Equivalent Lateral Force Method

(Based on ASCE7-10 Chapters 11, 12 & 15)

Spectral Response Acceleration for Short Period (S_s):	0.25
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.08
Long-Period Transition Period (T_L - Seconds):	6
Importance Factor (I_e):	1.00
Site Coefficient F_a:	1.60
Site Coefficient F_v:	2.40
Response Modification Coefficient (R):	2.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.26
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.13
Seismic Response Coefficient (C_s):	0.06
Upper Limit C_s:	0.06
Lower Limit C_s:	0.03
Period based on Rayleigh Method (sec):	0.87
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.18
Total Unfactored Dead Load:	35.25 k
Seismic Base Shear (E):	2.68 k

LoadCase (1.2 + 0.2Sds) * DL + E Seismic

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
27	272.50	246	187,056	0.013	35	308
26	269.42	107	80,419	0.006	15	134
25	268.25	83	61,761	0.004	12	104
24	267.08	107	79,561	0.006	15	134
23	265.75	95	70,087	0.005	13	119
22	255.00	1,323	930,133	0.066	176	1,656
21	235.00	1,384	883,870	0.063	167	1,733
20	222.50	409	244,745	0.017	46	512
19	219.25	124	73,049	0.005	14	156
18	217.33	179	104,405	0.007	20	225
17	215.58	130	74,914	0.005	14	163
16	214.42	129	73,999	0.005	14	162
15	213.25	130	73,918	0.005	14	163
14	212.08	113	64,122	0.005	12	142
13	206.50	810	444,110	0.031	84	1,015
12	200.75	141	74,495	0.005	14	176
11	190.00	1,831	909,040	0.064	172	2,293
10	170.00	2,118	922,068	0.065	174	2,652
9	150.00	2,113	793,340	0.056	150	2,646
8	130.00	2,134	676,275	0.048	128	2,672
7	110.00	2,162	562,385	0.040	106	2,708
6	90.00	2,149	440,882	0.031	83	2,691
5	70.00	2,149	327,511	0.023	62	2,692
4	50.00	2,165	221,575	0.016	42	2,711