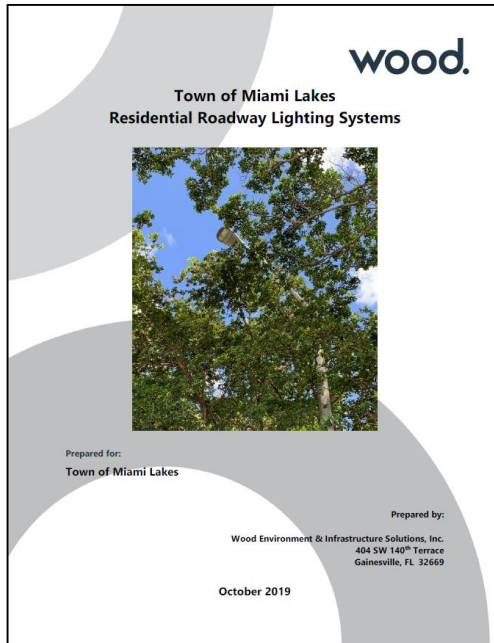




# Roadway Lighting Study Workshop

February 11, 2020

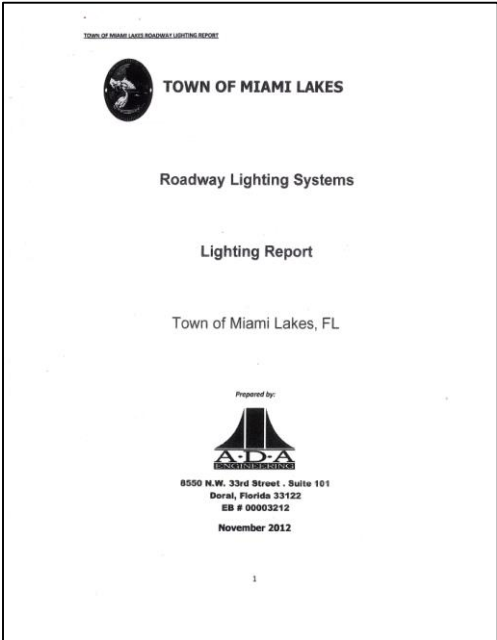


# Link to Strategic Plan

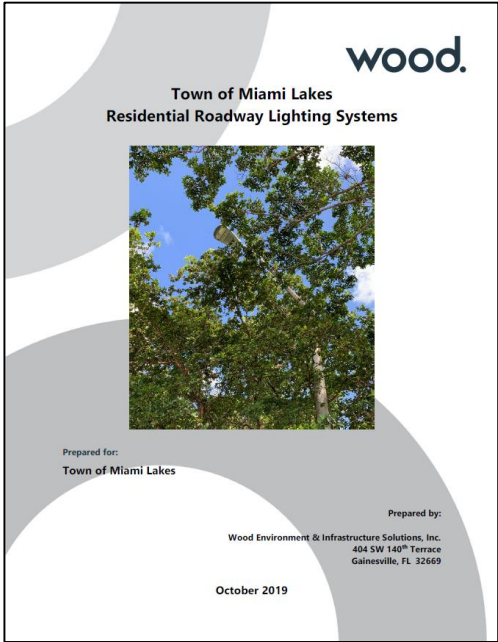
- Strategic Priority Area 4: Environmental Sustainability
  - Goal 4: Achieve Universal Environmental Sustainability in Public and Private Environments, Operations, and Infrastructure
    - Objective:
      - 4.2 Deploy and Diffuse LED Technology Town Wide

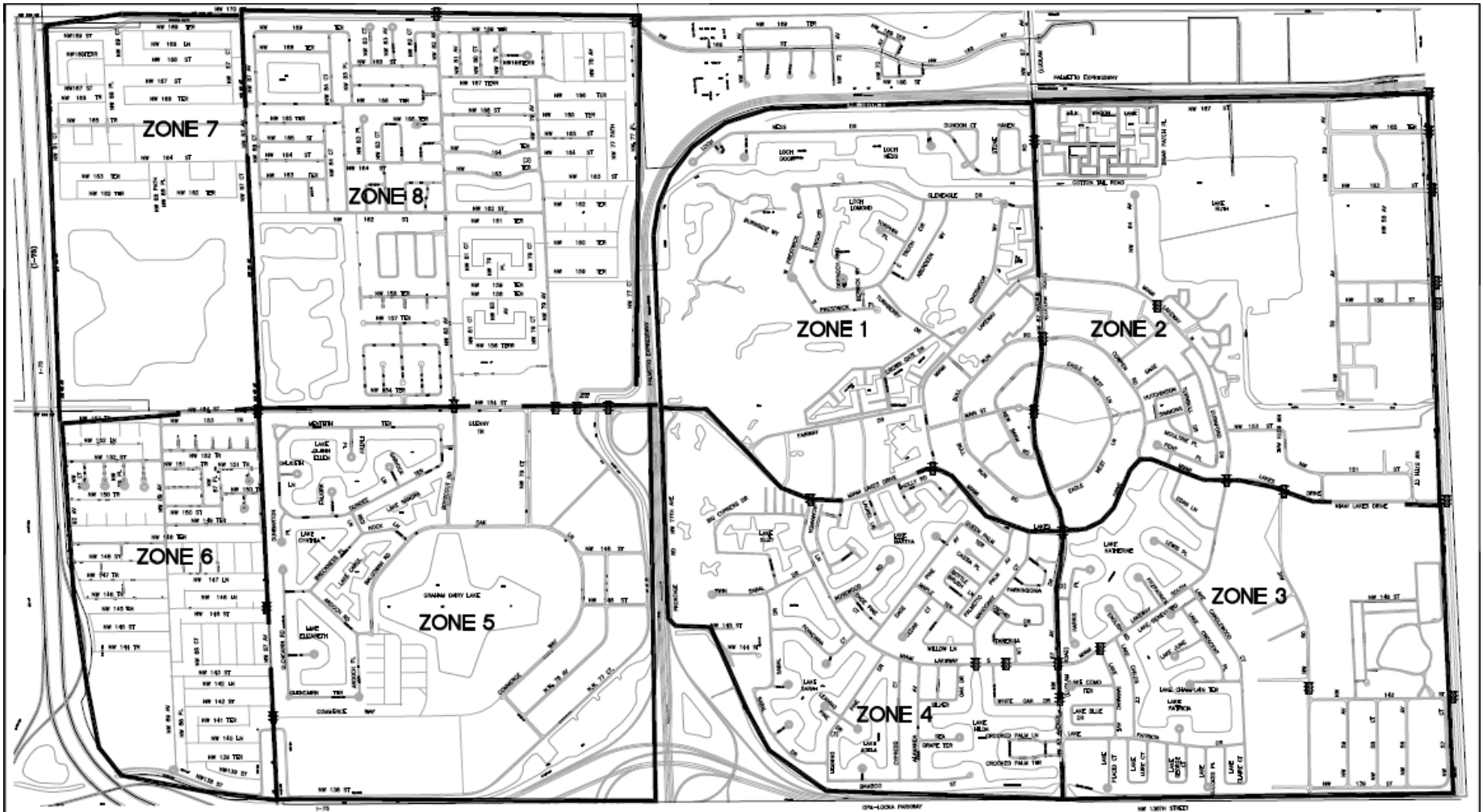
# Streetlight Assessment History

2012




2019





### TOWN OF MIAMI LAKES ZONE LIMITS

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION


 2540 N.W. 3283 STREET - SUITE 101  
 MIAMI, FLORIDA 33122  
 PHONE: (305) 551-4622 FAX: (305) 551-4917  
 WWW.MIAMILAKES.TX (305) 551-4917  
 MIAMI LAKES, FL

DATE	BY	DESCRIPTION



# Estimated Cost of Improvements (2012 Report)


## 5.1 Opinion of Probable Cost

Pay Item	Description	Unit	Unit Price	Quantity	Total Price
522-1	Sidewalks concrete 4"	SY	\$27.00	9000	\$243,000.00
551-1-1	Directional bore <6"	LF	\$11.90	142784	\$1,699,129.60
715-1-12	Lighting conductor #6	LF	\$1.11	756704	\$839,941.44
715-1-13	Lighting conductor #4	LF	\$1.70	100000	\$170,000.00
715-2-11	Conduit Underground	LF	\$2.43	142784	\$346,965.12
715-516-120	Light pole Al 20'	EA	\$2,358.00	692	\$1,631,736.00
715-14-11	Pull box roadside	EA	\$334.00	300	\$100,200.00
715-14-12	Pull box sidewalk	EA	\$370.00	392	\$145,040.00
715-500-1	Pole cable distribution system	EA	\$419.00	692	\$289,948.00
715-7-11	Load Center	EA	\$7,690.00	16	\$123,040.00
				<b>Total:</b>	<b>\$5,589,000.16</b>

# 2019 Streetlight Assessment

**wood.**

**Town of Miami Lakes  
Residential Roadway Lighting Systems**



Prepared for:  
**Town of Miami Lakes**

Prepared by:  
Wood Environment & Infrastructure Solutions, Inc.  
404 SW 140<sup>th</sup> Terrace  
Gainesville, FL 32669

October 2019

# Typical Light Fixtures

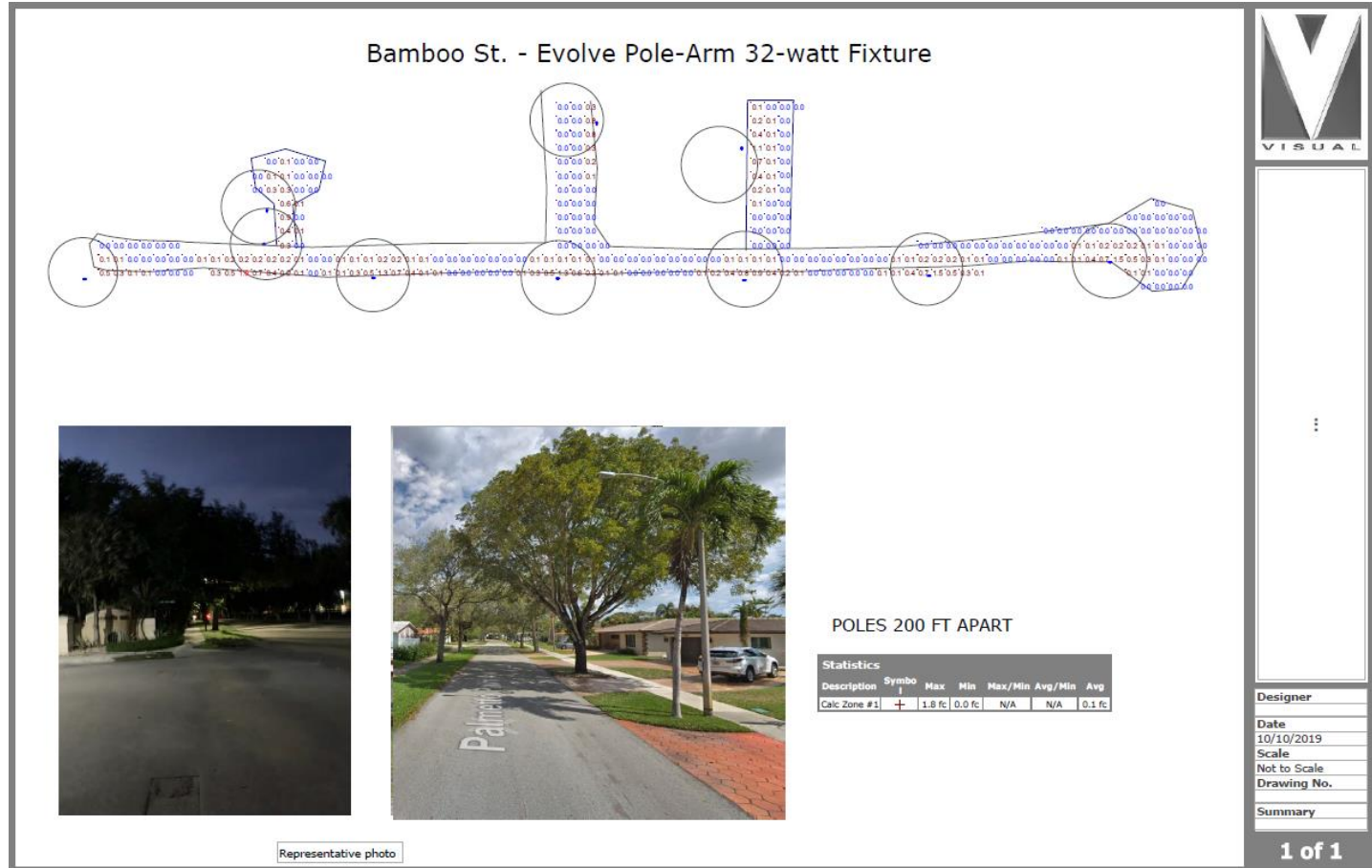


# Existing Photometric Modelling





# Existing Photometric Modelling



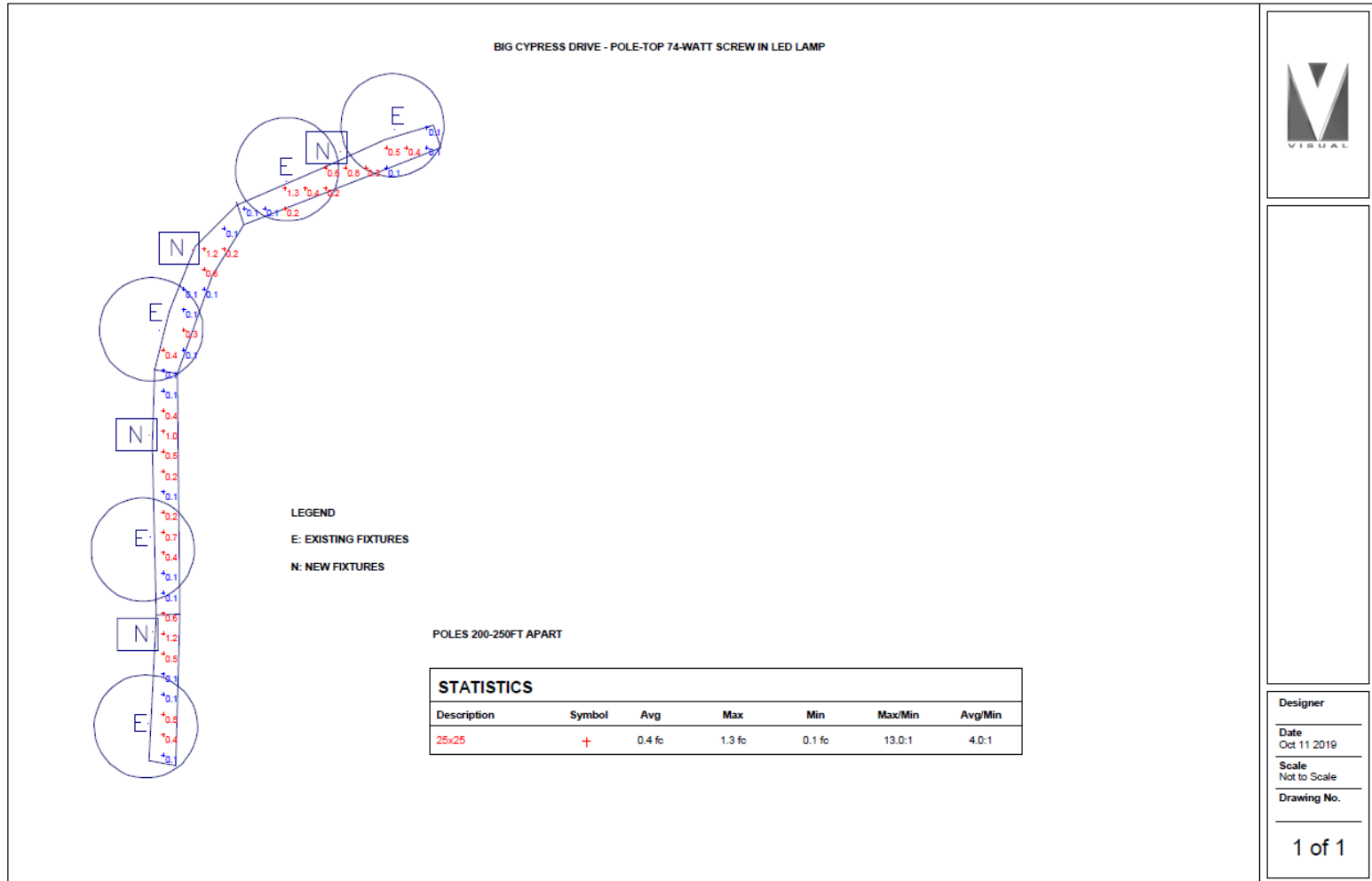
# Recommended Solutions – Installation of Additional Fixtures

Lighting Calculation for:							\$0.1200		per kWh Energy Cost				
Town of Miami Lakes Residential Street Lighting													
Location	ECM#	Usage Area Type (Choose from Menu)	Pre-Retrofit Equipment			Proposed Action (Choose from Menu)	Post-Retrofit Equipment						
			Fixture Type (Choose from Menu)	# of Fixtures	Ballast Code		Fixture Type (Choose from Menu)	# of Fixtures	Ballast Code	Installed Total Cost	Sum of Total Cost per Building	Sum of Peak kW Savings	Sum of Annual Energy Savings (kWh)
<b>Existing LED Street Lighting</b>													
American Revolution 39-Watt 3000K	L-01	Night	LED	654	LED PT AR 39w	DND	LED	654	LED PT AR 39w	\$ -			
RSW 45-Watt 3000K	L-01	Night	LED	188	LED-PA RSW 45w	DND	LED	188	LED-PA RSW 45w	\$ -			
Evolve LED 32W Type B	L-01	Night	LED	396	LED-PA 32w	DND	LED	396	LED-PA 32w	\$ -			
75W Screw-In Lamp	L-01	Night	LED	40	LED-PT 75w Scrw	DND	LED	40	LED-PT 75w Scrw	\$ -			
<b>Proposed LED Street Lighting</b>													
American Revolution 39-Watt 3000K	L-01	Night	LED		LED PT AR 39w	Install 1L Fixture	LED	654	LED PT AR 39w	\$ 1,488,230			
RSW 45-Watt 3000K	L-01	Night	LED		LED-PA RSW 45w	Install 1L Fixture	LED	188	LED-PA RSW 45w	\$ 510,420			
Evolve LED 32W Type B	L-01	Night	LED		LED-PA 32w	Install 1L Fixture	LED	396	LED-PA 32w	\$ 1,188,200			
75W Screw-In Lamp	L-01	Night	LED		LED-PT 75w Scrw	Install 1L Fixture	LED	40	LED-PT 75w Scrw	\$ 88,000			
				1,278					2,556		\$3,234,850	-49.64	-217,414
				# of Fixtures					# of Fixtures		Sum of Total Cost per Building	Sum of Peak kW Savings	Sum of Annual Energy Savings (kWh)

# Recommended Solutions – Replacement of Existing Fixtures

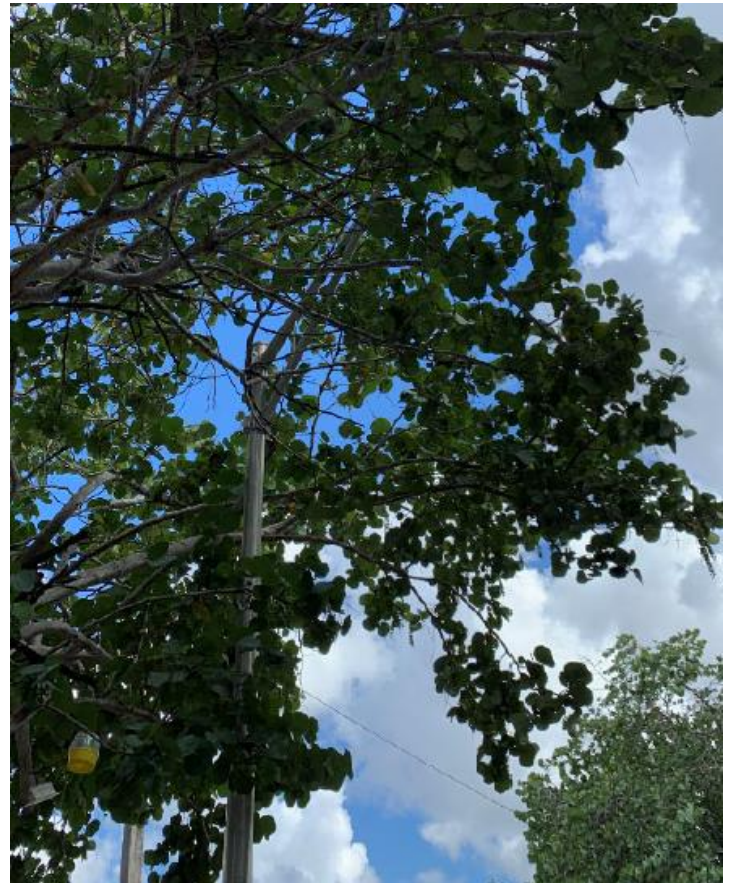
Lighting Calculation for:										\$0.1200	per kWh Energy Cost			
Town of Miami Lakes Residential Street Lighting- Option 2														
Location	ECM#	Usage Area Type (Choose from Menu)	Pre-Retrofit Equipment			Proposed Action (Choose from Menu)	Post-Retrofit Equipment							
			Fixture Type (Choose from Menu)	# of Fixtures	Ballast Code		Fixture Type (Choose from Menu)	# of Fixtures	Ballast Code	Installed Total Cost	Sum of Total Cost per Building	Sum of Peak kW Savings	Sum of Annual Energy Savings (kWh)	
<b>Existing LED Street Lighting</b>														
American Revolution 39-Watt 3000K	L-01	Night	LED	654	LED PT AR 39w	Replace 1L Fixture	LED	654	LED PT AR 78w	\$ 474,150				
RSW 45-Watt 3000K	L-01	Night	LED	188	LED-PA RSW 45w	Replace 1L Fixture	LED	188	LED PT AR 78w	\$ 136,300				
Evolve LED 32W Type B	L-01	Night	LED	396	LED-PA 32w	Replace 1L Fixture	LED	396	LED-PA 52w	\$ 366,300				
75W Screw-In Lamp	L-01	Night	LED	40	LED-PT 75w Scrw	Replace 1L Fixture	LED	40	LED PT AR 125w	\$ 35,000				
				<b>1,278</b>				<b>1,278</b>			<b>\$1,011,750</b>	<b>-41.63</b>	<b>-182,339</b>	
				# of Fixtures				# of Fixtures			Sum of Total Cost per Building	Sum of Peak kW Savings	Sum of Annual Energy Savings (kWh)	

# Proposed Photometric Modelling



# Challenges

- Tree canopy causing shadows
- Existing fixture spacing
- Existing underground infrastructure



# Recommended Streets/Areas for Initial Improvements

