INDEX

diaphragm, 243, 507	equivalent lateral force, 480
defined, 59	equivalent lateral force procedure, 89-93
flexibility, 80–81, 81f	horizontal distribution of forces, 91
diaphragm boundary, 59	isolated structures, 169
diaphragm chord, 59	overturning, 92
diaphragm deflection, 97	p-delta effects, 93
diaphragm strut, 59	period determination, 90
direct design, 379	seismic base shear, 89
directional procedure, 243	soil-structure interaction, 199-201, 201f
displacement, 165	story drift determination, 92, 93f
displacement-dependent damping device, 179	structures with damping systems, 187–190
displacement restraint system, 165	vertical distribution of seismic forces, 91
domed roofs, 285f, 344f, 432	equivalent static method, 494
Donelan, M.A., 511, 515	equivalent uniformly distributed loads, 410
Downey, C., 434	erosion effects, 21, 416
drag strut, 59	escalators, 125
drainage, 43. See also ponding instability	escarpment, 243
dual system	essential facilities, 1
defined, 59	existing building provisions, 363–364
seismic design requirements, 78	expansion and contraction, 365, 582
ductwork, 123–124	explosive substances, 5–6, 382–383
Dumitrescu-Brulotte, M., 571	exposure, 246, 251, 256f
Dunn, G.E., 526	exposure factor, 427–428
durability, 365, 582	extraordinary events, load combinations for, 9,
Durst, C.S., 510, 513	393–395
Dusenberry, D.O., 394, 395	extreme impact loads, 419
dynamic analysis procedures, 172–175, 495	,
	factored load, 1
earthquake load, 468. See also seismic design	Factory Mutual Engineering Corp., 447
earth-retaining structures, 148	Federal Aviation Administration, 409
Eaton, K.J., 571	Federal Emergency Management Agency (FEMA)
eave height, 243	387, 415
eave icings, 428, 430–431	federal government construction, 471
effective damping, 165, 190–192, 200	Federal Insurance and Mitigation Administration
effective ductility demand, 192	(FIMA), 415
effective seismic weight, 88–89	field standard penetration resistance average,
effective stiffness, 165	204
effective wind area, 243, 507–508	Filliben, J.J., 576
electrical components, 484, 485–488	Finney, E., 432
quality assurance, 361	Fintel, M., 379
seismic design requirements for, 120t–121t,	fire protection sprinkler piping systems, 124, 488
122	fire pump equipment, 484
electrical equipment, testing, 362	Fisher, J., 579, 580
elevators, 125, 410	fixed ladder, 13, 14, 409
Ellingwood, B., 387, 388, 389, 394, 395, 513, 579,	fixed service equipment weight, 11
580, 581	flat roof
Ellingwood, B.R., 379, 407	reduction in live loads, 411
Elliott, M., 427	snow loads, 29, 31, 427–430, 435, 436
enclosure, 59	wind loads, 322, 345f
enclosure classification, 255, 257	flexible connections, 59
envelope procedure, 243. See also wind loads on	flood hazard area, 21, 416
buildings—MWFRS (envelope procedure)	flood hazard map, 21, 416
equipment support, 59	flood insurance rate map (FIRM), 21