

Portsmouth Community Redevelopment Corporation

SPECIFICATIONS

FOR THE

**NORTH - STREET
SINGLE FAMILY DWELLING**

in
PORTLAND, OREGON

October 20, 1996 Francis X. McBride

NORTH STREET SINGLE FAMILY DWELLING

General specifications and notes

DIVISION 0 - GENERAL CONDITIONS

These notes and specifications are to be used with the drawings prepared for the new single family detached house to be located on North Richards Street.

The property legal description is as follows:

Lots 29 & 30, Block 23, East St. Johns, n the City of Portland, County of Multnomah, State of Oregon.

The Owner is: Portsmouth Community Redevelopment
Corporation 9025 North Dana Avenue Portland.
Oregon 97203

Permit Information: Zone: R5
Lot Size: Lot Size = 5000 s.f.

- 1) These specifications are designed to aid the contractor in the successful completion of this project. We welcome material and method substitutions if they meet our goal to provide a quality product. All substitutions must be approved by the Owner or Architect prior to use or installation. The Owner requires that all materials or methods presented for use as a substitute be accompanied by manufacturer specifications, cut sheets and documentation illustrating that products ability to meet or exceed all code requirements and the Owners requirements. Substitutions must be accompanied by a completed CSI Substitution Request form (copy attached at the end of this document) with complete comparative data included. Partially completed forms or incomplete product comparative data will cause the substitution request to be rejected without further review. Contractor must provide (3) three completed forms and product data by no less than 10 working days prior to the commencement of the subcontractors work if product substitution is to be considered

- 2) In an effort to complete this project on budget Alternates are included. The Contractor will provide pricing additions or deductions for each of the following Alternates:
 - Alternate No. 1). Provide Value "Hampshire" cabinetry in Brierwood finish by Schrock in lieu of the Value "Celeste" in white cabinetry by Schrock

 - Alternate No. 2) Install 6x6 W10xW10 WWF in driveway concrete slabs in lieu of the specified #4 bar @ 24" o.c. each way.

- 3) During the preparation of these specifications, several local merchants were consulted and product information was obtained from them. As a courtesy to them their names are listed below. This is not an endorsement of them nor is the Contractor in any way obliged to purchase goods or services from them.
 - Globe Lighting - 7410 SE Foster Road, Portland, OR, (503) 771-7459
 - Mosee Brothers Appliance Outlet - 6927 SE Foster Road, Portland OR, (503) 771-1157
 - Truax Builders Supply - 10949 SE Division Street, Portland OR, (503) 256-4066
 - Contract Furnishings Mart - 915 SE Sandy Blvd., Portland OR (503) 230-1250
 - All Weather Home Remodeling Co. Inc. - 5005 NE Fremont Street. Portland, OR, (503) 284-9306
 - George Morlan Plumbing Co. - 5529 SE Foster Road, Portland, Or, (503) 771-1145

DIVISION 1 GENERAL REQUIREMENTS

Summary of work: Construction of a 1050 s.f. single story wood frame house and site work as detailed on the Drawings accompanying these specifications.

- 1) Work under this Contract is to include all labor, materials, transportation, equipment, supervision- and services. Work includes grading and site demolition, concrete footings and slab, walks, curbs, driveways, wood framing, roofing, vinyl windows, lapped and panel siding, exterior and interior trim, finishes, painting, HVAC, plumbing, and electrical work, cabinetry, appliances and all other items shown on the drawings and noted in these specifications necessary for and reasonably incidental for the completion of all construction Work in connection with the Drawings.
- 2) Major landscaping and irrigation systems are not a part of this Contract.
- 3) Unless otherwise noted, the contractor shall provide and pay for all supervision, labor, materials, equipment, tools, machinery, transportation, and other items, facilities or services necessary for the proper execution and completion of the project.
- 4) Contract: The Contractor shall receive from the Owner a fixed fee to complete the Work contained in these documents and shall act as Owner's agent. Contractor shall obtain and submit to Owner lien releases from all subcontractors upon completion of their portion of Work and payment.
- 5) Applicable Codes: All materials and workmanship shall conform to the CABO One and Two Family Dwelling Code and applicable state and federal safety orders. All references to codes, specifications, and standards shall mean the latest edition, amendments to, or revision of such reference standard in effect Americans with Disability Act must be conformed to where applicable.
- 6) Coordination:
 - A. The Contractor shall verify and confirm all dimensions and conditions shown or implied on the Drawings and Specifications, as well as the physical conditions of the site. Notify Architect or Owner of discrepancies prior to start of Work.
 - B. Contractor shall coordinate the Work of all subcontractors to prevent duplication of *effort* and to insure proper sequence of operations.
- 7) Permits: The Owner shall pay for all plan check fees and the Contractor shall obtain all permits including mechanical and electrical permits.
- 8) The Contractor shall locate and mark all property lines and the building footprint and notify the Owner of any discrepancies regarding clearances and setbacks prior to commencing work.
- 9) Inspections: Contractor shall notify all governing agencies for inspection when required, and shall assure that all applicable requirements are met prior to and during construction.
- 10) The Contractor shall carry the required insurance, including Workmen's Compensation for all employees as required by law.
- 11) Quality of materials and workmanship shall be in accordance with the best standards and practices of the trades involved.
- 12) The Contractor shall provide secure temporary supports as required and maintain until permanent supports are fully in place.

- 13) The Contractor shall install and maintain dust barriers, temporary covers, temporary wall barriers, and temporary doors as required to maintain security, safety and cleanliness of the construction site and those adjacent areas and properties where construction is not underway.
- 14) Cleaning: Contractor shall provide periodic cleanup of areas adjacent to the construction site as well as periodic cleanup of the construction site itself.
- 15) The Contractor shall repair, replace, or otherwise make full restitution for any damage to properties adjacent to the construction site that are the result of the Contractors carelessness or negligence.

DIVISION 2 - SITE WORK

- 1) Existing conditions shown on these drawings are to be used as a guide only. The Contractor shall field check all existing conditions prior to bidding and shall include in his bid the removal of existing materials as indicated on the Drawings or as required to coordinate and adapt new and existing materials.
- 2) Staging Areas: All vehicles, equipment and materials are to be kept inside work site area and are not to infringe on public walks or right of ways or in anyway impede public foot or vehicle traffic.

Demolition

- 1) Protection: The Contractor will take all steps necessary to insure the protection of all trees, vegetation, and site features not designated for removal.
- 2) Site Clearing and Grubbing: Clear and grub building and drive areas only, removing only that vegetation necessary to execute the project, as indicated by the Drawings. No other trees or vegetation are to be removed without the permission of the Owner and other regulatory bodies, where required. Remove from the site all rubbish, debris, etc. resulting from Work mentioned herein.
- 3) Tree removal: Contractor to obtain proper permits for the removal of designated trees on the site from the City of Portland Forester. See Tree removal form at end of these specifications.
- 4) All demolition work must be done in a manner which will not disturb adjacent properties. Remove all construction debris immediately.
- 5) ASBESTOS EXPOSED DURING DEMOLITION: If the Contractor encounters or exposes asbestos material during demolition, then the Contractor is to notify the Owner and the Architect of this changed condition and not to proceed with any work until approval is obtained from the Owner.
- 6) Materials shall not be thrown or dropped outside exterior walls except in a frilly enclosed chute. Sprinkle and dampen debris and rubbish with water to lay dust. Remove debris from the site as demolition progresses and do not allow to accumulate on the premises.
- 7) Coordinate demolition work with affected utilities and other trades. Save and protect existing utilities shown to remain. Remove all existing utility services which are not a part of new work or designated to remain. Notify Architect at once if unknown utilities are found in the work.
- 8) Use care to minimize damage to existing work which is to remain. Contractor shall be responsible for the replacement of any damaged work scheduled to remain at no cost to the Owner. Replace damaged work with new materials to match original.
- 9) Include a system of shoring or temporary support for structures as required until all new work completed to take gravity and lateral loads.

- 10) Comply with all applicable laws and ordinances governing the disposal of materials, debris, rubbish, and trash on or off the Project Area.

Site

- 1) Verify existing conditions at the site and include all work evident by site inspection whether or not shown on the Drawings. All grades are to be taken from the elevations shown on the Site Plan. The layout on the Drawings has been developed from information provided by other consultants, not the Architect. Some variation and adjustment may be required. The Architect is not responsible for the accuracy of the site information provided by others. Verify and notify Architect of any discrepancy.
- 2) Clear site within the limits shown and remove all brush, stumps and waste material that would interfere with construction.
- 3) Strip topsoil completely, everywhere within building lines and parking and pavement areas. Stockpile in locations as directed by Architect or Owner's representative. Protect and maintain topsoil until needed for redistribution. Strip 6 to 9 inches below existing grades from wherever site is to be excavated or graded for buildings or at areas to be covered by pavements.
- 4) Grading: Grade areas designated to elevations indicated. If grades are not sufficient to provide adequate site drainage, notify Architect prior to start of Work. Grades around existing trees to be maintained. All grades shall have a positive drainage of at least 2% away from any structure.
- 5) Excavating: Excavate for footings, piers, slabs, paving, and other improvements to sizes and levels shown or required. Allow for form clearance and for proper compaction of required backfilling material. All footings to bear on firm, natural, undisturbed soil. All organic material shall be removed from building and driveway areas. Excavated materials not required for backfill shall be removed from the site by the Contractor. Trenching and backfill for required utilities are included in this Contract.
- 6) Allowable Soil Bearing Pressure: Assumed 2,000 psf to be verified by Owner.
- 7) Backfill Materials: Selected natural fill material from on-site excavation or off site borrow shall consist of the following, or a blend thereof: Well-graded, granular pit run or back run sand and/or gravel; small cobbles up to 1-1/2" in maximum size, with not more than 10% of fines passing through a No. 200 sieve; or approved on-site excavation materials. Under slab granular fill shall be of 3/4" minus crushed rock or sand, free of organic material.
- 8) Minimum Footing Depth: 1'-6" below finish grade.
- 9) Minimum Water and Sewer Line Depth: Verify with governing agencies.
- 10) All rainwater shall be conducted away from the structure(s) in piping conforming to local requirements. Furnish all labor, material, equipment and services required for installation of subsurface drainage system shown on drawings.
- 11) All rainwater from building and site surfaces to be directed to on site trench drain or drywell as shown on the drawings. trench Drain or drywell to conform to all applicable codes with regards to size, location and construction. Contractor to provide Architect with diagram of proposed drainage system and product data for drywell or trench drain prior to installation.
- 12) Rain Drain shall be 4" non-perforated PVC rain drain. Refer to site plans for location.
- 13) At areas scheduled to receive concrete or stone paving, install drainage fill in thickness shown on the drawings, and not less than 6" where not indicated on the drawings.

- A. Drainage fill shall consist of washed, evenly graded mixture of crushed stone with 100% passing a 1-1/2" sieve and not more than 5% passing a Number 4 sieve.
- 14) Infill: If areas are to be infilled use solidly packed, clean fill compacted to a density of 95% in layers not exceeding 12" in depth. Stones and bricks may be used in conjunction with compacted fill if local codes permit so doing. Under no circumstances is organic material such as lumber, vegetation or trash to be used as fill material.

Paving and Surfacing

- 1) Furnish all labor, material, equipment and services required to construct new concrete entry drive, curbscuts and sidewalks.
- 2) Concrete walks and Driveway slab: 4-inch concrete slab with #4 bar @ 24" o.c. each way. light broom finish with tooled joints where shown (walkways need not have reinforcing). **Alternate No. 2) Install 6x6 W10xW10 WWF in all concrete slabs and walkways in lieu of the specified #4 bar (@ 24" o.c. each way.**
- 3) Materials:
 - A. Concrete: Slump mix with not less than seven (7) sacks cement per cubic yard of concrete and to attain 3000 psi compressive strength in twenty-eight (28) days.
 - B. Curing Compound: Acrylic type, meet ASTM Spec C309. Application: 300 SF per gallon.
- 4) Control Joints and Weep Holes: Control joints at 20' on center maximum and 2' at comers. Weep holes where required to prevent ponding water.

DNISION 3 - CONCRETE

- 1) Furnish all labor, material, equipment and services required for construction of formwork for cast-in-place concrete. Reshoring as required.
- 2) Install structural and miscellaneous iron items, anchor bolts. hold-down anchors, chases for pipes and all framing necessary.
- 3) Strength: Average concrete strength as determined by job cast lab cured cylinder to be 3,000 psi at 28 days plus increase, depending on the plant's standard deviation as specified in ACI 318-77. 4) Minimum Mix Requirements:
 - A. Cement Content Per Yard: 5 sacks except slabs on grade to be 5 1/2 sacks.
 - B. Maximum water/cement ratio: Six (6) U.S. gallons per bag of cement for non-air entrained concrete and 5-3/4 U.S. gallons per bag for air-entrained concrete.
 - C. Slump: 2" to 4" for all slabs, footings, walls, and other. Deviation from design slump +1/2" to -1"

- D. Air Entrainment: Per ACI at all exterior slabs.
 - E. Water reducing admix (Pozzolith or equal) for all slabs on grade, columns, and walls.
- 5) Place and cure all concrete per ACI codes and standards.
 - 6) Provide heavy (3/4") tooled joints at 20'-0" o.c. maximum or as noted on the Drawings in all exterior walks and slabs.
 - 7) Sealer: Burke Spartan Cote CHS. West "Terraseal" and United Chemical "Custom Hard & Seal or approved to seal exposed concrete floors with one (1) coat application at not over 400 sf per gallon. Satin finish. See finish schedule for location of floors to be sealed.
 - 8) All exposed formed concrete faces shall be finished straight, plumb, and true; with variation of no more than 1/4" in 10' measured in any direction.
 - 9) Surface Finish: Prepare exposed vertical concrete surface as required to receive a grout cleaned, sacked finish or Portland Cement skim coat to exposed formed faces not receiving other finishes.
 - 10) Sleeves, pipes, or conduits of aluminum shall not be embedded in structural concrete unless effectively coated.

Reinforcing

- 1) Furnish all labor, material, equipment and services required for furnishing reinforcing steel. accessories, welding and placing of concrete reinforcement of the shape and dimensions shown on the Drawings.
- 2) All reinforcing steel to be ASTM A615 Grade 60, except ties, stirrups, and dowels to masonry to be Grade 40.
- 3) Fabricate and install reinforcing steel according to the "Manual of Standard Practice for Detailing Reinforced Concrete Structures," ACT Standard 315.
- 4) Provide 2'-0" x 2'-0" corner bars to match horizontal reinforcing in walls and footings at all corners and intersections.
- 5) Splices in wall reinforcing shall be lapped 30 diameters (2'-0" minimum) and shall be staggered at least 4' at alternate bars.
- 6) All openings smaller than 30" x 30" that disrupt reinforcing shall have an amount of reinforcing equal to the amount disrupted placed both sides of opening and extending 2'-0" each side of opening.
- 7) All wall reinforcing to be placed in center of wall unless shown otherwise on the Drawings.

DIVISION 4 - MASONRY

Not used

DIVISION 5 - STRUCTURAL STEEL

Not used

DIVISION 6 - CARPENTRY

1) All lumber species and grades to be as follows, unless noted otherwise by structural engineer:

- | | | |
|----|--|--|
| A. | Joists | DF #2 or TJI's by Trus Joist McMillan |
| B. | Headers and beams | DF #2 or Parallam by Trus Joist McMillan |
| C. | Stringers and incidental framing | Douglas Fir #1 |
| D. | Bucks, blocking, bridging and miscellaneous structural members | Douglas Fir or Hem Fir |
| E. | 2x4 studs | Douglas Fir "studs" or better dry |
| F. | 2x6 studs and larger | Douglas Fir #2 dry |
| G. | Sills, ledgers, plates, etc. embedded in, or in contact with, concrete | Pressure treated Douglas Fir |
| H. | Posts | Douglas Fir #1 dry |
| I. | Siding | Hardipanel and Hardiplank |
| J. | Exterior trim | Prime Trim by Georgia Pacific or Clear Cedar where shown on Dwg's |
| K. | Exterior decking | Outdoor wood or S.T.K. Cedar 2x6 |
| L. | Plywood | |
| | Roof Structural | 5/8" ACX & CDX with exterior glue 24/0. |
| | Exterior Sheathing | 1/2" CDX with ext. glue 24/16 or approved OSB |
| | Soffits | 5/8" ACX with A face exposed |
| | Draftstopping | 1/2" Group 1, INT-APA, CDX |
| M. | Floors | 3/4" t&g CDX plywood subfloor. <i>All</i> edges glued and nailed per code requirements.
Underlayment at areas to receive vinyl resilient flooring to be 3/8" sanded face APA rated underlayment plywood or approved equal.
Plywood to be rated for use in moist areas. |
| N. | Interior trim | Primed MDF and CVG fir as noted on Dwg's |

Rough Carpentry

- 1) Block solid between joists and rafters at bearing walls. Cross bridge as required by structural engineer, fire block walls at 8'-0" o.c.

- 2) Gypsum wallboard to have 2x blocking at all edges. Nail to sill plate, top plate, all edges. and studs.
- 3) Crossbridge or solid block at 3'0" maximum o/c for solid sawn floor or roof joists 12" and deeper unless bottoms of joists are to receive direct applied ceiling.
- 4) Framing anchors, joist hanger, post caps, etc. to be "Simpson", hot-dipped galvanized.
- 5) All bolt heads and nuts bearing on wood to be provided with a washer.
- 6) Sheathing to be C-D grade with exterior glue. Each sheet to bear an APA stamp. Span rating as noted on drawings. Install roof and floor sheathing with face grain perpendicular to supports and stagger end joints. Block roof sheathing where noted on drawings. Install wall sheathing either horizontal or vertical. and block all edges of sheathing with 2x4 or thicker blocking.
- 7) Install floor sheathing to meet APA specifications for glued floor. Use Tongue and Groove joints at all panel edges or provide 2x blocking. Site apply glue to both joist and Tongue and groove joint in compliance with APA.
- 8) All nailing to be as called out in the current issue of CABO. Nails called for on the drawings are to be common. Nail heads are not to penetrate the face veneer of plywood panels. Cutting and notching of joists not allowed. One inch (1") diameter hole may be drilled in the center 1/3 of width of member depth. All other holes to be approved.
- 9) Studs may be notched in the lower 1/5 of the height of stud for electrical and plumbing pipes, but no part of notch is to be deeper than 25% of width of stud. Holes of diameters up to 1/3 of width of stud may be drilled in studs but not in center 1/3 of height.
- 10) Lag bolts are to be installed in lead holes as follows:
 - A. The lead hole for the shank shall have the same diameter as the shank and the same depth as the length of the unthreaded shank.
 - B. The lead hole for the threaded portion shall have a diameter equal to 70% of the shank diameter and a length equal to at least the length of the threaded portion.
 - C. The threaded portion of the screw shall be inserted in its lead hole by turning with a wrench, not be driving with a hammer. Soap or other lubricant may be used on the screws or in the lead hole to facilitate insertion and prevent damage to the screw.
- 11) Include rough carpentry as detailed and specified for installation of roofing and miscellaneous nailers. Build wood framed curbs, crickets and nailers for support and anchoring of roofing, flashing and equipment as shown.
- 12) Install fire-stopping to form an effective barrier against the spread of fire, smoke and gases. Fill around openings that penetrate any floor, ceiling or partitions; and provide horizontal and vertical cut-offs in furred and other concealed spaces.
- 13) Install wood or light gauge metal firestops and blocking as called for on the Drawings. and in no case more than 120" apart vertically, in exterior and interior walls throughout. Fire block at ceiling line where wall finish does not continue above ceiling.
- 14) Install draftstops in ceiling and attic spaces as directed by local building officials.
- 15) Install solid blocking in framing for attachment of wall and ceiling mounted specialty items and equipment. Contractor to provide solid blocking for the attachment of all cabinetry, shelving, grab and towel bars, wall mounted plumbing fixtures and other items determined by owner. Contractor to verify

locations of these items and install blocking prior to installation of wall board. Use templates and fastening devices furnished with item or other appropriate fasteners.

Trusses and I Joists

- 1) Prefabricated Wood 'T' Trusses & Gang Nail Trusses: Furnish all labor, materials, equipment and services to supply and install prefabricated and engineered wood trusses and joists where shown on the drawings.
- 2) Three (3) sets of shop drawings, stamped by registered engineer, required. Submit a ICBO report and comply with all the requirements of the report. Truss Manufacturer to supply Heel Joint calculations for all trusses spanning more than 34 feet.
- 3) All Wood 'T' trusses to be manufactured and designed by Trus- Joist or approved. All gang nail trusses to be designed and manufactured by Tualitan Valley Builders Supply or approved.

Design trusses to all applicable code requirements.

A. Allowable increase in wood roof member stresses due to duration of loading: 15% maximum.

B. Uplift as specified in CABO.

- 5) Provide additional trusses as nece.-sary to support any equipment loads. Coordinate all loads and locations with mechanical drawings.
- 6) All bridging, bearing hardware, blocking, hangers, etc., that connects to the trusses shall be designed and provided by truss manufacturer to fit the condition. Use sloped seat hangers and beveled plates as required.
- 7) Contractor responsible for truss erection procedures and temporary bracing to stabilize trusses during erection
- 8) Truss manufacturer to inspect all trusses after they have been erected and sheathing, bridging, blocking, etc., has been installed. Manufacturer to submit certificate to architect that the inspection was made and that the trusses are in acceptable condition and meet with the manufacturers design and installation requirements.

Finish Carpentry

- 1) Install finish carpentry items such as trim, molding, hanging and trimming doors as detailed on the drawings. Construct to A.W.I. "Custom" grade workmanship standards throughout.
- 2) All finish material to be pre-painted trims and moldings in size and shape as shown on the drawings. See drawings for additional trim items:
 - A. Interior:
 - Base Board: Nominal 1x6 MDF, shingle mold & base shoe or cove
 - base Door Trims: Nominal 1x5 MDF @ head and 1x4 Ca jambs
 - Window Casings: Nominal 1x5 MDF @ head and 1x4 @ jambs
 - Window Surrounds Nominal 1x required width MDF
 - B. Exterior
 - See Exterior Elevation Drawings
- 3) Protect finish materials from dirt and moisture during delivery and while stored on the job. Store at site in a protected dry area with heat and -ventilation as required to keep lumber dry.

- 4) Use finish and casing nails for all face nailing and set heads for putty.
- 5) Install standing and running trim and boards in one piece continuous lengths wherever practical with no spliced piece less than 6-foot long. Scarf end splices and make inconspicuous, with end grains matched if work is transparent finished. Miter and cope intersecting corners of trim and molding. Miter and return at exposed ends of trim to conceal end grain.
- 6) Verify that solid blocking is provided in framing for attachment of wall ceiling mounted specialty items and equipment. Do not fasten solely to wall and ceiling finish materials.
- 7) Plastic Laminate: Kitchen Counters: Plastic laminate top, 1/16" thick, with matching self edge. Formica brand on wood particle board, 3/4" thick minimum, resin bonded under heat and pressure. Furnish all labor, materials, equipment and services to install and finish plastic laminate surfaces. No metal moldings or trims. Backsplash backing to be 1/2" high density particle board. Backsplash to be set in caulk at joint between bottom of backsplash and countertop.
- 8) Install in strict compliance to manufacturers instructions. Minimize seams; provide cutouts for sinks and other openings; and scribe edges to fit without metal edging. Longitudinal seams not allowed; vertical seams 12 feet apart minimum.
- 9) All finished interior trim surfaces shall be smooth and free of any defects. All edges shall be eased and surfaces shall be profiled as indicated.
- 10) Nails and screws in painted wood shall be counter sunk, filled and sanded flush.
- 11) All work is to be set plumb and true with tight or butt joints as required.
- 12) Decorative exterior columns to be stock house columns by McCoy Stair and Millwork. Columns to be round wood, 8'-0" long by 10" diameter with cap and base.

Cabinetry and Shelving

Alternate No. 1). Provide Value "Hampshire" cabinetry in Brierwood finish by Schrock in lieu of the Value "Celeste" in white cabinetry by Schrock

- 1) Kitchen and Bath Cabinets: Contractor shall install cabinetry as indicated on drawings. Cabinets to be Value "Celeste" in white cabinetry by Schrock. Cabinetry shall come equipped with standard hinges and all other hardware required to provide complete and functional units. Bath wall mounted cabinets to be Schrock WCT24 with finish to match kitchen cabinets.
- 2) Knobs to be Metro Arctic model #P27. Pulls to be Metro Arctic model #PW353-24.
- 3) Contractor to provide a complete plan and listing of all cabinets prior to installation for Architects approval. Provide (3) three layout plans and product information packets.
- 4) Contractor shall be responsible for the proper fit of cabinetry and shall provide all fillers, scribe pieces and the like to achieve a neat and finished appearance.
- 5) Wood Shelving and Cabinet Tops: Solid material, bullnosed edge, glued up to required widths where necessary, supported on continuous wood cleat. Where plywood is used a solid wood bullnosed facing edge must be applied.
- 6) All closets shall have a shelf at 5'-6" AFF (4'-0" in lower floor units), minimum 12" wide running the full length of the closet.. Closet shelf to be 3/4" photo wrapped particle board w/ bullnose edge with 1-

1/4" dia. clothes rod. Shelves and rods to be supported by painted metal brackets at 24" o.c. max. Other shelves shall be installed in locations as directed on drawings.

7) Solid wood blocking is to be provide for the anchoring of all shelving and

cabinetry. **DIVISION 7 - THERMAL AND MOISTURE PROTECTION** Insulation

1) Insulate with fiberglass insulation by Owens Coming as follows:

2x6 exterior walls	R-21
Attic or rafter spaces	R-38
Crawl Space	R-25
Note: Attic space can be insulated with R-38 blown-in insulation instead of Fiberglass Batts.	

12

2) If rigid insulation is shown on drawings use Celotex brand Thermax insulation board with plain factory finish. Thickness to be 2" R-15 @ 40 degrees F. mean temperature. Install in accordance with manufacture's specifications.

3) Install 4 mil clear polyethylene vapor barrier at all wall and ceiling locations per Super Good Cents program or faced insulation.

4) Install insulation baffles as may be required for adequate ventilation in attic space.

5) Installation of insulation to meet minimum standards set by Bonneville Power Administration for the Northwest Energy Code and the "Super Good Cents" program.

Roofing

1) Furnish all labor, material, equipment and services required and incidental to the application of roofing materials necessary for a complete weathertight installation.

2) Examine all surfaces on or against which this work is to be applied and notify Architect of any defect that will effect the installation of this material.

3) Pre-Roofing Conference: Notify Architect, roofing manufacturer's representative, and roofer at least forty-eight (48) hours before starting roofing work. Arrange a mutually acceptable time for meeting at the job with all notified parties to review the scope of work and specifications.

4) Weather Protection: Protect roofing material from damage and moisture absorption. Store roofing materials in a dry area.

5) Guarantee: Furnish a written notarized guarantee covering both roofing and sheet metal installation for a period of two (2) years from the date of acceptance.

6) Materials:

A. Shingles: Class A fiberglass asphalt shingles, 3 tab, 25 year warranty, U.L. label, ASTM D3018, Type 1. Shingles conforming to minimum specified requirements manufactured by Owner/Corning, Celotex, Pabco or approved. Black Color.

B. Base Sheet: No. 15 asphalt-saturated felt.

C. Starter Strips: Fiberglass mineral surfaced Perma-Cap.

D. Nails: Large head 1 1/2-gauge barbed roofing nails. Staples approved as recommended by shingle manufacturer.

E. Extra Material: Furnish one bundle of same run of shingles. Store on site as directed by Owner.

- F. Cricket spanning valley _G property line to be roofed w/ 50# roll roofing or torched down modified bitumen. Cricket roofing to extend a minimum of 12" up under adjacent shingle roofing.
- 7) Install base sheet and roofing materials in strict compliance with shingle manufacturer's instructions and recommendations.

Cladding/Siding/Trim

- 1) Furnish all labor, material, equipment, and services required for the installation of cementitious siding and Prime Trim as scheduled on the Drawings. Include installation of flashing and caulking incidental to waterproofing treatments per manufacturers specifications.
- 2) Material:
- A. Lap siding: Hardiplank by James Hardie Company. 5/16" by 7 1/2" & 9 1/2". Woodgrain finish.
Panel siding: Hardipanel by James Hardie Company. 5/16" x4'-0" x 8'-0" or 10'-0". Stucco finish.
 - B. Trim: Prime Trim by Georgia Pacific or clear cedar in sizes shown on the drawings.
 - C. Mill Treatment: Shop prime all sides of material prior to delivery to site.
 - D. Attachment: Per siding and trim manufacturers specifications
- 3) Cover sheathing with one ply Tyvek building wrap applied horizontally in largest pieces practical, lapping all edges and ends a minimum of 6-inches and shingled to divert moisture to outside. Tightly nail or staple paper to sheathing.
- 4) Set all metal flashing to waterproof joints, corners, and heads with flanges lapped under building wrap. Prime flashing prior to installation. Set flashing and ends in caulking.
- 5) Install siding with the least number of joints practical with end joints scattered in random location. Face nail boards above lap joints. **DO NOT NAIL THROUGH LAPS**. One nail per board, through sheathing, into solid framing at each bearing point or per manufacturers specifications.
- 6) Caulk joints per manufacturers specs.

Flashing and Sheet Metal

- 1) Furnish all labor, material, equipment and services necessary to furnish and install flashings, scuppers, edge flashing, coping and all other sheet metal items as shown on the Drawings as required to weatherproof the buildings.
- 2) Coordinate with roofing subcontractor for installation of all related weatherproofing items and provision of roofing guarantee responsibility.
- 3) Furnish Shop Drawings of specialty sheet metal items to Architect for review prior to fabrication and installation.
- 4) Materials:
- A. Flashing: ASTM Specification A-525 G-90 coating designation "Commercial Weight" galvanized steel sheet, 1.25-oz. per square foot coating. 26-gauge minimum thickness for general flashing, 24-gauge minimum for column caps up to 12-inches in width, 22-gauge 13 to 18-inches in width. Heavier gauges where specifically noted.
 - B. Downspouts: 3" round typical.

- C. Gutters: 4" 'K' style. Paint to match trim color.
 - D. All flashings, gutters, downspouts and other light metal items to be shop painted prior to arriving at site.
- 5) Hangers for gutters shall be spaced not more than 3 feet on center. Slope gutters towards downspouts at minimum 1/16" per foot. Support downspouts at least twice and not more than 6" - 0" o.c.
 - 6) Fabricate all sheet metal items accurately to the sizes shown, installing same securely fastening them to the other parts of the work. Reinforce seams and folds as required to prevent binding or tearing.
 - 7) Provide expansion joints to allow for longitudinal movement in continuous rows of flashing and sheet metal work. Space at not over 20-feet on center for galvanized steel.
 - 8) Where flashing is in contact with a dissimilar metal, masonry or cement plaster or asphalt shingles. paint both sides with an additional coat of red iron oxide-linseed oil paint or asphaltic paint.
 - 9) Make sheet metal exposed to the weather is permanently watertight and weather tight. Provide suitable provisions for free expansion and contraction without damaging or destroying the metal. Lap seams in the direction of water flow.
 - 10) Flash vent and soil stacks with terne metal base and tube assembly, 24" square. Slip entire assembly over stack and secure to roof.
 - 11) Provide plastic roof vents with flanged base, as indicated or as required by building codes.
 - 12) Use wall flashings at door and window heads and where otherwise required or indicated on drawings.

Sealants

- 1) Furnish all building sealants for weatherproofing, including but not limited to, perimeter joints or jambs, sills and trim; perimeter of door and window frames; penetrations of mechanical, electrical, and roof drainage equipment and parts through exterior wall, soffit and trim; expansion joints.
- 2) All openings, voids or other areas in the exterior envelope such as windows, thresholds, door frames, etc., in order to prevent air or water infiltration, shall be completely filled with a continuous bead of caulking.
- 3) Caulking - White Lightning siliconized Paintable acrylic latex caulk, 30 year, colored to match adjacent material, applied above 50 degrees F. All caulking shall be neat and continuous. Clean up all overcaulks. Install in accordance to manufacturers printed instructions.
- 4) Provide and install closed cell compressible polyethylene backer rods as required for through, or deep joints, such as window and door rough openings.
- 5) Sanitary (bathroom sealant): Silicone Sanitary Sealant by General Electric or Dow Corning or approved equal.
- 6) Paintable Interior Caulk: Acrylic Latex Caulk by White Lightning.

DIVISION 8 - DOORS AND WINDOWS

Metal Doors

- 1) Furnish all labor, material, equipment and services necessary to furnish all metal entry doors in number, type and size as scheduled on Drawings. All doors pre-hung in wood frames except as noted on schedule.
- 2) Exterior Entry Doors: Metal Doors 24 gauge painted steel, with honeycomb polyurethane core; or approved equal. R-12 minimum. Wood frame.

Wood Doors

- 1) Furnish all labor, material, equipment and services necessary furnish all wood flush face and stile/rail doors in number, type and size as scheduled on Drawings. All doors pre-hung except as noted on schedule.
- 2) Hollow Core Doors: Flush panel, pre-hung, 1-3/8", rotary cut birch face, NWMA IS-1, paint grade.

- 3) Install plumb and true in strict compliance with Manufacturer's

instructions.

Windows

- 1) Polyvinyl Chloride (PVC) Architectural Windows. Furnish all labor, materials, and equipment to provide and install PVC windows as shown and detailed on the drawings.
- 2) Submit 2 sets of shop drawings showing details for conditions shown on the drawings.
- 3) Specification based on Milgard or Viking Vinyl Windows. Submit approved equal must meet AAMA publication 101 V-86.
 - A. Color: White PVC, Vertical sliders
 - B. Screens: Provide screens at all operable units
 - C. Glazing: 1" clear, low emissivity, insulated units, argon gas filled.
 - D. Vents: Integral window vent at each unit.

- 4) Install in strict compliance to manufacturer's specifications and instructions.

- 5) Clean all interior and exterior glass surfaces promptly after

installation.

Attic Access

- 1) Contractor to furnish and install fold-down attic access ladder/panel in each unit as shown on the drawings. Contractor to provide data on unit to be installed prior to installation. Unit must meet all applicable code requirements. Verify location of unit with Architect prior to installation.

Hardware

- 1) Furnish and install all hardware items required for the completion of the project. All hardware items from a factory authorized distributor.

- 2) Specification based on KwikSet or Schlage residential hardware. Hardware finish antique brass.
- 3) Verify operation, hand of door, and function for each opening as scheduled Entry doors to be keyed alike.

4) Hardware Groups

Group	Manufacturer	Items
1	Door manufacturers standard KwikSet KwikSet Door manufacturers standard	Butts (2) Lockset Dead Bolt Weather-strip, Threshold
2	Stanley KwikSet	Butts, 1 pr Passage Lock
3	Stanley KwikSet	Butts, 1 pr Privacy Lock
4	Stanley	Bi-pass runner hardware
5	Stanley	Bi-fold hardware

5) Hardware Locations:

- A. Top Hinge: 5-inches from door top to top of hinge.
- B. Bottom Hinge: 10-inch from finished floor to bottom of hinge.
- C. Center intermediate hinge between top and bottom hinge.
- D. 38-inches to center line of knob locks and latches.
- E. 52-inches to center line of deadlock cylinders. Vary as required to avoid conflict with push/pulls. etc.
- F. 42-inches to center of grip for door pulls and push/pull bars.
- G. 48-inches to center line of push plates.
- H. Mail Slot per door manufacturers recommendations

B. Clear Insulating
C. Mirror: No. 1 q
cont
inuo
us
'J'
clip
s at
bott
om
and
glas
s
clip
s at
top.
D. Glazing Tape a
E. Elastic Glazing

- 4) Do not glaze when temperature is below 40-degrees F. Do not do any exterior glazing in wet weather except under cover.
- 5) Protect all glazing from breakage. Reglaze wherever work or material are defective. Replace all glazing damaged prior to final acceptance of the work.
- 6) Provide tempered glass in all locations required by code and within 24" of all door

openings. **DIVISION 9 - FINISHES**

Gypsum Board

- 1) Furnish all labor, materials, and equipment to provide and install Gypsum wall board as shown and detailed on the drawings.

- 2) Obtain all components and materials of the drywall system from a single manufacturer, or from producers, unless otherwise indicated.
- 3) Materials:
 - A. Walls & Ceilings: 5/8" thick. 48 inches wide and in lengths long as practical to minimize number of joints.
 - B. 5/8" water resistant type at bathroom and behind and within 3'-0" of all sinks.
 - C. Metal Trims: USG #200 Series L Shape. #701B and SO 1B, zinc metal. At all corners and exposed edges.
 - D. Control Joint: USG #093.
 - E. Joint Compounds: Comply with ASTM C475.
- 4) Acoustical Materials:
 - A. Insulation: Fiberglass batt insulation in R values as shown on the Drawings.
 - B. Locate at all walls where shown on Drawings.
- 5) Light texture finish throughout. Provide a 24"x24" sample of finish for Architect's approval prior to commencing work.
- 6) Install and finish gypsum board in compliance with latest edition of USG's Gypsum Construction Handbook.

Resilient Flooring

- 1) Furnish all labor, materials, and equipment to provide and install resilient floor covering and base. Prepare floors to receive new material. See Division 8 for underlayment requirements.
- 2) Armstrong Flooring is approved reference for minimum standards of resilient floor covering installation. Conform to recommendations of other manufacturer's when using their products, if more limiting.
- 3) Sheet Vinyl Flooring: Armstrong Standard Corlon, .085 overall gauge with minimum .050 gauge wear layer. See finish schedule.
- 4) Do not start work until samples of material to be used have been submitted and approved. Colors and patterns as selected by Architect.
- 5) Install resilient floor covering in strict compliance to manufacturer's recommendations and instructions. Install flooring over approved underlayment as specified in Division 8 where installing over wood manufacturers requirements to insure that finished floor is smooth and free of imperfections caused by telescoping from the slab. Contractor to wax and polish floor at completion of project.
- 6) Vinyl Reducing Strip: 1-inch wide and thickness to match floor covering. Color to match carpet. Armstrong, Mercer and Kentile or equal.
- 7) Rubber Base: Roppe, Burke, Flex-Cove or equal. Color to match flooring. 4" high, 1/8" thick, top set with coved toe at resilient flooring. Molded outside comers. Continuous roll lengths wherever possible.

18

- 8) Install top-set base on floor covering with corners neatly fitted. Inside corners mitered and outside corners preformed and installed with contact cement. Install base on all cabinets unless otherwise noted on drawings. Do not install base where wall finish opening at floor is over 1/4-inch.

Carpet

- 1) This work shall include the furnishing of all labor, materials and equipment required for the installation of all carpeting in locations as called for on the Drawings and as herein specified.
- 2) Submit manufacturer for approval. Carpet by World Carpet, textured plush, heat set nylon. Style to be "Astonishing", No. 1067 or "Casanova" No. 1078. Carpet to have static control and protected by cleaning agent: Antron-X or equal. Color by Owner.

Install carpet over 6# density urethane rebound pad, 7/16" thick. Conform to carpet manufacturer's installation instructions and specifications.

Rubber Base: Roppe. Burke. Flex-Cove or equal. Color to match flooring. 4" high, 1/8" thick, top set with straight toe at carpet. Molded outside corners. Continuous roll lengths wherever possible.

Painting

- 1) Furnish all labor, material and equipment required to provide execution of painted work. Assume a maximum of five (5) custom colors to be used throughout.
- 2) Colors: Match color schedule furnished by the Architect. Provide samples of mixed paint applied to surfaces on job site approximating final conditions. Architect to direct area for tests. 24"x24" minimum size of test areas. Obtain Architect's approval prior to proceeding.
- 3) Materials manufactured by Ameritone or Fuller-O'Brien or approved.

4) Preparation of Surfaces:

- A. Wood: Prime immediately upon receipt at job. One coat primer for painted work. Properly fill holes, checks sand blemishes and sand wood surfaces prior to applying finish.
- B. Metal: All metal installation shall be made complete and ready for painting. Division 5 and other metals to come shop primed to site.
- C. Drywall: Seal new drywall surfaces after surface texture is thoroughly dry and cured.

- 5) Apply at temperatures of not less than 50-degrees F. Apply with strict compliance to manufacturer's instructions.

6) Schedule of Painting

Exterior:

All Exterior wall surfaces:	1 coat oil based primer tinted 1 shade lighter than (except as noted below) finish coat. Acrylic latex satin enamel to cover
Columns, balusters, and wood railings and trim:	1 oil based primer 2 coats acrylic latex semi gloss enamel

3)

Interior

Gypsum Walls and Ceilings	1 coat wall primer/sealer Latex semi-gloss to cover
---------------------------	---

Jams, Doors, and MDF and Wood Trim:

1 coat primer

Semi-gloss acrylic latex enamel to cover

DIVISION 10 - SPECIALTIES

- 1) Furnish all labor, material and equipment required for the installation of the toilet and bath accessories in locations listed below or shown on drawings. Examine the drawings during framing and provide blocking as required to secure accessories.
- 2) Each bathroom shall be equipped with the following chrome plated or stainless steel items by "Basco" or approved equal:
 - Upper Bath-1 wall mtd. cab. with mirror, Model BV 2436 DD-W,
 - 24"x36" 2 towel bars, Contempo Model 5524
 - 1 toilet paper holder, Model 5115
 - 1 soap dish, Contempo Model 515
 - 1 toothbrush holder, Contempo Model 515
- 3) Kitchen shall be equipped with one fire extinguisher with minimum 10-B rating.
- 4) Each bedroom and coat closet shall be equipped with a cloths rod 60" AFF. Rod may be either chrome plated steel or min 1 1/4" diameter wood rod.
- 5) Provide and install dryer vents, bathroom exhaust fans, range and kitchen vents as shown on drawings per manufacturers specifications.
- 6) Provide attic vents as shown on exterior of building as shown on drawings per manufacturers specifications and local code requirements.

DIVISION 11- EQUIPMENT

- 1) Contractor to provide and install the following kitchen appliances or approved equal:

Dishwasher (white)	Westinghouse Model MDB-202
Range Hood	Rangeaire Model 520-30-11
- 2) Contractor to provide electrical and plumbing hookups for owner provided Refrigerator, Range, Washer and dryer, Contractor to provide required vent ducting for dryer.

DIVISION 12 - FURNISHINGS

Not Used

DIVISION 13 - SPECIAL CONSTRUCTION

20

Not Used

DIVISION 14 - CONVEYING SYSTEMS

Not Used

DIVISION 15 - MECHANICAL

Basic Plumbing Materials and Methods

- 1) The base bid for this project shall include a electric hot water system, complete with separate hot water heaters for each of the two attached houses.
- 2) Furnish all labor, materials, equipment, and services required to perform plumbing work. Provide for and obtain all necessary permits and inspections required from regulatory agencies.
- 3) The Contractor shall provide a DESIGN BID package for the work outlined and shown on the drawings.
- 4) The Contractor shall follow all governing laws and regulations of mechanical work. The highest workmanship is to be assumed and bid as required.
- 5) The materials to be used shall be new and of the highest quality.
- 6) Plumbing fixtures to be manufactured by American Standard, Koler, Delta, Moen, or as noted.
- 7) Provide supply, waste and vent hook-ups as required to all fixtures and appliances.
- 8) Plumbing Fixtures

Fixture	Model
Kitchen Sink	Polar 33x2218 guage model #33218 w/ Delta #100 WF single control chrome faucet set Install insulated water and drain covers in accessible
units Lavatory	Pedistal sink to be determined Delta chrome 520 WF single handle faucet set
Tub w/Shower	Fiberfab #100, w/ FiberFab F60 clear glass, chrome framed sliding white shower door w/ Delta 1524 Pressure Balanced valve, faucet, and shower head
assembly Toilet	Kohler, white w/ seat
Water Heater	American Water Heater, 50gal., R-25, 3" insul., Model # E5350HO45D
Hose Bib	Frost proof

- 9) Plumbing Contractor to verify with city where it is acceptable to use plastic or cast iron piping. Contractor must use proper procedures and materials when penetrating rated wall assemblies. Verify with appropriate agencies prior to commencing work.

Heating System

- 1) Electric Heating system: Contractor to install themostatically controlled, forced air zonal electric in-wall heating system by Cadet. System to be designed by Manufacturers engineer. All work and materials shall meet all applicable code and regulation requirements.
- 2) Furnish all labor, material, equipment and services required to design and install new gas furnace system as shown on the drawings. Provide for and obtain all necessary permits and inspections required from regulatory agencies. Coordinate work with other contractors, particularly the General Contractor, Plumbing Contractor and Electrical Contractor.
- 3) All work and materials shall meet all applicable code and regulation requirements. Contractor to

submit drawings, cut sheets, specifications and other pertinent data to Architect for review prior to obtaining permit and commencing work.

Exhaust Vents and Fans

- 1) Furnish all labor, material, equipment and services required to design and install new exhaust vents as shown on the drawings. Provide for and obtain all necessary permits and inspections required from regulatory agencies. Coordinate work with other contractors, particularly the General Contractor, Plumbing Contractor and Electrical Contractor.
- 2) Bath Fans: Nutone 8664P combination light and fan. Exhaust through roof or wall. Install on GFI circuit with timer switch and all necessary ducting, flashing and equipment_ See Division 16 for more information.

DIVISION 16 - ELECTRICAL Basic

Electrical Materials and Methods

- 1) Furnish all labor, material, equipment and services required to design and perform electrical work as shown on the Drawings. Provide for and obtain all necessary permits and inspections required from regulatory agencies. Coordinate work with other contractors, particularly the General Contractor, Plumbing Contractor and Mechanical Contractor.
- 2) The Contractor shall provide a DESIGN BID package for the work outlined and shown on the drawings.

All work to meet or exceed requirements of the National Electrical Code. All products to be new and be U.L. approved or meet local inspecting authorities requirements.

3)

5)

Coordinate new service to building as shown and wire circuits to panels shown on drawings. Coordinate with Architect and Owner prior to commencing work.

Provide emergency circuits, GFI circuits and smoke detectors as required to meet local codes.

- 6) All conductors shall be copper.
- 7) All circuits in panel board shall be permanently labeled and new panel boards shall be located adjacent to existing.
- 8) Cover plates to be smooth finish, cream. Switches and outlets to be **cream**.
- 9) Electrical Contractor must use proper procedures and materials when penetrating rated wall assemblies. Verify with appropriate agencies prior to commencing work.

22

Lighting

- 1) Furnish all labor, equipment and services to install light and fan fixtures where shown on Drawings. Install new fixtures in locations shown on drawings. Contractor to supply manufacturers product information to owner for fixture approval prior to installation. Provide all code required disconnects.
- 2) Light and Fan Fixture Schedule (Refer to drawings for locations) Provide lamping per manufacturer

recommendation. The fixtures listed in this schedule are acceptable and are indicative of the style and color required. Substitutions will be accepted per the Substitution request procedures outlined in Division 0 of these specifications:

A.	Exterior Porch lights	Jon Manufacturing Co.	#30-2511 wh	white
B.	Exterior Spot lights	Remcraft	#020-2065 wwh	white
C.	Entries,Halls & Bedrooms	Kichler Mfg. Co.	#48-K20 w	white
D.	Dining Room	Jon Manufacturing Co.	#035-6452	brass
E.	Kitchen	Puritan Mfg. Co.	#005-9613-30	white
F.	Bathroom Vanity	Light Concepts	#017-11882 24"	white
H.	Bathroom Fan/Light	Nutone	#8663P	white
I.	Door Bell	Nutone	#KB-10WWN	white

Fire Alarm and Detection System

- 1) Furnish all labor, equipment. and services required to install hard wired smoke detection system where shown on the Drawings and as required by Code. Lower units to be provided with visual and audible units. Upper units to be provided with audible units and as required by code.
- 2) Smoke detectors to be ceiling mounted and audible, with test light Lifesaver. First Alert Brands or approved.

Telephone Systems

- 1) Furnish all labor, equipment and materials required to install telephone system at locations shown on the Drawings.
- 2) General Contractor to provide wire and jacks. Coordinate with local phone utility for service to building.

Television Systems

- 1) Not in contract

Security Systems

- 1) Not in contract

Radiant Heaters

- 1) Furnish and install recessed wall, electric, radiant heaters. Contractor to submit diagram showing recommended location, types, and sizes of heaters to Architect for approval prior to installation. Diagram to be prepared by Manufacturers engineer.

23

- 2) Heaters by Cadet Manufacturing Company unless noted otherwise, or approved equal. Provide remote thermostat. Verify location with architect.
- 3) Provide wall recess as required and install in strict compliance with manufacturer's instructions and all applicable codes and regulations.

END OF SPECIFICATIONS

24