

DIVISION 6 - CARPENTRY AND MILLWORK (SUBJECT TO DIVISION 1)

GENERAL

Rough carpentry: All framing, furring and sheathing shall be completed with rough hardware and installed in conformance with the Iowa City Building Code.

Repair: Patches and scabs shall be installed in conformance with the Iowa City Building Code.

Replacement: Complete removal of damaged material and all associated construction as required and the installation of all new construction shall be in conformance with the Iowa City Building Code.

6.A. PRODUCTS

All products shall be grade marked according to the industry standard. Framing lumber shall be kiln dried, straight and solid.

Lumber shall be sized to accommodate adjacent construction and shall conform to the requirements of span tables for the product and governing code.

Plywood subflooring shall meet the requirements of Product Standard PS-1 for softwood plywood and shall be DEPA Standard grade. Panel thickness shall be as noted in the Bid Document.

Exterior sheathing shall meet the requirements of Product Standard PSI for softwood plywood and shall be DEPA Standard grade with exterior glue. Panel thickness shall be as noted in the Bid Document.

Fiberboard wall sheathing shall comply with ASTM C-208, Class E and shall be asphalt impregnated or coated to render it water resistant.

OSB (oriented strand board) may be used in place of plywood where appropriate.

Pressure Treated Lumber

Lumber and plywood shall be pressure treated in accordance with American Wood Preservers Standard LP-2. Pressure treated lumber and plywood shall be installed where wood is in contact with masonry or concrete that is within 24" from the earth, or is exposed to exterior.

6.B. EXECUTION OF WORK

1. Framing shall be straight, level or plumb with all joints accurately cut and neatly fitted and securely nailed or bolted. Splices shall occur only over bearing.
2. Sheathing shall be sound and shall be applied with bearing or blocking at all edges. (Clips may be used in roof deck.) Panels shall be continuous across at least two spans of framing members. Sheathings shall be laid so that the joints are staggered 4' at every course.
 - A. Sheathing clips shall be Model #PSC as manufactured by Simpson or an approved equal.
3. All members shall be securely anchored in accordance with manufacturer's recommendations for intended uses and good construction practice.

4. New wall framing and rafters shall be sixteen (16) inches on center unless noted otherwise.
5. Exterior Steps: Unless otherwise noted in the Bid Document, all exterior and hatchway steps shall be constructed from pressure treated lumber and shall be constructed to the standards of the Uniform Building Code. A handrail and/or guardrail shall be included. Exterior steps shall be treated with a sealer appropriate for pressure treated lumber, and that treatment shall include stringers, risers, treads, balusters, and handrails.
6. Cellar Door frame to be a minimum 2 x 6 treated lumber, securely fastened to concrete or block with 3/8" bolts set in concrete, or with 3/8" self-drilling concrete anchors. Void between frame and concrete shall be grouted and caulked to provide watertight seal.

Sill plate insulation shall be installed between frame and concrete or grout.

Galvanized flashing and storm seal shall be installed to adequately drain moisture away from opening. Door shall be minimum of 3/4" exterior grade plywood type AC. Oxboard or particle board will not be accepted. Blocking, cross bracing, and end caps shall be glued and nailed in place. Door shall be held in place with minimum of three 6" heavy duty, galvanized "T" hinges. Iron door pulls and padlock hasp to be heavy duty, galvanized or cadmium plated. All hardware to be screwed and bolted as may apply. Bolted hardware to have nuts placed inside of door, bolts shortened and battered to prevent removal.

6.C. FRAMING

1. General

- A. Framing lumber shall be kiln dried, construction grade.
- B. Framing work shall be accomplished in a level, straight, plumb and true manner. Notching and cutting of framing members shall be done in accordance with the Uniform Building Code.

2. Exterior Walls

Exterior walls shall be constructed to match the dimensions of the walls of the existing house. Studs shall be placed 16" o.c. A single bottom plate and double top plate shall be used. Where headers are required, they shall be doubled 2x12. Walls shall be sheathed on the exterior with 7/16" OSB (oriented strand board) or with sheathing to match the existing house. The wall shall be insulated with fiberglass insulation to R-19 for 2 x 6 stud walls and at least R-11 for 2 x 4 stud walls with a 4 mil poly vapor barrier on the interior side.

3. Interior Partition Walls

Partition walls shall be 2x4 studs 16" o.c. with a single bottom plate and a single top plate. A double top plate shall be used if it's a bearing wall. If the bottom plate is set on a concrete floor the plate shall be treated lumber. 1/2" drywall shall be applied to both sides of the wall, taped, sanded and textured ready for paint. Where required by code or otherwise specified in the bid document, 5/8" drywall shall be used.

6.D. JOIST FRAMING

1. Where required, to be installed with crown edge up and to have minimum bearing of 1½" on wood and 4" on masonry and spaces 16" o.c. minimum.

2. Bridging to be 1" x 3" wood (#3 grade) or standard metal bridging and installed at a maximum spacing of 8'0".

6.E. RAFTERS

1. New - To be spaced a maximum of 24" o.c. and to be notched to fit exterior wall plates as required. Double rafters are to be used at roof dormers and openings, headers and trimmers shall be supported with metal hangers. All rafter cuts at hips, ridges, and valleys to be made in accordance with Uniform Building Code.
5. Repair - Furnish and install all labor and materials necessary to repair rafter system. Contractor shall verify appropriate method of repair with the City Building Inspector. All work shall conform to Code.

6.F. TRUSSES

1. Are to be engineered, prefabricated wood trusses. Trusses shall be installed in complete accordance with manufacturer's recommendations, and shall meet National Forest Products Association "National Design Specifications for Stress Grade Lumber and its Fastenings." Specifications are to be provided to the Rehab Office.

6.G. ROOF SHEATHING

1. Plywood Sheathing, Underlayment and Building Panels
 - A. Roof and Wall Sheathing shall be installed with face grain perpendicular to support with adjacent panel joints being staggered and located over support framing. Sheathing shall be installed continuously over a minimum of three (3) spans. Allow minimum space of 1/16" between side joints and 1/8" at end joints of plywood panels for expansion and contraction of panels. Support edge joints by use of ply clips. Nail 6" o.c. along panel edges and 12" o.c. at intermediate supports. Use 7d nails for 1/2", and 6d for 3/8" plywood sheathing.
 - B. Plywood Subfloor Underlayment: Shall be installed in the same manner as roof and wall sheathing except nails shall be annular or spiral thread type 8d nails.

6.H. BEAM AND GIRDERS

1. Are to be installed with crown edge up and are to have minimum bearing of 4" on walls or partitions. Size of beams and girders are to be as indicated in attached Work write-up, or as indicated on the drawings.

Do not cut, notch, or bore framing members for the passage of pipes or conduits without the concurrence of the Building Inspector. Reinforce members where damaged by cutting.

6.I. SLEEPERS

1. Are to be of 2" x 4" wood stock, pressure treated with a water borne preservative, installed over existing concrete floors. A plastic or asphalt paper barrier is to be installed between concrete floor and sleepers. Sleepers are to be installed 16" o.c. with a plus or minus 1/4" tolerance of level.

6.J. ATTIC STAIRWAY

1. Construction to be housed out pine stringers, 1-1/8" pine treads, 3/4" pine risers. Provide

solid bearing at top and bottom. A center stringer shall be installed when the distance between stringers is greater than 2'6".

2. Factory-built stairs having wedged and glued treads and risers may be supported by two (2) stringers provided width of stairs does not exceed 3'6". Furnish and install all stock fir handrail and hanger brackets. Installation shall be in complete conformance to all applicable Codes.

6.K. MAIN INTERIOR STAIRS

Furnish and install shop-made or site-built interior stair system. Construction to be oak or fir treads and risers, stringers to be housed out pine. Provide solid bearing at top and bottom. A center stringer shall be installed when the distance between stringers is greater than 2'6". Factory-built stairs having wedged and glued treads and risers may be supported by two (2) stringers provided that the width of stairs does not exceed 3'6".

6.L. FLOORING AND FLOORING REPAIR

1. Subflooring may be plywood or 1" nominal boards.
2. Plywood shall be Exterior Grade Douglas Fir; minimum of 1/2-inch where 25/32 inch finished wood floor is to be laid; minimum of 5/8-inch where resilient flooring is to be laid and joists are not over 16 inches on center. 3/4-inch T & G plywood or 3/4-inch T & G OSB may be used in lieu of above. Glue and nail all plywood. Provide 15 lb. felt between subfloor and finish floor.
3. Nail subfloor to joists at intervals required by Code with 8d coated or 6d ringshank nails spaced six inches on center along all edges and ten inches on center along intermediate members. Other Code-approved fastening systems are allowed.
4. Common boards used as subflooring shall not be over 8 inches wide or less than 3/4-inch thick when laid on joists spaced 16 inches on center.
5. Nail boards with 8d coated or 6d ringshank nails. Provide two nails in 4-inch or 6-inch boards and three nails in 8-inch boards at each joist.
6. Wood Flooring Repairs: Replace cracked, defective or warped wood flooring with flooring of like type and size. Secure any loose submembers and replace defective pieces with like materials. Adequately fit and nail new flooring into place with manufacturer's recommended nails. New installation is to be finished to match existing. Salvage flooring may be used.

6.M. FINISH WOOD FLOORING

1. New

Material: Hardwood.

Minimum Thickness: Over subfloor 5/16", direct to joists 25/32".

Maximum Width: 2 1/4".

Material: Softwood.

Minimum Thickness: Over subfloor 5/8".

Maximum Width: 3 1/4".

(Unless otherwise approved by the Rehab Specialist.)

Nailing: Shall be as recommended by flooring manufacturer. Blind nail tongue and groove flooring, driving nail at an approximate 45° angle.

2. Repair - Provide and install hardwood/softwood floor to patch damaged or deteriorated flooring. Wood species and finish shall match existing as closely as possible. Patch must be made to blend with existing work. The use of salvaged floor is permitted with prior approval of the Rehab Office and Client.

6.N. FINISH LUMBER

1. Finish lumber shall be of a species suitable for its intended use, kiln dried #1 dimensional, free from tool marks and other objectionable defects.
2. Interior Trim: Shall be as called for in Bid Document and/or shall match, as closely as possible, existing adjacent work in design and dimension. If matching trim is not available, written approval from the Rehabilitation Specialist is needed.

6.O. CABINET WORK AND REPAIR OF CABINETS

1. Replacement - See Bid Document for type of exposed wood of existing cabinets. Doors may be flush type 3/4" lumber core. Shelves, bottom, and top shall be 3/4" solid stock or plywood with front nosing; dividers to be 3/4" solid stock; backs, Douglas fir AC plywood. See Division 10 for hardware. Counter tops and backsplash (minimum 4" high) shall be 3/4" thick particle board. Cover all exposed surfaces and edges with laminated plastic (Formica or equal). Butt internal and external corners. Fabricate all elements of cabinets which abut walls to permit a scribe fit. Cabinet fabricator shall cut opening for sink from template obtained from plumbing contractor. The Homeowner shall select color and finish of prefinished cabinets or cabinets finished on site. Cabinet finishing shall be responsibility of contractor performing interior construction. All cabinets shall be type specified in Bid Document. When counters and/or cabinets are specified, the removal and reinstallation of any built-in fixtures shall be included. Any interfaces with pre-existing surfaces shall be treated so as to leave a finished appearance when the new cabinets have been installed, i.e. paint shall match, brick veneer or tile shall fit, voids filled up or covered or with soffit work in case ceiling height cabinets pre-existed.
2. Cabinet Repairs: Provide kitchen cabinet repair as required under attached Bid Document. Repair shall be made with matching materials and workmanship of the original work. Repairs to countertops must restore the sanitary conditions to original condition, and if this cannot be accomplished, then a new countertop must be installed.
3. Refinishing: Remove all hardware, wash off all heavy dirt accumulations using a solution of trisodium phosphate in water. Strip all paint/varnish from all surfaces. Lightly sand and hand-wipe to remove all dust particles. Hand-wipe stain (chosen by owner). All nail holes to be filled with stain-based wood putty. Apply two coats of premium quality polyurethane varnish. Varnish coats will be sanded with 220 sandpaper between coats. Finished surface shall be smooth. Install all hardware.
4. Countertop: Furnish and install all labor and materials for plastic laminate over particle board. Top shall have 4" backsplash scribed to fit the wall. Area where backsplash joins wall shall be caulked. Seams shall be straight with no open gaps. Adhesive is to be that recommended by the laminate manufacturer's instruction. Edges shall be covered by the same laminate material and neatly trimmed. Pattern and color to be chosen by owner. End splashes shall be installed where the countertop butts the wall.

6.P. INTERIOR HANDRAIL AND GUARDRAIL

1. Interior handrail and guardrail shall conform to the 1994 Uniform Building Code as adopted by the City, see exhibit 6. Handrails shall be of standard pine handrail stock with standard mounting brackets. It shall be installed 30" to 38" above the tread nose, and shall be

returned to the wall. Railing shall be sanded smooth of all tool marks, and finished with a stain color approved by the owner and two coats of good quality varnish. Guardrail and handrail balusters shall be such that a sphere 4 inches in diameter cannot pass through. The guardrails shall not be less than 42" in height.

2. Custom-Made Handrail: Handrail shall be custom made rail system, including starting newel, birch handrail, newel cap, and pine balusters placed 4" on center. Installation shall conform to all applicable Codes.
3. Repair Handrail/Guardrail: Furnish and install all labor and materials necessary to restore existing handrail/guardrail to sound condition. Handrail ends shall be returned to the wall or terminated at a newel post and be protected with paint or varnish. All work shall conform to Code.

6.Q. REPAIR INTERIOR STAIRS

Renail all loose, springy or squeaking treads, risers and stringers. Restore to tight, sound and safe condition. When replacement is required, use same species and size as original, unless specified otherwise in the Bid Document. All work to conform to Code.

6.R. STAIRWELLS TO BE CLOSED

Remove existing stairs and railings in their entirety, and close up floor opening with joists of matching depth using joist hangers and/or ledgers for joist bearing. Install new subfloor and flooring level with adjacent floor, and match existing as nearly as possible.

6.S. CROWN MOLDING

Furnish and install all labor and materials necessary to install new crown molding, including all fasteners. Nail holes shall be filled and finished. Molding shall have same finish as existing casings. Surface shall be smooth.

6.T. REFINISH CROWN MOLDING

Remove existing crown molding and pull all nails through board from reverse side. Strip all paint/varnish. Lightly sand, then clean. Hand-wipe stain, then reinstall in original order. Apply two coats of premium quality varnish. All nail holes to be filled with stain-based wood putty and varnished coats to be sanded with 00 sandpaper between coats. Finish to be smooth.

6.U. CLOSET SHELF AND ROD

Provide and install shelf for designated closet. Shelf shall be a 1" x 12" (or to fit closet), securely anchored to wall. Rod shall be wood with required holders. Minimum clearance above shelf shall be 8". Shelf to be painted same color as walls.

6.V. ENCLOSE AREA AROUND FLUE (BOX IN)

Box around flue pipe using 2' x 4' studs, 16" on center maximum. Allow space around pipe to meet Code requirements. Cover with ½" drywall, taped, sanded and finished ready to accept paint or other finishing materials. Patch any scarring or holes resulting from removal of chimney.

6.W. EXTERIOR SURFACES

1. Exterior surfaces such as cornices, walls, soffits, rake board and molding, etc., shall be repaired, removed and/or replaced to match existing as called for in the Bid Document.

2. Surfaces to be repaired shall have all decayed or deteriorated parts removed and replaced with new parts, matching original work as closely as possible, as approved by the Rehabilitation Office. Backup framing shall be repaired to permit this work.
3. Where cornices, roofs, porches or other building parts are to be removed, the Bid Document will describe the treatment of the wall exposed by such removal.
4. New fascia or frieze shall be #2 white pine, cedar or redwood. Material to be back-primed before installing and nailed with rustproof nails. Renail all remaining loose fascia and/or frieze where required.
5. Note: Good salvaged materials may be used by approval from the Rehab Office.

6.X. EXTERIOR WOOD STAIRS

1. Stairs shall be three feet (3'0") wide minimum with two end stringers and a center carriage, if necessary. Stringer and carriages shall be cut from 2x12 stock with an effective depth of stringer and carriage being not less than 4½". All exterior stair framing shall consist of 2" nominal stock, pressure treated with water borne preservatives. All stair treads shall be a minimum 2" stock. All posts shall be a minimum 4x4 stock. Handrails and guardrails shall conform to the UBC. All vertical posts shall be securely attached to framing with corrosion resistant fasteners. Supporting posts for stairs and landings shall be a minimum 4x4 stock and shall be installed on a frost footing with a minimum depth of 42". Stringer spans shall not exceed 6'0" measured on the horizontal without the installation of intermediate posts. All exposed surfaces shall be treated with a waterproofing product recommended for pressure treated wood.

6.Y. REPLACEMENT OF CELLAR STEPS

1. Remove existing cellar steps, install new wooden open riser steps at required width and height. Treads to be 2" x 10" pressure treated; stringers to be 2" x 12" pressure treated, resting on sound concrete footing. All work shall conform to all applicable Codes.

6.Z. EXTERIOR HANDRAIL AND GUARDRAIL

New exterior handrail and guardrail shall be constructed using an approved exterior wood, such as redwood, cedar, or pressure treated yellow pine. All handrails and guardrails shall conform to the current Uniform Building Code as adopted by the City of Iowa City, see exhibit 6. When the height of the deck is 30" or more, the guardrail shall be a minimum of 42" high. Handrail on steps shall be between 30" and 38" high, and an approved gripping surface shall be supplied. The design of the railing or guardrail shall be approved by the owner and the rehab office. The spacing of balusters or intermediate guardrails shall be such that a sphere 4 inches in diameter cannot pass through. All new handrails and guardrails shall be sealed with a sealer appropriate for the type of wood.

6.AA. REPAIR FENCE

Repair existing fence. Repairs to restore fence to a tight and secure condition shall be in accordance with all applicable codes.

6.BB. NEW ADDITIONS

This section is intended to provide guidelines to a contractor when bidding new construction.

1. The specifications are meant to include a complete enclosed watertight structure, ready

except for mechanical, plumbing or electrical equipment, to be lived in. Cost shall include, but not necessarily be limited to:

- A. 2' x 4' stud walls, 16" on center.
 - B. ½" drywall, interior, taped, sanded and finished, ready to accept paint or other finishing materials. Ceiling required to have 5/8" drywall.
 - C. ½" plywood or fiber board (with proper bracing) sheathing exterior.
 - D. Building paper.
 - E. Fascia, soffit, downspouts, gutters, and gutter apron.
 - F. Siding as noted.
 - G. Ceiling joist with 5/8" drywall, taped, sanded and finished, ready to accept paint or other finishing materials.
 - H. Roof rafters with ½" plywood sheathing. Approved truss roof may be used.
 - I. Shingles as noted.
 - J. Attic vents.
 - K. R-30 (minimum) in ceiling with vapor barrier (R-36 is recommended, but not required).
 - L. 3½" batt insulation in wall with vapor barrier. R-11 minimum (R-19 is recommended, but not required).
 - M. Floor joists, plates and subflooring. (Engineered floor joists may be used instead of solid wood joists.)
 - N. Underlayment and floor covering as noted.
 - O. Base and all trim.
 - P. Windows as noted. (To include screens.)
 - Q. Doors and frame as noted. (To include screens.)
2. 8" concrete block foundation. 8" x 16" footings with two #4 rebar, 10" lap at joints and set 42" below grade (or as noted).
3. Reinforced concrete foundation walls for brick veneer or wood frame dwellings of 1½ stories or less shall be a minimum of 8" wide, must be designed with sufficient rebar to give wall adequate strength to resist lateral pressure from adjacent earth and vertical loads.

6.CC. NEW OR REPLACEMENT DECKS AND RAMPS

All new or replacement decks shall conform to the Iowa City Building Code. The design shall be approved by the homeowner, Housing Rehab Office, and the City Building Inspector.

Footings shall be of sufficient number to conform to the Code, and shall be minimum 42" deep x 10" in diameter and above grade sufficiently to keep post above grade.

All framing lumber shall be pressure-treated southern yellow pine. Support posts shall be pressure-treated southern yellow pine and sized to meet code. All fasteners and hardware shall be galvanized steel. Support beam shall be of sufficient size to carry the load of the deck. Carriage bolts shall be a minimum 3/8" x a sufficient length to bolt through the material. It is suggested that the joists be 2x8's 16" o.c., mechanically fastened to the beam using proper hardware. The ledger board shall be bolted to the house with two fasteners every 16" on center. Fasteners to be of proper type for the material being fastened into. The floor joists shall be fastened to the ledger board with galvanized joist hangers.

Flooring shall be 5/4 x 6 pressure-treated southern yellow pine. It shall be fastened with 2-3/4" galvanized deck screws, two per joist. Screws shall be counter-sunk to a sufficient depth so that when the wood shrinks, the screw head will remain below the surface.

The steps and handrail/guardrail shall conform to the Iowa City building codes and be of a design approved by the owner and the Rehab Office.

When ramps are constructed a plan shall always be attached to the Bid Document and shall be a part of the Bid Document. The ramp shall be constructed to the specifications and drawings contained in the plan unless prior approval of the Rehab Office and Building Inspector is obtained.