

# Contents

Introduction 6

## Design

How to Plot a Site Plan 8

Site Planning and Inventory 10

Design, Framework for Craft 16

Proportioning Systems and the Timber Framer 20

What is Fine Home Building? 24

Ten Factors in Timber Frame Design 28

A Primer for Healthy House Construction 33

Compact Design in N. H. 36

Round Post, Square Beam Joinery 39

Untimber Framing 42

## Engineering

Timber Frame Foundations 48

Timber Frame Heating and Ventilation 50

Frame Engineering 54

Hammer-Beam Roofs 1 60

Hammer-Beam Roofs 2 65

Load Behavior of Connections with Oak Pegs 1 68

Load Behavior of Connections with Oak Pegs 2 73

Of Sapwood and Water	79
Notched vs. Mortised Joinery	82
Joint-Busting at Amherst	87
On the Bending Strength of Pegs	88
Laterally Loaded Timber Frames 1	90
Laterally Loaded Timber Frames 2	95
Laterally Loaded Timber Frames 3	100
Laterally Loaded Timber Frames 4	104
Laterally Loaded Timber Frames 5	107

## **Layout and Joinery**

Introduction to Layout	112
Reference Planes	119
Tool Registration	121
Layout and Gauging	123
Reconsiderations	125
Square Rule Methods	127
Introduction to French Scribe Layout	130
French Scribe Layout 2	133
French Scribe Layout 3	136
German Roof Layout 1	140
German Roof Layout 2	142
When the Chips Fly	146
Traditional Techniques and Shortcuts	156
The Tool Kit	162
Lee's Chiselology	171

See also Michael Anderson's articles on Sumitsuke, pages 210–220.

## **Enclosures**

Why do we Build Timber-Framed Walls?	174
SIPs and SSPs are Not the Same	175
Reflections on Foam Panels and a Site-Built System	178
A Cellulose Alternative	181
Natural Straw-Clay Wall Systems	184
Wood Shavings as Insulation?	189
The Infill System for the Lancy House	192

## **Vernacular Timber Framing**

Chinese Traditional Framing 1	196
Chinese Traditional Framing 2	201
Chinese Traditional Framing 3	204
Sumitsuke 1	210
Sumitsuke 2: Koya Gumi Marking	215
Sumitsuke 3: Koya Gumi Marking	218
German Frame Typology 1	221
German Frame Typology 2	223
German Frame Typology 3: Roofs	226

Author Information	233
Bibliography	235
Index	239