

**SECTION 06100  
ROUGH CARPENTRY**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- .1 Provide framing with dimensional lumber, framing with engineered wood products, sheathing, subflooring and underlayment where detailed. Coordinate with roofing sections to avoid duplication.
- .2 Provide wood furring, grounds, nailers, blocking, wood bucks, cants, and backing where required.
- .3 Provide rough hardware, preservative treatment and fasteners.
- .4 Provide permanent and temporary bracing.
- .5 Provide backing and blocking for anchoring and mounting cabinets.
- .6 Provide solid blocking above door frames where door closers or door operators are to be installed.
- .7 Provide blocking and backing for washroom accessories, fixtures, hardware, grab bars, mechanical and electrical equipment, fixtures and fittings not supplied with backing attachments, and other items as required including fastenings and hardware as indicated.
- .8 Provide plywood backing at windows and doors as indicated.
- .9 Provide vapour barriers and moisture barriers to walls, soffits and ceilings to areas that will become inaccessible to other trades.

**1.2 RELATED SECTIONS**

- .1 03300 Cast-in-Place Concrete.
- .2 05500 Metal Fabrications.
- .3 06200 Finish Carpentry.
- .4 07210 Building Insulation.
- .5 Structural Notes on Structural Drawings.

**1.3 REFERENCES**

- .1 Vancouver Building By-Law 2007.
- .2 N.L.G.A. Standard Grading Rules for Canadian Lumber (latest edition).
- .3 CAN/CGSB-51.34-M86 (Amended 1988) Vapour Barrier, Polyethylene Sheet for Use in Building Construction.
- .4 CAN/CSA-O141-91 (R1999) Softwood Lumber.
- .5 CSA A123.3-98 Asphalt Saturated Organic Roofing Felt.
- .6 CSA B111-1974 (R1998) Wire Nails, Spikes and Staples.
- .7 CSA G40.21-98 General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.
- .8 CSA O80 Series-00 Wood Preservation.
- .9 CSA O86.01-94 Engineering Design in Wood (Limit States Design).
- .10 CSA O121-M1978 (R1998) Douglas Fir Plywood.
- .11 ASTM A307-00 Specification for Carbon Steel Bolts and Studs, 60 000 psi Tensile Strength.
- .12 ASTM A325-02 Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength.
- .13 A325M-03 Standard Specification for Structural Bolts, Steel Heat Treated 830 Mpa Minimum Tensile Strength [Metric].

**1.4 PROJECT CONDITIONS**

- .1 Cooperate, assist, cut for and make good after other trades.
- .2 Provide location, centering and bracketing, wood framing for plumbing, heating, electrical and other trades. Make good defects and fully complete rough carpentry.
- .3 Prior to installing plywood underlayment ensure it is acceptable to resilient flooring manufacturer.

**1.5 DELIVERY, STORAGE AND HANDLING**

- .1 Protect materials from weather during transit to job site.
- .2 Store materials under cover, on raised supports, not in contact with the ground, stack for maximum air circulation and ventilation until installed.
- .3 Store materials in such a way as to prevent damage, loss, or impairment of structural or other essential properties.
- .4 Do not use steel straps to tie lumber which is to be exposed to view.
- .5 Mark lumber at mill and end-mark. Deliver to site with certificates as to species, grades, stress grades, seasoning, moisture content, and other evidence as required by Consultant to show compliance with specifications.

**PART 2 - PRODUCTS**

**2.1 MATERIAL – GENERAL**

- .1 Refer to N.L.G.A. Standard Grading rules for Canadian Lumber (current edition). Softwood lumber shall conform to CSA O141 and CSA O86.1.
- .2 Dimensional lumber: installed moisture content to be max. 19% exterior, 12% interior, unless otherwise specified. Protect lumber against moisture before and after installation to prevent defects.

**2.2 LUMBER**

ITEM	MATERIAL/GRADE	DESCRIPTION
Studs	SPF #2	Conforming to NLGA 121-C S4S. Timberstrand may be substituted where required for strength.
Light Framing	SPF #2	Conforming to NLGA 122-B, S4S.
Cavity Furring	Cedar or Pressure Treated Hem Fir.	
Joists, Rafters, Plates, Blocking	SPF #2	Conforming to NLGA 124-C, S4S.
Grab Bar and Railing Blocking	Hem Fir.	2 x 10s (38mm x 235 mm).
Exposed Solid Posts	Douglas Fir #2	Planed smooth.
Strapping and Nailing Strips	Hem Fir, Construction grade.	Pressure treated, as detailed.
Nailers	Douglas Fir.	Treated, continuous unless indicated otherwise.
Landscaping Timbers	SPF #2.	Pressure treated, rough.

ITEM	MATERIAL/GRADE	DESCRIPTION
Fencing	Cedar Boards, Hem Fir Treated Posts.	Finish: Semi transparent stain. Set posts in concrete sloped to drain.
Vinyl Soffit	PVC	Perforated as indicated. Profile as indicated.

2.3 PLYWOOD

.1 Plywood to conform to CSA O141-91, 4'-0" x 8'-0" (1220 mm x 2440 mm) sheets.

ITEM	MATERIAL/GRADE	DESCRIPTION
Roof Sheathing	Douglas Fir, Exterior grade.	With waterproof glue. Thickness as indicated. Tongue and groove edges for roof sheathing, square edge, H clips to support edges.
Wall Sheathing	DF or Spruce, Exterior grade.	Thickness as indicated.
Exterior Deck Sheathing	Douglas Fir Exterior grade, Tongue and Groove.	Grade: Select, tight faces under PVC deck waterproofing.
Wall Backing Cavity Furring Strapping	Fir Plywood, Exterior grade.	Thickness as indicated, preservative treated when used as backing for windows and exterior door frames, rainscreen furring.
Electrical and Mechanical Room.	Fir Plywood, 3/4 inch thick. G1S. Fire retardant treated.	On all walls to 6'-0" A.F.F.
Stair Treads	Douglas Fir or Spruce Sheathing grade.	Thickness: 1 inch minimum.
Interior Floor Sheathing	Douglas Fir or Spruce Sheathing grade.	T & G, glue and screw.
Interior Floor Underlayment	Spruce 3 Ply 9 mm (11/32 inch) Thick.	Finish face double sanded, back face lightly sanded, acceptable to resilient floor mfg.

**2.4 ACCESSORIES**

.1 Provide the following accessories:

ITEM	MATERIAL/GRADE	DESCRIPTION
Machine bolts, washers, lag bolts, drift pins and dowels	conform to ASTM A307 and A325M.	
Nails, spikes and staples	galvanized or stainless steel, conform to CSA B111	Galvanized or steel in exterior locations, high humidity areas, in treated lumber and elsewhere where liable to be exposed to corrosion.
Framing adhesive	3M, Borden or pre-approved alternate.	Use to fasten plywood to joists, single layer application and where shown.
Vent Strip	4 inch PVC soffit vent	Model 551-50 with 90° leg, by Plastic Components Inc.
Insect Screen	Black fibreglass insect screen.	
Metal Flashing	Aluminum as detailed	Back paint with asphaltic compound where in contact with dissimilar metals and incompatible materials.
Firestops	22 gauge galvanized steel	1½ inches wide by full partition width.
Connection Steel	medium structural steel	Hot dipped galvanized to CSA G40.21, Grade 300W.
Sill Gaskets	Polyethylene gasket	Width of stud.
Wood Preservatives	CSA O80, mineral spirit solutions such as copper naphthenate or pentachlorophenol base.	Wood to be treated by immersion (not by brush) to manufacturer's recommendations.

**2.5 PRESSURE TREATED WOOD**

- .1 Exterior wood in contact with concrete, masonry, or where moisture may occur, at roof upstands in flat roofs, planters, heavy timber construction, fence posts and cavity furring: Pressure treatment minimum 0.40 lb/ft<sup>2</sup> to CSA O80, clear, water borne water borne (CCA), chromated copper arsenate preservative.
- .2 Pressure Preservative Treatment of Lumber & Timbers with Borates for use out of ground contact and continuously protected from liquid water, may be used as an alternative. Material to bear Canadian Wood Preservers Bureau (CWPB) stamps. Bottom plate of frame walls with sill gaskets do not require pressure treating.
- .3 Use Hem-Fir or Pine incised lumber for treatment.
- .4 Treat cut surfaces with two brush coats of copper naphthanate preservative or liquid Borate as applicable.

**PART 3 - EXECUTION**

**3.1 EXAMINATION**

- .1 Prior to start of work, examine existing conditions, existing elevations, centre to centre column grid dimensions and existing element sizes at interface with new work, with Installer present.
- .2 Correct unsatisfactory conditions prior to commencement of work.
- .3 Start of work implies acceptance of conditions.

**3.2 GENERAL**

- .1 Erection methods and procedures shall meet or exceed minimum standards set out in the BCBC. Where this specification exceeds the above standards, the specification shall govern. Perform work using skilled workers.
- .2 Backing for cabinets: at wall-hung cabinets, provide heavy duty blocking and backing designed to accept weight of cabinets and contents.
- .3 Co-ordinate and install fabricated steel components supplied under other sections.
- .4 Provide wood blocking as required and where detailed in stud walls at door jambs, and to receive door closers and operators, wood benches, handrails, grab bars, towel rails, and washroom accessories, television brackets and fixtures.
- .5 Co-ordinate and provide blocking for mechanical and electrical equipment as required.
- .6 Rough Framing: Make adequate provision for possible erection stresses. Set framing into correct position, arrange true to lines, levels and elevations, plumb and uniformly spaced. Securely brace members in place to maintain them plumb and true until permanently fixed and held in the structure.
- .7 Exposed Framing: Select for appearance.
- .8 Firestops: Construct to cut off concealed draft openings, and form an effective fire barrier.
- .9 Make allowance for items required for strength and against movement and deflection, such as blocking, bracing, backing, in-fill pieces, fasteners, furring, grounds, shims, bucks, dowels, bolts and washers, and other hardware, whether indicated or not, as directed by the Consultant and as required by Code. No additional funds will be paid to the Contract to provide such additional items to complete the project as intended.

**3.3 EXTERIOR WALL FRAMING**

- .1 Refer to drawings for the sizes of studs for walls.
- .2 Plywood Wall Sheathing: Apply plywood so that adjacent edges are separated by 1/16 inch (2 mm).
- .3 Exterior Wall Sill Plates and Bottom Plates: Set exterior wall sill plates and bottom plates in contact with concrete or masonry on full width strip of closed cell polyethylene foam sill gasket.

**3.4 INTERIOR PARTITION FRAMING**

- .1 Refer to drawings for sizes of studs for interior walls.
- .2 Where fixtures or hanging devices occur, provide blocking between studs to suit, and where required.
- .3 Floor Sheathing: Glued and screwed.
- .4 Install grab bars to meet the load requirements of BC Building Code, 3.7.4.9. Provide 2 x 10 blocking on washrooms.

**3.5 ROOF FRAMING**

- .1 Framing of Roof Openings: in accordance with Vancouver Building By-Lay 2007 Residential Standards.

**3.6 STRAPPING**

- .1 Apply pressure treated strapping where indicated. Securely nail vertically on stud lines over building paper.
- .2 Apply strapping where required to provide backing for finishes to follow. Securely nail, staple or shoot straps in place uniformly spaced, shimmed and straightened to dead flat planes. Strapping to be minimum 3/4" x 3 1/2" @ 12" (20mm x 89mm @ 410mm) on centre unless otherwise required.
- .3 Generally arrange direction and spacing of straps to suit bearings and finishes, preferably cross strapping over wood bearings and under wood finishes. Panel joints for cement fibreboard siding must have strapping directly behind.

**3.7 FURRING**

- .1 Furr out partitions for services, piping, ductwork, and other items projecting or becoming visible through finished surfaces as required whether indicated or not. Furr out surfaces of walls, columns and ceilings as required to provide planes of finished surfaces on desired lines and elevations.
- .2 Furring to be minimum 1 x 1 @ 16" on centre with plates unless otherwise required.
- .3 Finish surface of furring to match surrounding materials.

**3.8 ACCESSORIES**

- .1 Wall Sheathing Paper: Provide as specified in Section 07290 Weather Restrictive Barrier.

**3.9 INSPECTION**

- .1 Prior to covering exterior sheathing or shear walls, request structural engineer to inspect nailing patterns. Provide confirmation report to BC Housing Inspector.

END OF SECTION