

# THURSTON COUNTY



## HOME AND COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAMS

### MINIMUM SINGLE-FAMILY HOUSING REHABILITATION STANDARD

December 2010

Equal Housing



Opportunity

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**THURSTON COUNTY  
HOME AND CDBG PROGRAMS  
MINIMUM SINGLE-FAMILY  
REHABILITATION STANDARD**

**I. INTRODUCTION**

**1.0 Mission and Housing Values**

**1.1** The Thurston County Single-Family Housing Rehabilitation Program mission is to help eliminate neighborhood blight by providing moderate to substantial rehabilitation and demolition assistance to targeted low-income owner-occupants of single-family residential properties within the county. Sub-elements of this mission are:

- A. Protect the health, safety and security of the homeowner and his/her family,
- B. Preserve or restore the structural integrity of the building to assure its continued fitness for use as a single family dwelling,
- C. Improve the energy efficiency of the dwelling in a cost effective manner,
- D. Assist in the preservation of neighborhoods.

**1.2** The order of values that flow from this mission are as follows:

- A. Performance and durability
- B. Economic life cycle costs
- C. Affordable operating costs
- D. Balanced initial costs
- E. Lead-safe homes

**2.0 Applicable Laws and Regulations**

**2.1** All renovation activities shall be conducted in full compliance with the following statutory and regulatory requirements:

- A. Thurston County Building Code (TCC Title 14)
- B. 2006 International Building Code (IBC) with ICC/ANSI A 117.1-2003
  - 1. Appendix E Supplementary Accessibility Requirements
  - 2. Appendix G Flood-Resistant Construction
  - 3. Appendix J Grading
  - 4. Appendix M 2006 International Existing Building Code
- C. 2006 International Residential Code (except Part IV-Energy Efficiency, Part VII-Plumbing and Part VIII-Electrical)
- D. 2006 International Mechanical Code Chapter 51-52 WAC
  - 1. Appendix F Radon Control Methods (excluding townhouses)
  - 2. 2009 Washington State Energy Code (Chapters 1-10)
  - 3. 2006 Washington State Indoor Ventilation and Air Quality Code
  - 4. 2006 Uniform Plumbing Code (UPC)
  - 5. Chapter 51-56 WAC and Chapter 51-57 WAC and the additions, deletions and amendments set forth in this chapter.

- 6. Chapters 12 and 15 and all provisions regarding combustion air and venting of appliances in Chapter 5 of the UPC are deleted.
- 7. Appendices A, B, D, E (except part (D)), H and I of the UPC are adopted as part of the code.
- E. 2005 National Electric Code (The rules and regulations of the State Department of Labor and Industries, contained in Chapter 296-46B WAC (except WAC 296-46B-900, WAC 296-46B-905 and WAC 296-46B-910) are adopted as amendments and interpretations of the National Electrical Code.)
- F. 2006 International Fire Code Chapter 51-54 WAC
- G. 2006 National Fuel Gas Code
- H. 2006 International Fuel Gas Code
- I. 2006 Liquefied Petroleum Code
- J. HUD Housing Quality Standards section 982.401
- K. Lead-based paint standards under 24 CFR Part 25 and WAC 365-230

**2.2** This program shall seek guidance from, and strive to conform to the following codes, if financial resources are available for a specific project:

- A. Energy: The International Energy Code
- B. Accessibility: ANSI standards for handicapped accessibility
- C. HAZMAT: HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing
- D. Building Code: International Building Code 1-4 Unit Dwelling Code
- E. Exceptions: On a case by case basis, deviations from the minimum requirements of this Standard will be permitted with approval of the appropriate local agency.

### **3.0 Contractor Participation**

**3.1** A licensed, bonded and insured contractor must perform the rehabilitation work contracted through the program. Participating contractors must be capable of quality work meeting all applicable codes, be able to complete contracted work in a timely and businesslike manner, and cannot have been previously disqualified from participation in the Program or debarred from work on any HUD funded projects.

**3.2** To participate in the program, contractors must pre-qualify for it by completing and submitting the Contractor's Qualification Statement. In addition, the contractor (or any of the principals of the company) may not have been banned from participating in HUD-Funded Projects. Contractors are screened using the Excluded Parties List System (EPLS) maintained by the General Services Administration (GSA) at [www.epls.gov](http://www.epls.gov). Contractors must have the following:

- A. Current State of Washington Contractor's License
- B. Current Business License
- C. Proof of Liability Insurance (\$1,000,000 Minimum) naming the Thurston County, Subrecipient and the Program Manager (PM) as additional insured.
- D. Copy of Lead Renovator License (EPA certified firms), if rehabilitation work on a house built prior to 1978
- E. Two credit/trade references
- F. Three past customer references
- G. W-9 Request for Taxpayer Identification Number and Certification

**3.3** To facilitate communication and to expedite the administrative process, the PM requires all participating contractors to have access to e-mail. The PM, on a regular basis, will solicit bids for rehabilitation work by issuing a packet of current available projects to all interested, pre-qualified contractors.

**3.4** Initial program eligibility will be determined by review of the Contractor's Qualification Statement and any Contractor's Performance Evaluation Worksheet(s) on file from the previous PM. Continued program eligibility is based upon the Contractor's Performance Evaluations from the homeowner(s) and the PM. The PM reserves the right to expand eligibility requirements to include a performance bond and to limit the number of current program projects being bid and/or undertaken by a contractor based upon the Contractor's Performance Evaluations.

**3.5** The contractor will be required to sign an Anti-Kickback Affidavit affirming his or her compliance with the Anti-Kickback Act, 41 U.S.C. of November 7, 1986.

#### **4.0 Bidding Procedure**

**4.1** The PM will solicit bids for rehabilitation work through the program's competitive bid process. The PM will send or e-mail an Invitation to Bid package to pre-qualified contractors. Pre-qualified contractors may submit bids on any or all of the projects included in the package of Invitation to Bid.

**4.2** All contracts and change orders must be executed on the appropriate program forms. All participating contractors must obtain a copy of the Contractor's Manual (the Contractor's Manual is the Single-Family Housing Rehabilitation Standard plus all contracting forms). This manual is part of each and every contract.

- A. Bids must be submitted on the approved program forms and signed by hand. Bids and all other bid documents must be written in ink. If erasures or other changes appear on the forms, the person signing the bid must initial each erasure or change. No "white-out" is to be used.
- B. All prices requested on the bid form must be provided. All information called for on the bid form must be entered on the form including alternates, except that the contractor is not required to submit bids for any allowances that are included in the Scope of Work. Failure to properly complete the bid proposal form will render the bid invalid.
- C. Explanation requests regarding the meaning or interpretation of the Invitation to Bid or other contract documents must be submitted prior to the time and date set for bid opening. Sufficient time must be allowed the PM to provide a written reply to reach all contractors prior to closing date. Any changes to the bid package given by the PM will be in the form of addendum and will be made available to all bidders. Receipt of any addendum must be acknowledged in the space provided on the bid proposal. Neither the PM nor the owner is bound by oral information given prior to bid opening unless that information is also conveyed by the Invitation to Bid or other contract documents.
- D. Bids must be enclosed and sealed in an envelope. The bidder is responsible for placing the name and address of their firm, the invitation number, the owner's name and address, and the bid opening date on the outside of the bid envelope. Bids received prior to the date set for opening will be securely kept, unopened. The PM will determine when the specified time for bid opening has arrived and no bid received after that time will be considered. The method for bid delivery selected by bidders is at the contractor's risk.
- E. No responsibility will attach to the PM for prematurely opening a bid not properly addressed and identified. Telephone and facsimile bids will not be considered. The PM or owner may reject as non-responsible any unsigned or incomplete bid package, may reject any and all bids, and may waive any irregularity in a bid.
- F. Written modifications of bids already submitted will be considered if received at the PM's office, as designated in the Invitation to Bid, before the time and date set for opening.
- G. Bids may be withdrawn at any time prior to bid opening. Negligence on the part of bidders in preparing their bids confers no right of withdrawal or modification of the bids

after such bids are accepted. If a contractor withdraws a bid after bid opening, and that bid was the low bid and was considered a responsive bid by the PM, that contractor may be disqualified from bidding further projects for a period of six months.

- H. Bids will be publicly opened and read aloud at the time and date set for opening on the Invitation to Bid.
- I. After bids are opened, contractors are prohibited from directly or indirectly initiating discussion with the owner for the purpose of influencing him or her to enter or not enter into a specific contract. Contractors are also prohibited from offering to perform work on terms other than those described in their submitted bids, and from offering to undertake work on a project not included in the Invitation to Bid. From the time the contractor signs a contract until the work has been accepted as complete, the contractor shall not directly or indirectly solicit or negotiate with the owner for any new or different work, except with the advance approval of the PM. A contractor who engages in these prohibited practices may be disqualified from further participation in the program.
- J. Guidelines for maximum bid amounts: These guidelines will establish a range of acceptable bids from which the owner is free to choose from. This range of acceptable bids will be established by adding a sliding scale percentage on top of the SECOND LOWEST BID. The maximum bid guidelines are as follows:

SECOND LOWEST BID	ACCEPTABLE RANGE ABOVE THE SECOND LOWEST BID
Less than \$10,000	14%
\$10,000-\$15,000	10%
\$15,001 to \$20,000	8%
Greater than \$20,000	6%

Example:

If the SECOND lowest bid was \$14,000, the acceptable range would be 10% above this bid:

$$\$14,000 + 10\% (\$1,400) = \$15,400$$

The owner would then be free to choose ANY of the bids for that project that were equal or less than \$15,400. Any bids above \$15,400 would be rejected by the PM.

- K. Bid Evaluation Process: It is the intention of the PM to obtain the most advantageous bid for each client participating in the Thurston County Single-Family Housing Rehabilitation Program.
- L. Authorization to Proceed: The contractor shall not commence work until the Standard Form of Agreement between owner and contractor is signed, any Notice of Contract Award notwithstanding. It is anticipated that construction will begin within 2 weeks of contract signing. Any deviation from this startup requirement must be approved by the PM. If construction does not commence within sixty (60) days after the owner has accepted the bid, the bid shall become null and void, and the contractor's obligation shall be at an end unless the contractor reasonably indicates by words or actions his or her intention to remain bound thereby.

**4.3** The PM routinely prepares an in-house cost estimate for each housing rehabilitation project. This estimate is prepared before the project is released for bid and is intended to provide both the homeowner and PM with an assessment of the cost of the proposed work.

**4.4** It is not the intent of this program to jeopardize the contractor or the homeowner by requiring either to commit to a non-responsive bid. If, however, the low bidder, after having his/her bid deemed non-responsive, still wants to be awarded the project, they will be required to provide the PM with a schedule of values that takes into account all of the items defined in the Scope of Work. The contractor must also be able to satisfy the PM that all work will conform to all specifications

provided in the Single-Family Housing Rehabilitation Standard, and the current codes as adopted by Thurston County.

**4.5** If convincing evidence of satisfactory completion cannot be provided to the PM, and the contractor still wants to undertake the project, and the homeowner still wants to have the contractor undertake the project, the PM will then require the contractor to provide a Performance Bond for the full amount of their bid. The cost of such a bond will be added to the amount of the contract as a change order.

**4.6** Any questions or concerns regarding this policy should be brought to the attention of the PM's field agent or program director.

## **5.0 Time Completion**

**5.1** Subject to alteration by written change order, the work must commence within the time stated in the contract documents and must be completed within the time specified. Work completion delays which are deemed by the PM to be caused by negligent scheduling or non-cooperation on the part of the contractor may result in the assessment of liquidated damages at the rate of \$50.00 for each day or part thereof or 1% of the contract total including change orders at the discretion of the PM. Such penalty shall be withheld from the final payment due the contractor.

## **6.0 Contractor Disqualification**

**6.1** A contractor or subcontractor who fails to meet minimum standards of professionalism, as evidenced by poor quality of work, use of unethical business practices, failure to perform, refusing to cooperate in a timely manner with the PM, homeowner, or other contractors, or practices discrimination may be disqualified from further participation by the PM.

**6.2** Before disqualifying a contractor or subcontractor, the PM will notify the contractor in writing of the specific complaints or deficiencies, giving the contractor 10 business days to respond. The PM staff will work with the contractor to correct the problems. The PM may take other administrative measures such as suspension from bidding, limiting the number of jobs, increasing retainage from payments, requiring a performance bond, etc. However, if the problems are not corrected or if the contractor has not acted in good faith, the PM will provide written notification that the contractor has been disqualified from the program. A contractor who has been disqualified will be removed from the Eligible Contractors List and may not bid on any future program projects.

A. In the case of an extreme, unprecedented, or egregious violation, the PM reserves the right to suspend the above described policies and, after consultation with the Thurston County HOME Staff, the contractor may be summarily disqualified.

**6.3** Grounds for disqualifying a contractor include, but are not necessarily limited to:

- A. Work of sub-standard quality;
- B. Work performed that does not comply with all local and state codes;
- C. Material failure to perform;
- D. Non-compliance with this rehabilitation standard or the Contractor Manual;
- E. Non-payment of accounts to suppliers, other contractors, subcontractors or employees;
- F. Subcontracting work to disqualified contractors;
- G. Engaging in retaliatory actions against those who file complaints or charges of discrimination or harassment;
- H. Illegal or unethical practices;
- I. Failure to comply with applicable Federal regulations;
- J. Compromising the program and its staff by hiring a staff member or by loaning or giving

- money or anything of substantial value to a staff member;
- K. Non-compliance with the anti-discrimination laws in Title VII of the Civil Rights Act of 1964;
- L. Proven allegations of discrimination, including sexual harassment, against any employee, subcontractor or recipient of service.

**6.4** HUD regulations require that the department be notified of the dismissal or disqualification by a local authority of a contractor from a HUD-funded project, and of the reason for disqualification. HUD may use this information; along with any other information it may obtain, to evaluate the contractor for possible debarment. A contractor debarred by HUD may not work on any projects where HUD assistance or finances are involved, including new housing and commercial buildings, and repairs to FHA or VA owned homes, as well as housing rehabilitation.

## **7.0 Conflict of Interest**

**7.1** No person directly involved in the implementation of, or who serves in a decision or policy-making capacity with the program shall derive profit, advantage or benefit there from except his or her lawful compensation while in such capacity.

**7.2** A person belonging to any of the following groups shall be deemed to have a conflicting relationship with the program, and no application for rehabilitation assistance, or any offer of construction services from such person, shall be considered until such time as the conflicting relationship is terminated:

- A. Thurston County Commissioners
- B. HOME Consortium Members
- C. Rehabilitation Program employees, and members of their immediate families
- D. Policy Committees or Board member of any contracted management entity

**7.3** County employees who are directly involved in an implementation, decision or policy-making capacity with the program and their immediate families shall be deemed to have a conflicting relationship with the program. For the purposes of this policy, ineligible County employees include those specifically listed and those employees working in a listed department:

- A. Commissioners Office
- B. Housing and Community Renewal
- C. Building Official
- D. Building Inspectors
- E. County Attorneys representing Housing and Community Renewal
- F. HOME and Community Development Block Grant (CDBG) Subrecipients

**7.4** Incidental Involvement: Applicants who are incidentally involved in the program but who are not directly involved in an implementation, decision or policy making capacity such as secretaries for the Housing and Community Renewal, contractors working through the program in the employ of homeowners receiving assistance, or members or officers of neighborhood steering committees, may be assisted if a signed and dated statement acknowledging their relationship to the program and stating that a conflict of interest does not exist, is submitted and retained in the homeowner's file. If any County employee not belonging to excluded groups above applies for program assistance and in the judgment of the program staff there is a question as to whether that person is directly involved in an implementation, decision, or policy making capacity with the program, then that question shall be submitted to the Thurston County Manager for a decision as to whether there is a conflict of interest with that particular employee.

## **8.0 Non Discrimination and Affirmative Action**

- 8.1** Neither the contractor, owner or other person(s) doing work, performing service, supplying materials or otherwise receiving benefit under the program shall discriminate against any person, whether employee, applicant for employment, contractor, subcontractor, supplier or other person, for reasons due to race, color, ethnic origin, religion, creed, gender, age, disability, marital or familial status or sexual orientation. The contractor shall take affirmative action to insure that employees are treated during employment without regard to their race, creed, color or national origin, as provided in Executive Order 11246. The contractor, subcontractor, and suppliers shall to the greatest extent feasible give opportunities for training and employment to lower-income residents of the project area and award contracts for work in connection with the program to business concerns located in or owned by persons residing on the area, as provided in Section 3 of the Housing and Urban Development Act of 1968 (12 USC 1701u).
- 8.2** The contractor shall make every reasonable effort to utilize Women Business Enterprises (WBE) and Minority Business Enterprises (MBE) as subcontractors and material suppliers.

## **9.0 Standard Conditions**

- 9.1 Labor and Materials:** The contractor will furnish all cartage, labor, equipment, and materials, which may be necessary to the execution of the contract unless directed otherwise by the Invitation to Bid. If removal of existing equipment or materials is required prior to installation of new, that removal shall be a part of the new installation. The materials furnished by the contractor shall be new and of the best quality (or as specified), and the labor shall be performed by qualified workers in accordance with the usual and customary standards and practices of the trade. "Seconds", pattern flawed, damaged, reject, or used materials will not be installed.
- 9.2 Assignment and Subcontracting:** The contract, or any part thereof, shall not be assigned or subcontracted except to subcontractors who are licensed, bonded, and insured in the State of Washington, as required by law, and have not been disqualified from participation in the program. The General Contractor is responsible to ascertain whether an intended subcontractor is licensed, bonded, insured and eligible before entering into the subcontract.
- 9.3 Subcontracts; Qualified Labor:** The contractor remains fully responsible for all work performed under the contract whether or not said work is subcontracted and shall be fully liable to the owner for the acts and omissions of all subcontractors and their respective agents or employees. The contractor assures that he or she, and his or her subcontractors, will employ only qualified workers for work awarded through the program. The owner reserves the right to order subcontractors or employees removed from the job for reasonable cause.
- 9.4 Change Orders:** No work will be performed other than that described in the contract documents unless a written change order has been first executed by the owner and contractor and approved by the PM. This includes additional work that is done at no added cost to the homeowner.
- 9.5 Warranty of Title:** The contractor warrants good title to all material, supplies and equipment installed or made a part of the work and agrees upon completion to deliver the premises, together with all improvements and appurtenances constructed or placed thereon, to the owner free from any claims, liens, or charges arising from materials or services procured by the contractor. The contractor is not, however, precluded from installing metering devices or other utility company equipment, to which title is normally retained by the utility company.
- 9.6 Building Codes:** The contractor shall comply with all applicable State of Washington and Thurston County building and related codes, laws and ordinances in force at the time of award of

the contract, and shall obtain, at his or her expense, such permits, certificates and/or licenses as may be required for performance of the work.

- 9.7 Contractors Manual:** The Contractor's Manual is the Single-Family Housing Rehabilitation Standard plus all contracting forms. All work performed under the contract shall meet or exceed the material and workmanship specifications listed in the manual and in any amendments thereto in effect at the time the contract is signed, except as waived or modified by the Invitation to Bid or by a change order.
- 9.8 Occupancy of Premises:** It is to be expected that the premises will remain occupied during the work. The contractor, his/her subcontractors, their employees and the owner and his/her tenants shall in good faith accommodate each other in the performance of the contract. In the event the premises are not occupied during the work, the contractor shall take reasonable measures to safeguard the property.
- 9.9 Use of Premises:** The contractor shall have the reasonable use of the property for storage of materials, tools and equipment but will take care to avoid creating fire or other hazards. The owner shall grant the contractor reasonable use of electricity, water, and telephone utilities in the performance of the work. Final payment will not be made until all materials not used, debris and equipment have been removed from the premises.
- 9.10 Owners Insurance:** The contractor and the County both have the right to be satisfied that the owner has in effect liability and casualty insurance sufficient to protect their interests in the premises.
- 9.11 Discovered Conditions:** The contractor shall immediately cease work and notify the owner and the PM if, in the course of the work, he/she discovers hidden conditions which differ substantially from those usually found and expected on similar jobs and which could materially affect the cost or outcome of the project. The owner and the contractor may, with the approval of the PM, amend the contract as necessary with a change order to provide for the discovered condition.
- 9.12 Indemnification:** The contractor is an independent tradesperson and in no sense an agent of the owner, the PM, Thurston County or a Subrecipient that receives HOME and/or CDBG funding. The contractor agrees to indemnify and hold harmless the owner, the PM, Thurston County, and their employees, agents, and assigns, from all losses, damages, costs, charges, expenses, and liabilities arising out of performance of the contract through negligence by the contractor, his/her subcontractors, or their agents or employees.
- 9.13 Dispute; Parties to Contract:** The contractor will assume that the owner is not experienced or knowledgeable concerning construction work and, therefore, will fully communicate with the owner throughout the construction process and deal with him/her with the utmost integrity. All rehabilitation contracts executed through the program are binding upon the owner and the contractor. Neither the PM, Thurston County, nor their agents or staff, are parties thereto. Should a dispute arise concerning the meaning of the contract documents or the performance of the contract, the parties may request the PM to assist in its resolution. Any disputes arising between the owner and contractor over the contract work must be ultimately resolved by those parties, as the PM is neither responsible for enforcement or performance of the contract. The contractor also understands that if the owner is unwilling to authorize payment to the contractor, generally, the PM cannot make the payment or be held responsible for payment. However, failure of the owner to approve a reasonable request for payment, as verified by the PM and/or Thurston County-Housing and Community Renewal, could possibly result in the Certificate of Payment being processed by the PM without the signature of the owner. The PM may then take further steps to arbitrate between the owner and the contractor up to and including formal termination of the contract and if, during binding arbitration, an order by the arbitrator to release funds to the contractor is issued, it

will be honored by the PM. Thurston County-Housing and Community Renewal may also allow release of funds upon evaluation of an exceptional situation request such as the death of the home owner.

- 9.14 Interpretation:** Interpretation of the contract documents shall be guided by the purposes of the program funding the project, as given in the county's program outline (the original Single-Family Housing Rehabilitation Program document approved by the board in 1996 and since revised), relevant federal statutes and regulations, and by the practices and customs prevailing in the construction industry.
- 9.15 Non-Discrimination and Affirmative Action:** Neither the contractor, owner, or other person doing work, performing service, supplying materials, or otherwise receiving benefit under the program, shall discriminate against any person, whether employee, applicant for employment, contractor, subcontractor, supplier or other person, for reason of race, religion, color, sex, marital or familial status, national or ethnic origin, disability, age, creed, gender or sexual orientation. The contractor shall take affirmative action to insure that applicants are employed and employees are treated during employment without regard to their race, creed, color or national origin, as provided in Executive Order 11246. The contractor, subcontractors, and suppliers shall to the greatest extent feasible, give opportunities for training and employment to lower income residents of the project area and award contracts for work in connection with the program to business concerns located in or owned by persons residing in the area, as provided in Section 3 of the Housing and Urban Development Act of 1968 (12 USC 1701u).
- 9.16 Examination of Site and Contract Documents:** Upon submission of the bid, the contractor acknowledges that he\she has visited the site where work is to be performed and is fully acquainted with the particular characteristics thereof and with the general local conditions which could affect the cost of performing the scheduled work. The contractor further acknowledges that he\she has thoroughly examined and is fully familiar with all contract documents. Failure by the contractor to examine the site or the contract documents does not relieve him/her from the consequences of improperly estimating the difficulty or cost of successfully performing the work. The PM and the owner assume no responsibility for any understandings or representations concerning conditions alleged to have been made by them or by their agents or employees prior to the execution of the contract, unless included in the contract documents.
- 9.17 Salvage:** Unless otherwise indicated in the Scope of Work, all salvageable materials, equipment, and fixtures removed for replacement under the contract become the property of the contractor.
- 9.18 Damage/Annoyance:** The contractor will promptly repair and restore to their original condition any wall, ceiling, or floor surfaces, or any other structures, fixtures, or furnishings on the property damaged by the contractor in the course of performing contract work. The contractor shall, at all times, take precautions to minimize inconvenience to the owner and residents and avoid annoyance to neighbors and other third parties.
- 9.19 Guarantee:** The contractor guarantees all work performed under the contract against defects in materials and workmanship for a period of one year after the date of final acceptance of the work. The warranty period begins on the date of final acceptance of the work. Upon notice from the owner or PM, the contractor will promptly repair or remedy any defects and will reimburse the owner for any consequential damages, provided the owner has, immediately upon discovery, taken necessary and reasonable steps to mitigate such damages. Prior to final payment, the contractor will forward any manufacturer's warranty certificates or warranty statements to the homeowner. If incorrect installation of any material results in voiding of a manufacturer's warranty, the contractor will make necessary corrections and assume the manufacturer's warranty obligations. These guarantees will remain in effect notwithstanding any sale of the property and transfer of title during the guarantee period. Neither the PM nor Thurston County in any way warrants or guarantees the

workmanship or materials provided by the contractor, or assumes any liability should the contractor, or any of his/her subcontractors or suppliers, fail to honor their guarantee obligations. However, if funds are available and the General Contractor is no longer in business, the PM may be able to address valid concerns through the Warranty Default Fund.

**9.20 Attorney's Fees:** In the event that either party engages an attorney during conflict resolution to force performance of any contract terms, or to recover any payments due there under, the prevailing party shall be entitled to recover his/her costs.

## **10.0 Definitions**

These provisions are incorporated by reference into all contracts executed through the Single-Family Housing Rehabilitation Program.

**Acceptance:** Acceptance of the work includes approval and consists of written indication that the work has been completed in fulfillment of the Contract Documents to the satisfaction of the owner.

**Addendum:** The term "addendum" refers to any written changes made to the Scope of Work by the PM while the project is out to bid. Any addenda issued for a project becomes part of the bid package. Each contractor must acknowledge receipt of the addendum on the Bid Proposal form.

**Allowance:** An allowance is an amount specified by the PM to cover the cost of specific items in the Scope of Work. The work for any items assigned an allowance amount may not exceed that amount without the agreement of the homeowner and PM. Allowance amounts are clearly stated in both the proposed Scope of Work and on the Bid Proposal Form.

**Alternate:** An Alternate is defined as a specific part of the work, separate from the main portion of the Scope of Work, for which an individual cost is requested on the Bid Proposal. Alternate prices must include all labor and materials for a complete installation. The cost of any alternates included in the Bid Package will be added to the final bid price if approved by the homeowner.

**Approval:** Approval of the work means the official, written indication by the Building Inspector that he or she has, after inspection, determined that the work has been completed in accordance with all applicable county ordinances, regulations, permits, and approved plans.

**Approved Alternate or Approved Equal:** An alternate product or manufacturer which is not specifically named in the Contractor's Manual Specifications or is not listed on the Material Checklist but has been approved for use as an alternate to those products and manufacturers that are listed in the Specifications and Material Checklist.

**Bid Coversheet:** The first page of the Bid Package which shows the bid due date and summarizes the types of work to be completed by construction division. The Bid Coversheet also contains any special information needed with regard to making contact with the homeowner such as work phone numbers and/or hours.

**Bid Package:** The bid package contains all of the written documents prepared by the PM for use by the contractor in the preparation of the contractor's bid for the project. The bid package usually consists of, but is not limited to, the following documents:

- A. Bid Coversheet
- B. Bid Proposal
- C. Scope of Work
- D. Lead-based Paint Summary (if applicable)

**Bid Proposal:** A complete and properly executed form provided to the contractor as part of the bid package. The contractor enters the base bid amount for the project plus any allowance or alternate amounts on this form and submits it to the PM by the date specified on the bid coversheet.

**Certificate for Payment:** A statement from the PM to the County confirming the amount of money due to the contractor for work completed. The statement is signed and dated by the PM field agent verifying;

- A. Site Visit
- B. Bid Proposal
- C. Scope of Work
- D. That work is completed and materials are installed and meet required professional standards,
- E. And program payment procedures.

In addition, the statement is signed by the home owner verifying acceptance of the materials and work completed and is also signed by the contractor verifying that the work and materials listed in the request comply with work specified in the Scope of Work only, any subsequent change orders, and the rehabilitation standards in the contractor's manual. Or, checks made payable to Contractor/Homeowner.

**Change Order:** A written order to the contractor from the PM, and approved by the owner, that is issued after the execution of the contract. It authorizes a change in the work, an adjustment in the contract sum, or a change in the contract time period as originally defined by the contract documents.

**Codes and/or Building codes or IBC:** A published body of rules and regulations for building practices, materials, and installations, designed to protect the health, welfare, and safety of the public, such as a building code, health code, etc. Codes established by municipal, state, or federal authorities usually have the power of law. The IBC and IRC are the current codes adopted by the Thurston County.

**Contingency:** A sum designated to cover unpredictable or unforeseen items of work, or changes subsequently required by the homeowner or PM.

**Contract Documents:** The Contract Documents, which define the scope of the work and set forth the respective rights and duties of the contractor and the owner, consist of the Agreement between the owner and the contractor, Conditions of the Contract (General, Supplementary, and other Conditions), the Scope of Work, Drawings, Specifications, addenda issued prior to execution of the contract, other documents listed in the Agreement, and Modifications issued after the execution of the contract. These documents comprise the Contract for Construction which represents the entire and integrated agreement between the parties and supersedes all prior negotiations, representations, or agreements either written or oral. The contract may be amended or modified only by a written Modification which is defined as a written amendment to the contract signed by both parties, or a written Change Order. The contract documents shall not be construed to create a contractual relationship of any kind between the PM and the contractor, the PM and the owner, the owner and a sub or sub-subcontractor, or any persons or entities other than the owner and the contractor. The PM shall, however, be entitled the authority to performance and enforcement of obligations under the contract intended to facilitate performance of the PM's duties.

**Contractor:** A general or specialty contractor currently registered with the State of Washington Department of Labor and Industries pursuant to RCW 18.27 or 19.28, or other person who has been approved for program participation by the PM, and who is bidding for or has been awarded a contract for work pursuant to one of Thurston County's Housing Rehabilitation Programs.

**Days:** Unless specifically otherwise provided in a given contract, "days" means consecutive calendar days.

**Draw Request:** This is an application by the contractor for a progress payment for work completed and/or materials that have been ordered and paid for or are on site but not installed (i.e. cabinetry).

**Field Agent:** An employee of the PM and project manager for each county project. The field agent oversees the entire construction portion of the project and is responsible for monitoring contractor compliance and ensuring that all work, including change orders, meets the program guidelines and standards.

**General Conditions:** That part of the contract documents (of the Contract for Construction) which sets forth many of the rights, responsibilities, and relationships of the parties involved.

**HUD:** Abbreviation for the U.S. Department of Housing and Urban Development.

**IBC:** (International Building Code) The compilation of building codes as adopted by Thurston County which govern construction of structures within the county limits.

**IRC:** (International Residential Code) Building codes as adopted by Thurston County which govern construction and remodeling of residential structures.

**Invitation to Bid:** A solicitation of competitive bids on a project in the program presented or available to contractors that have pre-qualified for the program.

**Owner or Homeowner:** The homeowner is the legal or equitable owner or owners of record of the property to be rehabilitated under the program/contract.

**Pride of Ownership:** An applicant may be declared ineligible for assistance that evidences exceptionally low pride of ownership in his/her property. Conditions reported by the PM, construction services (the contractor or subcontractors), and Building Division or Code Enforcement staff which warrant deferral or denial of assistance include but are not limited to:

- A. Abuse by animals such as evidence of unsanitary conditions or of damage to floors, carpets, furnishings, new construction, or yards caused by animal urine or feces,
- B. Illegal or improper use of the property for purposes other than as a single-family residence in violation of building or local zoning ordinances, for example, maintaining or operating junking, salvage, auto storage or repair, woodcutting or storage (other than for personal use), or activities on the property when such use is illegal or constitutes a health or safety hazard or is a visual detriment to the neighborhood,
- C. Deliberate abuse such as excessive damage to the home, fixtures, or new construction not attributable to normal wear and tear and,
- D. Housekeeping and maintenance such as conditions of clutter or un-cleanliness in or around the house when such conditions constitute a potential health hazard to staff, contractors, employees or others, or will severely hamper or increase the costs of rehabilitation work or adversely impact the appearance of the neighborhood.

**Product Data:** Specifications, drawings, diagrams, illustrations, schedules, performance charts, brochures and other data prepared by the manufacturer which illustrate a specific product's ability to perform up to the standards set forth in the project's specifications.

**PM (Program Manager):** The PM is the entity that manages the program under a contract with Thurston County.

**Project Closeout:** That stage in the process of construction when all work is completed as specified to where, among many other things, final payment and exchange of warranties is executed.

**Project Documentation:** Project Documentation consists of all the drawings, addendums, specifications, notes, and additional information provided in the bid packet, Contractor's Manual, building codes, manufacturer's specifications, and HUD-related specifications as they relate to a single project within the program.

**Proposal Request:** A proposal by the contractor to the PM requesting a change either in the scope of work or the time allotted for completion.

**Qualified Worker:** A person who: 1) possesses a current and valid certificate of competency, apprentice permit or other license issued by the appropriate agency as required by law; or 2) where the nature of the work does not require certified, permitted or licensed workers, possess the requisite skill and training and has all the necessary supervision to complete the Work to the standard of quality prevailing in the trade.

**Release of Lien:** Final payment to the General Contractor will be held until such time as all Releases of Lien have been provided to the PM.

**Sample:** A physical sample of the type of product being reviewed. To include standard color range, texture, etc. that is available.

**Schedule of Values:** A document furnished by the contractor to the PM that is used to determine the amount of project progress up to a given point. The values recorded in this document may not reflect the actual costs of individual building components as they include all cost overhead as well. The document is used as the basis for reviewing the contractor's applications for progress payments.

**Scope of Work:** The document prepared by the field agent that contains a list of all work required under the program and authorized by the homeowner.

**Shop Drawings:** Drawings, diagrams, illustrations, schedules, performance charts, brochures and other data prepared by the Contractor or any other subcontractor, manufacturer, supplier, or distributor, which illustrate how specific portions of the work shall be fabricated and/or installed.

**Single-Family Housing Rehabilitation Program:** The program operated by Thurston County-Housing and Community Renewal for providing housing repair and rehabilitation incentives and assistance utilizing Community Development Block Grant or HOME funds, or funds advanced to owners by private lenders pursuant to an agreement with the County.

**Specifications:** A part of the Contract documents contained in the Contractor's Manual and project documentation consisting of written descriptions of a technical nature of materials, equipment construction systems, standards, and workmanship. The PM has adopted a modified version of the Construction Specifications Institute's (CSI) system which contains all sixteen construction divisions but in a more user/homeowner-friendly format.

**Work:** All labor necessary to produce the construction required by the Contract Documents, and all materials and equipment incorporated or to be incorporated in such construction.

## II. **STANDARD SPECIFICATIONS**

The following specifications are incorporated by reference into every rehabilitation contract entered into through the Program. They include general and specific requirements for various rehabilitation tasks.

**Applicability:** In the event of a conflict between these Standard Specifications and the Invitation to Bid, the latter shall govern. Not all tasks for which bids might be solicited can be specified in this Manual. Tasks for which methods and materials are not specified will be performed as indicated in the Invitation to

Bid and in accordance with the best practices of the trade, the current codes as adopted by Thurston County, and the Manufacturers Specifications.

**CSI reference numbers:** The PM has adopted a modified version of the Construction Specifications Institute's (CSI) system which contains all sixteen construction divisions. Where applicable, the CSI division section numbers are included for reference in parenthesis following related general headings of the standard specifications.

## **1.0 General Conditions (01000)**

### **1.1 Summary of Work**

- A. Project Identification as follows:
  - 1. See Contract Documents
- B. Contract Documents were prepared by the PM.
- C. The work as described in the Contract Documents.

### **1.2 Work Restrictions**

- A. Contractor's use of Premises: During construction, the contractor shall have reasonable use of the property for storage of materials, tools, and equipment but will take care to avoid creating fire or other hazards.
- B. Owner shall grant the contractor reasonable use of electricity, water, and telephone utilities in the performance of the work.
- C. Contractor's use of the premises is limited only by the owner's right to perform work or employ other contractors on portions of the project and as follows:
  - 1. It is expected that the premises will remain occupied during the work.
  - 2. The contractor, subcontractors, the owner and occupants of the house shall in good faith accommodate each other in the performance of the contract.
  - 3. In the event the premises are not occupied during the work, the contractor shall take reasonable measures to safeguard the property.
  - 4. The PM accepts no responsibility or liability for any loss or damage to the premises when the owner and contractor have agreed the work may take place while the premises are unoccupied by the owner or the owner's agent.
- D. Any known special provisions or restrictions, such as environmental regulations, rules governing work in or adjacent to occupied spaces, restrictions on hours of work, etc., will be indicated on the Contract Documents.

## **2.0 Price and Payment Procedures (01200)**

### **2.1 Allowances**

- A. Allowances are to be included in the Contract Sum.
- B. A list of allowances, if any, can be found in the Contract Documents.
- C. At the PM's request, the contractor shall submit an invoice showing the cost of the product or service furnished under each allowance.
- D. Reconciliation of Allowance amounts with actual costs will be made by Change Order.
- E. When the cost of the product or service furnished under the allowance is less than the amount allotted, a Proposal Request reflecting the amount to be credited to the owner will be completed by the contractor and submitted to the program director for proper credit.

### **2.2 Alternates**

- A. An alternate is an amount proposed by bidders and stated on the bid form for certain work that may be added to or deducted from the base bid amount.
- B. If the owner accepts an alternate, the PM will generate a Change Order in either the amount of construction completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
- C. The cost or credit for each alternate is the net addition to or deduction from the Contract

Sum to incorporate the alternate into the work.

D. No other adjustments are made to the Contract Sum.

### **2.3 Contract Modification Procedures**

A. The PM will issue a Change Order for all changes to the contract based upon a Proposal Request from the contractor. The Change Order may or may not affect the Contract Sum or Time.

B. Upon approval by the owner, the Change Order will go into effect and will become part of the Construction Contract.

### **2.4 Unit Prices**

A. Unit Prices, when required, will be furnished by the contractor as part of the Schedule of Values.

1. Unit prices will reflect the price per unit of measure for materials, products and/or services added or deducted from the contract.

B. Changes to the work incorporating unit prices will be made by Change Order.

### **2.5 Payment Procedures**

A. The contractor will submit a Schedule of Values to the PM that breaks down the Contract Sum into at least one line item for each specification section.

B. A complete Schedule of Values must be submitted to the PM prior to, or along with, the first application for payment.

C. Proposal requests for changes to the work (either additions or deletions) must be submitted to the PM at least two business days prior to the next on-site progress meeting.

D. Application for payment will be made in accordance with the Schedule of Values established in the agreement.

1. The contractor will sign the Certificate for Payment. In so doing, the contractor warrants the percent of work for which payment is requested is satisfactorily completed and in accordance with all the contract documents.

2. The application for payment must be submitted at least two days prior to the next progress meeting.

3. The PM will sign the Certificate for Payment verifying that the contractor has completed said percent of the work satisfactorily and is thereby recommending to the owner, the release of payment to the contractor.

4. The owner will sign the Certificate for Payment thereby accepting the work completed to date and the materials installed, and approving the PM's recommendation for payment.

E. Final payment to the General Contractor will be withheld until such time as all Lien Releases have been received by the PM.

## **3.0 Administrative Requirements (01300)**

### **3.1 Project Management and Coordination**

A. It is the Responsibility of the contractor to verify information shown on the Scope of Work, Drawings, and all other Construction Documents.

B. Progress meetings will be held at project site for each Application for Payment.

1. The owner, contractor and PM shall attend.

C. It will be the responsibility of the contractor to promptly inform the owner of the date and time of each progress meeting.

D. If the owner cannot be in attendance, the contractor will be responsible for obtaining the owner's signature on the Certificate for Payment and Change Order documents.

### **3.2 Construction Schedule**

A. The construction schedule agreed to in the Construction Contract shall be strictly adhered to.

B. It is the responsibility of the contractor to promptly inform the owner of any delays to the construction schedule.

- C. Requests for extension to the construction schedule must be made, in writing, to the PM, who will have final approval authority.

#### **4.0 Temporary Facilities and Controls (01500)**

##### **4.1 Section Requirements**

- A. At the earliest possible time, change over from use of temporary utility services to use of permanent utilities.
- B. Remove temporary facilities and controls before Project Closeout.

##### **4.2 Materials and Equipment**

- A. Provide new materials and equipment for construction of temporary facilities and controls as appropriate to the work being undertaken and/or as indicated on the drawings or specifications.

##### **4.3 Temporary Utilities**

- A. Provide temporary electric power, lighting, water, fire protection, gas, and telephone services to the existing facilities during interruptions of permanent utilities exceeding more than eight consecutive hours.
- B. Arrange for and coordinate services with local utility companies.
  - 1. Contractor shall also pay use charges for temporary utilities.
- C. Provide temporary heat for curing or drying of work, and for protection of existing and new construction from adverse affects of low temperatures.
  - 1. Use of gasoline-burning heaters and open-flame heaters is not permitted.
- D. Provide temporary sanitary facilities.
- E. Comply with regulations and health codes for type, number, location, and maintenance of facilities.

##### **4.4 Temporary Construction Facilities**

- A. Provide support facilities as necessary for efficient execution of the work.
  - 1. Temporary facilities located within the construction area or within 30 feet of building lines shall be of noncombustible construction.
- B. Provide temporary enclosures for protection of construction and workers from exposure and inclement weather and for containment of heat.
- C. Install project identification and other signs in locations approved by owner to inform the public and persons seeking entrance to the project.
- D. Collect waste daily and dispose of off-site according to local ordinances, when containers are full.
  - 1. Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of materials according to applicable laws and regulations.

##### **4.5 Temporary Controls**

- A. Fire Protection
  - 1. Provide adequate number and types of fire extinguishers.
  - 2. Store combustible materials in fire-safe containers in fire-safe locations.
  - 3. Prohibit smoking in hazardous fire-exposure areas.
  - 4. Supervise welding operations, combustion type temporary heating units, and similar sources of fire ignition.
- B. Provide temporary barricades, warning signs, and lights to protect the public and construction personnel from construction hazards.
- C. Provide temporary environmental controls as required by authorities having jurisdiction including but not limited to, erosion and sediment control, dust control, noise control, and pollution control.

## **5.0 Product Requirements (01600)**

### **5.1 Section Requirements**

- A. Provide products of the same kind from a single source. All products supplied to a job or used on the job shall be new unless otherwise specified in the Scope of Work.
- B. Deliver, store, and handle products according to manufacturer's written instructions, using means and methods that will prevent damage, deterioration, and loss, including theft.
  - 1. Schedule delivery to minimize long-term storage and to prevent overcrowding construction spaces.
  - 2. Deliver in manufacturer's original sealed packaging with labels and written instructions for handling, storing, protecting and installing.
  - 3. Inspect to ensure compliance with the contract documents and to ensure items are undamaged and properly protected.
  - 4. Store heavy items in a manner that will not endanger supporting construction.
  - 5. Store items subject to damage aboveground, under cover in a weather-tight enclosure, with adequate ventilation to prevent condensation. Maintain temperature and humidity within the range required by the manufacturer.

### **5.2 Product Options**

- A. Provide items that comply with the contract documents and specifications as outlined in the Contractor's Manual. All items must be undamaged and new at the time of installation.
  - 1. Provide products and equipment complete with accessories, trim, finish, and other devices and components needed for a complete installation and the intended use and effect.
- B. It is the contractor's responsibility to remove manufacturer's labels or trademarks, except for required nameplates, on surfaces exposed to view in occupied spaces or on the exterior.
- C. Select products as follows:
  - 1. Where this standard names only a single product or manufacturer, provide the item indicated. No substitutions will be permitted.
  - 2. Where products or manufacturers are specified by name accompanied by the term "or approved equivalent" comply with provisions concerning "product substitutions" to obtain approval for use of an unnamed product or manufacturer.
  - 3. Where this standard describes a product and lists characteristics required, with or without naming a brand or trademark, provide a product that complies with the characteristics and other requirements.
  - 4. Where this standard requires compliance with performance requirements, provide products that comply and are recommended in writing by the manufacturer for the application.
  - 5. Where this standard requires compliance with codes, regulations, or reference standards, select a product that complies with the codes, regulations, or reference standards.
- D. Unless otherwise indicated, the owner will select color, pattern, and texture of products from manufacturer's ranges of options that are determined by the PM to be within program funding limits. If the owner selects a finish not approved in the rehabilitation manual, and if the finish is approved by the program manager, then the owner must pay the additional cost to the general contractor. At the time of selection, such changes shall be noted in a change order.
- E. The Contract Documents/Scope of Work will specify products that will be furnished by the owner and shall be installed by the contractor as part of the work.
  - 1. When products furnished by the owner are installed, the contractor will be required to warranty the installation of the product but not the product itself.

### **5.3 Product Substitutions**

- A. Reasonable and timely requests for substitutions will be considered.

- B. Substitutions include changes proposed by the contractor after award of the contract, in products and methods of construction required by the Contract Documents.
- C. Submit a copy of each request for product substitution.
- D. Identify the product to be replaced, provide complete documentation showing compliance of the proposed substitution with all specified requirements, and include the following:
  - 1. A full comparison with the specified product
  - 2. A list of changes to the work required to accommodate the substitution.
  - 3. Any proposed changes in the Contract Sum or Contract Time should the substitution be accepted.
- E. The PM will review the proposed substitution and notify the contractor of its acceptance or rejection.
- F. Under no circumstances will unapproved substitute products or materials be installed.
  - 1. The PM may require the contractor to remove any unapproved substitute products or materials and replace them with the approved products or materials at no cost to the owner.

## **6.0 Execution Requirements (01700)**

### **6.1 Project Closeout**

- A. Recorded Specifications: One copy of the Contract Documents, including addenda, is to be kept as *Record of as-built Specifications*. Mark to show the variations in work performed in comparison with the text of the original specifications.
- B. Copies of warranties are to be given to the homeowner at the completion of the job.

### **6.2 Examination and Preparation**

- A. Examine substrates and conditions for compliance with manufacturer's written requirements including, but not limited to, surfaces that are sound, level, and plumb; substrates within installation tolerances; surfaces that are smooth, clean and free of deleterious substances; and application conditions within environmental limits.
- B. Do not proceed with the installation until unsatisfactory conditions have been corrected.
- C. Prepare substrates and adjoining surfaces according to manufacturer's written instructions, including, but not limited to, the application of fillers and primers.

### **6.3 Cutting and Patching**

- A. Do not cut structural members without prior written approval of the PM.
- B. For patching, provide materials whose installed performance will equal or surpass that of the existing materials.
- C. For exposed surfaces, provide or finish materials to visually match existing adjacent surfaces to the fullest extent possible.

### **6.4 Installation**

- A. Comply with manufacturers written instructions for installation.
- B. Anchor each product securely in place, accurately located and aligned. Clean exposed surfaces and protect from damage.
- C. If applicable, prepare surfaces for field finishing.

### **6.5 Final Cleaning**

- A. Clean each surface or item as follows before requesting inspection for certification of Project Closeout:
  - 1. Remove labels that are not permanent.
  - 2. Clean transparent materials, including windows and mirrors.
    - a. Remove excess glazing compounds.
    - b. Replace chipped or broken glass.
  - 3. Clean exposed finishes to a dust-free condition, free of stains, films, and foreign substances. Leave concrete floors broom clean.
  - 4. Vacuum carpeted surfaces.
  - 5. Wipe surfaces of mechanical and electrical equipment.

- a. Remove excess lubrication.
- b. Clean plumbing fixtures and faucet aerators.
- c. Clean interior and exterior of light fixtures and lamps.
- 6. Clean the site, removing all accumulated construction debris.
  - a. Sweep paved areas; remove stains, spills, paint over-spray and foreign deposits.
  - b. Rake grounds to a smooth, even textured surface.

## **6.6 Closeout Procedures**

- A. Request Project Closeout inspection once the following are complete:
  - 1. Advise the owner of pending Project Closeout.
  - 2. Submit maintenance manuals, warranties, and similar record information to owner.
  - 3. Deliver all keys to owner.
  - 4. Complete startup testing of systems and instruct owner in their proper operation.
  - 5. Remove temporary facilities and controls.
  - 6. Complete final cleanup.
  - 7. Touch up, repair, and restore marred, exposed finishes.
  - 8. Obtain final inspections from authorities having jurisdiction.
- B. Upon receipt of a request for inspection, the PM will proceed with the inspection or advise the contractor of unfilled requirements.
  - 1. The PM will prepare the Final Certificate for Payment after inspection and advise the contractor of items that must be completed or corrected before the certificate will be issued.
- C. Arrange for each installer of equipment that requires operation and maintenance to provide instruction to the owner. Include a detailed review of the following:
  - 1. Startup and shutdown
  - 2. Emergency and safety procedures and hazards
  - 3. Maintenance manuals and procedures
  - 4. Identification systems
  - 5. Warranties
- D. A request for an inspection for final acceptance and payment can be made once the following are complete:
  - 1. All work called out on the Scope of Work is finished.
  - 2. All work has been inspected and approved by Thurston County or HOME/CDBG Subrecipient.
- E. Upon receipt of notice that the work has been completed, the PM will prepare a Certificate for Payment and inspect the work.
  - 1. If the work is found to be substantially complete, the PM will recommend to the owner that they approve the Certificate for Final Payment. This can be done even if items on the punch list have not yet been addressed.
  - 2. If the work is incomplete, the PM will create a punch list and advise the contractor of the work that is incomplete or obligations that have not yet been fulfilled.
  - 3. As part of the final inspection, the PM will furnish the homeowner with a Certificate of Warranty for the project stating the pertinent start and expiration dates of the warranty along with the name, address, and phone number of the general contractor.
  - 4. Failure to complete the work satisfactorily, or the inability to produce the required lien releases or inspection reports, will result in the withholding of the Certificate for Final Payment until such work and/or obligations have been completed to the satisfaction of the owner and PM.
  - 5. The final payment will not be released until all items on the punch list and close out checklist have been addressed, all required lien releases have been provided to the PM, all final cleaning has been done, and the home owner has accepted the work and materials.

## 7.0 **Lead-Based Paint (LBP)**

The Federal Government has determined that levels of lead found in the paint used on houses built prior to 1978 may constitute hazards to the occupants. Lead-based paint dust and chips have been targeted as the primary areas of concern. Children under the age of six and pregnant women have been determined to be most at risk to these hazards. The Federal Government and Washington State have issued lead-based paint rules that are to be used when completing rehab projects on housing built prior to 1978. This Manual is not intended to be exhaustive in any way and the following is only a brief summary of these rules and how the PM will be implementing them. Further information will be available at the required training and is also available at the office of the PM for review.

### 7.1 **Definitions**

**Abatement:** "Abatement" means any measure or set of measures designed to permanently eliminate lead-based paint hazards including, but not limited to:

- A. The removal of paint and dust, the *permanent* enclosure or encapsulation of lead-based paint, the replacement of painted surfaces or fixtures, or the removal or covering of soil, when lead-based paint hazards are present in such paint, dust or soil; and
- B. All preparation, cleanup, disposal, and post-abatement clearance testing activities associated with such measures.
- C. Abatement does not include renovation, remodeling, landscaping or other activities, when such activities are not designed to permanently eliminate lead-based paint hazards, but, instead, are designed to repair, restore, or remodel a given structure or dwelling, even though these activities may incidentally result in a reduction or elimination of lead-based paint hazards. Furthermore, abatement does not include interim controls, operations and maintenance activities, or other measures and activities designed to temporarily, but not permanently, reduce lead-based paint hazards.
- D. For an abatement job, the field agent will have to perform inspections before all work is completed in addition to a final inspection. The field agent should be sure that:
  1. All surfaces with LBP scheduled for enclosure must be marked as LBP prior to enclosure.
  2. All old paint has been removed prior to repainting.

**Clearance levels:** Values that indicate the maximum amount of lead permitted in dust on a surface following completion of an abatement activity.

**Component or building component:** Specific design or structural elements or fixtures of a building, residential dwelling, or child-occupied facility that are distinguished from each other by form, function, and location.

**Daily Cleanup:** Daily cleanup is crucial to containing debris to the work-site and for reducing occupant and work exposure to lead hazards. Debris should be disposed of properly each day and excessive amounts of paint chips and dust should be removed. If dust and chips are not removed daily, there is a greater chance that they will be tracked to other parts of the dwelling.

**Deteriorated paint:** Any interior or exterior paint or other coating that is peeling, chipping, chalking or cracking, or any paint or coating located on an interior or exterior surface or fixture that is otherwise damaged or separated from the substrate.

**Dust-lead hazard:** Surface dust in a residential dwelling or child-occupied facility that contains a mass-per-area concentration of lead equal to or exceeding 40 µg/ft<sup>2</sup> on floors or 250 µg/ft<sup>2</sup> on interior window sills based on wipe samples.

**Environmental Intervention Blood Lead Level:** The level of lead in blood that requires intervention in a child under the age of six. This is defined as a blood lead level of 20 micrograms per deciliter of whole blood for a single test, or blood lead levels of 15-19 micrograms per deciliter for two tests taken at least three months apart.

**Inspector:** An individual who is certified by the department to conduct in target housing and child-occupied facilities a surface-by-surface investigation to determine the presence of lead-based paint and the provision of a report, in writing; and conduct clearance procedures in accordance with WAC [365-230-200](#). An inspector may also collect dust and soils samples and perform clearance testing. An inspector may cite the applicable standard for the medium being sampled, but may not evaluate the results or assess risk.

**Interim Controls:** A set of measures designed to temporarily reduce human exposure or likely exposure to lead-based paint hazards, including specialized cleaning, repairs, maintenance, painting, temporary containment, ongoing monitoring of lead-based paint hazards or potential hazards, and the establishment and operation of management and resident education programs.

**Lead-based Paint (LBP):** Paint that contains at least 1 milligram of lead per square centimeter is considered to be Lead-Based Paint. The amount of lead in paint can also be measured in some instances as .5% by weight or 5000 parts per million.

**Lead-based Paint Hazard:** Housing conditions that cause human exposure to unsafe levels of lead from paint. These conditions include deteriorated LBP; friction, impact or chewable painted surfaces; lead contaminated dust; or lead contaminated soil.

**Microgram:** A microgram ( $\mu\text{g}$ ) is  $1/1000^{\text{th}}$  of a milligram or one millionth of a gram.

**Paint Stabilization:** An interim control that stabilizes deteriorating painted surfaces and addresses the underlying cause of deterioration. Steps include repairing defective surfaces, removing loose paint, and applying new paint.

**Risk assessment:** An on-site investigation to determine the existence, nature, severity, and location of lead-based paint hazards, and the provision of a report by the individual or the firm conducting the risk assessment, explaining the results of the investigation and options for reducing lead-based paint hazards.

**Risk Assessor:** An individual who is certified by COMMERCE to conduct in target housing and child-occupied facilities on-site investigation to determine the existence, nature, severity, and location of lead-based paint hazards, and to provide a report explaining the results of the investigation and options for reducing lead-based paint hazards; and who may conduct a lead-hazard screen, in accordance with WAC [365-230-200](#).

**Worker Protection:** The Occupational Safety and Health Administration (OSHA) have regulations that cover workers who come into contact with lead. (29 CFR 1926.62) Workers should take proper precautions to protect themselves from LBP hazards, including inhaling dust and avoid taking it home with them on their clothes where it could poison children.

- A. Protective measures for workers include but are not limited to the following:
  - 1. Using Safe Work Practices
  - 2. Wearing NIOSH approved respirators, gloves, work suits, booties, and head coverings, if lead exposures warrant them according to OSHA guidelines.

## 7.2 Safe Work Methods

- A. Safe work methods, such as wet work methods, minimize dust and control the spread of paint chips. They are required when interior surfaces greater than  $2 \text{ ft}^2$  per room equivalent are disturbed and when exterior surfaces greater than  $20 \text{ ft}^2$  are disturbed.

1. Safe work methods are also required when 10% of the total surface area on an interior or exterior type of component with a small surface area, such as a window sill, is disturbed.
  2. These surface area disturbance requirements are known as the De Minimums Standards.
- B. Examples of Safe Work Methods:
1. Wet scraping
  2. Wet sanding
  3. Chemical stripping off-site
  4. Replacing painted components
  5. Scraping with an infrared or coil type heat gun with temperatures below 1100 degrees F
  6. HEPA Vacuum sanding
  7. HEPA Vacuum needle gun
  8. Abrasive sanding with HEPA vacuum
- C. Prohibited Work Methods:
1. Open flame burning or torching
  2. Machine sanding or grinding without a HEPA local exhaust
  3. Abrasive blasting or sandblasting with a HEPA local exhaust
  4. Heat guns operating above 1,100 degrees F or any temperature which causes the paint to char.
  5. Dry scraping or dry sanding except in conjunction with heat guns or within one foot of electrical outlets
  6. Paint stripping in a poorly ventilated area using a volatile stripper that is a hazardous substance

### 7.3 Standard Treatments or Interim Controls

- A. Interim controls are allowable under HUD's Lead Safe Housing Rule (Title X) (24 CFR 35). Both Title X and Washington State lead rules and regulations (WAC 365-230) apply if abatement is required. WAC 365-230-200 work practice standards specifically apply to abatement projects. Consequently, interim hazard controls are permitted for non-abatement projects.
- B. The individuals performing Interim Controls or Standard Treatments must be trained in accordance with OSHA's Hazard Communication regulations. (29 CFR 1926.59) In addition, they must meet ONE of the following certifications in accordance with 40 CFR 745.225
1. Work is supervised by an abatement supervisor.
  2. Successful completion of an accredited Abatement Supervisor course
  3. Successful completion of an accredited Lead-Based Paint Abatement Worker training program.
  4. Successful completion of the Lead-Based Paint Maintenance Training Program developed by the National Environmental Training Association for EPA and HUD.
  5. Successful completion of the Remodeler's and Renovator's Lead-Based Paint Training Program developed by HUD and the National Association of the Remodeling Industry. (NARI)
  6. Successful completion of an equivalent course approved by HUD
- C. Paint stabilization
1. Not required on intact, non-deteriorated paint surfaces
  2. Any dry-rot, rust, moisture related defects, crumbling plaster or drywall or loose components must be repaired or replaced prior to treating the surface or component.
  3. All loose paint and other loose material shall be removed from the surface to be treated.
  4. Apply new non-lead protective paint coating over the treated area in accordance with the manufacturer's recommendations.

- D. Friction and impact surfaces
  - 1. Example friction and impact surfaces;
    - a. Window Systems, Doors, Stair Treads and Risers, Baseboards, Drawers and Cabinets, Porches, Decks and Interior Floors
  - 2. Treatments for friction surfaces should eliminate friction points or treat the friction surface so that paint is not subject to abrasion.
    - a. Examples of acceptable treatments include re-hanging and/or panel doors so that the door does not rub against the door frame and installing window channel guides that reduce or eliminate abrasion of painted surfaces.
  - 3. Paint on stair treads and floors shall be protected with a durable cover or coating that will prevent abrasion of the painted surfaces. (i.e. Carpet, Tile, Sheet Flooring)
  - 4. Treatments for impact surfaces should protect the paint from impact.
    - a. Examples of acceptable treatments include doors stops that prevent a door or doorknob from striking a painted surface.

#### **7.4 Lead dust Hazard Control**

- A. Dust control shall involve a thorough cleaning of all horizontal surfaces; such as interior windowsills, window troughs, floors, and stairs.
- B. All horizontal surfaces that are rough, pitted, or porous shall be covered with a smooth cleanable covering or coating, such as metal coil stock, plastic, polyurethane, or linoleum.

#### **7.5 Soil lead hazards**

- A. Bare soil areas greater than nine square feet with a lead concentration of 250 micrograms per gram or greater must be abated by removing to a depth of 6 inches or permanently covering so as to be separated from human contact by the placement of a barrier consisting of solid, relatively impermeable materials, such as pavement, asphalt, or concrete. Grass, mulch, shrubbery and other landscaping materials are not considered permanent covering and are not permitted (WAC 365-230-200 and 24 CFR 35.1325).
  - 1. Only new soil which has been proven to contain less than 250 micrograms per gram of lead shall be used to replace lead-contaminated soil that has been removed.

#### **7.6 Lead Hazard Reduction**

- A. The level of lead hazard reduction required in housing built prior to 1978 is dependent on the level of project assistance:
  - 1. For projects with Hard Costs under \$5,000, the approach will be to “do no harm”.
    - a. Projects in this category will require that Safe Work Practices be used for all rehabilitation activities. Any paint disturbed during the work must be repaired. Clearance must be obtained for work areas in which paint disturbance exceeds the de minimums standards.
  - 2. If the level of assistance is between \$5,000 and \$25,000, the approach is to “identify and control lead hazards.” There are two ways that the PM will use to address the possibility of Lead-based paint and accompanying hazards in projects that fall in this category.
    - a. The first is to Test for lead paint and complete a Risk Assessment to identify lead hazards. These hazards are then addressed in the Scope of Work using Interim Controls to remove the identified hazards.
    - b. The second method to address lead paint is to assume the presence of Lead-based paint and apply standard treatments in all applicable areas.
    - c. Depending on the extent of owner protection implemented by the contractor, and if the area of disturbed LBP exceeds de minimums standards, work area or house-wide Clearance is required for either method at the end of the job.
  - 3. When the level of assistance is greater than \$25,000, the lead paint must be abated.
    - a. The availability of funds will limit the amount of actual abatement to be undertaken and in general, the PM will not pursue abatement of LBP unless the owner desires.
    - b. The Scope of Work will state the approach taken and will outline what is required.

## 7.7 Safe Work Practices and Clearance

- A. Safe Work Practices and Clearance are required for all work unless the surface area of lead paint affected by the work is less than 20 square feet for exterior paint, 2 square feet for an interior room, or 10% of the surface of a small painted surface such as a windowsill.
- In the event that the project hard costs exceed \$5,000.00, Safe Work Practices and Clearance are required as described in Section 7.6 above.
- B. Whenever the term Safe Work Practices is used, it entails **all** of the following:
- Occupant Protection: The purpose of occupant protection is to take steps to eliminate the risk to occupants by restricting access to the work-site, containing all debris and dust during work, using safe work practices, and cleaning the work-site frequently.
    - Occupant protection may mean temporarily relocating occupants in extreme cases.
  - Work Site Preparation: The following measures may be appropriate to reduce the spread of debris and dust to other parts of the dwelling:
    - Sealing doorways with two flaps of poly sheeting;
    - Sealing off HVAC supply and return registers (if possible);
    - Covering floors and ground with poly sheeting;
    - Covering furniture and shrubs with poly sheeting;
    - Wrapping debris in poly sheeting before disposal;
    - Removing lead-contaminated protective clothing before exiting the work area;
    - Posting a warning sign at the entry of each room being treated for lead based paint hazards when occupants are present.
    - Warning signs on exterior surfaces should be readable from at least 20 feet from the work area.
- C. Clearance is an inspection performed after lead hazard reduction to determine if the residency is safe for occupancy. It involves visual assessment, analysis of dust and soil samples, and the preparation of a report.
- A certified Risk Assessor, Paint Inspector, or Clearance Technician, (independent from the entity conducting the lead hazard reduction work) can conduct clearance.
  - Current Clearance Levels:

CLEARANCE LEVELS	
Floors	40 micrograms / square foot
Interior window sills	250 micrograms / square foot
Window troughs	400 micrograms / square foot
Soil	250 parts per million

## 8.0 Site Work (0200)

### 8.1 Demolition and Debris

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

### 8.2 Grading

- A. Grading of yards

1. When yards are scheduled to be graded, they will be filled and/or raked smooth to a finish grade that ensures proper drainage for the lot.
  - a. Backfill material shall be clean and free from debris, with no wood scraps.
  - b. It shall be placed according to acceptable practices.
  - c. Where applicable, the top 4 inches shall be topsoil suitable for plant growth.
- B. Re-grading
  1. Remove any large rocks or foreign material.
  2. Where substantial depressions exist, remove existing material, fill with dense, well drained soil and grade to obtain uniform surface.
  3. Top with crushed rock in sufficient amount to achieve a total depth of 4 inches.
    - a. Crushed rock surfaces shall not be installed on grades in excess of 7% (7/8 inch per foot).
  4. The surface shall be crushed rock no less than 4 inches in depth.
  5. Borders shall be provided at all perimeter edges to retain rock.

### 8.3 Site Drainage

- A. All county ordinances regulating the disposal of storm water shall be followed.

### 8.4 Asphalt Paving

- A. Resurfacing
  1. Resurfacing a driveway shall consist of placing a new wearing surface on an existing asphalt concrete driveway.
  2. The existing surface shall be thoroughly cleaned and a bonding agent shall be applied prior to installation of new surface.
  3. The asphalt surface should be a minimum of 2 inches thick after it has been compacted or called the finish thickness.
  4. Work shall not be done in inclement weather.
- B. Final pavement surface shall be near level with adjacent finish grade at the perimeter edges, and shall be crowned to the center.

### 8.5 Landscape

- A. Shrubs
  1. When shrubs are to be removed, they shall be removed complete with roots.
  2. Any depressions shall be filled with topsoil and the entire area raked smooth and clean.
- B. New planting
  1. Type and size of new shrubs shall be as indicated in the work list.
- C. Trees
  1. When trees are scheduled to be removed, they shall be cut down to a point as close to the finish grade as possible and the stump ground to 4 inches below grade.
- D. All debris shall be removed and the entire area shall be raked and/or broom swept clean.

### 8.6 Chemical Pest Control Treatment

- A. All chemical applications, fungicide or insecticide, shall be made by a pesticide applicator holding state of Washington and Spokane County jurisdictional licenses.
- B. Application of all chemicals shall be subject to local and/or U.S. Department of Agriculture regulations regarding the use of controlled chemicals.
  1. Apply all treatments according to National Pest Control Management standards.
  2. Certificate of application is required to release payment.
- C. All termite treatments shall be guaranteed against re-infestation for 5 years, unless specified differently on the work list.

### 9.0 Concrete (0300)

#### 9.1 General Instructions

- A. When patching concrete, apply a bonding agent prior to application of flash patching material.

1. New concrete shall not be placed on extremely wet or frozen ground, and no concrete shall be placed when the temperature is less than 40 degrees F. or greater than 90 degrees F., unless it is properly protected and controlled in accordance with the recommendations of the American Concrete Institute and the Portland Cement Association.
- B. The type of footing, foundation or slab system used shall be determined by the load bearing capacity of the soil.
  1. Soils of low bearing capacity necessitate provisions for greater load distribution.
  2. On fill material, footings shall extend to undisturbed soil unless the fill has been sufficiently compacted to insure against excessive differential or overall movement of the structure.

## 9.2 Paving

- A. Sidewalks
  1. Sub grade shall be well drained and uniformly graded 3-1/2 inches below finish grade.
    - a. Sub grade shall be 4" of well compacted sand and gravel.
  2. New concrete shall be at least 3-1/2 inches thick (4000 psi).
  3. Finish 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.
  4. 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.
    - a. Depth of joint shall be 1/4 to 1/5 the thickness of the slab.
  5. Width of new concrete sections shall be as indicated in the work list.
  6. Wearing surfaces shall be floated with a wood float and receive a finish.
- B. Driveways
  1. Sub grade shall be well compacted, well drained and uniformly graded 4 to 6 inches below finish grade.
    - a. Sub grade shall be 4 inches of well compacted sand and gravel.
  2. New concrete shall be 4 inches thick except that concrete at curb and sidewalk crossings shall be 6 inches thick (4,000 psi).
  3. Finish surface of new driveways shall be constructed so as not to impede the drainage of surface water away from the house and off the property.
  4. Expansion joints shall be provided at approximately 10 foot intervals, but never more than 2.5 times in feet the thickness of the slab in inches.
    - a. Depth of joint shall be 1/4 the thickness of the slab and shall be saw cut as soon as practical after pouring the slab.
    - b. Expansion joints shall be provided at intersections with walks, curbs and garage or carport slabs.
  5. Pre-molded joint filler, building paper or polyethylene shall be used.
  6. Entrances shall be flared or have adequate radii for safe and convenient ingress and egress.
    - a. Provide proper grade so that the under-carriage and bumpers of cars entering the driveway do not make contact with the surface of the approach.
  7. Width of new concrete section shall be as indicated in the work list.
  8. Finish surfaces shall receive a light broom finish, be true to cross sections and grade and provide for uniform surface drainage.
  9. Concrete shall be properly sealed with a curing agent or kept moist for a period of 3 days to ensure proper curing.

## 9.3 Flatwork

- A. Deck Slabs and Patios
  1. New deck slabs and patios shall be a minimum of 3-1/2 inches thick (4000 psi).
  2. Slab shall be reinforced as needed for each installation.

3. Sub-grade shall be 4" of well compacted sand and gravel.
4. Provide flashing between the slab and wood construction.
5. Slope the deck slab to drain away from the foundation wall.
6. Wearing surfaces shall be troweled and have non-skid texture.
7. Saw cut control joints shall be provided for all flatwork in accordance with industry standards.

B. Floor Slabs at or below grade

1. Base for slab shall be well compacted 4 inch sand gravel sub-grade.
2. New slab shall be a minimum of 4 inches thick (4000 psi).
3. When available, slope concrete to floor drains.
4. Surfaces shall be troweled smooth.

**9.4 Footings**

A. Pier Blocks

1. New pier blocks can be pre-cast or poured units.
  - a. Block shall extend a minimum 4 inches above finish floor elevation or 6 inches above earth.
  - b. Bottom dimensions will be a minimum of 12 inch square. Pier blocks shall have steel anchoring pins or recessed post pockets.

B. Footings

1. Footings for wood posts shall extend from a point at least 12 inches below finish floor elevation to a point at least 4 inches above.
  - a. When necessary to remove a section of the existing floor slab, cut out a 12 inch by 12 inch section using a masonry saw or chisel.
  - b. Dovetail edges so that the opening at the bottom of the slab is larger than the opening at the top.
  - c. Remove enough earth to pour new concrete.
2. Footing shall sit on a 4 inch sand gravel base.
3. Provide steel anchoring pin or galvanized brackets to attach to the wood post.
4. Finish concrete to match adjacent surfaces.
5. Footings supporting a second floor load must extend a minimum of 36 inches below grade.

**9.5 Retaining Walls**

A. New walls can be gravity or cantilever type.

1. They shall be structurally sound and durable.
2. Design walls to resist the lateral pressure exerted by the earth behind the wall, including that material above the top of the wall.

B. Retaining walls shall extend at least 12 inches below grade and have a 6 inch wide layer of gravel, crushed rock or sand between the earth and the wall, extending the full height of the wall.

C. Provide reinforcement as needed and construction joints at 30 foot intervals.

D. Place weep holes 10 feet on center and at the lowest point possible above grade. All weep holes shall be screened.

E. All retaining walls constructed adjacent to the public way shall have the design approved by Thurston County or permitting jurisdiction, prior to commencement of work.

**9.6 Foundation Walls**

A. New foundation walls shall be no less than 6 inches wide for wood frame and 8 inches for masonry or masonry veneer and shall extend below finish grade as required by the current codes as adopted by Thurston County for the particular installation.

B. Provide reinforcement where needed.

C. Concrete shall be poured continuously and constantly puddle to remove air pockets. Where continuous pouring is impossible, provide construction joints with reinforcement for transfer of stresses.

D. All wall openings shall be properly reinforced.

- E. Any existing walls, intersecting walls, porch and entrance slabs, or areaways shall be anchored to the new wall.
- F. One half (1/2) inch diameter anchor bolts shall be set no less than 8 inches into the concrete at 4 foot intervals.
- G. The top of the foundation wall shall be carefully finished and leveled for the sill plate.
- H. For foundation walls on basement houses or where site conditions warrant, the exterior face of the wall shall have at least one coat of bituminous damp-proofing material from footing to finish grade.
- I. New 4 inch drain tile shall be placed at the perimeter of the footing, if required by ground conditions, and connected to a storm sewer system or natural outlet.
- J. Backfill material shall be an appropriate sand gravel mixture for proper soil drainage, and top 3 inches shall be topsoil suitable for plant growth.
- K. Replace sod or install new sod.

## 9.7 Steps

- A. Poured Steps
  - 1. New steps shall be at least as wide as the sidewalk and at least 6 inches to each side of entry door.
  - 2. Treads shall be a minimum of 10 inches, the riser a maximum of 7 3/4 inches and a minimum of 4 inches.
  - 3. Rise and run shall have a variance of no more than 3/8 inch throughout the flight.
  - 4. Provide 1/8 inch pitch for drainage.
  - 5. Wearing surfaces shall be troweled and have non-skid texture.
  - 6. Porch and step will be poured a minimum of 2 inches below grade.

## 9.8 Miscellaneous Formwork

- A. Sump Pump Wells
  - 1. New wells shall have at least 8 cubic feet capacity.
  - 2. Wells in crawl spaces shall have 4 inches of gravel in the bottom.
  - 3. Crawl area shall be trenched to the well and gravel provided where needed.
  - 4. Discharge from a well in a crawl space shall be to a code approved outlet.
- B. A sump well in a basement discharging to the sanitary sewer shall be vented as required by the latest edition of the Uniform Plumbing Code.

## 9.9 Mix Design

- A. Footings, foundations, etc., should be 3,000 psi minimum.
- B. Exterior slabs, porches, stairs, driveways, sidewalks, and patios should be 4,000 psi or 5.5 sack minimum with 5% +/-1.5% air entrainment.
- C. Concrete pours should not exceed 3-4 inch slump
- D. Calcium Chloride curing accelerators are not to be used.

## 10.0 Masonry (0400)

### 10.1 General Instructions

- A. Existing masonry units may be reused if undamaged and cleaned.
- B. New masonry units shall be true to size without cracks, chips, or other defects.
  - 1. New masonry units shall match existing as closely as possible.
- C. Repair or replace flashing as needed.
- D. Where fresh masonry joins existing, the exposed surface of the set masonry shall be cleaned and lightly wetted so as to obtain the best possible bond with the new work.
- E. Lay masonry units plumb, square, and properly anchor by keying units or utilizing manufactured masonry ties.
- F. Lay all courses with a full mortar bed and tool all exposed joints.
  - 1. Color of mortar shall match existing as closely as possible.
- G. Where applicable, backcharge masonry below grade.
- H. Mortar shall be protected from freezing until it has set.

- I. Thoroughly clean all exposed new masonry and all repaired areas.
- J. All new and repaired masonry installed below grade shall be sealed.

**10.2 Repointing/Tuckpointing**

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

**10.3 Parging**

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

**10.4 Chimney Repairs**

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

**10.5 Block Walls**

- A. Block Retaining Walls
  - 1. New walls shall be structurally sound and durable.
    - a. Walls shall be designed to resist the lateral pressure exerted by the earth behind the wall, including the material above the top of the wall.
  - 2. Masonry walls shall be constructed in accordance with the recommendations of the National Concrete Masonry Association.
    - a. They shall have a 6 inch wide layer of gravel, crushed rock or sand between the earth and the wall, extending the full height of the wall.
  - 3. Block shall be set in full mortar beds with joints tooled smooth, except where the exposed surface is to be parged.
  - 4. Reinforce block laterally and vertically where needed and fill cavities containing reinforcement with mortar.
  - 5. Place weep holes 10 feet on center, and at the lowest point possible above grade. All weep holes shall be screened.
  - 6. The top course shall contain a bond beam or be capped to provide a finished surface.
  - 7. All retaining walls constructed adjacent to the public way shall have the design approved by permitting jurisdiction, prior to commencement of work.
- B. Block Foundation Walls
  - 1. New walls shall be a minimum of 8 inches thick and shall have poured-in-place concrete footings no less than 6 inches thick that extend below finish grade as required by the current codes as adopted by Thurston County for the particular installation.
    - a. Block face shells shall provide a 1-1/2 inch wide mortar bed.
    - b. The first course shall be set in a full mortar bed.
    - c. Joints shall not exceed 3/4 inch and shall be tooled smooth, except those on an exterior face being parged.
  - 2. The joints between wall and footing shall be tight and have a cove of elastic caulking compound on the exterior side.

3. Stack bond shall be laterally reinforced every second course. Provide other reinforcement where needed.
4. Location of control joints shall be determined by the height of the wall.
5. The top course shall be filled or capped with at least 4 inches of solid masonry or wire mesh reinforced concrete, unless the sill plate bears on both inner and outer face shells.
6. Anchor bolts shall be placed no more than 4 feet on center and extend through sill and cap and two filled courses.
7. Walls shall be bonded, keyed, or anchored to existing and intersecting walls.
8. Porch and entrance slabs and areaways shall be anchored to the wall.
9. All openings in the wall shall be covered with at least one coat of Portland Cement parging no less than 3/8 inch thick and shall have at least one coat of bituminous damp proofing material from footing to finish grade.
10. New 4 inch drain tile shall be placed at the perimeter of the footing if required by ground conditions, and connected to a storm sewer system or natural outlet.
11. Backfill material shall be an appropriate sand gravel mixture for proper soil drainage.
  - a. Top 3 inches of backfill shall be topsoil suitable for plant growth.
12. Replace sod or install new sod, unless otherwise specified.

## **11.0 Fireplace and Chimney Cleaning**

### **11.1 Cleaning and Scrubbing Fireplaces**

- A. When a fireplace is scheduled to be cleaned and scrubbed, all inside surfaces and all brickwork, stonework, tile, etc., shall be thoroughly cleaned.
- B. When chimney is scheduled to be cleaned, all inside surfaces of chimney, smokeshef and firebox will be included.

## **12.0 Miscellaneous Metal Items (0500)**

### **12.1 Ornamental Metal Handrails, Railings, and Columns**

- A. New handrails, railings and columns shall be installed complete with all posts, rails, pickets, base plates, rail supports, etc.
  1. Posts shall be 1 inch square heavy gauge steel tubing.
  2. Metal shall be wrought iron.
  3. Railings shall be single-welded construction, railings welded to posts.
  4. Railings shall be securely anchored to porches, steps, retaining walls, etc., and when installed on new concrete, posts shall be embedded in concrete.
  5. Railing heights shall be as determined by code.
  6. Ornamental metal shall be factory primed or factory finished.
  7. Pickets shall be a minimum of 1/2 inch square tubing or solid bar.
  8. Scrolls shall be a minimum of 1/8 inch by 1/2 inch flat bar.

### **12.2 Sheet Metal Fire Protection**

- A. All sheet metal shields installed for fire protection for solid fuel burning devices (woodstoves, trash burners, ranges, furnaces, etc.) shall be installed in accordance with the International Mechanical Code.

### **12.3 Prefabricated Chimneys**

- A. All prefabricated chimneys installed for use with any fuel burning appliance shall be installed in accordance with the manufacturer's recommendation and the International Mechanical Code.

## **13.0 Carpentry General Instructions (0600)**

### **13.1 Framing Lumber**

- A. All softwood framing lumber shall be #2 or better fir and larch except non-bearing interior partitions. Good quality white or yellow pine may be used for non-bearing partitions.
- B. Framing lumber for girders, beams, posts, columns, and other structural members shall be of species and grade which will provide sufficient strength and rigidity to support the design load without exceeding the allowable stresses consistent with good engineering practice, and shall conform to the current codes as adopted by Thurston County.
- C. All framing lumber shall be identified by the grade mark of a recognized grading association.
- D. The moisture content of the lumber shall not exceed 19% at the time of installation.
- E. New lumber in contact with masonry shall be pressure treated.
- F. All framing members shall be accurately fitted and securely connected to each other in accordance with the current codes as adopted by Thurston County.

### **13.2 Board Lumber**

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

### **13.3 Plywood**

- A. Plywood shall be Douglas Fir and shall bear the label of a recognized grading association as to grade and type.
  - 1. Type and grade shall be suitable for its intended use as designed and shall be installed in accordance with the current codes as adopted by Thurston County.

### **13.4 Finish Lumber**

- A. All finish lumber shall be dressed free of tool marks and other objectionable defects.
- B. Lumber for exterior trim and millwork shall be kiln dried or otherwise seasoned; moisture content shall not be above 19%. The use of engineered wood is also acceptable and must be installed per manufacturer's specifications and guidelines.
- C. All wood for interior wood trim shall be thoroughly kiln dried to withstand dry artificial heat; it shall not be installed until all plaster is thoroughly dried out.
- D. The use of medium density fiberboard (MDF) is also allowed, except in wet locations, if installed and finished per manufacturers recommendations.
- E. Exterior wood trim and millwork shall be at least #2 or "D" cedar, Smart Side Hardi Plank or approved equivalent, except that casing for doors and windows may be clear pine or fir.
- F. New wood for interior trim shall match existing as closely as possible in shape, size and species. If that species is not available, select pine or fir may be used to manufacture trim of the same style and shape.

## **14.0 Rough Carpentry**

### **14.1 Wood Porches**

- A. When a new porch is scheduled to be built complete, it shall include piers, footings, beams, joists, decking material as specified, railings if scheduled, 3 foot wide steps, and roof if scheduled.
- B. Size of porch shall be as indicated in Scope of Work.
- C. Treads shall be pressure treated unless otherwise specified.
- D. Rise and run shall be according to the current codes as adopted by Thurston County.

### **14.2 New Steps**

- A. 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.
- B. Treads and risers shall all be even but may exceed requirements of the current codes as adopted by Thurston County to maintain limited headroom to a non-living or storage area.

### **14.3 Preservative-Treated Lumber**

- A. AWPA C2 lumber and AWPA C9 plywood, labeled by an inspection agency approved by ALSC's Board of Review. After treatment, kiln-dry lumber and plywood to 19 and 15 percent moisture content, respectively. Treat indicated items and the following:
  - 1. Wood members in connection with roofing, flashing, vapor barriers, and waterproofing.
  - 2. Concealed members in contact with masonry or concrete.
  - 3. Wood framing members less than 18 inches above grade.
  - 4. Wood floor plates installed over concrete slabs directly in contact with earth.
- B. Sizing of all structural framing components shall be in accordance with the current codes as adopted by Thurston County for the particular installation.

## **15.0 Finish Carpentry**

### **15.1 Special Instructions for Wood Trim and Millwork**

- A. Exterior wood trim which cannot be repaired by re-nailing shall be replaced.
- B. Existing interior trim which is broken, splintered, cracked, chipped, warped or otherwise defective shall be replaced with new material.
- C. 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).
- D. All trim installed by program within a room shall be similar.
- E. Insofar as practical, new trim and millwork shall be delivered ready to be put in place.
- F. Mouldings shall be clean-cut and sharp.
- G. Single lengths of wood shall be used whenever practical.
  - 1. Splicing or piecing of finish work shall be done with mitered joints over solid backing.
  - 2. Finger jointed material is unacceptable for natural finish wood trim.
  - 3. Tooled material shall be planed and/or sanded smooth.
- H. The woodwork shall be installed level and plumb, be scribed neatly to the walls and be secured firmly in place.
  - 1. Exposed nails used in fabrication and installation shall be finishing or casing nails, set 1/8 inch deep.
  - 2. The scribing, mitering and joining shall be secured to prevent separation.
- I. External corners shall be mitered.
- J. Protect finish woodwork until time for painting.

### **15.2 Closet Shelving and Rod**

- A. New wood shelving shall be 3/4 inch #2 fir, 3/4 inch edge banded particle board, or 3/4 inch A-B interior plywood (exposed edges faced with solid wood material), and shall be installed and supported securely on both ends and across the full length of the back.
- B. All shelves more than 4 feet long shall have additional supports.
- C. Closet rod shall be 1-1/2" diameter wood.

### **15.3 Metal Shelving and Rod**

- A. New closet rod and shelf may be combination metal rod and shelf only if specified in the Scope of Work, and shall be installed and supported according to manufacturer's recommendations.

### **15.4 Cabinet Hardware**

- A. Hardware to be replaced shall include various knobs, catches, drawer slides, drawer rollers, etc. When new cabinet hardware is scheduled to be installed, all of the above found to be worn, defective or missing shall be replaced.
- B. New hardware shall be brass or aluminum finish.

- C. All miscellaneous hardware within a room shall be similar in style and finish.
- D. Mixing painted with unpainted hardware is unacceptable.

#### 15.5 Repairing Kitchen Cabinets

- A. All damaged or missing doors, drawers and shelving shall be repaired or replaced as indicated in the Scope of Work.
- B. Doors shall be properly aligned and shall operate freely.
- C. Drawer guides or slides shall be repaired or replaced as scheduled so that drawers slide or roll easily.

#### 15.6 Kitchen and Bath Cabinets

- A. Contractor shall verify in the field all cabinets and countertop dimensions listed in the Scope of Work or shown on the drawings.
- B. Should new cabinets adjoin existing acceptable cabinets, the new cabinets shall match the existing cabinets as closely as possible.
- C. Manufacturers of approved cabinetry:
  - 1. Huntwood "Monarch" series
  - 2. Huntwood "Marquis" series
  - 3. Diamond "Signature" series
  - 4. Meriliet "Deluxe" series
  - 5. Or approved equivalent
- D. 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. *Mills Pride cabinets or similar products are not authorized substitutes for custom cabinets.*
  - 1. Face frames, shall be hardwood and of necessary thickness to provide rigid construction.
    - a. Corner and lineal bracing shall be provided where needed to insure rigidity and proper joining of components.
  - 2. Adjustable shelves shall be supported on ends and every 18 inches front and back. All shelving shall be solid wood, edge banded plywood or ¾" edge banded particle board.
  - 3. Cabinets shall have all wood frames with face frames constructed of solid hardwood.
  - 4. Cabinet doors are to be flat panel, recessed, or raised.
  - 5. Drawer fronts shall match cabinet door fronts.
  - 6. Cabinet drawer side and fronts are to be of solid wood construction.
  - 7. Cabinet sides and backs may be particle board with a plastic or wood veneer covering.
  - 8. Base cabinets designed to rest directly on the floor shall provide for a toe space at least 2 inches deep and 3 inches high.
  - 9. All exposed construction joints shall be fitted in a workmanlike manner, nails set and holes filled.
  - 10. Swinging doors shall have a device sufficient to hold doors closed. Device may be spring catch, magnetic catch, self closing hinges or equivalent.
  - 11. Doors shall be properly aligned and operate freely.
  - 12. Drawers shall have drawer guides with nylon glides and shall slide easily.
  - 13. Cabinet finish shall be clean and free from scratches and other defects.
  - 14. All wood surfaces, inside and out, shall be finished and sealed.
- E. Cabinet units shall be installed level, plumb and true to line.
  - 1. They shall be fastened to suitable blocking as per manufacturer's instructions.
  - 2. New upper cabinets shall be attached with wood screws; nailing these cabinets to walls is not acceptable.
  - 3. Use filler strips and finish moldings when needed for sanitary and appearance purposes.

- F. Upper cabinets shall be set 16-18 inches above the countertop and 24 inches at sink.
  - 1. At range space there shall be a 30 inch clearance to bottom of upper cabinets or 24 inches to bottom of range hood.
- G. Cabinets at refrigerator space shall be set to clear the existing refrigerator or a different standard size refrigerator at the owner's discretion.
- H. Corner spacers shall be of sufficient width so as to prevent interference with appliance door handles or other protuberances.

**15.7 Countertops**

- A. Top material shall be high pressure plastic laminate, at least .048 inch thick, securely bonded to the base material.
  - 1. Countertops made on-the-job shall use exterior plywood or high density particle board for base material.
- B. Provide 1-1/2 inch front edges and, unless otherwise indicated, 4 inch backsplashes and end splashes.
- C. Color and pattern shall be chosen by the owner.
- D. Should new countertop adjoin existing, the new material shall match the existing as closely as possible.
- E. If a new sink is not scheduled to be installed, re-installing the existing sink shall be a part of the countertop installation.
- F. Manufacturers of approved countertops:
  - 1. Formica
  - 2. WilsonArt
  - 3. Pionite
  - 4. Or Approved Equivalent

**16.0 Thermal and Moisture Protection (0700)**

**16.1 Insulation**

- A. Package shall include insulating attic, side attics, slopes, knee walls, sidewalls, and rim and end joists to R- factors listed below.
- B. Sheet metal barriers minimum 14 inches high shall be placed around all chimneys to provide a minimum 2 inches clearance between chimney and insulation.
- C. Under floor areas will be scheduled separately if they are to be insulated.
- D. Type of insulation shall be at the contractor's discretion unless specified on the work list. All insulation shall meet or exceed ASTM C665 (mineral fiber blanket), C739-08 (loose fill cellulose), or C764-07 (loose fill mineral fiber), and shall be labeled as such.
- E. When insulating enclosed sidewalls, Holes shall be drilled at the top of the wall cavity.
- F. When insulating open sidewalls, a vapor barrier shall be installed on the interior side.
- G. Minimum coverage is not "average coverage" but is the minimum allowed for any one place. Minimums, including existing insulation, are as follows:
  - 1. Attics and Side Attics.....R-38
  - 2. Sidewalls and Knee Walls.... R-11 for 2X4, R-19 for 2X6 construction.
  - 3. Under Floor Areas.....R-30
- H. All insulation installed in under floor areas shall have an air vapor barrier if needed, installed towards the living area, and shall be held in place with twine.
- I. All insulation shall be installed in accordance with the manufacturer's recommendations.
- J. If knob and tube wiring in attics or basements is still active, insulation may be placed in, around, or over it, if approved by License Electrician

**16.2 Screened Openings for Crawl Spaces**

- A. Provide no less than 1-1/2 square feet of net area for each 25 lineal feet of foundation wall; vents must be located with 6 feet of each corner.
- B. Openings shall be screened with 1/4 inch corrosion resistant wire mesh screening and shall be opening closing type, unless scheduled otherwise.

### 16.3 Vapor Barriers

- A. All chemical pest control treatment shall be done prior to installation of the vapor barrier.
- B. All debris shall be removed from crawl space and ground shall be reasonable level.
- C. Vapor barrier shall be 6 mill polyethylene film secured with rocks approximately every 8 feet. It shall cover entire area to prevent moisture from rising into framing.

## 17.0 Siding

### 17.1 General Instructions

- A. Remove all damaged sections before repairing existing siding. Sheathing and framing behind siding must be solid.
- B. New siding shall match existing as closely as possible.
- C. Apply siding with corrosion resistant nails long enough to penetrate into studs, blocking or wood sheathing.
- D. Headlap and coursing shall be that required to prevent entrance of moisture into walls.
- E. Stagger joints in adjacent pieces of horizontal siding.
- F. Replace all trim incidentals to this repair and caulk all joints, paying particular attention to where siding abuts wood trim or other material.

### 17.2 Porch Skirting

- A. New skirting shall be as specified in the Scope of Work. When new skirting is scheduled to be installed, existing skirting is to be removed completely.
- B. Install sufficient framing or backing for new skirting.
- C. All wood shall be at least 6 inches above grade.

### 17.3 Vinyl Siding

- A. 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.
  - 1. If any unforeseen repairs are needed, the contractor will contact the PM and request a Change Order.
- B. New vinyl siding shall include, unless otherwise specified, the following:
  - 1. Window and door wraps, face and soffit wraps, belly bands, porch trim and all exposed beams, posts and/or columns, dryer vents, mounting blocks, and all other typical accessories.
- C. New vinyl siding shall have a lifetime manufacturer's warranty and have a minimum thickness of .044 inch and shall be installed over ¼" thick rigid foam unless otherwise specified.
  - 1. Use aluminum or galvanized steel nails with 5/16 inch diameter head.
  - 2. All nails should penetrate solid lumber a minimum of 3/4 inch excluding point.
  - 3. When going over 1/2 inch plywood sheathing, use ring shank nails with full penetration of the sheathing.
- D. The installation of the siding is to be per manufacturer's instructions and shall allow for the expansion and contraction of the material with temperature changes without deformation.
- E. The contractor shall provide manufacturer's warranty information to the homeowner upon completion of the work.

### 17.4 Fiber Cement Siding

- A. Prior to starting work, the contractor shall examine the exterior of the house, including the roof fascia and soffits, to determine if any additional repairs need to be completed that will affect the proper installation of the siding.
  - 1. If any unforeseen repairs are needed, the contractor will contact the program manager and request a change order.
- B. New fiber cement siding shall also include, unless otherwise specified, the following;
  - 1. Window and door wraps
  - 2. Facia and soffit wraps

- 3. Belly bands
- 4. Porch trim and all exposed beams, posts and/or columns
- C. New fiber cement siding shall have a limited product warranty.
- D. Use corrosion resistant nails and screws as per architectural specifications and installation requirements.
- E. Fiber cement siding may be installed over foam insulation/sheathing up to 1 inch thick.
  - 1. When using foam insulation sheathing, avoid over driving nails (fasteners) which can result in dimpling of the siding due to the compressionable nature of the foam insulation sheathing.
- F. A water resistive barrier is required in accordance with local building code requirements.
- G. Install with a minimum 6" of clearance to the finished grade on the exterior of the building.
- H. **Note:** Cut only using score and snap, or shears (manual, electric, or pneumatic). Never dry sweep - use wet suppression or HEPA vacuum. 100% acrylic topcoat paint is recommended. Do not paint when wet.

## 18.0 **Roofing and Sheathing**

### 18.1 **General Instructions**

- A. Prior to starting work, contractor shall examine roof to determine that all repairs affecting roofing work have been completed as scheduled.
- B. When a new metal chimney, vent stack, roof vent, etc., is scheduled to be installed, the contractor shall cooperate with other contractors in installing flashing and counter-flashing.
  - 1. This contractor shall also install new flashing in place of all damaged, deteriorated or missing flashing incidental to the repair or new installation.
  - 2. New flashing shall be installed in all valleys.
- C. Contractor shall seal all roof openings and exposed roof edges, chimneys, porch roofs, dormers, skylights and vents, with plastic asphalt cement as needed to ensure watertight joints.
- D. Roofing shall be applied in accordance with the on-the-job recommendations of the manufacturer.
- E. Once it has been started, the roofing application shall not be delayed, except when absolutely necessary due to inclement weather.
  - 1. Should inclement weather arise it is the responsibility of the contractor to provide adequate protection of the structure and its contents.
- F. When a new roof is installed, roof vents shall be installed to provide adequate ventilation in all attic areas in accordance with current building codes.
- G. New roofing installations shall conform to the requirements for an Underwriter's Laboratories, Inc., Class C label or better shingle; a copy of the guaranteed fire classification shall be provided to the owner.
- H. When existing roofing is brittle, badly cupped, or rotted, new material shall not be placed over existing.
  - 1. In these situations, first strip existing roof complete down to wood sheathing, or wood shingles if specified, and then repair sheathing, including rafters or roof deck, as necessary.
- I. When removing damaged sections of existing roofing, replace asphalt saturated felt.
- J. The quality of materials and workmanship for repair work shall meet the same standards as new installations.
- K. Contractor shall make all repairs or replacements needed to roofing, flashing, drip edges, cant strips, gravel stops, etc., to provide a waterproof installation.

### 18.2 **Asphalt or Fiberglass Roofing**

- A. For repair, since new shingles shall match existing in type, repair procedure may vary from that for re-roofing with new seal downs.
  - 1. Install new shingles as per manufacturer's recommendations to provide a watertight Class C label roof.
- B. For new installations, when going over existing roofing, exposed edges shall be cut back to the edge of the eave and new metal drip edge installed.
  - 1. New roof shingles shall provide at least double coverage at all points, including both eaves and rake edges.
  - 2. All new roof installations shall have metal drip edge.
    - a. If 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 siding.
  - 3. New roof underlay shall be one layer of #15 asphalt saturated felt.
  - 4. Roof valleys shall be flashed with corrosion resistant sheet metal.
  - 5. New shingles shall be seal down asphalt, fiberglass shingles, or fiberglass laminate shingles, with a minimum 30 year manufacturer's warranty.
  - 6. Maximum exposure shall be 5 5/8 inches per manufactured specifications; minimum headlap shall be 2 inches.
    - a. Exposure shall be not less than that required for U.L. Class C label.
  - 7. Starter course of shingles and rake shingles shall project over eaves or rake edge approximately 3/4 inch.
  - 8. Nails shall be corrosion resistant roofing nails and shall be long enough to penetrate sheathing or roof boards.
    - a. In the event that the penetrating nails are visible at the eaves or under a porch, the nails shall be clipped off flush with the underside of the roof sheathing. See also description of roof sheathing below.
  - 9. Color of roofing shall be owner's choice.
    - a. One bundle of shingles is to be left for the homeowner at the end of the job.
  - 10. Manufacturers of Approved Asphalt Shingles:
    - a. Owens Corning "Supreme"
    - b. Owens Corning "Oakridge II"
    - c. GS "Fire screen Plus"
    - d. Pabco "Superguard" Roofing Products
    - e. Or approved alternate
  - 11. Manufacturers of Approved Ice and Water shield Waterproof Underlayment:
    - a. GS, "Stormshield"
    - b. Owens Corning, "Weatherlock"
    - c. Or Approved Equivalent

### **18.3 Wood Shingles and Shakes**

- A. New roofing shall be certified No. 1 Grade Red Cedar. Shingles shall be tapered. Both shingles and shakes shall be all-edge grain.
- B. 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.
- C. Valleys shall be flashed with aluminum or galvanized metal.
- D. First course of both shingles and shakes shall be double.
- E. Exposure shall be determined by type and length of roofing.
  - 1. Extend roofing beyond eaves edge 1-1/2 inches and beyond rake edge 3/4 inch.
- F. Spacing between adjacent shingles or shakes shall be 1/4 inch.
  - 1. Stagger joints in adjacent courses 1-1/2 inches; alternate course joints should not align.
- G. Roofing shall be attached with corrosion resistant nails long enough to penetrate sheathing.
  - 1. Use no more than 2 nails per shingle or shake.

### **18.4 Built-up Roofing**

- A. For repair, remove existing gravel and broom clean roof area.
  - 1. Cut and repair all blisters with hot asphalt.

2. Reinforce low spots.
  3. Apply one ply of 40# asphalt saturated felt.
  4. Minimum end lap shall be 4 inches; minimum side lap shall be 8 inches.
  5. Cover felt with two moppings of asphalt.
    - a. Average mopping coats shall be 25# asphalt.
  6. Replace gravel stops at exposed edges of built-up roofing where needed.
    - a. All stops shall be properly secured and lapped sections shall be sealed with plastic roofing cement.
  7. Mop all edges thoroughly.
- B. 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.
1. Pitch shall be uniform.
  2. Contractor shall repair roof drains to working order.
- C. For new installations, remove old roofing down to sheathing.
1. Nail base sheet according to manufacturer's specifications.
  2. Base sheet to be 40# felt or equivalent nailed to decking. Then embed 3 layers of 15# felt, mopping between layers with 25# asphalt.
  3. Flood coat surface with 30# asphalt and embed gravel or crushed rock.
  4. Gravel or crushed rock shall be included with all new roof installations.

### **18.5 Asphalt Roll Roofing**

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

### **18.6 Metal Roofing**

- A. New metal roofing shall be installed in accordance with manufacturer's recommendations, to provide a watertight roof.
- B. Maximum eaves overhang shall be 2 inches and roofing shall lap away from prevailing winds.
- C. Full length sheets are to be used when possible.
- D. All roofing materials shall carry a minimum 25 year manufacturer's warranty.
- E. 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 roofing panels shall be a minimum of 12 inches.
- F. All metal roofing installations shall include ridge vents and/or gable vents to provide adequate ventilation of the attic area.
- G. All new metal roof installations shall include valley flashing, gable and eave trim, foam ridge and eaves closure, plumbing vent flashing and eaves and sidewall flashing.
- H. Roofing panels shall be fastened to the base with metal roof screws with rubber washers.
  1. Nailing is not acceptable.
  2. Screw color must match roofing panels.
- I. The color of the roofing shall be the homeowner's choice.
  1. Un-enameled galvanized or aluminum roofing will not be allowed.

### **18.7 Caulking**

- A. When roofing is scheduled, all loose, brittle, cracked, rotted and broken caulking shall be removed.
  1. Apply new caulking at all roof openings and exposed roof edges.

2. New caulking shall be plastic asphalt cement or equivalent.
  3. Clean immediately all brick, concrete or woodwork soiled during caulking.
- B. It is the intent of these specifications that all exterior openings be properly caulked whether previously caulked or not.

### **18.8 Roof Flashing**

- A. When roofing or roof flashing is installed, new flashing shall be aluminum or galvanized sheet metal.
1. Aluminum shall be a minimum thickness of 0.019 inch; galvanized metal, 0.024 inch.
- B. Piping passing through the roof shall be re-flashed with one piece metal flashing and cover or two piece flange and sleeve flashing.
- C. Nails shall be corrosion resistant threaded nails and shall be long enough to penetrate sheathing.
- D. It is the intent of these specifications that all openings through the roof be properly flashed whether previously flashed or not.

### **18.9 Roof Sheathing**

- A. The repair of portions of existing sheathing shall result in the sheathing for that entire surface being in the same plane, so that when new roofing material is applied, the finish surface is even.
- B. The quality of materials and workmanship shall meet the same standards as new installation described below.
- C. New sheathing shall be plywood or other approved material not less than 7/16 inch structurally rated interior/exterior type.
1. Exterior type shall be used when surfaces such as overhangs and ceilings in carports or porches are exposed to rafters or joist, and shall be staggered so that end joints in adjacent panels break over different supports.
- D. Nails and staples shall be galvanized.

### **18.10 Nailing Instructions**

- A. For new roof installation over sheathing and felt only, stapling of shingles is acceptable.
1. Staples must be at least 16 gauge zinc coated with a minimum crown of 15/16 inch, and a minimum length sufficient to penetrate at least 3/4 inch into sheathing.
  2. Staples must be driven parallel to shingle length by pneumatic stapler, assuring that the crown bears tightly and flush against the shingle without cutting into the shingle surface.
- B. When re-roofing over existing roofing, nailing of shingles is the only acceptable means of anchoring the new roof, unless another method is designated by the manufacturer.
- C. Use 4-6 nails per shingle for composition or fiberglass shingles and 2 nails per shingle for wood shingles or shakes.
- D. Nails will be hot galvanized, 11 or 12 ga. with heads at least 3/8 diameter and will be sufficient length to penetrate at least 3/4 inch in sheathing.

## **19.0 Gutters and Downspouts**

### **19.1 Galvanized Metal Gutters and Downspouts**

- A. Galvanized metal shall have corrosion preventative coating on inside surfaces.
- B. Gutters and downspouts may be baked enamel finish.
- C. Minimum thickness of metal shall be 26 gauge.
- D. Only seamless gutters shall be used.
- E. No joints will be allowed except at corners and where downspouts attach.
- F. New gutters shall be 5 inch OG ("K" style) or half round type.
1. Gutters shall be attached with aprons and hangers or combination hangers every 24 inches on center.
  2. No exposed strap hangers shall be used.

3. Metal gutters 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 gutters at least 3-1/2 inches away from siding and shall be properly flashed.
  4. Gutters shall be installed with proper pitch to downspouts and so that no water overflow can get back into framing members.
- G. New downspouts shall be 2 inch X 3 inch corrugated rectangular or 3 inch corrugated round.
1. Downspouts shall be attached to gutters and be securely fastened with strap or cast hangers at top and bottom.
  2. Provide at least one additional hanger for every 6 feet of downspout.
  3. Downspouts shall be provided with extension pieces and elbows.
  4. The outlet of the downspout is to be not more than 6 inches above the splash block and pointed in the direction of flow.
- H. Splash blocks shall be installed with all new gutter installations.

### **19.2 Aluminum Gutters and Downspouts**

- A. New gutters shall be 5 inch OG ("K" style).
1. Aluminum shall be baked enamel finish with corrosion preventative coating on inside surfaces.
  2. Minimum thickness of gutters shall be 0.027 inch; minimum thickness of downspouts shall be 0.019 inch.
- B. Only seamless gutters shall be used.
- C. No joints will be allowed except at corners and where downspouts attach.
- D. Installation shall be the same as for galvanized gutters and downspouts.

### **19.3 Cleaning and Tightening Gutters and Downspouts**

- A. When cleaning and tightening gutters and downspouts is scheduled, all joints shall be made watertight.
- B. All gutters and downspouts shall be securely connected and firmly supported and fastened.
- C. Cleaning shall take place just prior to final inspection.

### **19.4 Existing Gutters and Downspouts**

- A. When removing and reinstalling existing gutters during roofing or siding project, the gutters are to be carefully removed and stored during the work in such a manner that they will be unharmed.
- B. All joints shall be made watertight.
- C. All gutters and downspouts shall be securely connected and firmly supported and fastened.
- D. In this instance the contractor is required to warrant his labor but not the existing material.

### **19.5 Splash Blocks**

- A. New splash blocks shall be concrete or plastic, at least 12 inches by 30 inches.
- B. Splash blocks shall be set so that water drains away from the house and into the flow of water off the property.

## **20.0 Exterior Doors and Windows (0800)**

### **20.1 General Instructions**

- A. Whenever window assemblies, sash or doors are being replaced, frames, headers and sills shall be repaired to provide a square, plumb, level and rigid enclosure for the new installation.
- B. Flashing shall be replaced as needed.
- C. All openings between wood, masonry and metal shall be caulked.
1. 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) manufactured for this purpose to within 1/4 inch of the face surface and then caulked.
- D. All new sash or doors shall fit tightly in their frames and shall operate smoothly and easily.

1. Contractor shall repair all trim incidental to the operation of the sash or doors.
  2. Installation shall be according to manufacturers specifications.
- E. When windows are to be glazed, new glass shall be Grade B or better, unless otherwise specified.
1. When storm doors are to be reglazed, sheet plastic ("Plexiglas") may be used in place of tempered safety glass.
- F. Hardware
1. All hardware within a room shall be similar in style and finish.
  2. 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. These fastenings shall harmonize with the hardware as to material and finish.
  3. The finish hardware shall be securely fitted on properly prepared surfaces in conformity with the hardware manufacturer's instructions and templates.
  4. Carpentry cuts for the finish hardware shall be carefully and accurately made.
  5. Screws shall be turned to a firm grip but not to be the point of distorting the hardware and in no case shall the screws be hammered into place.
  6. New doorknobs shall be positioned at the height of the existing doorknobs in each building and the other hardware shall be uniformly positioned.

## 20.2 Exterior Doors

- A. Hinges for an exterior door swinging out shall have a setscrew to prevent the removal of the pin when the door is closed.
- B. All doors between a carport or garage and the house shall be solid core type, or equivalent, and have self closing hardware.
- C. Doors shall be fire rated in accordance with applicable building codes.
- D. If dog door is to be replaced, new exterior door must be flat panel.

## 20.3 Repairing and Realigning Garage Doors

- A. Repair or replace tracks, rollers, hinges and all other operating hardware when needed.
  1. Adjust springs and hardware so that doors operate smoothly and easily.
- B. Garage Door Hardware
  1. New latch lock shall engage both sides of door when closed.
  2. Door shall key outside, but shall lock and unlock from both inside and outside.
  3. Outside lock handle shall be chrome plated.

## 20.4 Metal Garage Doors

- A. New doors shall be overhead type.
- B. Metal shall have corrosion resistance applied to both exterior and interior surfaces or shall be standard anodized sheet aluminum of a gauge as recommended by the manufacturer for garage door siding.
- C. Door shall be installed complete with latch, lock and hardware.
  1. Hardware shall be galvanized or zinc plated.
  2. Counter-balance spring may be extension or torsion type.
- D. Bottom edge of door shall have vinyl weather seal.
- E. When the door is closed, the gap at the top and sides shall be no larger than 1/2 inch.
- F. Door stops shall then be installed to seal opening.
- G. Manufacturers of Approved Garage Doors:
  1. Crawford
  2. Wayne-Dalton
  3. Stanley
  4. Or Approved Equivalent

## 20.5 Wood Garage Doors

- A. New doors shall be sectional roll-up or overhead type.
  1. Type and style shall be as indicated in the work schedules.
- B. Nominal thickness of sectional door shall be 1 - 3/8 inches.
  1. Panels shall be wood or hardboard.
- C. Door shall be installed complete with latch, lock and hardware.

1. Hardware shall be galvanized or zinc plated.
2. Counterbalance spring may be extension or torsion type.
- D. Bottom edge of door shall have a vinyl weather seal.
- E. When the door is closed, the gap at the top and sides shall be no larger than 1/2 inch. Door stops shall then be installed to seal opening.
- F. Wood doors shall be sealed from weather upon installation (owner's choice of finish).

**20.6 Hardware, Weather Stripping, Thresholds, Jambs, and Stops for Exterior Doors**

- A. New entrance lockset shall be polished brass or brushed aluminum finish.
  1. Cylindrical lock shall key outside with turn or push button on the inside; lock shall have dead pin.
  2. Contractor shall furnish 2 keys with new hardware.
  3. Double cylinder deadbolts are not allowed.
- B. New escutcheon plates shall be installed to cover unsightly marks when replacing existing hardware.
- C. Floor, base or hinge door stops shall be installed for all exterior doors.

**20.7 Weather-strip**

- A. Package shall include new weather-strip and door sweep installed to stop all air infiltration around entire perimeter of door.
- B. New weather-stripping shall be cushion bronze, interlocking aluminum, or compression type vinyl.
  1. It shall be installed continuous around door casing to prevent infiltration of dust, water, and wind.
- C. New threshold shall be metal, water return type, with integral weather-stripping and shall fit watertight with door.
  1. Caulk at exterior edge.
- D. New jambs and stops shall be clear fir, pine, or mahogany.
- E. Thresholds shall be fully supported.

**20.8 Wood Exterior Doors**

- A. Type of new door shall be solid core and shall be flush birch unless called out differently in the Scope of Work.
  1. Door shall be installed with new entrance lockset hardware, deadbolt lock, self closing hardware where required and weather-strip package.
  2. Door shall be hung with three, brass or brushed aluminum finish, 4 inch butt hinges.
  3. When door is to be naturally finished, it shall be stain grade wood or it may be prefinished.
  4. When door is to be painted, it may be paint grade.
- B. All exterior wood doors shall be sealed upon installation.
  1. This shall include sealing the interior, exterior and all edges of the door. (Owner's choice of finish)
- C. Manufacturers of Approved Wood Entry Doors:
  1. Weyerhaeuser Co.
  2. Vancouver Door Co.
  3. Or Approved Equivalent

**20.9 Wood Pre-hung Doors**

- A. New pre-hung door package shall include solid core wood door, jamb, casing, stops, trim, weather-stripping, threshold, all hardware and deadbolt lock.
  1. Opening shall be trimmed.
  2. Unless specified differently, door will be flush birch.
  3. Follow instructions for wood exterior doors.
- B. Thresholds shall be fully supported.

**20.10 Steel or Fiberglass Pre-hung Exterior Door Package**

- A. New pre-hung door package shall include steel clad or fiberglass door with wood or polyurethane core, wood jamb, casing, stops, trim, weather stripping and aluminum threshold, all hardware, and a deadbolt lock.

1. Opening shall be trimmed.
  2. Door shall be hung with three brasses or brushed aluminum finished, 4 inch butt hinges.
- B. Thresholds shall be fully supported.
- C. Unless specifically called out otherwise, all doors will be simulated six panels.
- D. Manufacturers of Approved Steel Insulated Entry doors:
1. Therma-Tru, Construction Series, steel door
  2. Stanley, Sta-Tru, steel doors
  3. Or approved equivalent

#### **20.11 Storm Doors**

- A. When a storm door is scheduled to be repaired, locking hardware, safety door check and closure shall be repaired, or replaced if needed.
- B. Door shall operate smoothly and fit weather tight in frame.
- C. New storm doors shall be wood-core, aluminum or vinyl wrapped, aluminum frame, mid view with self storing glass and screen.
- D. Door shall lock with a turn button on the inside but need not be keyed.
- E. All storm doors shall have safety door checks and closers.
- F. Frame shall fit weather tight in existing masonry or wood frame. (See Suggested Material Ranges)
- G. Manufacturers of Approved Storm Doors:
1. Larson 298-ss
  2. Cole Sewell Model 500
  3. Or Approved Equivalent

#### **20.12 Security Screen Doors**

- A. Doors are to be of galvanized welded steel with baked on powder coating from the factory and be built such that they can be locked using a standard deadbolt.
1. The installation of said deadbolt is to be included in the installation of a Security Screen Door.
- B. Manufacturers of Approved Security Screen Doors:
1. Leslie Locke – Monterrey
  2. Academy Gibraltar
  3. Or Approved Equivalent

### **21.0 Interior Doors (0800)**

#### **21.1 Wood Interior Doors**

- A. Type of new door shall be as scheduled.
- B. Replacement panel doors shall match existing as closely as possible.
- C. Louvered doors shall be ventilating type.
- D. Door shall be installed with new passage set or existing hardware and shall be hung with two brass or brushed aluminum finish, 3-1/2 inch butt hinges.
1. If in the event the owner wishes to re-use existing hardware, the contractor shall route/chisel the new door to except it.
- E. When door is to be natural finish, it shall be stain grade wood or it may be pre-finished.
- F. When door is to be painted, it may be paint grade. (Owner's choice of finish.)

#### **21.2 Wood Pre-hung Interior Doors**

- A. New pre-hung door package shall include wood door, jamb, casing, stops, trim and all hardware.
- B. Door shall be 6'-8", hollow core flush birch to match existing doors unless otherwise specified.
- C. Finger jointed jamb or casing material is unacceptable except when the trim is interior and scheduled to be painted. (Owner's choice of finish)

### **21.3 Wood Bi-Fold Doors**

- A. Door shall be 6'-8", hollow core flush birch or panel to match existing unless otherwise specified.
- B. Doors shall be installed with new hardware.
- C. When a pair of doors is being installed, a door aligner shall be provided where the doors meet.
- D. Manufacturers of Approved Bi-fold Doors:
  - 1. Modernfold, Inc.
  - 2. Jeld-Wen
  - 3. Premdor
  - 4. Or Approved Equivalent

### **21.4 Wood Bi-Pass Doors**

- A. Package shall include wood bi-pass doors, jambs, casing, stops, trim and all hardware. (Owner's choice of finish)
- B. Doors are to be 6'-8" hollow core flush birch unless otherwise specified.

### **21.5 Hardware for Interior Doors**

- A. New passage set hardware shall be polished brass or brushed aluminum finish.
- B. Doors to bathrooms or toilet rooms shall have privacy lock, push button or turn button on the inside.
- C. Escutcheon plates shall be installed to cover unsightly marks when replacing existing hardware.
- D. 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.
- E. New hardware shall be polished brass or brushed aluminum finish.
- F. All hardware within a room shall be similar in style and finish.
- G. Mixing painted with unpainted hardware is unacceptable.
- H. Manufacturers of Approved interior and exterior door hardware:
  - 1. Yale 5300 Series
  - 2. Schlage A-Series
  - 3. Or Approved Equivalent

## **22.0 Windows**

### **22.1 Special Instructions**

- A. A new window assembly shall include sash, jamb, casing, mullions, frame, sill, stool, apron and all trim as appropriate to the particular type.
  - 1. Finger jointed material is unacceptable when wood is to be natural finish.
- B. Window assemblies shall be installed with all operating hardware and all sashes shall fit tightly in frames.
- C. All opening windows shall have screens.
- D. All sashes shall be weather-stripped.
- E. All sashes shall operate smoothly and easily.
- F. Replacement sash shall match existing as closely as possible.
  - 1. Install new sash as per manufacturer's recommendations, complete with new operating hardware.
- G. Openable sash shall have some means of being secured.
- H. Sashes shall fit tightly in frame to prevent infiltration of dust, water and wind.
- I. New sashes shall operate smoothly and easily.
- J. New windows shall meet all requirements of the current codes as adopted by Thurston County with regard to light, safety tempering, ventilation, and emergency egress.

### **22.2 Checking, Fitting, and Freeing Windows**

- A. Sashes painted shut shall be freed.
- B. Each sash and its operating hardware shall be readjusted for smooth and easy operation.

- C. Sash locks that are not scheduled to be replaced shall be repaired and realigned as needed to firmly secure windows.
- D. When existing weights or counter-balances for double hung windows are found to be inoperative and cannot be easily repaired to good operating condition, new "quicky" or "jiffy" type spring window controls can be installed.
  - 1. Springs shall be fastened securely.

### **22.3 Hardware**

- A. All window hardware within a room shall be uniform in style and finish.
- B. New hardware shall not be painted.
- C. Locking window hardware shall be cast metal type.
  - 1. Stamped metal type shall not be used.
  - 2. When locking hardware is scheduled to be replaced, finger lifts and pulls shall also be replaced.
- D. New hardware shall be polished brass or brushed aluminum finish.

### **22.4 Stops, Stools, and Aprons**

- A. New wood trim shall be clear fir, hemlock, or mahogany.
- B. Finger jointed material is acceptable only when the wood is scheduled to be painted.

### **22.5 New Wood Window Sashes**

- A. New sashes shall have spring or tension counter-balances.
  - 1. "Quicky" or "jiffy" spring window controls are acceptable only when the existing operating mechanism is unusable in the new installation.
- B. Window lifts and locking hardware shall be polished brass or brushed aluminum finish.

### **22.6 Aluminum Storm Windows**

- A. New storm windows shall be anodized aluminum.
  - 1. All meeting rails shall be interlocking and weather tight.
- B. Unit for double hung window shall consist of self storing insect screen and two storms.
  - 1. Sash and screens shall be easily removed from the inside for maintenance and re-glazing or repair.
- C. 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.
- D. Replacement inserts shall fit tightly in existing tracks.
- E. All operating windows shall have insect screens; wherever possible, self storing units shall be installed.
- F. Glass shall be Grade B or better.
- G. Replacement screening shall match existing.
- H. New screening shall be 18 x 16 anodized aluminum or fiberglass screen cloth.
- I. Weep holes in the sill shall be provided at the factory.
- J. Frame shall fit weather tight in existing masonry or wood frame.
  - 1. Caulk at frame with sealant, if needed.
  - 2. The bead shall be at least 3/8 inch in surface.
- K. Storm window unit shall meet AAMA performance standards.
- L. After installation, aluminum shall be thoroughly cleaned with plain water or a petroleum product such as white gasoline, kerosene or distillate.
  - 1. No abrasive cleaning agents shall be used.

### **22.7 Vinyl Replacement Windows and Vinyl Storm Windows**

- A. New replacement windows and storm windows shall be constructed of rigid PolyVinyl Chloride conforming to the requirements of AAMA 101V-86.
- B. Glazings are to be Energy Star certified.
- C. All operable windows are to be supplied with insect screens.
- D. Provide tempered glazing where required by the building code.
- E. Windows are to be installed square, plumb and level.
- F. All trim and interior and exterior wall surfaces are to be repaired to provide a complete and finished installation.

- G. All interior and exterior stickers, informational tags, and placards are to be removed from windows before the finish of the job.
- H. Manufacturers of Approved Vinyl Windows:
  1. Summit
  2. Northwest Window
  3. Anderson Window Manufacturing
  4. Milgard
  5. Window Products
  6. VPI Windows
  7. Or Approved Equivalent

## **23.0 Finishes (0900)**

### **23.1 Plastering**

- A. When patching plaster, all broken or damaged plaster shall be cut out to straight lines with clean, sharp edges.
- B. New lath and reinforcing strips shall be installed if needed.
- C. Use plaster bond material for proper adhesion of new plaster to existing.
  1. The areas to be patched shall be filled with base material and then given a finish coat of the same material as the adjoining plaster.
  2. Patched areas shall match the adjacent work in finish and texture and be free of bulges.
  3. Joining shall be flush and smooth so that the joints between the existing and the new plaster are undetectable.
  4. Cracks shall be V- jointed and bonded with fiberglass tape and joint compound, in the same manner as a drywall joint.
- D. Prior to application of new plaster, all bulging, loose or otherwise defective plaster shall be removed.
- E. New expanded metal lath, plaster stops, grounds, corner and casing beads and corner reinforcement shall be installed if needed.
  1. Support and fasten lathing to provide true lines and surfaces for new plaster.
  2. Use flat reinforcing strips where existing and new plaster surfaces butt together.
  3. Install reinforcing at all points where surfaces change or where cracking is likely to occur.
- F. All metal shall be galvanized or coated with rust inhibiting paint.
- G. New application shall be three coat wet plaster over metal lath, two coat wet plaster over gypsum "rock lath" or two coat veneer plaster system.
  1. Apply plaster with minimum thicknesses as established by industry standards for the types of bases being used.

### **23.2 Exterior Stucco Plaster**

- A. Remove all damaged stucco.
- B. Repair metal lath or wire fabric.
- C. Over wood frame construction, apply new three coat finish and over masonry surfaces apply new two coat finish.
  1. Scratch coat shall be uniformly roughed to provide a sound base for brown or top coats.
  2. Top coat shall match existing in texture and finish.
  3. 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.
  4. Stucco plaster shall be kept damp until initial set.

### **23.3 Drywall**

- A. Drywall installed over framing members shall be 1/2 inch on walls and 5/8 inch on ceiling.

1. Installations requiring a one hour fire rating shall be 5/8 inch Type X drywall.
  2. Drywall installed over existing surfaces shall be no less than 3/8 inch on walls and 1/2 inch on ceilings.
- B. New drywall shall be tapered gypsum wallboard.
1. When going over existing surfaces, first remove all damaged material and fur walls or ceilings so that the finished product is properly aligned.
  2. Edges and ends of wallboard shall occur on framing members, except those edges and ends which are perpendicular to the framing members.
  3. To minimize end joints, use wallboard for maximum lengths.
  4. Wallboard shall be first applied to ceiling, then to walls.
  5. When both sides of partitions are to receive wallboard, stagger joints on opposite sides.
  6. Protect all vertical exterior corners with corrosion resistant metal corner beads.
  7. When butting up to existing trim, cut drywall carefully and use casing beads for all exposed edges.
  8. 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.
    - a. All edges shall be feathered.
    - b. Finish surfaces shall be sanded smooth and left straight and well aligned.
- C. Texture spray finish is not to be used on ceilings unless listed in the Scope of Work.
1. When used, texture spray shall be medium texture, hard finish only no coarse, polystyrene or other soft finish will be allowed.
  2. Before application, prime ceilings with a vinyl primer or equivalent.
  3. Any existing surfaces to receive texture spray must also be properly prepared for complete adhesion and non-burn through.
    - a. Application shall be as per manufacturer's recommendations.
- D. No finishing of drywall shall be done unless inside temperature is at least 55 degrees F.
1. This temperature shall be maintained during and up to completion of finishing, including drying.
- E. Cementitious ceramic tile backer board will be installed for use in bathrooms at tub and shower enclosure walls.
- F. In high moisture areas, a moisture barrier (such as 15 pound roofing felt) should be installed over wall studs before installing the ceramic backer board to the wall.
- F. Drywall may either be finished flat and smooth or with a texture depending on the preference of the homeowner.

## 24.0 **Paint - General**

### 24.1 **Special Instructions**

- A. Paint shall be understood to include not only paints but also primers, enamels, sealers, stains and other coatings, plus all paint accessory materials.
1. The addition of thinners, quick drying additives, or other adulterants of any kind shall not be permitted, except as specifically recommended by the manufacturer.
- B. The use of spatter-dash technique for appearance purposes on interior surfaces shall be limited to "orange peel" or other fine-medium texture only.
1. Texture shall not be applied to any trim, woodwork, metalwork, etc.
- C. Paint that contains at least 1 milligram of lead per square centimeter is considered to be Lead Based Paint and is not to be used under any circumstances.
1. The amount of lead in liquid paint can also be measured in some instances as .5% by weight or 5000 parts per million.
- D. Certain finish coats are formulated to serve as primers and may be so used when applied in accordance with manufacturer's recommendations.

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

#### **24.2 Application Standards**

- A. Paint shall not be applied until all surfaces are thoroughly dry, excepting certain masonry paints formulated for application to wet surfaces.
  - 1. Contractor shall assume the responsibility for such conditions and shall make good any work executed prematurely.
- B. No exterior painting shall be done when the surfaces are damp, or during cold or rainy or frosty weather.
  - 1. No 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 unless the paint is certified for cold weather application.
- C. Inserts for storm windows shall be removed prior to painting.
  - 1. Contractor shall reinstall them when painting is completed.
- D. 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.
  - 1. Such items shall include, but not be limited to, roof vents (color of roof), covers, housings, brackets, piping, duct work, drain pipes, conduits, access panels, unfinished or prime coated hardware, grilles, registers, louvers, cabinets, electrical panels and similar items.
- E. New and previously unpainted hardware accessories and electrical equipment are not to be painted unless specifically called out in the Scope of Work.
  - 1. Switches and their cover plates shall not be painted.
    - a. Painter shall remove these items as necessary, reinstalling them when the work is completed.
- F. Square foot coverage per gallon shall be as recommended by the manufacturer.
- G. Paint shall have easy brushing properties.
  - 1. Paint shall be kept well stirred during use and be screened free from skim, lumps and foreign matter.
  - 2. No paint, nor the residue thereof, shall be used after it is caked or hardened.
- H. Paint shall be worked into all corners, voids and joints.
- I. All surfaces other than those of metal items shall receive at least 2 coats of paint and all coats shall be thoroughly dry prior to applications of next coat.
  - 1. Initial primer coat may be counted as one of the two required coats of paint, provided adequate hiding has been obtained.
  - 2. Shade primer coat to a tint slightly different from finish coat(s).
  - 3. Additional coats may be required if the finish surface does not provide acceptable coverage or hiding.

#### **24.3 Finishing Work and Cleanup**

- A. Finished work shall be uniform, free of runs and sags, smooth, free of brush marks and of uniform color.
  - 1. Where paint adjoins other materials or where different colors meet, the edges of the paint shall be sharp and clean.
- B. Any work which is damaged by contractor's employees, or for any reason is unacceptable, shall be repaired or redone to match the surrounding areas.
  - 1. All touch-up painting shall match surrounding areas.
- C. Upon completion, the entire area shall be cleaned and left in a neat condition, including removal of any overspray.

## 25.0 **Exterior Painting**

### 25.1 **Special Instructions**

- A. All surfaces to be painted shall have all loose, blistered, scaling, alligatored and crazed coatings removed and shall be thoroughly cleansed to receive new paint.
- B. Paint may be applied by any of the following: brush, roller, air compressor, or airless sprayer, unless otherwise specified in the Invitation to Bid.
- C. When exterior paint is scheduled to correct a lead base paint problem, it shall be the contractor's responsibility to insure that all old paint that has been removed from the exterior of the house is removed from the premises.

### 25.2 **Substrate Preparation**

- A. Secure loose material and reset nails as needed.
  - 1. Remove all miscellaneous nails, hooks, screws, tacks, etc.
  - 2. Remaining holes, those no larger than a dime, shall be filled with linseed oil putty or caulking compound, depending on the surface material.
- B. All patches shall be sanded smooth.
- C. All vents in surfaces to be painted shall first be swept clean and have paint-plugged squares removed.
- D. Caulking
  - 1. All windows, doors and other openings shall be re-caulked.
  - 2. Caulk at all joints where caulking is deteriorated and missing.
- E. All dried out or otherwise deteriorated glazing compound or linseed oil putty, including points for sash shall be replaced.
- F. If any area to be painted shows signs of mildew, those areas shall be cleaned, sanded and sealed before painting is begun.

### 25.3 **Exterior Preparation Inspection**

- A. All exterior prep work must be inspected by the Field Agent prior to application of primer.
  - 1. After notification by the contractor, prep work will be inspected in a timely manner.
  - 2. The contractor will be charged a re-inspection fee of \$50 for inspections of the same work beyond the second inspection.

### 25.4 **Wood Trim, Millwork, and Sanding**

- A. Sand new millwork prior to application of primer or stain.
- B. Reset all loose nails and putty all nail holes and minor cracks in wood with putty after spot priming these areas with exterior oil base primer.
- C. Scuff sand all trim to remove gloss and provide tooth for adhesion of new paint.
- D. Primer application
  - 1. Prime all knots and resinous wood with a prepared knot sealer or aluminum paint (which application is not to be considered a primer coat).
  - 2. Apply one coat of exterior primer to all new and bare wood surfaces.
- E. Apply two coats of exterior, non-caulking, oil base or latex paint to all wood surfaces.
  - 1. Use oil shingle paint for wood shingles and shakes.
  - 2. Doors, sashes and their trim shall be semi-gloss finish.
- F. Porches
  - 1. When painting porches, do not paint natural finish ceiling surfaces unless painting of them is specified in the Invitation to Bid.
    - a. First prepare these surfaces to be refinished. Then apply at least two coats of spar varnish or polyurethane varnish formulated for exterior use.
- G. Natural Finish Surfaces
  - 1. Do not paint natural finish wood shingles, shakes, or rough-sawn siding unless painting of this siding is noted. Instead, apply two coats of oil or pigmented oil stain.
    - a. When necessary, stain new sections of siding to match existing.

### 25.5 **Wood Doors**

- A. First prepare doors to receive new finish.
- B. All door edges shall be eased.

- C. Edges, including the top and bottom, shall receive the same finish as the faces.
- D. 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.
- E. Natural finish for existing doors shall be at least two coats of clear sealer formulated for exterior use.
- F. Paint for new doors and existing doors shall be one coat of exterior oil base primer, one coat of either exterior oil base paint or semi-gloss latex paint, providing the one coat provide sufficient coverage.

#### **25.6 Fiberglass Doors**

- A. Paint per manufacturer's instructions and to follow embossed graining.
- B. All surfaces must be painted to include top, bottom, sides, front, and back.

#### **25.7 Steel Doors**

- A. Steel doors are to receive **spray** applied exterior enamel on all surfaces; top, sides, front and back and bottom.

#### **25.8 Wood Steps and Decks**

- A. Caulk all joints between wood surfaces and walls.
- B. Reset all loose nails.
- C. Apply at least two coats of oil based exterior floor and deck enamel in accordance with the manufacturer's recommendations.

#### **25.9 Concrete and Masonry Surfaces**

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

#### **25.10 Gutters and Downspouts**

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

#### **25.11 Miscellaneous Metal Items**

- A. New wrought iron, if not factory painted, shall be primed with at least one coat of zinc chromate primer.
  - 1. Spot prime all other metal with zinc dust or zinc oxide primer. Then apply at least one coat of rust inhibitive, exterior oil base, enamel paint.

### **26.0 Interior Painting**

#### **26.1 Special Instructions**

- A. All surfaces to be painted shall have all loose, blistered, scaling, alligatored and crazed coating removed and shall be thoroughly cleansed to receive new paint.
- B. Wallpapered surfaces
  - 1. Wallpapered surfaces are sometimes scheduled to be painted.
  - 2. Wallpaper must be tight and edges or joints shall be feathered where necessary.
- C. Secure all loose material and reset nails.
  - 1. Remove all miscellaneous nails, hooks, screws, tacks, etc., from walls and millwork.
    - a. Remaining holes, those no larger than a dime, shall be filled with spackling compound or linseed oil putty depending on the surface material.
- D. All patches shall be smoothly done and all rough or abrupt edges shall be sanded smooth.
- E. Seal all un-removable grease spots or stains with shellac or a sealer so that they do not bleed through new paint.
- F. Kill stain or seal all varnished wood before painting so that the desired coverage is obtained.

- G. If any area to be painted shows signs of mildew, those areas shall be cleaned, sanded and sealed before painting is begun.
- H. When a room is scheduled to be painted, walls, ceilings, doors, windows (including those surfaces exposed by opening), trim, cabinet work, miscellaneous shelving, etc. shall be painted and/or refinished as follows;
  - 1. A closet is considered to be part of the room in which it is located and closet rods and shelving (unless pre-finished metal either new or in good condition) and bracing and drawers shall also be painted.
  - 2. Natural finish items are not to be painted unless painting of them is specified in the Invitation to Bid.
  - 3. Interior of cabinets will not be included as part of the room unless scheduled.

**26.2 Drywall or Plaster Walls and Ceilings**

- A. Hairline cracks and scraper dents shall be spackled and sanded.
  - 1. Open cracks shall be raked out and damaged plaster shall be removed.
  - 2. Apply new plaster in coats thin enough to prevent shrinkage.
- B. All repair work, when completed, shall match existing surfaces, present a neat appearance and be free of hairline cracks and bulges.
- C. All surfaces shall be washed or sanded prior to painting.
- D. Previously painted surfaces shall receive at least two coats of interior latex or oil base paint.
- E. New plaster or drywall shall receive a first coat of interior primer paint and at least two additional coats of paint.
- F. Paint for kitchen, bathrooms and utility rooms shall be semi-gloss enamel.
- G. Surfaces shall be painted with roller and/or brush except that certain types of texture finish ceilings cannot be satisfactorily painted with roller or brush and may need to be painted using a spray technique.

**26.3 Wood Windows and Doors**

- A. For painting, all door edges shall be eased.
  - 1. If new wood is open grain type, fill or seal surfaces to prevent grain rising.
  - 2. Apply one coat of suitable oil base primer to all new and bare wood surfaces.
  - 3. Following apply at least two coats of interior semi-gloss enamel (oil base or latex base) to all surfaces.
  - 4. Edges - top, side, and bottom - shall be painted the same as the door faces.
  - 5. Color shall match adjacent wall surfaces.
  - 6. Painting shall be with brush only.
- B. For natural finish, all door edges shall be eased.
  - 1. Apply one coat of penetrating sealer to all trimmed door edges.
  - 2. All interior doors, if not pre-finished, shall receive at least two coats of spar varnish or polyurethane varnish.
    - a. Edges - top, sides, and bottom - shall be finished the same as the door faces.
    - b. Varnish shall be applied with brush only.

**26.4 Wood Trim, Millwork, Paneling, Cabinet Work and Shelving**

- A. 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.
- B. Gloss shall be removed from all enamel surfaces to be painted.
  - 1. Stain or prime and finish as necessary.
- C. If the interior of cabinets are to be refinished, it will be scheduled separately.
- D. For painting:
  - 1. Sandpaper new millwork prior to application of primer.
  - 2. Reset loose nails.
    - a. All nail holes shall be filled and sanded prior to painting.
  - 3. If new wood is open grain type, fill or seal surfaces to prevent grain rising.
  - 4. Apply one coat of a suitable primer to all new and bare wood surfaces.

5. Following apply at least two coats of interior semi-gloss enamel to all surfaces.
  6. Color shall match adjacent wall surfaces, unless scheduled otherwise.
  7. Painting shall be with brush only.
- E. For natural finish
1. Sandpaper new millwork prior to application of finish.
  2. All wood to be refinished shall be first prepared as necessary to receive new finishes.
  3. Loose nails shall be reset and all holes shall be filled with linseed oil putty.
  4. If new wood is open grain type, surfaces shall be filled or sealed to prevent grain rising.
  5. New or bare wood shall be stained to match existing as closely as possible.
  6. All natural finish wood shall receive at least two coats of varnish, shellac, lacquer or polyurethane coating as appropriate.
- F. Manufacturers of Approved Paint
1. Manufacturer's best-quality paint material of the various coating types specified.
    - a. Parker Paint
    - b. Fuller-O'Brien Paints (Fuller)
    - c. Glidden Co. (The) (Glidden)
    - d. Benjamin Moore & Co. (Moore)
    - e. Columbia Coatings
    - f. Pratt & Lambert, Inc. (P&L)
    - g. Sherwin Williams Co. (S-W)
    - h. United Coatings
    - i. Or Approved Equivalent
- G. At least one quart of each color and type of paint used on the job is to be left with the homeowner for future touchup and repair.

## **27.0 Lead-based Paint Abatement**

If a painting instruction is noted on the Invitation to Bid as a "Lead-based paint reduction project" the following procedures must be followed:

### **27.1 Exterior**

- A. All loose, blistered, scaling, alligatored and crazed paint coatings shall be removed down to bare wood by hand scraping, heat treatment or chemicals.
  1. Machine sanding and the use of propane torches is not allowed without the use of a HEPA filtered exhaust.
- B. All paint film that has been removed from the house must be captured with drop cloths, removed from the premises, and disposed of in accordance with Washington State Department of Ecology regulations.
- C. An alternate method of abatement that may be called out on the Scope of Work would be to encapsulate the LBP with siding.

### **27.2 Interior**

- A. Interior LBP can be abated either by removal and repainting or by enclosure with fiberglass cloth, sheetrock, or non-strippable wallpaper.
- B. If a wall area is scheduled for removal and repainting, the paint film must be removed and disposed of as described for exterior painting, above.

## **28.0 Floor Finishes**

### **28.1 Ceramic Wall and Floor Tile and Ceramic Tile Countertops**

- A. Repairing existing tile
  1. Remove all cracked, loose, chipped or otherwise defective tile.

2. Repair setting bed or wallboard to provide a level surface for installation of new tile.
  3. When repairing floor tile, wash adjacent areas with a solution to remove all oil film present.
  4. New tile being installed next to existing tile shall match existing as closely as possible in size, color, texture and glaze.
  5. When replacement tile does not match existing, replace complete rows or areas.
    - a. Carry rows and areas into corners.
- B. New tile shall be installed in the following manner;
1. Base surface shall be smooth and plumb or level.
  2. Prior to application of adhesive, surface to receive tile shall be sealed with a water resistant sealer compatible with the adhesive to be used.
    - a. Sealer shall provide a firm and durable bond to the base material.
  3. Tile adhesive shall be a chemical resistant, water cleanable, tile-setting epoxy.
    - a. Tile adhesive may be used as the sealer when designed for this purpose but must be applied in a separate coat.
    - b. Apply adhesive to entire surface to be tiled with a notched spreader blade.
  4. New wall tile shall be standard grade, glazed ceramic tile.
  5. New floor tile shall be glazed ceramic mosaic or ceramic tile as indicated in work list.
  6. Color of tile shall be owner's choice.
  7. All tile installations shall be properly trimmed using caps, bases, etc.
  8. Tile shall be set by "floating method".
  9. Allow at least 24 hours for evaporation of volatiles from adhesive prior to grouting.
  10. Joints shall be thoroughly saturated and washed out with clean water after grouting.
    - a. All tile joints shall be filled with pointing grout.
    - b. Joints between tub and tile and joints between tile and any dissimilar material shall also be grouted and caulked with a silicone sealant.
    - c. Force grout into joints taking care that no open joints are left.
    - d. Joints shall then be sponged and tooled.
    - e. Once installation is complete, new tile and grout shall be sealed as per manufacturer's specifications.
  11. New tile and grout and any surrounding surfaces soiled during the repair work shall be cleaned immediately.
  12. All exposed tile edges shall be bull-nose tile. (See suggested material ranges)
- C. Manufacturers of Ceramic tile that complies with Standard Grade requirements of ANSI "Specifications for Ceramic Tile."
1. Thompson Tile
  2. American Olean Tile Company
  3. Summitville Tiles, Inc.
  4. U.S. Ceramic Tile Co.
  5. Dal-Tile Corporation
  6. Or approved equivalent
- D. Five field tiles of each color and type are to be left with the homeowner at the end of the job for future patching and repair along with sufficient amount of color matched grout to replace the tiles left.

## 28.2 **Hardwood Flooring**

- A. When repairing or replacing hardwood flooring, all defective hardwood flooring shall be taken up from the subfloor, using care not to rip up or break the tongues from the flooring strips or pieces that are intended to be reused.
- B. Flooring shall be shimmed where necessary and be properly secured at points of bearing.
  1. The entire floor, both existing and repaired, shall then be inspected for protruding nails and nails found to have popped out shall be countersunk.
- C. Replacement flooring shall match existing as closely as possible.
- D. Refinishing of hardwood flooring will consist of removal of all layers of finish down to bare wood with the use of a floor sander.

- E. The floor may be left natural or stained prior to the application of three layers of polyurethane.
- F. Oil or water based polyurethane can be used.

**28.3 Laminate Flooring**

- A. Laminate flooring is to have at least a 25 year warranty and be of 8mm thickness.
- B. All surfaces to receive laminate flooring shall be dry, clean, and level.
  - 1. All cracks, depressions, and voids shall be filled or repaired.
- C. Concrete floors shall not vary from a level surface of more than 1/8 inch in 10 feet in any direction.
  - 1. Where leveling is required, leveling latex for concrete shall be used.
- D. For all installations, use a pad and barrier recommended by the flooring manufacturer for each application and apply as per instructions.
- E. All flooring shall extend under base shoe molding.
- F. All flooring shall be laid with tight joints at all points of contact.
- G. Trim pieces shall be installed at all exposed edges and changes of material.

**28.4 Asphalt Tile, Vinyl Composition Tile (VCT), and Sheet Vinyl**

- A. Replacement tile shall match existing in type, size, thickness, color, pattern and texture.
- B. New tile shall be residential grade.
  - 1. Tiles shall be 9 inches by 9 inches or 12 inches by 12 inches.
- C. Asphalt tile shall be 1/8 inch thick; VCT shall be 1/16 inch thick.
- D. Colors and patterns shall be homogeneous throughout the full thickness of tiles.
  - 1. Color shall be owner's choice.
- E. Self-adhesive ("place and press") tiles will not be allowed.
- F. New sheet vinyl shall have a wearing surface no less than 0.010 inch with an overall thickness of at least .060".
  - 1. Sheet vinyl shall be Guaranteed "First Quality", with a wear warranty of 10 years.
  - 2. Color shall be owner's choice.
  - 3. Vinyl shall be installed full size with a minimum of seams.
    - a. Seams will not be allowed in doorways or other high traffic areas.
    - b. When installed in areas of high moisture --bathrooms and utility rooms--it shall be seamless.
  - 4. All sheet vinyl floor coverings shall be installed according to manufacturer's recommendations. (See suggested material ranges.)
  - 5. Loose laid vinyl is prohibited.
- G. All floor coverings shall meet or exceed FHA requirements and must be labeled as such.

**28.5 Resilient Flooring Installation**

- A. All surfaces to receive resilient flooring shall be dry, clean and level.
- B. All cracks, depressions and voids shall be filled or repaired.
- C. Concrete floors shall not vary from a level surface more than 1/8 inch in 10 feet in any direction.
  - 1. Where leveling is required, leveling latex for concrete shall be used.
  - 2. Prime concrete slabs on grade or below grade with a cut-back before applying adhesive.
- D. For all installations, installer shall use an adhesive recommended by the resilient flooring manufacturer and apply as per instructions.
- E. All flooring shall extend under base shoe molding.
- F. Resilient flooring shall be laid with tight joints at all points of contact.
- G. Tile stops shall be installed at all exposed edges and changes of material, and stair treads shall have edging as described below.
- H. New rubber or vinyl cove base shall be considered a part of a new floor covering unless owner wishes to reuse existing wood base.
- I. Manufacturers of Approved Materials
  - 1. Resilient Floor Tile:
    - a. Azrock "Premier"

- b. Congoleum "Alternatives"
  - c. Mannington "Essentials"
  - d. Or approved equivalent
- 2. Vinyl Sheet Flooring:
  - a. Congoleum "Highlight"
  - b. Mannington "Silverado"
  - c. Tarkett "Homelife"
  - d. Or approved equivalent
- 3. Vinyl Cove Base:
  - a. Nafco vinyl cove base in 2 ½", 4" or 6" height as specified
  - b. Flexco vinyl cove base in 2 ½", 4" or 6" height as specified
  - c. Or approved equivalent
- J. Any flooring material that is left over at the end of the flooring installation is to be left for the homeowner for future patching and repairs.
- K. Underlayment
  - 1. New underlayment for resilient flooring shall be underlayment grade plywood, or suitable material approved by the sheet vinyl manufacturer, for use under resilient flooring.
    - a. Masonite, tempered hardboard, or particle board of any type will not be allowed.
  - 2. In all cases floors scheduled to receive new underlayment shall be smooth and free from any uneven joints, bulges and depressions.
- L. When new vinyl floor covering is applied over existing vinyl floor covering, provide "Latex Fortified Cement Patch" on existing flooring per recommendations.
  - 1. ***Do not install new vinyl flooring over more than one existing layer of sheet vinyl.***
  - 2. ***Do not overlay new vinyl flooring over vinyl composition tiles or self-adhesive vinyl flooring tiles.***
- M. Arrange for a minimum number of seams and place them in inconspicuous and low-traffic areas, but in no case less than 6 inches away from parallel joints in flooring substrates.
- N. Install appropriate reducer strips between surfaces at transitions as required
- 28.6 Carpet or Tile Stop**
  - A. New divider edge shall be aluminum, approximately 1 inch wide.
    - 1. Countersunk aluminum screws shall be used for attaching material to substrate.
- 28.7 Stair Edging**
  - A. New stair tread nosing shall be aluminum or rubber or vinyl.
    - 1. Nosing shall be installed on each tread and landing.
    - 2. Install as per manufacturer's recommendations.
- 28.8 Cove Base**
  - A. New base shall be minimum 2-1/2 inch rubber or vinyl cove base unless matching existing base of different height.
  - B. Base shall be neatly installed and be firmly cemented to walls and floor.
  - C. Joints where bathroom floors meet walls shall be watertight.
  - D. All corner pieces shall be neatly cut and tight fitting.
  - E. Use adhesive as recommended by the manufacturer on all cove base.
  - F. Color shall match new or be compatible with existing resilient flooring (owner's choice.)
- 28.9 Carpeting and Cushioning**
  - A. New carpeting and cushioning shall, as a minimum, conform to those specifications contained in HUD UM - 44C.
  - B. Type, color and pattern of carpeting shall be owner's choice.
  - C. Bonded urethane cushion shall conform to HUD UM 72-80.
  - D. Carpet shall be installed according to the best standards of the trade.

1. The contractor shall provide a certificate to the homeowner stating that the carpet installed is FHA approved or meets the minimum standards required for FHA approval.
- E. When carpet is scheduled to be installed in a specific room, all closets shall be considered as part of the room. (See Suggested Material Ranges).
- F. Manufacturers of Approved Carpet
  1. Shaw – Philadelphia Division
    - a. Style: Luxuriant Plus
    - b. Construction: Cut pile
    - c. Yarn Type: 100% Advanced Generation Staple Nylon
    - d. Total Weight Per Sq. Yard: 41.0 oz
    - e. Wear Warranty: 10 Year Limited Warranty
    - f. Color: As Selected by Owner
  2. Shaw – Salem Division
    - a. Style: Holter Bay
    - b. Construction: Cut loop
    - c. Yarn Type: 100% Continuous Filament Nylon
    - d. Total Weight Per Sq. Yard: 36.0 oz.
    - e. Wear Warranty: 10 Year Limited Warranty
    - f. Color: As Selected by Owner
    - g. Or approved equivalent
- G. All foam pads must be a minimum of 6lbs and 7/16” in thickness.
- H. Manufacturers of Approved Carpet Pad:
  1. Manufacturer: General Felt Industries
    - a. Style: Felt Pad
    - b. Density: 8.9 lbs. per cu. ft.
    - c. Thickness: 5/16”
    - d. Weight: 32 oz.
    - e. Approvals: Meets or exceeds FHA – HUD flammability requirements.
    - f. Or approved equivalent
- I. Any left-over carpet scraps larger than 3’x3’ are to be left with the homeowner for future patching and repair unless the homeowner does not want the scraps.

## **29.0 Toilet and Bath Accessories (1000)**

### **29.1 Metal Bathroom Accessories**

- A. All bath accessories shall be chrome plated unless otherwise specified.
- B. All locations shall be checked with owner prior to installation.
- C. Bath accessories specified for handicapped must comply with the Washington State Barrier-Free Design Manual.
- D. Towel bars and toilet paper holders shall be installed level and plumb and shall be fastened to the wall with screws into solid wood studs or blocking or with toggle bolts when this is not possible.

### **29.2 Bath Accessories**

- A. Package shall include: one soap holder, one toilet paper holder, one 30 inch towel bar, one shower rod.
- B. Manufacturers of Approved Toilet and Bath Accessories:
  1. American Specialties Inc., Style 0402Z Recessed Toilet Paper Holder
  2. Moen, Home Care Concealed Mount Stainless Steel Grab Bar
  3. American Specialties Inc., Style 0760Z Square Towel Bar
  4. Delta “Royale” series
  5. Or approved equivalent

### 29.3 Grab Bars

- A. Grab bars shall be stainless steel and installed parallel or perpendicular to the finished floor as indicated in project documents, unless otherwise indicated.
- B. All grab bars shall be installed not less than 33" and not more than 36" above finished floor of the adjacent clear space.
- C. Grab Bars shall have an outside diameter of not less than 1-¼ inches and not more than 1-½ inches and shall provide a clearance of 1-½ inches between the grab bars and wall.
- D. Appropriate wood blocking shall be furnished between framing members prior to grab bar installation.

### 29.4 Medicine Cabinet With Mirror

- A. Package shall include a medicine cabinet a minimum of 4 inches deep.
- B. Mirror shall be attached to cabinet and shall be the same width and at least 30 inches high.

## 30.0 **Equipment (1100)**

### 30.1 Appliances

- A. The homeowner is to select the make and color of the appliance within the allowance amount stated in the Scope of Work.
- B. Unless otherwise stated in the Contract documents, appliances will be replaced like for like. (i.e. a gas range for a gas range and an electric range for an electric range)
  - 1. Upgrading appliances beyond the allowance amount must be approved by the Program Director.
  - 2. When approved, the additional cost must be borne by the homeowner.
  - 3. The Contractor will credit any funds remaining between the cost, delivery and installation of the appliance and the allowance amount stated in the Scope of Work.
    - a. Under no circumstances will the homeowner receive cash back from the Contractor.
- C. The Contractor may charge a reasonable fee for delivery and installation of appliances but in no case is this amount to exceed the fee that would be charged by a retailer for delivery and installation of the same appliance.
- D. The Contractor bears all responsibility for damage to appliances not delivered and/or installed by the retailer.
  - 1. Any damage to areas of the structure or property resulting from appliance installation performed by the Contractor will be repaired or restored as required by the Contractor.
- E. Any safety devices (such as Anti-tip brackets for stoves) that come with an appliance are to be installed by the Contractor as part of the installation.
- F. Manufacturers of Approved Appliances
  - 1. Frigidaire
  - 2. General Electric
  - 3. Kenmore
  - 4. Maytag
  - 5. Whirlpool
  - 6. Tappan
  - 7. Or approved equivalent

### 30.2 Exhaust Fans and Ducted Range Hoods

- A. Ventilating equipment shall bear the label of approval of a nationally recognized testing agency, and a Home Ventilating Institute or manufacturer's label showing capacity.
- B. Exhaust fans and range hoods shall be installed in accordance with the State of Washington Ventilation and Indoor Air Quality Codes.
- C. Ductwork where required shall be designed for the shortest practical run to the exterior.
- D. Exhaust fans shall discharge directly to outside air with positive connection.

1. Discharge openings through roofs or exterior walls shall be protected against the entrance of rain, snow, and wind.
- E. Exhaust fan units shall be installed complete with louvers or back draft dampers which will automatically close and prevent a reverse flow of air when fan is not in operation.
- F. When replacing an existing fan, existing ductwork and related accessories may be reused if they are in new condition and appear to have a remaining service life equal to that of the fan.
  1. Existing ductwork shall be inspected for obstructions and continuity.
- G. When a bathroom exhaust fan is scheduled to be installed new, it shall be installed complete with switch, ductwork and all accessories.
  1. Fan motor shall be moisture proof and UL listed.
  2. Fan shall be wall switched; switch shall be separate from light switch.
  3. Fan shall provide a minimum of 70 cfm intermittent for baths.
  4. Grille shall be anodized aluminum or plastic.
  5. Undercut door if necessary for air movement.
- H. Manufacturers of Approved Bathroom Exhaust Fans:
  1. Nutone "QuietTest" series fan with 4" duct.
  2. Broan "Model 679" with 4" duct.
  3. Nutone "Deluxe Exhaust Fans" with 4" duct.
  4. Or approved equivalent.
- I. When a kitchen exhaust fan is scheduled to be installed new, it shall be installed complete with switch, ductwork and all accessories.
  1. Fan motor shall be UL listed.
  2. Fan shall be wall switched; switch shall be separate from light switch, unless the switch is on the hood.
  3. Fan shall provide a minimum of 110 cfm intermittent.
  4. Grille shall be anodized aluminum or plastic.
- J. Range hood shall be installed complete with ductwork and all accessories.
  1. Unit shall include recessed light and removable, washable grease filter.
- K. Manufacturers of Approved kitchen Range Hoods:
  1. Nutone "Value Test" RL-6100 series ducted range hood.
  2. Broan "OS 1 Series" ducted range hood.
  3. Nutone "Contemporary Design" ducted range hood.
  4. Or approved equivalent.

### **30.3 Ductless Range Hoods**

- A. Range hoods shall have activated charcoal filter for odors and dense aluminum filter for grease.
  1. Both filters shall be removable for cleaning or replacement.
  2. Unit shall include recessed light.
  3. Range hood shall be type certified for the particular installation.
  4. Color shall be owner's choice.

## **31.0 Plumbing (1500)**

### **31.1 General Instructions**

- A. 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.
  1. All equipment and materials used shall be new and clearly marked to permit identification of manufacturer, model and type.
- B. Installation and materials of fixtures specified for the handicapped must comply with the Washington State Barrier Free Design Manual.

- C. The contractor shall furnish all instruments, gauges and equipment required for testing and shall perform those tests required by the related authorities.
  - 1. Equipment, materials or work found to be defective during testing shall be replaced by new work and be retested until proven satisfactory.
- D. 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.
- E. All equipment and items installed under this section shall operate safely, without leakage, undue noise, vibration, corrosion or water hammer.
- F. All fixtures shall be securely supported so that no strain is placed on the connected piping.
- G. All works, fixtures and materials, shall be protected at all times.
  - 1. All service and supply lines installed in a location where freezing may occur shall be insulated with "zip lock" closed cell foam insulation, or wrapped with fiberglass batt insulation with vapor barrier on outside.
- H. All excavation and backfill necessary for the installation of new underground piping shall be part of the work of this section.
  - 1. The trenches shall be backfilled evenly and be thoroughly compacted using acceptable fill materials.
  - 2. In no case shall the excavation for the trenches undermine or disturb the stability of the building foundations.
- I. When a rough-in for new equipment requires connections to the existing plumbing system, the contractor shall obtain all necessary data on locations, sizes, connections, fittings and arrangements needed to assure the proper installation of that equipment.
- J. All drilling, cutting, and patching necessary for the proper installation of work under this section shall be done by the contractor.
  - 1. All patching shall be of the same materials, workmanship and finish as the original work and shall accurately match all surrounding work (painting excluded).
- K. Fixtures and equipment furnished by others which require plumbing connections to waste, water, vent or gas piping shall be connected by the contractor.
- L. All work shall be done without damage to structural members.
- M. Sleeving shall be provided where required and upon completion of rough-in work, sleeves shall be made sound and fire tight.
- N. Penetration of stud and masonry walls, floors and ceilings shall be fire-stopped.
- O. 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 the piping which are installed for the purpose of leading ground or seepage water to the underground storm drains.
- P. 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-siphoning.
- Q. Gas lines shall be blown clean with compressed air, all valves and filters shall be checked.
- R. All remaining plumbing fixtures and piping not in use shall be disconnected and removed by the contractor.
- S. All escutcheon plates shall be installed tight; caulk if necessary.
- T. The entire new and existing installation shall be left in a neat, clean and usable condition.

**31.2 Plumbing Inspection and Safe-up**

- A. A plumbing safe-up and inspection shall include the following:
  - 1. An inspection by a licensed plumber of all plumbing fixtures, appliances, and piping that is accessible throughout the house.
  - 2. Any problems, or potential problems that are not addressed in the Scope of Work, shall be noted in writing and brought to the attention of the PM for attention.

## **32.0 Water, Sewer, Fuel, and Vent Piping**

### **32.1 Special Instructions**

#### **A. Piping**

1. New piping at the exterior of a building shall be at least 18 inches below grade.
2. Piping shall run parallel or perpendicular to the building construction and be neat and workmanlike.
3. Piping shall be concealed in walls, below the floor, above the ceiling or in furred spaces.
4. Piping shall be properly supported and be pitched to drain.
5. Water and gas piping shall be run level without pockets and as straight as possible.
6. New hot and cold water supply lines shall be at least 6 inches apart where parallel.
7. Expansion and contraction shall be provided for by the use of swing joints.
8. New soil, waste, vent and drainage piping shall be run at a uniform grade of at least 1/4 inch per foot (2% grade).
9. Lines under slabs shall have as short a run as possible and the runs shall be as straight as possible.
10. Copper lines shall be wrapped with plastic tape where they come in contact with any metal other than brass or lead.
  - a. All connections between copper or brass and steel piping shall be made with dielectric couplings.
11. All metallic piping shall be bonded together.
  - a. Screwed pipe joints shall have threads cut the full thickness with new, clean dies.
  - b. 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.

### **32.2 Re-plumbing House to Code**

#### **A. All water distribution piping, soil, waste and vent piping shall be installed new.**

1. Only the installation or repair of individual plumbing fixtures shall be listed in the work schedules.

### **32.3 Water Service**

#### **A. New water service shall be of sufficient size to permit a continuous and ample flow of water to all fixtures at all times.**

1. Frictional losses due to piping, meter, valves, fittings and faucets shall be considered when piping size is being determined.
2. 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.

#### **B. 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 permitting jurisdiction's Water Department.**

### **32.4 Gate Valves**

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

### **32.5 Water Supply (Distribution) Piping**

- A. New distribution service lines shall be hard temper type M copper tubing, Cross-linked polyethylene (PEX) flexible plastic (polymer) pipe, or galvanized steel.
- B. New branch service lines shall be no less than 1/2 inch.

### **32.6 Hose Bibs**

- A. Hose bibs shall be located according to work schedules to provide an outside source of water.
- B. Hose bibs shall be frost-proof type or have separate accessible stop and waste valve or inside shut off.

### **32.7 Building Sewer (Side Sewer)**

- A. All sanitary plumbing outlets shall be connected to combined or sanitary sewer systems when they are available.
- B. New building sewer shall be constructed of cast iron, vitrified clay, concrete or plastic.
- C. The sewer shall be constructed with watertight joints, be on a grade of not less than 1/8 inch per foot, be laid on a firm bed, and be at a depth not less than 18 inches below grade.
- D. No tees or 90 degree ells shall be used.
- E. Cleanouts shall be installed as required by International Plumbing Code.
- F. All abandoned septic tanks shall have sewage pumped and be filled with gravel or sand.

### **32.8 Soil and Waste Piping (Including Drains and Stacks)**

- A. Soil and waste piping and fitting shall be extra heavy or service weight cast iron, galvanized steel pipe, copper pipe or hard temper type K, L, M, or DWV copper tubing, or plastic approved under County code.
- B. Soil stacks shall rest solidly at the base on masonry piers or heavy iron posts and be supported at intervals of no more than 10 feet by stout wall hangers or brackets or on beams at each floor.
- C. 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 provision is made to protect it from frost.

### **32.9 Floor Drains**

- A. No floor drain shall be installed in any location or manner in which will interfere with its proper functioning.
- B. New drain shall connect to the sanitary drainage system with an approved trap having a minimum of a 3 inch depth of seal.
- C. Drain shall have a backwater valve if the drain is below the elevation of the curb or property line. (See also description above for piping.)

### **32.10 Sump Pumps**

- A. New sump pumps shall be submersible type.
- B. When connected to the sanitary system discharge line piping shall have an accessible back-water valve and gate valve.
- C. The connection from the discharge line to any horizontal sanitary drainage piping shall be made from the top through a "Y" branch fitting.
- D. All installations shall be done in accordance with the International Plumbing Code.

### **32.11 Routing Drains and Building or Side Sewers**

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

### **32.12 Vent Piping**

- A. New vent piping shall be schedule 40 galvanized steel pipe with standard black cast iron screwed fittings, DWV copper tubing or plastic approved under County code.
- B. Vent piping shall extend at least 6 inches above finish roof surfaces.
- C. Vent 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 inches in diameter.
- D. Vents shall tie into the soil stack or waste stack at a point at least 6 inches above the last fixture connection to the stack.

- E. No new vent piping shall be installed on the exterior of a building.
- F. All new vents shall be concealed in the wall.
- G. New piping passing through the roof shall be flashed with a not lighter than 26 gauge galvanized iron flashing assembly or plastic flashing.
  - 1. Flashing shall be set in waterproof mastic compound and be caulked around the vent.
  - 2. Flat roof flashing shall be the commercial type with a horizontal leg equal all around the base.

### **32.13 Fuel Piping**

- A. New fuel piping shall be black iron pipe.
- B. Pipe shall not be bent and offsets shall be made with fittings.
- C. Installation shall comply with all requirements of the local utility company and the International Mechanical Code.

## **33.0 Plumbing Fixtures**

### **33.1 Special Instructions**

- A. New plumbing fixtures shall be standard builder's models unless otherwise specified in the work schedules.
- B. Unless otherwise indicated, color of new fixtures shall match existing or be white.
- C. Fixtures shall be installed complete and ready to use.
- D. Appropriate blocking and supports shall be provided for each fixture and equipment item.
  - 1. Arrangements shall be made with the other trades for the installation of any built-in items, blocking or necessary supports.
- E. Coordinate installation of plumbing fixtures with flooring contractor.
- F. All new exposed trim, fittings and pipe in finished spaces shall be chrome plated brass or be covered with chrome plated brass sleeves, except that laundry tray trim may be rough brass.
- G. No new trim shall be installed such that its outlet is below the rim of the fixture.
- H. See package explanations below for further description of the fixtures.

### **33.2 Toilet**

- A. Package shall include new vitreous china bowl (Siphon jet action type) with close-coupled tank and cover, plastic seat, new flange and waxed ring, bolts and caps, fixture stop and supply and float or flush valve with trip lever.
  - 1. Plastic tanks are not acceptable.
- B. When toilets are scheduled to be either installed new or re-installed, they shall be caulked around the base with silicone caulk.
- C. Manufacturers of Approved Toilets:
  - 1. Kohler, Wellworth, plain bowl toilet, 4277, white
  - 2. Kohler, Wellworth, elongated toilet, K-3422-00, white
  - 3. American Standard, Cadet, 3011
  - 4. Or Approved Equivalent
- D. Manufacturers of Approved Toilet Seats:
  - 1. Standel, toilet seat, better plastic, #34VB101, white
  - 2. Standel, toilet seat, premium plastic, #40VB101, white
  - 3. Bemis, solid plastic, white
  - 4. Or Approved Equivalent

### **33.3 Lavatory**

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

### **33.4 Vanity**

- A. Package shall include new vanity sink base, countertop with backsplash, porcelain enameled steel, cast iron or vitreous china lavatory, center set faucets with trip waste, fixture stops and supplies, and trap. Lavatory may be one-piece basin and countertop.
- B. Quality of vanity sink base and countertop shall equal that for new kitchen cabinets and countertops.
- C. Manufacturers of Approved Lavatory Sinks
  1. American Standard
  2. Kohler
  3. Orion, round china, #52060021 NP, white
  4. Eljer, "Murray" series, white
  5. Or approved equivalent
- D. Manufacturers of Approved Lavatory Faucets:
  1. Moen, bath faucet, chrome construction, 4 inch lever handles, limited lifetime warranty, washer less valve, 82403, chrome finish
  2. Moen, Caldwell Series
  3. American Standard, Cadet Series
  4. Delta, Single Handle Faucet, Classic Series
  5. Or approved equivalent

### **33.5 Shower Stall Package**

- A. Package shall include new fiberglass base, size to be specified, with trap, vent and concealed faucet and shower leg with all trim and fittings.
- B. Shower stall wrap shall be either ceramic tile or three piece rigid molded fiberglass unit over W/R board (type of wrap will be specified).
- C. Manufacturers of Approved Shower Units:
  1. Sterling, Ensemble
  2. Aqua Glass, Eleganza
  3. Lasco, 1323-2p, 088059, white
  4. Lasco, Talia II, 1363-2p, white
  5. Or approved equivalent
- D. Manufacturers of Neo Angle Shower Enclosure Kits:
  1. Sterling
  2. Delta
- E. Manufacturers of Approved Mixing-Valve Shower Faucets:
  1. Moen Faucet, single lever handle, L82694, shower assembly with shower head, chrome finish.
  2. Moen, Adler
  3. Delta, 134900
  4. Or approved equivalent

### **33.6 Bathtubs**

- A. Package shall include new porcelain enameled steel, fiberglass, or plastic bathtub, pop-up waste and overflow with trap, concealed shower diverter with trim and fittings.
- B. Tub will be recess type, 5 foot by 30 inch, unless a different type, or size, is called for on the Scope of Work.
- C. Manufacturers of Approved Bathtubs:
  1. Kohler, Villager, k716-038938 RH or k715-038938 LH, white
  2. Or approved equivalent
- D. Enameled, Steel Bathtub:
  1. Briggs, Pendant IV, 044841.2204-130 RH or 044846.2205-130 LH, White
  2. Eljer, "Ventura", white
  3. Or approved equivalent
- E. Plastic Bathtub:
  1. Briggs, Biscay, UltraTuff with slip resistant bathing surface, 10713.2030-130 RH or 107175.2031-130 LH, White

2. Or approved equivalent

### **33.7 Tub Surround**

- A. Type of material shall be as specified.
- B. Tub wall unit package shall be made of a rigid, molded plastic or fiberglass.
  1. Walls shall be a minimum of 6 feet above the finished floor unless specified otherwise.
  2. All wall units shall include flush mount utility caddies and grab bar.
  3. Unit will have a minimum 5 year warranty.
- C. Color and design shall be owner's choice.
- D. All tub surrounds shall include a flush mount soap and grab.
- E. Manufacturers of Approved Tub Surrounds:
  1. 2 Piece Tub & Shower
    - a. Venco, V60S T&S, white
    - b. Lasco
    - c. Or approved equivalent
- F. Manufacturers of Approved Mixing-Valve Tub/Shower Faucets:
  1. Price Pfister, 3 valve, no-scald tub/shower faucet, and controls, chrome finish, 801-80BC
  2. Delta Faucet, single control, no-scald diverter, N641, chrome finish
  3. Moen Chateau
  4. Or approved equivalent

### **33.8 Kitchen Sink**

- A. Package shall include new porcelain enameled or stainless steel countertop sink, swing faucet set with spray attachment and hose, removable cup strainer(s), fixture stops and supplies, and waste with trap.
- B. Sink shall have ledge unless space restrictions require otherwise.
- C. All sinks must be a minimum of 6-1/2 inches deep and stainless steel must be of 20 gauge or thicker steel.
- D. Entire unit shall be connected to service and waste lines.
- E. Manufacturers of Approved Kitchen Sinks:
  1. Stainless-Steel Sink:
    - a. UNR, double sink, 32 x 22 6-1/2 dp, 4 hl, AMS3322
    - b. UNR, single bowl, 25 x 22, 7 dp, 4 hl, MF2522
    - c. Neptune by Elkay
    - d. Or approved equivalent
  2. Enameled, Steel Sink:
    - a. Briggs Mattawa, single bowl, 24 x 21, 4 hl, 044892-3404-130, white
    - b. Familian sink rim with clamps, 24 x 21, R12421
    - c. Or approved equivalent
  3. Enameled, Cast Iron:
    - a. Clarke – Sinksations 33X22
    - b. Or approved equivalent
- F. Manufacturers of Approved Kitchen Sink Faucets:
  1. Delta Faucet, single control, 4 hl w/ spray, N400WF, chrome finish
  2. Delta Faucet, single control, 3 hl w/out spray, N100WF, chrome finish
  3. Moen chateau
  4. Or approved equivalent

### **33.9 Laundry Tray Package**

- A. New laundry tray package shall be single or double tub type, as scheduled.
- B. Package shall include new one piece tray, swing type faucet set, strainer(s) and a strainer plug(s), trap and self-leveling legs or pedestal.
- C. Capacity of each tub shall be not less than 20 gallons.
- D. All laundry trays shall be securely anchored to the floor.
- E. Manufacturers of Approved Laundry Tray Faucets:

1. Price Pfister
2. Delta
3. Moen
4. Or approved equivalent.

### **33.10 Water Heater Package**

- A. Package shall include a new glass lined, quick recovery water heater, size as specified on the Scope of Work.
- B. Heater shall be equipped with a shut-off valve on incoming water line, a pressure/temperature relief valve, (150# and 210 degree rating) with a discharge pipe to the outside of the dwelling or to within 24 to 6 inches of a garage or basement floor having drainage.
  1. If a leak would cause damage, installation of a water heater pan is required.
- C. Heater shall be installed with wiring, or fuel piping, draft diverter and vent, as appropriate to type.
- D. Heater shall have a 6 year warranty on the tank, and shall be U.L. listed or American Gas Association certified.
- E. 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.
- F. Manufacturers of Approved Electric Water Heaters
  1. General Electric 50 gallon electric hot water tank with required controls.
  2. Or Approved Equivalent
- G. Manufacturers of Approved Gas-Fired Water Heaters
  1. Bradford White 40 gallon gas fired water heater, Model # M150 S5 LN with required controls
  2. Rheem, "Richmond" Powervent 40 gallon gas fired water heater
  3. Or Approved Equivalent
- H. Vent connector pipe for gas water heater shall be at least No. 28 U.S. standard gauge galvanized sheet metal.
  1. It shall have a minimum slope of 1/2 inch per foot with no horizontal length of the fume pipe exceeding 75% of the height of the chimney or vent.
  2. It shall be supported at intervals of no more than 6 feet.
  3. Flue or vent connections shall have a diameter not less than the vent outlet of the heater.
  4. The vent connector pipe shall extend just beyond the fire clay flue lining, but no fume pipe shall be vented into a chimney which is used as a fireplace.
  5. The vent connector can be vented into Class B vent.

## **34.0 Heating (1550)**

### **34.1 General Instructions**

- A. All materials, equipment, piping, fittings, fixtures, etc., shall conform to the latest ANSI (American National Standards Institute), ASTM (American Society for Testing and Materials), ASME (American Society of Mechanical Engineers), and FS (Federal Specifications) standards.
- B. All equipment and materials used shall be new and clearly marked to permit identification of manufacturer, model and type.
- C. The contractor shall furnish all instruments, gauges and equipment required for testing and shall perform those tests required by the related authorities.
  1. Equipment, materials or work found to be defective during testing shall be replaced by new work and be retested until proven satisfactory.
  2. Certified Combustion Testing has to be performed.
- D. Except as modified herein, the construction and installation of all equipment, accessories and appurtenances shall comply with the published standards, requirements and

recommendations of the National Fire Protection Association and National Board of Fire Underwriters.

- E. All equipment and items installed under this section shall operate safely and without leakage, undue wear, noise, vibration or corrosion.
- F. All drilling, patching and cutting necessary for the proper installation of work under this section shall be done by the contractor.
  - 1. All patching shall be of the same materials, quality of workmanship and finish as the original work and shall accurately match all surrounding work (painting excluded).
- G. Equipment and materials furnished by others which require connection to the heating system, shall be connected up by the contractor.
- H. Equipment shall be rigidly installed and connected so as to not exert undue strain on fuel piping or other connections.
- I. All piping, ductwork and equipment shall be installed without critical damage to structural members.
- J. The contractor shall provide sleeving as required and upon completion of rough-in work, sleeves shall be made sound and fire-tight.
- K. Metal chimneys shall not be installed as exposed piping in habitable areas, closets, or stairways.
  - 1. They shall be enclosed with fireproof material to provide a minimum of 1 inch dead air space and to meet local code requirements.
- L. The contractor shall install chrome plated escutcheons where exposed piping passes through floors, walls and ceilings.
- M. All heating and ventilating equipment and fuel storage tanks not required to remain shall be removed by the contractor.
- N. The entire new and existing installation shall be left in a neat, clean and usable condition.

## **35.0 Heating Equipment Repairs**

### **35.1 Forced Air Systems**

- A. New installation shall be complete and shall include new furnace, ductwork and registers.
- B. Provide hot air supplies and cold air returns throughout house.
- C. Insulate ductwork in unheated crawl spaces and attics. See further description of new heating units and ductwork below.
- D. Manufacturers of Approved Electric Furnaces:
  - 1. Carrier
  - 2. Trane
  - 3. Rheem
  - 4. Or Approved Equivalent
- E. When a 90% efficient gas furnace is called for in the Scope of Work it is to be of the sealed combustion variety.
- F. When new installation requires removal of existing equipment, this equipment shall be removed complete.
- G. Oil tanks which are no longer functional, when above ground, shall be removed complete, and when buried shall be disconnected, have fill pipe and vent pipe removed and/or capped, and be flushed out and filled with sand.
- H. Non-functional gas lines shall be capped.

### **35.2 Heating Units**

- A. New heating units shall be installed complete with new disconnect switch, electrical circuit, flue pipe, and all controls, wiring, accessories, thermostat, and valves.
- B. Thoroughly clean the chimney and when applicable, oil tank, fittings and lines.
- C. 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.
  - 1. It is the heating contractor's responsibility to coordinate installation of the junction box and to wire the heating unit.

- D. New units shall have ratings sufficient to ensure proper heating of all habitable rooms within the living unit they are intended to serve.
  - 1. Such determinations shall be made in accordance with the best practices of the American Society of Heating, Refrigeration, and Air Conditioning Engineers.
  - 2. This shall include heat loss calculations if required by the local authorities.
- E. Furnace and boilers shall be able to maintain a room temperature of 70 degrees F. at a point three feet above the floor in all habitable rooms, when the outside temperature is zero degrees Fahrenheit.
- F. Heating systems shall be designed, installed, balanced, and adjusted to provide for the distribution of heat to all habitable rooms and other spaces in accordance with the calculated heat loss of the spaces to be heated.
- G. No heating unit shall be more than 15% oversize for its particular installation.
- H. All work performed in the assembly, erection, installation, connection etc., of heating equipment shall be in accordance with the manufacturer's recommendations, the International Mechanical Code, and the Washington State Indoor Ventilation and Air Quality Code.
- I. Mechanical equipment shall be installed and located so that inspection, routine maintenance, repair and/or replacement is possible without removing items of permanent construction.
- J. Listed furnaces shall be installed in accordance with their listing.
- K. Unlisted warm air furnaces shall be installed with a minimum clearance of 6 inches between the top bonnet plenum (or between the top of any extended plenum or duct within 3 feet of such furnace) and any combustible material.
- L. All approved gas or oil burners shall bear the manufacturer's identification marking, the burner trade name and the model number or size installed.
- M. The owner's manual, installation instructions, and manufacturer's warranty information shall be left with the equipment at the end of the project.

### **35.3 Heating Unit Controls**

- A. After servicing, the mechanical contractor shall leave a certificate on the furnace or boiler indicating his/her name, the work or repairs completed, and the date.
- B. When heating unit controls are scheduled to be repaired and/or replaced, the contractor shall examine all the controls for that particular unit, including the thermostat, and repair or replace those controls found to be defective.
- C. Operating and limit or safety devices shall be AGA approved or UL listed.

### **35.4 Heating System Inspection and Adjustment**

- A. After servicing, the mechanical contractor shall leave a certificate on the furnace or boiler indicating his/her name, the work or repairs completed, and the date.
- B. When heating units are scheduled to be inspected, cleaned and adjusted, the contractor shall thoroughly clean and adjust the system so that it is operating properly.
  - 1. When necessary, replace or recalibrate the thermostat.
  - 2. On forced air systems, this shall include cleaning the blower motor, installing new air filters, replacing blower motor belts and testing the heat exchanger for leakage.
  - 3. On oil fired systems, this shall include cleaning the oil tank (removing condensation and whatever sediment possible), fittings and lines and replacing fuel line filters.
  - 4. On wet heat systems, this shall include bleeding all lines and/or radiators to remove trapped air.
  - 5. It shall also include cleaning the flue pipe and chimney.

### **35.5 Ductwork and Registers**

- A. Sheet metal shall be not lighter than 28 gauge galvanized sheet metal.
- B. The sheet metal work shall be accurately formed, be fitted snugly, have exposed edges folded under at least 1/2 inch and leave no sharp corners exposed.
- C. Fiberglass duct or flex duct which is UL listed and meets NFPA standards is also acceptable.
- D. All ductwork shall be properly supported with hangers or floor rest channels.

- E. No new duct work shall be installed exposed in finished rooms, including closets unless specifically called out that way in the Scope of Work.
- F. Ductwork shall be cleaned only when specified on the Invitation to Bid.
- G. When specified, clean and vacuum at all accessible openings.
- H. Special attention shall be paid to duct runs with floor registers.
- I. Balancing dampers shall be installed and/or ductwork shall be sized to control the flow of air to all supply registers.
  - 1. Dampers shall be labeled, indicating the rooms served and system shall be balanced.
- J. New supply outlets may be installed in floors or in walls.
  - 1. When in the floor, outlets shall be no closer than 6 inches to any wall.
  - 2. Supply outlets on outside walls should be located in front of windows.
  - 3. Basements need not have separate supply outlets unless scheduled; however an outlet shall be provided on the plenum.
- K. All supply registers shall be equipped with shutoff dampers.
- L. Return air inlets shall be located in walls or in floors, as is appropriate to their size and function.
- M. Supply ducts in crawl spaces and unheated attic spaces shall have 1/2 inch wrapped blanket insulation providing an R value of 3.5.
  - 1. Where ducts are used for cooling, insulation shall be covered with a sealed joint vapor barrier.

### **35.6 Oil Tanks**

- A. Where applicable, disconnect existing oil tank, remove and/or cap fill and vent pipes, flush and fill tank with sand.
- B. New tank shall be installed complete.
- C. Tank shall be at least 275 gallon capacity.
- D. Install all tanks on concrete slab and strap down.
- E. Buried tanks shall have two coats of asphalt emulsion or other rust inhibitive coating.
- F. Tubing for supply and circulating lines shall be copper.
- G. Fill and vent lines shall be wrought iron with double swing joints to accommodate any settlement of the tank.
- H. Backfill hole with soft earth or sand.
  - 1. Top 3 inches shall be topsoil suitable for plant growth.
  - 2. Replace sod or install new sod.

### **36.0 Wood Burning Stoves**

#### **36.1 Wood Burning Stove Floor Protection Package**

- A. New floor protection package shall be 1/2 inch wonder board or concrete board type material, covered with minimum 3/8 inch thick non-combustible material (i.e. slate, brick, thin brick, patio blocks and quarry or ceramic tile) and must meet local and stove manufacturer's requirements and specifications.
  - 1. If floor protection has to be seamed, a 6 inch wide sheet metal strip extending the full length of the seam and extending 3 inches under both pieces will have to be installed.
  - 2. Floor protection shall extend at least 18 inches in front of the side that has the opening doors and 12 inches beyond all other sides and the rear.

#### **36.2 Wood Burning Stove Wall Protection Package**

- A. New wall protection package shall be 1/2 inch wonder board or concrete board type material, spaced 1-1/2 inches from the wall and covered with minimum 3/8 inch thick non-combustible material (i.e. slate, brick, thin brick, patio block and quarry or ceramic tile).
  - 1. Wall protection must extend a minimum of 18 inches beyond the sides and above the stove.

### **36.3 Wood Burning Stove Chimneys**

- A. Type of chimney to be installed will be indicated on the Invitation to Bid. Masonry chimneys and triple walled manufactured chimneys shall have 2 inch clearance from all combustible materials and a 14 inch tall barrier placed around the chimney in the attic to maintain a 2 inch clearance from insulation.

### **36.4 Stove Pipe Clearances**

- A. Stove pipe clearances from combustible ceilings and walls must be three times the diameter of the stove pipe.
  - 1. This clearance may be reduced 50% if a proper heat shield spaced 1-1/2 inches from combustible surface is used; or as low as 2 inches if insulated pipe is used.

## **37.0 Electrical - General (1600)**

### **37.1 Special Instructions**

- A. All material and equipment used shall conform to the latest UL (Underwriters' Laboratory), ANSI (American National Standards Institute), and FS (Federal Specifications) standards, as well as to all other applicable standards.
- B. All materials and equipment used shall be clearly marked to permit identification of manufacturer, model and type.
- C. The contractor shall furnish all instruments, gauges and equipment required for testing and shall perform those tests required by the related authorities.
  - 1. Equipment, materials or work found to be defective during testing shall be replaced by new work and be retested until proven satisfactory.
- D. All new material shall be in good condition.
- E. Each type of material shall be of the same quality throughout the project.
- F. All finished parts of the materials 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.
- G. All electrical materials and equipment in storage and during construction shall be covered in such a manner that no finish surfaces will be damaged or marred.
- H. All wiring, fixtures, switches, receptacles, etc., shall be installed complete with all accessories.
- I. Fixtures, equipment and materials furnished by others which require electrical wiring, connections shall be connected by an electrical contractor.
- J. The contractor shall in no case install permanent electrical equipment that may be damaged by the roughing-in for heating, ventilating, or plumbing equipment.
- K. The contractor shall do all drilling, cutting and patching required for the installation of the work under this section.
  - 1. All patching shall be of the same materials, workmanship and finish as the original work and shall accurately match all surrounding work, painting excluded.
- L. All electrical equipment and exposed wiring not in use shall be disconnected and removed.
- M. The contractor shall keep all parts of the building and site free from the accumulation of rubbish and waste materials caused by the work under this section and shall remove such accumulations from the site.
- N. 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.
- O. 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.

## **38.0 Electrical - Wiring**

### **38.1 Special Instructions**

- A. All conductors shall be plainly marked or tagged as follows:

1. Underwriters' Laboratories, Inc. Label
  2. Size, kind and insulation of the wire
  3. Name of the manufacturing company and the trade name of the wire.
  4. Month and year when manufactured (date shall not exceed 8 months prior to the date of delivery to the site, except for feeders).
- B. Hot water heater circuit wiring shall be No. 10 copper AWG.-30 amp circuit.
- C. Electric Range circuit wiring shall be No. 8 copper AWG.-50 amp circuit.
- D. Branch circuit wiring for 20 ampere circuits shall be No. 12 copper AWG and all other branch circuit wiring shall be no smaller than No. 14 Copper AWG.
- E. All new wiring shall be sheathed cable. New 15 and 20 amp circuits shall be 2-wire with ground.
- F. Outlet boxes shall be the pressed steel knockout type or be cast iron with drilled, tapped and plugged holes and be hot-dipped galvanized, sherardized, or outlet box approved for its use.
1. Outlet boxes may also be approved non-metallic type.
  2. All boxes shall be of the proper size for the number of wires or conduits passing through or terminating in that box.
  3. Approved factory made knockout seals shall be used in all boxes where the knockouts are not intact.
  4. All outlet boxes shall be accurately placed and securely fastened to the structure independently of the conductor.
  5. The plaster rings shall be set flush with the finished surface of the ceiling or wall. The hangers for the light outlets shall have adjustable studs.
  6. Surface mounted boxes and "Wire Mold" are acceptable only if areas for new circuits are not accessible in any manner without doing severe damage to walls or ceilings.
    - a. In any case, the installation of wire mold requires the approval of both the homeowner and the Field Agent.
- G. When work is completed, the wiring and connections shall be tested for continuity, short circuits and proper grounding.
- H. Arc-Fault Circuit Interrupter (AFCI) protection shall be installed for bedroom branch circuits supplying 15 and 20 ampere receptacle outlets per National Electric Code Article 210-12(b).
1. AFCI circuit breakers will be required where arc-fault protection is required in concert with the policy implemented by the Washington State Department of Labor and Industries.
  2. **GFCI outlets are not to be installed on an AFCI circuit.**

### **38.2 Electrical Inspection and Safe-up**

- A. Provide inspection by licensed electrician of all electrical receptacles, switches and light fixtures throughout house for safe operation and repair/replace as necessary.
1. This is to include fastening any receptacles or switches throughout the house that are loose or are not securely fastened into the wall.
  2. This may require the installation of repair boxes.
  3. If not already labeled, each circuit in the circuit box is to be clearly labeled.
  4. If knob and tube wiring is present but not active, remove if possible, or label if the circuit is dead.

### **38.3 Rewiring House to Code**

- A. New electrical service and all branch circuit wiring, fixtures, switches, receptacles, cover plates, etc., shall be installed new according to the National Electrical Code and the Thurston County Code.
1. Only minimums will be required, and only special additional work such as wiring to detached garages, additional lighting fixtures, special devices, etc., shall be listed in the Scope of Work.

### **38.4 Garage Circuit**

- A. New circuit to garage shall be an independent branch circuit of 20 ampere capacity.

- B. Circuit shall include new conductor, a keyless (switched) fixture for each parking space and at least one GFCI protected receptacle.
- C. Service shall be installed complete with all wiring and accessories.

**38.5 Furnace Circuit**

- A. New circuit shall be an independent branch circuit of 15 ampere capacity.
- B. Contractor shall wire the circuit from the panel box to a junction box located near the heating unit.
- C. Installation shall include disconnect.
- D. Coordinate installation with the heating contractor.

**38.6 Laundry Circuit**

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

**38.7 Small Appliance Circuit**

- A. New circuits shall be 20 amp capacity with 2 duplex grounding type outlets.
- B. When 2 new circuits are scheduled to be installed, a minimum of four grounded receptacles shall be provided and wired to these circuits.
  - 1. When these circuits also serve pantry, dinette, breakfast room and dining area, the receptacles for these areas shall be equally divided between the extended circuits.

**38.8 Attic Circuit**

- A. New circuit shall be an independent 15 ampere branch circuit provided for an unfinished attic space adaptable for living.
  - 1. Circuit shall include one receptacle and one switched keyless fixture.

**38.9 Splitting Circuits**

- A. Splitting circuits shall include providing dedicated circuits for the following:
  - 1. Small appliance (kitchen)
  - 2. Washing machine
  - 3. Freezer
  - 4. Furnace
  - 5. Dishwasher
  - 6. Microwave oven

**38.10 Dryer Circuit**

- A. New circuit shall be a dedicated branch circuit of 30 ampere capacity (#10 AWG).
- B. Receptacle shall not be higher than 48 inches above the floor.

**38.11 Replacement Wiring**

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

**39.0 Electrical Service**

**39.1 General**

- A. Size of new service shall be as indicated in the Scope of Work.
- B. Service package shall include new service entrance conductors and meter socket, new panel box and ground, and new service mast or service knob with support.
- C. Service shall be underground where required.
- D. Contractor shall call local power company prior to installing service equipment to verify location of new service drop.
- E. All existing panels and sub-panels shall be taken out of service.

### 39.2 Panel

- A. Panel installed with new service shall be main breaker panel with room for at least 20 circuits (main breaker and panel shall be consistent with size of service entrance).
- B. Panel box shall be flush or surface mounted as required.
- C. Panel shall be circuit breaker type.
- D. When relocated the panel box shall be placed in a convenient and protected location.
- E. Panel shall not be split buss type panel.
- F. After installation, each lighting panel shall be tested with the mains disconnected from the feeder, the branches connected, and wall switches closed and the fixtures permanently connected but without lamps.
- G. Each individual power circuit shall be tested at the panel with the power equipment connected for proper operation.
- H. All circuits in the panel shall be clearly identified.

### 39.3 Service Equipment

- A. Service equipment shall not be located in stairwells, coal bins, bathrooms, clothes closets, attics, above plumbing fixtures or above laundry and kitchen appliances.
- B. Sufficient clearance and accessibility shall be provided when installed in basement near laundry trays, oil tanks, or other permanent obstruction.
- C. Prior approval will be required if panel is to be located on exterior of house; this panel shall be factory built rain tight type.

## 40.0 Electrical Fixtures and Wiring Devices

### 40.1 Special Instructions

- A. When an item is scheduled to be **installed**, a new fixture, switch or receptacle shall be installed complete with all wiring accessories.
- B. When an item is scheduled to be **replaced**, the existing device shall be removed and a new fixture, switch or receptacle shall be installed and connected up to the existing wiring.
- C. When an item is scheduled 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 a more appropriate location.
- D. When an item is scheduled to be **removed**, it shall be removed complete, or when the existing outlet box and wiring cannot be removed, a blank cover plate shall be installed.

### 40.2 Door Bell Package

- A. New package shall include door bell button for main entrance door, wiring, chimes or bell, and transformer.
- B. A mechanical bell is unacceptable.

### 40.3 Convenience Receptacles

- A. When receptacle outlets are scheduled to be relocated, installed new or replaced, they shall be installed complete with new cover plates.
- B. When all switches and receptacles in a room are new, they shall be off white or ivory color.
- C. New convenience receptacles shall be flush duplex grounding type, and shall be grounded.
- D. Surface mounted boxes and "Wire Mold" are acceptable only if areas for new circuits are not accessible in any manner without doing severe damage to the walls or ceilings.
  - 1. The installation of wire mold requires the approval of both the homeowner and Field Agent prior to the installation.
- E. Replacement receptacles for kitchens (except refrigerator) and bathrooms shall be GFCI protected duplex outlets; all others shall be flush duplex type.
- F. New receptacles shall not be located in the baseboard or in the floor.
- G. New receptacles shall be placed in the common/convenient location where they would be found in a modern home if at all possible.

#### **40.4 Switches**

- A. When switches are scheduled to be relocated, installed new or replaced, they shall be installed complete with new cover plates unless otherwise stated.
- B. When all switches and receptacles in a room are new, they shall be off white or ivory color.
- C. New switches shall be flush toggle switches, single pole, 3-way or 4-way as scheduled.

#### **40.5 Lighting Fixtures**

- A. Each lighting fixture in the unit shall be furnished with a lamp bulb or bulbs of appropriate type and wattage.
- B. New lighting fixtures shall bear either the UL or ETL label and be Energy Star Rated if available.
- C. Unless otherwise listed in the work schedules, lighting fixtures shall be as follows:
  - 1. Examples of Exterior porch light Fixtures:
    - a. Wall mount: Manufacturer "Kichler Lighting" #K-9613. Color as selected by Owner.
    - b. Ceiling mount: Manufacturer "Kichler Lighting" #K-345. Color as selected by Owner.
    - c. Motion detector flood light: Manufacturer "Satco" #HE100BW, 2 lamp.
    - d. Or Approved Equivalent
  - 2. Examples of Interior lighting Fixtures:
    - a. Dining, Bedrooms, Utility: Manufacturer "Kichler Lighting" #K-8102, 2 lamp.
    - b. Hall: Manufacturer "Kichler Lighting" #K-8101, 1 lamp.
    - c. Kitchen: Manufacturer "Lithonia Lighting" #11332, fluorescent 2-tube, 32 watt T-8.
    - d. Alternate: Manufacturer "Lithonia Lighting" LB series, wrap around lens, fluorescent 2-tube, 32 watt T-8.
    - e. Bathroom: Manufacturer "Kichler Lighting" #K-624, 24" long light bar with 4 lamps. Color as selected by Owner.
    - f. Or Approved Equivalent
- D. Ceiling or wall mounted fixture for living room, dining room, bedroom, hall, kitchen and bathroom shall be owner's choice, unless previously specified.
- E. Fixtures for basement, second floor and attic stairways are to be located directly over the stairway section or at the head or the foot of the stairs.
- F. Any fixture specifically called for in the Scope of Work shall be provided by the Contractor regardless of whether the cost of the fixture is within the Suggested Material Ranges.

#### **40.6 Smoke Detectors**

- A. Code requires smoke detectors in each bedroom and one additional smoke detector on each floor.
  - 1. Of these smoke detectors, the program requires that one on each floor be hard wired with battery backup and interconnected with all other hardwired smoke detectors if wiring is readily available.
  - 2. The remaining smoke detectors on each floor may be independent and battery powered only.
  - 3. Or, wireless smoke detector system maybe approved by PM.
- B. Only smoke detectors approved by a nationally recognized testing agency are approved for installation through this Program.
- C. Whenever the ceiling in a room is being enclosed or will be opened up in the course of the work, all smoke detectors in that room shall be hard wired on a separate circuit with battery back-up and inter-tied with any other hard wired smoke detectors in the home.

#### **40.7 Electric Baseboard Heating**

- A. Electric Baseboard Units
  - 1. Existing sections of baseboard shall be cleaned and tested for proper operation.
- B. New baseboard 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 -10 degrees F., without overloading or scorching walls.

- C. New heaters shall be medium density type, limited to 250 watts per foot of baseboard.
- D. Where possible, install on outside walls and under windows.
- E. Each room or air circulation area shall have only one thermostat.
- F. Bathroom heaters can be manual switch operation.
- G. Thermostats shall be baseboard mounted unless otherwise specified.
- H. In bathrooms, baseboard heaters shall not be within reach of the bathtub.
- I. Wall or ceiling type heaters are acceptable substitutes.

**41.0 Suggested Material Ranges**

12100 Storm / Screen Door	\$200.00
16100 Ceramic Tile	\$3.00 per square foot
16300 Sheet Vinyl Floor Cover	\$25.00 per square yard
16400 Carpet and Pad	\$25.00 per square yard
17000 Towel Bars	\$20.00 each
23300 Living Room Fixtures	\$75.00 each
23300 Dining Room Fixtures	\$75.00 each
23300 Bathroom Wall Mount Fixture	\$50.00 each
23300 All Other Interior Fixtures	\$40.00 each

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