SoundScape Park
Methods

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- Landscape Performance Benefits:

Environmental Benefits

- ○ **Environmental Benefit 1-** Prevents approximately 1.2 million gallons of stormwater from entering Miami Beach's stormwater system annually, primarily due to a 202% increase in pervious surface area when compared to previous site conditions.
  - ■ Calculations
    - Area pre-development: 130,000 sf
      - ○ Pervious area: 23,493 sf
      - ○ Impervious area: 106,507 sf
    - Area post-development: 130,000 sf
      - ○ Pervious area: 70,876 sf
      - ○ Impervious area: 59,124 sf

Figure 1. Comparison of pervious (blue) and impervious (red) surfaces between pre-development (left) and post-development (right) conditions.

- The total amount of stormwater was calculated by utilizing the Rational Equation Method (Q=CiA) which equates peak discharge (runoff) of a drainage field (Soundscape Park) during a specific rain event. The equation typically is used to measure rain events that are short in duration. In order to scale the equation such that it fit the needs of the case study, *i* was modified to represent the number most indicative of the total rainfall Miami Beach may get for the duration of any hour of any day throughout the year. The city of Miami Beach averages 61.9 inches of rain per year.

(61.9 inches/year) / (365 days/year) / (24 hours/day) = 0.0071 inches/hour = i

- The acreage of impervious and pervious surfaces of the park both pre- and post-development were input into the equation as *A*. The

Runoff Coefficient, *C,* is unique to the ground conditions of the watershed. In the equation, 0.05 was utilized for the pervious areas while 0.7 was utilized for the impervious areas.

Groundcover	Runoff Coefficient, *c*
Lawns	0.05-0.35
Forest	0.05-0.25
Cultivated Land	0.08-0.41
Meadow	0.1-0.5
Parks, cemeteries	0.1-0.25
Unimproved areas	0.1-0.3
Pasture	0.12-0.62
Residential areas	0.3-0.75
Business areas	0.5-0.95
Industrial areas	0.5-0.9
Asphalt streets	0.7-0.95
Brick streets	0.7-0.85
Roofs	0.75-0.95
Concrete streets	0.7-0.95

Table 1. Runoff Coefficients

- To equate the total volume of runoff throughout the year, *Q,* units being cubic feet per second, was scaled to represent yearly runoff in total cubic feet then converted to total gallons of runoff per year. The total difference between pre-development conditions and post-development conditions was then calculated.

Stormwater Runoff Pre-Development							
Description	Area (in s.f.)	i (inches/hour)	Area (acres)	C (co-efficient)	Q (Q=CiA) in c.f.s.	Total Volume (=Q*Time) in c.f.	Total Volume in Gal.
pervious	23,493.00	0.0071	0.5393	0.05	0.00019145	6,037.61	45,161.36
impervious	106,507.00	0.0071	2.4451	0.70	0.01215215	383,230.11	2,866,561.21
Total	130,000.00					389,267.72	2,911,722.56

Stormwater Runoff Post-Development							
Description	Area (in s.f.)	i (inches/hour)	Area (acres)	C (co-efficient)	Q (Q=CiA) in c.f.s.	Total Volume (=Q*Time) in c.f.	Total Volume in Gal.
pervious	70,876.00	0.0071	1.6271	0.05	0.00057762	18,215.84	136,254.48
impervious	59,124.00	0.0071	1.3573	0.70	0.00674578	212,734.95	1,591,257.42
Total	130,000.00					230,950.79	1,727,511.91

Total Difference	1,184,210.66

Table 2. Stormwater Runoff Calculations, pre- and post-development SoundScape Park.

- Limitations
  - Precision: There may be small errors caused by manual tracing of aerial imagery.
  - Image quality: While the quality of the images is very high, there are portions that are pixelated and/or covered in shadow from adjacent buildings. We estimated the areas to the best of our capabilities. Since the image quality was identical for both pre- and post-intervention aerials, it could be argued that human error was identical for both and thus negligible in the final calculations.
  - The equation $Q=CiA$, when scaled out to represent the total hourly rainfall during any given hour throughout the year, doesn't take into account large rainfall events, where total discharge may be greater than average.
- Sources
  - *http://www.lmnoeng.com/Hydrology/rational.php*

- **Environmental Benefit 2** - Sequesters approximately 9.5 tons of atmospheric carbon in 355 newly-planted trees.
  - Calculations
    - To determine the amount of CO_2 captured by the trees, we utilized the National Tree Benefit Calculator (TREE). The tree value calculator is based upon the iTree Streets software program developed by the USDA Forest Service for approximating street tree benefits. The tree value calculator required us to identify the trunk diameter at breast height (DBH) for the species on site. Once the DBH was measured, that value was input into the National

Tree Benefit Calculator where it output stormwater and CO_2 values.

	Veitchia sp.(SS)	Veitchia sp. (SD)	Veitchia sp. (ST)	Veitchia sp.(TS)	Veitchia sp. (TD)	Veitchia sp. (TT)	Veitchia sp. (MS)	Veitchia sp. (MD)	Veitchia sp. (MT)	Dictyosperma sp.(HS)	Dictyosperma sp.(HD)	Dictyosperma sp. (HT)	Quercus virginiana (LO)	Delonix regia (FL)
ZONE A	3			17	5	2	14	3	3	30		2		
ZONE B	1			10	2	4	10	4	4	10	2			1
ZONE C	1	1	1	18	5	8	21	5	3	4			1	
ZONE D	3	2		11	8		10	6	2	2	1		3	2
ZONE E				19	6	6	25	6	3	2	1		1	1
ZONE F				28	3	3	3			3				
totals #s	8	3	1	103	29	23	83	24	15	51	4	2	5	4
													total	355
specs	40-45' o.a. height, single	40-45' o.a. height, double	40-45' o.a. height, triple	>25' o.a. height, single	>25' o.a. height, double	>25' o.a. height, triple	16-25' o.a. height, single	16-25' o.a. height, double	16-25' o.a. height, triple	12-15' o.a. height, single	12-15' o.a. height, double	12-15' o.a. height, single	35' o.a., 2-5 trunks (8-12" caliper)	25' o.a., 12" caliper
Stormwater intercepted/tree (in gal.)	289	362	430	249	318	376	198	274	318	198	274	318	825	773
CO2 sequestered/tree (in pounds)	59	67	67	52	62	67	41	57	62	41	57	62	174	162
Total gal. per year	2312	1086	430	25647	9222	8648	16434	6576	4770	10098	1096	636	4125	3092
													total (gal.)	94172
Total lbs. per year	472	201	67	5356	1798	1541	3403	1368	930	2091	228	124	870	648
													total (lbs)	19097

Table 3. Calculations of CO2 sequestration (in lbs.)

- ■ Limitations
  - ● The online calculator does not assess non-tree vegetation such as grass and small shrubs which account for a sizeable portion of the site.
  - ● The online calculator does not list all the tree species that were used in the project. For instance, the Live Oak (*Quercus virginiana*) was not available on the online calculator and instead was replaced as an input by the placeholder or generic "Large Broadleaf Deciduous Tree". It is unclear how much this may or may not skew the results.
- ■ Sources
  - ● *http://www.treebenefits.com/calculator/*

- ○ **Environmental Benefit 3** - Reduces air temperatures in the park by an average of 4.7° F when compared to the adjacent sidewalk, primarily due to a 270% increase in canopy coverage.
  - ■ Calculations
    - ● Total canopy cover was calculated by tracing the canopy cover of aerial imagery of Soundscape Park in its pre-development state as well as in its post-development state. The respective areas of both tree canopies were then compared.

Figure 2. Canopy cover in pre- and post-development conditions (left and right respectively).

- Temperature measurements were calculated through direct measurement of on-site air temperatures taken hourly over an 8 hour period on two separate days, May 7, 2016 and May 12, 2016.
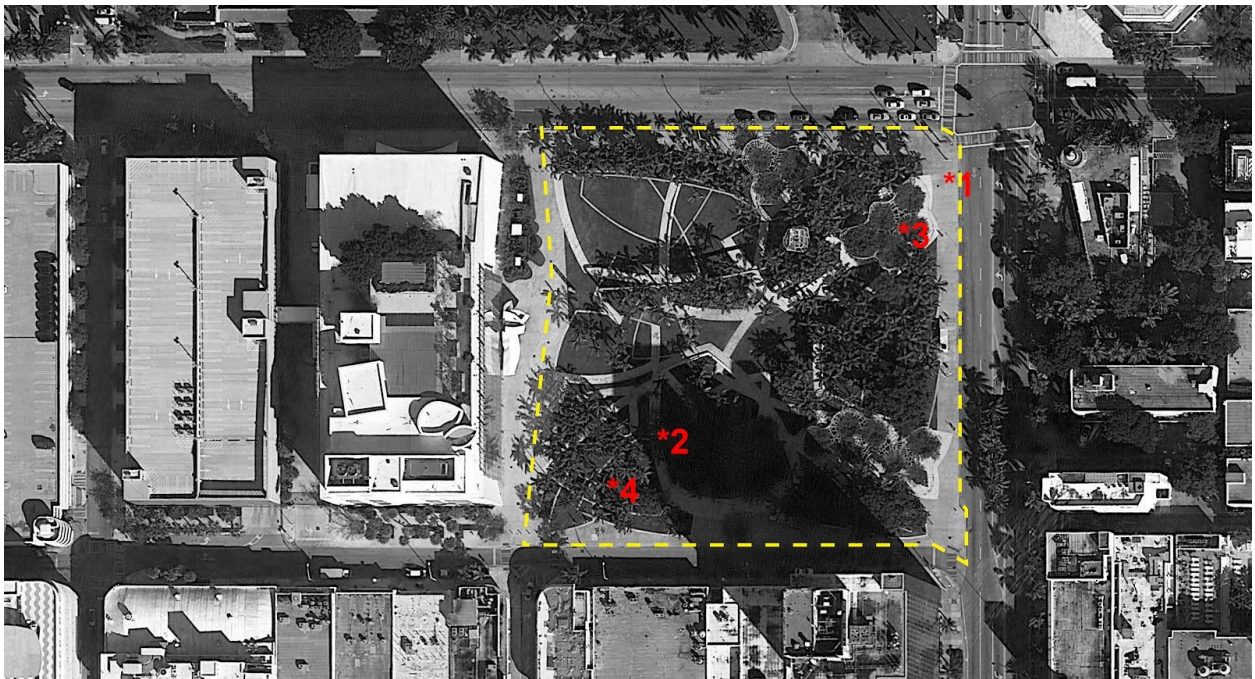

Figure 3. Temperature Measurement locations.

Time of day	Weather condition	NorthEast Sidewalk (★1) above concrete sidewalk	SouthWest Seatwall (★2) above concrete bench under a palm tree	Temperature differences between ★1 & ★2	NorthEast Entrywalk (★3) above concrete walkway under vinecovered structure	Temperature differences between ★1 & ★3	SouthWest Grassland (★4) above grass under a palm tree	Temperature differences between ★1 & ★4
				Saturday 5/7/2016 Temperatures read (°F) & Temperature differences				
9:00 AM	Sunny	75.4	75.9	0.5	69.6	-5.8	71.6	-3.8
10:00 AM	Sunny	79.2	74.1	-5.1	71.2	-8	73.6	-5.6
11:00 AM	Sunny	78.8	77.2	-1.6	74.8	-4	75.6	-3.2
12:00 PM	Sunny	83.1	81.1	-2	77.4	-5.7	77.4	-5.7
1:00 PM	Sunny	89.1	80.6	-8.5	78.1	-11	81.3	-7.8
2:00 PM	Sunny	85.6	81.5	-4.1	80.1	-5.5	79	-6.6
3:00 PM	Sunny	84.9	82.9	-2	82.5	-2.4	80.2	-4.7
4:00 PM	Sunny	84.2	85.6	1.4	82.8	-1.4	79	-5.2
5:00 PM	Sunny	81.9	82.8	0.9	80.6	-1.3	77.2	-4.7
Averages		**82.5**	**80.2**	**-2.3**	**77.5**	**-5.0**	**77.2**	**-5.3**

Time of day	Weather condition	NorthEast Sidewalk (★1) above concrete sidewalk	SouthWest Seatwall (★2) above concrete bench under a palm tree	Temperature differences between ★1 & ★2	NorthEast Entrywalk (★3) above concrete walkway under vinecovered structure	Temperature differences between ★1 & ★3	SouthWest Grassland (★4) above grass under a palm tree	Temperature differences between ★1 & ★4
				Friday 5/12/2016 Temperatures read (°F) & Temperature differences				
9:00 AM	Mostly sunny	83.1	80.8	-2.3	81.3	-1.8	79.9	-3.2
10:00 AM	Mostly sunny	88.2	82.4	-5.8	82.2	-6	83.1	-5.1
11:00 AM	Partly sunny	88.5	84.4	-4.1	82.4	-6.1	83.3	-5.2
12:00 PM	Partly sunny	90.1	84	-6.1	83.1	-7	83.1	-7
1:00 PM	Cloudy	89.8	86.5	-3.3	83.7	-6.1	83.1	-6.7
2:00 PM	Cloudy	91.9	88.3	-3.6	84.6	-7.3	84.2	-7.7
3:00 PM	Cloudy	91.6	87.8	-3.8	85.8	-5.8	83.9	-7.7
4:00 PM	Clouds and sun	90.9	87.8	-3.1	86.4	-4.5	82.9	-8
5:00 PM	Cloudy	87.4	86	-1.4	83.5	-3.9	82	-5.4
Averages		**89.1**	**85.3**	**-3.7**	**83.7**	**-5.4**	**82.8**	**-6.2**

Table 4. Temperature Measurements Saturday, May 7, 2016 + Friday, May 12, 2016

- Average of 6 temperature differences above = 4.65° F

■ Limitations
  ● Precision: There may be small errors caused by manual tracing of aerial imagery.

  ● Image quality: While the quality of the images is very high, there are portions that are pixelated and/or covered in shadow from adjacent buildings. We estimated the areas to the best of our capabilities. Since the image quality was identical for both pre- and post-intervention aerials, it could be argued that human error was identical for both and thus negligible in the final calculations.

Social Benefits

○ **Social Benefit 1** - Attracts approximately 870 users on a typical May weekday and 1,000 people over an 8-hour period on a typical May weekend day.

■ Calculations

9am - 10am

Miami Beach Weather: Sunny, Actual Temperatures: 65°, Feels like: 64°, Humidity: 70%

Visitor entered park	NorthWest	North	NorthEast	East	SouthEast	South	SouthWest	
by walking	9	7	11	3	5	3	12	
on/with bike	3	0	1	0	0	1	2	
on/with skateboard	1	0	0	0	0	0	1	
by jogging	1	0	0	0	0	0	0	
with dog	0	0	0	0	0	0	2	
Hourly totals	14	7	12	3	5	4	17	62
Hourly percentages	22.6%	11.3%	19.4%	4.8%	8.1%	6.5%	27.4%	100.0%

Visitor activities	Hourly totals	Hourly percentages
Passing by to go somewhere else	42	67.7%
Eating /drinking	1	1.6%
Sitting on bench	4	6.5%
Sitting /laying on lawn	1	1.6%
Taking pictures	10	16.1%
Standing /waiting	4	6.5%
	62	100.0%

10am - 11am

Miami Beach Weather: Sunny, Actual Temperatures: 68°, Feels like: 69°, Humidity: 56%

Visitor entered park	NorthWest	North	NorthEast	East	SouthEast	South	SouthWest	
by walking	18	0	22	8	15	5	35	
on/with bike	3	0	16	0	2	1	8	
on/with skateboard	0	0	0	0	0	0	0	
by jogging	0	0	0	0	0	0	0	
with dog	0	1	3	0	0	0	1	
Hourly totals	21	1	41	8	17	6	44	138
Hourly percentages	15.2%	0.7%	29.7%	5.8%	12.3%	4.3%	31.9%	100.0%

Visitor activities	Hourly totals	Hourly percentages
Passing by to go somewhere else	90	65.2%
Eating /drinking	3	2.2%
Sitting on bench	3	2.2%
Sitting /laying on lawn	3	2.2%
Taking pictures	18	13.0%
Standing /waiting	21	15.2%
	138	100.0%

11am - 12pm

Miami Beach Weather: Sunny, Actual Temperatures: 71°, Feels like: 74°, Humidity: 48%

Visitor entered park	NorthWest	North	NorthEast	East	SouthEast	South	SouthWest	
by walking	18	5	16	12	25	1	28	
on/with bike	3	6	1	0	2	0	0	
on/with skateboard	1	0	0	0	1	0	0	
by jogging	0	0	0	0	0	0	0	
with dog	0	0	3	0	0	0	1	
Hourly totals	22	11	20	12	28	1	29	123
Hourly percentages	17.9%	8.9%	16.3%	9.8%	22.8%	0.8%	23.6%	100.0%

Visitor activities	Hourly totals	Hourly percentages
Passing by to go somewhere else	61	49.6%
Eating /drinking	8	6.5%
Sitting on bench	19	15.4%
Sitting /laying on lawn	1	0.8%
Taking pictures	13	10.6%
Standing /waiting	21	17.1%
	123	100.0%

12pm - 1pm

Miami Beach Weather: Sunny, Actual Temperatures: 74°, Feels like: 80°, Humidity: 35%

Visitor entered park	NorthWest	North	NorthEast	East	SouthEast	South	SouthWest	
by walking	32	13	14	19	25	0	22	
on/with bike	10	0	3	1	0	0	7	
on/with skateboard	0	0	0	0	0	0	0	
by jogging	0	0	0	0	0	0	0	
with dog	0	0	0	0	5	0	0	
Hourly totals	42	13	17	20	30	0	29	151
Hourly percentages	27.8%	8.6%	11.3%	13.2%	19.9%	0.0%	19.2%	100.0%

Visitor activities	Hourly totals	Hourly percentages
Passing by to go somewhere else	103	68.2%
Eating /drinking	2	1.3%
Sitting on bench	13	8.6%
Sitting /laying on lawn	5	3.3%
Taking pictures	12	7.9%
Standing /waiting	16	10.6%
	151	100.0%

1pm - 2pm

Miami Beach Weather: Sunny, Actual Temperatures: 78°, Feels like: 84°, Humidity: 28%

Visitor entered park	NorthWest	North	NorthEast	East	SouthEast	South	SouthWest	
by walking	25	8	18	10	28	2	32	
on/with bike	2	0	0	0	5	0	10	
on/with skateboard	0	0	0	0	0	0	1	
by jogging	0	0	0	0	0	0	0	
with dog	2	2	0	0	0	0	0	
Hourly totals	29	10	18	10	33	2	43	145
Hourly percentages	20.0%	6.9%	12.4%	6.9%	22.8%	1.4%	29.7%	100.0%

Visitor activities	Hourly totals	Hourly percentages
Passing by to go somewhere else	98	67.6%
Eating /drinking	2	1.4%
Sitting on bench	11	7.6%
Sitting /laying on lawn	8	5.5%
Taking pictures	19	13.1%
Standing /waiting	7	4.8%
	145	100.0%

2pm - 3pm

Miami Beach Weather: Sunny, Actual Temperatures: 79°, Feels like: 83°, Humidity: 25%

Visitor entered park	NorthWest	North	NorthEast	East	SouthEast	South	SouthWest	
by walking	29	11	17	17	44	0	25	
on/with bike	1	0	2	0	3	0	5	
on/with skateboard	0	0	0	0	0	0	0	
by jogging	0	0	0	0	0	0	1	
with dog	0	0	1	0	1	0	1	
Hourly totals	30	11	20	17	48	0	32	158
Hourly percentages	19.0%	7.0%	12.7%	10.8%	30.4%	0.0%	20.3%	100.0%

Visitor activities	Hourly totals	Hourly percentages
Passing by to go somewhere else	103	65.2%
Eating /drinking	1	0.6%
Sitting on bench	14	8.9%
Sitting /laying on lawn	11	7.0%
Taking pictures	9	5.7%
Standing /waiting	20	12.7%
	158	100.0%

3pm - 4pm

Miami Beach Weather: Sunny, Actual Temperatures: 80°, Feels like: 85°, Humidity: 25%

Visitor entered park	NorthWest	North	NorthEast	East	SouthEast	South	SouthWest	
by walking	20	8	23	6	34	1	16	
on/with bike	2	0	4	0	1	1	3	
on/with skateboard	0	0	0	0	0	0	0	
by jogging	0	0	0	0	0	0	0	
with dog	0	0	0	0	0	0	1	
Hourly totals	22	8	27	6	35	2	20	120
Hourly percentages	18.3%	6.7%	22.5%	5.0%	29.2%	1.7%	16.7%	100.0%

Visitor activities	Hourly totals	Hourly percentages
Passing by to go somewhere else	80	66.7%
Eating /drinking	0	0.0%
Sitting on bench	11	9.2%
Sitting /laying on lawn	5	4.2%
Taking pictures	20	16.7%
Standing /waiting	4	3.3%
	120	100.0%

4pm - 5pm

Miami Beach Weather: Sunny, Actual Temperatures: 81°, Feels like: 85°, Humidity: 26%

Visitor entered park	NorthWest	North	NorthEast	East	SouthEast	South	SouthWest	
by walking	16	5	19	4	35	2	35	
on/with bike	3	0	4	0	3	0	5	
on/with skateboard	1	0	0	0	0	0	0	
by jogging	0	0	0	0	0	0	0	
with dog	0	0	0	0	0	0	0	
Hourly totals	20	5	23	4	38	2	40	132
Hourly percentages	15.2%	3.8%	17.4%	3.0%	28.8%	1.5%	30.3%	100.0%

Visitor activities	Hourly totals	Hourly percentages
Passing by to go somewhere else	115	87.1%
Eating /drinking	0	0.0%
Sitting on bench	9	6.8%
Sitting /laying on lawn	4	3.0%
Taking pictures	4	3.0%
Standing /waiting	0	0.0%
	132	100.0%

Table 5. Total Visitor Count was 1029 for Saturday May 7, 2016 from 9:00 am-5:00 pm.

9am - 10am — Miami Beach Weather: Mostly Sunny, Actual Temperatures: 76°, Feels like: 83°, Humidity: 73%

Visitor entered park	NorthWest	North	NorthEast	East	SouthEast	South	SouthWest	
by walking	9	5	12	13	20	1	25	
on/with bike	2	0	1	0	1	0	2	
on/with skateboard	0	0	0	0	0	0	0	
by jogging	0	0	0	0	0	0	0	
with dog	0	0	0	0	0	0	0	
Hourly totals	11	5	13	13	21	1	27	91
Hourly percentages	12.1%	5.5%	14.3%	14.3%	23.1%	1.1%	29.7%	100.0%

Visitor activities	Hourly totals	Hourly percentages
Passing by to go somewhere else	65	71.4%
Eating /drinking	0	0.0%
Sitting on bench	10	11.0%
Sitting /laying on lawn	9	9.9%
Taking pictures	4	4.4%
Standing /waiting	3	3.3%
	91	100.0%

10am - 11am — Miami Beach Weather: Mostly Sunny, Actual Temperatures: 79°, Feels like: 84°, Humidity: 64%

Visitor entered park	NorthWest	North	NorthEast	East	SouthEast	South	SouthWest	
by walking	6	5	8	8	22	0	12	
on/with bike	3	0	0	0	2	0	5	
on/with skateboard	0	0	0	0	0	0	0	
by jogging	0	0	0	0	2	0	0	
with dog	1	0	1	0	0	0	0	
Hourly totals	10	5	9	8	26	0	17	75
Hourly percentages	13.3%	6.7%	12.0%	10.7%	34.7%	0.0%	22.7%	100.0%

Visitor activities	Hourly totals	Hourly percentages
Passing by to go somewhere else	44	58.7%
Eating /drinking	2	2.7%
Sitting on bench	11	14.7%
Sitting /laying on lawn	1	1.3%
Taking pictures	11	14.7%
Standing /waiting	6	8.0%
	75	100.0%

11am - 12pm — Miami Beach Weather: Partly Sunny, Actual Temperatures: 80°, Feels like: 93°, Humidity: 59%

Visitor entered park	NorthWest	North	NorthEast	East	SouthEast	South	SouthWest	
by walking	16	7	15	14	26	11	21	
on/with bike	3	0	1	1	2	0	5	
on/with skateboard	0	0	0	0	0	0	0	
by jogging	0	0	0	0	0	0	0	
with dog	1	0	0	0	0	0	0	
Hourly totals	20	7	16	15	28	11	26	123
Hourly percentages	16.3%	5.7%	13.0%	12.2%	22.8%	8.9%	21.1%	100.0%

Visitor activities	Hourly totals	Hourly percentages
Passing by to go somewhere else	87	70.7%
Eating /drinking	3	2.4%
Sitting on bench	13	10.6%
Sitting /laying on lawn	1	0.8%
Taking pictures	7	5.7%
Standing /waiting	12	9.8%
	123	100.0%

12pm - 1pm — Miami Beach Weather: Partly Sunny, Actual Temperatures: 83°, Feels like: 90°, Humidity: 54%

Visitor entered park	NorthWest	North	NorthEast	East	SouthEast	South	SouthWest	
by walking	32	10	13	9	29	6	12	
on/with bike	0	0	2	0	0	0	2	
on/with skateboard	0	0	0	0	0	0	0	
by jogging	0	0	0	0	0	0	0	
with dog	0	0	0	0	1	0	0	
Hourly totals	32	10	15	9	30	6	14	116
Hourly percentages	27.6%	8.6%	12.9%	7.8%	25.9%	5.2%	12.1%	100.0%

Visitor activities	Hourly totals	Hourly percentages
Passing by to go somewhere else	75	64.7%
Eating /drinking	14	12.1%
Sitting on bench	7	6.0%
Sitting /laying on lawn	8	6.9%
Taking pictures	4	3.4%
Standing /waiting	8	6.9%
	116	100.0%

1pm - 2pm — Miami Beach Weather: Cloudy, Actual Temperatures: 84°, Feels like: 89°, Humidity: 52%

Visitor entered park	NorthWest	North	NorthEast	East	SouthEast	South	SouthWest	
by walking	27	6	16	11	30	0	8	
on/with bike	2	0	0	0	2	0	3	
on/with skateboard	0	0	0	0	0	0	0	
by jogging	0	0	0	0	0	0	0	
with dog	1	0	0	1	0	0	0	
Hourly totals	30	6	16	12	32	0	11	107
Hourly percentages	28.0%	5.6%	15.0%	11.2%	29.9%	0.0%	10.3%	100.0%

Visitor activities	Hourly totals	Hourly percentages
Passing by to go somewhere else	62	57.9%
Eating /drinking	5	4.7%
Sitting on bench	19	17.8%
Sitting /laying on lawn	1	0.9%
Taking pictures	11	10.3%
Standing /waiting	9	8.4%
	107	100.0%

2pm - 3pm — Miami Beach Weather: Cloudy, Actual Temperatures: 84°, Feels like: 92°, Humidity: 50%

Visitor entered park	NorthWest	North	NorthEast	East	SouthEast	South	SouthWest	
by walking	21	3	28	6	21	2	19	
on/with bike	5	0	3	0	0	0	10	
on/with skateboard	2	0	0	0	0	0	1	
by jogging	0	0	0	0	0	0	0	
with dog	0	0	1	0	0	1	0	
Hourly totals	28	3	32	6	21	3	30	123
Hourly percentages	22.8%	2.4%	26.0%	4.9%	17.1%	2.4%	24.4%	100.0%

Visitor activities	Hourly totals	Hourly percentages
Passing by to go somewhere else	100	81.3%
Eating /drinking	0	0.0%
Sitting on bench	10	8.1%
Sitting /laying on lawn	0	0.0%
Taking pictures	9	7.3%
Standing /waiting	4	3.3%
	123	100.0%

3pm - 4pm — Miami Beach Weather: Cloudy, Actual Temperatures: 85°, Feels like: 88°, Humidity: 45%

Visitor entered park	NorthWest	North	NorthEast	East	SouthEast	South	SouthWest	
by walking	24	8	11	6	25	7	7	
on/with bike	5	1	3	0	4	0	6	
on/with skateboard	1	0	0	0	1	0	0	
by jogging	0	0	0	0	0	0	0	
with dog	0	0	0	0	1	0	0	
Hourly totals	30	9	14	6	31	7	13	110
Hourly percentages	27.3%	8.2%	12.7%	5.5%	28.2%	6.4%	11.8%	100.0%

Visitor activities	Hourly totals	Hourly percentages
Passing by to go somewhere else	90	81.8%
Eating /drinking	0	0.0%
Sitting on bench	6	5.5%
Sitting /laying on lawn	1	0.9%
Taking pictures	7	6.4%
Standing /waiting	6	5.5%
	110	100.0%

4pm - 5pm — Miami Beach Weather: Clouds and Sun, Actual Temperatures: 85°, Feels like: 90°, Humidity: 44%

Visitor entered park	NorthWest	North	NorthEast	East	SouthEast	South	SouthWest	
by walking	22	0	11	11	41	6	19	
on/with bike	4	0	0	0	7	0	7	
on/with skateboard	3	0	0	0	0	0	1	
by jogging	0	0	0	0	0	0	0	
with dog	0	0	0	0	0	0	0	
Hourly totals	29	0	11	11	48	6	27	132
Hourly percentages	22.0%	0.0%	8.3%	8.3%	36.4%	4.5%	20.5%	100.0%

Visitor activities	Hourly totals	Hourly percentages
Passing by to go somewhere else	99	75.0%
Eating /drinking	2	1.5%
Sitting on bench	11	8.3%
Sitting /laying on lawn	6	4.5%
Taking pictures	6	4.5%
Standing /waiting	8	6.1%
	132	100.0%

Table 6. Total Visitor Count was 877 on Friday May 12, 2016 from 9:00 am-5:00 pm.

- Limitations
  - The research team manually counted visitors from two particular vantage points at the park. They also distinguished between those who were simply passing by to go somewhere else, those who were utilizing the facilities on-site (i.e. waiting at bus stop), and those who came to the park to enjoy the various amenities offered.

- Due to the counting activity taking place during a specific weekend and weekday in May, the numbers gathered are not necessarily reflective of the amount of visitors that may utilize the park at other times.
- Evening foot traffic and events taking place at night, such as movie screenings or symphony performances, were not accounted for in these figures.

○ **Social Benefit 2 -** Positively influences the satisfaction with quality of life in Miami Beach according to 82% of 84 survey respondents.
  ■ Calculations
    ● To measure Social Benefits 2-6 the research team created a survey that was carried out on-site. A total of 84 respondents participated in the survey.

Spending time in this park influences my satisfaction with quality of life in this city.
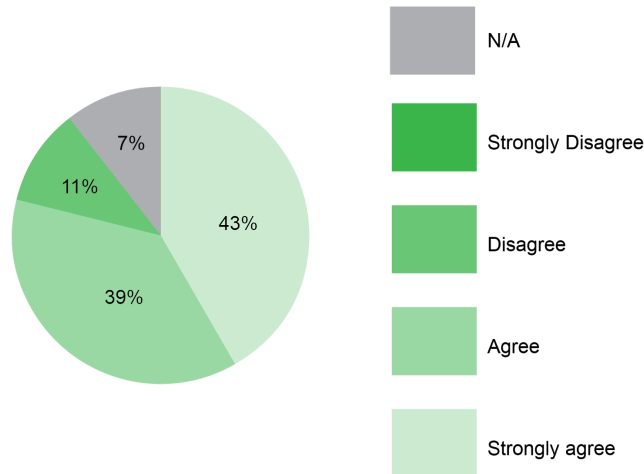
Table 7. 82% of survey participants agreed that spending time in SoundScape Park positively influences their satisfaction with quality of life in the City of Miami Beach.

○ **Social Benefit 3** - Provides stress relief according to 60% of 84 survey respondents.

Spending time in this park helps me to cope with the demands of work, family, and other stressful situations.
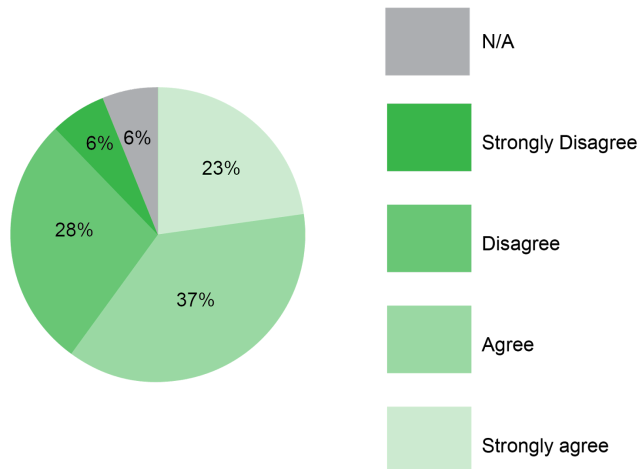
Table 8. 60% of survey participants agreed that spending time in SoundScape Park helps them to cope with stress.

- ○ **Social Benefit 4 -** Increases user exposure to music performances or other cultural events according to 45% of 84 survey respondents by hosting over 50 events annually.

Has the existence of this park increased your exposure to music performances or other cultural events?

No

Yes
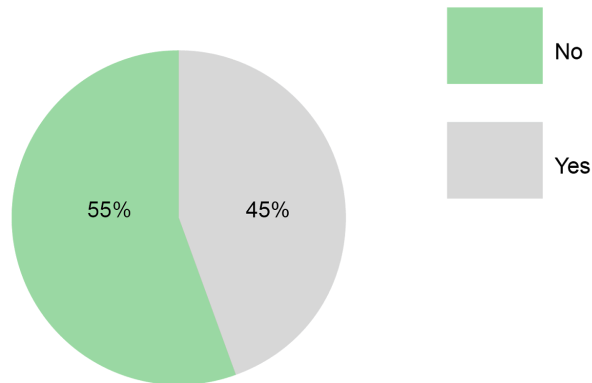
Table 9. 45% of survey participants said that SoundScape Park increases their exposure to music performances and cultural events.

Economic Benefits

- ○ **Economic Benefit 1** - Contributed to a 60% increase in the total assessed value of properties within a block of Soundscape Park from 2010 to 2015. This led to a $1.2 million (60%) increase in yearly property tax revenues. During that same period, gross property values for the entirety of the City of Miami Beach increased by only 36%.
    - ■ Calculations
        - ● Assessed property value of the surrounding area was obtained from the Miami-Dade Property Appraiser (MDPA) to calculate the change in property value from the year prior to the intervention to present (2010-2015).

Figure 4. Properties surrounding SoundScape Park marked in green; SoundScape Park in color in center.

#	address	Assessed Property Value in USD($)						difference	(%)
		2010	2011	2012	2013	2014	2015		
1	601 LINCOLN RD/Miami Beach, FL 33139-2913	6,810,050	17,000,000	8,756,916	18,200,000	20,072,222	22,079,444	15,269,394	224.2%
2	533 LINCOLN RD/Miami Beach FL 33139-2913	3,933,750	3,337,125	3,670,837	4,037,926	4,441,712	4,885,883	1,852,133	61.1%
3	521 LINCOLN RD/Miami Beach FL 33139-2913	3,964,125	3,370,537	3,720,006	4,092,006	4,501,206	4,951,326	1,887,200	61.6%
4	511 LINCOLN RD/Miami Beach FL 33139-2913	3,517,875	3,600,000	3,947,400	4,342,145	4,776,354	5,253,989	1,736,114	49.4%
5	501 LINCOLN RD/Miami Beach FL 33139-2913	3,432,165	3,775,381	4,152,919	4,568,210	5,025,031	5,527,534	2,095,369	61.1%
6	455 LINCOLN RD/Miami Beach FL 33139-2735	3,143,245	3,457,569	3,803,325	4,183,657	4,602,202	5,062,224	1,918,979	61.1%
7	433 LINCOLN RD/Miami Beach FL 33139-3002	4,868,250	5,366,075	5,890,680	6,479,640	7,127,604	7,840,364	2,972,114	61.1%
8	421 LINCOLN RD/Miami Beach FL 33139-3002	6,042,080	6,646,288	7,310,916	8,042,007	8,846,207	9,730,827	3,688,747	61.1%
9	FINANCIAL PLAZA CONDO	n/a	n/a	n/a	n/a	n/a	n/a		
10	1661 WASHINGTON AVE/Miami Beach FL 33139-3118	4,141,200	4,141,200	4,555,320	4,204,900	4,625,390	5,087,929	946,729	22.9%
11	337 LINCOLN RD/Miami Beach FL 33139-3102	5,471,125	6,900,000	7,590,000	7,100,000	7,810,000	8,591,000	3,119,875	57.0%
12	1660 JAMES AVE/Miami Beach FL 33139-3102	14,288,022	13,631,699	14,369,059	15,075,000	16,642,500	18,240,750	3,952,728	27.7%
13	1665 WASHINGTON AVE/Miami Beach FL 33139-3118	2,014,235	1,748,400	1,800,000	1,980,000	1,700,000	1,870,000	-144,235	-7.2%
14	1667 WASHINGTON AVE/Miami Beach FL 33139-3118	2,041,975	2,041,768	2,041,560	1,888,349	2,277,073	2,637,834	595,859	29.2%
15	1671 WASHINGTON AVE/Miami Beach FL 33139-3118	4,375,250	4,675,000	4,700,000	4,700,000	4,700,000	5,000,000	624,750	14.3%
16	1685 WASHINGTON AVE/Miami Beach FL 33139-3118	8,036,805	8,200,000	8,200,000	8,200,000	9,020,000	9,922,000	1,886,195	23.5%
17	300 17 ST/Miami Beach FL 33139-7509	1,863,000	1,863,000	2,049,300	1,350,000	1,545,000	1,630,000	-233,000	-12.5%
18	1680 JAMES AVE/Miami Beach FL 33139-3115	3,550,000	3,285,000	3,613,500	3,500,000	3,500,000	3,500,000	-50,000	-1.4%
19	1678 JAMES AVE/Miami Beach FL 33139-3127	1,576,000	1,733,600	1,906,960	2,097,656	2,307,421	2,538,163	962,163	61.1%
20	1670 JAMES AVE/Miami Beach FL 33139-3115	2,580,600	2,500,000	2,694,668	2,579,334	2,836,156	3,119,771	539,171	20.9%
21	1666 JAMES AVE/Miami Beach FL 33139-3115	2,479,400	2,500,000	2,611,761	2,449,791	2,694,770	2,964,247	484,847	19.6%
22	1701 WASHINGTON AVE/Miami Beach FL 33139-7541	7,874,150	7,874,150	7,874,150	8,661,565	9,527,721	10,349,150	2,475,000	31.4%
23	1723 WASHINGTON AVE/Miami Beach FL 33139-0000	3,603,025	3,603,025	3,603,025	3,603,025	3,603,025	3,603,025	0	0.0%
24	1759 WASHINGTON AVE/Miami Beach FL 33139-0000	n/a	n/a	n/a	n/a	n/a	n/a		
25	PARC PLAZA CONDO	n/a	n/a	n/a	n/a	n/a	n/a		
26	1779 JAMES AVE/Miami Beach FL 33139-0000 SEA BEACH TOWERS CO	n/a	n/a	n/a	n/a	n/a	n/a		
27	1778 JAMES AVE/Miami Beach FL 33139-0000	n/a	n/a	n/a	n/a	n/a	n/a		
28	1732 JAMES AVE/Miami Beach FL 33139-7507	1,290,000	1,399,736	1,496,699	1,133,229	1,246,551	1,361,206	101,206	8.1%
29	1701 WASHINGTON AVE/MIAMI BEACH FL 33139-7541	8,906,250	8,906,250	8,906,250	4,629,505	5,092,455	5,601,700	-3,304,550	-37.1%
30	CASA TUA SUITES CONDO	n/a	n/a	n/a	n/a	n/a	n/a		

Table 10. Property Values corresponding to location on map in Figure 4.

- **Yellow highlighted properties were omitted for the following reasons:**
    - Property 1 has undergone significant additions with the implementation of a movie theater complex between 2010 and 2011, a term during which property value increased by 250%. Since this value increase was a direct result of an architectural intervention, this property was excluded from calculation.
    - Properties 9, 22-27, and 29-30, were excluded due to being private condo establishments, whose property taxes were not disclosed publicly in the county's Property Report Card feature.

To calculate the increase in tax revenues, we utilized the Miami-Dade Property Report Card (MDPRC) to document each unit's paid property tax per year from 2010-2015. The numbers were placed into Excel for comparison and additional calculation.

Property Taxes Paid in USD(X)

#	address	2010	2011	2012	2013	2014	2015	difference	(%)
1	501 E LINCOLN RD Miami Beach, FL 33139-2913	0	337,810.94	172,124.04	365,324.57	456,015.79	723,369.08	723,369.08	
2	533 LINCOLN RD Miami Beach, FL 33139-2913	64,266.48	86,776.44	93,776.75	113,769.69	139,134.34	203,375.27	139,108.79	216.48%
3	521 LINCOLN RD Miami Beach, FL 33139-2913	76,447.19	87,568.03	91,712.78	114,411.42	135,346.26	189,526.70	113,079.51	147.92%
4	511 LINCOLN RD Miami Beach, FL 33139-2913	82,371.04	91,553.70	87,223.01	102,992.78	125,490.08	173,341.29	90,970.25	110.44%
5	501 LINCOLN RD Miami Beach, FL 33139-2913	75,695.05	91,348.73	95,178.02	108,277.53	116,191.74	201,390.70	125,695.65	166.06%
6	455 LINCOLN RD Miami Beach, FL 33139-7735	68,585.99	74,411.59	78,937.66	95,588.31	107,351.75	187,902.58	121,316.59	182.20%
7	433 LINCOLN RD Miami Beach, FL 33139-3002	117,676.24	137,480.55	135,025.09	159,589.11	196,988.11	340,284.27	222,608.03	189.17%
8	421 LINCOLN RD Miami Beach, FL 33139-3002	134,623.32	149,389.26	157,817.44	179,668.80	221,937.32	383,926.44	249,702.12	184.74%
9	FINANCIAL PLAZA CONDO								
10	1651 WASHINGTON AVE Miami Beach, FL 33139-3118	99,341.15	97,187.44	90,962.36	88,098.64	95,903.09	99,578.57	237.42	0.24%
11	337 LINCOLN RD Miami Beach, FL 33139-3162	115,899.43	137,111.50	154,374.44	138,615.83	155,316.47	194,887.27	78,987.84	68.15%
12	1690 JAMES AVE Miami Beach, FL 33139-3102	337,962.31	318,303.17	350,934.49	350,774.00	375,326.38	396,765.53	59,203.22	17.54%
13	1685 WASHINGTON AVE Miami Beach, FL 33139-3118	48,282.95	45,291.20	44,576.51	42,533.24	45,036.36	41,262.71	-7,020.24	-14.54%
14	1687 WASHINGTON AVE Miami Beach, FL 33139-3118	45,059.26	42,362.97	40,537.20	41,451.44	45,178.56	50,693.70	5,634.45	12.50%
15	1671 WASHINGTON AVE Miami Beach, FL 33139-3118	118,878.66	111,315.77	92,361.09	94,759.64	91,671.66	95,099.04	-23,779.62	-20.00%
16	1685 WASHINGTON AVE Miami Beach, FL 33139-3118	189,145.26	178,336.24	175,293.64	173,793.40	196,734.49	198,852.89	9,707.63	5.13%
17	300 17 ST Miami Beach, FL 33139-7509	48,658.32	45,640.77	47,419.41	28,356.52	30,134.64	31,325.24	-17,333.08	-35.62%
18	1690 JAMES AVE Miami Beach, FL 33139-3115	85,476.61	79,668.60	85,656.31	68,331.65	66,266.13	66,569.33	-18,907.49	-22.12%
19	1676 JAMES AVE Miami Beach, FL 33139-3127	45,764.32	45,009.00	41,267.52	45,969.66	49,510.88	50,822.31	5,057.99	11.05%
20	1670 JAMES AVE Miami Beach, FL 33139-3115	54,049.60	57,334.54	55,533.91	53,998.08	59,761.80	60,654.48	5,704.88	10.38%
21	1666 JAMES AVE Miami Beach, FL 33139-3115	53,885.95	55,988.90	54,925.79	51,488.71	57,340.96	58,102.18	4,216.23	7.82%
22	1701 WASHINGTON AVE Miami Beach, FL 33139-7641								
23	1723 WASHINGTON AVE Miami Beach, FL 33139-0000								
24	1795 WASHINGTON AVE Miami Beach, FL 33139-0000								
25	PARC PLAZA CONDO								
26	1776 JAMES AVE Miami Beach, FL 33139-0000 SEA BEACH TOWERS CONDO								
27	1750 JAMES AVE Miami Beach, FL 33139-0000								
28	1732 JAMES AVE Miami Beach, FL 33139-7507								
29	1701 WASHINGTON AVE MIAMI BEACH, FL 33139-7541	39,369.01	34,843.72	25,843.55	38,887.30	53,038.09	36,672.49	-2,696.52	-6.85%
30	CASA TUA SUITES CONDO								

Table 11. Property taxes paid in USD corresponding to location on map in Figure 4.

- ■ Limitations
  - ● The design of the park was supplementary to the development of the New World Center, a concert hall designed by Frank Gehry, which houses the New World Symphony. Furthermore, significant investment has gone into Lincoln Road—the adjacent pedestrian mall due south of Soundscape Park—during this period of time. It is not entirely possible to separate the impact of the park with that of the New World Center and it is probable that they have both contributed to the significant increases in property values and property tax revenues during the aforementioned period.
- ■ Sources
  - ● *http://www.miamidade.gov/pa/property_search.asp*
  - ● *http://www.miamidade.gov/PaPortal/PRC/CreatePRCmain.aspx*

- ● Cost Comparison
  - ○ In order to maximize site usage from day one, fully mature, locally-sourced trees were individually tagged for installation in the park. Combined with highly specific soil and irrigation strategies and unique tree anchoring methods, the trees were planted into zones to ensure tree survival and minimize pedestrian impact. A planting plan calling for mature palms greater than 16 ft in height, in some cases greater than 25 ft in height, did incur a greater cost than a plan utilizing palms shorter than 12 ft would have. A modular suspended pavement system was also utilized in the installation of 5 mature live oaks and 4 mature royal poincianas. Rather than opt for the more conservative route of planting smaller, juvenile trees in standard planting soil, the city and firm opted for the route which maximized the potential of the site from day one. An additional cost of $1,239,350   for larger trees, structural cells, and improved soil quality was deemed necessary by the city in order for the park to function at an optimum level sooner rather than later.
  - ○ In order to arrive at the figure for a cost increase of $1,239,350   for larger trees, structural cells, and improved soil quality, the following methods for calculation were utilized:
    - ■ Prices of trees less than 12' tall were determined based on local nursery sourcing and pricing. These numbers were compared to the cost of trees at requested dimensions and quantities (as per the landscape architect's plans), the numbers of which were also based on prices of equal or similarly-sized trees available at local nursery providers in the Miami-Dade region. If a similarly-sized tree could not be found within the region, the Tree Value calculator was utilized.
    - ■ Finally, the determination of the cost of Silva Cells specified in the landscape architect's plans for 5 Live Oaks were determined based on pricing from the Silva Cell provider's website.
      - ● Calculations
      - ● Cost of trees less than or equal to 12'
        - ○ Montgomery Palm, *Veitchia montgomeryana* (via Hopetown

Farms in Loxahatchee, Florida)
- ■ Singles: $168
- ■ Doubles: $168
- ■ Triples: $218
- ○ Hurricane Palm, *Dictyosperma* sp. (via Jesse Durko's Nursery in Davie, Florida)
  - ■ $120
- ○ Live Oak, *Quercus virginiana* (via Stewart's Tree Service in Brooksville, Florida)
  - ■ $250
- ○ Royal Poinciana, *Delonix regia* (via Salazar's Two Sisters Nursery in Homestead, Florida)
  - ■ $120
- ● Cost of trees at equal sizes
  - ○ Montgomery Palm, *Veitchia montgomeryana*.
    - ■ Requested specs and (quantities) from Landscape Architect's plans:
      - ● 40-45' o.a. Height, single trunk (x8)
      - ● 40-45' o.a. Height, double trunk (x3)
      - ● 40-45' o.a. Height, triple trunk (x1)
      - ● >25' o.a. Height, single trunk (x103)
      - ● >25' o.a. Height, double trunk (x29)
      - ● >25' o.a. Height, triple trunk (x23)
      - ● 16-25' o.a. Height, single trunk (x83)
      - ● 16-25' o.a. Height, double trunk (x24)
      - ● 16-25' o.a. Height, triple trunk (x15)
    - ■ Cost of *Veitchia* is determined by using the nursery's pricing guidelines of:
      - ● $10/ft. For single trunk varieties
      - ● $12/ft. For doubles
      - ● $17/ft. For triples
  - ○ Hurricane Palm, *Dictyosperma* sp.
    - ■ Requested specs and (quantities) from Landscape Architect's plans:
      - ● 12-15' o.a. Height, single trunk (x51)
      - ● 12-15' o.a. Height, double trunk (x4)
      - ● 12-15' o.a. Height, triple trunk (x2)
    - ■ Cost of *Dictyosperma* was determined by using the nursery's prices for similarly sized trees. Salazar's Two Sisters Nursery sells specimen-grade *Dictyosperma* for $20/ft. We multiplied that number by 13.5 (median of LA's requested 12-15' specimens) to reach an approximate price per palm of $270.
  - ○ Live Oak, *Quercus virginiana*
    - ■ Requested specs and (quantities) from Landscape Architect's plans:
      - ● 35' o.a., 2-5 trunks, 8-12" caliper (x5)
    - ■ Cost of *Quercus* was determined by finding a similarly

sized tree from Stewart's Tree Service in Brooksville, Florida. Here, a 32' o.a. Height, 12" caliper specimen Live Oak sells for $3,000.

- ○ Royal Poinciana, *Delonix regia*
  - ■ Requested specs and (quantities) from Landscape Architect's plans:
    - ● 25' o.a. Height, 12" caliper (x4)
  - ■ Since no specimen *Delonix* grown in nurseries with the requested specifications were found, it was determined that another method of price calculation was needed. The following method was utilized in calculating the price of a specimen Royal Poinciana:
    - ● From *Purdue University's Department of Horticulture:* Tree Value= Base Value x Cross Section Area x Species Class x Condition Class x Location Class, where:
      - ○ **Base Value** is the dollar amount assigned to one cross-section unit (square inch or square centimeter) of a tree's trunk cross-section area. To compute the base value, find the cost (usually the installed price) of a replacement-size tree from a local nursery or landscape company. Then, divide that amount by the trunk cross-sectional area of the replacement tree.
      - ○ **Cross-Section Area** is used to express tree size. It is the cross-sectional area of the tree trunk measured about one foot (30 cm) above ground level for trees with trunk size up to 12 inches (30 cm) in diameter, or at about 4 1/2 feet (140 cm) above ground level for trees with greater than 12 inch (30 cm) trunk diameter. Cross-section area can be calculated from trunk diameter by using the formula diameter2 x 0.7854.
      - ○ **Species Class** is an assigned value based on all the landscape merits of a landscape tree species and its accompanying potential for problems. For the purposes of this study 1 was used for this value.
      - ○ **Condition Class** is a factor indicating the health, vigor and life expectancy of a tree, as well as its quality of form relative to a "perfect specimen" of that

species. This value can be any percentage from 1% to 100%, but is commonly expressed as one of five percentage categories (100, 80, 60 to 40, 20, 0). Since a specimen tree is requested, 100, or 1, was used for this value also.

- **Location Class** is based on the functional and aesthetic contribution, which the tree makes to the site, the placement of the tree on the site, and the importance of the location in the landscape context of the community. This factor can be rated at any percentage from 1% to 100 %. For Specimen trees, this value is 100% or 1.

- Calculations: Base Value=20.3, Cross-Section Area=113.1, Species Class=1, Condition Class=1, Location Class=1
  - 20.3*113.1*1*1*1=$2295.93 for a specimen Royal Poinciana.

- Cost of Silva Cells were based upon calculations given by the provider's website, http://www.deeproot.com/products/silva-cell/cost, in conjunction with specs on Landscape Architect's plans.
  - 12 cells/tree*18,432 cu. ft./tree*4 trees*$16/sq. ft=$1,179,648

- Final Calculation of Cost Comparison:
  - Cost of trees 12' or less: $58,994
  - Cost of trees as specified by Landscape Architect: $118,696.7
  - Cost of Silva Cells: $1,179,648
    - (Cost of trees as specified by Landscape Architect) + (Cost of Silva Cells)= 1,298,344.7-(Cost of trees 12' or less)= **1,239,350.7= Cost Difference**.

Appendix:

Questionnaire for Assessing Adult Perception of Soundscape Park's Landscape Design

Demographic Questions

1. I am: male_____;   female_____;   I do not wish to disclose this information_____.

2. My age range is: 18- 25____;   26 -35____;   36- 45____;   46– 55____;   56– 65 ___;   65-75____;
    76- 85____;   above 85____;   I do not wish to disclose this information____.

3. What is your geographic relationship to this park?
    a.   I live near this park
    b.   I work near this park
    c.   I live and work near this park
    d.   I do not live or work near this park, but come here anyway
    e.   I am visiting this park while on a trip from out of town
    f.   I am an international visitor

4. How long have you been visiting this park?
    a.   This is my first visit
    b.   Less than one year
    c.   One year
    d.   More than one year
    e.   More than three years
    f.   Since it was built in 2011

5. How often do you visit this park?
    a.   Very infrequently (once per year, or less)
    b.   Infrequently (2-3 times per year)
    c.   Somewhat frequently (1 time per month)
    d.   Frequently (1-2 times per week)
    e.   Very frequently (More than 3 times per week)
    f.   Every day

6. What form of transportation do you usually use to get to this park? (circle all that apply)
   a. Personal vehicle
   b. Bicycle, Skateboard, or Roller skates
   c. By foot
   d. Taxi, Bus, Trolley
   e. Other (Please explain)_____

7. Has having bike racks and a bus stop at the park encouraged you to bike here or ride the bus here?
   a. Yes
   b. No
   c. Other (Please explain)_____

8. What are the reasons that you use or visit this park? (circle all that apply)
   a. I walk through it to get where I am going
   b. For listening to the performances of the New World Symphony
   c. For Art Basel events
   d. For Soundscape Cinema Series film screenings
   e. For other community events and performances
   f. I eat my lunch here
   g. For exercising (yoga, jogging, running, biking, walking, skating, skateboarding, etc.)
   h. For reading
   i. For relaxing
   j. To enjoy nature
   k. To people watch
   l. To meet people
   m. Other (Please explain)_____

9. During your visits approximately how long do you typically stay in this park?
   a. Less than 15 minutes
   b. Less than 1 hour
   c. 1 - 3 hours
   d. More than 3 hours
   e. Other (Please explain)_____

Experiential Questions
1. Spending time in this park positively influences my satisfaction with quality of life in this city.
   Strongly Agree   Agree   Disagree   Strongly Disagree

2. Spending time in this park helps me to cope with the demands of work, family and other stressful situations.
   Strongly Agree   Agree   Disagree   Strongly Disagree

3. The features I enjoy most in this park are (circle all that apply):
   a. Overall character of the park
   b. Views
   c. Plants (trees, flowers)
   d. Steel sculptural elements (shade structures located on entry walks)
   e. Sound quality during music and movie performances
   f. Fresh air, sunshine, breezes
   g. Outdoor projection area
   h. Lawn areas
   i. Stone benches/seat walls
   j. Other (Please explain)_____

4. Which element(s)/use(s) would you like to see added to this park? (Please fill in the blank)
   _____

5. Which elements are not necessary, if any, or detract from this park?
   (Please fill in the blank) _____

6. Do you perceive the landscape design of this park as environmentally friendly?
   a. Yes
   b. No
   c. I am not aware of it
   d. Other (Please explain)_____

7. Are you aware of the air quality benefits that this park provides to the City of Miami Beach?
   Yes____   No____

8. Are you aware of the storm water benefits that this park provides to the City of Miami Beach?
   Yes____   No____

9. Have you visited the park during music performances, outdoor film screenings, or other cultural events?

   Yes____   No____

10. If yes, were you satisfied with the quality of open spaces during these events?

   Yes____   No____   Other (Please explain)_____

11. If you visited the park during music performances and/or outdoor film screenings, were you satisfied with the sound quality during these events?

   a. Very satisfied
   b. Somewhat satisfied
   c. Neither satisfied / Nor dissatisfied
   d. Somewhat dissatisfied
   e. Very dissatisfied
   f. I have not visited the park during these events

12. If you visited the park during music performances and/or outdoor film screenings, were you satisfied with the projection quality during these events?

   a. Very Satisfied
   b. Somewhat satisfied
   c. Neither satisfied / Nor dissatisfied
   d. Somewhat dissatisfied
   e. Very dissatisfied
   f. I have not visited the park during these events

13. Has the existence of this park increased your exposure to music performances or other cultural events?

   Yes____   No____

14. What else, if anything, you would like to add about your experience in, or perception of this park?
   (Please fill in the blank) _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____

Thank you for your time!