Proposed Somerset Street Elevations and Mass Earthwork

Lightweight Concrete is Used After New Dead Load Exceeds 60 lbs./s.f.

Station	Existing Elevation	Design Centerline Elevation	Offset Crown Left of Centerline	Slope from Crown to Edge of Travel Way Left	Elevation at 11' Left	Is there No Parking? If so Add 0.58	Elevation to 12' Left (.04 Higher Than 11' Left Plus .58 for the Curb)	Average Slope Between Curb and Accessible Route (0 to 6' Off Building)	Elevation 6' in Front of the Building Face (This permits a 2% cross I=slope on a 6'=0" sidewalk area in front of the building per discussions with City staff on 10/23/13)	Slope From 11' Left to 19' Left When Parking is Adjacent to Curb	Is Curb located at 19' left? (Yes=.58; No=0)	Elevation at 19.01' Left	Elevation at 11' Right	Slope from Centerline to 11' Right	Slope From 11' Right to 19' Right	Elevation at 19' Right	Elevation at Back of Sidewalk When There is No Flush Curb at the Gutter (Sidewalk Cross Slope is 1-2 % Up from the Curb - See Dwg. C-7.0A)	Station	Elevation at Gutter Left	Elevation at Edge of Parking Left	Elevation at Top of Curb	Slope from Curb to Building (if no ramps)	Elevation Difference at Centerline	Thickness of Lightweight Concrete Required	Required After Adjustment for Leveling	Excavation Volume	Elevation at BOE at Centerline of Right of Way	Added Concrete Due to Warp of parking	Added Concrete in Ramp Area	Added Excavation in Ramp Area	Concrete for 25 Foot Section	Amount of Federated Side
2+25	7.86	7.94		-3.00%	7.61	0.58	8.23	24.13%	11.86	3.00%	0.00	8.97	7.61	-3.00%	-3.00%	7.33	8.07																
2+50	7.84	8.34		-3.00%	8.01	0.58	8.63	20.79%	11.86	3.00%	0.00	9.37	8.01	-3.00%	-3.00%	7.73	8.47	2+50	8.01	8.17	8.75	18.06%	0.50	0.00	0.85	50.37	**6.99**	0.00	0.00	0.00	0.00	**0.00**
2+75	7.76	8.83		-3.00%	8.50	0.58	9.12	16.71%	11.86	3.00%	0.00	9.86	8.50	-3.00%	-3.00%	8.22	8.96	2+75	8.50	8.66	9.24	15.33%	1.07	0.86	0.99	58.67	**6.77**	0.00	0.00	0.00	0.00	**0.00**
3+00	7.92	9.36		-3.00%	9.03	0.58	9.65	12.29%	11.86	3.00%	0.00	10.39	9.03	-3.00%	-3.00%	8.75	9.33	3+00	9.03	9.19	9.61	13.28%	1.44	1.41	1.55	91.56	**6.38**	0.01	1.99	49.79	201.96	**31.56**
3+25	8.05	9.90	0.28	-1.50%	9.74	0.58	10.35	5.38%	11.86	3.50%	0.00	11.22	9.29	-3.00%	-3.50%	9.01	9.51	3+25	9.57	9.85	10.27	9.61%	1.85	2.03	2.16	128.00	**5.89**	0.28	1.44	36.04	222.02	**34.69**
3+50	8.12	10.38	0.28	-1.50%	10.22	0.00	10.25	6.21%	11.86	3.50%	0.58	11.12	9.77	-3.00%	-3.50%	9.49	9.99	3+50	10.05	10.33	10.75	6.94%	2.26	2.64	2.78	164.44	**5.35**	0.28	1.04	26.04	234.77	**36.68**
3+75	8.19	10.71	0.28	-1.50%	10.55	0.00	10.58	3.46%	11.86	3.50%	0.58	11.45	10.10	-3.00%	-3.50%	9.82	10.32	3+75	10.38	10.66	11.08	5.11%	2.52	3.03	3.17	187.56	**5.03**	0.28	0.77	19.17	241.58	**37.75**
4+00	8.13	10.88	0.33	-1.50%	10.72	0.00	10.75	2.04%	11.86	3.50%	0.58	11.62	10.22	-3.00%	-3.50%	9.94	10.44	4+00	10.55	10.83	11.25	4.17%	2.75	3.38	3.51	208.00	**4.62**	0.28	0.63	15.63	253.63	**39.63**
4+25	7.99	10.88	0.33	-1.50%	10.72	0.00	10.75	2.04%	11.86	3.50%	0.58	11.62	10.22	-3.00%	-3.50%	9.94	10.44	4+25	10.55	10.83	11.25	4.17%	2.89	3.59	3.72	220.44	**4.27**	0.28	0.63	15.63	266.07	**41.57**
4+50	7.79	10.77	0.33	-1.50%	10.61	0.00	10.64	2.96%	11.86	3.50%	0.58	11.51	10.11	-3.00%	-3.50%	9.83	10.33	4+50	10.44	10.72	11.14	4.78%	2.98	3.72	3.86	228.44	**3.94**	0.28	0.00	0.00	237.04	**37.04**
4+75	7.62	10.69	0.33	-1.50%	10.53	0.00	10.56	3.63%	11.86	3.50%	0.58	11.43	10.03	-3.00%	-3.50%	9.75	10.25	4+75	10.36	10.64	11.06	5.22%	3.07	3.86	3.99	236.44	**3.63**	0.28	0.00	0.00	245.04	**38.29**
5+00	7.58	10.67	0.28	-1.50%	10.51	0.00	10.54	3.79%	11.86	3.50%	0.58	11.41	10.06	-3.00%	-3.50%	9.78	10.28	5+00	10.34	10.62	11.04	5.33%	3.09	3.89	4.02	238.22	**3.56**	0.28	0.00	0.00	246.81	**38.56**
5+25	7.57	10.70	0.28	-1.50%	10.54	0.00	10.57	3.54%	11.86	3.50%	0.58	11.44	10.09	-3.00%	-3.50%	9.81	10.31	5+25	10.37	10.65	11.07	5.17%	3.13	3.95	4.08	241.78	**3.49**	0.28	0.00	0.00	250.37	**39.12**
5+50	7.67	10.80	0.28	-1.50%	10.73	0.00	10.76	1.96%	11.86	3.50%	0.58	11.63	10.19	-3.00%	-3.50%	9.91	10.41	5+50	10.47	10.75	11.17	4.61%	3.13	3.95	4.08	241.78	**3.59**	0.28	0.00	0.00	250.37	**39.12**
5+75	7.76	10.89	0.28	-1.50%	10.82	0.00	10.85	1.21%	11.86	3.50%	0.58	11.72	10.28	-3.00%	-3.50%	10.00	10.50	5+75	10.56	10.84	11.26	4.11%	3.13	3.95	4.08	241.78	**3.68**	0.28	0.00	0.00	250.37	**39.12**
6+00	7.89	10.92	0.28	-1.50%	10.85	0.00	10.88	0.96%	11.86	3.50%	0.58	11.75	10.31	-3.00%	-3.50%	10.03	10.53	6+00	10.59	10.87	11.29	3.94%	3.03	3.80	3.93	232.89	**3.96**	0.28	0.00	0.00	241.48	**37.73**
6+25	8.07	10.89	0.28	-1.50%	10.82	0.00	10.85	1.21%	11.86	3.50%	0.58	11.72	10.28	-3.00%	-3.50%	10.00	10.50	6+25	10.56	10.84	11.26	4.11%	2.82	3.48	3.62	214.22	**4.46**	0.28	0.00	0.00	222.81	**34.81**
6+50	8.25	10.79	0.28	-1.50%	10.72	0.00	10.75	2.04%	11.86	3.50%	0.58	11.62	10.18	-3.00%	-3.50%	9.90	10.40	6+50	10.46	10.74	11.16	4.67%	2.54	3.06	3.20	189.33	**5.06**	0.28	0.00	0.00	197.93	**30.93**
6+75	8.44	10.72	0.28	-1.50%	10.65	0.00	10.68	2.63%	11.86	3.50%	0.58	11.55	10.11	-3.00%	-3.50%	9.83	10.33	6+75	10.39	10.67	11.09	5.06%	2.28	2.67	2.81	166.22	**5.64**	0.28	0.00	0.00	174.81	**27.31**
7+00	8.58	10.76	0.28	-1.50%	10.69	0.00	10.72	2.29%	11.86	3.50%	0.58	11.59	10.15	-3.00%	-3.50%	9.87	10.37	7+00	10.43	10.71	11.13	4.83%	2.18	2.52	2.66	157.33	**5.93**	0.28	0.00	0.00	165.93	**25.93**
7+25	8.70	10.90		-3.00%	10.57	0.00	10.61	4.29%	11.86	3.00%	0.58	11.35	10.57	-3.00%	-3.00%	10.29	11.03	7+25	10.57	10.73	11.31	3.83%	2.20	2.55	2.69	159.11	**6.02**	0.13	0.00	0.00	158.66	**24.79**
7+50	8.84	11.16		-3.00%	10.83	0.00	10.87	2.12%	11.86	3.00%	0.58	11.61	10.83	-3.00%	-3.00%	10.55	11.29	7+50	10.83	10.99	11.57	2.39%	2.32	2.73	2.87	169.78	**5.98**	0.13	0.00	0.00	169.32	**26.46**
In front of Parking Garage #1						If no enter 0.58	Gutter at 13' Left	Computed Side Walk Slope	Elevation Face of Garage																								
7+75	8.97	11.42		-3.00%	11.09	0.58	11.61	1.79%	11.86	3.00%	0.00	11.77	11.09	-3.00%	-3.00%	10.81	11.49	7+75	11.09	11.25	11.83	1.2%	2.45	2.93	3.06	153.00	**5.91**	0.15	0.00	0.00	153.79	**0.00**
8+00	9.29	11.56		-3.00%	11.23	0.58	11.75	0.79%	11.86	3.00%	0.00	11.91	11.23	-3.00%	-3.00%	10.95	11.63	8+00	11.23	11.39	11.97	0.2%	2.27	2.66	2.79	139.50	**6.50**	0.15	0.00	0.00	140.28	**0.00**
8+25	9.36	11.60		-3.00%	11.27	0.58	11.79	0.50%	11.86	3.00%	0.00	11.95	11.27	-3.00%	-3.00%	10.99	11.67	8+25	11.27	11.43	12.01	-0.1%	2.24	2.61	2.75	137.25	**6.62**	0.15	0.00	0.00	138.04	**0.00**
8+50	9.46	11.53		-3.00%	11.20	0.58	11.72	1.00%	11.86	3.00%	0.00	11.88	11.20	-3.00%	-3.00%	10.92	11.60	8+50	11.20	11.36	11.94	0.4%	2.07	2.36	2.49	124.50	**6.97**	0.15	0.00	0.00	125.29	**0.00**
8+75	9.65	11.44		-3.00%	11.11	0.58	11.63	1.64%	11.86	3.00%	0.00	11.79	11.11	-3.00%	-3.00%	10.83	11.51	8+75	11.11	11.27	11.85	1.1%	1.79	1.94	2.07	103.50	**7.58**	0.15	0.00	0.00	104.29	**0.00**
9+00	9.86	11.40		-3.00%	11.07	0.58	11.59	1.93%	11.86	3.00%	0.00	11.75	11.07	-3.00%	-3.00%	10.79	11.47	9+00	11.07	11.23	11.81	1.4%	1.54	1.56	1.70	84.75	**8.17**	0.15	0.00	0.00	85.54	**0.00**
9+25	10.06	11.44		-3.00%	11.11	0.58	11.63	1.64%	11.86	3.00%	0.00	11.79	11.11	-3.00%	-3.00%	10.83	11.51	9+25	11.11	11.27	11.85	1.1%	1.38	1.32	1.46	72.75	**8.61**	0.15	0.00	0.00	73.54	**0.00**
9+50	10.27	11.53		-3.00%	11.20	0.58	11.72	1.00%	11.86	3.00%	0.00	11.88	11.20	-3.00%	-3.00%	10.92	11.60	9+50	11.20	11.36	11.94	0.4%	1.26	1.14	1.28	63.75	**9.00**	0.15	0.00	0.00	64.54	**0.00**
9+75	10.46	11.62		-3.00%	11.29	0.58	11.81	0.36%	11.86	3.00%	0.00	11.97	11.29	-3.00%	-3.00%	11.01	11.69	9+75	11.29	11.45	12.03	-0.2%	1.16	0.99	1.13	56.25	**9.34**	0.15	0.00	0.00	57.04	**0.00**
10+00	10.62	11.66		-3.00%	11.33	0.58	11.85	0.07%	11.86	3.00%	0.00	12.01	11.33	-3.00%	-3.00%	11.05	11.73	10+00	11.33	11.49	12.07	-0.5%	1.04	0.81	0.95	47.25	**9.68**	0.15	0.00	0.00	48.04	**0.00**
10+25	10.60	11.62		-3.00%	11.29	0.58	11.81	0.36%	11.86	3.00%	0.00	11.97	11.29	-3.00%	-3.00%	11.01	11.69	10+25	11.29	11.45	12.03	-0.2%	1.02	0.78	0.91	45.75	**9.69**	0.15	0.00	0.00	46.54	**0.00**
10+50	10.53	11.53		-3.00%	11.20	0.58	11.72	1.00%	11.86	3.00%	0.00	11.88	11.20	-3.00%	-3.00%	10.92	11.60	10+50	11.20	11.36	11.94	0.4%	1.00	0.75	0.89	44.25	**9.65**	0.15	0.00	0.00	45.04	**0.00**
10+75	10.37	11.41		-3.00%	11.08	0.58	11.60	1.86%	11.86	3.00%	0.00	11.76	11.08	-3.00%	-3.00%	10.80	11.48	10+75	11.08	11.24	11.82	1.3%	1.04	0.81	0.95	47.25	**9.43**	0.15	0.00	0.00	48.04	**0.00**
11+00	10.22	11.34		-3.00%	11.01	0.58	11.53	2.36%	11.86	3.00%	0.00	11.69	11.01	-3.00%	-3.00%	10.73	11.41	11+00	11.01	11.17	11.75	1.8%	1.12	0.93	1.07	53.25	**9.16**	0.15	0.00	0.00	54.04	**0.00**
11+25	10.07	11.40		-3.00%	11.07	0.58	11.59	1.93%	11.86	3.00%	0.00	11.75	11.07	-3.00%	-3.00%	10.79	11.47	11+25	11.07	11.23	11.81	1.4%	1.33	1.25	1.38	69.00	**8.69**	0.15	0.00	0.00	69.79	**0.00**
11+50	9.92	11.49		-3.00%	11.16	0.58	11.68	1.29%	11.86	3.00%	0.00	11.84	11.16	-3.00%	-3.00%	10.88	11.56	11+50	11.16	11.32	11.90	0.7%	1.57	1.61	1.74	87.00	**8.18**	0.15	0.00	0.00	87.79	**0.00**
In Parking Near Muse							Gutter at 12' Left		Elev at 31 feet left																0.14							
11+75	9.79	11.32		-3.00%	10.99	0.58	11.61	1.34%	11.86	3.00%	0.00	11.77	10.99	-3.00%	-3.00%	10.71	11.39	11+75	10.99	11.15	11.73	1.9%	1.53	1.55	1.68	99.56	**8.11**	0.13	0.00	0.00	99.10	**15.48**
																									0.14							
Separation by Steps,							Elevation at	19 to 31%																	0.14							
Landings, Ramps or Planters							13 feet left																		0.14							
12+00	9.40	10.85		-3.00%	10.52	0.58	11.14	6.04%	11.86	3.00%	0.00	11.30	10.52	-3.00%	-3.00%	10.24	10.92	12+00	10.52	10.68	11.26	5.3%	1.45	1.43	1.56	92.44	**7.84**	0.13	0.62	15.42	128.53	**20.08**
12+25	8.98	10.12		-3.00%	9.79	0.00	9.83	16.96%	11.86	3.00%	0.58	10.57	9.79	-3.00%	-3.00%	9.51	10.19	12+25	9.79	9.95	10.53	10.5%	1.14	0.96	1.10	64.89	**7.89**	0.13	1.23	30.63	137.03	**21.41**
12+50	8.68	9.37		-3.00%	9.04	0.00	9.08	23.21%	11.86	3.00%	0.58	9.82	9.04	-3.00%	-3.00%	8.76	9.44	12+50	9.04	9.20	9.78	15.9%	0.69	0.28	0.42	39.00	**8.26**	0.13	1.85	46.25	39.00	**6.09**
12+75	8.39	8.80		-3.00%	8.47	0.00	8.51	27.96%	11.86	3.00%	0.58	9.25	8.47	-3.00%	-3.00%	8.19	8.87	12+75	8.47	8.63	9.21	19.9%	0.41	0.00	0.14	40.00	**8.26**	0.13	2.33	58.13	40.00	**6.25**
Near Pearl Street Intersection																																	
13+00	8.19	8.42		-3.00%	8.09	0.58	8.71	17.53%	11.86	3.00%	0.58	9.45	8.09	-3.00%	-3.00%	7.81	8.49	13+00	8.09	8.25	8.83	22.6%	0.23	0.00	0.85	40.00	**7.34**	0.13	2.64	66.04	40.00	**6.25**
13+25	8.09	8.21		-3.00%	7.88	0.58	8.50	18.69%	11.86	3.00%	0.58	9.24	7.88	-3.00%	-3.00%	7.60	8.28	13+25	7.88	8.04	8.62	24.1%	0.12	0.00	0.85	0.00	**7.24**	0.13	2.82	70.42	0.00	**0.00**
13+50	8.06	8.06		-3.00%	7.73	0.00	7.77	22.75%	11.86	3.00%	0.00	7.93	7.73	-3.00%	-3.00%	7.45	8.13	13+50	7.73	7.89	8.47	25.2%	0.00	0.00	0.85	0.00	**7.21**	0.13	2.94	73.54	0.00	**0.00**

Elms Street Adjustments (not computed by spreadsheet)

Ramps	2
Steps	2 risers (1 set)
Planter Area	480 square feet
Planter Retaining Wall	80
Excavation	75 cubic yards
Lightweight Fill	75 cubic yards
Base	41 cubic yards

Quantities to the Right are from Somerset Street Only (excludes Elm and Chestnut Street)

6,056.34	Lightweight Concrete (cy)
6,364.16	Excavation (cy)
719.95	Binder (tons)
359.98	Surface Pavement (tons)
977.78	Reclaim (cy)
977.78	Salvaged Subbase Below Reclaim
2,500.48	Required Subbase or Granular Above Waste
978.00	Deduction for Salvaged Subbase
1,522.48	Net Subbase

PROPOSED CHESTNUT STREET ELEVATIONS AND MASS EARTHWORK

LIGHTWEIGHT CONCRETE IS USED FOR MITIGATION WHEN NET NEW DEAD LOAD EXCEEDS 60 POUNDS PER CUBIC FOOT.

Station	Existing Elevation	Proposed Elevation at Centerline or Edge of "Eye"	Slope from Centerline or Edge of "Eye" to Gutter	Elevation at Gutter	Curb	Elevation at Top of Curb	Width of Pavement Each Side of Eye	Distance from Centerline to Curb	Elevation 6' from Face of Building	Excavation (CY)	Lightweight Concrete (CY)	Grade Change	Concrete Thickness	Base Concrete Volume (CY)
3+75	9.92	10.27	-3.00%	9.91	0.58	10.49	12	15.00	11.88	0	0	0.35		0.0
4+00	10.00	10.62	-2.00%	10.30	0.58	10.88	16	14.00	11.88	0	0	0.62	0.18	15.8
4+25	10.27	10.97	-2.00%	10.59	0.58	11.17	19	23.50	11.88	0	0	0.70	0.30	26.4
4+50	10.42	11.30	-2.00%	10.94	0.58	11.52	18	29.00	11.88	11	11	0.88	0.57	50.1
4+75	10.19	11.54	-2.00%	11.18	0.58	11.76	18	31.50	11.88	116	116	1.35	1.28	112.2
5+00	9.43	11.68	-2.00%	11.30	0.58	11.88	19	23.50	11.88	319	319	2.25	2.63	230.9
5+25	8.60	11.72	-2.50%	11.25	0.58	11.83	19	19.00	11.88	515	515	3.12	3.93	345.7
5+50	8.56	11.66	-3.00%	11.27	0.58	11.85	13	16.00	11.88	510	510	3.10	3.90	343.1
6+25	8.89	10.90	-3.00%	10.66	0.58	11.24		17.00	11.88	265	265	2.01	2.27	104.9
6+50	9.16	10.44	-3.00%	10.20	0.58	10.78		17.00	11.88	101	101	1.28	1.17	54.2
6+75	9.26	9.98	-3.00%	9.74	0.58	10.32		17.00	11.88			0.72	0.33	15.3
7+00	9.40	9.70	-3.00%	9.46	0.58	10.04		17.00	11.88			0.30		0.0
										1,835	**1,835**			**1,298**

	Elm Street	Somerset Street	Chestnut Street	Total
Excavation (CY)	75	6,364	1,835	**8,274**
Lightweight Concrete (CY)	75	6,056	1,835	**7,966**
Reclaim (CY)	0	978	185	**1,163**
Salvage Subbase (CY)	0	978	185	**1,163**
Binder Pavement (tons)	0	720	96	**816**
Surface Pavement (tons)	0	360	57	**417**
Subbase (CY)	0	1,522	1,455	**2,977**
Grind or Reshap Surface (SY)	974		630	**1,604**
Shim and Overlay (tons)	190		120	**310**

The quantities shown on this drawing are for the use of FST only.
Do Not Use for Contract Pricing

SUBMITTED NOVEMBER 14, 2014 AS PART OF LEVEL III SUBMISSION. THIS PLAN REFLECTS INFORMATION PRESENTED ON DECEMBER 20, 2013 AS PART OF THE ORIGINAL MIDTOWN SUBMISSION.

SHEET C-3.9
DATA SUMMARY SHEET FOR
SOMERSET AND CHESTNUT STREETS