Island School of Building Arts
Gabriola Island

TIMBER POST & BEAM
Skills Report

Student Name: Billy Baker

Course: Timber Post & Beam

Course Location: Gabriola Island Campus

Course Dates: March 27th – April 21st, 2006 (4 Weeks/160 hrs.)
Hours Absent: 2

Instructor: James Mitchell

Project: 1280 square foot timber Post&Beam Building 24 ft. X 32 ft. main floor with 16 ft. X 8 ft. addition and a 24 ft. X 16 ft. second floor. Fir 8" X 8" timbers with 4" X 12" curved kneebraces. Gable roof system with Purlins and Ridge Beam on King Posts and two shed Dormers.

INSTRUCTORS COMMENTS:

Billy came to this course with low wood working experience but high enthusiasm and dedication to 'do it right'. His rapid ascent up the learning curve was tempered with patience and perserverance. He shows accuracy in timber end grid procedure and joinery layout. Good, safe power tool handling showing accurate, efficient waste wood removal. Excellent joinery fits shown, esp. the female corner dovetail, scarf and Housed half-Lap joinery. Able to sharpen chisels very well. Works well individually and during team 'Raising'. Work journal shows excellent, clear and Thorough Notes and Drawings. Overall Billy has shown excellent comprehension of the skills presented. Good work Billy!

James Mitchell
Course Instructor

Tristan Caron
Assistant Instructor

Progress Levels

1 = Not yet within expectations
2 = Minimally meets expectations
3 = Fully meets expectations
4 = Exceeds expectations

Skills Description

Building Design

- ❑ 1 2 3 4 Building Methodology – shows an understanding of Wood Post and Beam History, Design, Methodology and Vocabulary.
- ❑ 1 2 3 4 Blueprint Reading– demonstrates an ability to read Architectural Drawings for Plan, Elevation and Detail information.
- ❑ 1 2 3 4 Building Grid Layout- Able to determine the Post and Beam Layout and Numbering procedures using a Grid system.
- ❑ 1 2 3 4 Working Drawings- ability to interpret, draw and dimension timber Post and Beam components from Architectural and Grid Drawings for joinery processing.
- ❑ 1 2 3 4 Production and Inventory Control- demonstrates effective Spread Sheet for Joinery processing control.
- ❑ 1 2 3 4 Work Journal- shows personal notes on joinery techniques/specifics, material/labor inventory,etc.

Project **Interpret Architectural drawings for Grid Plan and Shop Drawing components. Develop Spread Sheet.**

Wood

- ❑ 1 2 3 4 Properties – understands basic timber Structure, Grades, and Seasoning methods.
- ❑ 1 2 3 4 Timber Selection – ability to identify timber defects and appearance and locate appropriately in the frame.
- ❑ 1 2 3 4 Structural Beam Sizing – able to interpret and apply basic engineering principals to determine Structural Beam Sizing for a simple Span.
- ❑ 1 2 3 4 Finishing and Repair – demonstrates an understanding of Wood Preparation, Endseal, Finish and Repair.

Project **Select Timber location in Framework, based on appearance, defects and structural capacity.**

Tools

- ❑ 1 2 3 4 Identification – demonstrates an understanding and use of Shop Power and Hand Tools and appropriate tool selection for the job requirement.
- ❑ 1 2 3 4 Operation and Safety – demonstrates consistent safe Tool/Operator manner using appropriate Safety Gear, Guides and Hold-downs when required.
- ❑ 1 2 3 4 Sharpening and Maintenance - demonstrates the ability to Sharpen chisels. (both chisels very sharp!)

- ❑ 1 2 3 4 Personal Tools – maintains an orderly Tool Box.

Project **Makita, Mafell, Porter Cable, Milwaukee, Delta, Stihl, Hitachi, Skill power tools utilized. Use and maintenance of hand/power tools**

Timber Layout

- ❑ 1 2 3 4 Timber Identification – demonstrates the ability to choose and orient Timber Crown and Face Surfaces in preparation for Centreline Grid Layout.
- ❑ 1 2 3 4 Centreline Grid Layout – able to accurately Level and place End Grid and Center Lines in preparation for Joinery Layout.
- ❑ 1 2 3 4 Square Rule Layout – able to apply the Square Rule for accurate testing of Grid and Centerlines (Zeroing) and Joinery Layout.
- ❑ 1 2 3 4 Template Layout – able to Layout, Construct and employ Joinery Templates for Timber Layout and joint testing.
- ❑ 1 2 3 4 Quarter Point Layout- able to layout a mathematical arch.
- ❑ 1 2 3 4 Inventory and Production Control – demonstrates ability to maintain Production inventory spreadsheet for timber components

Project **Ability to Layout Male & Female joinery on timber. Maintaining production control.**

Timber Joints

- ❑ 1 2 3 4 Mortise & Tenon (Full/Peg) – able to Locate, Layout, Cut and Assemble mortise & tenon joinery in Posts and Beams.
- ❑ 1 2 3 4 Sloped Shoulder Mortise & Tenon- able to Locate, Layout, Cut and Assemble joinery.
- ❑ 1 2 3 4 Housed Half Lap – demonstrates the ability to Locate, Layout, Cut and Assemble Housed Half Lap joinery.
- ❑ 1 2 3 4 Splayed Wedged Scarf – demonstrates the ability to Locate, Layout, Cut and Assemble Scarf Joinery. Excellent work!
- ❑ 1 2 3 4 Knee Brace Offset Tenon – able to Locate, Layout, Cut and Assemble Kneebrace Offset tenon and mortise joinery.
- ☑ 1 2 3 4 Housed Dovetail – demonstrates the ability to Locate, Layout, Cut and Assemble joinery.
- ❑ 1 2 3 4 Corner Dovetail – demonstrates the ability to Locate, Layout, Cut and Assemble joinery. Excellent work!
- ❑ 1 2 3 4 Miscellaneous Joinery – Pegging layout and drilling
- ❑ 1 2 3 4 Timber Edging- able to Cut a Round-over/Chamfered edge on timbers.
- ❑ 1 2 3 4 Labelling and Identify– able to Identify and Label the components of a Post & Beam Timber framework.
- ❑ 1 2 3 4 Assembly and Raising- demonstrates the ability to assist in team Assemble and Raising of framework.

Project **Ability to Cut, Assemble and Raise Framework.**

Foundation Systems

- ❑ 1 2 3 4 Building layout – demonstrates the ability to Layout the dimensions of a Project Building from the Architectural Plans.
- ❑ 1 2 3 4 Grade levels and Excavation – demonstrates the ability to set Grade Levels and Excavate for Project Temporary Pier Foundation.
- ❑ 1 2 3 4 Foundation Forms/Types- demonstrates the ability to set Temporary Foundation Piers.

Project **Ability to construct a temporary foundation.**

Floor Systems

- ❑ 1 2 3 4 Types- understands the various types of Floor Systems.
- ❑ 1 2 3 4 Structural Beam Sizing – able to determine Floor Support Beam Size from Structural Tables.
- ❑ 1 2 3 4 Anchor Fasteners – understands the various types and their uses.

Project **Theory**

Wall Systems

- ❑ 1 2 3 4 Types – understands Infill versus Envelope SIP Systems.
- ❑ 1 2 3 4 Bracing Types – understands the effects of Diagonal; Diaphragm; and Tensioning forms of Wall bracing.
- ❑ 1 2 3 4 Modular Infill – understands the methods of construction and placement of infill walls using Expanded Polystyrene (EPS) Infill with Acrylic Stucco Finish.

Project **Infill wall system demo**

Roof Systems

- ❑ 1 2 3 4 Types – understands the various types of Roof Systems.
- ❑ 1 2 3 4 Structural Beam Sizing – able to determine roof Ridge and Purlin Beams from Structural Tables.
- ❑ 1 2 3 4 Ridgebeam with Conventional Rafters – demonstrates the ability to Calculate, Layout, Cut and Place a Rafter.

Project **Gable Roof System**