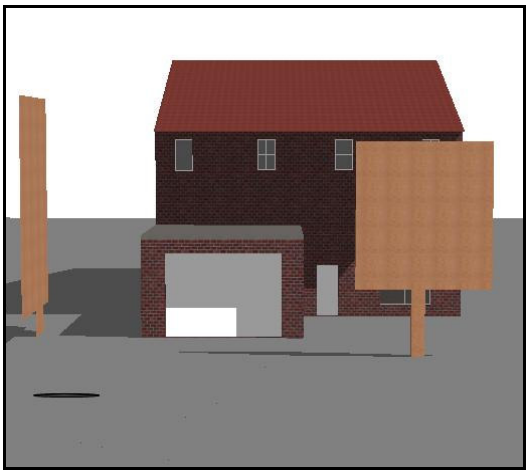
Appendix J. Plot 7 Profile

Type:	Residential home
Year Built:	1980
Sq. ft.	2243
Orientation:	355 degrees
Deciduous trees:	2, north and south
Evergreen trees:	1, west



TREES' PYRANOMETER MEASUREMENTS								
Shade/Sun	**Species**	**Value 1**	**Value 2**	**Value 3**	**Value 4**	**Value 5**	**Average**	**Shade /Sun Ratio**
Shade	Norway	132.4	142.9	127.2	175.9	144.3	144.54	0.20
Sun	Maple	689.0	700.0	715.2	731.8	734.9	714.18	
Shade	Austrian	121.1	165.3	83.2	97.0	45.8	102.45	0.14
Sun	Pine	691.9	719.6	715.3	Bldg.	717.2	711.00	
Shade	White	118.4	100.7	104.6	126.7	146.5	119.39	0.16
Sun	Ash	744.9	722.5	735.4	756.7	758.1	743.52	

SUMMER AND WINTER WEEKS SIMULATION RESULTS								
Summer Design Week AC (kWh)								
	Day 1	**Day 2**	**Day 3**	**Day 4**	**Day 5**	**Day 6**	**Day 7**	**Total**
No trees	0.0	0.0	20.9	23.8	27.1	29.1	27.8	**128.8**
Existing trees	0.0	0.0	20.6	23.6	26.9	29.0	27.7	**127.8**
Difference	0.0	0.0	0.3	0.2	0.2	0.1	0.2	**1.0**
Percent change								**.79%**
Plus trees	0.0	0.0	20.6	23.7	26.9	29.0	27.7	**127.9**
Difference	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1	**-0.1**

Percent change								**.71%**
Summer Design Week CO2 (lbs.)								
No trees	10.5	10.5	150.6	156.7	158.0	161.1	157.8	**805.2**
Existing trees	10.5	10.5	150.9	157.4	158.2	161.6	158.3	**807.3**
Difference	0.0	0.0	0.3	0.7	0.2	0.5	0.5	**2.1**
Percent change								**.26%**
Plus trees	10.5	10.5	151.9	159.0	159.1	162.6	159.8	**813.1**
Difference	0.0	0.0	-1.0	-1.6	-0.8	-1.0	-1.5	**-5.8**
Percent change								**-.47%**
Winter Design Week HEAT (kBTUs)								
No trees	428.0	1011.7	820.5	873.2	793.8	672.1	32.2	**4631.5**
Existing trees	428.9	1012.1	821.1	874.1	795.2	673.3	32.8	**4637.5**
Difference	-0.9	-0.4	-0.6	-1.0	-1.4	-1.3	-0.5	**-6.1**
Percent change								**-.13%**
Plus trees	431.5	1012.3	821.3	876.3	800.4	681.2	35.2	**4658.2**
Difference	-2.5	-0.2	-0.2	-2.1	-5.2	-7.9	-2.5	**-20.7**
Percent change								**-.58%**
Winter Design Week CO2 (lbs.)								
No trees	64.4	266.0	234.6	236.4	223.0	208.2	14.5	**1247.1**
Existing trees	64.5	266.3	234.8	236.6	223.3	208.4	14.6	**1248.5**
Difference	-0.1	-0.3	-0.2	-0.3	-0.3	-0.2	-0.1	**-1.5**
Percent change								**-.12%**
Plus trees	64.8	267.0	235.2	237.1	224.1	209.6	14.9	**1252.7**
Difference	-0.3	-0.6	-0.4	-0.5	-0.8	-1.2	-0.3	**-4.2**
Percent change								**-.45%**

ANNUAL SIMULATION RESULTS								
	Heat (Gas kBtu)	**AC (elec. kBtu)**	**AC (kWh)**	**Carbon (lb.)**	**Net energy**			
No trees	86439.2	9009.8	2640.6	42082.91				
Existing	87087.5	8880.9	2602.8	42107.52				
DIFFERENCE	-648.2	128.9	37.8	-24.61	-519.3			
% change	-0.75%	1.43%		-0.06%	0.68%			
Increased Trees	92227.4	8485.3	2486.9	42580.02				
DIFFERENCE	-5140.0	395.6	115.9	-472.5	-4744.4			
% change	-6.70%	5.82%		-1.18%	-0.87%			

COSTS ASSOCIATED WITH ANNUAL RESULTS								
	Heating ($)	**Air Conditioning ($)**	**Cost of Mitigating Carbon ($)**					
No trees	$884.27	$297.33	$105.21					

Existing	$890.90	$293.08	$105.27					
DIFFERENCE	-$6.63	$4.25	-$0.06					
Percent change	-.74%	1.43%	-.06%					
Increased Trees	$943.49	$280.03	$106.45					
DIFFERENCE	-$52.58	$13.06	-$1.18					
Percent change	-5.6%	4.5%	-1.1%					

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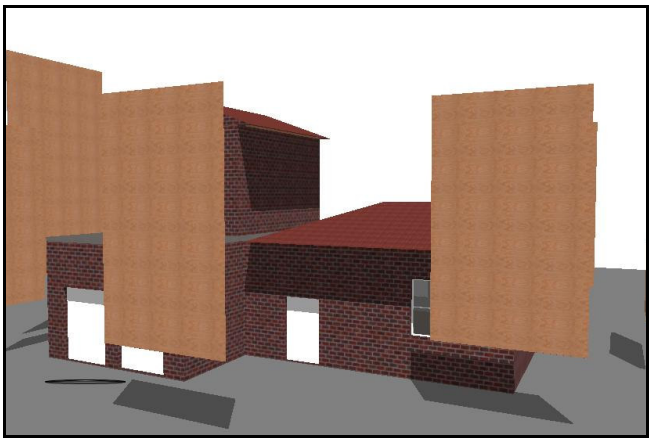
Appendix K. Plot 12 Profile

Type: Residential home
Year Built: 1980
Sq. ft. 2096
Orientation: 26 degrees
Deciduous trees: 6, west, east, northeast and south
Evergreen trees: 1, southwest



TREES' PYRANOMETER MEASUREMENTS								
Shade /Sun	**Species**	**Value 1**	**Value 2**	**Value 3**	**Value 4**	**Value 5**	**Average**	**Shade /Sun Ratio**
Shade	**Ash**	**96.5**	**89.8**	**110.0**	**99.5**	**151.6**	**109.47**	**0.13**
Sun		**808.4**	**806.3**	**817.4**	**798.0**	**845.6**	**815.14**	
Shade	**Aspen**	**139.4**	**155.2**	**253.3**	**232.5**	**132.6**	**182.60**	**0.21**
Sun		**873.4**	**845.8**	**781.4**	**868.5**	**878.1**	**849.44**	
Shade	**Austrian**	**183.3**	**148.1**	**128.7**	**239.3**	**210.2**	**181.92**	**0.20**
Sun	**Pine**	**904.5**	**948.1**	**889.5**	**907.8**	**902.6**	**910.50**	
Shade	**Aspen**	**220.6**	**221.2**	**177.6**	**234.8**	**365.1**	**243.86**	**0.25**
Sun		**1037.4**	**1042.3**	**833.3**	**962.7**	**932.0**	**961.54**	
Shade	**Crabapple**	**110.3**	**154.1**	**78.5**	**164.5**	**68.5**	**115.17**	**0.13**
Sun		**925.4**	**933.5**	**818.5**	**925.4**	**917.9**	**904.14**	
Shade	**Ash**	**105.4**	**99.5**	**176.3**	**62.4**	**214.6**	**131.64**	**0.13**
Sun		**950.1**	**944.6**	**1010.6**	**978.1**	**1012.9**	**979.26**	

SUMMER AND WINTER WEEKS SIMULATION RESULTS								
Summer Design Week AC (kWh)								
	Day 1	**Day 2**	**Day 3**	**Day 4**	**Day 5**	**Day 6**	**Day 7**	**Total**
No trees	21.1	21.1	22.4	20.1	14.7	16.8	22.9	**139.2**
Existing trees	19.4	19.3	20.5	18.2	13.0	15.1	21.0	**126.6**

Difference	1.7	1.8	1.9	1.9	1.7	1.8	1.9	**12.7**
Percent change								**9.09%**
plus trees	19.2	19.0	20.2	17.9	12.7	14.8	20.8	**124.6**
Difference	0.3	0.3	0.3	0.3	0.3	0.3	0.3	**2.0**
Percent change								**10.51%**
Summer Design Week CO2 (lbs.)								
No trees	49.1	49.1	52.7	49.2	41.2	44.4	53.6	**339.3**
Existing trees	46.6	46.3	49.9	46.4	39.6	41.7	50.7	**321.2**
Difference	2.6	2.8	2.8	2.8	1.6	2.7	2.9	**18.1**
Percent change								**5.34%**
+ 2 trees	46.1	45.9	49.4	46.0	38.2	41.3	50.3	**317.2**
Difference	0.4	0.5	0.5	0.5	1.4	0.4	0.4	**4.0**
Percent change								**6.52%**
Winter Design Week HEAT (kBTUs)								
No trees	250.6	159.7	175.4	110.7	160.8	258.0	266.7	**1381.7**
Existing trees	252.5	161.4	178.7	112.9	164.7	262.5	270.8	**1403.7**
Difference	-1.9	-1.7	-3.3	-2.3	-4.0	-4.5	-4.2	**-21.9**
Percent change								**-1.56%**
plus trees	252.6	161.3	178.7	112.9	164.7	262.5	270.8	**1403.5**
Difference	0.0	0.0	0.0	0.0	0.0	0.0	0.1	**0.2**
Percent change								**-1.55%**
Winter Design Week CO2 (lbs.)								
No trees	48.8	39.0	41.0	32.9	39.2	51.4	50.8	**303.1**
Existing trees	49.0	39.3	41.4	33.2	39.7	52.0	51.3	**305.9**
Difference	-0.3	-0.2	-0.4	-0.3	-0.5	-0.6	-0.5	**-2.8**
Percent change								**-.91%**
Plus trees	49.0	39.3	41.4	33.2	39.7	52.0	51.3	**305.9**
Difference	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
Percent change								**-.90%**

ANNUAL SIMULATION RESULTS

	Heat (Gas kBtu)	**AC (elec. kBtu)**	**AC (kWh)**	**Carbon (lb.)**	**Net energy**			
No trees	73616.7	4568.7	1339.0	16585.9				
Existing	73657.1	3953.5	1158.7	16318.7				
DIFFERENCE	-40.5	615.1	180.3	267.2	574.7			
% change	-0.05%	13.46%		1.61%	13.41%			
Increased Trees	73215.5	3820.8	1119.8	16204.3				
DIFFERENCE	441.7	132.8	38.9	114.4	574.4			
% change	0.54%	16.37%		2.30%	16.91%			

COSTS ASSOCIATED WITH ANNUAL RESULTS								
	Heating ($)	**Air Conditioning ($)**	**Cost of Mitigating Carbon ($)**					
No trees	$753.10	$150.77	$41.46					
Existing	$753.51	$130.47	$40.80					
DIFFERENCE	-$0.41	$20.30	$0.67					
Percent change	0%	13.5%	1.61%					
Increased Trees	$748.99	$126.09	$40.51					
DIFFERENCE	$4.52	$4.38	$0.29					
Percent change	.6%	3.4%	.7%					

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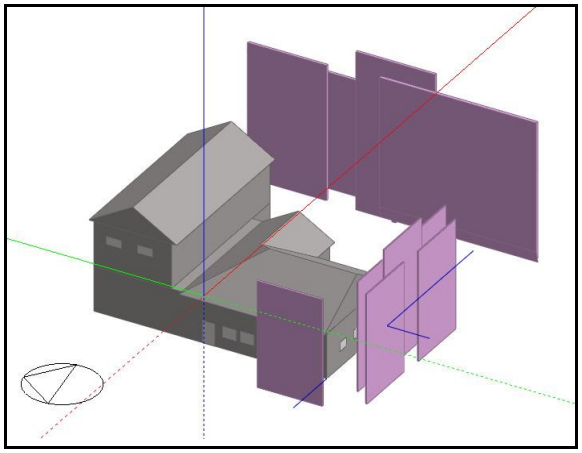
Appendix L. Plot 56 Profile

Type:	Residential home
Year Built:	1967
Sq. ft.	2971
Orientation:	354 degrees
Deciduous trees:	1, at southeast corner
Evergreen trees:	10, to south and east



TREES' PYRANOMETER MEASUREMENTS								
Shade/Sun	**Species**	**Value 1**	**Value 2**	**Value 3**	**Value 4**	**Value 5**	**Average**	**Shade /Sun Ratio**
Shade	**Bur Oak**	**49.5**	**71.6**	**61.9**	**84.7**	**75.0**	**68.54**	**0.07**
Sun		**924.9**	**918.5**	**898.5**	**959.6**	**949.3**	**930.16**	
Shade	**Blue**	**48.7**	**76.1**	**43.2**	**56.0**	**35.2**	**51.82**	**0.06**
Sun	**Spruce**	**905.9**	**897.1**	**955.5**	**873.5**	**943.6**	**915.12**	

SUMMER AND WINTER WEEKS SIMULATION RESULTS								
Summer Design Week AC (kWh)								
	Day 1	**Day 2**	**Day 3**	**Day 4**	**Day 5**	**Day 6**	**Day 7**	**Total**
No trees	30.9	30.4	32.6	29.2	21.0	24.4	33.6	**202.1**
Existing trees	29.7	29.2	31.3	28.0	19.8	23.2	32.3	**193.6**
Difference	1.2	1.2	1.2	1.3	1.2	1.2	1.3	**8.5**
Percent change								**4.23%**
Plus trees	28.0	27.7	29.9	26.9	19.1	22.0	30.8	**184.4**
Difference	1.7	1.5	1.4	1.0	0.7	1.3	1.5	**9.1**
Percent change								**8.74%**
Summer Design Week CO2 (lbs.)								
No trees	87.9	87.2	94.6	89.5	77.1	82.2	96.0	**614.5**

Existing trees	86.1	85.3	92.7	87.6	75.3	80.5	94.2	**601.8**
Difference	1.8	1.8	1.9	1.9	1.8	1.8	1.8	**12.7**
Percent change								**2.07%**
Plus trees	83.5	83.1	90.6	86.0	74.2	78.6	91.9	**588.0**
Difference	2.6	2.2	2.1	1.6	1.1	1.9	2.3	**13.8**
Percent change								**4.31%**
Winter Design Week HEAT (kBTUs)								
No trees	411.5	263.8	303.2	184.6	279.5	431.0	439.0	**2312.7**
Existing trees	425.7	278.6	329.9	203.5	307.1	462.1	470.7	**2477.5**
Difference	-14.2	-14.8	-26.7	-18.9	-27.6	-31.0	-31.7	**-164.8**
Percent change								**-6.65%**
Plus trees	427.2	280.0	332.7	206.1	311.6	467.1	474.7	**2499.3**
Difference	-1.5	-1.3	-2.8	-2.6	-4.5	-5.1	-4.0	**-21.8**
Percent change								**-7.47%**
Winter Design Week CO2 (lbs.)								
No trees	93.1	78.6	83.6	68.6	80.6	99.7	96.6	**600.8**
Existing trees	94.9	80.5	87.0	71.0	84.1	103.6	100.5	**621.6**
Difference	-1.8	-1.9	-3.4	-2.4	-3.5	-3.9	-4.0	**-20.8**
Percent change								**-3.34%**
Plus trees	95.1	80.6	87.3	71.4	84.7	104.2	101.1	**624.3**
Difference	-0.2	-0.1	-0.3	-0.3	-0.6	-0.6	-0.5	**-2.7**
Percent change								**-3.76%**
ANNUAL SIMULATION RESULTS								
	Heat (Gas kBtu)	**AC (elec. kBtu)**	**AC (kWh)**	**Carbon (lb.)**	**Net energy**			
No trees	122520.0	6080.0	1781.9	30811.0				
Existing	128360.0	5220.0	1529.9	32472.9				
DIFFERENCE	-5840.0	860.0	252.1	-1661.9	-4980.0			
% change	-4.77%	14.14%		-5.39%	9.38%			
Increased Trees	128660.0	4530.0	1327.7	30891.4				
DIFFERENCE	-300.0	690.0	202.2	1581.5	390.0			
% change	-5.01%	25.49%		-0.26%	20.48%			
COSTS ASSOCIATED WITH ANNUAL RESULTS								
	Heating ($)	**Air Conditioning ($)**	**Cost of Mitigating Carbon ($)**					
No trees	$1,253.38	$200.65	$77.03					
Existing	$1,313.12	$172.27	$81.18					
DIFFERENCE	-$59.74	$28.38	-$4.15					
Percent change	-4.5%	14.1%	-5.1%					

Increased Trees	$1,316.19	$149.50	$77.23					
DIFFERENCE	-$3.07	$22.77	$3.95					
Percent change	.2%	13.2%	4.9%					

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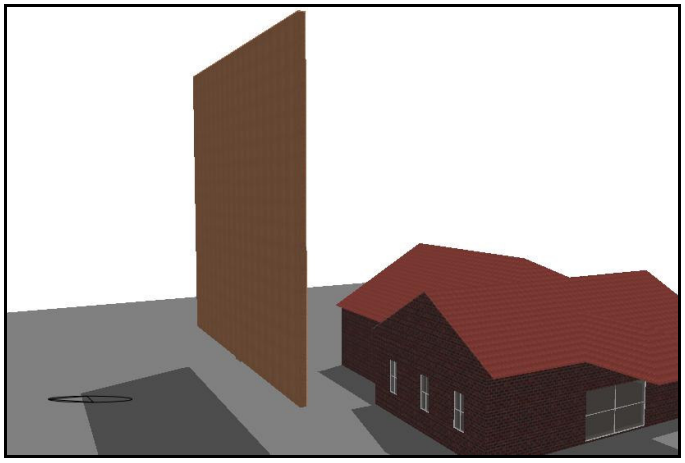
Appendix M. Plot 57 Profile

Type: Public building with laundry for apartment complexes
Year Built: NA
Sq. ft. NA
Orientation: 23 degrees
Deciduous trees: 1, north
Evergreen trees: 0



TREES' PYRANOMETER MEASUREMENTS								
Shade /Sun	**Species**	**Value 1**	**Value 2**	**Value 3**	**Value 4**	**Value 5**	**Average**	**Shade /Sun Ratio**
Shade	Honeylocust	193.6	262.4	235.7	160.0	134.3	197.20	0.19
Sun		1065.0	1031.9	1071.7	950.0	1052.8	1034.28	

SUMMER AND WINTER WEEKS SIMULATION RESULTS								
Summer Design Week AC (kWh)								
	Day 1	**Day 2**	**Day 3**	**Day 4**	**Day 5**	**Day 6**	**Day 7**	**Total**
No trees	16.4	15.9	17.0	14.7	9.7	12.5	17.7	**103.8**
Existing trees	16.4	15.9	17.0	14.7	9.7	12.5	17.7	**103.8**
Difference	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
Percent change								**0.03%**
Plus trees	16.1	15.6	16.7	14.4	9.4	12.2	17.4	**101.8**
Difference	0.3	0.3	0.3	0.3	0.3	0.3	0.3	**1.9**

Percent change								**1.91%**
Summer Design Week CO2 (lbs.)								
No trees	51.0	50.2	54.5	51.0	43.4	47.7	55.5	**353.3**
Existing trees	51.0	50.2	54.4	51.0	43.4	47.7	55.5	**353.2**
Difference	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.1**
Percent change								**0.01%**
Plus trees	50.5	49.8	54.0	50.6	43.0	47.3	55.1	**350.3**
Difference	0.4	0.5	0.4	0.4	0.4	0.4	0.4	**3.0**
Percent change								**0.85%**
Winter Design Week HEAT (kBTUs)								
No trees	237.4	170.7	198.2	128.5	177.6	264.9	271.7	**1449.0**
Existing trees	237.4	170.6	198.1	128.4	177.4	264.8	271.5	**1448.2**
Difference	0.1	0.1	0.1	0.1	0.1	0.1	0.2	**0.8**
Percent change								**0.05%**
Plus trees	238.7	171.9	200.6	130.2	180.4	268.0	274.6	**1464.3**
Difference	-1.3	-1.3	-2.5	-1.7	-3.0	-3.2	-3.1	**-16.2**
Percent change								**-1.05%**
Winter Design Week CO2 (lbs.)								
No trees	56.1	50.3	53.8	45.0	51.2	62.2	60.4	**379.1**
Existing trees	56.1	50.3	53.8	45.0	51.2	62.2	60.4	**379.0**
Difference	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.1**
Percent change								**0.02%**
Plus trees	56.3	50.5	54.1	45.2	51.6	62.6	60.8	**381.0**
Difference	-0.2	-0.2	-0.3	-0.2	-0.4	-0.4	-0.4	**-2.0**
Percent change								**-0.51%**

ANNUAL SIMULATION RESULTS

	Heat (Gas kBtu)	**AC (elec. kBtu)**	**AC (kWh)**	**Carbon (lb.)**	**Net energy**			
No trees	73376.8	4067.4	1192.1	21595.8				
Existing	73382.1	4064.8	1191.3	21595.3				
DIFFERENCE	-5.3	2.7	0.8	0.5	-2.6			
% change	-0.01%	0.07%		0.00%	0.06%			
Increased Trees	80368.2	2097.1	614.6	19109.2				
DIFFERENCE	-6986.1	1967.7	576.7	2486.0	-5018.4			
% change	-9.53%	48.44%		11.51%	38.91%			

COSTS ASSOCIATED WITH ANNUAL RESULTS

	Heating ($)	**Air Conditioning ($)**	**Cost of Mitigating Carbon ($)**					
No trees	$750.64	$134.23	$53.99					

Existing	$750.70	$134.14	$53.99					
DIFFERENCE	-$0.05	$0.09	$0.00					
Percent change	0%	0%	0%					
Increased Trees	$822.17	$69.21	$47.77					
DIFFERENCE	-$71.47	$64.94	$6.22					
Percent change	-.8.7%	48.4%	11.5%					

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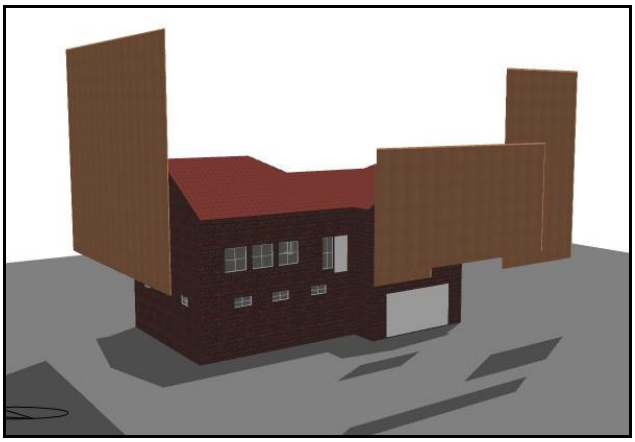
Appendix N. Plot 64 Profile

Type: Residential home
Year Built: 1968
Sq. ft. 2169
Orientation: 345 degrees
Deciduous trees: 2, 1 at the north, 1 at the west
Evergreen trees: 2, west/southwest



TREES' PYRANOMETER MEASUREMENTS								
Shade /Sun	**Species**	**Value 1**	**Value 2**	**Value 3**	**Value 4**	**Value 5**	**Average**	**Shade /Sun Ratio**
Shade	Bristlecone	83.9	70.4	56.1	98.9	97.1	81.26	0.09
Sun	Pine	860.7	985.7	832.9	1006.1	822.7	901.62	
Shade	Picea	12.8	24.0	14.8	84.3	46.1	36.42	0.04
Sun	Pungens	910.6	930.3	824.6	943.9	836.0	889.08	
Shade	Viburnum	82.0	72.4	75.2	103.7	127.7	92.19	0.12
Sun	Opulus	771.5	785.3	781.7	796.7	781.0	783.24	
Shade	Gleditisia	117.3	142.5	127.1	171.3	146.2	140.88	0.15
Sun	Tricanthos	942.1	902.7	904.2	929.4	937.2	923.12	

SUMMER AND WINTER WEEKS SIMULATION RESULTS								
Summer Design Week AC (kWh)								
	Day 1	**Day 2**	**Day 3**	**Day 4**	**Day 5**	**Day 6**	**Day 7**	**Total**
No trees	30.1	29.2	31.0	27.6	19.3	22.7	31.9	**191.8**
Existing trees	29.2	28.4	30.2	27.1	18.9	21.9	31.0	**186.8**
Difference	0.9	0.7	0.7	0.6	0.4	0.7	0.9	**5.0**
Percent change								**2.59%**
Plus trees	25.0	24.2	25.9	22.7	14.9	18.0	26.8	**157.6**
Difference	4.2	4.2	4.3	4.3	4.0	3.9	4.2	**29.2**

Percent change								**17.82%**
Summer Design Week CO2 (lbs.)								
No trees	79.7	78.3	84.5	79.4	66.9	71.9	85.8	**546.5**
Existing trees	78.4	77.2	83.4	78.6	66.3	70.8	84.5	**539.0**
Difference	1.3	1.1	1.1	0.8	0.7	1.1	1.3	**7.5**
Percent change								**1.37%**
Plus trees	72.0	70.8	76.9	72.0	60.2	64.9	78.1	**494.9**
Difference	6.4	6.3	6.5	6.6	6.1	5.9	6.4	**44.1**
Percent change								**9.44%**
Winter Design Week HEAT (kBTUs)								
No trees	373.5	245.3	283.5	178.0	256.0	395.7	410.4	**2142.4**
Existing trees	386.2	257.5	301.8	192.7	276.6	418.2	432.2	**2265.1**
Difference	-12.7	-12.2	-18.2	-14.7	-20.5	-22.5	-21.8	**-122.7**
Percent change								**-5.42%**
Plus trees	389.0	260.0	305.1	195.7	280.2	422.3	435.9	**2288.2**
Difference	-2.9	-2.5	-3.3	-3.0	-3.6	-4.0	-3.7	**-23.1**
Percent change								**-6.37%**
Winter Design Week CO2 (lbs.)								
No trees	81.3	68.6	73.4	60.1	69.9	87.5	85.9	**526.8**
Existing trees	82.9	70.1	75.7	62.0	72.5	90.4	88.7	**542.3**
Difference	-1.6	-1.5	-2.3	-1.9	-2.6	-2.8	-2.8	**-15.5**
Percent change								**-2.85%**
Plus trees	83.3	70.4	76.1	62.3	73.0	90.9	89.2	**545.2**
Difference	-0.4	-0.3	-0.4	-0.4	-0.5	-0.5	-0.5	**-2.9**
Percent change								**-3.37%**

ANNUAL SIMULATION RESULTS

	Heat (Gas kBtu)	**AC (elec. kBtu)**	**AC (kWh)**	**Carbon (lb.)**	**Net energy**			
No trees	105310.0	6400.0	1875.7	26627.8				
Existing	109290.0	5700.0	1670.6	26821.6				
DIFFERENCE	-3980.0	700.0	205.2	-193.9	-3280.0			
% change	-3.78%	10.94%		-0.73%	7.16%			
Increased Trees	109540.0	4900.0	1436.1	26498.8				
DIFFERENCE	-250.0	800.0	234.5	322.9	550.0			
% change	-4.02%	23.44%		0.48%	19.42%			

COSTS ASSOCIATED WITH ANNUAL RESULTS

	Heating ($)	**Air Conditioning ($)**	**Cost of Mitigating Carbon ($)**					
No trees	$1,077.32	$211.21	$66.57					

Existing	$1,118.04	$188.11	$67.05					
DIFFERENCE	-$40.72	$23.10	-$0.48					
Percent change	-3.6%	10.9%	-.72%					
Increased Trees	$1,120.59	$161.71	$66.25					
DIFFERENCE	-$2.56	$26.40	$0.81					
Percent change	-.23%	14%	1.2%					

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Appendix O. Plot 68 Profile

Type: Apartment building
Year Built: 1961
Sq. ft. 19,503
Orientation: 314 degrees
Deciduous trees: 8, all at south, southwest and southeast locations
Evergreen trees: 0

TREES' PYRANOMETER MEASUREMENTS								
Shade /Sun	**Species**	**Value 1**	**Value 2**	**Value 3**	**Value 4**	**Value 5**	**Average**	**Shade /Sun Ratio**
Shade	Ulnus	102.4	91.6	56.5	110.2	108.4	93.82	0.10
Sun	Americana	957.2	999.7	963.6	969.4	985.7	975.12	
Shade	Ash	99.7	107.6	83.7	141.0	162.0	118.80	0.12
Sun		1010.9	981.5	956.0	985.4	979.5	982.66	
Shade	Silver	34.6	32.4	47.3	40.5	73.5	45.67	0.05
Sun	Maple	886.5	978.0	948.6	973.0	962.2	949.66	

SUMMER AND WINTER WEEKS SIMULATION RESULTS								
Summer Design Week AC (kWh)								
	Day 1	**Day 2**	**Day 3**	**Day 4**	**Day 5**	**Day 6**	**Day 7**	**Total**
No trees	267.4	263.1	279.1	251.6	191.0	224.7	295.6	**1772.7**
Existing trees	252.8	249.2	264.7	238.6	179.6	211.5	280.9	**1677.2**
Difference	14.6	13.9	14.4	13.1	11.5	13.3	14.7	**95.5**
Percent change								**5.39%**
Plus trees	241.6	238.8	254.3	231.1	173.6	202.5	269.8	**1611.6**
Difference	11.2	10.4	10.4	7.5	6.0	9.0	11.1	**65.6**
Percent change								**9.08%**

Summer Design Week CO2 (lbs.)								
No trees	694.2	687.6	740.9	699.5	608.0	658.8	765.9	**4854.9**
Existing trees	672.1	666.6	719.2	679.7	590.6	638.8	743.6	**4710.7**
Difference	22.1	21.0	21.8	19.7	17.3	20.0	22.3	**144.2**
Percent change								**2.97%**
Plus trees	655.2	650.9	703.4	668.5	581.6	625.2	726.9	**4611.7**
Difference	16.9	15.7	15.8	11.3	9.1	13.6	16.7	**99.0**
Percent change								**5.01%**
Winter Design Week HEAT (kBTUs)								
No trees	1918.2	1158.1	1120.4	594.9	924.9	1933.5	1990.0	**9639.9**
Existing trees	1985.7	1220.4	1219.0	650.3	1047.1	2063.4	2106.8	**10292.5**
Difference	-67.5	-62.3	-98.6	-55.3	-122.2	-129.8	-116.9	**-652.6**
Percent change								**-6.77%**
Plus trees	2028.7	1257.5	1276.3	686.3	1118.3	2137.3	2172.9	**10677.2**
Difference	-43.0	-37.1	-57.3	-36.0	-71.3	-73.9	-66.0	**-384.7**
Percent change								**-9.72%**
Winter Design Week CO2 (lbs.)								
No trees	532.0	465.4	460.6	394.4	436.0	563.1	541.0	**3392.5**
Existing trees	540.5	473.2	473.1	401.4	451.4	579.4	555.7	**3474.7**
Difference	-8.5	-7.9	-12.4	-7.0	-15.4	-16.4	-14.7	**-82.2**
Percent change								**-2.37%**
Plus trees	545.9	477.9	480.3	405.9	460.4	588.8	564.1	**3523.2**
Difference	-5.4	-4.7	-7.2	-4.5	-9.0	-9.3	-8.3	**-48.5**
Percent change								**-3.71%**

ANNUAL SIMULATION RESULTS								
	Heat (Gas kBtu)	**AC (elec. kBtu)**	**AC (kWh)**	**Carbon (lb.)**	**Net energy**			
No trees	649450.0	69950.0	20501.2	202050.0				
Existing	652790.0	62080.0	18194.6	198990.0				
DIFFERENCE	-3340.0	7870.0	2306.6	3060.0	4530.0			
% change	-0.51%	11.25%		1.51%	10.74%			
Increased Trees	655070.0	60090.0	17611.4	198400.0				
DIFFERENCE	-2280.0	1990.0	583.2	590.0	-290.0			
% change	-0.87%	14.10%		1.81%	13.23%			

COSTS ASSOCIATED WITH ANNUAL RESULTS								
	Heating ($)	**Air Conditioning ($)**	**Cost of Mitigating Carbon ($)**					
No trees	$6,643.87	$2,308.43	$505.13					
Existing	$6,678.04	$2,048.71	$497.48					

DIFFERENCE	-$34.17	$259.72	$7.65					
Percent change	-.51%	11.3%	1.5%					
Increased Trees	$6,701.37	$1,983.04	$496.00					
DIFFERENCE	-$23.32	$65.67	$1.48					
Percent change	-.35%	3.2%	.3%					

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Appendix P. Plot 74 Profile

Type: School of Mines building
Year Built: 2007
Sq. ft. 357,005
Orientation: 315 degrees
Deciduous trees: 0
Evergreen trees: 0

SUMMER AND WINTER WEEKS SIMULATION RESULTS								
Summer Design Week AC (kWh)								
	Day 1	**Day 2**	**Day 3**	**Day 4**	**Day 5**	**Day 6**	**Day 7**	**Total**
No trees	303.8	300.6	316.4	294.3	243.9	267.3	333.7	**2060.1**
Existing trees	303.8	300.6	316.4	294.3	243.9	267.3	333.7	**2060.1**
Difference	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
Percent change								**0.00%**
Plus trees	285.7	283.1	298.9	276.9	220.2	250.7	315.6	**1931.1**
Difference	18.1	17.5	17.5	17.4	23.7	16.6	18.2	**129.0**
Percent change								**6.26%**
Summer Design Week CO2 (lbs.)								
No trees	785.3	780.4	837.2	803.8	714.4	763.0	863.3	**5547.5**
Existing trees	785.3	780.4	837.2	803.8	714.4	763.0	863.3	**5547.5**
Difference	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
Percent change								**0.00%**
Plus trees	758.0	754.0	810.7	777.5	692.0	737.9	835.9	**5366.0**
Difference	27.3	26.4	26.5	26.4	22.5	25.1	27.4	**181.6**
Percent change								**3.38%**
Winter Design Week HEAT (kBTUs)								
No trees	1606.4	904.3	825.5	437.1	575.4	1549.0	1595.9	**7493.6**
Existing trees	1606.4	904.3	825.5	437.1	575.4	1549.0	1595.9	**7493.6**

Difference	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
Percent change								**0.00%**
Plus trees	1631.5	950.5	911.5	475.2	687.6	1673.4	1709.9	**8039.5**
Difference	-25.1	-46.2	-86.0	-38.1	-112.2	-124.4	-114.0	**-545.8**
Percent change								**-6.79%**
Winter Design Week CO2 (lbs.)								
No trees	528.9	473.3	463.4	414.4	431.9	554.5	527.6	**3394.0**
Existing trees	528.9	473.3	463.4	414.4	431.9	554.5	527.6	**3394.0**
Difference	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
Percent change								**0.00%**
Plus trees	532.1	479.1	474.2	419.2	446.0	570.2	542.0	**3462.8**
Difference	-3.2	-5.8	-10.8	-4.8	-14.1	-15.7	-14.4	**-68.8**
Percent change								**-1.99%**
ANNUAL SIMULATION RESULTS								
	Heat (Gas kBtu)	**AC (elec. kBtu)**	**AC (kWh)**	**Carbon (lb.)**	**Net energy**			
Existing	493550.0	117260.0	34366.9	214920.0				
Increased Trees	498940.0	109580.0	32116.1	212200.0				
DIFFERENCE	-5390.0	7680.0	2250.9	2720.0	2290.0			
% change	-1.09%	6.55%		1.27%	5.46%			
Existing	493550.0	117260.0	34366.9	214920.0				
COSTS ASSOCIATED WITH ANNUAL RESULTS								
	Heating ($)	**Air Conditioning ($)**	**Cost of Mitigating Carbon ($)**					
Existing	$5,049.02	$3,869.72	$537.30					
Increased Trees	$5,104.16	$3,616.27	$530.50					
DIFFERENCE	-$55.14	$253.45	$6.80					
Percent change	-1.1%	6.6%	1.3%					

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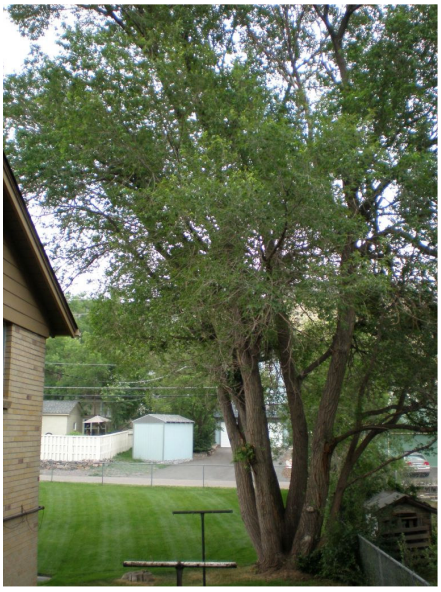
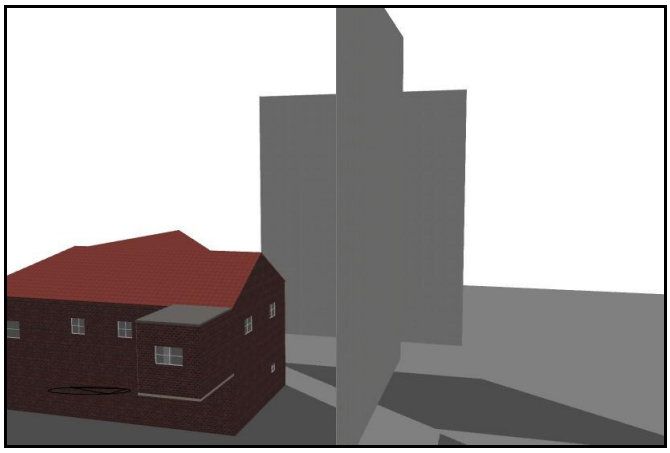
Appendix Q. Plot 75 Profile

Type: Mixed Use – Doctor's Office
Year Built: 1959
Sq. ft. 2173
Orientation: 312 degrees
Deciduous trees: 2, east and south
Evergreen trees: 1, north





TREES' PYRANOMETER MEASUREMENTS								
Shade /Sun	**Species**	**Value 1**	**Value 2**	**Value 3**	**Value 4**	**Value 5**	**Average**	**Shade /Sun Ratio**
Shade	Ulnus	85.3	89.8	98.3	87.9	98.9	92.03	0.10
Sun	Americana	898.1	880.0	913.7	887.7	920.0	899.90	
Shade	Acer	66.7	81.9	62.5	82.9	68.7	72.53	0.08
Sun	Sacchirium	971.9	981.9	913.5	933.9	942.0	948.64	
Shade	Picea	80.7	130.4	60.9	99.8	91.0	92.57	0.09
Sun	Pungens	973.7	976.3	973.6	992.1	986.4	980.42	

SUMMER AND WINTER WEEKS SIMULATION RESULTS								
Summer Design Week AC (kWh)								
	Day 1	**Day 2**	**Day 3**	**Day 4**	**Day 5**	**Day 6**	**Day 7**	**Total**
No trees	39.5	39.0	42.4	38.1	26.0	29.9	43.2	**258.0**
Existing trees	39.3	38.8	42.3	37.9	25.9	29.8	43.1	**257.1**
Difference	0.1	0.1	0.2	0.2	0.1	0.1	0.1	**1.0**
Percent change								**0.37%**

Plus trees	38.7	38.2	41.6	37.2	25.3	29.2	42.4	**252.6**
Difference	0.6	0.6	0.7	0.7	0.6	0.6	0.7	**4.5**
Percent change								**2.11%**
Summer Design Week CO2 (lbs.)								
No trees	124.3	123.5	135.2	128.7	110.4	116.3	136.4	**874.9**
Existing trees	124.1	123.3	135.0	128.4	110.2	116.1	136.2	**873.4**
Difference	0.2	0.2	0.2	0.2	0.2	0.2	0.2	**1.4**
Percent change								**0.16%**
Plus trees	123.1	122.4	133.9	127.4	109.4	115.3	135.2	**866.7**
Difference	1.0	1.0	1.1	1.0	0.9	0.9	1.0	**6.8**
Percent change								**0.94%**
Winter Design Week HEAT (kBTUs)								
No trees	561.8	368.3	435.5	265.3	400.5	619.2	641.8	**3292.3**
Existing trees	565.7	372.0	441.1	270.1	406.5	626.0	649.0	**3330.4**
Difference	-3.8	-3.7	-5.6	-4.8	-6.0	-6.8	-7.2	**-38.1**
Percent change								**-1.14%**
Plus trees	570.6	377.4	450.3	278.5	417.5	638.2	660.4	**3392.9**
Difference	-4.9	-5.4	-9.2	-8.4	-11.1	-12.2	-11.4	**-62.5**
Percent change								**-2.97%**
Winter Design Week CO2 (lbs.)								
No trees	135.5	117.6	126.1	104.6	121.6	149.2	145.5	**900.0**
Existing trees	135.9	118.0	126.8	105.2	122.4	150.1	146.4	**904.8**
Difference	-0.5	-0.5	-0.7	-0.6	-0.8	-0.9	-0.9	**-4.8**
Percent change								**-0.53%**
Plus trees	136.6	118.7	127.9	106.3	123.8	151.6	148.0	**912.8**
Difference	-0.6	-0.7	-1.2	-1.1	-1.4	-1.5	-1.5	**-8.0**
Percent change								**-1.40%**
ANNUAL SIMULATION RESULTS								
	Heat (Gas kBtu)	**AC (elec. kBtu)**	**AC (kWh)**	**Carbon (lb.)**	**Net energy**			
No trees	177950.0	7930.0	2324.2	45816.3				
Existing	179310.0	7410.0	2171.7	45760.3				
DIFFERENCE	-1360.0	520.0	152.4	56.1	-840.0			
% change	-0.76%	6.56%		0.12%	5.79%			
Increased Trees	180580.0	6890.0	2019.3	45687.3				
DIFFERENCE	-1270.0	520.0	152.4	73.0	-750.0			
% change	-1.48%	13.11%		0.28%	11.64%			
COSTS ASSOCIATED WITH ANNUAL RESULTS								
	Heating ($)	**Air Conditioning**	**Cost of Mitigating**					

		($)	Carbon ($)					
No trees	$1,820.43	$261.70	$114.54					
Existing	$1,834.34	$244.54	$114.40					
DIFFERENCE	-$13.91	$17.16	$0.14					
Percent change	-.76%	6.6%	.12%					
Increased Trees	$1,847.33	$227.38	$114.22					
DIFFERENCE	-$12.99	$17.16	$0.18					
Percent change	-.7%	7%	.16%					

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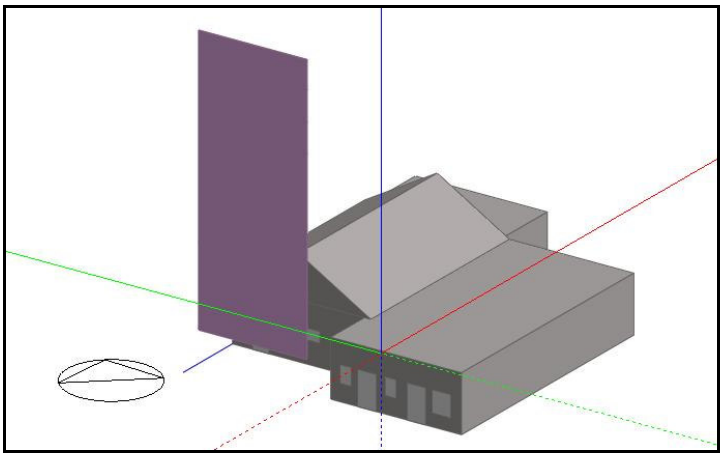
Appendix R. Plot 76 Profile

Type: Mixed Use – Residential & Commercial
Year Built: 1957
Sq. ft. 1,721
Orientation: 311 degrees
Deciduous trees: 1, west
Evergreen trees: 0



TREES' PYRANOMETER MEASUREMENTS								
Shade /Sun	**Species**	**Value 1**	**Value 2**	**Value 3**	**Value 4**	**Value 5**	**Average**	**Shade /Sun Ratio**
Shade	**Fraxinus**	**109.2**	**126.6**	**90.2**	**132.6**	**142.8**	**120.29**	**0.12**
Sun	**Pennsylvanica**	**964.5**	**988.8**	**970.9**	**970.1**	**976.9**	**974.24**	

SUMMER AND WINTER WEEKS SIMULATION RESULTS								
Summer Design Week AC (kWh)								
	Day 1	**Day 2**	**Day 3**	**Day 4**	**Day 5**	**Day 6**	**Day 7**	**Total**
No trees	19.2	19.3	20.8	18.0	11.6	15.2	22.2	**126.4**
Existing trees	19.2	19.0	20.5	17.8	11.4	14.9	21.8	**124.7**
Difference	0.0	0.3	0.3	0.2	0.2	0.3	0.3	**1.7**
Percent change								**1.31%**
Plus trees	18.7	18.5	20.0	17.2	10.9	14.4	21.4	**121.1**

Difference	0.5	0.5	0.6	0.6	0.5	0.5	0.5	**3.6**
Percent change								**4.19%**
Summer Design Week CO2 (lbs.)								
No trees	70.2	69.9	76.3	72.0	62.4	67.7	78.3	**496.8**
Existing trees	69.7	69.5	75.8	71.7	62.1	67.3	77.8	**493.9**
Difference	0.5	0.4	0.5	0.3	0.3	0.4	0.5	**2.9**
Percent change								**0.59%**
Plus trees	68.9	68.7	74.9	70.8	61.3	66.6	77.1	**488.3**
Difference	0.8	0.8	0.9	0.8	0.8	0.7	0.8	**5.5**
Percent change								**1.70%**
Winter Design Week HEAT (kBTUs)								
No trees	366.3	260.9	323.0	207.3	296.9	431.5	440.7	**2326.4**
Existing trees	367.2	261.5	324.2	208.2	298.3	433.0	442.1	**2334.5**
Difference	-0.8	-0.6	-1.2	-1.0	-1.4	-1.5	-1.5	**-8.0**
Percent change								**-0.34%**
Plus trees	368.6	262.7	325.5	210.1	301.1	436.0	444.8	**2348.7**
Difference	-1.5	-1.1	-1.3	-1.8	-2.9	-3.0	-2.7	**-14.3**
Percent change								**-0.95%**
Winter Design Week CO2 (lbs.)								
No trees	86.9	77.7	85.5	70.9	82.2	99.2	96.2	**598.6**
Existing trees	87.0	77.8	85.7	71.0	82.4	99.4	96.4	**599.6**
Difference	-0.1	-0.1	-0.2	-0.1	-0.2	-0.2	-0.2	**-1.0**
Percent change								**-0.17%**
Plus trees	87.2	77.9	85.9	71.3	82.7	99.7	96.8	**601.5**
Difference	-0.2	-0.1	-0.3	-0.2	-0.4	-0.4	-0.3	**-1.9**
Percent change								**-0.49%**
ANNUAL SIMULATION RESULTS								
	Heat (Gas kBtu)	**AC (elec. kBtu)**	**AC (kWh)**	**Carbon (lb.)**	**Net energy**			
No trees	121230.0	3880.0	1137.2	29509.9				
Existing	121760.0	3650.0	1069.8	29474.2				
DIFFERENCE	-530.0	230.0	67.4	35.7	-300.0			
% change	-0.44%	5.93%		0.12%	5.49%			
Increased Trees	123000.0	3110.0	911.5	29393.9				
DIFFERENCE	-1240.0	540.0	158.3	80.3	-700.0			
% change	-1.46%	19.85%		0.39%	18.39%			
COSTS ASSOCIATED WITH ANNUAL RESULTS								
	Heating ($)	**Air Conditioning ($)**	**Cost of Mitigating Carbon ($)**					

No trees	$1,240.18	$128.04	$73.77					
Existing	$1,245.60	$120.45	$73.69					
DIFFERENCE	-$5.42	$7.59	$0.09					
Percent change	-.44%	5.9%	.12%					
Increased Trees	$1,258.29	$102.63	$73.48					
DIFFERENCE	-$12.69	$17.82	$0.20					
Percent change	-1.0%	14.8%	.27%					

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Appendix S. Plot 82 Profile

Type:	Commercial
Year Built:	1946
Sq. ft.	2465
Orientation:	315 degrees
Deciduous trees:	2, west
Evergreen trees:	0

TREES' PYRANOMETER MEASUREMENTS								
Shade/Sun	**Species**	**Value 1**	**Value 2**	**Value 3**	**Value 4**	**Value 5**	**Average**	**Shade /Sun Ratio**
Shade	Cherry	75.3	75.4	109.0	74.9	89.3	84.76	0.11
Sun		794.5	799.1	789.2	787.3	817.7	797.56	
Shade	Cherry	130.6	70.3	81.0	70.7	81.8	86.89	0.11
Sun		799.4	797.5	793.0	796.7	804.1	798.14	

SUMMER AND WINTER WEEKS SIMULATION RESULTS								
Summer Design Week AC (kWh)								
	Day 1	**Day 2**	**Day 3**	**Day 4**	**Day 5**	**Day 6**	**Day 7**	**Total**
No trees	29.1	28.8	30.5	26.6	18.9	24.1	32.5	**190.5**
Existing trees	29.0	28.8	30.4	26.5	18.8	24.0	32.4	**189.8**
Difference	0.1	0.1	0.1	0.1	0.1	0.1	0.1	**0.7**
Percent change								**0.35%**
Plus trees	26.8	26.5	28.1	24.1	16.6	21.9	30.2	**174.1**
Difference	2.2	2.3	2.4	2.4	2.2	2.1	2.2	**15.7**
Percent change								**8.59%**
Summer Design Week CO2 (lbs.)								
No trees	83.0	82.6	89.1	83.1	71.6	79.4	92.1	**580.9**

Existing trees	82.9	82.5	88.9	83.0	71.4	79.2	92.0	**579.9**
Difference	0.1	0.1	0.2	0.2	0.2	0.1	0.1	**1.0**
Percent change								**0.17%**
Plus trees	79.5	79.1	85.4	79.4	68.1	76.0	88.7	**556.1**
Difference	3.3	3.4	3.6	3.6	3.3	3.2	3.3	**23.7**
Percent change								**4.26%**
Winter Design Week HEAT (kBTUs)								
No trees	334.5	234.0	255.6	159.6	277.3	361.9	367.5	**1990.4**
Existing trees	333.9	233.3	254.2	158.7	225.6	360.2	365.7	**1931.5**
Difference	0.6	0.8	1.4	0.9	51.8	1.7	1.8	**58.9**
Percent change								**2.96%**
Plus trees	334.4	233.5	254.7	159.1	226.4	361.0	366.4	**1935.5**
Difference	-0.5	-0.2	-0.5	-0.4	-0.8	-0.8	-0.7	**-4.0**
Percent change								**2.76%**
Winter Design Week CO2 (lbs.)								
No trees	81.2	72.5	75.2	63.1	71.7	88.6	85.4	**537.6**
Existing trees	81.1	72.4	75.0	63.0	71.4	88.4	85.2	**536.5**
Difference	0.1	0.1	0.2	0.1	0.2	0.2	0.2	**1.1**
Percent change								**0.21%**
Plus trees	81.8	72.4	75.1	63.1	71.5	88.5	85.2	**537.6**
Difference	-0.7	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	**-1.1**
Percent change								**0.00%**
ANNUAL SIMULATION RESULTS								
	Heat (Gas kBtu)	**AC (elec. kBtu)**	**AC (kWh)**	**Carbon (lb.)**	**Net energy**			
No trees	115400.0	6720.0	1969.5	29529.3				
Existing	113700.0	6720.0	1969.5	29317.1				
DIFFERENCE	1700.0	0.0	0.0	212.2	1700.0			
% change	1.47%	0.00%		0.72%	1.47%			
Increased Trees	114560.0	6200.0	1817.1	29192.4				
DIFFERENCE	-860.0	520.0	152.4	124.7	-340.0			
% change	0.73%	7.74%		1.14%	8.47%			
COSTS ASSOCIATED WITH ANNUAL RESULTS								
	Heating ($)	**Air Conditioning ($)**	**Cost of Mitigating Carbon ($)**					
No trees	$1,180.54	$221.77	$73.82					
Existing	$1,163.15	$221.77	$73.29					
DIFFERENCE	$17.39	$0.00	$0.53					
Percent change	1.5%	0%	.72%					

Increased Trees	$1,171.95	$204.61	$72.98					
DIFFERENCE	-$8.80	$17.16	$0.31					
Percent change	-.75%	7.7%	4.2%					

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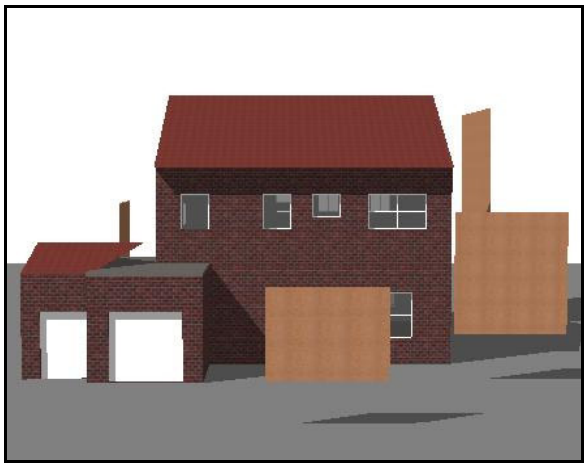
Appendix T. Plot 91 Profile

Type: Residential home
Year Built: 1995
Sq. ft. 2252
Orientation: 15 degrees
Deciduous trees: 3, west and south
Evergreen trees: 1, north



TREES' PYRANOMETER MEASUREMENTS								
Shade /Sun	**Species**	**Value 1**	**Value 2**	**Value 3**	**Value 4**	**Value 5**	**Average**	**Shade /Sun Ratio**
Shade	Mtn. Ash	100.3	123.0	97.2	248.1	132.9	140.31	0.16
Sun		853.0	852.1	853.9	857.2	867.4	856.72	
Shade	River	386.0	330.0	140.2	461.0	110.4	285.51	0.31
Sun	Spectula nigra	908.0	906.1	914.2	918.0	924.0	914.06	
Shade	Silver	82.3	111.7	141.7	117.3	108.7	112.31	0.12
Sun	Maple	927.0	926.1	918.0	944.2	935.3	930.12	
Shade	Columnar	71.6	68.9	68.7	109.3	112.0	86.10	0.09
Sun	Aspen	893.5	901.0	909.3	918.6	924.5	909.38	

SUMMER AND WINTER WEEKS SIMULATION RESULTS								
Summer Design Week AC (kWh)								
	Day 1	**Day 2**	**Day 3**	**Day 4**	**Day 5**	**Day 6**	**Day 7**	**Total**
No trees	25.2	25.2	27.2	24.4	17.1	19.4	27.6	**166.1**
Existing trees	24.1	24.0	26.1	23.2	16.1	18.4	26.5	**158.5**
Difference	1.1	1.1	1.1	1.1	1.0	1.0	1.1	**7.7**
Percent change								**4.61%**
Plus trees	23.5	23.5	25.6	22.8	15.8	18.0	26.0	**155.2**

Difference	0.6	0.5	0.5	0.4	0.3	0.4	0.5	**3.2**
Percent change								**6.56%**
Summer Design Week CO2 (lbs.)								
No trees	70.7	70.7	77.1	72.7	61.8	65.2	77.7	**495.8**
Existing trees	69.0	69.0	75.4	71.0	60.3	63.6	76.0	**484.2**
Difference	1.7	1.7	1.7	1.7	1.5	1.5	1.7	**11.6**
Percent change								**2.33%**
Plus trees	68.1	68.2	74.6	70.4	59.8	63.1	75.2	**479.3**
Difference	0.8	0.8	0.8	0.6	0.4	0.6	0.8	**4.9**
Percent change								**3.31%**
Winter Design Week HEAT (kBTUs)								
No trees	289.7	177.8	167.5	94.7	138.9	259.9	268.5	**1397.0**
Existing trees	290.4	178.8	169.3	96.4	141.0	262.4	271.1	**1409.4**
Difference	-0.7	-0.9	-1.8	-1.7	-2.2	-2.5	-2.6	**-12.4**
Percent change								**-0.88%**
Plus trees	289.9	178.4	168.9	96.0	140.6	262.1	270.7	**1406.7**
Difference	0.4	0.3	0.4	0.3	0.4	0.3	0.4	**2.6**
Percent change								**-0.69%**
Winter Design Week CO2 (lbs.)								
No trees	69.1	58.3	57.0	47.9	53.4	68.7	66.5	**420.9**
Existing trees	69.2	58.4	57.3	48.1	53.7	69.0	66.8	**422.5**
Difference	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3	-0.3	**-1.6**
Percent change								**-0.37%**
Plus trees	69.2	58.4	57.2	48.0	53.6	68.9	66.7	**422.1**
Difference	0.1	0.0	0.1	0.0	0.0	0.0	0.1	**0.4**
Percent change								**-0.29%**

ANNUAL SIMULATION RESULTS								
	Heat (Gas kBtu)	**AC (elec. kBtu)**	**AC (kWh)**	**Carbon (lb.)**	**Net energy**			
No trees	93539.7	5832.4	1709.4	24403.6				
Existing	93686.0	5330.3	1562.2	24199.8				
DIFFERENCE	-146.4	502.1	147.2	203.8	355.7			
% change	-0.16%	8.61%		0.84%	8.45%			
Increased Trees	94430.5	4704.4	1378.8	24016.6				
DIFFERENCE	-744.5	625.9	183.4	183.2	-118.6			
% change	-0.95%	19.34%		1.59%	18.39%			

COSTS ASSOCIATED WITH ANNUAL RESULTS								
	Heating ($)	**Air Conditioning ($)**	**Cost of Mitigating Carbon ($)**					

No trees	$956.91	$192.48	$61.01					
Existing	$958.41	$175.91	$60.50					
DIFFERENCE	-$1.50	$16.57	$0.51					
Percent change	-.15%	8.6%	.84%					
Increased Trees	$966.02	$155.25	$60.04					
DIFFERENCE	-$7.62	$20.66	$0.46					
Percent change	-.78%	11.7%	-.76%					

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