

# Index

## • A •

aborescent shrubs, 265  
acids, soil pH testing, 244  
active water features, 199  
adobe blocks, 194–195,  
202, 216–217  
adversarial horticulture,  
235–236  
aeration, lawn care, 324–325  
air pollution, 34–35, 290–291  
alkaline copper quaternary  
(ACQ), 181  
alkaline, soil pH testing, 244  
amendments, 242–243, 344  
American Society of  
Consulting Arborists  
(ASCA), 308  
American Water  
Works Association  
(AWWA), 111  
animals, 270, 311, 328  
annual plants, 272–273, 286  
annual weeds, organic  
controls, 170–172  
arborists, 49, 308. *See also*  
tree trimmers  
architect's scale, 44, 89–91  
architectural review boards,  
101  
art materials, hardscapes,  
197  
articles, site design  
resource, 56  
asphaltic emulsion, soil  
waterproofing, 215  
atmospheric vacuum  
breakers, 137  
atrium grates, catch  
basins, 143  
automatic controllers,  
118–119

## • B •

*Bacillus thuringiensis* (Bt),  
315, 329  
backfill soil, plantings,  
249–250  
backflow prevention devices,  
137, 157  
backflow test technicians, 157  
bacterial iron slime, 136, 162  
bacterias, soil food web,  
243–244  
balance, design element,  
71–72  
balled-and-burlapped plants,  
250–251, 262  
bare root, tree packages, 262  
barriers, privacy/  
security, 181  
base sheets, 89–92  
batteries, controllers, 159  
beds, mulching, 338  
bees, 270, 275  
behavior controls, design  
element, 78–79  
below grade, timber  
walls, 222  
beneficial insects, 270, 315  
biennial plants, selection  
criteria, 272–273  
biogenic emissions, 34  
biosolids, toxin risks, 27  
bioswales, water-harvesting  
system, 108  
birds, 270  
black locust, deck flooring, 177  
blocks  
pathways, 186  
pavers, 176  
retaining walls, 221–222  
segmental retaining wall  
systems (SRWs), 221–222

blowers, avoiding, 224–225,  
303  
borrowed view, site  
analysis, 54  
botanic gardens, 234  
branched drain system, 133  
branches, tree health  
indicator, 262  
bricks, pathways, 186  
broadleaf evergreen, shrub  
type, 265  
bubble diagram, 55, 94–96  
budgets, 15–16  
building materials,  
25–29, 35–36  
building permits, 101,  
133, 183  
buildings, mulch spacing, 256  
bulbs, 44, 273–274, 286  
burlap screens, winterizing  
plants, 311–312  
burning off, weed  
control, 172

## • C •

cacti, 280–281, 286  
calendars, project  
sequencing, 16  
cantilever walls, surcharge  
control, 180  
carbon sequestration,  
258–259  
catch basins, 60, 143  
ceilings, 182–185  
cement, versus concrete, 175  
chain link fences, 181  
checkdams, erosion control,  
210  
chemicals, 337, 341–342  
chicken coops, hardscapes,  
202–203

- chlorosis, plant disease
    - symptom, 246
  - chop and drop method
    - fertilizer concepts, 309
    - plant clippings, 247
  - cinder blocks, retaining walls, 221–222
  - circle template, design tool, 44
  - cisterns
    - capacity issues, 131
    - high-density polyethylene (HDPE) plastic, 130–131
    - maintenance, 156
    - rainwater storage, 109–110, 130–132
    - tank placement, 131
    - water distribution methods, 132
  - civil engineer, structural advice, 49
  - cleaning, drainage controls, 229
  - climate, 65–66, 133
  - climate-compatible plants, water-wise landscapes, 146
  - clothing, 45, 166
  - coarse textures, design element, 77
  - cob
    - cobber's thumb, 219
    - earthen garden walls, 218–219
    - natural coatings, 223
    - sustainable furniture alternative, 194–195
    - toolsheds, 202
  - colors, 77–78, 240
  - communities, 152–154
  - compactors, 229
  - compass
    - base sheet creation, 89–91
    - design tool, 44
  - compost
    - lawn care, 323
    - piles versus bins, 247
    - problem solving, 249
    - processing, 248
    - pros/cons, 246–247
    - soil food web, 243–244
  - compost tea, lawn care, 323
  - concept plans
    - creating, 91–93
    - full-blown plan alternative, 84
    - material screening, 95–96
    - materials palette, 94–95
    - plant palette, 94–95
    - refreshing, 96
    - space planning, 93–94
  - conceptual designs, 19
  - concrete
    - flooring use, 175–176
    - fly ash, 176
    - pathways, 186
    - step material, 187
    - versus cement, 175
  - concrete blocks, retaining walls, 221–222
  - concrete patio, construction, 211
  - coniferous evergreen, shrub type, 265
  - construction detail drawing, 100–101
  - construction equipment, hardscapes, 45–46
  - construction sites
    - erosion protection, 207–210
    - landslide protection, 207, 210
    - material storage, 206–207
    - noise/dust control, 207
    - tractors, 205–206
  - construction skills, self assessment, 41
  - containers
    - potted plants, 287
    - tree packages, 261
  - contractors, safety concerns, 166
  - contrast, design element, 73
  - controllers
    - battery maintenance, 159
    - irrigation systems, 118–119, 140
    - low-voltage lighting, 196
    - maintenance, 159–160
    - placement suggestions, 140
    - power surges, 160
  - rain sensors, 159
  - reprogramming, 336
  - smart, 336
  - watering schedules, 151–153
  - cool season, grass category, 277
  - corn gluten meal, weed control, 311, 331
  - costs, 43
  - cottonwood trees, biogenic emissions, 34
  - covenants, conditions, and restrictions (CC&Rs), legal issues, 101
  - cowpooling, 204
  - creeks, site analysis, 60
  - critter-exclusion devices, 156
  - critter-friendly
    - landscape, 349
  - cross-linked polyethylene, PVC pipe alternative, 114
  - crotches, tree health indicator, 262–263
  - crown reduction, non-harmful pruning, 308
  - crowns, plant selection element 236
  - crumb rubber, 27, 253
  - crushed rock, 177
  - cyclical design, 11, 33
- D ●
- deadheading, 270
  - deadmen, timber walls, 222
  - deciduous shrubs, 265
  - deciduous trees
    - design benefits, 258–259
    - house shading/warming benefit, 345–346
    - living ceilings, 184
    - planting guidelines, 279
  - decks
    - dry rot, 227
    - fire hazards, 178
    - mildew remover, 228
    - plastic lumber, 177
    - pressure washers, 228
    - sanding, 228
    - termites, 225–227

- versus patios, 178
  - wood decking, 177
  - yearly inspection, 228
  - decomposed granite (d.g.)
    - hardscapes, 213–214
    - sweeping/recompacting, 229
  - deep designs. *See also* designs
    - site analysis stage, 54–56
    - sustainable landscaping, 10, 13–14
  - deer, pest controls, 319
  - demolition
    - existing land/vegetation protection, 168
    - site preparation, 167–168
    - sustainable waste disposal, 168
  - department of fish and game, 201
  - design skills, self assessment, 40–41
  - design tools, 44
  - designs. *See also* deep designs
    - balance, 71–72
    - behavior controls, 78–79
    - colors, 77–78
    - contrast, 73
    - emotional controls, 78–79
    - focal points, 76
    - line of sight, 75
    - outside the box, 79
    - repetition, 72–73
    - sequential experience of the landscape, 80–81
    - shape and form, 73–74
    - style, 81
    - surviving over time, 82
    - textures, 77
    - unity, 70–71
    - vantage points, 76
    - variety, 73
  - determinate growth habit, 275
  - dethatching, lawn care, 324–325
  - dicots, 286
  - digging bar, earthmoving/ planting tool, 45
  - dioxin, PVC pipe, 113–114
  - dirty water, irrigation systems, 162
  - diseases
    - fungi, 320
    - grasses, 277
    - lawn care, 330
    - microbial controls, 315–316
    - mulch concerns, 256
    - native plant myth, 238
    - viruses, 320
  - distribution uniformity (DU), 140–141
  - dormant season, tree planting, 262
  - double check valves, 137, 157
  - downcycling. *See* recycled materials
  - drafting paper, 44, 89–91
  - drafting triangle, 33, 89–91
  - drainage, 57, 245
  - drainage controls, cleaning, 229
  - drainage plans, 97
  - drainage swales, 60
  - drainage systems, 142–144
  - drains
    - Dutch, 125, 129–130, 143–144
    - French, 143
    - water movement, 60
  - drawing board, 44, 89–91
  - drip filters, maintenance, 160
  - drip lines, trees, 168
  - drip systems
    - drip on a grid versus drip at the plant, 141
    - drip tubing, 139
    - elevation issues, 139
    - emitters, 139, 141
    - filtration, 139
    - irrigation systems, 138–139
    - pressure recommendations, 139
    - pros/cons, 115–117
  - drip tubing
    - drip systems, 139
    - maintenance, 160
    - mulch benefits, 253
    - PVC pipe alternative, 114
  - driveways, 176, 189
  - drought, plant stress symptoms, 148
  - drought tolerance, native plant myth, 238
  - dry streambeds, 108, 155–156
  - duff layer, 253
  - dust, construction site control, 207
  - Dutch drains
    - drainage systems, 143–144
    - nonstorage water-harvesting systems, 125, 129–130
- **E** ●
- earthen garden walls
    - adobe blocks, 216–217
    - cob, 218–219
    - foundation building, 216
    - plastering, 216
    - rammed earth, 218
    - soil composition, 215
  - earthen retaining walls, building tips, 222
  - earthmoving tools, 44–45
  - easements, legal issues, 101–102
  - economics, tree benefits, 258–259
  - ecoroofs, drought-tolerant plants, 184–185
  - ecosystem
    - native plants, 237
    - tree benefits, 258–259
  - electric mowers, 328
  - electricity, ground fault circuit interrupter (GFCI), 166
  - emitters
    - drip on a grid versus drip at the plant, 141
    - drip systems, 139
    - maintenance, 160–161
  - emotional controls, design element, 78–79
  - entertaining space, outdoor, 189–190

environment  
 power tool issues, 302–303  
 tree benefits, 258  
 environmental harmony,  
 11–13  
 equipment, safety, 166, 230  
 erosion  
 landslides, 207, 210  
 mulch benefits, 252  
 silt fencing, 168  
 site analysis, 58  
 straw wattles, 168  
 surface, 207–210  
 erosion controls,  
 maintenance, 229  
 espaliered fruit trees, 261  
 Eucalyptus trees, biogenic  
 emissions, 34  
 evapotranspiration (ET),  
 watering, 149  
 evergreen trees, 258–259,  
 345–346  
 evergreen vines, planting  
 guidelines, 279  
 exotic plants, avoiding, 237  
 expenses, spreadsheet  
 tracking, 16

## ● F ●

fabrics, erosion control, 209  
 farmers, sustainable  
 agriculture, 284  
 fecal pellets, termite  
 indicator, 226  
 fences, privacy/security, 181  
 fertilizers. *See also* organic  
 fertilizers  
 chemical shortcomings,  
 341–342  
 chop and drop  
 concepts, 309  
 grasses, 277  
 lawn care, 291, 331  
 maintenance material, 30  
 organic benefits, 245–246  
 potted plants, 288  
 trees, 264  
 Ficus trees, biogenic  
 emissions, 34  
 field designs, 84, 86–87

filtration, 136, 139  
 fine textures, design  
 element, 77  
 finish grade, 254  
 finishes, avoiding sealer,  
 223–224  
 fire extinguisher, safety item,  
 166  
 fires, safety inspection item,  
 230  
 fire-wise landscapes, 347  
 first-aid kit, safety item, 166  
 first-flush system, 110  
 fish, water features, 200  
 flame weeders, 172  
 flammability, ornamental  
 grass, 275  
 flatwork, hardscapes, 211–214  
 flood control agency, 201  
 flooring, 175–178  
 flowers, site analysis, 61–62  
 fly ash, 176, 186  
 focal points, design  
 element, 76  
 folding pruning saw, 47  
 food plants, 281–284, 350  
 food web, soils, 243–244  
 foods, 281–284, 338  
 foodsheds,  
 neighborhoods, 282  
 footings, earthen garden  
 walls, 216  
 foot-powered aerators, 324  
 Forest Stewardship Council,  
 177  
 form, design element, 73–74  
 formal gardens, design  
 balance, 71–72  
 forms, plant palette item, 240  
 fossil fuels, 31–32, 291  
 foundation plantings, shrub  
 use, 266  
 foundations, earthen garden  
 walls, 216  
 four-tine pitchfork, 45  
 French drains, 143–144  
 fruit trees  
 potted plants, 286  
 pruning, 307  
 sustainable home orchard,  
 261  
 fruits, vines, 279

fungus  
 artillery, 256  
 disease controls, 320  
 dog vomit, 256  
 dry rot, 227  
 endophytes, 329  
*Meruliporia incrassata*, 256  
 mulch problem solving, 256  
 mycoherbicides, 311  
 mycorrhizal, 242–245  
 slime molds, 256  
 termite control, 227  
 furniture, sustainable  
 alternatives, 193–194

## ● G ●

garden books, site design, 56  
 garden value, tree benefits,  
 258–259  
 gardeners, 49, 68, 235  
 gardening books, plant  
 information, 235  
 gardens, 71–72, 281–284  
 gas-powered equipment,  
 refueling, 166  
 genius loci, defined, 81  
 geological elements, site  
 analysis, 56–58  
 geologist consultant, soil  
 evaluation, 49  
 geotextile fabrics, mulch,  
 253–254  
 goats, organic weed control,  
 172  
 goldfish, water features, 200  
 grading  
 balance cut and fill, 170  
 nonstorage water-harvesting  
 systems, 124  
 replacing an old lawn, 332  
 site preparation, 169–170  
 surface erosion prevention,  
 208  
 grading plans, 97  
 grasscycling, mulch mowing,  
 328  
 grasses. *See also* ornamental  
 grasses  
 clumping, 277  
 cool season, 277  
 fertilizing, 277

lawn health element, 322  
 light requirements, 277  
 low-maintenance lawns, 293–294  
 meadow plants, 296  
 ornamental, 275–278  
 pruning, 278  
 running, 277  
 soil stabilization, 277  
 special effect uses, 277  
 warm season, 277  
 watering methods, 277  
 gravel  
   driveways, 189  
   flooring use, 177  
   hardscapes, 213–214  
 gravity-fed pipelines, 110–111  
 graywater systems  
   foul odors, 156  
   legal issues, 133  
   maintenance, 156–157  
   plant monitoring, 157  
   recycling water, 132–134  
   water-harvesting, 110–111  
 green waste, 33–34, 292  
 ground cover  
   flooring use, 176  
   lawn alternative, 297  
   perennial plantings, 274–275  
 ground fault circuit  
   interrupter (GFCI), 166  
 ground surface grading, 143  
 gypsum, clay soil myths, 243

## • H •

hand tools, benefits, 338, 343  
 hand trowel, planting tool, 45  
 hand watering, delivery  
   method, 111–112  
 hard water, irrigation  
   systems, 162  
 hardiness zone maps,  
   plants, 66  
 hardiness, annual/biennial  
   plants, 272  
 hardscapes. *See also* building  
   materials  
   art or junk materials, 197  
   barriers, 181  
   cantilever wall, 180  
   ceilings, 182–185  
   chicken coops, 202–203  
   concrete patio, 211  
   concrete versus  
     cement, 175  
   construction gear, 45–46  
   cowpooling, 204  
   decomposed granite,  
     213–214  
   driveways, 189  
   earthen garden walls,  
     215–220  
   fences, 181  
   flatwork, 211–214  
   flooring, 174–178  
   free-standing walls, 179  
   furniture, 193–194  
   hosing, 224–225  
   house shading/warming  
     benefits, 345–346  
   lighting, 194–197  
   mulch, 214  
   off-site impacts, 24  
   outdoor rooms, 188–192  
   paths, 186  
   power blowers, 224–225  
   rabbit hutches, 202–204  
   ramps, 187  
   retaining walls, 180,  
     220–222  
   segmental retaining  
     walls, 180  
   steps, 187, 214  
   storage spaces, 201–202  
   sweeping, 224–225  
   tractors, 205–206  
   unit pavers, 211–212  
   vegetated paving systems,  
     212–213  
   water features, 198–201  
   wind breaks, 181  
   work areas, 201–202  
 heading back, pruning  
   technique, 306–307  
 head-to-head coverage, 140  
 hedges, 181, 266, 307–308  
 herbicides, 31, 171, 311, 342  
 heritage materials,  
   repurposing, 28–29

high salt index, chemical  
   fertilizers, 341  
 high-density polyethylene  
   (HDPE) plastic, cisterns,  
   130–131  
 hilly lands, slope aspects, 58  
 hoes, weed control tool, 172  
 holdfasts, climbing vines, 278  
 homeostasis, sustainable  
   landscaping, 10  
 horticultural vinegar, 171–172,  
   228, 311, 331  
 hose bibbs, irrigation  
   systems, 136  
 hose nozzle, maintenance  
   tool, 47  
 hoses, 47, 224  
 humans, perennial plant  
   benefits, 270  
 humic acids, soil food web,  
   243–244  
 hydroseeding, erosion  
   control, 210  
 hydrozones, plant groupings,  
   138

## • I •

impact heads, sprinkler  
   systems, 139  
 infiltration rate, soil  
   conditions, 149–150  
 informal gardens, design  
   balance, 71–72  
 inorganic mulches, 253–254  
 input/output management,  
   11  
 insects  
   beneficial species, 315  
   integrated pest  
     management (IPM), 314  
   perennial plants benefits,  
     270  
   weed controls, 311  
 integrated pest management  
   (IPM), 313–314  
 internal drainage, soil  
   testing, 245  
 internal soil drainage, site  
   analysis, 57

- International Dark-Sky Association (IDA), lighting guidelines, 197
  - International Society of Arboriculture (ISA), 49, 258, 308
  - Internet
    - plant information resource, 235
    - research resource, 18
  - invasive plants, avoiding, 239
  - invasiveness
    - ornamental grass, 275
    - perennial ground cover, 275
  - iron bacteria, irrigation system, 136
  - iron rake, earthmoving/
    - planting tool, 45
  - irrigation contractor, 49
  - irrigation controllers, water savings, 336
  - irrigation plans, 98–99
  - irrigation systems
    - backflow prevention devices, 137
    - controllers, 118–119, 140
    - dirty water, 162
    - drip systems, 115–117, 139–141
    - filtration, 136
    - hard water, 162
    - hose bibbs, 136
    - lateral pipes, 138
    - maintenance, 157–162
    - mini-sprinklers, 117
    - overview, 134–135
    - point of connection, 135–137
    - pressure mains, 136
    - pressure regulators, 137
    - pros/cons, 112–114
    - rain sensors, 140
    - riser pipes, 136
    - soaker hoses, 117
    - sprinklers, 114–115, 138–141
    - water audits, 150–151
    - watering schedules, 151–153
    - winterizing, 161
    - zone valves, 137–138
  - irrigation tools, 46–47
  - irrigation water, site analysis, 60
- **J** •
- junk materials, hardscapes, 197
  - junkscaping, art form, 29
- **K** •
- kitchens, outdoor rooms, 190–191
- **L** •
- landforms, site analysis, 58
  - landscape architect, 48
  - landscape contractor, 49
  - landscape professionals, hiring, 50
  - landscape suitability analysis (LSA), 244–245
  - landscape ties, step material, 187
  - landscaping rake, 45
  - landslides, prevention, 207, 210
  - lap lawn, size reduction, 335
  - lateral pipes, irrigation systems, 138
  - lawn care company, organic principles, 325
  - lawn chairs, site analysis tool, 54–55
  - lawn rollers, 229
  - lawns. *See also* yards
    - aerating, 324–325
    - alternatives, 294–298
    - beneficial factors, 292
    - dethatching, 324–325
    - diseases, 330
    - grasscycling, 328
    - ground covers, 297
    - healthy conditions, 322
    - legal issues, 294
    - low-maintenance grasses, 293–294
    - meadows, 295–297
    - mowing, 327–328
    - mulch, 297
    - negative impacts, 290–292
    - organic fertilizers, 322–323
    - pest controls, 329–330
    - phony grass, 298
    - renovation, 324–325
    - replacing, 332
    - size reduction, 335
    - size reduction benefits, 293
    - water management, 294
    - watering, 326–327
    - weed controls, 331
  - leaf blowers, 303
  - leaf rake, maintenance tool, 47
  - legal issues
    - architectural review boards, 101
    - backflow prevention devices, 157
    - building permits, 101
    - covenants, conditions, and restrictions (CC&Rs), 101
    - easements, 101–102
    - graywater systems, 133
    - lawns, 294
    - liability, 102
    - natural water features, 201
    - neighbors, 102
    - power blowers, 224–225
    - property lines, 102
    - setbacks, 102
    - utility easements, 166
    - watering schedules, 152–153
    - zoning, 102
  - leveling pads, 221
  - liability, legal issues, 102
  - lifting, safety issues, 166
  - light pollution, 197
  - light-emitting diode (LED) lighting
    - energy savings, 197
    - path lights, 186
  - lighting
    - light pollution, 197
    - light-emitting-diode (LED), 186, 197
    - low-voltage systems, 195–197

motion-sensing, 196  
 reasons for, 194  
 solar power, 195  
 testing, 229  
 line of sight, design  
   element, 75  
 linear system, poor  
   landscape design, 33  
 living ground cover, flooring  
   use, 176  
 living space, outdoor rooms,  
   189–190  
 living system, 10  
 local government, 18  
 loppers, maintenance tool, 47  
 low-impact materials, 27–28  
 low-till growing, benefits,  
   343–344  
 low-traffic areas, 176  
 low-voltage lighting, 195–197

## • M •

macronutrients, 245–246  
 magazines, site design  
   resource, 56  
 mail-order nurseries, 271  
 maintenance  
   backflow prevention  
     devices, 157  
   benefits, 300  
   chop and drop concepts,  
     309  
   controllers, 159–160  
   cost/environmental  
     benefits, 21–22  
   decomposed granite  
     (d.g.), 229  
   double check valve, 157  
   drainage controls, 229  
   drainage systems, 144  
   drip filters, 160  
   drip tubing, 160  
   emitters, 160–161  
   erosion controls, 229  
   finishing material, avoiding,  
     223  
   flooring, 178  
   graywater systems, 156–157  
   irrigation systems, 157–162  
   lighting systems, 229  
   meadows, 297  
   nonstorage systems,  
     155–156  
   pavers, 228  
   potted plants, 287–288  
   pressure regulators, 158  
   pressure vacuum  
     breaker, 157  
   pruning, 304–308  
   rain sensors, 159  
   reduced pressure  
     device, 157  
   regulators, 160  
   sprinkler systems,  
     161–162, 336  
   storage systems, 156  
   sustainable design benefits,  
     300–302  
   sweeping benefits, 224  
   trees, 264  
   underground wiring, 159  
   wash/no wash choices, 224  
   water treatment  
     systems, 162  
   water-harvesting  
     systems, 155–157  
   weed controls, 310–311  
   wells, 162  
   winterizing irrigation  
     systems, 161  
   wood decks, 225–228  
   zone valves, 158–159  
 maintenance materials, 29–33  
 maintenance tools, project  
   assessment, 47  
 manifolds, valve  
   groupings, 137  
 manual bleed controls, zone  
   valves, 158  
 materials  
   building materials, 25–29  
   construction site storage,  
     206–207  
   content monitoring, 35–36  
   inputs versus outputs, 24  
   maintenance materials,  
     29–33  
   natural aging benefits,  
     223–224  
   project identification, 20  
   site analysis element, 56  
   stacking functions, 37–38  
   wise use benefits, 23–24  
 materials palette, concept  
   plans, 94–95  
 mattock, earthmoving/  
   planting tool, 45  
 meadows  
   lawn alternative, 295–297  
   maintenance, 297  
   plant varieties, 296  
   planting, 296  
   wildflower, 273  
 microclimate, tree benefits,  
   258–259  
 micronutrients, organic  
   fertilizers, 245–246  
 mildew remover, deck  
   maintenance, 228  
 mini-sprinklers, avoiding, 117  
 money, maintenance savings,  
   32–33  
 monocots, 286  
 mosquito control, water  
   features, 200  
 motion-sensing lights, 196  
 mowers  
   grasscycling kits, 328  
   lawn care, 327–328  
   maintenance tool, 47  
   mowing, lawn care, 327–328  
 mud tubes, termite indicator,  
   226  
 mulch  
   benefits, 252–253  
   driveways, 189  
   finish grade, 254  
   flooring use, 177  
   hardscapes, 214  
   inorganic, 253–254  
   lawn alternative, 297  
   low-traffic pathways, 186  
   *Meruliporia incrassata*, 256  
   organic, 253  
   plant beds, 338  
   plantings, 250–256  
   problem solving, 256  
   sheet mulching, 254  
   stacking functions, 252  
   surface erosion prevention,  
     208  
   tree/shrub spacing, 256

mulch (*continued*)

types to avoid, 254  
water-wise landscapes,  
146–147

mulch mowing, grasscycling,  
328

mycoherbicides, weed  
controls, 311

myths

native plants, 238  
soil management, 242–243

## • N •

nano-concrete, 175

National Bureau of Standards  
(NBS), 215

native plants, naturally  
thriving, 237–239

neighborhoods

designing around, 64–65  
foodsheds, 282  
legal issues, 102

plant information resource,  
234–235

site analysis element, 56

neighboring yards, existing  
plants, 61

noise pollution, 35, 207, 292

nonstorage systems

Dutch drains, 125, 129–130  
foundation clearance zones,  
124

harvested rainwater,  
107–109

maintenance, 155–156

percolation chambers, 125,  
128–129

planning elements, 126–127

ponding zones, 125, 128

previous pavement, 126

property grading, 124

rainwater harvesting,  
123–130

spillways, 127

swales, 125, 127–128

terraces, 125, 129

nontarget organisms,  
pesticides, 316

no-till growing, benefits,  
343–344

nurseries

design resource, 49

invasive plant issues, 239

mail-order, 271

plant information resource,  
235

research resource, 18

## • O •

oak trees, biogenic

emissions, 34

off-site effects, 11

One Call Center, utility

locating, 167

on-site effects, 11

orchards, 261

organic fertilizers. *See also*  
fertilizers

lawn care, 322–323

plant nutrients, 245–246

organic mulches, 253

ornamental grasses, 275–278.  
*See also* grasses

oscillating sprinklers, 112

outdoor rooms, 188–192

owl box, pest control, 318

## • P •

paints, 28

parks, plant information, 234

passive water features, 198

Path to Freedom, 282

paths

cleaning methods, 224–225

hardscapes, 186

mulch benefits, 253

paver blocks, 176

patios, 175–176, 178

pavement, water-harvesting,  
126

paver blocks

flooring use, 176

hardscapes, 211–214

pathways, 186

weed removal/prevention,  
228

perched water table, 57

percolation chambers,  
108–109, 125, 128–129

percolation zones,

maintenance, 155–156

perennial plants

deadheading, 270

food plants, 282–283

low-maintenance/  
low-impact, 270

meadow plants, 296

medicinal qualities, 270

selection criteria, 270–271

perennial polyculture, 282

perennial weeds,  
170–172, 254

pergolas, constructed ceiling,  
182–183

permaculture, 36–37, 188

personal spaces, outdoor  
rooms, 192

pervious concrete, 176, 189

pest control

licensed advisor/  
operator, 49

termites, 225–227

trees, 264

pesticides

environmental

downsides, 342

lawn care factor, 291

maintenance material,  
30–31

shortcomings, 314–315

toxicity issues, 316

pests

beneficial insects, 315

chemical pesticide

avoidance, 342

conventional controls,  
314–315

grasses, 277

insect species, 316–317

integrated pest  
management (IPM),  
313–314

lawn species, 329–330

microbial controls, 315–316

mulch concerns, 256

native plant myth, 238

wildlife, 317–319

pets, safety issues, 166

pH measurement,  
244, 323, 331

- phony grass, lawn
  - alternative, 298
- photocatalytic concrete, 175
- physical skills, self
  - assessment, 41–42
- pictures, site design
  - resource, 56
- pipe shears, irrigation
  - tool, 46
- pipes, lateral, 138
- pitchfork, earthmoving/
  - planting tool, 45
- plans
  - base sheet creation, 89–92
  - bubble diagrams, 84–86
  - concept plans, 84, 91–96
  - construction detail
    - drawings, 100–101
  - drainage, 97
  - field designs, 84, 86–87
  - grading, 97
  - irrigation, 98–99
  - legal issues, 101–102
  - planting, 97–98
  - site measurements, 87–89
  - working drawings, 96–99
- plant community, native
  - species, 237
- plant lists, site analysis, 55
- plant palette, 94–95, 239–241
- plant stress, mulch benefits,
  - 252
- planting plans, 97–98
- planting tools, 44–45
- plants
  - adversarial horticulture,
    - 235–236
  - annuals, 272–273
  - balled and burlapped,
    - 250–251
  - biennials, 272–273
  - bulbs, 273–275
  - cacti, 280–281
  - chemical fertilizer, 341–342
  - chlorosis, 246
  - chop and drop, 247, 309
  - climate-compatible, 146
  - compost, 246–249
  - crowns, 236
  - determinate growth
    - habit, 275
  - drought stress
    - symptoms, 148
  - ecoroofs, 184–185
  - erosion control, 210
  - examining existing, 61–62
  - exotics, 237
  - fence/barrier use, 181
  - fertilizers, 245–246
  - food plants, 281–284
  - graywater system
    - monitoring, 157
  - growing conditions,
    - 340–341
  - growth considerations,
    - 235–236
  - hardiness, 66
  - hydrozones, 138
  - information resources,
    - 234–235
  - invasive, 239
  - living ground cover, 176
  - meadows, 295–297
  - mulch, 250–256
  - myths, 238
  - native plants, 237–239
  - ornamental grasses,
    - 275–278
  - overcrowding, 340
  - overwatering, 341
  - palette development,
    - 239–241
  - perennial ground covers,
    - 274–275
  - perennials, 269–271
  - placement, 146
  - planting process, 249–251
  - potted varieties, 285–288
  - pruning, 304–308
  - removing overgrown, 337
  - removing weak/
    - underpreforming, 337
  - root systems, 147–148
  - root-bound, 236, 250
  - selection criteria, 236
  - soil analysis element, 57
  - soils, 241–246
  - specialty varieties, 284–285
  - succulents, 280–281
  - sustainability factors, 234
  - vegetated paving systems,
    - 212–213
  - vines, 278–279
  - water hyacinths, 200
  - watering needs, 148–151
  - weed controls, 311
  - wildflower meadows, 273
  - winterizing, 311–312
- plasters, earthen garden
  - walls, 216
- plastic lawns, lawn
  - alternative, 298
- plastic lumber, flooring
  - use, 177
- plastic sheeting, mulch
  - avoidance, 254
- play areas, living ground
  - cover, 176
- play equipment, 230
- pliers, irrigation tool, 47
- plumbers, irrigation work, 49
- plumbing fixtures, 60, 230
- point of connection, 135–137
- polluted runoff, 34
- polymers, soil myths, 243
- ponding zones, 125, 128
- ponds, 60, 198–201
- portable sprinklers, 112
- potted plants, planting,
  - 285–288
- poured concrete, flooring
  - use, 175–176
- power blowers, 224–225, 303,
  - 327–328
- power spots, site analysis, 55
- power surges,
  - controllers, 160
- power tools
  - alternatives, 303
  - avoiding, 343
  - environmental factors,
    - 302–303
  - trading for hand tools,
    - 338, 343
- precipitation rate, soil
  - conditions, 149–150
- pressure gauge, irrigation
  - tool, 46
- pressure mains, irrigation
  - systems, 136
- pressure regulators, 137, 158
- pressure vacuum breaker,
  - 137, 157

- pressure washers, deck
    - cleaning, 228
  - pressure-treated wood, 227
  - privacy, design
    - consideration, 65
  - problem areas, site
    - analysis, 55
  - Programme for the
    - Endorsement of Forest Certification (PEFC), 177
  - projects
    - budget development, 15–16
    - conceptual design, 19
    - construction skills
      - assessment, 41
    - cost considerations, 43
    - design skills assessment, 40–41
    - designing for success, 20–21
    - expense tracking, 16
    - landscape professionals, 48–50
    - phasing over months/years, 16
    - physical skills assessment, 41–42
    - research resources, 18–19
    - sequencing calendars, 16
    - sequencing operations, 17
    - site analysis, 54–56
    - site assessment, 18
    - time requirements, 42
    - toolbox requirements, 43–48
    - tools/materials
      - identification, 20
  - properties
    - drainage systems, 142–144
    - grading for water-harvesting systems, 124
    - maintenance
      - considerations, 68
    - needs identification, 66–67
    - overcoming limitations, 67
    - problem solving, 67
    - site analysis, 54–66
  - property lines, legal
    - issues, 102
  - pruning
    - arborists, 308
    - fruit trees, 307
    - heading back, 306–307
    - large branches, 305
    - ornamental grasses, 278
    - plant examination, 304
    - shrubs, 305–306
    - trees, 264
    - versus topping, 308
  - pruning saw, 47
  - pruning shears, 47
  - public parks, 234
  - pulaski, earthmoving/
    - planting tool, 45
  - pumice, inorganic mulch, 253
  - push broom, 45, 47
  - push mower, 47, 328
  - PVC pipe, avoiding, 113–114
- *Q* •
- questions
    - existing structure analysis, 63–64
    - gardener hiring, 68
    - tree selection, 259–260
- *R* •
- rabbit hutches, hardscapes, 202–204
  - railroad ties, avoiding, 187
  - rain gardens, watershed-friendly landscapes, 348
  - rain sensors, 140, 159
  - rainfall, site analysis, 60
  - rainwater. *See also* water
    - collection point
      - identification, 122
    - delivery point
      - identification, 122
    - drainage systems, 142–144
    - flow path identification, 122
    - harvested systems, 106–111
    - nonstorage systems, 107–109
    - nonstorage water-harvesting, 123–130
    - safety considerations, 123
    - storage systems, 109–110, 130–132
    - system sketch, 123
  - rakes, 45, 47
  - rammed earth
    - earthen garden walls, 218
    - sustainable furniture
      - alternative, 194–195
    - toolsheds, 202
  - ramps, hardscapes, 187
  - reclaimed materials, 26
  - records, site analysis, 55–56
  - recreation areas, outdoor
    - rooms, 191
  - recycled materials,
    - hardscape use, 26–27
  - recycling, sustainable waste disposal, 168
  - reduced pressure devices, 137, 157
  - reel mowers, lawn care
    - benefits, 328
  - regulators, irrigation systems, 137, 160
  - renewable materials, 28
  - renovation, lawn care, 324–325
  - repetition, design element, 72–73
  - resources, 18–19, 23–24
  - ReStores, salvaged/reclaimed materials, 26
  - retaining walls, 143–144, 220–222
  - riser pipes, hose bibb supply, 136
  - root systems, watering plans, 147–148
  - root-bound plants, avoiding, 236, 250
  - roots, tree health
    - indicator, 262
  - rotor heads, sprinkler systems, 139
  - rototillers, replacing an old lawn, 332
  - round-point shovel, 45

running grasses, planting, 277  
 runoff, 60, 208

## • S •

### safety

deck fire hazards, 178  
 lawn care concerns, 292  
 lighting reason, 194  
 rainwater harvesting systems, 123  
 site inspection, 230  
 site preparation, 165–166  
 utilities, 166–167  
 salvaged materials, hardscape resource, 26  
 sand, unit pavers, 212  
 sanding, deck maintenance, 228  
 schedules, watering, 151–153  
 screens, shrubs, 266  
 screwdrivers, 47, 89  
 sealers, avoiding, 223–224  
 seaweed extract, lawn care, 323  
 secondary nutrients, fertilizers, 245–246  
 security, lighting reason, 194  
 sedges, meadow plants, 296  
 sediment tubes, erosion control, 209  
 sedimentation basins, erosion control, 210  
 segmental retaining wall systems (SRWs) retaining walls, 221–222  
 stacking block systems, 180  
 sequential experience, landscape, 80–81  
 setbacks, legal issues, 102  
 shape, design element, 73–74  
 shearing, hedges, 307–308  
 shears, maintenance tool, 47  
 sheep, lawn mowing alternative, 328  
 sheet mulching perennial weed control, 254  
 replacing an old lawn, 332

smothering weeds, 172  
 weed control, 311  
 shelter tubes, termite indicator, 226  
 shovels, 45, 47  
 shrubs  
 aborescent, 265  
 broadleaf evergreen, 265  
 coniferous evergreen, 265  
 deciduous, 265  
 examining existing, 61–62  
 foundation plantings, 266  
 hedges, 266  
 house cooling uses, 345–346  
 landscaping uses, 265–266  
 massing, 266  
 mulch spacing, 256  
 planting, 267  
 potted plants, 286  
 pruning, 305–306  
 purchasing guidelines, 266–267  
 root systems, 147–148  
 screens, 266  
 specimens, 266  
 variegated, 265  
 wind breaks, 181  
 winterizing, 311–312  
 silt fence, erosion control, 168, 210  
 site analysis, deep design stage, 54–56  
 site assessment, 18, 142–143  
 site inspections, safety items, 230  
 site measurements, 87–91  
 site preparation, 165–172  
 16 grit sand, subterranean termites, 226  
 slopes, surface erosion prevention, 208–209  
 smart controllers, 119, 336  
 smooth-walled pipe, drainage systems, 144  
 snow/ice, site analysis, 60  
 soaker hoses, avoiding, 117  
 sod cutters, replacing an old lawn, 332  
 soil stability, site analysis, 57  
 soil stabilization, grasses, 277

soil tests, site analysis, 57  
 soils  
 amendment avoidance, 344  
 amendment myths, 242–243  
 asphaltic emulsion, 215  
 backfill, 249–250  
 clay, 241–242  
 clay loam, 242  
 compost, 246–249  
 earthen walls, 215  
 food web, 243–244  
 importing/exporting, 170  
 internal drainage, 245  
 lawn health condition, 322  
 loam, 241–242  
 management myths, 242–243  
 mulch benefits, 252  
 mycorrhizal fungus, 242, 245  
 organic fertilizers, 245–246  
 organic recommendations, 244  
 potted plants, 287  
 precipitation versus infiltration, 149–150  
 sandy, 241–242  
 sandy loam, 242  
 site analysis, 56–58  
 testing, 244–245  
 tilling, 343–344  
 water holding capacity, 150  
 solar power, 195, 199  
 solenoids, zone valves, 158  
 sour smell, mulch byproduct, 256  
 space planning, 93–94  
 special effects, ornamental grasses, 277  
 specimen shrubs, focal points, 266  
 spillways, 127  
 sports areas, outdoor rooms, 191  
 spray heads, sprinkler systems, 138  
 spreadsheets, expense tracking, 16  
 springs, site analysis, 60  
 sprinkler systems, 114–115

- sprinklers
    - distribution uniformity (DU), 140–141
    - head-to-head coverage, 140
    - impact heads, 139
    - infiltration versus precipitation rate, 150
    - irrigation systems, 138–139
    - lateral pipes, 138
    - maintenance, 161–162, 336
    - replacing an old lawn, 332
    - rotor heads, 139
    - spray heads, 138
    - water audits, 150–151
  - spruce trees, biogenic emissions, 34
  - square-point shovel, 45
  - stacking functions, 37–38, 188, 252
  - stains, avoiding, 223–224
  - standing water, site analysis, 60
  - steps, 187, 214
  - stone
    - retaining walls, 220–221
    - step material, 187
    - sustainable furniture alternative, 194
  - storage spaces, hardscapes, 201–202
  - storage systems
    - critter-exclusion devices, 156
    - harvested rainwater, 109–110
    - maintenance, 156
    - rainwater harvesting, 130–132
  - straw bales, 194–195, 202
  - straw wattles, 168, 209–210
  - streambeds
    - hardscapes, 198–201
    - maintenance, 155–156
    - nonstorage water-harvesting system, 108
  - streams, site analysis, 60
  - structures, examining existing, 62–64
  - styles, design element, 81
  - subslabs, unit pavers, 211–212
  - succulents, 280–281, 286
  - sun paths, site analysis, 58–59
  - sunlight, lawn health element, 322
  - Sunset zone system, growing data, 66
  - superadobe
    - earthen retaining walls, 222
    - sustainable furniture alternative, 195
    - toolsheds, 202
  - support systems, vines, 279
  - surcharge, walls, 179, 220, 222
  - surface erosion
    - mulch benefits, 252
    - prevention techniques, 207–210
    - site analysis, 58
  - surface grading, drainage systems, 143
  - surveyors, site measurements, 87
  - sustainability, nature's way, 9–10
  - sustainable design, 300–302
  - swales
    - maintenance, 155–156
    - water-harvesting, 108–109, 125, 127–128
  - sweeping, 224, 229
  - sweet gum trees, 34
  - sycamore trees, 34
- T •
- tape measures, 44, 88
  - tax credits, ecoroofs, 184–185
  - termites, wood decks, 225–227
  - terraces, water-harvesting, 125, 129
  - terrain, site analysis, 58
  - textures, 77, 240
  - timbers, retaining walls, 222
  - timers
    - irrigation system controllers, 118–119
    - low-voltage lighting, 196
    - watering schedules, 151–153
  - tissue paper, design tool, 44
  - tongue-and-groove pliers, 47
  - toolbox, 44–47, 88
  - toolsheds, hardscapes, 202
  - toxins
    - building material concerns, 35–36
    - finishing material, 223
    - herbicides, 171
    - pesticide issues, 316
    - PVC pipe, 113–114
  - trace elements, seaweed extract, 323
  - tractors, 44–45, 205–206
  - transformers, lighting, 195–197
  - transplanted trees, high loss risk, 262
  - trash, 230, 256
  - Tree Care Industry Association (TCIA), 308
  - tree trimmers, 49. *See also* arborists
  - trees
    - arborists, 308
    - biogenic emissions, 34
    - crown reduction, 308
    - deciduous, 184, 258–259, 345–346
    - dormant season, 262
    - drip lines, 168
    - espaliered, 261
    - evergreen, 258–259, 345–346
    - examining existing, 61–62
    - fruit, 261
    - growing methods, 261–262
    - health indicators, 262–263
    - landscaping benefits, 257–259
    - lawn health element, 322
    - living ceilings, 184
    - mulch spacing, 256
    - planting, 263
    - pruning, 264, 304–308
    - root systems, 147–148
    - safety inspection item, 230
    - safety issues, 166
    - selection criteria, 259–260
    - size issues, 260
    - topping, 308
    - wind breaks, 181
    - winterizing, 311–312

trenching shovel, irrigation tool, 47  
 triangles, base sheet creation, 89–91  
 triangulation, site measurements, 88–89  
 trip hazards, safety inspection item, 230  
 trunk flare, tree health indicator, 262  
 T-square, 44, 89–91  
 turf, water-wise landscapes, 146–147

## • U •

U.S. Army Corps of Engineers, 201  
 unconventional design, 79  
 underground basins, 156  
 underground wiring, maintenance, 159  
 unit pavers, hardscapes, 211–212  
 unity, design element, 70–71  
 urbanite  
   flooring use, 176  
   hardscape use, 25–26  
   pathways, 186  
   step material, 187  
 utilities, locating, 166–167  
 utility easements, safety concerns, 166

## • V •

valves, 137–138  
 vantage points, 76  
 variegated colors, 77  
 variegated shrubs, 265  
 variety, design element, 73  
 varmints  
   grasses, 277  
   pest controls, 317–319  
   tree protection methods, 264  
   vines, 279  
   water feature  
     discouragement, 200–201  
 vegetables, potted plants, 286  
 vegetated paving system, 189, 212–213

vegetation, protecting, 168  
 vessels, water features, 198  
 vibratory plate compactor, 229  
 views, site analysis, 62  
 vinegar, horticultural, 171–172  
 vines, 181, 278–279  
 viruses, disease controls, 320  
 volatile organic compounds (VOCs), paints/finishes, 28  
 voltmeters, controller testing, 159

## • W •

walls  
   cantilever, 180  
   earthen, 215–220  
   earthen garden, 215–220  
   free-standing, 179  
   retaining, 180, 220–222  
   segmental retaining, 180  
 warm season, grass category, 277  
 washing, hand-watering opportunity, 224  
 waste, sustainable disposal, 168  
 waste-stream materials, 25–26  
 water. *See also* rainwater  
   branched drain system, 133  
   grasses, 277  
   graywater systems, 110–111, 132–134  
   hand watering, 111–112  
   harvested systems, 106–111  
   irrigation controllers, 336  
   lawn care, 326–327  
   lawn health element, 322  
   lawn management, 294  
   maintenance material, 29–30  
   mulch benefits, 252  
   natural rainfall only, 106  
   perennial ground cover concern, 275  
   permanent irrigation, 112–114, 134–141  
   plant palette item, 240  
   portable sprinklers, 112  
   potted plants, 288  
   site analysis, 59–61  
   surface erosion prevention, 208  
   tree maintenance, 264  
   watershed-friendly landscapes, 348  
 water audits, 150–151  
 water features, 198–201  
 water holding capacity, soils, 150  
 water hyacinths, water features, 200  
 water mains, point of connection, 135–136  
 water management, 146–148  
 water treatment systems, maintenance, 162  
 water waste, lawn care factor, 290–291  
 waterfalls, hardscapes, 198–201  
 water-harvesting systems, 155–157  
 watering plans, 147–153  
 watershed-friendly landscapes, 348  
 water-wise landscapes, 146–147  
 wear-resistant paving, 186  
 weather, 65–66, 149  
 Web sites  
   Cal-Earth, 222  
   Call 811, 167  
   Cornell University, 290  
   earthen walls, 215  
   Edible Forest Gardens, 283  
   Firewise Communities, 347  
   foodshed management, 282  
   Green Roofs for Healthy Cities, 185  
   Habitat for Humanity, 26  
   landscape design software, 91  
   Landscaping for Backyard Wildlife, 349  
   medicinal perennial plants, 270  
   microclimate modifications, 345

Web sites (*continued*)

- Missouri Department of Conservation, 349
- Permaculture Institute, 350
- Pesticide Action Network North America, 315
- Plants for a Future, 283
- Rincon-Vitova Insectaries, 315
- toxic material research, 36
- tree selection resource, 259
- U.S. Department of Agriculture, 66
- wildlife habitat certification, 270
- weed seeds, mulch problems, 256
- weeding tool, 47
- weeds
  - burning off, 172
  - chopping/hoeing, 172
  - control techniques, 310–311
  - flame weeders, 172
  - goats, 172
  - grasses, 278
  - horticultural vinegar, 171–172
  - horticultural vinegar, 228
  - lawn care controls, 331
  - mulch benefits, 252
  - organic controls, 170–172
  - ornamental grass concerns, 275
  - perennial ground cover concern, 275
  - removing before mulching, 255
  - sheet mulching, 172
  - wells, maintenance, 162
  - wet concrete, health issues, 166
  - wheelbarrow, 45
  - wildfires, landscape zones, 347
  - wildflower meadows, planting, 273
  - wildlife
    - critter-friendly landscape, 349
    - habitats, 270
    - lawn shortcomings, 292
    - pest controls, 317–319
    - vines, 279
  - willow trees, 34
  - wind breaks, 181, 345–346
  - winterizing, irrigation systems, 161
  - wood decking, 177
  - wooden fences, 181
  - woods, 177, 194, 202, 222
  - work areas, 165, 201–202
  - working drawings, 97–99
  - wye-type filters, drip systems, 139

## • Y •

- yard likes/dislikes, site analysis, 56
- yards. *See also* lawns; site analysis
  - existing plants, 61–62
  - mulch benefits, 253
  - soils/geological analysis, 56–58
  - sun paths, 58–59
  - terrain aspects, 58

## • Z •

- zero maintenance, native plant myth, 238
- zero-runoff landscape, 108
- zone maps, 66
- zone valves, 137–138, 158–159
- zones, 124–125, 128, 138, 347
- zoning ordinances, 102, 183