CONSTRUCTING LANDSCAPE

INTRODUCTION CONSTRUCTING LANDSCAPE, Essay by Cordula Loidl-Reisch					
1	MATERIALS				
1.1	SOIL	15			
	Components, Properties, Classification	15			
	Bulk Material	20			
	Soil Protection	24			
	Testing and Assessing Foundation Soil	24			
1.2	PLANTS	29			
	Plant Propagation	29			
	Woody Plants	30			
	Herbaceous Plants (Including Grasses and Ferns)	35			
	Bulbs and Tubers (Geophytes)	37			
	Bedding and Tub Plants	37			
1.3	LAWNS AND OTHER SEEDED AREAS	43			
	Lawns	43			
	Crushed Stone Lawn/Checker Brick Lawn	47			
	Meadows	48			
1 /	Intermediate Planting WOOD	50			
1.4	Composition, Properties and Timber Preservation	53 53			
	Products	60			
	Surface Qualities	61			
	Joints	62			
1.5	CUT STONE	67			
	Properties and Products	68			
	Surface Properties and Treatment	72			
	Jointing and Shaping	75			
1.6	BRICK AND CLINKER	79			
	Composition, Properties, Products	79			
	Surface Qualities and Surface Treatment	84			
	Laying and Shaping	86			
1.7	CONCRETE	95			
	Composition, Properties, Products	95			
	Surface Qualities and Surface Treatment	99			
	Joining and Molding	100			
1.8	METALS	105			
	Iron and Steel	106			
	Aluminum	117			
	Copper ,	118			
	Zinc/Titanium Zinc	118			
1.9	OTHER BUILDING MATERIALS	123			
	Plastics	123			
	Bitumen and Asphalt	128			
	Glass	131			



2 TH	E PRINCIPLES OF LOAD-BEARING STRUCTURES	
2.1	LOAD-BEARING STRUCTURES AND THEIR DIMENSIONS	137
	Fundamentals of Structural Component Dimensioning	137
	Assumed Loads	143
	Choice of System	144
	Choice of Materials	147
	Choice of Cross Section	151
	Stiffening	154
2.2	FOUNDATIONS	159
	The Principles of Soil Mechanics	159
	Principal Foundation Types	167
2.3	CONNECTIONS	173
	Timber Connections	173
	Steel Connections	180
	Concrete Connections	184
	Connections between Different Materials	191
3 ST	RUCTURAL ELEMENTS AND BUILDING METHODS	
3.1	GROUND MODELING AND EARTHWORKS	199
	Terrain Modeling	199
	Securing Earthworks	202
	Specimen Projects	208
3.2	PATHS AND SQUARES	215
	Hard Surfaces – Terminology	215
	Building Ground	215
	Pavement	216
	Construction Methods for Surface Courses	219
	Borders	231
	Specimen Projects	233
3.3	STEPS	243
	Outdoor Steps	243
	Construction Methods	245
	Ramps	257
	Specimen Projects	258
3.4	RAILINGS AND FENCES	267
	General Requirements	267
	Construction Methods	269
	Specimen Projects	281
3.5	WALLS	295
0.0	Principles	295
	Freestanding Walls	295
	Retaining Walls	296
	Nonstable Construction Methods	300
	Stable Construction Methods	302
	Specimen Projects	314
3.6	SMALL STRUCTURES AND PERGOLAS	327
5.0	Construction and Use of Materials for Small Structures	327
	Construction and Use of Materials for Pergolas	334
	Specimen Projects	336
3.7	SMALL BRIDGES	347
5.7		347
	General Structure of a Bridge	
	Bridge Support Structures	347
0.0	Specimen Projects	350
3.8	WALKWAYS AND DECKS	357
	General Essentials	357
	Foundation	358
	Substructure/Support Construction	359
	Covering	359

361

Specimen Projects

3.9	PLANTING TECHNIQUE AND CARE OF VEGETATION SURFACES	369
	Basics of Plant Growth	369
	Planting Woody Plants	372
	Planting and Maintenance of Herbaceous Plants	378
	Planting and Maintenance of Geophytes	379
	Seasonal Ornamental Plants	379
	Specimen Projects	380
3.10	LAWNS AND MEADOWS: LAYING OUT AND CARE	389
	Lawns	389
	Meadows	392
	Seeding Ornamental Annuals	393
0.11	Specimen Projects	494
3.11	SURFACE DRAINAGE	399
	Creating Slopes	399 403
	Construction Methods for Drainage Systems Basic Calculations and Parameters	403
	Specimen Projects	414
3.12	WATER INSTALLATIONS	421
0.12	General Building Methods and Choice of Location	421
	Construction Methods	422
	Planting Pools and Ponds	428
	Specimen Projects	432
3.13	VERTICAL PLANTING	445
	Creative Aims	447
	Structures and Attachment Modes for Trellis Climbers	450
	Construction Requirements	451
	Loads	451
	Problems with Climbing Plants	451
	Maintenance and Checking	451
	Specimen Project	453
3.14	GREEN ROOFS	457
	Forms of Green Roof	457
	Construction Requirements and Constructive Elements	459
	Designs and Layers in Green Roofs	464
	Greening Methods	465
	Implementing a Green Roof	466
	Specimen Projects	471
3.15	SPECIAL ELEMENTS	479
	Lighting Elements	479
	Play and Sports Elements	482
	Specimen Projects	485
	Seating Elements	490
	Specimen Projects	491
AP	PENDIX	
	ERATURE, STANDARDS AND DIRECTIVES, ADDITIONAL INFORMATION	503
PIC	TURE CREDITS	519

525

INDEX