, unless otherwise specified, the following: window and door wraps, fascia and soffit wraps, belly bands, porch trim, and all exposed beams, posts, and/or columns.

New vinyl siding shall have a lifetime manufacturer's warranty. Use aluminum or galvanized steel nails with 5/16 inch to 3/16 inch diameter head and avoid face nailing where possible. All nails should penetrate solid lumber a minimum of 3/4 inch excluding point. When going over 1/2 inch plywood sheathing, use screw shank nails with full penetration of the sheathing. The contractor shall provide manufacturer's warranty information to the homeowner upon completion of the work.

## **0730 -- ROOFING AND SHEATHING**

Prior to starting work, the contractor shall examine the roof to determine that all repairs affecting roofing have been completed as scheduled. When new metal chimney, vent stack, roof vent, etc. are scheduled to be installed, the contractor shall cooperate with other contractors in installing flashing and counter flashing. This contractor shall also install new flashing in place of all damaged, deteriorated, or missing flashing incidental to the repair or new installation. New flashing shall be installed in all valleys if directed. The contractor shall seal all roof openings and exposed roof edges, chimneys, porch roofs, dormers, skylights, and vents with plastic asphalt cement as needed to insure water tight joints. Roofing shall be applied in accordance with the recommendations of the manufacturer. Once it has been started, the roof application shall not be delayed, except when absolutely necessary due to inclement weather. Each layer of roofing felt shall have been surfaced or glazed by the end of the working day. Should inclement weather arise it is the responsibility of the contractor to provide adequate protection of the structure and its contents.

When a new roof is installed, roof vents shall be installed to provide adequate ventilation in all attic areas. If the insulation contractor is installing ventilation, the roofing contractor will be notified in the Invitation to Bid.

- New roofing installation shall conform to the requirements for the Underwriter's Laboratories, Inc. Class C label or better; a copy of the guaranteed fire classification shall be provided to the owner. New roofing material shall have a minimum 30 year manufacturer's guarantee. When existing roofing is brittle, badly cupped, or rotted, new material shall not be placed over existing. When removing damaged sections of existing roofing, replace asphalt saturated felt. Color, size, texture, and type of new roofing material shall match existing as closely as possible.

Patching, sealing, or repairing of existing roofing materials must be approved by Rehab Program Staff. All repairs shall comply with the product manufacturer's specifications and local codes.

### **ASPHALT OR FIBERGLASS ROOFING**

For repair, since new shingles shall match existing in type, repair procedure may vary from that for reroofing with new seal downs. Therefore, install new shingles as per manufacturer's recommendation to provide a watertight roof.



New roof shingles shall provide at least double coverage at all points, including both eaves and rake edges. All new roof installations shall have metal drip edges. If the gable end has no overhang, additional wood trim piece shall be installed so roofing projects at least 1-1/2 inches beyond the face of the siding. Metal drip edge shall not be installed over new roofing material. 1" x 2" wood trim is acceptable as a drip edge when it is attached over the roof sheathing and barge rafter joint and is flush with the top of the roof sheathing. New roofing must extend 1" past the eave/rake. New roof underlay shall be one layer 15 pound asphalt saturated felt and shall be double thickness from the eaves to a point not less than 24 inches beyond the inside face of the exterior wall. Seal double underlay lap to a point 24 inches beyond the inside face of the exterior wall with a continuous layer of plastic asphalt cement.

**Roof valleys shall be flashed with corrosion resistant sheet metal, or be covered with a double underlayment layer and roofing weaved or cut down valley.** New shingles shall be seal down asphalt or fiberglass 3-tab, with a minimum 30 year manufacturer's warranty. Minimum exposure shall be 5 inches; minimum head lap shall be 2 inches. Exposure shall not be more than that required for U.L. Class C label. The starter course of shingles and rake shingles shall project over eaves and rake edges approximately 1 inch. Nails shall be corrosion resistant and shall be long enough to penetrate sheathing or roof boards. Staples are not allowed. **Nailing pattern shall conform to the high wind pattern per manufacturer's instructions.** Color of roofing shall be owner's choice of standard roofing that is readily available.

#### **TORCH DOWN ROOFING MATERIAL**

Torch down roofing material shall not be installed over existing roofing. Remove existing roofing to wood deck or sheathing. Repair sheathing as needed or specified. Install metal starter edge on all edges. Install torch down roofing as per manufacturer's specifications. Supply the owner with a copy of manufacturer's warranty. Apply a full coat of reflective top coat if specified.

#### **WOOD SHINGLES AND SHAKES**

New roofing shall be Certified No. 1 Grade Red Cedar. Shingles shall be tapered. Both shingles and shakes shall be all-edge grain. Underlay, 30# roofing felt, shall be used for wood shake installations. Use 36 inch wide starter strip at eaves edge and 18 inch strips over top portion of each course of shakes. Valleys shall be flashed with aluminum or galvanized metal. First course of both shingles and shakes shall be double. Exposure shall be determined by type and length of roofing. Extend roofing beyond eave's edge 1 1/2 inches and beyond rake edge 3/4 inch. Spacing between adjacent shingles or shakes shall be 1/4 inch. Stagger joints in adjacent courses 1 1/2 inches; alternate course joints should not align. Roofing shall be attached with corrosion-resistant nails long enough to penetrate sheathing. Use no more than 2 nails per shingle or shake.

#### **BUILT-UP ROOFING**

For repair, remove existing gravel and broom clean roof area. Cut and repair all blisters with hot asphalt. Reinforce low spots. Apply one ply of 40 pound asphalt-saturated felt. Minimum end lap shall be 4 inches; minimum side lap shall be 8 inches. Cover felt with two moppings of asphalt. Average mopping coats shall be 25 pound asphalt. Replace gravel stops at exposed edges of built-up roofing where needed. All stops shall be properly secured and lapped sections shall be sealed with plastic roofing cement. Mop all edges thoroughly.

Where roof drains occur in built-up roofing, the roofing for a distance of approximately 18 inches in all directions from the drain shall be pitched towards the drain. Pitch shall be uniform. Contractor shall repair roof drains to working order.

For new installations, remove old roofing down to sheathing. Nail base sheet according to manufacturer's specifications. Base sheet to be 40# felt or equivalent nailed to decking. Then embed 3 layers of 15# felt, mopping between layers with 25# asphalt. Flood coat surface with 30# asphalt and embed gravel or crushed rock. Gravel or crushed rock shall be included with all new roof installations.

### **ASPHALT ROLL ROOFING**

New roofing shall be mineral surface asphalt roll roofing with a minimum weight of 90# per square. Coverage and underlay shall be the same as for asphalt shingle roofing described above. End lap shall be 19 inches minimum for a 3 foot wide roll. Starter strip and edges of roofing shall project over eaves or rake edge approximately 1 inch. Nails shall be corrosion-resistant roofing nails and shall be long enough to penetrate sheathing or roof boards. Roll roofing used for low slope applications shall be selvage type (two layer type) or other product specified by the manufacturer for low slope installations. Color of roofing shall be owner's choice.

### **METAL ROOFING**

New metal roofing shall be installed in accordance with the manufacturer's recommendations. Maximum eaves overhang shall be 2 inches and roofing shall lap away from prevailing winds. Full length sheets are to be used when possible. All roofing materials shall carry a minimum 50-year manufacturer's warranty for rust.

For new installations with a 4:12 pitch or greater, end lap of roofing panels shall be a minimum of 6 inches; for roofs pitched under 4:12, end lap of the roofing panels shall be a minimum of 12 inches. All metal roofing installations shall include ridge vents and/or gable vents unless otherwise specified.

All new metal roof installations shall include valley flashing, gable and eaves trim, foam ridge and eaves closure, plumbing vent flashing and eaves and sidewall flashing. Roofing panels shall be fastened to the base with metal screws with rubber washers; nailing is not acceptable.

Color of roofing shall be owner's choice of available colors, however, galvanized and aluminum roofing will not be allowed.

### **CAULKING**

All loose, cracked, rotted and broken caulking shall be removed. Apply new caulking at all roof openings and exposed roof edges. New caulking shall be plastic asphalt cement. Clean immediately all brick, concrete, or woodwork soiled during caulking.

### **ROOF FLASHING**

When roofing or roof flashing is installed, new flashing shall be galvanized sheet metal, .024 inch thick. Piping passing through the roof shall be flashed with one piece metal flashing and cover or two piece flange and sleeve flashing. Nails shall be corrosion-resistant nails and be long enough

to penetrate sheathing. All openings through the roof shall be flashed regardless of whether they were flashed previously.

### **ROOF SHEATHING**

The repair of portions of existing sheathing shall result in the sheathing for that entire area being on the same plane, so that when new roofing material is applied, the finish surface is even. The quality of materials and workmanship shall meet the same standards as new installation described below.

New sheathing shall be exterior grade 1/2 inch plywood; 3/8 inch exterior grade plywood may be used over skip sheathing unless specified otherwise. Plywood sheets shall be installed in a staggered pattern. If sheet edges do not meet on skip sheathing, H-clips shall be used between each rafter run. Nails or staples shall be galvanized.

### **NAILING INSTRUCTIONS**

For new roof installations over sheathing and felt only, **fasteners shall be galvanized steel, stainless steel, aluminum, or copper roofing nails, minimum 12 gage shank with a minimum 3/8-inch diameter head, ASTM F 1667, of a length to penetrate through the roofing materials and a minimum of 3/4 inch into the roof sheathing.** Stapling of shingles is **not** acceptable.

Nailing pattern shall conform to the high wind pattern per manufacturer's instructions.

## **0740 -- GUTTERS AND DOWNSPOUTS**

The repair of gutters and downspouts must be approved by Rehab Program Staff. Repairs shall comply with product manufacturer's specifications and standard building practices. Repair of plastic gutters and downspouts is not eligible.

### **GALVANIZED METAL GUTTERS AND DOWNSPOUTS**

Galvanized metal shall have corrosion preventative coating on inside surfaces. Gutters and downspouts may be baked enamel finish. Minimum thickness of metal shall be 26 gauge. Only seamless gutters shall be installed. No joints will be allowed except at corners and where downspouts attach. Existing gutters shall be disposed of at approved location.

New gutters shall be 5 inch Ogee ("K style) or half round type. Gutters shall be attached with aprons and hangers or combination hangers every 24 inches on center. No exposed strap hangers shall be used. Metal gutter installed over fascia boards on a house with no roof overhang shall be attached to spacer blocks 24 inches on center on wood framing to get gutter at least 3-1/2 inches away from siding and shall be properly flashed. Gutters shall be installed with proper pitch to downspouts so that no water overflow can get back into framing members.

New downspouts shall be 2 inch by 3 inch corrugated rectangular or 3 inch corrugated round. Downspouts shall be attached to gutters and be securely fastened with strap or cast hangers at top and bottom. Provide at least one additional hanger for every 6 feet of downspout. Downspouts shall be provided with extension pieces (elbows) located not more than 6 inches above the splash

block and pointed in the direction of flow. Splash blocks shall be installed with all new gutter installations unless otherwise specified. New water drainage systems shall require a permit and comply with local jurisdictions and local plumbing codes.

### **ALUMINUM GUTTERS AND DOWNSPOUTS**

New gutters shall be 5 inch Ogee ("K type"). Aluminum shall be baked enamel finish with corrosion preventative coating on inside surface. Minimum thickness of gutters shall be 0.027 inch; minimum thickness of downspouts shall be 0.019 inch. Only seamless gutters shall be used. No joints will be allowed except at corners and where downspouts attach. Installation shall be the same as for galvanized gutters and downspouts.

### **CLEANING AND TIGHTENING GUTTERS AND DOWNSPOUTS**

When cleaning and tightening of gutter and downspouts is scheduled, all joints shall be made watertight. All gutters and downspouts shall be securely connected and firmly supported and fastened.

### **SPLASH BLOCKS**

New splash blocks shall be either fiberglass or cast concrete and be installed in such a manner as to direct water away from the building.

### **GUTTER SCREENS**

New gutter screens (except for full-fill mesh type) are allowed under the program.

## **SECTION 0800 -- DOORS AND WINDOWS**

Whenever window assemblies, sash, or doors are being replaced, frames, headers and sills shall be repaired to provide a true, straight, square, plumb, level, and rigid enclosure for the new installation. Flashing shall be replaced as needed. New and replacement windows and doors shall comply with local codes and be installed per manufacturer's installation instructions. All operable windows, patio doors, and storm doors shall have insect screens provided.

All openings between wood, masonry, and metal shall be caulked. Should the openings be deeper than 1/4 inch, they shall be first packed with a backing (flexible polyurethane, polyethylene, polyvinyl chloride, cured polysulfide, sponge rubber, neoprene or butyl rod, closed cell foam) manufactured for this purpose to within 1/4 inch of the surface face and then caulked. All new sash or doors shall fit tightly in their frames and shall operate smoothly and easily. Contractor shall repair all trim incidental to the operation of the sash or doors.

When windows are to be glazed, new glass shall be Grade B or better, unless otherwise specified. When storm doors are to be reglazed, sheet plastic ("Plexiglas") may be used in place of tempered safety glass. All hardware within a room shall be similar in style and finish. New finish hardware shall be furnished with the necessary screws, bolts, or other fastenings of a suitable size and type to anchor the hardware in position for heavy use and long life. These fastenings shall harmonize with the hardware as to material and finish. The finish hardware shall be securely fitted on properly prepared surfaces in conformity with the hardware manufacturer's instructions and templates.

Carpentry cuts for the finish hardware shall be carefully and accurately made. Screws shall be turned to a firm grip but not to the point of distorting the hardware and in no case shall the screws be hammered into place. New doorknobs shall be positioned at the height of the existing doorknobs in each building and the other hardware shall be uniformly positioned.

## **0810 - EXTERIOR DOORS**

Repairs to a defective doorjamb, threshold, frame, or hardware shall comply with standard building practices and manufacturer's specifications. Match existing size, color, and configuration as per available products. Adjust door for smooth operation.

Existing assembly shall be replaced with new pre-hung unit. Exterior door shall conform to all code requirements of the permitting agency. If a new header is required, a permit is required. Exterior doors shall be exterior grade, solid-core, fiberglass, steel clad, and/or foam filled.

- New finished interior and exterior trim shall be included unless specifically stated.
- New hardware shall be installed with the new door unless stated. New lockset and deadbolt shall be keyed alike and shall be installed with the new door (Quickset 880 series or better). Deadbolt shall protrude into the strike plate by a minimum of 1".
- Door shall be properly weather-stripped at all four edges.
- Doors shall come with baked on primer or enamel finish. Painting optional.

### **SPECIAL INSTRUCTIONS**

All exterior doors, except service doors for unheated garages and other outbuildings, shall be fully weather-stripped.

Hinges for an exterior door swinging out shall have a setscrew in the barrel to prevent the removal of the pin when the door is closed. Hinges shall be sherardized under plating to prevent rusting.

All doors between a carport or garage and the house shall be solid core type. Door shall be fire rated and in compliance with local code.

### **OVERHEAD GARAGE DOORS**

On attached garages and for security purposes, a new latch lock shall engage door when closed. Repair of existing overhead garage door is eligible. Repair of existing overhead garage door (electric) opener is not eligible. Complete overhead garage door replacement with or without opener **is** eligible under the program. Doors shall come with baked on enamel finish. Painting is optional as long as it is not required immediately after installation per manufacturer's specifications.

### **HARDWARE, WEATHER-STRIPPING, THRESHOLDS, JAMBS, & STOPS FOR EXTERIOR DOORS**

New entrance lockset shall be polished brass or brushed aluminum finish. Cylindrical lock shall key outside with turn or push button on the inside; lock shall have dead pin. Contractor shall furnish two keys with new hardware. Double cylinder deadbolts are not allowed. New escutcheon plates shall be installed to cover unsightly marks when replacing existing hardware. Floor, base, or hinge door stops shall be installed for all exterior doors.

### **WEATHER-STRIP**

Package shall include new weather-strip and door sweep installed to stop all air infiltration around entire perimeter of door. New weather-stripping shall be cushion bronze, interlocking aluminum, compression foam, or compression-type vinyl. It shall be installed continuous around door casing to prevent infiltration of dust, water, and wind.

New threshold shall be metal, water return type, with integral weather-stripping and shall fit watertight with door. Caulk at exterior edge. New jambs and stops shall be clear fir, pine, or mahogany. Thresholds shall be fully supported.

### **WOOD EXTERIOR DOORS**

Type of new door shall be mahogany, solid core. Door shall be installed with new entrance lockset hardware, deadbolt lock, and weather-strip package. Door shall be hung with three brass or brushed aluminum finish 4-inch butt hinges. When door is to be painted, it may be paint grade. All exterior wood doors shall be sealed upon installation. This shall include sealing the interior, exterior, and all edges of the door. Finish shall be of owner's choice.

### **WOOD PRE-HUNG EXTERIOR DOORS**

New pre-hung door package shall include solid core wood door, jamb, casing, stops, trim, weather-stripping, threshold, all hardware and deadbolt lock. Opening shall be trimmed. Unless specified differently, door will be mahogany. Follow instruction for wood exterior doors. Thresholds shall be fully supported.

### **STEEL OR FIBERGLASS PRE-HUNG EXTERIOR DOOR PACKAGE**

New pre-hung door package shall include steel-clad or fiberglass door with wood or polyurethane core, wood jamb, casing, stops, trim, weather-stripping, aluminum threshold, all hardware, and deadbolt lock. Opening shall be trimmed. Door shall be hung with three brass or brushed aluminum finished 4-inch butt hinges. Thresholds shall be fully supported.

## **0820 -- ALUMINUM STORM WINDOWS AND DOORS**

The Rehab Program Staff must approve the repair of storm doors or storm windows. Approved manufacturer and approved parts shall be used in all repairs. Replacement windows and doors are recommended.

When a storm door is scheduled to be repaired, locking hardware, safety door check, and closer shall be repaired or replaced if needed. Door shall operate smoothly and fit weather tight in frame.

New storm doors shall be anodized aluminum, aluminum, or steel with baked enamel finish. All meeting rails shall be interlocking and weather tight. Door shall have self-storing glass sash and insect screens. Replacement inserts shall fit tightly in existing tracks. All sashes shall be easily removed for maintenance and reglazing or repair. Glass shall be tempered safety glass and comply with local code. Screening shall be 18 x 16 anodized aluminum or fiberglass screen cloth. No metal to metal contact is permitted at the junction of the door and frame. Door shall be weather-stripped at bottom rail or an aluminum threshold with integral weather-stripping shall be provided. Door shall lock with a turn button on the inside, but need not be keyed. All storm doors shall have safety door checks and closers. Frame shall fit weather tight in existing masonry or wood frame. Caulk at frame. The bead shall be at least 3/8 inch in surface. After installation, aluminum shall be thoroughly cleaned with plain water or a petroleum product such as white gasoline, kerosene or distillate. No abrasive cleaning agents shall be used.

### **GLAZING INDOOR WALLS**

When either the sliding or fixed panel of a door wall is scheduled to be reglazed, new glass shall be at least 3/16 inch tempered safety glass.

## **0830 -- INTERIOR DOORS**

New and replacement interior doors shall be complete with new matching trim, new hardware, and lockset. Doors shall be pre-finished 1-3/8" hollow core installed per manufacturer's specifications and standard building practices. Bedroom doors shall have passage type locksets and bathrooms shall have privacy type locksets. Doors shall be cut and adjusted for proper operation and clearance. The reuse of interior trim must be approved by the Rehab Program Staff and owner.

Repairs to defective interior door jambs, trim, and hardware shall comply with manufacturer's specifications and standard building practices. Match existing in size, color, and configuration per available products. Adjust interior doors for proper operation.

### **HARDWARE, JAMBS, AND STOPS FOR INTERIOR DOORS**

New passage set hardware shall be polished brass or brushed aluminum finish. Doors to bathrooms or toilet rooms shall have privacy lock, push button, or turn button on the inside. Escutcheon plates shall be installed to cover unsightly marks when replacing existing hardware.

New jambs and stops shall be clear fir or mahogany. Finger jointed material is unacceptable. Moisture content shall not be above 19%.

### **WOOD INTERIOR DOORS**

Type of new door shall be listed in work write up. Replacement panel doors shall match existing as closely as possible. Louvered doors shall be ventilating type. Door shall be installed with new passage set hardware and shall be hung with three brass or brushed aluminum finish 3 1/2 inch butt hinges. When door is to be natural finish, it shall be stain grade wood or it may be pre-finished. When door is to be painted, it may be paint grade. Finish shall be of owner's choice.

### **WOOD PRE-HUNG INTERIOR DOORS**

New pre-hung door package shall include wood door, jamb, casing, stops, trim, and all hardware. Type of door shall be as scheduled. Opening shall be trimmed. Finger jointed material is unacceptable. See also descriptions above. Finish shall be of owner's choice.

### **BI-FOLD, SLIDING AND MISCELLANEOUS DOOR HARDWARE**

When scheduled to be repaired or replaced, finger pulls, knobs, push plates, door tracks, door stops, etc., found to be worn, defective, or missing shall be installed new. New hardware shall be polished brass or brushed aluminum finish. All hardware within a room shall be similar in style and finish. Mixing painted with unpainted hardware is unacceptable.

### **WOOD BI-FOLD DOORS**

Type of new doors shall be as scheduled. Door shall be installed with new hardware. When two pairs of doors are being installed, a door aligner or astragal shall be provided where the center panels meet. Package shall include wood bi-fold doors, jambs, casing, stops, trim, and all hardware. Finish shall be of owner's choice.

## **0840 – WINDOWS/PATIO DOORS**

Window repairs shall match existing in size and configuration per available products. The Rehab Program Staff must approve window repairs. Replacement glass panes shall be installed with approved type glazing for the location.

New and replacement windows and patio doors shall be installed complete with all necessary trim, hardware, and screens. Units shall be installed per manufacturer's installation instructions and per local codes.

- Replacements shall be double-glazed, low E, and meet current code for U-value.
- New or replacement windows shall meet size and height for egress in bedrooms unless it involves major structural changes that make the change not economically feasible.
- Window in tub surround shall be removed or replaced with a smaller window unit if the tub surround is to be replaced.
- Alternate materials need to be approved by the Rehab Program Staff.
- Decorative grids are eligible as general property improvements.

### **SPECIAL INSTRUCTIONS**

A new window assembly shall include sash, jamb, casing, mullions, frame, sill, stool, apron, and all trim as appropriate to the particular type. Finger jointed material is unacceptable when wood is to be natural finish. Window assemblies shall be installed with all operating hardware and all sashes shall fit tightly in frames. All opening windows shall have screens. All sashes shall be weather-stripped. All sashes shall operate smoothly and easily. The sash shall be .30 U-value or less if the home is electrically heated.



Replacement sash shall match existing as closely as possible. Install new sash per manufacturer's recommendations, complete with new operating hardware. Openable sash shall have some means of being secured. Sash shall fit tightly in frame to prevent infiltration of dust, water, and wind. New sash shall operate smoothly and easily.

New windows shall meet all local code requirements regarding light, ventilation, and emergency egress.

### **CHECKING, FITTING, AND FREEING WINDOWS**

A sash that is painted shut shall be freed and the sash and its operating hardware shall be readjusted for smooth and easy operation. Sash locks that are not scheduled to be replaced shall be repaired and realigned as needed to firmly secure windows. When existing weights or counter-balances for double-hung windows are found to be inoperative and cannot be easily repaired, new "quickie" or "jiffy" type spring window controls shall be installed. Spring shall be fastened securely.

### **HARDWARE**

All window hardware within a room shall be uniform in style and finish. New hardware shall not be painted. Locking window hardware shall be cast metal type; stamped metal type shall not be used. When locking hardware is scheduled to be replaced, finger lifts and pulls shall also be replaced. New hardware shall be polished brass or brushed aluminum finish.

### **STOPS, STOOLS AND APRONS**

New wood trim shall be clear fir, hemlock, or mahogany. Finger jointed material is unacceptable when wood is to be natural finish.

### **WOOD WINDOW SASH**

One-over-one type: New sash shall have spring or tension counter-balances. "Quickie" or "jiffy" spring window controls are acceptable only when the existing operating mechanism is unusable in the new installation. Window lifts and locking hardware shall be polished brass or brushed aluminum finish.

### **ALUMINUM STORM WINDOWS**

New storm windows shall be anodized aluminum. All meeting rails shall be interlocking and weather tight. Unit for double-hung window shall consist of self-storing insect screen and two storms. Sash and screens shall be easily removed from the inside for maintenance and reglazing or repair. Storms and screens for all other types of windows shall be compatible with their operation and shall be neatly fitted with appropriate hardware so that they can be removed with a minimum of effort. Replacement inserts shall fit tightly in existing tracks. All operating windows shall have insect screens; wherever possible, self-storing units shall be installed. Glass shall be Grade B or better. Replacement screening shall match existing. New screening shall be 18 x 16 anodized aluminum or fiberglass screen cloth. Weep holes in the sill shall be provided at the factory. Frame shall fit weather tight in existing masonry or wood frame. Caulk at frame with sealant, if needed. The bead shall be at least 3/8 inch in surface. Storm window unit shall meet AAMA performance standards. After installation, aluminum shall be thoroughly cleaned with plain water or a petroleum product such as white gasoline, kerosene, or distillate. No abrasive cleaning agents shall be used.

## **VINYL REPLACEMENT WINDOWS/PATIO DOORS AND VINYL STORM WINDOWS**

New replacement windows, patio doors, and storm windows shall be constructed of PVC vinyl. All meeting rails shall be interlocking and weather tight. Unit for double-hung storm window shall consist of self-storing insect screen and two storms. Sash and screens shall be easily removed from the inside for maintenance and reglazing or repair. Storm doors and screens for all other types of windows shall be compatible with their operation so that they can be removed with a minimum of effort. Replacement inserts shall fit tightly in existing tracks. All operating windows and patio doors shall have insect screens; wherever possible, self-storing units shall be installed. Glass shall comply with local code and be Grade B or better. Replacement screening shall match existing. New screening shall be anodized aluminum or fiberglass screen cloth. Weep holes in the sill shall be provided at the factory. Frame shall fit weather tight in existing masonry or wood frame. Caulk at frame with sealant, if needed. The bead shall be at least 3/8 inch across surface.

## **SECTION 0900 – FINISHES**

Patching and repairing of interior walls and ceiling surfaces shall match existing in size, color, and configuration. The Rehab Program Staff shall approve all other interior surface repairs. All material applications shall comply with manufacturer specifications, standard building practices, and local codes.

### **0910 -- PLASTER**

When patching plaster, all broken or damaged plaster shall be cut out to straight lines with clean, sharp edges. New lath and reinforcing strips shall be installed if needed. Use plaster bond material for proper adhesion of new plaster to existing. The areas to be patched shall be filled with base material and then given a finish coat of the same material as adjoining plaster. Patched areas shall match the adjacent work in finish and texture and be free of bulges. Joinings shall be flush and smooth so that the joints between the existing and the new plaster are undetectable. Cracks shall be V-jointed and bonded with fiberglass tape and joint compound, in the same manner as a drywall joint.

Prior to application of new plaster, all bulging, loose or otherwise defective plaster shall be removed. New expanded metal lath, plaster stops, grounds, corner and casing beads, and corner reinforcement shall be installed as needed. Support and fasten lath to provide true lines and surfaces for new plaster. Use flat reinforcing strips where existing and new plaster surfaces butt together. Install reinforcing at all points where surfaces change or where cracking is likely to occur. All metal shall be galvanized or coated with rust inhibiting paint. New applications shall be three coat wet plaster over metal lath, two coat wet plaster over gypsum "rock lath" or two coat veneer plaster system. Apply plaster with minimum thickness as established by industry standards for the type of bases being used.

### **EXTERIOR STUCCO PLASTER**

Remove all damaged stucco. Repair metal lath or wire fabric. Over wood frame construction, apply new three coat finish and over masonry surfaces apply new two coat finish. Scratch coat

shall be uniformly roughed to provide a sound base for brown or top coats. Top coats shall match existing in texture and finish. Do not apply stucco plaster when the temperature is above 90 degrees F. or below 40 degrees F., or when the temperature is not expected to remain above 40 degrees F. until initial set. Stucco plaster shall be kept damp until initial set.

## **0920 -- DRYWALL**

Drywall installed over framing members shall be 1/2 inch on walls and 5/8 inch on ceilings (or 1/2" high density), except that for installations requiring a one hour fire rating it shall be 5/8 inch Type X. Drywall installed over existing surfaces shall be no less than 3/8 inch on walls and 1/2 inch on ceilings.

New drywall shall be tapered gypsum wallboard. When going over existing surfaces, first remove all damaged material and fur walls or ceilings so that the finished product is properly aligned. Edges and ends of wallboard shall occur on framing members, except those edges and ends that are perpendicular to the framing members. To minimize end joints, use wallboard of maximum lengths. Wallboard shall be first applied to ceilings, then to walls. When both sides of partitions are to receive wallboard, stagger joints on opposite sides. Protect all vertical exterior corners with corrosion resistant metal corner bead. When butting up to existing trim, cut drywall carefully and use casing beads for all exposed edges. Where surfaces are to be painted or wallpapered, joints shall be taped and both joints and nail depressions shall have three coats of joint cement applied as per manufacturer's recommendations. All edges shall be feathered. Finish surfaces shall be sanded smooth and left straight and well aligned. Texture spray finish is not to be used on ceilings unless specified otherwise. Ceilings should typically be machine brocade. When used, texture spray shall be medium texture, hard finish only--no coarse, polystyrene or other soft finish will be allowed. Before application, prime ceilings with a vinyl primer or equivalent. Any existing surfaces to receive texture spray must also be properly prepared for complete adhesion and non-burnthrough. Application shall be as per manufacturer's recommendations. No finishing or drywall shall be done unless inside temperature is at least 55 degrees F. This temperature shall be maintained during and up to completion of finishing, including drying. Moisture resistant drywall or concrete wallboard shall be used in areas subject to moisture and in bathrooms.

## **0930 -- TILE**

### **CERAMIC WALL AND FLOOR TILE AND CERAMIC TILE COUNTERTOPS**

When repairing existing tile, first remove all cracked, loose, chipped, or otherwise defective tile. Then, repair setting bed or wallboard to provide a level surface for installation of new tile. When repairing floor tile, wash adjacent areas with a solution to remove all oil film present. New tile being installed next to existing tile shall match existing as closely as possible in size, color, texture, and glaze. When replacement tile does not match existing, replace complete rows or areas. Carry rows and areas into corners.

New tile shall be installed in the following manner. Base surface shall be smooth and plumb or level. Prior to application of adhesive, surface to receive tile shall be sealed with a water resistant sealer compatible with the adhesive to be used. Sealer shall provide a firm and durable bond to the base material. Tile adhesive may be used as the sealer when designed for this purpose, but

must be applied in a separate coat. Apply adhesive to entire surface to be tiled with a notched spreader blade. New wall tile shall be standard grade, glazed ceramic tile. New floor tile shall be glazed ceramic mosaic or ceramic tile as indicated in work list. Color of tile shall be owner's choice. All tile installations shall be properly trimmed using caps, bases, etc. Tile shall be set by "floating method". Allow at least 24 hours for evaporation of volatiles from adhesive prior to grouting. Joints shall be thoroughly saturated and washed out with clean water before grouting. All tile joints shall be filled with pointing grout. Joints between tub and tile and joints between tile and any dissimilar material shall also be grouted and caulked with a silicone sealant. Force grout into joints taking care that no open joints are left. Joints shall then be sponged and tooled. New tile and any surrounding surfaces soiled during the repair work shall be cleaned immediately. All exposed tile edges shall be bull-nose tile.

### **TUB/SHOWER SURROUND**

Type of materials shall be as specified. All tub wraps shall be a minimum of 6 feet above finished floor unless specified otherwise. All tub wraps shall include flush mounted soap and grab. All tub wrap installations to include new water resistant drywall or concrete wallboard unless otherwise specified. Owners shall have choice of color and design from standard available products.

## **0940 -- FLOOR AND FLOOR COVERING**

The Rehab Program Staff must approve repair of any floor covering. The repair of existing materials shall comply with manufacturer application instructions and standard building practices.

**To be considered a repair, the replacing of carpet must remove a health or safety hazard.**

Existing floor covering materials shall be disposed of at an approved location. Asbestos containing material removal and disposal shall be regulated by the Department of Ecology. Baths and kitchens shall receive vinyl sheet goods over plywood or high density underlayment with rubber, vinyl, or finished wood base molding. The preparation of existing surfaces and the installation of all vinyl and carpet shall comply with the manufacturer's installation specifications, local building codes, and standard building practices.

- The overlay of existing vinyl is eligible if it is prepped properly and removal might cause exposure to Asbestos containing materials.
- Pergo or equal type high density tongue & groove laminated materials are not approved for bathrooms and kitchens.
- New carpet or the replacing of carpet is an eligible general property improvement.
- Ceramic tile is approved for kitchens, bathrooms, and entry areas.

### **HARDWOOD FLOORING**

When repairing or replacing hardwood flooring, all defective hardwood flooring shall be taken up from the subfloor, using care not to rip or break the tongues from the flooring strips of pieces that are intended for reuse. Flooring shall be shimmed where necessary and be properly secured at points of bearing. The entire floor, both existing and repaired, shall then be inspected for protruding nails, and nails found to have popped out shall be countersunk. Replacement flooring shall match existing as closely as possible.

### **ASPHALT TILE, VINYL COMPOSITION TILE (VCT), AND SHEET VINYL**

Replacement tile shall match existing in type, size, pattern, and texture. New tiles shall be residential grade. Asphalt tile shall be 1/8 inch thick; VCT shall be 1/16 inch thick. Tiles shall be 9 inch by 9 inch or 12 inch by 12 inch. Colors and patterns shall be homogeneous throughout the full thickness of tiles. Color and pattern shall be owner's choice. Self-adhesive tiles will not be allowed.

New sheet vinyl shall have a wearing surface no less than 0.010 (10 Mills). Color shall be owner's choice. It shall be installed full size with a minimum of seams utilizing 12' goods as necessary wherever possible. (Verify product is available in 12' sizes before ordering materials for large room areas). Seams will not be allowed in doorways or other high traffic areas. When installed in areas of high moisture, bathrooms, and utility rooms, it shall be seamless. All floor coverings shall meet or exceed FHA requirements and must be labeled as such. All sheet vinyl floor covering shall be installed according to manufacturer's recommendations.

If non-slip or slip-resistant sheet vinyl is specified, use Mannington Assurance. Preferred colors are: 1) 16005 Bisque; 2) 16004 Sandrift; 3) 16001 Glacier. Use adhesive recommended by manufacturer. Limit seams to lower traffic areas. Armstrong Safety Zone may also be used when a slip-resistant vinyl is specified. If there is low potential slip hazard, we will specify residential grade sheet vinyl, color to be selected by owner.

All surfaces to receive resilient flooring shall be clean, dry, and level. All cracks, depressions and voids shall be filled or repaired. Concrete floors shall not vary from a level surface more than 1/8 inch in 10 feet in any direction. Where leveling is required, leveling latex for concrete shall be used. Prime concrete slabs on grade or below grade with a sealer intended for that usage before applying adhesive. For all installations, installer shall use an adhesive recommended by the resilient flooring manufacturer and apply per instructions. All flooring shall extend under the base shoe moulding. Resilient flooring shall be laid with tight joints at all points of contact. Tile stops shall be installed at all exposed edges and changes of material, and stair treads shall have edges as described below. New rubber or vinyl cove base shall be considered a part of a new floor covering unless the owner wishes to reuse existing wood base.

New underlayment shall be underlayment grade plywood or suitable materials approved by sheet vinyl manufacturer developed for use under resilient flooring. Masonite or tempered hardboard will not be allowed. Underlayment shall be 3/8 inch except that 1/4 inch underlayment may be used over plywood subflooring or tongue & groove boards not more than 3 inches wide. 1/4 inch underlayment shall be securely screwed every 3 inches on center at the perimeter and every 6 inches on center at intermediate supports; 3/8 inch underlayment shall be securely screwed every 6 inches on center at the perimeter and every 8 inches on center at intermediate supports. Nailing or pneumatic stapling will not be allowed for underlayment installation. In all cases, floors receiving new underlayment shall be smooth and free from any uneven joints, bulges, and depressions. This condition shall be achieved by the installation of a joint leveling compound. When resilient flooring is to be installed directly over subflooring, subflooring shall be combination subfloor/underlayment plywood (void free, underlayment grade). Types and grades shall be the same as for plywood underlayment. Thickness shall be determined by span and spacing of floor joints.

## **CARPET OR TILE STOP**

New divider edge shall be aluminum, approximately 1 inch wide. It shall be attached with countersunk aluminum screws.

### **STAIR EDGING**

New stair tread nosing shall be aluminum, rubber, or vinyl. Nosing shall be installed on each tread and landing. Installation shall be per manufacturer's recommendations.

### **COVE BASE**

New base shall be minimum 2-1/2 inch rubber or vinyl cove base unless matching existing base of a different height or otherwise specified. Base shall be neatly installed and be firmly cemented to walls and/or floor. Inside and outside corners shall be neatly cut and trimmed for tight joints. Joints where bathroom floors meet walls shall be watertight. Use adhesive recommended by the manufacturer on all cove base. Color shall match new flooring or be compatible with existing resilient flooring. Pre-finished wood base will be allowed and specified for certain applications.

### **CARPETING AND CUSHIONING**

New carpeting and cushioning shall, as a minimum, conform to those specifications contained in HUD UM-44C. Type, color, and pattern of carpeting shall be owner's choice. Bonded urethane cushion shall conform to HUD UM-47. Carpet shall be installed according to the best standards of the trade. If the project is a CDBG funded FHA project, the contractor shall provide a certificate to the owner stating the carpet installed is FHA approved or meets the minimum standards required for FHA approval. When carpet is installed in a specific room, all closets shall be considered as part of the room.

## **SECTION 1000 -- APPLIANCES**

Replacement shall be with new white GE, Whirlpool, Maytag appliance or equal. Old units shall be disposed of to an approved location. New units shall be installed per manufacturer's instructions.

Replacement parts shall match existing per manufacturer's specifications and shall include, but not be limited to, defective doors, burners, elements, or missing knobs.

### **EXHAUST FANS AND DUCTED RANGE HOODS**

Ventilation equipment shall bear the label of approval of a nationally recognized testing agency and a Home Ventilation Institute or manufacturer's label showing capacity. Duct work shall be ridged metal and designed for the shortest practical run to the exterior. Installation of duct work shall comply with local code and shall be insulated where it passes through unconditioned areas. Discharge openings through roofs and walls shall be protected against entrance of rain, snow, and wind. Exhaust fan units shall be installed complete with louvers and backdraft dampers which will automatically close to prevent a reverse flow of air when the fan is not in operation. Duct ends shall be sealed and mechanically fastened. Duct tape shall not be deemed suitable for mechanical

fastening. When replacing an existing fan, existing ductwork and related accessories may be reused if they are in good condition and appear to have a remaining life equal to that of the fan. Existing ductwork shall be inspected for obstructions and continuity and shall be insulated and vented according to above specifications. Ductless range hoods shall not be installed.

All kitchen ranges shall have a range hood provided, vented directly to the exterior per code requirements and specs listed above, or approved equal.

Range/Micro hood shall be installed complete with ductwork and all accessories. Duct fan per specs listed above for range hoods. Unit shall include recessed light and removable, washable grease filter. Color shall be owner's choice.

When a bathroom fan is installed, it shall be installed complete with switch (of specified type), ductwork, and all accessories unless specified otherwise. Fan shall be wall switched; switch shall be separate from light switch. Fan motor shall be moisture proof and UL listed. Fan shall be rated for insulation cover. Size of fan will be specified in the Invitation to Bid. Grille shall be anodized, aluminum, or plastic. Undercut door if necessary for air movement.

When a kitchen exhaust fan is to be installed new, it shall be installed complete with switch, ductwork, and all accessories. Fan motor shall be UL listed. Fan shall be wall switched; switch shall be separate from light switch. Fan shall provide a minimum of 15 air changes per hour. Grille shall be anodized aluminum or plastic.

Use of Energy Star appliances is encouraged.

## SECTION 1100 -- PLUMBING

The plumbing system shall comply with local code and product manufacturer recommendations.

When installing new or replacing existing, used fixtures are not allowed.

### **NEW FIXTURE**

Minimum standards for fixtures shall be: single lever, metal faucets and shower diverters with 15-year drip-free warranty; ceramic toilets; stainless steel, cast iron, or porcelain steel sinks; fiberglass tubs, showers, surround, and steel enameled 5' tubs. **NO PLASTIC TUBS, SHOWERS, PANS, SINKS, ARE ALLOWED. CONTRACTORS ARE THE RESPONSIBLE PARTY FOR DETERMINING QUALITY AND WARRANTY OF ANY PRODUCT SELECTED BY A HOMEOWNER THAT DOES NOT MEET THE ABOVE FIXTURE SPECIFICATIONS.**

### **MATERIAL ALLOWANCES**

A dollar amount may be set for bidding purposes.

- Existing damaged or defective garbage disposals and dishwashers may shall be removed or replaced with new appliances of the same quality.
- When new tub surrounds are installed, a new valve and showerhead and piping shall be installed.
- Handicap accessible fixtures are eligible, shall comply with local plumbing code standards, and must be approved by the Rehab Program Staff.
- New dishwashers and disposals are eligible as a general property improvement.
- Instant hot water systems are not eligible.
- Alternate products or materials may be approved if demonstrated to be cost effective.

All materials, piping, fittings, fixtures, etc., shall conform to the latest ANSI (American National Standards Institute), ASTM (American Society for Testing and Materials), CS (Commercial Standards) and FS (Federal Specifications) standards. All equipment and materials used shall be new and clearly marked to permit identification of manufacturer, model, and type. Installation and materials of fixtures specified for the handicapped must comply with the Washington State Barrier Free Design Manual and the Americans with Disabilities Act.

The contractor shall furnish all instruments, gauges, and equipment required for testing and shall perform those tests required by the related authorities. Equipment, materials, or work found to be defective during testing shall be replaced by new work and be retested until proven satisfactory.

All replacement sewer, water, or gas systems shall be installed complete and, if necessary, final connections shall be made to the sewer main, gas meter, or water meter.

All equipment and items installed under this section shall operate safely, without leakage, undue noise, vibration, corrosion, or water hammer. All fixtures shall be securely supported so that no strain is placed on the connected piping. All work, fixtures, and materials, shall be protected at all times. All service and supply lines installed in a location where freezing may occur shall be insulated with closed cell foam insulation, or wrapped with fiberglass batt insulation without vapor barrier. If pipe insulation is to be done by the insulation contractor, notice will be given in the Invitation to Bid.

All excavation and backfill necessary for the installation of new underground piping shall be part of the work of this section. The trenches shall be backfilled evenly and be thoroughly compacted using acceptable fill materials. In no case shall the excavation for the trenches undermine or disturb the building foundation.

When a rough-in for new equipment requires connections to the existing plumbing system, the contractor shall obtain necessary data on locations, sizes, connections, fittings, and arrangements needed to ensure proper installation of that equipment.

All drilling, cutting, and patching necessary for a proper installation of work under this section shall be done by the contractor. All patching shall be of the same materials, workmanship, and finish as the original work and shall accurately match all surrounding work. Fixtures and equipment furnished by others which require plumbing connections to waste, water, vent, or gas piping shall be connected by the contractor. All work shall be done without damage to structural members. Sleeves shall be provided where required and upon completion of rough in work, sleeves shall be



made sound and fire tight. Penetration of stud and masonry walls, floors, and ceilings shall be fire stopped.

All joints and connections in the plumbing and drainage systems shall be gas and water tight for the pressures required by the test of the system, with the exception of those portions of piping which are installed for the purpose of leading ground or seepage water to the underground storm drains. The contractor shall be required to wet test all plumbing systems at the expected working pressure of the system after repair and/or replacements have been made. Existing plumbing systems, or portions thereof, including building sewers (side sewers), to remain in use shall operate free of fouling and clogging, and shall not have cross-connections which may cause contamination of the water supply by back-siphonage. Gas lines shall be blown clean with compressed air, and all valves and filters shall be checked. All remaining plumbing fixtures and piping not in use shall be disconnected and removed by the contractor. All escutcheon plates shall be installed tight, caulked if necessary. The entire new and existing installation shall be left in a neat, clean, and usable condition.

### **1110 -- WATER, SEWER, FUEL AND VENT PIPING**

New piping at the exterior of a building shall be at least 18 inches below grade. Piping shall run parallel to the building construction and be neat and workmanlike. Piping shall be concealed in walls, below the floor, above the ceiling, or in furred spaces. Piping shall be properly supported and be pitched to drain. Water and gas piping shall be run level without pockets and as straight as possible when rigid type piping is used. New hot and cold water supply lines shall be at least 6 inches apart where parallel. Expansion and contraction shall be provided for by swing joints when rigid type piping is installed. New soil, waste, vent, and drainage piping shall be run at a uniform grade of at least 1/4 inch per foot (2% grade). Lines under slabs shall have as short a run as possible and the run shall be as straight as possible. Copper lines shall be wrapped with plastic tape where they come in contact with any metal other than brass or lead. All connections between copper or brass and steel piping shall be made with dielectric couplings. All metallic piping shall be bonded together. Screwed pipe joints shall have threads cut the full thickness with new, clean dies. The joints shall be carefully reamed and pipe joint compound shall be applied smoothly to the male threads and to the threads left exposed after fabrication.

#### **REPLUMBING HOUSE TO CODE**

This is an instruction to the contractor and means that all water distribution piping, soil, waste, and vent piping shall be installed new. Only the installation or repair of individual plumbing fixtures shall be listed in the work specifications.

#### **WATER SERVICE**

New water service shall be of sufficient size to permit a continuous and ample flow of water to all fixtures at all times. Frictional losses due to piping, meter, valves, fittings, and faucets shall be considered when piping size is being determined. The water service pipe shall be installed in such a manner and shall possess the necessary strength and durability to prevent leakage under all likely adverse conditions, such as corrosion or strains due to temperature changes, settlement, vibrations, and superimposed loads. The contractor shall be responsible for providing the meter and all necessary piping to complete the installation and to coordinate installation of the meter with the City of Vancouver Water Department (360) 696-8177.

### **GATE VALVES**

The water piping on the discharges side of the water meter shall have a full way gate valve with bleeder screw. Gate valves shall be readily accessible, whether located in the basement, crawl space, or within the living space itself.

### **WATER SUPPLY (DISTRIBUTION) PIPING**

New distribution service lines shall be hard temper type M copper tubing or galvanized steel. New branch service lines shall be no less than 1/2 inch. Rodent proof penetrations shall be made through floors.

### **HOSE BIBS**

Hose bibs shall be located according to work specifications to provide an outside source of water. Hose bibs shall be frost proof type with vacuum breaker feature or have separate accessible stop and waste valve or readily accessible inside shut off.

### **BUILDING SEWER (SIDE SEWER)**

All sanitary plumbing outlets shall be connected to combined or sanitary sewer systems when they are available. A new building sewer shall be constructed per local code. All abandoned septic tanks shall be properly decommissioned in accordance with Clark County Health Department standards and local code.

## **1120 -- SEPTIC SYSTEM INSTALLATION**

### **SOIL AND WASTE PIPING (INCLUDES DRAINS AND STACKS)**

Soil and waste piping and fittings shall be approved under local codes. Soil stacks shall rest solidly at the base on masonry piers or heavy iron posts and be supported at intervals of no more 10 feet by stout wall hangers or brackets or on beams at each floor. No new soil or waste pipe shall be installed or permitted outside a building or be in any place where it may be subjected to freezing temperatures, unless adequate provisions is made to protect it from frost.

### **FLOOR DRAINS**

No floor drains shall be installed in any location or manner which will interfere with proper functioning. The drain shall connect to the sanitary drainage system with an approved trap having a minimum 3 inch depth of seal. Drain shall have a backwater valve if the drain is below the elevation of the curb or property line.

### **GRINDER/SUMP/EJECTOR PUMPS**

New sump pumps shall be submersible type. When connected to the sanitary system discharge line piping shall have an accessible backwater valve and gate valve. The connection from the discharge line to any horizontal sanitary drainage piping shall be made from top through a wye branch fitting. All installations shall be done in accordance to local code.

### **ROUTING DRAINS AND BUILDING OR SIDE SEWER**

Drains scheduled to be routed shall be cleaned with a power driven rotary clean-out apparatus similar to the "roto-rooter" device. Cleaning area drains shall include either replacing or recaulking the drainage strainers. Building sewers and side sewers scheduled to be routed shall be cleaned all the way to the main sewer connection(s). Drains, when routed, shall be free of all miscellaneous debris so as to allow the free and unobstructed flow of liquids and solids.

### **VENT PIPING**

New vent piping shall be schedule 40 galvanized steel pipe with standard black cast iron screwed fittings, DWV copper tubing, or plastic approved under code. Vent piping shall extend at least 6 inches above finish roof surfaces. Revent piping shall be at least 1/2 of the diameter of the drain to which it is connected or be a minimum of 1-1/4 inch in diameter. Revent shall tie into soil stack or waste stack at a point at least 6 inches above the last fixture connected to the stack. No new vent piping shall be installed on the exterior of the building unless there are no other alternatives and its placement is approved by the building official. Otherwise, all new vents shall be concealed in the wall.

New piping passing through the roof shall be flashed with a not lighter than 26 gauge galvanized metal flashing assembly or plastic flashing. Flashing shall be set in waterproof mastic compound and be caulked around the vent. Flat roof flashing shall be the commercial type with a horizontal leg equal all around the base.

### **FUEL PIPING**

New fuel piping shall be black pipe or other code approved piping. Pipe shall not be bent and offsets shall be made with fittings. Installation shall comply with all local regulations.

## **1130 -- PLUMBING FIXTURES**

### **WATER HEATER**

Water heaters minimum capacity for units with two bedrooms or less shall be 30 gallons; larger units shall have a minimum capacity of 40 gallons. Insulation jackets shall be present unless the installation poses a safety concern or the manufacturer's warranty will be voided if a jacket is installed. Expansion tanks may be included with the installation of new water heaters. Alternate materials may be approved if demonstrated to be cost effective.

Package shall include a new glass lined, quick recovery water heater, size as specified. Heater shall be equipped with a shut off valve on the incoming waterline, a pressure/temperature relief valve, (150 # and 210 degree rating) with a discharge tube to the outside of the dwelling or to within 6 inches to 24 inches of a garage or basement floor having drainage. Heater shall be installed with wiring, or fuel piping, draft diverter and vent, as appropriate to type. Heater shall

have a 5 year warranty on the tank and shall be U.L. listed or American Gas Association certified. When new water heaters are to be relocated, they shall be installed to provide the shortest run possible from the new water heater to all fixtures. Tank will be an energy efficient type requiring no further insulation wrap. All water heaters to be installed with required earthquake strapping.

***Temperature will be set at 120 degrees.***

Flue pipe for gas water heaters shall be at least 28 gauge galvanized sheet metal. It shall have a minimum slope of 1/2 inch per foot with no horizontal lengths of pipe exceeding 75 % of the height of the chimney or vent. Flue or vent connections shall have a diameter not less than the vent outlet on the heater. The flue pipe shall extend beyond the fire clay lining, but no flue pipe shall be vented into a chimney which is used for a fireplace or has a wood stove or wood furnace connected. Flue pipe can be vented into Class B vent.

### **KITCHEN SINK**

Package shall include new porcelain enameled or heavy duty stainless steel countertop sink, swing faucet with spray attachment and hose, removable cup strainers, fixture stops and supplies, and waste with trap. Sink shall have ledge unless space restrictions require otherwise. Entire unit shall be connected to service and waste lines. It shall be the responsibility of the plumbing contractor to cut the hole for the sink unless hole is provided by the general contractor.

### **LAVATORY**

Wall mounted package shall include new porcelain enameled steel or cast iron lavatory, faucets with trip waste, fixture stops and supplies, trap, wall hanger, and legs.

### **VANITY**

Package shall include new vanity base, countertop with back splash, porcelain enameled steel lavatory, center set faucets with trip waste, fixture stops and supplies, and trap. Lavatory may be one piece basin or countertop. Quality of vanity sink base and countertop shall equal that of new kitchen cabinets and countertops. New vanity base to be a minimum 24 inch width unless specified otherwise.

### **TOILET**

The City of Vancouver is promoting community sustainability. Voluntarily, the Rehab Program Staff is asking that when a toilet is replaced it be replaced with a high efficiency low water flow toilet. This will conserve water and help our community to become more sustainable.

A typical toilet package shall include new vitreous china bowl (siphon jet action type) with close coupled tank and cover, plastic seat, new flange and wax ring, bolts and caps, fixture stop and supply, float-less valve and trip lever. Plastic tanks are not acceptable. When installing or re-installing a toilet they shall be caulked around their base with suitable caulk.

In the event an ADA accessible toilet is needed, see work write up for specifics as to toilet size and type.

### **BATHTUBS – SEE NOTES IN RED AT BEGINNING OF PLUMBING SECTION ABOVE**

Package shall include new porcelain enameled steel bathtub or equal as approved by city staff, pop-up waste and overflow with trap, concealed shower divider with trim and fittings. Tub will be

recess type 5 feet by 30 inches, unless otherwise specified. Specifications, cut sheet, and warranty for tub must be submitted to city staff for approval prior to purchase and installation. If fiberglass or acrylic units are used, a mortar pour base shall be used to eliminate the possibility of a crack developing prematurely in the tub base. This may be waived on a case by case basis but only at the discretion of the housing rehab specialist.

In the event an ADA accessible bath is needed, refer to work write up for specifics to tub requirements.

### **SHOWER STALL – SEE NOTES IN RED AT BEGINNING OF PLUMBING SECTION ABOVE**

Package shall include new fiberglass base, size as specified, with trap, vent and concealed faucet and shower leg with all trim and fittings. Shower stall wrap shall either be plastic laminate, or three piece rigid molded fiberglass unit over new water resistant drywall, exterior grade plywood, or concrete wallboard. (Type of wrap will be specified in work list.) Free standing shower stall and shower stalls designed for corner installation will not be allowed unless specified.

In the event an ADA accessible shower stall is needed, refer to work write up for requirements.

### **ACCESSIBILITY IMPROVEMENTS**

When a tub or shower surround is specified, use Fiberglass Reinforced Plastic (FRP) panels with a pebble surface unless otherwise noted. Where panels meet, at corners and in the field, fit FRP with trim channels and caulk.

When a roll-in shower is specified, always install a splash guard at the base. Install roll-in showers so that the solid threshold is no more than  $\frac{3}{4}$ " above the finished floor surface. If shower cannot be recessed and threshold is higher than  $\frac{3}{4}$ ", install a threshold ramp after obtaining a change order from City of Vancouver.

When a hand-held showerhead is specified, install a WaterPik Power Spray with Massage or an equivalent showerhead. Install hand-held showerheads that include the following features:

- Pause setting or button
- Swivel head
- Compatibility with an extended hose

Install shower valve sets at 42" high unless otherwise specified by Rehab Program Staff or requested by client.

When a grab bar is specified, always use a concealed screw flange grab bar. Install a stainless steel grab bar unless otherwise noted. Install a grab bar with a  $1\frac{1}{4}$ " to  $1\frac{1}{2}$ " outside diameter unless otherwise noted. When a vertical grab bar is specified for a plumbing or non-plumbing end wall, install the grab bar just inside or just outside the shower enclosure. Consult with client, if

present, on exact location of grab bars (but never install diagonally unless specified by Rehab Program Staff due to potential fall hazard). Use an expanding anchor on applications where mounting flanges do not line up with studs. Use a Wing-It type expanding anchor, as needed, if extra strength is required due to existing circumstances.

When a raised toilet is specified, install a porcelain toilet with an elongated bowl and a seat height of between 17" and 19" (ADA compliant). Always use a new wax ring on toilet installation or re-installation. Always install a new toilet seat unless otherwise specified. When a low-profile raised toilet is specified, install a porcelain toilet with a round bowl and a seat height of between 17" and 19". After installation, caulk the entire perimeter of the toilet base.

When a wall-hung sink or an open vanity is specified, always pad the trap (scald and laceration hazard for wheelchair users).

## **SECTION 1200 -- ELECTRICAL**

### **GENERAL REQUIREMENTS**

All materials and equipment used shall conform to the latest UL, ANSI, and FS standards, as well as to all other applicable standards. All materials and equipment used shall be clearly marked to permit identification of manufacturer, model, and type. The contractor shall furnish all instruments, gauges, and equipment required for testing and shall perform those tests required by the related authorities. Equipment, materials, or work found to be defective during testing shall be replaced by new work and be retested until proven satisfactory. All new materials shall be in good condition. Each type of material shall be of the same quality throughout the project. All finished parts of the equipment and equipment for the work of this section shall be protected against damage from whatever cause during the progress of the work and until final completion. All electrical materials and equipment in storage and during construction shall be covered in such a manner that no finished surfaces will be damaged or marred. All wiring, fixtures, switches, receptacles, etc., shall be installed with all accessories. Fixtures, equipment, and materials furnished by others which require electrical wiring, connection, or related electrical work shall be connected by the electrical contractor. The contractor shall in no case install permanent electrical equipment that may be damaged by the rough in for heating, ventilation, or plumbing equipment. The contractor shall do all drilling, cutting, and patching required for the installation of the work under this section. All patching shall be of the same materials, workmanship, and finish as the original work and shall match all surrounding work, painting excluded. All electrical equipment and exposed wiring not in use shall be disconnected and removed. The contractor shall keep all parts of the building and site free from accumulation of rubbish and waste materials caused by work under this section and shall remove such accumulation from the site. All parts of the electrical apparatus and equipment shall be thoroughly cleaned of cement, plaster, and other foreign materials and be left smooth and clean. When a new service is installed it shall be the electrical contractor's responsibility to insure that all obstructions to the service drop are removed. The electrical contractor is responsible for disconnect and reconnect fees from the utility.

### **FANS / RANGE HOOD**

See APPLIANCES section, page 26, for specifications.

### **GFCI PROTECTION**

All new bathroom, kitchen, basement, exterior, and garage receptacles must be GFCI protected.

### **SERVICE PANEL**

New electrical service panel, wires, and service drop shall be sized to match the new load and installed according to the current adopted code. All circuits shall be identified in the directory at the panel. Main distribution panels shall have a main disconnect, ground rod system, at least 16 circuit breaker openings with a 200 amp minimum capacity.

### **CIRCUITS**

Existing water heaters, stoves, refrigerators, freezers, dishwashers, disposals, washers and dryers shall have separate circuits sized in accordance with the NEC.

### **SMOKE DETECTORS**

At a minimum, an NFPA long life battery smoke detector shall be located in each bedroom, the hallway by all bedrooms, and at all floor changes. Where work requiring a *permit* occurs in existing  *dwellings* that have attached garages or in existing dwellings within which fuel-fired  *appliances* exist, carbon monoxide alarms shall be provided in accordance with Section R315.1 of the 2009 International Residential Code. This is in addition to the code required smoke detectors located in each bedroom, in the hallway by the bedrooms, and at all floor changes. Also, single station carbon monoxide alarms shall be listed as complying with UL 2034 and shall be installed in accordance with this code and the manufacturer's installation instructions. **NOTE:** As of January 1, 2013, ALL homes, regardless of attached garages or fuel fired appliances, will be required to have a Carbon Monoxide alarm installed when doing work requiring a building or electrical permit.

All materials and equipment used shall conform to the latest UL, ANSI, and FS standards, as well as to all other applicable standards. All materials and equipment used shall be clearly marked to permit identification of manufacturer, model, and type. The contractor shall furnish all instruments, gauges, and equipment required for testing and shall perform those tests required by the related authorities. Equipment, materials, or work found to be defective during testing shall be replaced by new work and be retested until proven satisfactory. All new materials shall be in good condition. Each type of material shall be of the same quality throughout the project. All finished parts of the equipment and equipment for the work of this section shall be protected against damage from whatever cause during the progress of the work and until final completion. All electrical materials and equipment in storage and during construction shall be covered in such a manner that no finished surfaces will be damaged or marred. All wiring, fixtures, switches, receptacles, etc., shall be installed with all accessories. Fixtures, equipment, and materials furnished by others which require electrical wiring, connection, or related electrical work shall be connected by the electrical contractor. The contractor shall in no case install permanent electrical equipment that may be damaged by the rough in for heating, ventilation, or plumbing equipment. The contractor shall do all

drilling, cutting, and patching required for the installation of the work under this section. All patching shall be of the same materials, workmanship, and finish as the original work and shall match all surrounding work, painting excluded. All electrical equipment and exposed wiring not in use shall be disconnected and removed. The contractor shall keep all parts of the building and site free from accumulation of rubbish and waste materials caused by work under this section and shall remove such accumulation from the site. All parts of the electrical apparatus and equipment shall be thoroughly cleaned of cement, plaster, and other foreign materials and be left smooth and clean. When a new service is installed it shall be the electrical contractor's responsibility to insure that all obstructions to the service drop are removed. The electrical contractor is responsible for disconnect and reconnect fees from the utility.

## **1210 -- WIRING**

All conductors shall be plainly marked or tagged as follows: 1) Underwriter's Laboratories, Inc. label; 2) Size, kind, and insulation of the wire 3) Name of the manufacturing company and the trade name of the wire and month and year when manufactured (date shall not exceed 8 months prior to the date of delivery to the site, except for feeders). Hot water heater circuit shall be #10 copper AWG, 30 amp circuit. Range circuit shall be #6 copper AWG, 50 amp circuit. Branch circuit wiring for 20 amp circuits shall be #12 copper AWG and all other branch circuit wiring shall be no smaller than #14 copper AWG. Unless otherwise required by code, all new wiring shall be sheathed cable. New 15 and 20 amp circuits shall be 2 wire with ground.

When any kind of electrical work is specified and you encounter aluminum wiring, always use Cu/Al rated appliances and connectors; create sound, corrosion-free connections (especially in mobile homes built between 1965 and 1974).

Outlet boxes shall be the pressed steel knockout type or be cast iron with drilled, tapped, and plugged holes and be hot dipped galvanized or sherardized. Outlet boxes may also be approved non-metallic type. All boxes shall be of the proper size for the number of wires or conduits passing through or terminating in the box. Approved factory made knockout seals shall be used in all boxes where knockouts are not intact. All outlet boxes shall be accurately placed and securely fastened to the structure independently of the conductor. The plastic rings shall be set flush with the surface of the ceiling or wall. The hangers for the light outlets shall have adjustable studs. When work is completed, the wiring and connections shall be tested for continuity, short circuit, proper grounding, and GFCI function.

### **REWIRE HOUSE TO CODE**

New electrical service and all branch circuit wiring, fixtures, switches, receptacles, cover plates, etc., shall be installed new according to local code. Only minimums will be required, and only special additional work such as wiring to detached garages, additional fixtures, special devices, etc., shall be listed in the Invitation to Bid.



### **GARAGE CIRCUIT**

New circuit to the garage shall be an independent branch circuit of 20 amp capacity. Circuit shall include new conductor, a keyless (switched) fixture for each parking space, and at least one GFCI protected receptacle. Service shall be installed complete with all wiring and accessories.

### **FURNACE CIRCUIT**

New circuit shall be an independent branch circuit of amp capacity recommended by manufacturer. Contractor shall wire the circuit from the junction box located near the heating unit.

### **LAUNDRY CIRCUIT**

New circuit shall be an independent branch circuit of 20 amp capacity. Receptacle for the washing machine shall be a 20 amp, 120 volt, duplex grounding type, mounted on the wall behind or adjacent to the laundry area. When installed new, the wall receptacle shall not be higher than 48 inches above the floor.

### **SMALL APPLIANCE CIRCUITS**

New circuits shall be 20 amp capacity with two duplex grounding type outlets. When two new circuits are to be installed, a minimum of four grounded receptacles shall be provided and wired to these circuits. When these circuits also serve a pantry, dinette, breakfast room and dining area, the receptacles for these areas shall be equally divided between the extended circuits. All new kitchen circuits/outlets shall be GFCI protected in accordance with local code.

### **SPLITTING CIRCUITS**

Splitting circuits shall include providing dedicated circuits for the following: 1 small appliances (kitchen), 2 washing machine, 3 freezer, 4 furnace, 5 dishwasher, 6 microwave oven, 7 clothes dryer.

### **DRYER CIRCUIT**

New circuit shall be a dedicated branch circuit of 30 amp capacity (#10 AWG). Receptacle shall not be higher than 48 inches from the floor.

### **REPLACING WIRING**

When existing wiring is to be replaced, all exposed wiring (wiring not concealed behind finished surfaces) shall be removed back to the panel box. Then new sheathed cable shall be installed for all branch circuit wiring in the basement, attic, and crawl space. Installation shall be complete, including all wiring and accessories.

### **FIXTURES AND WIRING DEVICES**

When an item is installed, a new fixture, switch, or receptacle shall be installed complete with all wiring accessories.

When an item is to be replaced, the existing device shall be removed and a new fixture, switch, or receptacle shall be installed and connected to existing wiring.

When an item is to be relocated, it shall be removed completely, (or when the existing outlet box and wiring cannot be removed, a blank cover plate shall be installed) and a new fixture, switch, or receptacle shall be installed complete in the specified location.

An item to be removed shall be removed completely, or when existing wiring or box cannot be removed a blank cover plate shall be installed.

## SECTION 1300 -- HEATING

Inoperative, hazardous, or inefficient (less than 60% AFUE) heating plants may be repaired and altered to perform at least 80% efficiency. Ductwork shall be properly supported and joints made tight and secured with approved type screws, tape, and mastic. All cleaning and servicing of the equipment shall be in accordance with the manufacturer's maintenance specifications and local codes. The Rehab Program Staff must approve heat system repairs.

### **FURNACE**

New heat systems shall be designed and sized per standard heat loss calculations for a dwelling. All new or replacement heating systems shall comply with manufacturer's installation specifications and local codes. Electric wall heaters shall be equipped with fans, thermostat controls, and with properly sized circuits and wiring. New or replacement forced air electric furnaces shall be 80% efficient or meet current local code standards. Furnace equipment shall be accessible and the area shall be illuminated for service electrical connections; wiring shall comply with local electrical codes. Gas and oil fired furnaces shall be rated at 85% AFUE or better. Heat pumps shall be rated at 12 SEER or better.

**NOTE: Due to the constant changes in trying to make heating equipment more efficient, please refer to the 2009 Washington State Energy Code and the local building department for all of the latest requirements.**

### **DUCTS**

Duct work and radiator piping shall be well supported, insulated in unconditioned spaces, and adequate to maintain 68 degrees F. measured 36" off the floor when the outside temperature is minus 5 degrees F., (the average yearly minimum) in all habitable and essential rooms. All ductwork shall be insulated to a minimum of R-8 and seams shall be sealed with proper tape and mastic.

At completion of furnace and ductwork installation, a **duct test** will be required to determine the leakage factor of the ductwork.

### **ELECTRIC BASEBORDS**

New baseboard heaters shall be able to maintain a temperature of 70 degrees F. at a point three feet above the floor in all habitable rooms when the outside temperature is minus 10 degrees F.,

without overloading or scorching walls. New heaters shall be medium density type, limited to 250 watts per foot of baseboard. Where possible, install on outside walls and under windows. Each room or air circulation area shall have only one thermostat. Bathroom heaters can be manual switch operation. Thermostats shall be baseboard mounted unless otherwise specified. In bathrooms, baseboard heaters shall not be within reach of the bathtub. Wall or ceiling type heaters are acceptable substitutes.

### **THERMOSTATS**

Thermostats shall be programmable set back type, or approved equal.

## **1310 -- HEATING EQUIPMENT AND REPAIRS**

### **FORCED AIR SYSTEMS**

New installations shall be complete and shall include new furnace, ductwork, and registers. Provide hot air supplies and cold air returns throughout the house as required by mechanical code.

### **HEATING UNITS**

New heating units shall be installed complete with new disconnect switch, electrical circuit, flue pipe and all controls, wiring, accessories, thermostat, and valves. Thoroughly clean the oil tank, fittings, and lines. Chimney cleaning shall be performed by a licensed chimney sweep when applicable. The viability of the fuel storage tank is to be determined by contractor.

Note that the electrical contractor will wire a separate circuit (if one does not already exist) from the panel box to a junction box located near the heating unit. It is the heating contractor's responsibility to coordinate installation of the circuit unless otherwise specified.

All work performed in the installation of heating equipment shall be in accordance with manufacturer's recommendations and local code. Mechanical equipment shall be so installed and located that inspection, routine maintenance, or repair is possible without removing item of permanent construction.

### **HEATING UNIT CONTROLS**

When heating unit controls are to be replaced or repaired, the contractor shall examine all controls for that particular unit, including the thermostat, and repair and replace those controls found to be defective. Operating and limit or safety devices shall be AGA approved or UL listed. If specified install a programmable thermostat.

### **CLEANING AND ADJUSTING HEATING SYSTEMS**

After servicing, the mechanical contractor shall leave a certificate on the furnace indicating his/her name, the work or repairs completed, and the date.

When heating units are cleaned and adjusted, the contractor shall thoroughly clean and adjust the system for proper operation. When necessary or specified replace thermostat. On forced air systems, this shall include cleaning the blower motor and fan assembly, installing new air filters

and replacing blower motor drive belts and testing of combustion regulators. On oil fired systems, this shall include cleaning the oil tank (removing condensation and sediment), fittings and lines and replacing fuel filters and testing of combustion regulators. On all fossil fuel heating appliances, the heat exchangers, vent connectors, and vents shall be inspected for damage or deterioration. Vent connectors and vents shall be cleaned. Ductwork shall be cleaned only when specified on the Invitation to Bid. When specified, clean and vacuum at all accessible openings. Special attention shall be paid to duct runs with floor registers.

### **DUCTWORK AND REGISTERS**

Sheet metal shall be not lighter than 28 gauge galvanized sheet metal. The sheet metal work shall be accurately formed, be fitted snugly, have exposed edges folded at least 1/2 inch, and leave no sharp corners exposed. Fiberglass duct which is UL listed and meets NFPA standards is also acceptable. New flex duct is allowed if it has at least R-8 rated insulation and meets UL, NFPA, and ASTM standards. All ductwork shall be properly supported with hangers or floor rest channels. Special care shall be taken in supporting flex duct to avoid any sagging or kinks. No new duct work shall be installed in finished rooms, including closets.

Balance dampers shall be installed and/or ductwork shall be sized to control the flow of air to all supply registers. Dampers shall be labeled, indicating the rooms served and the system shall be balanced.

New supply outlets may be installed in floors and walls. When installed in the floor, outlets shall be no closer than 6 inches to any wall. Supply outlets installed in outside walls shall be located in front of windows. Basements need not have a separate supply outlet unless specified. All supply registers shall be equipped with shut off dampers. Return air inlets shall be located in walls or floors, as is appropriate to their size and function.

Supply and return ducts in unheated space shall be insulated to a minimum R-8.

### **OIL TANKS**

Where specified, disconnect existing oil tank, remove and/or cap (under ground tank) fill and vent pipes, flush and fill with sand. New tanks shall be installed complete. Tank shall be at least 275 gallon capacity. Install all tanks on concrete slabs and strap down. Buried tanks shall have two coats of asphalt emulsion or other rust inhibitive coating. Tubing for supply and circulation shall be copper. Fill and vent lines shall be wrought iron with double swing joints to accommodate any settlement of the tank. Backfill the hole with soft dirt or sand. Top 3 inches shall be topsoil suitable for plant growth. Replace sod or install new sod.

## **SECTION 1400 -- PAINTING**

The quality of paints and related materials shall equal or exceed those first grade and related materials manufactured by:

Olympic Stain	Boysen	Kelly Moore	Fuller-O'Brian
Dutch Boy	Benjamin Moore	Glidden	PPG Industries
United	Pabco	Sherwin-Williams	Columbia
Dupont	Miller	Rodda	Parker

Paint shall be understood to include not only paints but also primers, enamels, sealers, stains, and other coatings, plus all paint accessory materials. The addition of thinners, quick drying additives, or other adulterants of any kind shall not be permitted, except as specifically recommended by the manufacturer. The use of splatter-dash technique for appearance purposes on interior surfaces shall be limited to "orange peel" or other fine-medium texture only. Texture shall not be applied to any trim, woodwork, or metalwork.

Exterior and interior paints, primers, enamels, and related materials shall contain no more than six one hundredths of one percent lead by weight (calculated as lead metal) in the total nonvolatile content of the paint or the equivalent measure of lead in the dried film of paint already applied. Certain finish coats are formulated to serve as primers and may be so used when applied in accordance with manufacturer's recommendations.

Paint shall not be applied until surfaces are thoroughly dry, excepting certain masonry paints formulated for application to wet surfaces. Contractor shall assume responsibility for such conditions and shall make good any work executed prematurely. Any work which is damaged by the contractor or his/her employees, or for any reason is unacceptable and shall be repaired or redone to match surrounding areas. All touch up painting shall match surrounding areas. No exterior painting shall be done unless the temperature is between 50 degrees F. and 100 degrees F. and is expected to remain above freezing (32 degrees F.) for at least 24 hours.

Inserts for storm windows shall be removed prior to painting. Contractor shall reinstall them when painting is complete. Items or surfaces for which colors or finishes are not selected shall be painted or finished to match the adjacent background or adjacent finish colors or stains. Such items shall include, but not limited to, roof vents (color of roof), covers, housings, brackets, piping, duct work, drain pipes, conduit, access panels, unfinished or prime coated hardware, grills, registers, louvers, cabinets, electrical panels, and similar items. New and previously unpainted hardware accessories and electrical equipment are not to be painted. Switches and cover plates shall not be painted. Painter shall remove these items as necessary, reinstalling them when his/her work is completed. Square foot coverage per gallon shall be as recommended by the manufacturer.

Paint shall have easy brushing properties. Paint shall be kept well stirred during paint process and be screened free from skim, lumps, and foreign matter. No paint, nor the residue thereof, shall be used after it is caked or hardened. Paint shall be worked into all corners, voids, and joints. All surfaces other than those of metal items shall receive two coats of paint and all coats shall be thoroughly dry prior to application of next. Initial primer coat may be counted as one coat of the two required coats of paint, provided adequate hiding has been obtained. Tint the primer coat to a shade slightly different from finished coat.

Additional coats may be required if the finish does not provide acceptable coverage or hiding. Finished work shall be uniform, free of runs and sags, smooth, free from brush marks, and of

uniform color. Where paint adjoins other materials or where different colors meet, the edges of the paint shall be sharp and clean. Upon completion, the entire area shall be cleaned and left in a neat condition, including removal of all overspray and drips.

All paint shall carry a minimum manufacturer's durability warranty of 10 years, and the contractor will fully guarantee the job for minimum of one year. At least 1/2 gallon of each color used shall be left with the owner, with label attached. Colors of all paint are the owner's choice, subject to the Secretary of the Interior's guidelines in the case of historic buildings.

## **1410 -- EXTERIOR PAINTING-COLOR TEST SWATCH ON HOUSE REQUIRED**

### **PREPARATION**

Secure loose material and reset nails as needed. Caulk at all joints where caulking has deteriorated and missing. Remove all miscellaneous nails, hooks, screws, and tacks. Remaining holes, those no larger than a dime, shall be filled with linseed oil putty or caulking compound, depending on the surface material. All patches shall be sanded smooth. All vents in the surfaces to be painted shall be swept clean and have paint plugged squares removed. All windows, doors, and other openings shall be recaulked. All dried out or otherwise deteriorated glazing compound or linseed oil putty, including points for sash shall be replaced. If any area to be painted shows signs of mildew, those areas shall be cleaned, sanded, and sealed before painting. **Exterior preparation work must be inspected by Rehab Program Staff prior to application of primer.** After notification by the contractor, preparation work will be inspected in a timely manner.

### **WOOD TRIM, MILLWORK AND SIDING**

Sandpaper new millwork prior to application of primer or stain. Reset all loose nails and putty all nail holes and minor cracks in wood with putty after spot priming these areas with exterior enamel base primer. Scuff sand all trim to remove gloss and provide tooth for adhesion of new paint. Prime all knots and resinous wood with a prepared knot sealer or aluminum paint (which is not considered a primer coat). Apply one coat of exterior enamel base primer to all new and bare wood surfaces. Then apply two coats of exterior, non-chalking, oil base (if oil base primer is used) or latex paint to all wood surfaces. Doors, sash, and their trim shall be gloss finish. Use oil shingle paint for wood shingles and shakes.

When painting porches do not paint natural finished ceiling surfaces unless it is specified in the "Invitation to Bid". First prepare these surfaces to be refinished. Then apply at least two coats of spar varnish or polyurethane varnish formulated for exterior use.

Likewise, do not paint natural finish wood shingles, shakes, or rough sawn siding unless painting of this siding is specified. Instead, apply two coats of oil or pigmented oil stain. When necessary, stain new sections of siding to match existing.

### **WOOD DOORS**

Wood doors are to be natural finished unless otherwise specified. Prepare door for new finish. All door edges are to be eased. Edges, including the top and bottom, shall receive the same finish as the faces. Natural finish for new doors shall be one coat of stain (owner's choice of color) and at

least two coats of clear sealer formulated for exterior use. Paint for new doors and existing doors shall be one coat of exterior enamel base primer and one coat of exterior enamel base paint.

### **WOOD STEPS AND DECKS**

Caulk all joints between wood surfaces and walls. Reset all loose nails. Apply at least two coats of oil base exterior floor or deck enamel in accordance with manufacturer's recommendations.

### **CONCRETE AND MASONRY SURFACES**

Whether specifically scheduled or not, if exterior foundation walls are badly stained or splattered with paint during painting, they shall be painted to be in harmony with the siding.

Apply at least two coats of resin-emulsion paint, solvent rubber paint, or floor and deck enamel to horizontal surfaces. If oil base paint is used, neutralize surface before painting. Walls shall receive at least two coats of polyvinyl acetate emulsion paint. Surfaces which have been waterproofed shall be treated as per manufacturer's instructions prior to painting.

### **GUTTERS AND DOWNSPOUTS**

Gutters and downspouts shall match trim color on house if being repainted.

## **1420 -- INTERIOR PAINT**

When painting wallpapered surfaces the wall paper must be tight and edges or joints feathered where necessary. Secure loose material and reset nails. Remove all miscellaneous nails, hooks, screws, and tacks from walls and wood work. Patch all holes with spackle or oil base putty depending on the surface material. All patches shall be smoothly done and all rough edges sanded smooth. Seal all irremovable grease spots or stains with shellac or "KILZ" so that they do not bleed through new paint. Kill stain or seal all varnished wood surfaces before painting so that desired coverage is obtained. If any area to be painted shows signs of mildew, those areas shall be cleaned, sanded, and sealed before painting is done.

Painting by room shall include walls, ceiling, doors, windows (including those surfaces exposed by opening), trim, cabinet work, and miscellaneous shelving and shall be painted and/or refinished as specified. A closet is considered a part of the room in which it is located, as well as closet rods, shelves, bracing, and drawers. Natural finished items are not to be painted unless specified. Interior of cabinets will not be included unless specified.

### **DRYWALL OR PLASTER WALLS AND CEILINGS**

Hairline cracks and scraper dents shall be spackled and sanded. Open cracks shall be raked out and damaged plaster shall be removed. Apply new plaster in coats thin enough to prevent shrinkage. All repair work, when completed, shall match existing surfaces, present a neat appearance, and be free of hairline cracks and bulges. All surfaces shall be washed or sanded prior to painting. Previously painted surfaces shall receive at least two coats of interior latex, enamel, or oil base paint. New plaster or drywall shall receive a first coat of interior PVA primer and at least two additional coats of paint. Paint for kitchens, bathrooms, and utility rooms shall be

semi-gloss enamel. Surfaces shall be painted with a roller and/or brush except that certain types of texture finish ceilings cannot be satisfactorily painted with roller or brush. These surfaces only may be spray painted.

### **WOOD WINDOWS AND DOORS**

All door edges shall be eased. If new wood is open grain type, fill or seal surface to prevent grain rising. Apply one coat of suitable oil base primer to all new and bare wood surfaces. Then apply at least two coats of interior semi-gloss enamel (oil base or latex) to all surfaces. Edges, top, sides, and bottom shall be painted the same as the door faces. Color shall match adjacent wall surfaces unless directed otherwise by homeowner. Painting shall be done with brush only.

For natural finish, all door edges shall be eased. Apply one coat of penetrating sealer to all trimmed door edges. All interior doors, if not pre-finished, shall receive at least two coats of spar varnish or polyurethane varnish. Edges, top, bottom, and sides shall be finished the same as door faces. Varnish shall be applied with brush only.

### **WOOD TRIM, MILLWORK, PANELING, CABINET WORK AND SHELVING**

It is not intended that cabinet work and other wood surfaces scheduled for refinishing or painting be completely stripped down to bare wood. Rather, it is intended that scratches and other surface blemishes be treated so as to make them unnoticeable. Gloss shall be removed from all enamel surfaces to be painted. Stain or prime and finish as necessary. If interior of cabinets are to be refinished, it will be scheduled separately.

For painting, sandpaper new millwork prior to application of primer. Reset loose nails. All nail holes shall be filled and sanded prior to painting. If new wood is open grain type, fill or seal surfaces to prevent grain rising. Apply one coat of a suitable primer to all new and bare wood surfaces. Then apply at least two coats of interior semi-gloss enamel (oil base) to all surfaces. Color shall match adjacent wall surfaces unless scheduled otherwise.

For natural finish, sandpaper new millwork prior to application of finish. All wood to be refinished shall be first prepared as necessary to receive new finishes. Loose nails shall be reset and all holes shall be filled with linseed oil putty. If new wood is open grain type, surfaces shall be filled or sealed to prevent grain rising. New or bare wood shall be stained to match existing as closely as possible. All natural finish wood shall receive at least two coats of varnish, shellac, lacquer, or polyurethane coating as appropriate to its intended use.

## **1430 – LEAD BASED PAINT**

If a painting instruction is noted in the Invitation to Bid as a “Lead hazard reduction activity” the following specifications must be followed:

For work involving interim controls including paint film stabilization contractors and workers must, at a minimum, be trained to work in a lead-safe manner.

For work identified as abatement contractor must be Certified and licensed by CTED and must provide required occupant protection plan.



All lead hazard reduction activities will be performed by scope of work provided by a certified lead paint risk assessor.

**NOTICE: Contractors participating in the Rehab Program are ultimately responsible for full compliance with Federal, State, and Local regulations regarding lead based paint treatment practices, disposal, worker protection, and worker certification.**

## **1500 -- EMERGENCY REPAIR SERVICES**

### **1510 -- LANDING AND STEPS**

Frame landing and steps with pressure-treated lumber and corrosion-resistant fasteners. Use 4X or heavier stock for vertical members. Use 2" X 6" Sunwood, or equivalent, for landing, deck, and step surfaces. Secure decking with deck screws; no nails, no construction adhesive. Space decking boards 3/16" to 1/4" apart to allow for drainage and expansion or per manufacturer's instructions. Install decking with heart-wood facing up to reduce potential for loose boards and tripping hazard created by cupping boards. Construct steps with a tread depth of 11-12" unless otherwise noted. Not necessary to install risers on steps unless specified.

### **1520 -- RAMPS**

If ramp is in multiple parts, separate by landing(s) and maintain the same slope on all ramp segments per building code. Frame ramp with pressure-treated lumber and corrosion-resistant fasteners. Use 4X or heavier stock for posts. If posts are not anchored in ground with concrete, diagonally brace any that are more than 20" high or to meet code. Install "Tuf -Tred" or equivalent non-skid ply surface on ramp. Secure ramp surface with deck screws, perimeter and field; do not use nails or construction adhesive. Caulk seams between Tuf Tred panels to prevent water infiltration. Ease bottom edge of ramp surface to create a smooth transition from walkway to ramp (or install a separate transition ramp, e.g. Safe Path).

### **1530 -- HANDRAILS**

#### **HANDRAILS / GUARDRAILS / LANDINGS**

Handrails and guardrail systems shall have proper rise and run per local code. Pressure treated structural members shall be used in all except decking, handrails, and guardrails. Decking, handrails, and guardrails shall be cedar, redwood, outdoor wood, or equal. One coat of appropriate sealer shall be included for all new deck, handrail, and guardrail systems. Porch decks shall be replaced with cedar decking, treated decking, redwood, or other approved alternative. Handrails shall be present on one side of all interior and exterior steps or stairways with more than two risers and have grooved or graspable top rails per building code. Guardrail systems shall be around porches or platforms over 30" above ground level. Alternate materials must be approved by the Rehab Program Staff.

## **1540 -- BUMPERS**

When bumpers are specified on a landing or ramp, they should extend above the landing or ramp surface by 3- ½" or more. Bumpers can be constructed of surface-mounted 4X material or of 2X material lagged to the sides of stringers and joists. Anchor bumpers so they can withstand repeated, heaving loading.

## **1600 -- OTHER STANDARDS**

### **1610 -- OUTBUILDINGS**

New outbuildings are not eligible. Replacement or repairs to outbuildings shall comply with local codes. Outbuildings shall be complete with concrete foundation, wood frame construction, access door, composition roofing, wood siding (or approved alternative), primed and painted with proper clearance to soils. Under certain circumstances, repairs may also be completed to outbuildings in order to satisfy a requirement of the owner's insurance company; e.g. the insurer will no longer insure the overall property until repairs to the outbuilding are effected.

### **1620 -- WEATHERIZATION**

In the case State of Washington/Clark County Weatherization funding is available; Rehab Program Staff will coordinate with homeowner and contractors on timing. The contractor working for weatherization shall follow necessary standards and specifications outlined by the State of Washington Community Trade and Economic Development, and Clark County. Improvements made shall comply with local code.

#### **ATTIC**

Attics will be ventilated with a minimum of 1 square foot of net free area ventilation for each 300 square feet of roof area. The net free area may be further adjusted by splitting the venting between roof vents and lower eave vents. Refer to building code for clarification. Attic areas and crawl space will be insulated. The goal for attic insulation is R-38. Crawlspace are to have joist cavity filled as far as possible.

#### **CRAWLSPACES**

The goal for crawl space insulation is R-19. In all cases, fill entire joist cavity with proper sized insulation so as to avoid any air gaps between insulation of bottom of subfloor. Bare soil in crawl spaces shall have a 6 mil polyethylene black plastic ground cover vapor barrier installed to new code standards.

#### **HEATING**

Heating ducts shall be sealed with appropriate tape and mastic.

#### **WALLS**

Frame walls will be insulated if the wall finish is removed. Holes and wall penetrations shall be caulked.

### **WEATHER-STRIPPING**

Doors and windows shall be weather-stripped.

### **1630 -- WELLS**

Contractors shall be licensed and bonded well constructor, registered with the State Department of Ecology, Water Resources Program. New wells shall yield a minimum of 5 gallons of water per minute and shall be installed more than 100 LF from a sewage disposal system. All new wells shall include at a minimum: a copy of the completed well log submitted to the state, a potable water test, Nitrate and total coliform bacteria water test performed by a licensed testing lab.

### **1640 -- ENERGY EFFICIENCY**

When appliances are written up to be replaced, they will be attempted to be replaced with energy efficient models (i.e. Energy Star).

### **1650 -- ASBESTOS**

The Contractor is responsible for following any and all local, state, and federal requirements pertaining to any work that is being done during rehab that will impact asbestos containing materials.

### **1660 – WARRANTIES**

All product warranty hard copies must be obtained and given to the homeowner with photo copies of same forwarded to the rehab specialist for file record inclusion. This is a requirement that must be met prior to processing any invoice for payment.