



Timber Framers Guild

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DRAFT

Part Seven Project Management Curriculum

7A PROJECT MANAGEMENT BASICS

DESCRIPTION

Identify and describe the general processes and practices necessary to manage a small timber frame project effectively.

Identify and describe record keeping, and the use of site journals for project management.

Identify and describe protocols and procedures for effectively managing and issuing drawings, details and specifications.

Identify and describe protocols and procedures for effectively managing and issuing correspondence relating to the construction of timber frames.

Identify and describe protocols and procedures for effectively tracking costs and quantities.

LEARNING TASKS	CONTENT
1. Obligations of project manager	<ul style="list-style-type: none">• USDOL Standards & Regulations• OSHA Regulations & Standards• Contract Requirements• Inspections
2. Record keeping and journals	<ul style="list-style-type: none">• Site Journals• Change of Work Orders & Amendments• Architect Instructions (AIs)• Requests for Information / Instruction (RFIs)• Warnings & Reprimands• Accidents, Near-Misses, Accident Books & Reporting Procedures• Photographs / Video Record• Protocols for Copying Documents to Others• Privileged / Confidential Information
3. Managing documents and drawings	<ul style="list-style-type: none">• Drawing Titles, Reference Numbers & Revisions• Drawing Issue Sheets• Marking-up Construction Drawings, Revisions & Superseded Drawings• Tracking Changes & Alterations• Tracking Labor & Information for Payroll
4. Managing Quantum	<ul style="list-style-type: none">• Purchase Orders (POs)• Job Names, Numbers & References• Timber Lists / Cutting Lists• Timesheets & Cost-Centers

	<ul style="list-style-type: none"> • Job Cost Controls • Programs / Schedules & Milestones • Change Orders
5. Managing other records and project information	<ul style="list-style-type: none"> • Minutes of Meetings • Letters, Faxes & E-mail • Telephone Notes • Progress Reports • Accident Books • Tool, Equipment & Rigging Logs • Vehicle Log Books & Mileage
6. Processes and good practice	<ul style="list-style-type: none"> • Defining Scope of Work • Defining Budget • Defining Program / Schedule of Work • Defining Employer's Objectives • Defining Client's Objectives • Work Planning • Work Scheduling & Program • Crew Briefings & De-briefings • Ensuring Culture of Safety • Communicating with Clients, Architects & Engineers • Communicating with General Contractors & Building Officials / Inspectors • Working with Sub-Contractors • Project Management Software • Ordering Materials & Purchase Orders • Training Opportunities • Site Meetings • Equipment Rental & Off-hire • Dealing with Mistakes & Disasters • Problems & Reprimands • Accidents & Near- Misses • Celebrating Successes / Praise & Reward Crew • Signing-Off Work & Handover

GOALS FOR SUCCESSFUL COMPLETION

Theory:

- i) Given a multiple choice test of 40 recall/recognition type questions about forklift safety consisting of:
- USDOL & OSHA Standards & Regulations (5 Questions)
 - OSHA Standards & Regulations (5 Questions)
 - Contracts & Agreements (5 Questions)
 - Managing Documents & Drawings (5 Questions)
 - Record Keeping & Journals (5 Questions)
 - General Good Practice (20 Questions)

Learners will answer all questions within 90 minutes and score a minimum of 70% or 32 correct answers without reference materials.

Practical:

- ii) Learners will demonstrate their ability to correctly construct and communicate the following common documents:
- a) Request for Quotation

- b) Request for Information (RFI)
- c) Purchase Order
- d) Drawing Issue Sheet
- e) Construction Program / Schedule with Milestones
- f) Invoice

- iii) Learners will demonstrate their ability to take simple and accurate minutes of meetings.
- iv) Learners will demonstrate their ability to take simple and accurate telephone notes.
- v) Learners will create the following:
 - Job Log
 - Equipment Log
 - Vehicle Log

7B CONTRACTS & AGREEMENTS

DESCRIPTION

Identify and describe employer and employee obligations.

Identify and describe basic client agreements.

Identify and describe basic contracts of employment.

Identify and describe the general processes and practices necessary to promote and operate a small, successful, timber frame business.

Identify and describe the principals of good business practice for timber framing companies.

LEARNING TASKS	CONTENT
1.	<ul style="list-style-type: none"> • Defining the Scope of Work • Defining the Program of Work • Defining the Cost of Work • Construction Drawings • Payment Schedule • Bonuses & Incentives • Legal & Professional Advice • Penalty Clauses • Disputes & Resolution • Change of Work Orders & Amendments • Professional Indemnity & Liability • Insurance • Keeping it Simple • Sample Agreements

7C ESTIMATING

DESCRIPTION

Identify and quantify the materials, labor and equipment necessary to construct timber-framed buildings.

Demonstrate the calculation of board measurements and timber volume for estimating.

Compile and organize estimates of material, labor and equipment quantities.

Calculate the costs and times associated with material, labor and equipment quantities.

Identify and describe the various common factors that have an effect on the cost of timber frame construction.

LEARNING TASKS	CONTENT
1. Quantify estimating data	<ul style="list-style-type: none"> • Design & Engineering • Production of Working Drawings • Quantify Joinery

	<ul style="list-style-type: none"> • Quantify Fixings & Fasteners • Quantify Timber • Transportation & Delivery Distances • Lifting & Raising Equipment Requirements • Scaffolding & Access Requirements • Rental Equipment • Tick Lists & Checklists
2. Organize and compile estimating data	<ul style="list-style-type: none"> • Create Spreadsheets • Timber List / Cutting List • Marking-up Drawings • Group Joinery Types • Calculate Board Footage • Calculate Weights of Materials • Make Sketches & Notes
3. Estimate time and costs	<ul style="list-style-type: none"> • Construction Strategy • Ballpark Estimates, Guide Prices & Guesses • Square Foot Pricing • Stick-by-stick Pricing • Commercially Available Schedules & Tables • Availability of Materials • Calculate Joinery Times • Determining Optimum Crew Size • Determining Labor Rates • Determining Overheads • Mark-up & Profit • Contingencies
4. Factors affecting cost	<ul style="list-style-type: none"> • Program Requirements • Training Requirements • Insurance & Bonds • Extra Handling (Large Timbers) • Grade, Spec & Species of Timber • Special Timber Finishes, Wrapping & Protection • Size of Crew • Experience of Crew • Crew Productivity • Crew Training Opportunities • Innovative or Unfamiliar Process Required • Competition • Current Workflow • Opportunity to Develop Portfolio • Potential PR & Subsequent Work • Site Location & Site Conditions • Export Issues • Partial / Complete CNC Cutting • Season & Environment (Winter Raising, etc.) • Special Tools, Equipment & Processes Required • Client Incentives & Discounts • Economies of Scale • Contract Terms & Penalty Clauses • Payment Details & Cash-Flow • Delays to Delivery (Storage, Insurance, Frame Distortion, etc.) • Charitable Causes, Friends, Colleagues & Family

	<ul style="list-style-type: none">• Joinery Complexity• Carpentry Mistakes
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GOALS FOR SUCCESSFUL COMPLETION

Practical:

- i) Given a complete set of drawings for a simple (3 to 4 bay) timber frame building. learners will generate a detailed cost and quantity estimate for labor, materials, and equipment required. This will include the following:
 - a. Brief statement outlining construction strategy (crew size, assembly method, etc.)
 - b. Schedule of joinery and labor required
 - c. Timber list and total board measurement
 - d. Schedule of fixings and fasteners required
 - e. Schedule of machinery and equipment requirements
- ii) Using the results from above, learners will convert their estimated costs into a square footage price.
- iii) Using the results from above, learners will identify reasonable ways to achieve a 20% reduction in the estimated costs for the project.