

**BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION**

DOCKET NO. 080317-EI

**IN RE: TAMPA ELECTRIC COMPANY'S
PETITION FOR AN INCREASE IN BASE RATES
AND MISCELLANEOUS SERVICE CHARGES**



**SUPPLEMENTAL MFR SCHEDULE E-13D
LIGHTING INCREMENTAL COST STUDY 2008**

VOLUME IV

DOCUMENT NUMBER-DATE

07072 AUG 11 08

FPSC-COMMISSION CLERK

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
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TAMPA ELECTRIC COMPANY

SUPPORT FOR CHARGES

LIGHTING

INCREMENTAL COST STUDY

2008

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**Maintenance
Costs**

MAINTENANCE COST BY COMPONENT
SL2 AND OL1 LUMINAIRES

Summary

Luminaire Type	Lamp Type	Size	Lamp Size/Type	Initial Lumens	Lamp Failure	Luminaire Parts Failure	PC	Relay	Total Annual Cost	Total Monthly Charge
Cobra	HPS	50W	50W HPS	4000	\$17.30	\$4.24	\$8.62	\$1.73	\$31.89	\$2.66
Post Top	HPS	50W	50W HPS	4000	\$17.30	\$4.24	\$8.62	\$1.73	\$31.89	\$2.66
Cobra/NEMA	HPS	70W	70W HPS	6300	\$15.94	\$2.92	\$6.43	\$1.73	\$27.03	\$2.25
Coach Post Top	HPS	70W	70W HPS	6300	\$15.94	\$2.92	\$6.43	\$1.73	\$27.03	\$2.25
Cobra	HPS	100W	100W HPS	9500	\$17.78	\$3.07	\$7.25	\$1.76	\$29.85	\$2.49
Cobra	HPS	150W	150W HPS	16000	\$15.25	\$2.61	\$6.14	\$1.86	\$25.86	\$2.16
Cobra	HPS	250W	250W HPS	28500	\$19.46	\$4.77	\$7.23	\$1.94	\$33.40	\$2.78
Flood	HPS	250W	250W HPS	28500	\$19.46	\$4.77	\$7.23	\$1.94	\$33.41	\$2.78
Cobra	HPS	400W	400W HPS	50000	\$19.73	\$7.52	\$8.78	\$2.20	\$38.22	\$3.19
Flood	HPS	400W	400W HPS	50000	\$19.77	\$7.52	\$8.78	\$2.20	\$38.26	\$3.19
Mongoose	HPS	400W	400W HPS	50000	\$19.73	\$7.81	\$8.78	\$2.20	\$38.52	\$3.21
Turnpike	HPS	400W	400W HPS	50000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	No customers

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MAINTENANCE COST BY COMPONENT
SL2 AND OL1 LUMINAIRES

Luminaire Type	Lamp Type	Size	Lamp Size/Type	Initial Lumens	Lamp Failure						
					Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Cobra	HPS	50W	50W HPS	4000	5585370	\$11.85	\$2.98	\$76.36	\$91.19	19.0%	\$17.30
Post Top	HPS	50W	50W HPS	4000	5585370	11.85	\$2.98	\$76.36	\$91.19	19.0%	\$17.30
Cobra/NEMA	HPS	70W	70W HPS	6300	5585560	\$10.67	\$2.69	\$76.36	\$89.72	17.8%	\$15.94
Coach Post Top	HPS	70W	70W HPS	6300	5585560	\$10.67	\$2.69	\$76.36	\$89.72	17.8%	\$15.94
Cobra	HPS	100W	100W HPS	9500	5585580	\$10.72	\$2.70	\$76.36	\$89.78	19.8%	\$17.78
Cobra	HPS	150W	150W HPS	16000	5585590	\$10.68	\$2.69	\$76.36	\$89.72	17.0%	\$15.25
Cobra	HPS	250W	250W HPS	28500	5585530	\$11.13	\$2.80	\$76.36	\$90.30	21.5%	\$19.46
Flood	HPS	250W	250W HPS	28500	5585530	\$11.15	\$2.81	\$76.36	\$90.31	21.5%	\$19.46
Cobra	HPS	400W	400W HPS	50000	5585540	\$11.14	\$2.80	\$76.36	\$90.30	21.8%	\$19.73
Flood	HPS	400W	400W HPS	50000	5585540	\$11.28	\$2.84	\$76.36	\$90.48	21.8%	\$19.77
Mongoose	HPS	400W	400W HPS	50000	5585540	\$11.14	\$2.80	\$76.36	\$90.30	21.8%	\$19.73
Turnpike	HPS	400W	400W HPS	50000	5585540	0.00	\$0.00	\$76.36	\$76.36	0.0%	\$0.00

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MAINTENANCE COST BY COMPONENT
SL2 AND OL1 LUMINAIRES

Luminaire Type	Lamp Type	Size	Lamp Size/Type	Initial Lumens	Luminaire Parts Failure						
					Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Cobra	HPS	50W	50W HPS	4000	Selected Parts	\$13.80	\$3.47	\$125.07	\$142.35	3.0%	\$4.24
Post Top	HPS	50W	50W HPS	4000	Selected Parts	\$13.80	\$3.47	\$125.07	\$142.35	3.0%	\$4.24
Cobra/NEMA	HPS	70W	70W HPS	6300	Selected Parts	\$13.80	\$3.47	\$125.07	\$142.34	2.1%	\$2.92
Coach Post Top	HPS	70W	70W HPS	6300	Selected Parts	\$13.80	\$3.47	\$125.07	\$142.34	2.1%	\$2.92
Cobra	HPS	100W	100W HPS	9500	Selected Parts	\$19.30	\$4.86	\$125.07	\$149.23	2.1%	\$3.07
Cobra	HPS	150W	150W HPS	16000	Selected Parts	\$17.34	\$4.36	\$125.07	\$146.78	1.8%	\$2.61
Cobra	HPS	250W	250W HPS	28500	Selected Parts	\$20.27	\$5.10	\$125.07	\$150.44	3.2%	\$4.77
Flood	HPS	250W	250W HPS	28500	Selected Parts	\$20.27	\$5.10	\$125.07	\$150.44	3.2%	\$4.77
Cobra	HPS	400W	400W HPS	50000	Selected Parts	\$31.44	\$7.91	\$125.07	\$164.43	4.6%	\$7.52
Flood	HPS	400W	400W HPS	50000	Selected Parts	\$31.44	\$7.91	\$125.07	\$164.43	4.6%	\$7.52
Mongoose	HPS	400W	400W HPS	50000	Selected Parts	\$36.58	\$9.21	\$125.07	\$170.86	4.6%	\$7.81
Turnpike	HPS	400W	400W HPS	50000	Selected Parts	\$0.00	\$0.00	\$125.07	\$125.07	0.0%	\$0.00

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MAINTENANCE COST BY COMPONENT
SL2 AND OL1 LUMINAIRES

Luminaire Type	Lamp Type	Size	Lamp Size/Type	Initial Lumens	Photocell						
					Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Cobra	HPS	50W	50W HPS	4000	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	9.8%	\$8.62
Post Top	HPS	50W	50W HPS	4000	Multiple	4.25	\$1.07	\$82.63	\$87.95	9.8%	\$8.62
Cobra/NEMA	HPS	70W	70W HPS	6300	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	7.3%	\$6.43
Coach Post Top	HPS	70W	70W HPS	6300	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	7.3%	\$6.43
Cobra	HPS	100W	100W HPS	9500	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	8.2%	\$7.25
Cobra	HPS	150W	150W HPS	16000	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	7.0%	\$6.14
Cobra	HPS	250W	250W HPS	28500	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	8.2%	\$7.23
Flood	HPS	250W	250W HPS	28500	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	8.2%	\$7.23
Cobra	HPS	400W	400W HPS	50000	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	10.0%	\$8.78
Flood	HPS	400W	400W HPS	50000	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	10.0%	\$8.78
Mongoose	HPS	400W	400W HPS	50000	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	10.0%	\$8.78
Turnpike	HPS	400W	400W HPS	50000	Multiple	4.25	\$1.07	\$82.63	\$87.95	0.0%	\$0.00

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MAINTENANCE COST BY COMPONENT
SL2 AND OL1 LUMINAIRES

Luminaire Type	Lamp Type	Size	Lamp Size/Type	Initial Lumens	Relay						
					Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Cobra	HPS	50W	50W HPS	4000	various	\$494.71	\$124.52	\$176.61	\$795.84	0.22%	\$1.73
Post Top	HPS	50W	50W HPS	4000	various	\$494.71	\$124.52	\$176.61	\$795.84	0.22%	\$1.73
Cobra/NEMA	HPS	70W	70W HPS	6300	various	\$494.71	\$124.52	\$176.61	\$795.84	0.22%	\$1.73
Coach Post Top	HPS	70W	70W HPS	6300	various	\$494.71	\$124.52	\$176.61	\$795.84	0.22%	\$1.73
Cobra	HPS	100W	100W HPS	9500	various	\$494.71	\$124.52	\$176.61	\$795.84	0.22%	\$1.76
Cobra	HPS	150W	150W HPS	16000	various	\$494.71	\$124.52	\$176.61	\$795.84	0.23%	\$1.86
Cobra	HPS	250W	250W HPS	28500	various	\$494.71	\$124.52	\$176.61	\$795.84	0.24%	\$1.94
Flood	HPS	250W	250W HPS	28500	various	\$494.71	\$124.52	\$176.61	\$795.84	0.24%	\$1.94
Cobra	HPS	400W	400W HPS	50000	various	\$494.71	\$124.52	\$176.61	\$795.84	0.28%	\$2.20
Flood	HPS	400W	400W HPS	50000	various	\$494.71	\$124.52	\$176.61	\$795.84	0.28%	\$2.20
Mongoose	HPS	400W	400W HPS	50000	various	\$494.71	\$124.52	\$176.61	\$795.84	0.28%	\$2.20
Turnpike	HPS	400W	400W HPS	50000	various	\$494.71	\$124.52	\$0.00	\$619.23	0.00%	\$0.00

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MAINTENANCE COST BY COMPONENT
OL-3 LUMINAIRES

SUMMARY

Luminaire Type	Lamp Type	Size	Lamp Size/Type	Initial Lumens	Lamp Failure	PC	Relay	Luminaire Parts Failure	Bracket or Timer Failure	Total Annual Cost	Total Monthly Charge
Classic Post Top	HPS	100W	100W HPS	9500	\$17.41	\$4.43	\$1.19	\$1.08	n/a	\$24.11	\$2.01
Colonial Post Top	HPS	100W	100W HPS	9500	\$17.41	\$4.43	\$1.19	\$1.07	n/a	\$24.11	\$2.01
Contemporary/Cube Post Top	HPS	100W	100W HPS	9500	\$19.34	\$4.43	\$1.19	\$2.13	n/a	\$27.10	\$2.26
Salem Post Top	HPS	100W	100W HPS	9500	\$17.41	\$4.43	\$1.19	\$1.08	n/a	\$24.11	\$2.01
Shoebox	HPS	100W	100W HPS	9500	\$17.41	\$4.43	\$1.19	\$1.02	n/a	\$24.06	\$2.01
Shoebox	HPS	250W	250W HPS	28500	\$21.27	\$13.34	\$1.19	\$4.38	n/a	\$40.18	\$3.35
Shoebox	HPS	400W	400W HPS	50000	\$21.60	\$5.00	\$1.19	\$2.95	n/a	\$30.75	\$2.56
Flat Decorative	HPS	400W	400W HPS	50000	\$0.00	\$0.00	\$0.00	\$0.00	n/a	\$0.00	No customers
Salem Post Top	MH	175W	175W MH	14000	\$22.16	\$10.54	\$2.17	\$11.07	n/a	\$45.93	\$3.83
Shoebox	MH	175W	175W MH	12800	\$22.08	\$10.54	\$2.17	\$10.65	n/a	\$45.44	\$3.79
General Post Top	MH	175W	175W MH	14000	\$22.08	\$10.54	\$2.17	\$11.07	n/a	\$45.86	\$3.82
Cobra	MH	400W	400W MH	32000	\$28.30	\$8.96	\$2.19	\$9.91	n/a	\$49.35	\$4.11
Flood	MH	400W	400W MH	32000	\$28.35	\$8.96	\$2.19	\$9.95	n/a	\$49.44	\$4.12
Shoebox	MH	400W	400W MH	32000	\$27.90	\$8.53	\$2.19	\$10.15	n/a	\$48.76	\$4.06
Cube/Decorative	MH	400W	400W MH	36000	\$0.00	\$0.00	\$0.00	\$0.00	n/a	\$0.00	No customers
Flood	MH	1000W	1000W MH	107800	\$44.31	\$10.62	\$2.84	\$38.69	n/a	\$96.47	\$8.04
Shoebox	MH	1000W	1000W MH	107800	\$44.29	\$10.62	\$2.84	\$38.66	n/a	\$96.42	\$8.04
Double Bracket	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	\$0.62	\$0.62	\$0.05
Timer	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	\$16.68	\$16.68	\$1.39

MAINTENANCE COST BY COMPONENT
OL-3 LUMINAIRES

Luminaire Type	Lamp Type	Size	Lamp Size/Type	Initial Lumens	Lamp Failure						
					Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Classic Post Top	HPS	100W	100W HPS	9500	5585580	\$10.72	\$2.70	\$ 76.36	\$89.78	19.4%	\$17.41
Colonial Post Top	HPS	100W	100W HPS	9500	5585580	\$10.72	\$2.70	\$ 76.36	\$89.78	19.4%	\$17.41
Contemporary/Cube Post Top	HPS	100W	100W HPS	9500	5585580	\$10.72	\$2.70	\$ 76.36	\$89.78	21.5%	\$19.34
Salem Post Top	HPS	100W	100W HPS	9500	5585580	\$10.72	\$2.70	\$ 76.36	\$89.78	19.4%	\$17.41
Shoebox	HPS	100W	100W HPS	9500	5585580	\$10.72	\$2.70	\$ 76.36	\$89.78	19.4%	\$17.41
Shoebox	HPS	250W	250W HPS	28500	5585530	\$11.13	\$2.80	\$ 76.36	\$90.30	23.6%	\$21.27
Shoebox	HPS	400W	400W HPS	50000	5585540	\$11.28	\$2.84	\$ 76.36	\$90.48	23.9%	\$21.60
Flat Decorative	HPS	400W	400W HPS	50000	5585540	\$11.28	\$2.84	\$ 76.36	\$90.48	0.0%	\$0.00
Salem Post Top	MH	175W	175W MH	14000	5585610	\$10.94	\$2.75	\$ 76.36	\$90.05	24.6%	\$22.16
Shoebox	MH	175W	175W MH	12800	5585610	\$10.94	\$2.75	\$ 76.36	\$90.05	24.5%	\$22.08
General Post Top	MH	175W	175W MH	14000	5585610	\$10.94	\$2.75	\$ 76.36	\$90.05	24.5%	\$22.08
Cobra	MH	400W	400W MH	32000	5585640	14.19	\$3.57	\$ 76.36	\$94.12	30.1%	\$28.30
Flood	MH	400W	400W MH	32000	5585640	14.19	\$3.57	\$ 76.36	\$94.12	30.1%	\$28.35
Shoebox	MH	400W	400W MH	32000	5585640	14.19	\$3.57	\$ 76.36	\$94.12	29.6%	\$27.90
Cube/Decorative	MH	400W	400W MH	36000	5585640	14.19	\$3.57	\$ 76.36	\$94.12	0.0%	\$0.00
Flood	MH	1000W	1000W MH	107800	5585650	22.00	\$5.54	\$ 76.36	\$103.90	42.7%	\$44.31
Shoebox	MH	1000W	1000W MH	107800	5585650	22.00	\$5.54	\$ 76.36	\$103.90	42.6%	\$44.29
Double Bracket	n/a	n/a	n/a	n/a							
Timer	n/a	n/a	n/a	n/a							

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MAINTENANCE COST BY COMPONENT
OL-3 LUMINAIRES

Luminaire Type	Lamp Type	Size	Lamp Size/Type	Initial Lumens	Luminaire Parts Failure						
					Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Classic Post Top	HPS	100W	100W HPS	9500	Selected Parts	\$17.00	\$4.28	\$101.80	\$123.08	0.87%	\$1.08
Colonial Post Top	HPS	100W	100W HPS	9500	Selected Parts	\$17.00	\$4.28	\$101.80	\$123.08	0.87%	\$1.07
Contemporary/Cube Post Top	HPS	100W	100W HPS	9500	Selected Parts	\$17.00	\$4.28	\$101.80	\$123.08	1.73%	\$2.13
Salem Post Top	HPS	100W	100W HPS	9500	Selected Parts	\$17.00	\$4.28	\$101.80	\$123.08	0.87%	\$1.08
Shoebox	HPS	100W	100W HPS	9500	Selected Parts	\$12.42	\$3.13	\$101.80	\$117.35	0.87%	\$1.02
Shoebox	HPS	250W	250W HPS	28500	Selected Parts	\$10.52	\$2.65	\$101.80	\$114.98	3.81%	\$4.38
Shoebox	HPS	400W	400W HPS	50000	Selected Parts	\$12.19	\$3.07	\$101.80	\$117.07	2.52%	\$2.95
Flat Decorative	HPS	400W	400W HPS	50000	Selected Parts	\$15.48	\$3.90	\$101.80	\$121.17	0.00%	\$0.00
Salem Post Top	MH	175W	175W MH	14000	Selected Parts	\$16.30	\$4.10	\$101.80	\$122.21	9.06%	\$11.07
Shoebox	MH	175W	175W MH	12800	Selected Parts	\$11.72	\$2.95	\$101.80	\$116.47	9.14%	\$10.65
General Post Top	MH	175W	175W MH	14000	Selected Parts	\$16.30	\$4.10	\$101.80	\$122.21	9.06%	\$11.07
Cobra	MH	400W	400W MH	32000	Selected Parts	\$11.20	\$2.82	\$101.80	\$115.83	8.55%	\$9.91
Flood	MH	400W	400W MH	32000	Selected Parts	\$11.20	\$2.82	\$101.80	\$115.83	8.59%	\$9.95
Shoebox	MH	400W	400W MH	32000	Selected Parts	\$11.20	\$2.82	\$101.80	\$115.83	8.76%	\$10.15
Cube/Decorative	MH	400W	400W MH	36000	Selected Parts	\$11.20	\$2.82	\$101.80	\$115.83	0.00%	\$0.00
Flood	MH	1000W	1000W MH	107800	Selected Parts	\$12.16	\$3.06	\$101.80	\$117.02	33.06%	\$38.69
Shoebox	MH	1000W	1000W MH	107800	Selected Parts	\$12.16	\$3.06	\$101.80	\$117.02	33.04%	\$38.66
Double Bracket	n/a	n/a	n/a	n/a							
Timer	n/a	n/a	n/a	n/a							

MAINTENANCE COST BY COMPONENT
OL-3 LUMINAIRES

Luminaire Type	Lamp Type	Size	Lamp Size/Type	Initial Lumens	Photocell						
					Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Classic Post Top	HPS	100W	100W HPS	9500	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	5.0%	\$4.43
Colonial Post Top	HPS	100W	100W HPS	9500	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	5.0%	\$4.43
Contemporary/Cube Post Top	HPS	100W	100W HPS	9500	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	5.0%	\$4.43
Salem Post Top	HPS	100W	100W HPS	9500	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	5.0%	\$4.43
Shoebox	HPS	100W	100W HPS	9500	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	5.0%	\$4.43
Shoebox	HPS	250W	250W HPS	28500	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	15.2%	\$13.34
Shoebox	HPS	400W	400W HPS	50000	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	5.7%	\$5.00
Flat Decorative	HPS	400W	400W HPS	50000	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	0.0%	\$0.00
Salem Post Top	MH	175W	175W MH	14000	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	12.0%	\$10.54
Shoebox	MH	175W	175W MH	12800	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	12.0%	\$10.54
General Post Top	MH	175W	175W MH	14000	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	12.0%	\$10.54
Cobra	MH	400W	400W MH	32000	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	10.2%	\$8.96
Flood	MH	400W	400W MH	32000	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	10.2%	\$8.96
Shoebox	MH	400W	400W MH	32000	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	9.7%	\$8.53
Cube/Decorative	MH	400W	400W MH	36000	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	0.0%	\$0.00
Flood	MH	1000W	1000W MH	107800	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	12.1%	\$10.62
Shoebox	MH	1000W	1000W MH	107800	Multiple	\$4.25	\$1.07	\$82.63	\$87.95	12.1%	\$10.62
Double Bracket	n/a	n/a	n/a	n/a							
Timer	n/a	n/a	n/a	n/a							

MAINTENANCE COST BY COMPONENT
OL-3 LUMINAIRES

Luminaire Type	Lamp Type	Size	Lamp Size/Type	Initial Lumens	Relay						
					Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Classic Post Top	HPS	100W	100W HPS	9500	various	\$494.71	124.52	176.61	795.84	0.150%	\$1.19
Colonial Post Top	HPS	100W	100W HPS	9500	various	\$494.71	124.52	176.61	795.84	0.150%	\$1.19
Contemporary/Cube Post Top	HPS	100W	100W HPS	9500	various	\$494.71	124.52	176.61	795.84	0.150%	\$1.19
Salem Post Top	HPS	100W	100W HPS	9500	various	\$494.71	124.52	176.61	795.84	0.150%	\$1.19
Shoebox	HPS	100W	100W HPS	9500	various	\$494.71	\$124.52	\$176.61	\$795.84	0.150%	\$1.19
Shoebox	HPS	250W	250W HPS	28500	various	\$494.71	\$124.52	\$176.61	\$795.84	0.150%	\$1.19
Shoebox	HPS	400W	400W HPS	50000	various	\$494.71	\$124.52	\$176.61	\$795.84	0.150%	\$1.19
Flat Decorative	HPS	400W	400W HPS	50000	various	\$494.71	\$124.52	\$176.61	\$795.84	0.000%	\$0.00
Salem Post Top	MH	175W	175W MH	14000	various	\$494.71	\$124.52	\$176.61	\$795.84	0.273%	\$2.17
Shoebox	MH	175W	175W MH	12800	various	\$494.71	\$124.52	\$176.61	\$795.84	0.273%	\$2.17
General Post Top	MH	175W	175W MH	14000	various	\$494.71	\$124.52	\$176.61	\$795.84	0.273%	\$2.17
Cobra	MH	400W	400W MH	32000	various	\$494.71	\$124.52	\$176.61	\$795.84	0.275%	\$2.19
Flood	MH	400W	400W MH	32000	various	\$494.71	\$124.52	\$176.61	\$795.84	0.275%	\$2.19
Shoebox	MH	400W	400W MH	32000	various	\$494.71	\$124.52	\$176.61	\$795.84	0.275%	\$2.19
Cube/Decorative	MH	400W	400W MH	36000	various	\$494.71	\$124.52	\$176.61	\$795.84	0.0%	\$0.00
Flood	MH	1000W	1000W MH	107800	various	\$494.71	\$124.52	\$176.61	\$795.84	0.357%	\$2.84
Shoebox	MH	1000W	1000W MH	107800	various	\$494.71	\$124.52	\$176.61	\$795.84	0.357%	\$2.84
Double Bracket	n/a	n/a	n/a	n/a							
Timer	n/a	n/a	n/a	n/a							

MAINTENANCE COST BY COMPONENT
OL-3 LUMINAIRES

Luminaire Type	Lamp Type	Size	Lamp Size/Type	Initial Lumens	Bracket or Timer Failure						
					Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Classic Post Top	HPS	100W	100W HPS	9500							
Colonial Post Top	HPS	100W	100W HPS	9500							
Contemporary/Cube Post Top	HPS	100W	100W HPS	9500							
Salem Post Top	HPS	100W	100W HPS	9500							
Shoebox	HPS	100W	100W HPS	9500							
Shoebox	HPS	250W	250W HPS	28500							
Shoebox	HPS	400W	400W HPS	50000							
Flat Decorative	HPS	400W	400W HPS	50000							
Salem Post Top	MH	175W	175W MH	14000							
Shoebox	MH	175W	175W MH	12800							
General Post Top	MH	175W	175W MH	14000							
Cobra	MH	400W	400W MH	32000							
Flood	MH	400W	400W MH	32000							
Shoebox	MH	400W	400W MH	32000							
Cube/Decorative	MH	400W	400W MH	36000							
Flood	MH	1000W	1000W MH	107800							
Shoebox	MH	1000W	1000W MH	107800							
Double Bracket	n/a	n/a	n/a	n/a	5580950	\$297.43	\$95.43	\$114.83	\$507.69	0.121%	\$0.62
Timer	n/a	n/a	n/a	n/a	Various	\$253.76	\$63.87	\$206.40	\$524.04	3.183%	\$16.68

MAINTENANCE COST BY COMPONENT
POLES AND WIRE - SL2 AND OL1

SUMMARY

Pole Type	SVC Type	Pole Material	OH Cable Failures & Parts	UG Cable Failures & Parts	Paint Pole	Total Annual Cost	Total Monthly Charge
Post Top* - 10ft, DB Alum	UG	Aluminum	\$0.00	\$4.10	\$12.62	\$16.72	\$1.39
Post Top** - 16ft, DB Fiber	UG	Fiber	\$0.00	\$4.10	\$12.62	\$16.72	\$1.39
Wood ** - 30ft, (Inaccessible)	OH	Wood	\$2.10	\$0.00	\$0.00	\$2.10	\$0.18
Wood - 30ft	OH	Wood	\$2.10	\$0.00	\$0.00	\$2.10	\$0.18
Wood - 35ft	OH	Wood	\$2.10	\$0.00	\$0.00	\$2.10	\$0.18
Standard - Set Conc	OH	Concrete	\$2.10	\$0.00	\$0.00	\$2.10	\$0.18
Existing Pole -	UG	Existing	\$0.00	\$4.10	\$0.00	\$4.10	\$0.34
Standard (< 100ft Span) - 35ft, Set Conc, for 70/100 W	UG	Concrete	\$0.00	\$4.10	\$0.00	\$4.10	\$0.34
Standard (100ft-150ft Span) - 35ft, Set Conc, for 150 W	UG	Concrete	\$0.00	\$4.10	\$0.00	\$4.10	\$0.34
Standard (> 150ft Span length) - 35ft, Set Conc, for 250/400 W	UG	Concrete	\$0.00	\$4.10	\$0.00	\$4.10	\$0.34
Aluminum - 28ft, Set Alum, for 70/100 W	UG	Aluminum	\$0.00	\$4.10	\$0.00	\$4.10	\$0.34
Aluminum - 27ft, Set Alum, for 150 W	UG	Aluminum	\$0.00	\$4.10	\$0.00	\$4.10	\$0.34
Aluminum - 27ft, Set Alum, for 250/400 W	UG	Aluminum	\$0.00	\$4.10	\$0.00	\$4.10	\$0.34
Aluminum - 37ft, AB Alum	UG	Aluminum	\$0.00	\$4.10	\$0.00	\$4.10	\$0.34
Post Top* - Post Top, DB Fiber	UG	Fiber	\$0.00	\$4.10	\$12.62	\$16.72	\$1.39

MAINTENANCE COST BY COMPONENT
POLES AND WIRE - SL2 AND OL1

Pole Type	SVC Type	Pole Material	OH Cable Failures/Parts						
			Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Post Top* - 10ft, DB Alum	UG	Aluminum	Group	\$0.00	0.00	0.00	0.00	0.7%	\$0.00
Post Top** - 16ft, DB Fiber	UG	Fiber	Group	\$0.00	0.00	0.00	0.00	0.7%	\$0.00
Wood ** - 30ft, (Inaccessible)	OH	Wood	Group	\$74.65	18.79	191.37	284.81	0.7%	\$2.10
Wood - 30ft	OH	Wood	Group	\$74.65	18.79	191.37	284.81	0.7%	\$2.10
Wood - 35ft	OH	Wood	Group	\$74.65	18.79	191.37	284.81	0.7%	\$2.10
Standard - Set Conc	OH	Concrete	Group	\$74.65	18.79	191.37	284.81	0.7%	\$2.10
Existing Pole -	UG	Existing	Group	\$0.00	0.00	0.00	0.00	0.0%	\$0.00
Standard (< 100ft Span) - 35ft, Set Conc, for 70/100 W	UG	Concrete	Group	\$0.00	0.00	0.00	0.00	0.0%	\$0.00
Standard (100ft-150ft Span) - 35ft, Set Conc, for 150 W	UG	Concrete	Group	\$0.00	0.00	0.00	0.00	0.0%	\$0.00
Standard (> 150ft Span length) - 35ft, Set Conc, for 250/400 W	UG	Concrete	Group	\$0.00	0.00	0.00	0.00	0.0%	\$0.00
Aluminum - 28ft, Set Alum, for 70/100 W	UG	Aluminum	Group	\$0.00	0.00	0.00	0.00	0.0%	\$0.00
Aluminum - 27ft, Set Alum, for 150 W	UG	Aluminum	Group	\$0.00	0.00	0.00	0.00	0.0%	\$0.00
Aluminum - 27ft, Set Alum, for 250/400 W	UG	Aluminum	Group	\$0.00	0.00	0.00	0.00	0.0%	\$0.00
Aluminum - 37ft, AB Alum	UG	Aluminum	Group	\$0.00	0.00	0.00	0.00	0.0%	\$0.00
Post Top* - Post Top, DB Fiber	UG	Fiber	Group	\$0.00	0.00	0.00	0.00	0.0%	\$0.00

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TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
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MAINTENANCE COST BY COMPONENT
POLES AND WIRE - SL2 AND OL1

Pole Type	SVC Type	Pole Material	UG Cable Failures/Parts						
			Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Post Top* - 10ft, DB Alum	UG	Aluminum	Group	\$153.93	\$38.74	\$145.82	\$338.50	1.2%	\$4.10
Post Top** - 16ft, DB Fiber	UG	Fiber	Group	\$153.93	\$38.74	\$145.82	\$338.50	1.2%	\$4.10
Wood ** - 30ft, (Inaccessible)	OH	Wood	Group	\$0.00	\$0.00	\$0.00	\$0.00	1.2%	\$0.00
Wood - 30ft	OH	Wood	Group	\$0.00	\$0.00	\$0.00	\$0.00	0.0%	\$0.00
Wood - 35ft	OH	Wood	Group	\$0.00	\$0.00	\$0.00	\$0.00	0.0%	\$0.00
Standard - Set Conc	OH	Concrete	Group	\$0.00	\$0.00	\$0.00	\$0.00	0.0%	\$0.00
Existing Pole -	UG	Existing	Group	\$153.93	\$38.74	\$145.82	\$338.50	1.2%	\$4.10
Standard (< 100ft Span) - 35ft, Set Conc, for 70/100 W	UG	Concrete	Group	\$153.93	\$38.74	\$145.82	\$338.50	1.2%	\$4.10
Standard (100ft-150ft Span) - 35ft, Set Conc, for 150 W	UG	Concrete	Group	\$153.93	\$38.74	\$145.82	\$338.50	1.2%	\$4.10
Standard (> 150ft Span length) - 35ft, Set Conc, for 250/400 W	UG	Concrete	Group	\$153.93	\$38.74	\$145.82	\$338.50	1.2%	\$4.10
Aluminum - 28ft, Set Alum, for 70/100 W	UG	Aluminum	Group	\$153.93	\$38.74	\$145.82	\$338.50	1.2%	\$4.10
Aluminum - 27ft, Set Alum, for 150 W	UG	Aluminum	Group	\$153.93	\$38.74	\$145.82	\$338.50	1.2%	\$4.10
Aluminum - 27ft, Set Alum, for 250/400 W	UG	Aluminum	Group	\$153.93	\$38.74	\$145.82	\$338.50	1.2%	\$4.10
Aluminum - 37ft, AB Alum	UG	Aluminum	Group	\$153.93	\$38.74	\$145.82	\$338.50	1.2%	\$4.10
Post Top* - Post Top, DB Fiber	UG	Fiber	Group	\$153.93	\$38.74	\$145.82	\$338.50	1.2%	\$4.10

MAINTENANCE COST BY COMPONENT
POLES AND WIRE - SL2 AND OL1

Pole Type	SVC Type	Pole Material	Paint Pole						
			Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Post Top* - 10ft, DB Alum	UG	Aluminum	Multiple	\$18.24	\$4.59	\$103.36	\$126.19	10.0%	\$12.62
Post Top** - 16ft, DB Fiber	UG	Fiber	Multiple	\$18.24	\$4.59	\$103.36	\$126.19	10.0%	\$12.62
Wood ** - 30ft, (Inaccessible)	OH	Wood	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.0%	\$0.00
Wood - 30ft	OH	Wood	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.0%	\$0.00
Wood - 35ft	OH	Wood	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.0%	\$0.00
Standard - Set Conc	OH	Concrete	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.0%	\$0.00
Existing Pole -	UG	Existing	N/A	\$0.00	\$0.00	\$0.00	\$0.00	10.0%	\$0.00
Standard (< 100ft Span) - 35ft, Set Conc, for 70/100 W	UG	Concrete	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.0%	\$0.00
Standard (100ft-150ft Span) - 35ft, Set Conc, for 150 W	UG	Concrete	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.0%	\$0.00
Standard (> 150ft Span length) - 35ft, Set Conc, for 250/400 W	UG	Concrete	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.0%	\$0.00
Aluminum - 28ft, Set Alum, for 70/100 W	UG	Aluminum	Multiple	\$36.47	\$9.18	\$152.58	\$198.24	0.0%	\$0.00
Aluminum - 27ft, Set Alum, for 150 W	UG	Aluminum	Multiple	\$36.47	\$9.18	\$152.58	\$198.24	0.0%	\$0.00
Aluminum - 27ft, Set Alum, for 250/400 W	UG	Aluminum	Multiple	\$36.47	\$9.18	\$152.58	\$198.24	0.0%	\$0.00
Aluminum - 37ft, AB Alum	UG	Aluminum	Multiple	\$36.47	\$9.18	\$152.58	\$198.24	0.0%	\$0.00
Post Top* - Post Top, DB Fiber	UG	Fiber	Multiple	\$18.24	\$4.59	\$103.36	\$126.19	10.0%	\$12.62

MAINTENANCE COST BY COMPONENT
POLES AND WIRE - OL3

SUMMARY

Pole Type	Svc Type	Pole Material	OH Cable Failures & Parts	UG Cable Failures & Parts	Paint Pole	Total Annual Cost	Total Monthly Charge
Round - 23 ft, DB Conc	UG	Concrete	\$0.00	\$1.69	\$0.00	\$1.69	\$0.14
Franklin - Post Top, DB Fiber	UG	Fiber	\$0.00	\$1.69	\$12.62	\$14.31	\$1.19
Heritage* - Post Top, DB Alum	UG	Aluminum	\$0.00	\$1.69	\$12.62	\$14.31	\$1.19
Capitol* - Post Top, DB Alum	UG	Aluminum	\$0.00	\$1.69	\$12.62	\$14.31	\$1.19
Winston - Post Top, DB Fiber	UG	Fiber	\$0.00	\$1.69	\$12.62	\$14.31	\$1.19
Waterford - Post Top, DB Conc	UG	Concrete	\$0.00	\$1.69	\$0.00	\$1.69	\$0.14
Aluminum* - Post Top, DB Alum	UG	Aluminum	\$0.00	\$1.69	\$12.62	\$14.31	\$1.19
Charleston Banner - Post Top, DB Alum	UG	Aluminum	\$0.00	\$1.69	\$12.62	\$14.31	\$1.19
Arlington* - Post Top, DB Alum	UG	Aluminum	\$0.00	\$0.00	\$0.00	\$0.00	No customer
Charleston - Post Top, DB Alum	UG	Aluminum	\$0.00	\$1.69	\$12.62	\$14.31	\$1.19
Riviera* - Post Top, DB Alum	UG	Aluminum	\$0.00	\$1.69	\$12.62	\$14.31	\$1.19
Standard - 35ft, DB Conc	UG	Concrete	\$0.00	\$1.69	\$0.00	\$1.69	\$0.14
Steel* - 30ft, AB Steel	UG	Steel	\$0.00	\$1.69	\$19.82	\$21.52	\$1.79
Charleston HD - Post Top, DB Alum	UG	Aluminum	\$0.00	\$1.69	\$12.62	\$14.31	\$1.19
Aluminum* - 30ft, AB Alum	UG	Aluminum	\$0.00	\$0.00	\$0.00	\$0.00	No customer
Tall Waterford - 35ft, DB Conc	UG	Concrete	\$0.00	\$1.69	\$0.00	\$1.69	\$0.14
Victorian - Post Top, DB Conc	UG	Concrete	\$0.00	\$1.69	\$0.00	\$1.69	\$0.14
Standard - < 45ft, DB Conc	OH	Concrete	\$3.84	\$0.00	\$0.00	\$3.84	\$0.32
Standard - 25ft or 30 ft, DB Conc	UG	Concrete	\$0.00	\$1.69	\$0.00	\$1.69	\$0.14
Standard - 45ft, DB Conc	UG	Concrete	\$0.00	\$1.69	\$0.00	\$1.69	\$0.14
Wood - < 45ft	OH	Wood	\$3.84	\$0.00	\$0.00	\$3.84	\$0.32
Existing Pole -	UG	Existing	\$0.00	\$1.69	\$0.00	\$1.69	\$0.14
Standard - 16ft, DB Conc	UG	Concrete	\$0.00	\$1.69	\$0.00	\$1.69	\$0.14

MAINTENANCE COST BY COMPONENT
POLES AND WIRE - OL3

Pole Type	Svc Type	Pole Material	OH Cable Failures/Parts						
			Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Round - 23 ft, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$191.37	\$191.37	0.00%	\$0.00
Franklin - Post Top, DB Fiber	UG	Fiber	N/A	\$0.00	\$0.00	\$191.37	\$191.37	0.00%	\$0.00
Heritage* - Post Top, DB Alum	UG	Aluminum	N/A	\$0.00	\$0.00	\$191.37	\$191.37	0.00%	\$0.00
Capitol* - Post Top, DB Alum	UG	Aluminum	N/A	\$0.00	\$0.00	\$191.37	\$191.37	0.00%	\$0.00
Winston - Post Top, DB Fiber	UG	Fiber	N/A	\$0.00	\$0.00	\$191.37	\$191.37	0.00%	\$0.00
Waterford - Post Top, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$191.37	\$191.37	0.00%	\$0.00
Aluminum* - Post Top, DB Alum	UG	Aluminum	N/A	\$0.00	\$0.00	\$191.37	\$191.37	0.00%	\$0.00
Charleston Banner - Post Top, DB Alum	UG	Aluminum	N/A	\$0.00	\$0.00	\$191.37	\$191.37	0.00%	\$0.00
Arlington* - Post Top, DB Alum	UG	Aluminum	N/A	\$0.00	\$0.00	\$191.37	\$191.37	0.00%	\$0.00
Charleston - Post Top, DB Alum	UG	Aluminum	N/A	\$0.00	\$0.00	\$191.37	\$191.37	0.00%	\$0.00
Riviera* - Post Top, DB Alum	UG	Aluminum	N/A	\$0.00	\$0.00	\$191.37	\$191.37	0.00%	\$0.00
Standard - 35ft, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$191.37	\$191.37	0.00%	\$0.00
Steel* - 30ft, AB Steel	UG	Steel	N/A	\$0.00	\$0.00	\$191.37	\$191.37	0.00%	\$0.00
Charleston HD - Post Top, DB Alum	UG	Aluminum	N/A	\$0.00	\$0.00	\$191.37	\$191.37	0.00%	\$0.00
Aluminum* - 30ft, AB Alum	UG	Aluminum	N/A	\$0.00	\$0.00	\$191.37	\$191.37	0.00%	\$0.00
Tall Waterford - 35ft, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$191.37	\$191.37	0.00%	\$0.00
Victorian - Post Top, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$191.37	\$191.37	0.00%	\$0.00
Standard - < 45ft, DB Conc	OH	Concrete	Group	\$74.65	\$18.79	\$191.37	\$284.81	1.35%	\$3.84
Standard - 25ft or 30 ft, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$191.37	\$191.37	0.00%	\$0.00
Standard - 45ft, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$191.37	\$191.37	0.00%	\$0.00
Wood - < 45ft	OH	Wood	Group	\$74.65	\$18.79	\$191.37	\$284.81	1.35%	\$3.84
Existing Pole -	UG	Existing	N/A	\$0.00	\$0.00	\$191.37	\$191.37	0.00%	\$0.00
Standard - 16ft, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$191.37	\$191.37	0.00%	\$0.00

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MAINTENANCE COST BY COMPONENT
POLES AND WIRE - OL3

Pole Type	Svc Type	Pole Material	UG Cable Failures/Parts						
			Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Round - 23 ft, DB Conc	UG	Concrete	Group	\$153.93	\$38.74	\$145.82	\$338.50	0.50%	\$1.69
Franklin - Post Top, DB Fiber	UG	Fiber	Group	\$153.93	\$38.74	\$145.82	\$338.50	0.50%	\$1.69
Heritage* - Post Top, DB Alum	UG	Aluminum	Group	\$153.93	\$38.74	\$145.82	\$338.50	0.50%	\$1.69
Capitol* - Post Top, DB Alum	UG	Aluminum	Group	\$153.93	\$38.74	\$145.82	\$338.50	0.50%	\$1.69
Winston - Post Top, DB Fiber	UG	Fiber	Group	\$153.93	\$38.74	\$145.82	\$338.50	0.50%	\$1.69
Waterford - Post Top, DB Conc	UG	Concrete	Group	\$153.93	\$38.74	\$145.82	\$338.50	0.50%	\$1.69
Aluminum* - Post Top, DB Alum	UG	Aluminum	Group	\$153.93	\$38.74	\$145.82	\$338.50	0.50%	\$1.69
Charleston Banner - Post Top, DB Alum	UG	Aluminum	Group	\$153.93	\$38.74	\$145.82	\$338.50	0.50%	\$1.69
Arlington* - Post Top, DB Alum	UG	Aluminum	Group	\$153.93	\$38.74	\$145.82	\$338.50	0.00%	\$0.00
Charleston - Post Top, DB Alum	UG	Aluminum	Group	\$153.93	\$38.74	\$145.82	\$338.50	0.50%	\$1.69
Riviera* - Post Top, DB Alum	UG	Aluminum	Group	\$153.93	\$38.74	\$145.82	\$338.50	0.50%	\$1.69
Standard - 35ft, DB Conc	UG	Concrete	Group	\$153.93	\$38.74	\$145.82	\$338.50	0.50%	\$1.69
Steel* - 30ft, AB Steel	UG	Steel	Group	\$153.93	\$38.74	\$145.82	\$338.50	0.50%	\$1.69
Charleston HD - Post Top, DB Alum	UG	Aluminum	Group	\$153.93	\$38.74	\$145.82	\$338.50	0.50%	\$1.69
Aluminum* - 30ft, AB Alum	UG	Aluminum	Group	\$153.93	\$38.74	\$145.82	\$338.50	0.00%	\$0.00
Tall Waterford - 35ft, DB Conc	UG	Concrete	Group	\$153.93	\$38.74	\$145.82	\$338.50	0.50%	\$1.69
Victorian - Post Top, DB Conc	UG	Concrete	Group	\$153.93	\$38.74	\$145.82	\$338.50	0.50%	\$1.69
Standard - < 45ft, DB Conc	OH	Concrete	N/A	\$0.00	\$0.00	\$145.82	\$145.82	0.00%	\$0.00
Standard - 25ft or 30 ft, DB Conc	UG	Concrete	Group	\$153.93	\$38.74	\$145.82	\$338.50	0.50%	\$1.69
Standard - 45ft, DB Conc	UG	Concrete	Group	\$153.93	\$38.74	\$145.82	\$338.50	0.50%	\$1.69
Wood - < 45ft	OH	Wood	N/A	\$0.00	\$0.00	\$145.82	\$145.82	0.00%	\$0.00
Existing Pole -	UG	Existing	Group	\$153.93	\$38.74	\$145.82	\$338.50	0.50%	\$1.69
Standard - 16ft, DB Conc	UG	Concrete	Group	\$153.93	\$38.74	\$145.82	\$338.50	0.50%	\$1.69

MAINTENANCE COST BY COMPONENT
POLES AND WIRE - OL3

Pole Type	Svc Type	Pole Material	Paint Pole						
			Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Round - 23 ft, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.00%	\$0.00
Franklin - Post Top, DB Fiber	UG	Fiber	Multiple	\$18.24	\$4.59	\$103.36	\$126.19	10.00%	\$12.62
Heritage* - Post Top, DB Alum	UG	Aluminum	Multiple	\$18.24	\$4.59	\$103.36	\$126.19	10.00%	\$12.62
Capitol* - Post Top, DB Alum	UG	Aluminum	Multiple	\$18.24	\$4.59	\$103.36	\$126.19	10.00%	\$12.62
Winston - Post Top, DB Fiber	UG	Fiber	Multiple	\$18.24	\$4.59	\$103.36	\$126.19	10.00%	\$12.62
Waterford - Post Top, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.00%	\$0.00
Aluminum* - Post Top, DB Alum	UG	Aluminum	Multiple	\$18.24	\$4.59	\$103.36	\$126.19	10.00%	\$12.62
Charleston Banner - Post Top, DB Alum	UG	Aluminum	Multiple	\$18.24	\$4.59	\$103.36	\$126.19	10.00%	\$12.62
Arlington* - Post Top, DB Alum	UG	Aluminum	Multiple	\$18.24	\$4.59	\$103.36	\$126.19	0.00%	\$0.00
Charleston - Post Top, DB Alum	UG	Aluminum	Multiple	\$18.24	\$4.59	\$103.36	\$126.19	10.00%	\$12.62
Riviera* - Post Top, DB Alum	UG	Aluminum	Multiple	\$18.24	\$4.59	\$103.36	\$126.19	10.00%	\$12.62
Standard - 35ft, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.00%	\$0.00
Steel* - 30ft, AB Steel	UG	Steel	Multiple	\$36.47	\$9.18	\$152.58	\$198.24	10.00%	\$19.82
Charleston HD - Post Top, DB Alum	UG	Aluminum	Multiple	\$18.24	\$4.59	\$103.36	\$126.19	10.00%	\$12.62
Aluminum* - 30ft, AB Alum	UG	Aluminum	Multiple	\$36.47	\$9.18	\$152.58	\$198.24	0.00%	\$0.00
Tall Waterford - 35ft, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.00%	\$0.00
Victorian - Post Top, DB Conc	UG	Concrete	Multiple	\$18.24	\$4.59	\$103.36	\$126.19	0.00%	\$0.00
Standard - < 45ft, DB Conc	OH	Concrete	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.00%	\$0.00
Standard - 25ft or 30 ft, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.00%	\$0.00
Standard - 45ft, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.00%	\$0.00
Wood - < 45ft	OH	Wood	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.00%	\$0.00
Existing Pole -	UG	Existing	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.00%	\$0.00
Standard - 16ft, DB Conc	UG	Concrete	Multiple	\$0.00	\$0.00	\$0.00	\$0.00	0.00%	\$0.00

**Installation
Costs**

INSTALLATION COST

LUMINAIRES

INSTALLATION COST - LUMINAIRES
COBRA, NEIMA, AND MONGOOSE

MATERIAL	COBRA				COBRA/NEIMA				COBRA/NEIMA			
	Wattage		50 W HPS		Wattage		70 W HPS		Wattage		100 W HPS	
	Initial Lumens	Avg OH Span	144.5	Initial Lumens	6,300	Avg OH Span	146.0	Initial Lumens	9,500	Avg OH Span	144.5	
	Monthly KWH	20	Avg UG Span	60.0	Monthly KWH	29	Avg UG Span	77.6	Monthly KWH	44	Avg UG Span	144.5
	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost
LUMINAIRE weighted avg	5586230	\$61.75	113	\$6,993	5586210	\$63.53	48	\$3,049	5586220	\$73.58	1,683	\$123,839
					5586222	\$35.30	18	\$644	5586290	\$91.81	385	\$35,300
									5586221	\$36.40	50.0	\$1,820
LAMP	5585370	\$11.85	1	\$11.85	5585560	\$10.67	1	\$10.67	5585580	\$10.72	1	\$10.72
BRACKET & ACCESSORY weighted avg												
BRACKET, 20 IN	5580710	\$15.64	696	\$10,889	5580710	\$15.64	696	\$10,889	5580710	\$15.64	696	\$10,889
BRACKET, 4 FT	5580740	\$20.19	1,297	\$26,188	5580740	\$20.19	1,297	\$26,188	5580740	\$20.19	1,297	\$26,188
BRACKET, 6 FT	5580750	\$30.69	284	\$8,701	5580750	\$30.69	284	\$8,701	5580750	\$30.69	284	\$8,701
BRACKET, 8 FT												
BRACKET, 10 FT												
BRACKET, 12 FT												
BRACKET, 12 FT 5 JU												
BRACKET, 12 FT 10 JU												
BRACKET, Streetlight, GALV, 9"Radius												
BRACKET, 12 FT accessories												
anchor												
compound												
conduit												
screw												
strap												
PHOTO CONTROL weighted avg PC = 0 if Control Eq used												
1000W, 277V	5588100	\$5.23	7,789	\$40,749	5588100	\$5.23	7,789	\$40,749	5588100	\$5.23	7,789	\$40,749
1000W GRAY Cover, 120V	5588110	\$3.79	16,801	\$63,648	5588110	\$3.79	16,801	\$63,648	5588110	\$3.79	16,801	\$63,648
SHORTING CAP Cap = 0 if PC used	5581500	\$3.00	0	\$0.00	5581500	\$3.00	0	\$0.00	5581500	\$3.00	0	\$0.00
CONTROL EQUIPMENT Control Eq = 0 if PC used												
Oil Switch	5589120	\$2.77	0.0	\$0	5589120	\$17.11	0.0	\$0	5589120	\$14.21	0.0	\$0
OH Installation	Varies	\$18.17	47	\$854	Varies	\$14.28	47	\$671	Varies	\$11.86	47	\$557
UG Installation	Varies	\$33.99	27	\$918	Varies	\$26.71	27	\$721	Varies	\$22.19	27	\$599
CABLE, POLE & BRACKET, UG, Cu, Tnelex, 600V 2/C, 10AWG weighted avg	5322230	\$0.72		\$3.85	5322230	\$0.72		\$3.85	5322230	\$0.72		\$3.85
20 IN			3	\$1,508			3	\$1,508			3	\$1,508
4 FT			6	\$5,620			6	\$5,620			6	\$5,620
6 FT			8	\$1,638			8	\$1,638			8	\$1,638
8 FT												
10 FT												
12 FT												
12 FT 5 JU												
12 FT 10 JU												
BRACKET, Streetlight, GALV, 9"Radius												
FIXTURE HARDWARE avg				\$4.54				\$4.54				\$4.54
Wood & Conc												
Washer, Flat 2-1/4 X 2-1/4 X 3/16 w/ 13/16" Hole Dia	9296750	\$0.15	2	\$0.30	9296750	\$0.15	2	\$0.30	9296750	\$0.15	2	\$0.30
Nut, Eye 1-1/2" GALV for 5/8" bolt	9237650	\$1.20	2	\$2.40	9237650	\$1.20	2	\$2.40	9237650	\$1.20	2	\$2.40
OH ratio OH/UG				19%				19%				19%
Bolt, Machine GALV 5/8x12	9233550	\$0.87	2	\$1.74	9233550	\$0.87	2	\$1.74	9233550	\$0.87	2	\$1.74
Cover, Snap-On Service Entrance Sleeve 5/8 die 2in	5261930	\$0.44	2	\$0.88	5261930	\$0.44	2	\$0.88	5261930	\$0.44	2	\$0.88
Connector, Compression H Block AL #6 str ACSR #10	9261530	\$0.21	2	\$0.43	9261530	\$0.21	2	\$0.43	9261530	\$0.21	2	\$0.43
UG ratio OH/UG				81%				81%				81%
Bolt, Machine GALV 5/8x8	9233450	\$0.78	2	\$1.57	9233450	\$0.78	2	\$1.57	9233450	\$0.78	2	\$1.57
TOTAL MATERIAL				\$106.34				\$99.17				\$136.49
LABOR/VEHICLE												
INSTALL LIGHT FIXTURE		\$ 141.42	1	\$141.42		\$ 141.42	1	\$141.42		\$ 141.42	1	\$141.42
ENGINEERING LIGHT FIXTURE		\$ 125.52	1	\$125.52		\$ 125.52	1	\$125.52		\$ 125.52	1	\$125.52
INSTALL CONTROL EQUIPMENT Control Eq = 0 if PC used			0	\$0.00			0	\$0.00			0	\$0.00
Oil Switch	5589120	\$4.56	0.0	\$0	5589120	\$4.56	0.0	\$0	5589120	\$4.56	0.0	\$0
OH Installation	Varies	\$5.43	47	\$255	Varies	\$4.26	47	\$200	Varies	\$3.54	47	\$166
UG Installation	Varies	\$30.98	27	\$837	Varies	\$24.34	27	\$657	Varies	\$20.22	27	\$546
MATERIAL HANDLING			1	\$0.00			1	\$0.00			1	\$0.00
TOTAL LABOR/VEHICLE				\$266.94				\$291.90				\$318.91
TOTAL COST				\$373.28				\$391.07				\$457.39

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TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 23 OF 77
FILED: 08/11/2008

INSTALLATION COST - LUMINAIRES
COBRA, NEMA, AND MONGOOSE

	COBRA				COBRA				COBRA			
	150 W HPS		250 W HPS		400 W HPS		154.0		192.1		154.0	
	Initial Lumens	16,000	Avg OH Span	141.4	Initial Lumens	28,500	Avg OH Span	153.1	Initial Lumens	50,000	Avg OH Span	154.0
Monthly KWH	66	Avg UG Span	141.4	Monthly KWH	105	Avg UG Span	161.1	Monthly KWH	163	Avg UG Span	192.1	
MATERIAL	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost
LUMINAIRE weighted avg			1	\$79.66			1	\$83.96			1	\$124.59
	5586050	\$75.97	483	\$36,710	5586200	\$79.67	497	\$39,554	5586280	\$124.16	344	\$42,709
	5586310	\$90.51	3	\$226	5586250	\$90.38	29	\$2,576	5586320	\$125.80	45	\$5,598
	5586020	\$93.61	124.3	\$11,632	5586140	\$121.43	6.3	\$759	5586130	\$133.92	42.3	\$5,658
	5586300	\$112.49	1	\$84	5586190	\$94.63	150	\$14,171	5586160	\$122.25	128	\$15,618
					5586010	\$129.54	3	\$324				
LAMP	5585590	\$10.68	1	\$10.68	5585530	\$11.15	1	\$11.15	5585540	\$11.28	1	\$11.28
BRACKET & ACCESSORY weighted avg			1	\$20.10			1	\$24.19			1	\$24.19
bracket, 20 IN	5580710	\$15.64	696	\$10,889	5580710	\$15.64	696	\$10,889	5580710	\$15.64	696	\$10,889
bracket, 4 FT	5580740	\$20.19	1,297	\$26,188	5580740	\$20.19	1,297	\$26,188	5580740	\$20.19	1,297	\$26,188
bracket, 6 FT	5580750	\$30.69	284	\$8,701	5580750	\$30.69	284	\$8,701	5580750	\$30.69	284	\$8,701
bracket, 8 FT					5580780	\$65.24	68.25	\$4,452	5580780	\$65.24	68.25	\$4,452
bracket, 10 FT					5580800	\$76.83	3	\$230	5580800	\$76.83	3	\$230
bracket, 12 FT					5580820	\$78.95	18.5	\$1,460	5580820	\$78.95	18.5	\$1,460
bracket, 12 FT 5 JU					5580850	146.7362	27.75	\$4,415	5580850	146.7362	27.75	\$4,415
bracket, 12 FT 10 JU					5580830	138.3671	7.25	1092.727395	5580830	138.3671	7.25	1092.727395
bracket, Streetlight, GALV, 9"Radius								0.275187917				0.275187917
bracket, 12 FT accessories					1901543	0.09946	8	\$1	1901543	0.09946	8	\$1
anchor compound					5851980	2.4098	1	\$2	5851980	2.4098	1	\$2
conduit					5521030	0.7298	8	\$6	5521030	0.7298	8	\$6
screw					5290800	0.1447	8	\$1	5290800	0.1447	8	\$1
strap					5511210	0.5381	4	\$2	5511210	0.5381	4	\$2
PHOTO CONTROL weighted avg PC = 0 if Control Eq used			0	\$0.00			0	\$0.00			0	\$0.00
1000W, 277V	5588100	\$5.23	7,789	\$40,749	5588100	\$5.23	7,789	\$40,749	5588100	\$5.23	7,789	\$40,749
1000W GRAY Cover 120V	5588110	\$3.79	16,801	\$63,648	5588110	\$3.79	16,801	\$63,648	5588110	\$3.79	16,801	\$63,648
SHORTING CAP Cap = 0 if PC used	5581500	\$3.00	1	\$3.00	5581500	\$3.00	1	\$3.00	5581500	\$3.00	1	\$3.00
CONTROL EQUIPMENT Control Eq = 0 if PC used			1 LOT	\$13.45			1 LOT	\$29.06			1 LOT	\$45.83
Oil Switch	5589120	\$13.75	0.0	\$0	5589120	\$29.79	0.0	\$0	5589120	\$46.98	0.0	\$0
OH Installation	Varies	\$11.48	47	\$539	Varies	\$24.86	47	\$1,169	Varies	\$39.21	47	\$1,843
UG Installation	Varies	\$21.47	27	\$580	Varies	\$46.51	27	\$1,258	Varies	\$73.35	27	\$1,980
CABLE, POLE & BRACKET, UG, Cu, Tnplex, 600V 2/C, 10AWG weighted avg	5322230	\$0.72		\$3.85	5322230	\$0.72		\$4.17	5322230	\$0.72		\$4.17
20 IN			3	\$1,508			3	\$1,508			3	\$1,508
4 FT			6	\$5,620			6	\$5,620			6	\$5,620
6 FT			8	\$1,638			8	\$1,638			8	\$1,638
8 FT							10	\$493			10	\$493
10 FT							12	\$26			12	\$26
12 FT							14	\$187			14	\$187
12 FT 5 JU							21	\$421			21	\$421
12 FT 10 JU							24	\$128			24	\$128
bracket, Streetlight, GALV, 9"Radius												
FIXTURE HARDWARE avg				\$5.45				\$5.45				\$5.45
Wood & Conc												
Washer, Flat 2-1/4 X 2-1/4 X 3/16 w/ 13/16" Hole Dia	9296750	\$0.15	2	\$0.30	9296750	\$0.15	2	\$0.30	9296750	\$0.15	2	\$0.30
Nut, Eye 1-1/2" GALV for 5/8" bolt	9237650	\$1.20	2	\$2.40	9237650	\$1.20	2	\$2.40	9237650	\$1.20	2	\$2.40
OH ratio OH/UG				80%				81%				81%
Bolt, Machine GALV 5/8x12	9233550	\$0.87	2	\$1.74	9233550	\$0.87	2	\$1.74	9233550	\$0.87	2	\$1.74
Cover, Snap-On Service Entrance Sleeve 5/8 die 2in	5261930	\$0.44	2	\$0.88	5261930	\$0.44	2	\$0.88	5261930	\$0.44	2	\$0.88
Connector, Compression H-Block AL #6 str ACSR #10	9261530	\$0.21	2	\$0.43	9261530	\$0.21	2	\$0.43	9261530	\$0.21	2	\$0.43
UG ratio OH/UG				20%				19%				19%
Bolt, Machine GALV 5/8x8	9233450	\$0.78	2	\$1.57	9233450	\$0.78	2	\$1.57	9233450	\$0.78	2	\$1.57
TOTAL MATERIAL				\$136.19				\$160.97				\$218.51
LABOR/VEHICLE												
INSTALL LIGHT FIXTURE		\$141.42	1	\$141.42		\$141.42	1	\$141.42		\$141.42	1	\$141.42
ENGINEERING LIGHT FIXTURE		\$125.52	1	\$125.52		\$125.52	1	\$125.52		\$125.52	1	\$125.52
INSTALL CONTROL EQUIPMENT Control Eq = 0 if PC used			1	\$6.62			1	\$14.21			1	\$22.41
Oil Switch	5589120	\$4.56	0.0	\$0	5589120	\$4.56	0.0	\$0	5589120	\$4.56	0.0	\$0
OH Installation	Varies	\$3.43	47	\$161	Varies	\$7.43	47	\$349	Varies	\$11.71	47	\$550
UG Installation	Varies	\$19.57	27	\$528	Varies	\$42.40	27	\$1,145	Varies	\$66.86	27	\$1,805
MATERIAL HANDLING		\$34.28	1	\$34.28		\$40.52	1	\$40.52		\$55.00	1	\$55.00
TOTAL LABOR/VEHICLE				\$307.84				\$321.67				\$344.35
TOTAL COST				\$444.03				\$482.64				\$562.86

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TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 24 OF 77
FILED: 08/11/2008

INSTALLATION COST - LUMINAIRES
COBRA, NEMA, AND MONGOOSE

MATERIAL	COBRA				MONGOOSE			
	Wattage		400 W MH		Wattage		400 W HPS	
	Initial Lumens	Avg OH Span	150.0	150.0	Initial Lumens	Avg OH Span	148.0	148.0
Monthly kWh	Avg UG Span	159	115.0	Monthly kWh	Avg UG Span	163	178.0	
	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost
LUMINAIRE weighted avg	5587000	\$119.35	149	\$17,812	5586663	\$400.25	27	\$10,807
LAMP	5585640	\$14.19	1	\$14.19	5585540	\$11.28	1	\$11.28
BRACKET & ACCESSORY weighted avg			1	\$24.19			1	\$24.51
bracket, 20 IN	5580710	\$15.64	696	\$10,889				
bracket, 4 FT	5580740	\$20.19	1,297	\$26,188				
bracket, 6 FT	5580750	\$30.69	284	\$8,701				
bracket, 8 FT	5580780	\$65.24	68.25	\$4,452				
bracket, 10 FT	5580800	\$76.83	3	\$230				
bracket, 12 FT	5580820	\$78.95	18.5	\$1,460				
bracket, 12 FT 5 JU	5580850	146.7362	27.75	\$4,415				
bracket, 12 FT 10 JU	5580830	138.3671	7.25	1092.7274				
bracket, Streetlight, GALV, 9"Radius				0.27518792	5581060	24.50774	149	3651.65263
bracket, 12 FT accessories								
anchor	1901543	0.09946	8	\$1				
compound	5851980	2.4098	1	\$2				
conduit	5521030	0.7298	8	\$6				
screw	5290800	0.1447	8	\$1				
strap	5511210	0.5381	4	\$2				
PHOTO CONTROL weighted avg PC = 0 if Control Eq used			0	\$0.00				\$0.00
1000W, 277V	5588100	\$5.23	7,789	\$40,749	5588100	\$5.23	7,789	\$40,749
1000W GRAY Cover 120V	5588110	\$3.79	16,801	\$63,648	5588110	\$3.79	16,801	\$63,648
SHORTING CAP Cap = 0 if PC used	5581500	\$3.00	1	\$3.00	5581500	\$3.00	1	\$3.00
CONTROL EQUIPMENT Control Eq = 0 if PC used			1 LOT	\$64.04			1 LOT	\$45.83
Oil Switch	5589120	\$46.98	0.0	\$0	5589120	\$46.98	0.0	\$0
OH Installation	Varies	\$39.21	47	\$1,843	Varies	\$39.21	47	\$1,843
UG Installation	Varies	\$73.35	27	\$1,980	Varies	\$73.35	27	\$1,980
CABLE, POLE & BRACKET, UG, Cu, Triplex, 600V 2/C, 10AWG weighted avg	5322230	\$0.72		\$4.17	5322230	\$0.72		\$2.17
20 IN			3	\$1,508				
4 FT			6	\$5,620				
6 FT			8	\$1,638				
8 FT			10	\$493				
10 FT			12	\$26				
12 FT			14	\$187				
12 FT 5 JU			21	\$421				
12 FT 10 JU			24	\$126				
bracket, Streetlight, GALV, 9"Radius							3	\$323
FIXTURE HARDWARE avg				\$4.67				\$5.45
Wood & Conc								
Washer, Flat 2-1/4 X 2-1/4 X 3/16 w/ 13/16" Hole Dia	9296750	\$0.15	2	\$0.30	9296750	\$0.15	2	\$0.30
Nut, Eye 1-1/2" GALV for 5/8" bolt	9237650	\$1.20	2	\$2.40	9237650	\$1.20	2	\$2.40
OH ratio OH/UG				27%				81%
Bolt, Machine GALV 5/8x12	9233550	\$0.87	2	\$1.74	9233550	\$0.87	2	\$1.74
Cover, Snap-On Service Entrance Sleeve 5/8 dia 2in	5261930	\$0.44	2	\$0.88	5261930	\$0.44	2	\$0.88
Connector, Compression H-Brook AL #6 str ACSR #10	9261530	\$0.21	2	\$0.43	9261530	\$0.21	2	\$0.43
UG ratio OH/UG				73%				19%
Bolt, Machine GALV 5/8x8	9233450	\$0.78	2	\$1.57	9233450	\$0.78	2	\$1.57
TOTAL MATERIAL				\$233.60				\$482.48
LABOR/VEHICLE								
INSTALL LIGHT FIXTURE		Unit Cost	# of Units	Cost		Unit Cost	# of Units	Cost
ENGINEERING LIGHT FIXTURE		\$ 141.42	1	\$141.42		\$ 141.42	1	\$141.42
INSTALL CONTROL EQUIPMENT Control Eq = 0 if PC used		\$ 125.52	1	\$125.52		\$ 125.52	1	\$125.52
Oil Switch	5589120	\$15.59	0.0	\$0	5589120	\$4.56	0.0	\$0
OH Installation	Varies	\$11.71	47	\$550	Varies	\$11.71	47	\$550
UG Installation	Varies	\$66.86	27	\$1,805	Varies	\$66.86	27	\$1,805
MATERIAL HANDLING		\$58.80	1	\$58.80		\$123.96	1	\$123.96
TOTAL LABOR/VEHICLE				\$377.57				\$413.31
TOTAL COST				\$611.17				\$895.79

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INSTALLATION COST- LUMINAIRES
SHOEBOX

MATERIAL	SHOEBOX				SHOEBOX				SHOEBOX			
	100 W HPS		250 W HPS		400 W HPS		100 W HPS		250 W HPS		400 W HPS	
	Initial Lumens	Avg OH Span	Initial Lumens	Avg OH Span	Initial Lumens	Avg OH Span	Initial Lumens	Avg OH Span	Initial Lumens	Avg OH Span	Initial Lumens	Avg OH Span
	9,500	153.5	28,500	187.5	50,000	127.5	9,500	153.5	28,500	187.5	50,000	127.5
	44	153.5	105	187.5	163	127.5	44	153.5	105	187.5	163	127.5
	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost
LUMINAIRE avg				\$259.05				\$213.48				\$225.93
5586263	\$241.13	0		\$60	5580170	\$220.39	17	\$3,502	5580150	\$231.16	6	\$1,445
5586265	\$279.46	81		\$22,636	5586261	\$211.93	77	\$16,265	5580510	\$249.26	1	\$125
5587550	\$196.24	26		\$5,151	5586262	\$268.01	0	\$0	5586258	\$264.48	7	\$1,785
									5586259	217 97001	38	\$8,337
LAMP	5585580	\$10.72	1	\$10.72	5585530	\$11.15	1	\$11.15	5585540	\$11.28	1	\$11.28
BRACKET & ACCESSORY avg				\$41.49				\$41.49				\$41.49
Bracket, Shoebox, Single Mount, Prem Ltg	Various	\$33.78	658.7	\$22,248	Various	\$33.78	658.7	\$22,248	Various	\$33.78	658.7	\$22,248
Bracket, Shoebox, Dual Mount, 90 Degree, Prem Ltg	Various	\$88.67	6.7	\$591	Various	\$88.67	6.7	\$591	Various	\$88.67	6.7	\$591
Bracket, Shoebox, Dual Mount, 180 Degree, Prem Ltg	Various	\$93.74	22.0	\$2,062	Various	\$93.74	22.0	\$2,062	Various	\$93.74	22.0	\$2,062
Bracket, Shoebox, Twin Parallel Mount, Prem Ltg	Various	\$157.13	16.3	\$2,567	Various	\$157.13	16.3	\$2,567	Various	\$157.13	16.3	\$2,567
Bracket, Shoebox, Triple Mount, Prem Ltg	Various	\$121.34	2.3	\$283	Various	\$121.34	2.3	\$283	Various	\$121.34	2.3	\$283
Bracket, Shoebox, Quad Mount, Prem Ltg	Various	\$219.57	8.7	\$1,903	Various	\$219.57	8.7	\$1,903	Various	\$219.57	8.7	\$1,903
Bracket, Shoebox, Single Mount, Galv 6" Bracket												
Bracket, Shoebox, Dual Mount, 180 Deg for TEC #5580270												
PHOTO CONTROL avg PC = 0 if Control Eq used				\$0.00				\$0.00				\$0.00
1000W, 277V	5588100	\$5.23	7,789	\$40,749	5588100	\$5.23	7,789	\$40,749	5588100	\$5.23	7,789	\$40,749
1000W GRAY Cover 120V	5588110	\$3.79	16,801	\$63,648	5588110	\$3.79	16,801	\$63,648	5588110	\$3.79	16,801	\$63,648
SHORTING CAP Cap = 0 if PC used	5581500	\$3.00	1	\$3.00	5581500	\$3.00	1	\$3.00	5581500	\$3.00	1	\$3.00
CONTROL EQUIPMENT Control Eq = 0 if PC used				\$31.24				\$40.61				\$64.04
Oil Switch	5589120	\$22.92	0.0	\$0	5589120	\$29.79	0.0	\$0	5589120	\$46.98	0.0	\$0
OH Installation	Varies	\$19.13	47	\$899	Varies	\$24.86	47	\$1,169	Varies	\$39.21	47	\$1,843
UG Installation	Varies	\$35.78	27	\$966	Varies	\$46.51	27	\$1,256	Varies	\$73.35	27	\$1,980
CABLE, POLE & BRACKET, UG, Copper, Triplex 600V 2/C, 10AWG	5322230	\$0.72		\$1.57	5322230	\$0.72		\$1.57	5322230	\$0.72		\$1.57
Bracket, Shoebox, Single Mount, Prem Ltg			2	\$951.14			2	\$951.14			2	\$951.14
Bracket, Shoebox, Dual Mount, 90 Degree, Prem Ltg			3	\$14.44			3	\$14.44			3	\$14.44
Bracket, Shoebox, Dual Mount, 180 Degree, Prem Ltg			3	\$47.65			3	\$47.65			3	\$47.65
Bracket, Shoebox, Twin Parallel Mount, Prem Ltg			4	\$47.17			4	\$47.17			4	\$47.17
Bracket, Shoebox, Triple Mount, Prem Ltg			6	\$10.11			6	\$10.11			6	\$10.11
Bracket, Shoebox, Quad Mount, Prem Ltg			8	\$50.06			8	\$50.06			8	\$50.06
Bracket, Shoebox, Single Mount, Galv 6" Bracket												
Bracket, Shoebox, Dual Mount, 180 Deg for TEC #5580270												
FIXTURE HARDWARE avg				\$1.80				\$1.80				\$1.80
OH - Wood & Conc ratio OH/UG				27%				27%				27%
Cover, Snap-On Service Entrance Sleeve 5/8 DIE2 IN	5261930	\$0.44	2	\$0.88	5261930	\$0.44	2	\$0.88	5261930	\$0.44	2	\$0.88
Connector, Compression H-Block ACSR #4 STR AL #4 STR 6	9261730	\$0.34	3	\$1.02	9261730	\$0.34	3	\$1.02	9261730	\$0.34	3	\$1.02
Nut, Eye 1-1/2" GALV for 5/8" Bolt	9237650	\$1.20	2	\$2.40	9237650	\$1.20	2	\$2.40	9237650	\$1.20	2	\$2.40
WOOD ratio Wood/Conc				16%				16%				16%
Washer, Flat, 2-1/4 X 2-1/4 X 3/16 w/13/16" Hole Dia	9296800	\$0.20	2	\$0.41	9296800	\$0.20	2	\$0.41	9296800	\$0.20	2	\$0.41
WOOD - OH												
Bolt, Machine GALV rolled threads 5/8 X 12	9233550	\$0.87	2	\$1.74	9233550	\$0.87	2	\$1.74	9233550	\$0.87	2	\$1.74
Connector, Compression H-Block AL #6 STR ACSR #10	9261530	\$0.21	2	\$0.43	9261530	\$0.21	2	\$0.43	9261530	\$0.21	2	\$0.43
UG ratio OH/UG				73%				73%				73%
WOOD - UG												
Bolt, Machine GALV rolled threads 5/8 X 8	9233450	\$0.78	2	\$1.57	9233450	\$0.78	2	\$1.57	9233450	\$0.78	2	\$1.57
Nut, Eye 1-1/2" GALV for 5/8" Bolt	9237650	\$1.20	2	\$2.40	9237650	\$1.20	2	\$2.40	9237650	\$1.20	2	\$2.40
TOTAL MATERIAL				\$348.87				\$313.10				\$348.11
LABOR/VEHICLE												
INSTALL LIGHT FIXTURE		Unit Cost	# of Units	Cost		Unit Cost	# of Units	Cost		Unit Cost	# of Units	Cost
ENGINEERING LIGHT FIXTURE		\$ 141.42	1	\$141.42		\$ 141.42	1	\$141.42		\$ 141.42	1	\$141.42
INSTALL CONTROL EQUIPMENT Control Eq = 0 if PC used		\$ 125.52	1	\$125.52		\$ 125.52	1	\$125.52		\$ 125.52	1	\$125.52
Oil Switch	5589120	\$7.60	0.0	\$0	5589120	\$9.89	0.0	\$0	5589120	\$15.59	0.0	\$0
OH Installation	Varies	\$5.71	47	\$268	Varies	\$7.43	47	\$349	Varies	\$11.71	47	\$550
UG Installation	Varies	\$32.62	27	\$881	Varies	\$42.40	27	\$1,145	Varies	\$65.86	27	\$1,805
MATERIAL HANDLING			1	\$0.00			1	\$78.81			1	\$87.87
TOTAL LABOR/VEHICLE				\$292.22				\$378.62				\$406.64
TOTAL COST				\$641.09				\$691.71				\$754.75

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INSTALLATION COST- LUMINAIRES
SHOEBOX

	SHOEBOX				SHOEBOX				SHOEBOX			
	Watage: 175 W MH				Watage: 400 W MH				Watage: 1000 W MH			
	Initial Lumens	12,800	Avg OH Span	111.4	Initial Lumens	32,000	Avg OH Span	128.9	Initial Lumens	107,800	Avg OH Span	140.0
Monthly KWH	74	Avg UG Span	111.4	Monthly KWH	159	Avg UG Span	128.9	Monthly KWH	383	Avg UG Span	140.0	
	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost
LUMINAIRE avg				\$216.30				\$252.00				\$483.33
	5580260	\$214.40	0	\$0	5584454	\$219.01	0	\$0	5580210	\$491.10	122	\$59,792
	5580270	\$216.30	1	\$108	5586380	\$262.71	5	\$1,379	5580215	\$465.91	75	\$35,060
					5586450	\$248.51	79	\$19,632	5580216	\$460.43	51	\$23,367
					5586455	\$261.895	66	\$17,154	5580250	\$492.182	162	\$79,487
					5586460	\$254.02	99	\$25,021	5586267	\$58.8295	2	\$943
					5586531	\$299.1489	2	\$449				
					5586532	\$244.9371	4	\$980				
					5586534	\$239.9917	64	\$15,419				
					5586540	\$297.55	2	\$669				
LAMP	5585610	\$10.94	1	\$10.94	5585640	\$14.19	1	\$14.19	5585650	\$22.00	1	\$22.00
BRACKET & ACCESSORY avg				\$16.58				\$41.49				\$41.49
Bracket, Shoebox, Single Mount, Prem Ltg					Various	\$33.78	658.7	\$22,248	Various	\$33.78	658.7	\$22,248
Bracket, Shoebox, Dual Mount, 90 Degree, Prem Ltg					Various	\$88.67	6.7	\$591	Various	\$88.67	6.7	\$591
Bracket, Shoebox, Dual Mount, 180 Degree, Prem Ltg					Various	\$93.74	22.0	\$2,062	Various	\$93.74	22.0	\$2,062
Bracket, Shoebox, Twin Parallel Mount, Prem Ltg					Various	\$157.13	16.3	\$2,567	Various	\$157.13	16.3	\$2,567
Bracket, Shoebox, Triple Mount, Prem Ltg					Various	\$121.34	2.3	\$283	Various	\$121.34	2.3	\$283
Bracket, Shoebox, Quad Mount, Prem Ltg					Various	\$219.57	8.7	\$1,903	Various	\$219.57	8.7	\$1,903
Bracket, Shoebox, Single Mount, Galv 6" Bracket	5581070	\$16.21	318.7	\$5,166								
Bracket, Shoebox, Dual Mount, 180 Deg for TEC #5580270	5580340	\$104.00	1.3	\$139								
PHOTO CONTROL avg PC = 0 if Control Eq used				\$0.00				\$0.00				\$0.00
1000W, 277V	5588100	\$5.23	7,789	\$40,749	5588100	\$5.23	7,789	\$40,749	5588100	\$5.23	7,789	\$40,749
1000W GRAY Cover 120V	5588110	\$3.79	16,801	\$63,648	5588110	\$3.79	16,801	\$63,648	5588110	\$3.79	16,801	\$63,648
SHORTING CAP Cap = 0 if PC used	5581500	\$3.00	1	\$3.00	5581500	\$3.00	1	\$3.00	5581500	\$3.00	1	\$3.00
CONTROL EQUIPMENT Control Eq = 0 if PC used				\$27.54				\$64.04				\$154.42
Oil Switch	5589120	\$20.63	0.0	\$0	5589120	\$46.98	0.0	\$0	5589120	\$113.44	0.0	\$0
OH Installation	Varies	\$17.21	47	\$809	Varies	\$39.21	47	\$1,843	Varies	\$98.67	47	\$4,450
UG Installation	Varies	\$32.20	27	\$869	Varies	\$73.35	27	\$1,960	Varies	\$177.10	27	\$4,782
CABLE, POLE & BRACKET, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72		\$1.45	5322230	\$0.72		\$1.57	5322230	\$0.72		\$1.57
Bracket, Shoebox, Single Mount, Prem Ltg							2	\$951.14				\$951.14
Bracket, Shoebox, Dual Mount, 90 Degree, Prem Ltg							3	\$14.44				\$14.44
Bracket, Shoebox, Dual Mount, 180 Degree, Prem Ltg							3	\$47.65				\$47.65
Bracket, Shoebox, Twin Parallel Mount, Prem Ltg							4	\$47.17				\$47.17
Bracket, Shoebox, Triple Mount, Prem Ltg							6	\$10.11				\$10.11
Bracket, Shoebox, Quad Mount, Prem Ltg							8	\$50.06				\$50.06
Bracket, Shoebox, Single Mount, Galv 6" Bracket			2	\$460.17								
Bracket, Shoebox, Dual Mount, 180 Deg for TEC #5580270			3	\$2.89								
FIXTURE HARDWARE avg				\$2.04				\$1.80				\$1.82
OH - Wood & Conc ratio OH/UG				31%				27%				28%
Cover, Snap-On Service Entrance Sleeve 5/8 DIEZ IN.	5261930	\$0.44	2	\$0.88	5261930	\$0.44	2	\$0.88	5261930	\$0.44	2	\$0.88
Connector, Compression H-Block ACSR #4 STR AL #4 STR 6	9261730	\$0.34	3	\$1.02	9261730	\$0.34	3	\$1.02	9261730	\$0.34	3	\$1.02
Nut, Eye 1-1/2" GALV for 5/8" Bolt	9237650	\$1.20	2	\$2.40	9237650	\$1.20	2	\$2.40	9237650	\$1.20	2	\$2.40
WOOD ratio Wood/Conc				18%				16%				16%
Washer, Flat, 2-1/4 X 2-1/4 X 3/16 w/13/16" Hole Dia	9296800	\$0.20	2	\$0.41	9296800	\$0.20	2	\$0.41	9296800	\$0.20	2	\$0.41
WOOD - OH												
Bolt, Machine GALV rolled threads 5/8 X 12	9233550	\$0.87	2	\$1.74	9233550	\$0.87	2	\$1.74	9233550	\$0.87	2	\$1.74
Connector, Compression H-Block AL #6 STR ACSR #10	9261530	\$0.21	2	\$0.43	9261530	\$0.21	2	\$0.43	9261530	\$0.21	2	\$0.43
UG ratio OH/UG				69%				73%				72%
WOOD - UG												
Bolt, Machine GALV rolled threads 5/8 X 8	9233450	\$0.78	2	\$1.57	9233450	\$0.78	2	\$1.57	9233450	\$0.78	2	\$1.57
Nut, Eye 1-1/2" GALV for 5/8" Bolt	9237650	\$1.20	2	\$2.40	9237650	\$1.20	2	\$2.40	9237650	\$1.20	2	\$2.40
TOTAL MATERIAL				\$277.84				\$378.08				\$707.63
LABOR/VEHICLE												
INSTALL LIGHT FIXTURE		\$141.42	1	\$141.42		\$141.42	1	\$141.42		\$141.42	1	\$141.42
ENGINEERING LIGHT FIXTURE		\$125.52	1	\$125.52		\$125.52	1	\$125.52		\$125.52	1	\$125.52
INSTALL CONTROL EQUIPMENT Control Eq = 0 if PC used				\$21.82				\$51.83				\$124.80
Oil Switch	5589120	\$6.84	0.0	\$0	5589120	\$15.59	0.0	\$0	5589120	\$4.56	0.0	\$0
OH Installation	Varies	\$5.14	47	\$242	Varies	\$11.71	47	\$550	Varies	\$28.28	47	\$1,329
UG Installation	Varies	\$29.35	27	\$793	Varies	\$68.86	27	\$1,805	Varies	\$161.45	27	\$4,359
MATERIAL HANDLING				\$69.93				\$95.17				\$178.11
TOTAL LABOR/VEHICLE				\$388.70				\$413.94				\$568.85
TOTAL COST				\$656.54				\$792.03				\$1,276.48

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INSTALLATION COST- LUMINAIRES
POST TOP AND DOUBLE BRACKET

MATERIAL	PT - NIGHT TORCH				PT - COACH			
	Watage:		50 W HPS		Watage:		70 W HPS	
	Initial Lumens:	4,000	Avg OH Span:	N/A	Initial Lumens:	6,300	Avg OH Span:	N/A
	Monthly KWH:	20	Avg UG Span:	65.0	Monthly KWH:	29	Avg UG Span:	65.0
Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost	
LUMINAIRE avg			\$83.98				\$131.20	
	5583610	\$83.98	0	\$0	5586170	\$131.20	90	\$11,808
					5586180	\$135.24	0	\$0
LAMP	5585370	\$11.85	1	\$11.85	5585560	\$10.67	1	\$10.67
BRACKET & ACCESSORY avg				\$0.00				\$0.00
N/A								
PHOTO CONTROL avg				\$4.25				\$4.25
1000W, 277V	5588100	\$5.23	7,789	\$40,749	5588100	\$5.23	7,789	\$40,749
1000W GRAY Cover 120V	5588110	\$3.79	16,801	\$63,648	5588110	\$3.79	16,801	\$63,648
SHORTING CAP	5581500	\$3.00	0	\$0.00	5581500	\$3.00	0	\$0.00
CONTROL EQUIPMENT			1 LOT	\$0.00			1 LOT	\$0.00
Oil Switch	5589120	\$21.77	0.0	\$0	5589120	\$10.31	0.0	\$0
OH Installation	Varies	\$18.17	47	\$854	Varies	\$8.61	47	\$405
UG Installation	Varies	\$33.99	27	\$918	Varies	\$16.10	27	\$435
FIXTURE HARDWARE avg				\$0.00				\$0.00
OH			ratio OH/UG	0%			ratio OH/UG	0%
UG			ratio OH/UG	100%			ratio OH/UG	100%
CABLE, POLE & BRACKET, UG, Copper, Triplex, 600V 2/C, 10AWG								
TOTAL MATERIAL				\$100.07				\$146.12
LABOR/VEHICLE		Unit Cost	# of Units	Cost		Unit Cost	# of Units	Cost
INSTALL LIGHT FIXTURE/BRACKET		\$ 115.47	1	\$115.47		\$ 115.47	1	\$115.47
ENGINEERING LIGHT FIXTURE/BRACKET		\$ 125.52	1	\$125.52		\$ 125.52	1	\$125.52
INSTALL CONTROL EQUIPMENT <i>Control Eq = 0 if PC used</i>			0	\$0.00			0	\$0.00
Oil Switch	5589120	\$7.22	0.0	\$0	5589120	\$4.56	0.0	\$0
OH Installation	Varies	\$5.43	47	\$255	Varies	\$2.57	47	\$121
UG Installation	Varies	\$30.98	27	\$837	Varies	\$14.68	27	\$396
MATERIAL HANDLING		\$25.19	1	\$25.19		\$36.78	1	\$36.78
TOTAL LABOR/VEHICLE				\$266.18				\$277.77
TOTAL COST				\$366.25				\$423.89

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INSTALLATION COST- LUMINAIRES
POST TOP AND DOUBLE BRACKET

MATERIAL	PT - CLASSIC/ENHANCED/PROMNADE				PT - CONTEMPORARY/CUBE			
	Wattage:		100 W HPS		Wattage:		100 W HPS	
	Initial Lumens	9,500	Avg OH Span:	N/A	Initial Lumens	9,500	Avg OH Span:	N/A
	Monthly KWH:	44	Avg UG Span:	100.0	Monthly KWH:	44	Avg UG Span:	100.0
	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost
LUMINAIRE avg				\$487.03				\$280.45
	5583330	\$453.09	3	\$1,473	5586000	\$0.00	0	\$0
	5586253	\$457.19	0	\$114	5586248	\$841.35	0	\$0
	5586268	\$467.24	639	\$298,332	5586264	\$0.00	0	\$0
	5582120	\$48,119.5	205	\$112,227				
	5582140	\$536.79	2	\$1,074				
	5582160	\$551,057.8	2	\$1,240				
LAMP	5585580	\$10.72	1	\$10.72	5585580	\$10.72	1	\$10.72
BRACKET & ACCESSORY avg				\$0.00				\$0.00
N/A								
PHOTO CONTROL avg			0	\$0.00			0	\$0.00
1000W, 277V	5588100	\$5.23	7,789	\$40,749	5588100	\$5.23	7,789	\$40,749
1000W GRAY Cover 120V	5588110	\$3.79	16,801	\$63,648	5588110	\$3.79	16,801	\$63,648
SHORTING CAP	5581500	\$3.00	1	\$3.00	5581500	\$3.00	1	\$3.00
CONTROL EQUIPMENT			1 LOT	\$21.47			1 LOT	\$21.47
Oil Switch	5589120	\$13.75	0.0	\$0	5589120	\$13.75	0.0	\$0
OH Installation	Varies	\$11.48	47	\$539	Varies	\$11.48	47	\$539
UG Installation	Varies	\$21.47	27	\$580	Varies	\$21.47	27	\$580
FIXTURE HARDWARE avg				\$0.00				\$0.00
OH				0%				0%
UG				100%				100%
CABLE, POLE & BRACKET, UG, Copper, Triplex, 600V 2/C, 10AWG								
TOTAL MATERIAL				\$522.21				\$315.64
LABOR/VEHICLE		Unit Cost	# of Units	Cost		Unit Cost	# of Units	Cost
INSTALL LIGHT FIXTURE/BRACKET		\$ 115.47	1	\$115.47		\$ 115.47	1	\$115.47
ENGINEERING LIGHT FIXTURE/BRACKET		\$ 125.52	1	\$125.52		\$ 125.52	1	\$125.52
INSTALL CONTROL EQUIPMENT <i>Control Eq = 0 if PC used</i>			1	\$19.57			1	\$19.57
Oil Switch	5589120	\$4.56	0.0	\$0	5589120	\$4.56	0.0	\$0
OH Installation	Varies	\$3.43	47	\$161	Varies	\$3.43	47	\$161
UG Installation	Varies	\$19.57	27	\$528	Varies	\$19.57	27	\$528
MATERIAL HANDLING		\$131.44	1	\$131.44		\$79.45	1	\$79.45
TOTAL LABOR/VEHICLE				\$392.00				\$340.00
TOTAL COST				\$914.21				\$655.64

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INSTALLATION COST- LUMINAIRES
POST TOP AND DOUBLE BRACKET

MATERIAL	PT - COLONIAL				PT - SALEM			
	Watage:		100 W HPS		Watage:		100 W HPS	
	Initial Lumens:	9,500	Avg OH Span:	N/A	Initial Lumens:	9,500	Avg OH Span:	N/A
	Monthly KWH:	44	Avg UG Span:	100.0	Monthly KWH:	44	Avg UG Span:	100.0
	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost
LUMINAIRE avg				\$481.49				\$355.86
	5586150	\$483.75	266	\$128,799	5586661	\$355.86	1,684	\$599,264
	5586660		1	\$0	5586662	\$358.53	0	\$90
LAMP	5585580	\$10.72	1	\$10.72	5585580	\$10.72	1	\$10.72
BRACKET & ACCESSORY avg				\$0.00				\$0.00
N/A								
PHOTO CONTROL avg			0	\$0.00			0	\$0.00
1000W, 277V	5588100	\$5.23	7,789	\$40,749	5588100	\$5.23	7,789	\$40,749
1000W GRAY Cover 120V	5588110	\$3.79	16,801	\$63,648	5588110	\$3.79	16,801	\$63,648
SHORTING CAP	5581500	\$3.00	1	\$3.00	5581500	\$3.00	1	\$3.00
CONTROL EQUIPMENT			1 LOT	\$21.47			1 LOT	\$21.47
Oil Switch	5589120	\$13.75	0.0	\$0	5589120	\$13.75	0.0	\$0
OH Installation	Varies	\$11.48	47	\$539	Varies	\$11.48	47	\$539
UG Installation	Varies	\$21.47	27	\$580	Varies	\$21.47	27	\$580
FIXTURE HARDWARE avg				\$0.00				\$0.00
OH				0%				0%
UG				100%				100%
CABLE, POLE & BRACKET, UG, Copper, Triplex, 600V 2/C, 10AWG								
TOTAL MATERIAL				\$516.68				\$391.05
LABOR/VEHICLE		Unit Cost	# of Units	Cost		Unit Cost	# of Units	Cost
INSTALL LIGHT FIXTURE/BRACKET		\$ 115.47	1	\$115.47		\$ 115.47	1	\$115.47
ENGINEERING LIGHT FIXTURE/BRACKET		\$ 125.52	1	\$125.52		\$ 125.52	1	\$125.52
INSTALL CONTROL EQUIPMENT <i>Control Eq = 0 if PC used</i>			1	\$19.57			1	\$19.57
Oil Switch	5589120	\$4.56	0.0	\$0	5589120	\$4.56	0.0	\$0
OH Installation	Varies	\$3.43	47	\$161	Varies	\$3.43	47	\$161
UG Installation	Varies	\$19.57	27	\$528	Varies	\$19.57	27	\$528
MATERIAL HANDLING		\$130.05	1	\$130.05		\$98.43	1	\$98.43
TOTAL LABOR/VEHICLE				\$390.61				\$358.88
TOTAL COST				\$907.28				\$750.03

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INSTALLATION COST- LUMINAIRES
POST TOP AND DOUBLE BRACKET

	PT - GENERAL				PT - SALEM			
	Watage:		175 W MH		Watage:		175 W MH	
	Initial Lumens:	14,000	Avg OH Span:	N/A	Initial Lumens:	14,000	Avg OH Span:	N/A
	Monthly KWH:	74	Avg UG Span:	100.0	Monthly KWH:	74	Avg UG Span:	90.0
MATERIAL	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost
LUMINAIRE avg				\$413.88				\$326.31
	5583340	\$0.00	0	\$0	5582040	\$314.08	0	\$0
	5583350	\$398.20	84	\$33,548	5582050	\$326.31	156	\$50,823
	5584220	\$427.74	63	\$26,841				
	5584330	0	0	\$0				
	5582150	518.68	0	\$0				
	5587760	499.81	5	\$2,624				
LAMP	5585610	\$10.94	1	\$10.94	5585610	\$10.94	1	\$10.94
BRACKET & ACCESSORY avg				\$0.00				\$0.00
N/A								
PHOTO CONTROL avg			0	\$0.00			0	\$0.00
1000W, 277V	5588100	\$5.23	7,789	\$40,749	5588100	\$5.23	7,789	\$40,749
1000W GRAY Cover 120V	5588110	\$3.79	16,801	\$63,648	5588110	\$3.79	16,801	\$63,648
SHORTING CAP	5581500	\$3.00	1	\$3.00	5581500	\$3.00	1	\$3.00
CONTROL EQUIPMENT			1 LOT	\$32.20			1 LOT	\$32.20
Oil Switch	5589120	\$20.63	0.0	\$0	5589120	\$20.63	0.0	\$0
OH Installation	Varies	\$17.21	47	\$809	Varies	\$17.21	47	\$809
UG Installation	Varies	\$32.20	27	\$869	Varies	\$32.20	27	\$869
FIXTURE HARDWARE avg				\$0.00				\$0.00
OH			ratio OH/UG	0%			ratio OH/UG	0%
UG			ratio OH/UG	100%			ratio OH/UG	100%
CABLE, POLE & BRACKET, UG, Copper, Triplex, 600V 2/C, 10AWC								
TOTAL MATERIAL				\$460.02				\$372.45
LABOR/VEHICLE		Unit Cost	# of Units	Cost	Unit Cost	# of Units	Cost	
INSTALL LIGHT FIXTURE/BRACKET		\$ 115.47	1	\$115.47	\$ 115.47	1	\$115.47	
ENGINEERING LIGHT FIXTURE/BRACKET		\$ 125.52	1	\$125.52	\$ 125.52	1	\$125.52	
INSTALL CONTROL EQUIPMENT			1	\$29.35		1	\$29.35	
Oil Switch	5589120	\$4.56	0.0	\$0	5589120	\$4.56	0.0	\$0
OH Installation	Varies	\$5.14	47	\$242	Varies	\$5.14	47	\$242
UG Installation	Varies	\$29.35	27	\$793	Varies	\$29.35	27	\$793
MATERIAL HANDLING		\$115.79	1	\$115.79	\$93.75	1	\$93.75	
TOTAL LABOR/VEHICLE				\$386.13				\$364.09
TOTAL COST				\$846.15				\$736.54

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INSTALLATION COST- LUMINAIRES
POST TOP AND DOUBLE BRACKET

POST TOP DOUBLE BRACKET				
MATERIAL	Stock #	Unit Cost	# of Units	Cost
LUMINAIRE avg				\$0.00
LAMP				\$0.00
BRACKET & ACCESSORY avg	5580950	\$297.43	1	\$297.43
N/A				
PHOTO CONTROL avg			0	\$0.00
1000W, 277V	5588100	\$5.23	7,789	\$40,749
1000W GRAY Cover 120V	5588110	\$3.79	16,801	\$63,648
SHORTING CAP	5581500	\$3.00	0	\$0.00
CONTROL EQUIPMENT			0	\$0.00
Oil Switch	5589120	\$29.79	0.0	\$0
OH Installation	Varies	\$24.86	47	\$1,169
UG Installation	Varies	\$46.51	27	\$1,256
FIXTURE HARDWARE avg				\$3.61
OH				0%
UG				100%
CABLE, POLE & BRACKET, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	5.0	\$4
TOTAL MATERIAL				\$301.04
LABOR/VEHICLE		Unit Cost	# of Units	Cost
INSTALL LIGHT FIXTURE/BRACKET		\$ 63.41	1	\$63.41
ENGINEERING LIGHT FIXTURE/BRACKET		\$ 16.05	1	\$16.05
INSTALL CONTROL EQUIPMENT			0	\$0.00
Oil Switch				
OH Installation				
UG Installation				
MATERIAL HANDLING		\$75.77	1	\$75.77
TOTAL LABOR/VEHICLE				\$155.23
TOTAL COST				\$456.27

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INSTALLATION COST
CONTROL EQUIPMENT
TIMER AND RELAY

INSTALLATION COST - CONTROL EQUIPMENT
TIMER

TIMER				
<u>MATERIAL</u>	<u>Stock #</u>	<u>Unit Cost</u>	<u># of Units</u>	<u>Cost</u>
LUMINAIRE SOCKET avg				\$0.00
Eagle, C-7 WHITE (includes Washer)				\$0
LAMP				\$0.00
10 W, SYLV10C7CL-120V				\$0
BRONNERS CORD SET				\$0.00
52 ft, 18 AWG split wire, White (includes Socket, Lamp, Washer)				\$0
PHOTO CONTROL avg <i>PC = 0 if Control Eq used</i>				\$0.00
1000W, 277V				\$0
1000W GRAY Cover 120V				\$0
TIMER				\$244.50
	5588160	\$196.45	1	\$147
	5588760	\$251.37	5	\$1,320
CABLE, POLE & BRACKET, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	10	\$7.22
FIXTURE HARDWARE avg				\$2.04
OH <i>ratio OH/UG</i>				100%
Outdoor Receptacle, Duplex, 125V/20A IVORY				
Tie, Cable 5-1/2 IN				
3/4" PVC Conduit				
5/8 x 12 Galvanized	9235250	\$0.87	2	\$1.7
Washer, Flat 2 X 2 X 1/8 11/16" w/DIA Hole	9296750	\$0.15	2	\$0.3
TOTAL MATERIAL				\$253.76
LABOR/VEHICLE		Unit Cost	# of Units	Cost
INSTALL ARCHWAY /TIMER		\$ 267.72	1	\$267.72
ENGINEERING ARCHWAY/ TIMER		\$16.05	1	\$16.05
MATERIAL HANDLING		\$63.87	1	\$63.87
TOTAL LABOR/VEHICLE				\$347.65
TOTAL COST				\$601.41

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INSTALLATION COST - CONTROL EQUIPMENT
RELAY

OH INSTALLATION

MATERIAL Items	Stock #	Unit Cost	# of Units	Annual Usage
Relay, 60 A, 277480V, 2 pole	5588140	\$330.36	1	24.25
Relay, 100 A, 277480V, 2 pole	5588170	\$529.78	1	15.25
Relay, 125 A, 480V	5589000	\$1,085.19	1	7.50
Relay Pole Mount	varies	varies	1	
Photo Control	5588110	\$3.79	1	
Lightning Arrestor	5270750	\$31.60	1	
Photo Control, Standoff	5582110	\$19.89	1	
#6 Triplex Cable to Relay	5322200	\$1.37	10	
Lag Screw (Hard Head)	9239640	\$0.41	1	
Washer, Flat 2-1/4 X 2-1/4 X 3/16 w/ 11/16" Hole	9296750	\$0.15	1	
Bolt, Machine GALV 5/8x12	9233560	\$0.85	1	
Nut, Eye 1-1/2" GALV for 5/8" bolt	9237650	\$1.20	1	

Cost		
60A	100A	125A
5588140	5588170	5589000
\$330.36	\$529.78	\$1,085.19
\$3.79	\$3.79	\$3.79
\$31.60	\$31.60	\$31.60
\$19.89	\$19.89	\$19.89
\$13.69	\$13.69	\$13.69
\$0.41	\$0.41	\$0.41
\$0.15	\$0.15	\$0.15
\$0.85	\$0.85	\$0.85
\$1.20	\$1.20	\$1.20
\$401.93	\$601.35	\$1,756.76

OH Average							
(120V)	Lamp Size	Lamp Type	Fixture Type	Units	Material	Labor	TOTAL
1.9	50	HPS	Cobra, PT	Varies	\$18.17	\$5.43	\$23.60
1.5	70	HPS	Cobra/NEMA	Varies	\$14.28	\$4.26	\$18.54
0.9	70	HPS	PT	Varies	\$8.61	\$2.57	\$11.18
1.2	100	HPS	Cobra/NEMA	Varies	\$11.86	\$3.64	\$15.40
1.2	100	HPS	PT	Varies	\$11.48	\$3.43	\$14.91
2	100	HPS	Shoebbox	Varies	\$19.13	\$5.71	\$24.84
1.2	150	HPS	Cobra	Varies	\$11.48	\$3.43	\$14.91
2.6	250	HPS	Cobra Flood Shoebbox	Varies	\$24.86	\$7.43	\$32.29
4.1	400	HPS	Cobra Flood Shoebbox	Varies	\$39.21	\$11.71	\$50.92
1.8	175	MH	Shoebbox	Varies	\$17.21	\$5.14	\$22.35
1.8	175	MH	PT	Varies	\$17.21	\$5.14	\$22.35
4.1	400	MH	Cobra Flood Shoebbox	Varies	\$39.21	\$11.71	\$50.92
9.9	1000	MH	Flood Shoebbox	Varies	\$94.67	\$28.28	\$122.95

OH 80 A		48	80%	Rating	60 A		5588140
Amps/Lamp (120V)	Lamp Size	Lamp Type	Fixture Type	Units	Material	Labor	TOTAL
1.9	50	HPS	Cobra, PT	25	\$15.81	\$3.88	\$22.69
1.5	70	HPS	Cobra/NEMA	32	\$12.60	\$5.42	\$17.92
0.9	70	HPS	PT	53	\$7.54	\$3.27	\$10.80
1.2	100	HPS	Cobra/NEMA	39	\$10.38	\$4.50	\$14.88
1.2	100	HPS	PT	40	\$10.05	\$4.35	\$14.40
2	100	HPS	Shoebbox	24	\$16.75	\$7.26	\$24.00
1.2	150	HPS	Cobra	40	\$10.06	\$4.35	\$14.40
2.6	250	HPS	Cobra Flood Shoebbox	18	\$21.77	\$9.43	\$31.20
4.1	400	HPS	Cobra Flood Shoebbox	12	\$34.33	\$14.87	\$49.21
1.8	175	MH	Shoebbox	27	\$18.07	\$6.53	\$24.60
1.8	175	MH	PT	27	\$15.07	\$6.53	\$21.60
4.1	400	MH	Cobra Flood Shoebbox	12	\$34.33	\$14.87	\$49.21
9.9	1000	MH	Flood Shoebbox	5	\$82.90	\$36.92	\$119.82

OH 100 A		80	80%	Rating	100 A		5588170
Amps/Lamp (120V)	Lamp Size	Lamp Type	Fixture Type	Units	Material	Labor	TOTAL
1.9	50	HPS	Cobra PT	42	\$14.28	\$4.14	\$18.42
1.493	70	HPS	Cobra/NEMA	54	\$11.22	\$3.25	\$14.47
0.9	70	HPS	PT	89	\$6.77	\$1.96	\$8.72
1.240	100	HPS	Cobra/NEMA	65	\$9.32	\$2.70	\$12.02
1.2	100	HPS	PT	67	\$9.02	\$2.61	\$11.63
2	100	HPS	Shoebbox	40	\$15.09	\$4.35	\$19.39
1.2	150	HPS	Cobra	67	\$9.02	\$2.61	\$11.63
2.6	250	HPS	Cobra Flood Shoebbox	31	\$19.54	\$5.66	\$25.20
4.1	400	HPS	Cobra Flood Shoebbox	20	\$30.82	\$8.92	\$39.74
1.8	175	MH	Shoebbox	44	\$13.53	\$3.92	\$17.45
1.8	175	MH	PT	44	\$13.53	\$3.92	\$17.45
4.1	400	MH	Cobra Flood Shoebbox	20	\$30.82	\$8.92	\$39.74
9.9	1000	MH	Flood Shoebbox	8	\$74.42	\$21.55	\$95.97

OH 125 A		100	80%	Rating	125 A		5589000
Amps/Lamp (120V)	Lamp Size	Lamp Type	Fixture Type	Units	Material	Labor	TOTAL
1.9	50	HPS	Cobra, PT	53	\$33.38	\$3.31	\$36.69
1.5	70	HPS	Cobra/NEMA	67	\$26.23	\$2.60	\$28.83
0.9	70	HPS	PT	111	\$15.81	\$1.57	\$17.38
1.2	100	HPS	Cobra/NEMA	81	\$21.79	\$2.18	\$23.95
1.2	100	HPS	PT	83	\$21.08	\$2.09	\$23.17
2	100	HPS	Shoebbox	50	\$35.14	\$3.48	\$38.62
1.2	150	HPS	Cobra	83	\$21.08	\$2.09	\$23.17
2.6	250	HPS	Cobra Flood Shoebbox	38	\$45.68	\$4.63	\$50.20
4.1	400	HPS	Cobra Flood Shoebbox	24	\$72.03	\$7.14	\$79.17
1.8	175	MH	Shoebbox	56	\$31.62	\$3.10	\$34.78
1.8	175	MH	PT	56	\$31.62	\$3.10	\$34.78
4.1	400	MH	Cobra Flood Shoebbox	24	\$72.03	\$7.14	\$79.17
9.9	1000	MH	Flood Shoebbox	10	\$173.92	\$17.24	\$191.16

Note: Amperage Rating per Fixture from Visio Design Software

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INSTALLATION COST CONTROL EQUIPMENT
RELAY

UG INSTALLATION

MATERIAL				
Items	Stock #	Unit Cost	# of Units	Annual Usage
Relay, 60 A, 277480V, 2 pole	5588070	\$616.32		10.25
Relay, 100 A, 277480V, 2 pole	5588050	\$650.18		9.00
Relay, 125 A, 480V	5589000	\$1,685.19		7.50
Relay, Pedestal Mount	varies	varies	1	
Pedestal	5588210	\$50.54	1	
Bracket, Photo Control	5580660	\$6.37	1	
#10 Cable to Photo Control	5322230	\$0.72	100	
Photo Control	5588110	\$3.79	1	
Hand Hole	5535950	\$53.44	1	
PVC, Schedule 40	5522010	\$0.72	110	
Pipe Straps	5512420	\$0.20	2	
Screws for Strap	1901543	\$0.10	4	
Padlock	5853180	\$13.05	1	
Gel Pack	5582230	\$16.91	1	
PVC, 90 Elbow	5522220	\$1.89	1	
PVC, Coupling	5522180	\$0.51	2	
Cement	5850680	\$2.53	1	
#2 CU Cable	5353210	\$1.25	20	
#6 CU Cable	5322200	\$1.37	10	
Connector, URD	5554800	\$9.11	3	
Cable Tag, Grid #	5559830	\$0.57	1	

Cost			
	60A	100A	125A
	5588070	5588050	5589000
	\$616.32	\$650.18	\$1,685.19
	\$50.54	\$50.54	\$50.54
	\$6.37	\$6.37	\$6.37
	\$72.20	\$72.20	\$72.20
	\$3.79	\$3.79	\$3.79
	\$53.44	\$53.44	\$53.44
	\$78.71	\$78.71	\$78.71
	\$0.40	\$0.40	\$0.40
	\$13.05	\$13.05	\$13.05
	\$16.91	\$16.91	\$16.91
	\$1.89	\$1.89	\$1.89
	\$1.01	\$1.01	\$1.01
	\$2.53	\$2.53	\$2.53
	\$24.92	\$24.92	\$24.92
	\$13.69	\$13.69	\$13.69
	\$27.32	\$27.32	\$27.32
	\$0.57	\$0.57	\$0.57
	\$983.85	\$1,017.71	\$2,052.72

UG Average							
Amps/Lamp (120V)	Lamp Size	Lamp Type	Fixture Type	Units	Material	Labor	TOTAL
1.9	50	HPS	Cobra, PT	Varies	\$33.99	\$30.96	\$64.97
1.5	70	HPS	Cobra/NEMA	Varies	\$26.71	\$24.34	\$51.05
0.9	70	HPS	PT	Varies	\$16.10	\$14.68	\$30.78
1.2	100	HPS	Cobra/NEMA	Varies	\$22.18	\$20.22	\$42.41
1.2	100	HPS	PT	Varies	\$21.47	\$19.57	\$41.04
2	100	HPS	Shoebbox	Varies	\$35.78	\$32.82	\$68.60
1.2	150	HPS	Cobra	Varies	\$21.47	\$19.57	\$41.04
2.6	250	HPS	Cobra, Flood Shoebbox	Varies	\$46.51	\$42.40	\$88.91
4.1	400	HPS	Cobra, Flood Shoebbox	Varies	\$73.35	\$68.86	\$140.21
1.8	175	MH	Shoebbox	Varies	\$32.20	\$29.35	\$61.55
1.8	175	MH	PT	Varies	\$32.20	\$29.35	\$61.55
4.1	400	MH	Cobra, Flood, Shoebbox	Varies	\$73.35	\$68.86	\$140.21
9.9	1000	MH	Flood Shoebbox	Varies	\$177.10	\$161.45	\$338.55

UG 60 A		48	80%	Rating	60 A		5588070
Amps/Lamp (120V)	Lamp Size	Lamp Type	Fixture Type	Units	Material	Labor	TOTAL
					\$983.85	\$1,087.74	\$2,071.59
1.9	50	HPS	Cobra, PT	25	\$39.94	\$43.06	\$82.00
1.493	70	HPS	Cobra/NEMA	32	\$30.60	\$33.83	\$64.43
0.9	70	HPS	PT	53	\$18.45	\$20.40	\$38.84
1.240	100	HPS	Cobra/NEMA	39	\$25.42	\$28.10	\$53.52
1.2	100	HPS	PT	40	\$24.60	\$27.19	\$51.79
2	100	HPS	Shoebbox	24	\$40.99	\$45.32	\$86.32
1.2	150	HPS	Cobra	40	\$24.60	\$27.19	\$51.79
2.6	250	HPS	Cobra, Flood Shoebbox	18	\$53.29	\$58.92	\$112.21
4.1	400	HPS	Cobra, Flood Shoebbox	12	\$84.04	\$92.81	\$176.85
1.8	175	MH	Shoebbox	27	\$36.89	\$40.79	\$77.68
1.8	175	MH	PT	27	\$36.89	\$40.79	\$77.68
4.1	400	MH	Cobra, Flood Shoebbox	12	\$84.04	\$92.81	\$176.85
9.9	1000	MH	Flood Shoebbox	5	\$202.92	\$224.35	\$427.27

UG 100 A		80	80%	Rating	100 A		5589050
Amps/Lamp (120V)	Lamp Size	Lamp Type	Fixture Type	Units	Material	Labor	TOTAL
					\$1,017.71	\$1,067.74	\$2,105.46
1.9	50	HPS	Cobra, PT	42	\$24.17	\$25.83	\$50.00
1.5	70	HPS	Cobra/NEMA	54	\$19.99	\$20.30	\$39.29
0.9	70	HPS	PT	89	\$11.45	\$12.24	\$23.69
1.2	100	HPS	Cobra/NEMA	65	\$15.78	\$16.86	\$32.64
1.2	100	HPS	PT	67	\$15.27	\$16.32	\$31.58
2	100	HPS	Shoebbox	40	\$25.44	\$27.19	\$52.64
1.2	150	HPS	Cobra	67	\$15.27	\$16.32	\$31.58
2.6	250	HPS	Cobra, Flood Shoebbox	31	\$33.08	\$35.35	\$68.43
4.1	400	HPS	Cobra, Flood Shoebbox	20	\$52.16	\$55.75	\$107.90
1.8	175	MH	Shoebbox	44	\$22.90	\$24.47	\$47.37
1.8	175	MH	PT	44	\$22.90	\$24.47	\$47.37
4.1	400	MH	Cobra, Flood Shoebbox	20	\$52.16	\$55.75	\$107.90
9.9	1000	MH	Flood Shoebbox	8	\$125.94	\$134.81	\$260.55

UG 125 A		100	80%	Rating	125 A		5589000
Amps/Lamp (120V)	Lamp Size	Lamp Type	Fixture Type	Units	Material	Labor	TOTAL
					\$2,052.72	\$1,087.74	\$3,140.47
1.9	50	HPS	Cobra, PT	53	\$39.00	\$20.67	\$59.67
1.493	70	HPS	Cobra/NEMA	67	\$30.64	\$16.24	\$46.88
0.9	70	HPS	PT	111	\$18.47	\$9.79	\$28.26
1.240	100	HPS	Cobra/NEMA	81	\$25.46	\$13.49	\$38.95
1.2	100	HPS	PT	83	\$24.63	\$13.05	\$37.69
2	100	HPS	Shoebbox	50	\$41.05	\$21.76	\$62.81
1.2	150	HPS	Cobra	83	\$24.63	\$13.05	\$37.69
2.6	250	HPS	Cobra, Flood Shoebbox	38	\$53.37	\$28.28	\$81.65
4.1	400	HPS	Cobra, Flood Shoebbox	24	\$84.16	\$44.60	\$128.76
1.8	175	MH	Shoebbox	56	\$36.95	\$19.58	\$56.53
1.8	175	MH	PT	56	\$36.95	\$19.58	\$56.53
4.1	400	MH	Cobra, Flood Shoebbox	24	\$84.16	\$44.60	\$128.76
9.9	1000	MH	Flood Shoebbox	10	\$203.22	\$107.69	\$310.91

Note: Amperage Rating per Fixture from Visio Design Software

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INSTALLATION COST -CONTROL EQUIPMENT
RELAY

OIL SWITCH INSTALLATION

MATERIAL				
Items	Stock #	Unit Cost	# of Units	Cost
Oil Switch	5589120	\$603.41	1	\$603.41
Oil Switch Control Cable	5850390	\$116.76	1	\$116.76
Oil Switch/Tx Bracket	5272259	\$100.53	1	\$100.53
String Wire, Insulated Sleeve	5551051	\$30.31	1	\$30.31
Bracket, Photo Control	5580660	\$6.37	1	\$6.37
Photo Control	5588110	\$3.79	1	\$3.79
Wildlife Protector	5852860	\$5.67	1	\$5.67
Transformer, 25 KVA	2050025	\$888.09	1	\$888.09
Cutout	9258100	\$2.79	1	\$2.79
Arrestor	5270690	\$22.20	1	\$22.20
C/U & Arrestor Bracket	5532230	\$9.36	1	\$9.36
#2 CU Cable	5353210	\$1.25	20	\$24.92
#6 CU Cable	5322200	\$1.37	10	\$13.69
5/8 x 12 Galvanized	9235250	\$0.87	2	\$1.74
Washer, Flat 2 X 2 X 1/8 11/16" w/DIA Hole	9298750	\$0.15	2	\$0.30
5/8 x 2" Machine Bolts for TX & OS Bracket	9233100	\$0.65	3	\$1.95
Washer, Curved 3-1/2 X 3-1/2 X 1/4 w/ 13/16" Hol	9296630	\$0.77	2	\$1.54
				\$1,833.41

OIL SWITCH	180	80%	Rating	200 A	5589120			TOTAL
						Material	Labor	
Amper/Lamp (120V)	Lamp Size	Lamp Type	Fixture Type	Units				
1.9	50	HPS	Cobra, PT	84	\$21.77	\$7.22		\$29.00
1.493	70	HPS	Cobra/NEMA	107	\$17.11	\$6.68		\$22.78
0.9	70	HPS	PT	178	\$10.31	\$3.42		\$13.73
1.240	100	HPS	Cobra/NEMA	129	\$14.21	\$4.72		\$18.93
1.2	100	HPS	PT	133	\$13.75	\$4.56		\$18.31
2	100	HPS	Shoebos	80	\$22.92	\$7.60		\$30.52
1.2	150	HPS	Cobra	133	\$13.75	\$4.56		\$18.31
2.6	250	HPS	Cobra, Front Shoebos	62	\$29.79	\$9.89		\$39.68
4.1	400	HPS	Cobra, Front Shoebos	39	\$46.98	\$15.59		\$62.57
1.8	175	MH	Shoebos	89	\$20.63	\$6.84		\$27.47
1.8	175	MH	PT	89	\$20.63	\$6.84		\$27.47
4.1	400	MH	Cobra, Front Shoebos	39	\$46.98	\$15.59		\$62.57
9.9	1000	MH	Photo Shoebos	16	\$113.44	\$37.64		\$151.08

Note: Amperage Rating per Fixture from Visio Design Software

INSTALLATION COST

POLES

INSTALLATION COST - POST TOP POLES

MATERIAL	PT - Winston				PT - Franklin				PT - 10ft DB			
	Stock #	Unit Cost	# of Units	FIBER	Stock #	Unit Cost	# of Units	COMPOSITE	Stock #	Unit Cost	# of Units	ALUMINUM
				Avg OH Span				Avg OH Span				Avg UG Span
				0.0				0.0				0.0
				65.0				99.8				65.0
POLE avg	5586600	\$118.37	1.912	\$118.37	5586690	\$714.36	84	\$714.36	5586420	\$69.96	1.0	\$69.96
				\$226.357				\$60.007				\$70
CABLE	based on OH/UG			\$54.15				\$79.31				\$54.15
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	75.0	\$54.15	5322230	\$0.72	109.8	\$79.31	5322230	\$0.72	75.0	\$54.15
CABLE HARDWARE w/ P&B Cable (UG only)				\$61.76				\$61.76				\$61.76
OH	ratio OH/UG			0%				0%				0%
UG	ratio OH/UG			100%				100%				100%
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	16	\$11.55	5322230	\$0.72	16	\$11.55	5322230	\$0.72	16	\$11.55
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16
Water Seal, Compound, Waterproofing 3-3/4" x 3-3/4"x1/8"	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71
GROUNDING (1 every 1/4 mile) - UG Circuits	Spans per 1/4 mi			\$1.10	13			\$1.69	20			\$1.10
Rod, Ground, Sectional, Copper Bonded, Threadless Length	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74
Coupler, Ground Rod Sectional, Copper, Threadless 1/2-1	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74
CONDUIT				\$89.62				\$117.03				\$89.62
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	65	\$46.51	5522010	\$0.72	100	\$71.44	5522010	\$0.72	65	\$46.51
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/prntd seq. fig	5853530	\$0.04	85	\$3.21	5853530	\$0.04	120	\$4.53	5853530	\$0.04	85	\$3.21
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	4	\$2.15	5522180	\$0.51	6	\$3.03	5522180	\$0.51	4	\$2.15
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STANDARD	5850580	\$2.53	0.2	\$0.55	5850580	\$2.53	0.3	\$0.84	5850580	\$2.53	0.2	\$0.55
Gel Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	2	\$33.82	5558230	\$16.91	2	\$33.82	5558230	\$16.91	2	\$33.82
Wood				\$0.00				\$0.00				\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00
STRAP, GALV 2 IN 2 HOLE	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00
ANCHOR, MASONRY, TAPCON SCREW, HEX HEAD, 1/4 X 1 1/4 INC	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00
TOTAL MATERIAL				\$325.00				\$974.15				\$276.59
LABOR/VEHICLE	Unit Cost	# of Units	Cost	Unit Cost	# of Units	Cost	Unit Cost	# of Units	Cost	Unit Cost	# of Units	Cost
HAUL & SET POLE	\$ 211.31	1	\$211.31	\$ 211.31	1	\$211.31	\$ 211.31	1	\$211.31	\$ 211.31	1	\$211.31
ENGINEERING POLE	\$ 50.30	1	\$50.30	\$ 50.30	1	\$50.30	\$ 50.30	1	\$50.30	\$ 50.30	1	\$50.30
RUN OH CONDUCTOR (includes terminate @ Secondary)	\$ 1.19	0	\$0.00	\$ 1.19	0	\$0.00	\$ 1.19	0	\$0.00	\$ 1.19	0	\$0.00
TRENCH & INSTALL CONDUIT	\$ 6.53	75.0	\$489.94	\$ 6.53	109.8	\$717.52	\$ 6.53	75.0	\$489.94	\$ 6.53	75.0	\$489.94
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)	\$ 1.43	75.0	\$107.20	\$ 1.43	109.8	\$157.00	\$ 1.43	75.0	\$107.20	\$ 1.43	75.0	\$107.20
MATERIAL HANDLING	\$81.80	1	\$81.80	\$245.19	1	\$245.19	\$69.62	1	\$69.62	\$81.80	1	\$81.80
TOTAL LABOR/VEHICLE				\$940.55				\$1,381.32				\$928.37
TOTAL COST				\$1,265.56				\$2,355.48				\$1,204.96

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TAMPA ELECTRIC COMPANY
 DOCKET NO. 080317-EI
 LIGHTING INCREMENTAL COST STUDY - 2008
 SUPPLEMENTAL MFR SCHEDULE 13D
 WITNESS: ASHBURN
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 FILED: 08/11/2008

INSTALLATION COST - POST TOP POLES

MATERIAL	PT - Heritage				PT - Capital				PT - 16ft DB			
	Stock #	Unit Cost	# of Units	ALUMINUM	Stock #	Unit Cost	# of Units	ALUMINUM	Stock #	Unit Cost	# of Units	ALUMINUM
				Avg OH Span: 0.0				Avg OH Span: 0.0				Avg OH Span: 0.0
			Cost				Cost					Cost
POLE avg	5586659	\$266.54	1	\$267	5586690	\$714.36	84	\$60,007	5586640	\$146.39	0.3	\$37
	5586680	\$284.91	0.0	\$0								
	5586900	\$263.46	0.5	\$132								
				\$79.31				\$79.31				\$79.31
CABLE				\$0.00				\$0.00				\$0.00
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	109.8	\$79.31	5322230	\$0.72	109.8	\$79.31	5322230	\$0.72	109.8	\$79.31
CABLE HARDWARE w/ P&B Cable (UG only)				\$61.76				\$61.76				\$61.76
OH				0%				0%				0%
ratio OH/UG				\$0.00				\$0.00				\$0.00
UG				100%				100%				100%
ratio OH/UG				\$11.55				\$11.55				\$11.55
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	16	\$11.55	5322230	\$0.72	16	\$11.55	5322230	\$0.72	16	\$11.55
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16
Water Seal, Compound, Waterproofing 3-3/4" x 3-3/4"x1/8"	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71
GROUNDING (1 every 1/4 mile) - UG Circuits				\$1.69				\$1.69				\$1.69
Spans per 1/4 mi			0.08				0.08				0.08	
Rod, Ground, Sectional, Copper Bonded, Threadless Length	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74
Coupler, Ground Rod Sectional, Copper, Threadless 1/2-1	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74
				\$117.03				\$117.03				\$117.03
CONDUIT				\$71.44				\$71.44				\$71.44
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	100	\$71.44	5522010	\$0.72	100	\$71.44	5522010	\$0.72	100	\$71.44
Pullwire, Tape, Pulling, Polyester, Rated 1250#. w/prntd seq. Itg	5853530	\$0.04	120	\$4.53	5853530	\$0.04	120	\$4.53	5853530	\$0.04	120	\$4.53
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	6	\$3.03	5522180	\$0.51	6	\$3.03	5522180	\$0.51	6	\$3.03
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STANDARD	5850580	\$2.53	0.3	\$0.84	5850580	\$2.53	0.3	\$0.84	5850580	\$2.53	0.3	\$0.84
Gel Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	2	\$33.82	5558230	\$16.91	2	\$33.82	5558230	\$16.91	2	\$33.82
Wood				\$0.00				\$0.00				\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00
STRAP, GALV 2 IN 2 HOLE	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00
ANCHOR, MASONRY, TAPCON SCREW, HEX HEAD, 1/4 X 1 1/4 IN	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00
TOTAL MATERIAL				\$525.30				\$974.15				\$406.18
LABOR/VEHICLE												
HAUL & SET POLE		\$ 211.31	1	\$211.31		\$ 211.31	1	\$211.31		\$ 211.31	1	\$211.31
ENGINEERING POLE		\$ 50.30	1	\$50.30		\$ 50.30	1	\$50.30		\$ 50.30	1	\$50.30
RUN OH CONDUCTOR (includes terminate @ Secondary)		\$ 1.19	0	\$0.00		\$ 1.19	0	\$0.00		\$ 1.19	0	\$0.00
TRENCH & INSTALL CONDUIT		\$ 6.53	109.8	\$717.52		\$ 6.53	109.8	\$717.52		\$ 6.53	109.8	\$717.52
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)		\$ 1.43	109.8	\$157.00		\$ 1.43	109.8	\$157.00		\$ 1.43	109.8	\$157.00
MATERIAL HANDLING		\$132.22	1	\$132.22		\$245.19	1	\$245.19		\$102.24	1	\$102.24
TOTAL LABOR/VEHICLE				\$1,268.35				\$1,381.32				\$1,238.37
TOTAL COST				\$1,793.65				\$2,355.48				\$1,644.54

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TAMPA ELECTRIC COMPANY
 DOCKET NO. 080317-EI
 LIGHTING INCREMENTAL COST STUDY - 2008
 SUPPLEMENTAL MFR SCHEDULE 13D
 WITNESS: ASHBURN
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 FILED: 08/11/2008

INSTALLATION COST - POST TOP POLES

MATERIAL	PT - Charleston Banner				PT - Charleston				PT - Riviera			
	Stock #	Unit Cost	# of Units	ALUMINUM	Stock #	Unit Cost	# of Units	ALUMINUM	Stock #	Unit Cost	# of Units	ALUMINUM
				Avg OH Span: 0.0				Avg OH Span: 0.0				Avg OH Span: 99.8
Cost	Cost	Cost	Cost	Cost	Cost	Cost	Cost					
POLE avg				\$729.00				\$342.83				\$351.09
	5586629	\$729.00	1	\$729	5586630	\$342.83	1,486	\$509,531	5586650	\$351.09	1	\$351
CABLE				\$79.31				\$79.31				\$79.31
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	109.8	\$79.31	5322230	\$0.72	109.8	\$79.31	5322230	\$0.72	109.8	\$79.31
CABLE HARDWARE w/ P&B Cable (UG only)				\$61.76				\$61.76				\$61.76
OH				0%				0%				0%
UG				100%				100%				100%
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	16	\$11.55	5322230	\$0.72	16	\$11.55	5322230	\$0.72	16	\$11.55
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16
Water Seal, Compound, Waterproofing 3-3/4' x 3-3/4'x1/8"	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71
GROUNDING (1 every 1/4 mile) - UG Circuits			0.08	\$1.69			0.08	\$1.69			0.08	\$1.69
Rod, Ground, Sectional, Copper Bonded, Threadless Length	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74
Coupler, Ground Rod Sectional, Copper, Threadless 1/2-1	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74
CONDUIT				\$90.53				\$90.53				\$90.53
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	100	\$71.44	5522010	\$0.72	100	\$71.44	5522010	\$0.72	100	\$71.44
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/prntd seq. fig	5853530	\$0.04	120	\$4.53	5853530	\$0.04	120	\$4.53	5853530	\$0.04	120	\$4.53
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	6	\$3.03	5522180	\$0.51	6	\$3.03	5522180	\$0.51	6	\$3.03
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STANDARD	5850580	\$2.53	1	\$2.53	5850580	\$2.53	1	\$2.53	5850580	\$2.53	1	\$2.53
Gel Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	0.3	\$5.63	5558230	\$16.91	0.3	\$5.63	5558230	\$16.91	0.3	\$5.63
Wood				\$0.00				\$0.00				\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00
STRAP, GALV 2 IN 2 HOLE	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00
ANCHOR, MASONRY, TAPCON SCREW, HEX HEAD, 1/4 X 1 1/4 INC	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00
TOTAL MATERIAL				\$962.28				\$576.11				\$584.37
LABOR/VEHICLE												
HAUL & SET POLE		\$ 211.31	1	\$211.31		\$ 211.31	1	\$211.31		\$ 211.31	1	\$211.31
ENGINEERING POLE		\$ 50.30	1	\$50.30		\$ 50.30	1	\$50.30		\$ 50.30	1	\$50.30
RUN OH CONDUCTOR (includes terminate @ Secondary)		\$ 1.19	0	\$0.00		\$ 1.19	0	\$0.00		\$ 1.19	0	\$0.00
TRENCH & INSTALL CONDUIT		\$ 6.53	109.8	\$717.52		\$ 6.53	109.8	\$717.52		\$ 6.53	109.8	\$717.52
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)		\$ 1.43	109.8	\$157.00		\$ 1.43	109.8	\$157.00		\$ 1.43	109.8	\$157.00
MATERIAL HANDLING		\$242.21	1	\$242.21		\$145.01	1	\$145.01		\$147.09	1	\$147.09
TOTAL LABOR/VEHICLE				\$1,378.34				\$1,281.14				\$1,283.22
TOTAL COST				\$2,340.62				\$1,857.25				\$1,867.59

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TAMPA ELECTRIC COMPANY
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INSTALLATION COST - POST TOP POLES

MATERIAL	PT - Charleston HD				PT - Waterford				PT - Tall Waterford			
	Stock #	Unit Cost	# of Units	ALUMINUM	Stock #	Unit Cost	# of Units	CONCRETE	Stock #	Unit Cost	# of Units	CONCRETE
				Avg OH Span: 0.0				Avg OH Span: 0.0				Avg UG Span: 99.8
POLE avg				\$520.02				\$389.08				\$680.39
	5586628	\$520.02	1	\$260	5210260	\$329.56	0	\$0	5210370	\$748.12	15	\$11,035
					5210270	\$448.60	0	\$0	5212220	\$589.57	11	\$6,485
CABLE				\$79.31				\$79.31				\$103.70
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	109.8	\$79.31	5322230	\$0.72	109.8	\$79.31	5322230	\$0.72	143.6	\$103.70
CABLE HARDWARE w/ P&B Cable (UG only)				\$61.76				\$61.76				\$75.48
OH ratio OH/UG				0%				0%				0%
UG ratio OH/UG				100%				100%				100%
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	16	\$11.55	5322230	\$0.72	16	\$11.55	5322230	\$0.72	35	\$25.27
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16
Water Seal, Compound, Waterproofing 3-3/4" x 3-3/4"x1/8"	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71
GROUNDING (1 every 1/4 mile) - UG Circuits Spans per 1/4 mi	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74
Rod, Ground, Sectional, Copper Bonded, Threadless Length	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54
Coupler, Ground Rod Sectional, Copper, Threadless 1/2-1	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74
Clamp, Ground Rod Copper 1/2"				\$90.53				\$90.53				\$118.73
CONDUIT				\$71.44				\$71.44				\$95.61
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	100	\$71.44	5522010	\$0.72	100	\$71.44	5522010	\$0.72	134	\$95.61
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/printd seq. ftg	5853530	\$0.04	120	\$4.53	5853530	\$0.04	120	\$4.53	5853530	\$0.04	154	\$5.80
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	6	\$3.03	5522180	\$0.51	6	\$3.03	5522180	\$0.51	8	\$3.88
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STANDARD	5850580	\$2.53	1	\$2.53	5850580	\$2.53	1	\$2.53	5850580	\$2.53	1	\$2.53
Gel Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	0.3	\$5.63	5558230	\$16.91	0.3	\$5.63	5558230	\$16.91	0.4	\$7.53
Wood				\$0.00				\$0.00				\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00
STRAP, GALV 2 IN 2 HOLE	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00
ANCHOR, MASONRY, TAPCON SCREW, HEX HEAD, 1/4 X 1 1/4 IN	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00
TOTAL MATERIAL				\$753.30				\$622.36				\$980.56
LABOR/VEHICLE												
HAUL & SET POLE		\$ 211.31	1	\$211.31		\$ 211.31	1	\$211.31		\$ 211.31	1	\$211.31
ENGINEERING POLE		\$ 50.30	1	\$50.30		\$ 50.30	1	\$50.30		\$ 50.30	1	\$50.30
RUN OH CONDUCTOR (includes terminate @ Secondary)		\$ 1.19	0	\$0.00		\$ 1.19	0	\$0.00		\$ 1.19	0	\$0.00
TRENCH & INSTALL CONDUIT		\$ 6.53	109.8	\$717.52		\$ 6.53	109.8	\$717.52		\$ 6.53	143.6	\$938.21
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)		\$ 1.43	109.8	\$157.00		\$ 1.43	109.8	\$157.00		\$ 1.43	143.6	\$205.29
MATERIAL HANDLING		\$189.61	1	\$189.61		\$156.65	1	\$156.65		\$246.81	1	\$246.81
TOTAL LABOR/VEHICLE				\$1,325.74				\$1,292.78				\$1,651.92
TOTAL COST				\$2,079.04				\$1,915.14				\$2,632.48

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TAMPA ELECTRIC COMPANY
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INSTALLATION COST - POST TOP POLES

MATERIAL	PT - Victorian				PT - Standard				PT - DB CONCRETE ROUND			
	Stock #	Unit Cost	# of Units	CONCRETE	Stock #	Unit Cost	# of Units	CONCRETE	Stock #	Unit Cost	# of Units	23FT - DB CONCRETE
				Cost				Cost				Cost
POLE avg	5211130	\$666.70	39	\$25,668	5212330	\$165.85	1	\$166	5210520	\$412.66	10.8	\$4,436
	5211132	\$629.16	0.0	\$0								
				\$79.31				\$79.31				\$79.31
CABLE				\$0.00				\$0.00				\$0.00
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	109.8	\$79.31	5322230	\$0.72	109.8	\$79.31	5322230	\$0.72	109.8	\$79.31
CABLE HARDWARE w/ P&B Cable (UG only)				\$61.76				\$61.76				\$66.82
OH ratio OH/UG				0%				0%				0%
UG ratio OH/UG				100%				100%				100%
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	16	\$11.55	5322230	\$0.72	16	\$11.55	5322230	\$0.72	23	\$16.61
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16
Water Seal, Compound, Waterproofing 3-3/4" x 3-3/4"x1/8"	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71
GROUNDING (1 every 1/4 mile) - UG Circuits Spans per 1/4 mi			13	\$1.69			13	\$1.69			13	\$1.69
Rod, Ground, Sectional, Copper Bonded, Threadless Length	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74
Coupler, Ground Rod Sectional, Copper, Threadless 1/2-1	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74
				\$90.53				\$90.53				\$90.53
CONDUIT				\$71.44				\$71.44				\$71.44
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	100	\$71.44	5522010	\$0.72	100	\$71.44	5522010	\$0.72	100	\$71.44
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/printd seq. flg	5853530	\$0.04	120	\$4.53	5853530	\$0.04	120	\$4.53	5853530	\$0.04	120	\$4.53
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	6	\$3.03	5522180	\$0.51	6	\$3.03	5522180	\$0.51	6	\$3.03
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STANDARD	5850580	\$2.53	1	\$2.53	5850580	\$2.53	1	\$2.53	5850580	\$2.53	1	\$2.53
Gel Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	0.3	\$5.63	5558230	\$16.91	0.3	\$5.63	5558230	\$16.91	0.3	\$5.63
Wood				\$0.00				\$0.00				\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00
STRAP, GALV 2 IN 2 HOLE	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00
ANCHOR, MASONRY, TAPCON SCREW, HEX HEAD, 1/4 X 1 1/4 IN	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00
TOTAL MATERIAL				\$899.99				\$399.13				\$651.00
LABOR/VEHICLE												
HAUL & SET POLE		\$ 211.31	1	\$211.31		\$ 211.31	1	\$211.31		\$ 211.31	1	\$211.31
ENGINEERING POLE		\$ 50.30	1	\$50.30		\$ 50.30	1	\$50.30		\$ 50.30	1	\$50.30
RUN OH CONDUCTOR (includes terminate @ Secondary)		\$ 1.19	0	\$0.00		\$ 1.19	0	\$0.00		\$ 1.19	0	\$0.00
TRENCH & INSTALL CONDUIT		\$ 6.53	109.8	\$717.52		\$ 6.53	109.8	\$717.52		\$ 6.53	109.8	\$717.52
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)		\$ 1.43	109.8	\$157.00		\$ 1.43	109.8	\$157.00		\$ 1.43	109.8	\$157.00
MATERIAL HANDLING		\$226.53	1	\$226.53		\$100.46	1	\$100.46		\$163.86	1	\$163.86
TOTAL LABOR/VEHICLE				\$1,362.66				\$1,236.59				\$1,299.99
TOTAL COST				\$2,262.64				\$1,635.73				\$1,950.98

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TAMPA ELECTRIC COMPANY
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INSTALLATION COST - CONCRETE POLES

MATERIAL	DB CONCRETE STANDARD (TYPE 1)				DB CONCRETE STANDARD (TYPE 1)				DB CONCRETE STANDARD			
	OH SVC	35FT			UG SVC	35FT			OH SVC	UP TO 45FT		
		Avg OH Span:	146.1	Avg UG Span:		0.0	Avg OH Span:	133.6		Avg OH Span:	136.4	Avg UG Span:
Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost	
POLE avg	5210380	\$285.45	1,034	\$295,009	5210300	\$75.34	155	\$11,658	5210770	\$476.73	66	\$31,583
CABLE	based on OH/UG			\$56.79	based on OH/UG			\$103.70	based on OH/UG			\$53.03
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG = OH Span	5430340	\$0.39	146.1	\$56.79	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	136.4	\$53.03
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG = UG Span + 10	5322230	\$0.72	0.0	\$0.00	5322230	\$0.72	143.6	\$103.70	5322230	\$0.72	0.0	\$0.00
CABLE HARDWARE w/ P&B Cable (UG only)				\$104.13				\$195.29				\$104.13
CONC				\$97				\$97				\$97
Pole Cap, w/ 2-3/8" O.D. Tenon Hot Dipped GALV Type I	5210120	\$96.84	1	\$97	5210120	\$96.84	1	\$97	5210120	\$96.84	1	\$97
Pole Cap, w/ 2-3/8" O.D. Tenon Hot Dipped GALV Type II				100%				0%				100%
OH				ratio OH/UG				0%				100%
OH CONC				\$7.29				\$0.00				\$7.29
Clamp, Service AL #4 - #2 STR	5581800	\$7.29	1	\$7.29	5581800	\$7.29	0	\$0.00	5581800	\$7.29	1	\$7.29
UG				0%				100%				0%
P&B, UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	0	\$0.00	5322230	\$0.72	67	\$48.24	5322230	\$0.72	0	\$0.00
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$0.00	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$0.00
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$0.00	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$0.00
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$0.00	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$0.00
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$0.00	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$0.00
Water Seal, Compound, Waterproofing 3-3/4" x 3-3/4"x1/8"	5851120	\$12.90	1	\$0.00	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$0.00
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.00	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.00
GROUNDING (1 every 1/4 mile) - UG Circuits	Spans per 1/4 mile			\$0.00	10			\$2.26	10			\$0.00
Rod, Ground, Sectional, Copper Bonded, Threadless Length	9293260	\$8.87	2	\$0.00	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$0.00
Coupler, Ground Rod Sectional, Copper, Threadless 1/2-1	9281300	\$3.54	1	\$0.00	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$0.00
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.00	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.00
CONDUIT				\$0.00				\$143.62				\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	0	\$0.00	5522010	\$0.72	134	\$95.61	5522010	\$0.72	0	\$0.00
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/prntd seq. ftg	5853530	\$0.04	20	\$0.00	5853530	\$0.04	154	\$5.80	5853530	\$0.04	20	\$0.00
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$0.00	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$0.00
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	1	\$0.00	5522180	\$0.51	8	\$3.88	5522180	\$0.51	1	\$0.00
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STAN	5850580	\$2.53	0.0	\$0.00	5850580	\$2.53	0.4	\$1.13	5850580	\$2.53	0.0	\$0.00
Gell Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	2	\$0.00	5558230	\$16.91	2	\$33.82	5558230	\$16.91	2	\$0.00
Wood				\$0.00				\$0.00				\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00
STRAP, GALV 2 IN 2 HOLE	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00
ANCHOR, MASONRY, TAPCON SCREW, HEX HEAD, 1/4 X 1 1/4 IN	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00
TOTAL MATERIAL				\$446.37				\$520.21				\$633.89
LABOR/VEHICLE				Unit Cost				Unit Cost				Unit Cost
HAUL & SET POLE	\$ 244.31	1	\$244.31	\$ 244.31	1	\$244.31	\$ 244.31	1	\$244.31	1	\$244.31	
ENGINEERING POLE	\$ 50.30	1	\$50.30	\$ 50.30	1	\$50.30	\$ 50.30	1	\$50.30	1	\$50.30	
RUN OH CONDUCTOR (includes terminate @ Secondary)	\$ 11.19	146.095678	\$174.42	\$ 11.19	0	\$0.00	\$ 11.19	136.423912	\$162.87			
TRENCH & INSTALL CONDUIT	\$ 6.53	0.0	\$0.00	\$ 6.53	143.6	\$938.21	\$ 6.53	0.0	\$0.00			
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)	\$ 1.43	0.0	\$0.00	\$ 1.43	143.6	\$205.29	\$ 1.43	0.0	\$0.00			
MATERIAL HANDLING	\$112.35	1	\$112.35	\$130.94	1	\$130.94	\$159.55	1	\$159.55			
TOTAL LABOR/VEHICLE				\$581.38				\$1,569.05				\$617.03
TOTAL COST				\$1,027.75				\$2,089.25				\$1,250.92

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TAMPA ELECTRIC COMPANY
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INSTALLATION COST - CONCRETE POLES

MATERIAL	DB CONCRETE (TYPE I or II)				DB CONCRETE (TYPE I or II)				DB CONCRETE (TYPE I or II)			
	(70/100 W, up to 100ft Span)	35FT			(150 W, up to 150ft Span)	35FT			(250/400 W, Above 150ft Span)	35FT		
		Unit Cost	# of Units	Cost		Unit Cost	# of Units	Cost		Unit Cost	# of Units	Cost
POLE avg				\$288.81				\$288.81				\$288.81
	5210390	\$301.77	3	\$830	5210390	\$301.77	3	\$830	5210390	\$301.77	3	\$830
	5210340	\$296.92	425	\$126,118	5210340	\$296.92	425	\$126,118	5210340	\$296.92	425	\$126,118
	5210380	\$285.45	1,034	\$295,009	5210380	\$285.45	1,034	\$295,009	5210380	\$285.45	1,034	\$295,009
CABLE				\$106.03				\$109.31				\$134.27
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG = OH Span	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG = UG Span + 10	5322230	\$0.72	146.9	\$106.03	5322230	\$0.72	151.4	\$109.31	5322230	\$0.72	186.0	\$134.27
CABLE HARDWARE w/ P&B Cable (UG only)				\$196.46				\$198.10				\$210.58
CONC				\$97				\$97				\$97
Pole Cap, w/ 2-3/8" O.D. Tenon Hot Dipped GALV Type I	5210120	\$96.84	1	\$97	5210120	\$96.84	1	\$97	5210120	\$96.84	1	\$97
Pole Cap, w/ 2-3/8" O.D. Tenon Hot Dipped GALV Type II				0%				0%				0%
OH				0%				0%				0%
OH CONC				0%				0%				0%
Clamp, Service AL #4 - #2 STR	5581800	\$7.29	0	\$0.00	5581800	\$7.29	0	\$0.00	5581800	\$7.29	0	\$0.00
UG				100%				100%				100%
P&B, UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	68	\$49.41	5322230	\$0.72	71	\$51.04	5322230	\$0.72	88	\$63.53
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16
Water Seal, Compound, Waterproofing 3-3/4" x 3-3/4"x1/8"	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71
GROUNDING (1 every 1/4 mile) - UG Circuits			0.11	\$2.31			0.11	\$2.39			0.14	\$2.98
Rod, Ground, Sectional, Copper Bonded, Threadless Length	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74
Coupler, Ground Rod Sectional, Copper, Threadless 1/2-1	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74
CONDUIT				\$146.17				\$149.73				\$176.95
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	137	\$97.92	5522010	\$0.72	141	\$101.17	5522010	\$0.72	176	\$125.91
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/pmid seq. fig	5853530	\$0.04	157	\$5.92	5853530	\$0.04	161	\$6.09	5853530	\$0.04	196	\$7.40
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	8	\$3.96	5522180	\$0.51	8	\$4.08	5522180	\$0.51	10	\$4.95
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STAN	5850580	\$2.53	0.5	\$1.15	5850580	\$2.53	0.5	\$1.19	5850580	\$2.53	0.6	\$1.48
Gel Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	2	\$33.82	5558230	\$16.91	2	\$33.82	5558230	\$16.91	2	\$33.82
Wood				\$0.00				\$0.00				\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00
STRAP, GALV 2 IN 2 HOLE	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00
ANCHOR, MASONRY, TAPCON SCREW, HEX HEAD, 1/4 X 1 1/4 IN	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00
TOTAL MATERIAL				\$739.79				\$748.34				\$813.53
LABOR/VEHICLE												
HAUL & SET POLE		\$ 244.31	1	\$244.31		\$ 244.31	1	\$244.31		\$ 244.31	1	\$244.31
ENGINEERING POLE		\$ 50.30	1	\$50.30		\$ 50.30	1	\$50.30		\$ 50.30	1	\$50.30
RUN OH CONDUCTOR (includes terminate @ Secondary)		\$ 1.19	0	\$0.00		\$ 1.19	0	\$0.00		\$ 1.19	0	\$0.00
TRENCH & INSTALL CONDUIT		\$ 6.53	146.9	\$959.34		\$ 6.53	151.4	\$988.97		\$ 6.53	186.0	\$1,214.85
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)		\$ 1.43	146.9	\$209.91		\$ 1.43	151.4	\$216.39		\$ 1.43	186.0	\$265.82
MATERIAL HANDLING		\$186.20	1	\$186.20		\$188.36	1	\$188.36		\$204.78	1	\$204.78
TOTAL LABOR/VEHICLE				\$1,650.06				\$1,688.33				\$1,980.06
TOTAL COST				\$2,389.85				\$2,436.67				\$2,793.65

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INSTALLATION COST - CONCRETE POLES

MATERIAL	DB CONCRETE STANDARD				DB CONCRETE STANDARD			
	Stock #	Unit Cost	# of Units	25FT or 30FT	Stock #	Unit Cost	# of Units	45FT
				Avg OH Span: 0.0				Avg OH Span: 0.0
				Avg UG Span: 133.6				Avg UG Span: 133.6
POLE avg				\$245.43				\$475.02
	5210140	\$274.27	1	\$274	5210770	\$476.73	66	\$31,583
	5210250	\$256.00	4	\$896	5210769	\$420.80	1	\$421
	5210310	\$237.40	3	\$653	5210775	\$416.04	1	\$416
	5210330	\$210.43	1	\$263				
CABLE				\$103.70				\$103.70
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG = OH Span	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG = UG Span + 10	5322230	\$0.72	143.6	\$103.70	5322230	\$0.72	143.6	\$103.70
CABLE HARDWARE w/ P&B Cable (UG only)				\$195.29				\$195.29
CONC								
Pole Cap. w/ 2-3/8" O.D. Tenon Hot Dipped GALV Type I	5210120	\$96.84	1	\$97	5210120	\$96.84	1	\$97
Pole Cap. w/ 2-3/8" O.D. Tenon Hot Dipped GALV Type II								
OH ratio OH/UG				0%				0%
OH CONC								
Clamp, Service AL #4 - #2 STR	5581800	\$7.29	0	\$0.00	5581800	\$7.29	0	\$0.00
UG ratio OH/UG				100%				100%
P&B, UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	67	\$48.24	5322230	\$0.72	67	\$48.24
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16
Water Seal, Compound, Waterproofing 3-3/4" x 3-3/4"x1/8"	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71
GROUNDING (1 every 1/4 mile) - UG Circuits Spans per 1/4 mi	10		0.10	\$2.26	10		0.10	\$2.26
Rod, Ground, Sectional, Copper Bonded, Threadless Length	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74
Coupler, Ground Rod Sectional, Copper, Threadless 1/2-1	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74
CONDUIT				\$143.62				\$143.62
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	134	\$95.61	5522010	\$0.72	134	\$95.61
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/prntd seq. fig	5853530	\$0.04	154	\$5.80	5853530	\$0.04	154	\$5.80
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	8	\$3.88	5522180	\$0.51	8	\$3.88
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STAN	5850580	\$2.53	0.4	\$1.13	5850580	\$2.53	0.4	\$1.13
Gel Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	2	\$33.82	5558230	\$16.91	2	\$33.82
Wood				\$0.00				\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00
STRAP, GALV 2 IN 2 HOLE	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00
ANCHOR, MASONRY, TAPCON SCREW, HEX HEAD, 1/4 X 1 1/4 IN	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00
TOTAL MATERIAL				\$690.30				\$919.89
LABOR/VEHICLE								
HAUL & SET POLE		\$ 244.31	1	\$244.31		\$ 244.31	1	\$244.31
ENGINEERING POLE		\$ 50.30	1	\$50.30		\$ 50.30	1	\$50.30
RUN OH CONDUCTOR (includes terminate @ Secondary)		\$ 1.19	0	\$0.00		\$ 1.19	0	\$0.00
TRENCH & INSTALL CONDUIT		\$ 6.53	143.6	\$938.21		\$ 6.53	143.6	\$938.21
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)		\$ 1.43	143.6	\$205.29		\$ 1.43	143.6	\$205.29
MATERIAL HANDLING		\$173.75	1	\$173.75		\$231.54	1	\$231.54
TOTAL LABOR/VEHICLE				\$1,611.86				\$1,669.65
TOTAL COST				\$2,302.16				\$2,589.53

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INSTALLATION COST - POLES
ALUMINIUM AND STEEL

MATERIAL	DB ALUMINUM				AB ALUMINUM			
	(70/100 W, up to 100ft Span)	28FT			(150 W, up to 150ft Span)	27FT		
		Avg OH Span:	Avg UG Span:	Cost		Avg OH Span:	Avg UG Span:	Cost
	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost
POLE avg				\$696.34				\$953.61
5586780	\$696.34	6		\$4,178	5586720	\$953.61	16	\$15,496
FOUNDATION, ANCHOR			N/A	\$0.00				\$348.36
Foundation, Anchor Screw 15in					5580620	\$348.36	44	\$15,328
Foundation, Anchor Screw 15in								\$240
Covers, Street Light Pole Base					5581350	\$60.00	4	\$240
BASE			N/A	\$0.00				\$336.51
Base, 27ft	5580630	\$347.06	3	\$1,128	5580630	\$347.06	3	\$1,128
Base, 37ft	5580640	\$309.07	1	\$386	5580640	\$309.07	1	\$386
CABLE				\$106.03				\$109.31
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG = OH Span	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG = UG Span + 10ft	5322230	\$0.72	146.9	\$106.03	5322230	\$0.72	151.4	\$109.31
CABLE HARDWARE w/ P&B Cable (UG only)				\$79.09				\$79.09
general part								
OH			N/A for AL & Steel	ratio OH/UG				0%
OH Part			N/A for AL & Steel					\$0.00
OH Part			N/A for AL & Steel					\$0.00
UG				ratio OH/UG				100%
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	40	\$28.88	5322230	\$0.72	40	\$28.88
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16
Water Seal, Compound, Waterproofing 3-3/4' x 3-3/4"x1/8"	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71
GROUNDING (1 every 1/4 mile) - UG Circuits			Spans per 1/4 m	10			0.11	\$2.39
Rod, Ground, Sectional, Copper Bonded. Threadless Length	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74
Coupler, Ground Rod Sectional, Copper. Threadless 1/2-1	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74
CONDUIT				\$146.17				\$149.73
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	137	\$97.92	5522010	\$0.72	141	\$101.17
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/prntd seq. ftg	5853530	\$0.04	157	\$5.92	5853530	\$0.04	161	\$6.09
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	8	\$3.96	5522180	\$0.51	8	\$4.08
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STANDARD	5850580	\$2.53	0.5	\$1.15	5850580	\$2.53	0.5	\$1.19
Gel Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	2	\$33.82	5558230	\$16.91	2	\$33.82
TOTAL MATERIAL				\$1,026.95				\$1,979.01
LABOR/VEHICLE								
HAUL & SET POLE		Unit Cost	# of Units	Cost		Unit Cost	# of Units	Cost
ENGINEERING POLE		\$ 211.31	1	\$211.31		\$ 233.74	1	\$233.74
TRENCH & INSTALL CONDUIT		\$ 50.30	1	\$50.30		\$ 50.30	1	\$50.30
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)		\$ 6.53	146.9	\$959.34		\$ 6.53	151.4	\$988.97
MATERIAL HANDLING		\$ 1.43	146.9	\$209.91		\$ 1.43	151.4	\$216.39
TOTAL LABOR/VEHICLE		\$259.24	1	\$259.24		\$498.12	1	\$498.12
TOTAL COST				\$1,690.10				\$1,987.52
TOTAL COST				\$2,720.04				\$3,966.53

INSTALLATION COST - POLES
ALUMINIUM AND STEEL

MATERIAL	AB ALUMINUM				AB ALUMINUM			
	Stock #	Unit Cost	# of Units	27FT	Stock #	Unit Cost	# of Units	37FT
				(250/400 W, Above 150ft Span) Avg OH Span: 0.0 Avg UG Span: 176.0				Avg OH Span: 0.0 Avg UG Span: 176.0
POLE avg				\$1,425.52				\$1,188.60
	5586760	\$1,425.52	2	\$3,207	5586770	\$1,188.60	46	\$54,676
FOUNDATION, ANCHOR			1	\$437.50			1	\$437.50
Foundation, Anchor Screw 15in								
Foundation, Anchor Screw 15in	5580670	\$437.50	1	\$438	5580670	\$437.50	1	\$438
Covers, Street Light Pole Base	5581350	\$60.00	4	\$240	5581350	\$60.00	4	\$240
BASE			1	\$336.51			1	\$336.51
Base, 27ft	5580630	\$347.06	3	\$1,128	5580630	\$347.06	3	\$1,128
Base, 37ft	5580640	\$309.07	1	\$386	5580640	\$309.07	1	\$386
CABLE				\$134.27				\$134.27
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG = OH Span	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG = UG Span + 10ft	5322230	\$0.72	186.0	\$134.27	5322230	\$0.72	186.0	\$134.27
CABLE HARDWARE w/ P&B Cable (UG only)				\$79.09				\$79.09
general part								
OH		N/A for AL & Steel	ratio OH/UG	0%				0%
OH Part		N/A for AL & Steel		\$0.00				\$0.00
OH Part		N/A for AL & Steel		\$0.00				\$0.00
UG			ratio OH/UG	100%				100%
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	40	\$28.88	5322230	\$0.72	40	\$28.88
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16
Water Seal, Compound, Waterproofing 3-3/4' x 3-3/4"x1/8"	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71
GROUNDING (1 every 1/4 mile) - UG Circuits			7	\$2.98			7	\$2.98
Rod, Ground, Sectional, Copper Bonded, Threadless Length	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74
Coupler, Ground Rod Sectional, Copper, Threadless 1/2-1	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74
CONDUIT				\$176.95				\$176.95
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	176	\$125.91	5522010	\$0.72	176	\$125.91
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/prmted seq. ftg	5853530	\$0.04	196	\$7.40	5853530	\$0.04	196	\$7.40
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	10	\$4.95	5522180	\$0.51	10	\$4.95
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STANDARD	5850580	\$2.53	0.6	\$1.48	5850580	\$2.53	0.6	\$1.48
Gell Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	2	\$33.82	5558230	\$16.91	2	\$33.82
TOTAL MATERIAL				\$2,592.82				\$2,355.90
LABOR/VEHICLE								
HAUL & SET POLE		\$ 233.74	1	\$233.74		\$ 233.74	1	\$233.74
ENGINEERING POLE		\$ 50.30	1	\$50.30		\$ 50.30	1	\$50.30
TRENCH & INSTALL CONDUIT		\$ 6.53	186.0	\$1,214.85		\$ 6.53	186.0	\$1,214.85
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)		\$ 1.43	186.0	\$265.82		\$ 1.43	186.0	\$265.82
MATERIAL HANDLING		\$652.61	1	\$652.61		\$592.98	1	\$592.98
TOTAL LABOR/VEHICLE				\$2,417.32				\$2,357.69
TOTAL COST				\$5,010.15				\$4,713.59

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INSTALLATION COST - POLES
ALUMINIUM AND STEEL

MATERIAL	AB STEEL			
	Stock #	Unit Cost	# of Units	Cost
POLE avg				\$904.15
FOUNDATION, ANCHOR				\$226
Foundation, Anchor Screw 15in	5586831	\$904.15	0	\$350.34
Foundation, Anchor Screw 15in	5580620	\$348.36	44	\$438
Covers, Street Light Pole Base	5581350	\$60.00	4	\$0.00
BASE			N/A	\$0.00
Base, 27ft	5580630	\$347.06	3	\$1,128
Base, 37ft	5580640	\$309.07	1	\$386
CABLE				\$103.70
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG = OH Span	5430340	\$0.39	0.0	\$0.00
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG = UG Span + 10ft	5322230	\$0.72	143.6	\$103.70
CABLE HARDWARE w/ P&B Cable (UG only)				\$79.09
general part				
OH		N/A for AL & Steel ratio OH/UG		0%
OH Part		N/A for AL & Steel		\$0.00
OH Part		N/A for AL & Steel		\$0.00
UG		ratio OH/UG		100%
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	40	\$28.88
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$4.56
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$14.58
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$5.30
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$12.16
Water Seal, Compound, Waterproofing 3-3/4' x 3-3/4"x1/8"	5851120	\$12.90	1	\$12.90
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.71
GROUNDING (1 every 1/4 mile) - UG Circuits			10	\$2.26
Rod, Ground, Sectional, Copper Bonded. Threadless Length	9293260	\$8.87	2	\$17.74
Coupler, Ground Rod Sectional, Copper. Threadless 1/2-1	9281300	\$3.54	1	\$3.54
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.74
CONDUIT				\$143.62
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	134	\$95.61
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/pmtd seq. ftg	5853530	\$0.04	154	\$5.80
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$3.38
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	8	\$3.88
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STANDARD	5850580	\$2.53	0.4	\$1.13
Gell Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	2	\$33.82
TOTAL MATERIAL				\$1,583.18
LABOR/VEHICLE				
HAUL & SET POLE		\$ 233.74	1	\$233.74
ENGINEERING POLE		\$ 50.30	1	\$50.30
TRENCH & INSTALL CONDUIT		\$ 6.53	143.6	\$938.21
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)		\$ 1.43	143.6	\$205.29
MATERIAL HANDLING		\$398.48	1	\$398.48
TOTAL LABOR/VEHICLE				\$1,826.02
TOTAL COST				\$3,409.18

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INSTALLATION COST - WOOD POLES

MATERIAL	WOOD				WOOD			
	EXISTING	UG SVC			30FT - OH SVC	UG SVC		
		Stock #	Unit Cost	# of Units		Cost	Stock #	Unit Cost
POLE avg				\$0.00				\$75.44
					5210240	\$141.56	0	\$35
					5210300	\$75.34	155	\$11,658
CABLE				\$119.02				\$56.26
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG = OH Span	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	144.8	\$56.26
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG = UG Span + 10	5322230	\$0.72	164.8	\$119.02	5322230	\$0.72	0.0	\$0.00
CABLE HARDWARE w/ P&B Cable (UG only)				\$104.91				\$0.78
Hook, Drive Pilot Point 4-3/4" Overall Length	5261930	\$0.44	1	\$0.44	5261930	\$0.44	1	\$0.44
Clamp, Service AL #4 - #2 STR	9261730	\$0.34	1	\$0.34	9261730	\$0.34	1	\$0.34
OH				0%				100%
UG				100%				0%
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	40	\$28.88	5322230	\$0.72	40	\$0.00
Connector, Vice CU #4 STR	9280450	\$1.95	1	\$1.95	9280450	\$1.95	1	\$0.00
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$0.00
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$0.00
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$0.00
Conduit, PVC 2 IN 20 FT Bell End	5522000	\$0.45	40	\$17.85	5522000	\$0.45	40	\$0.00
Elbow, Conduit PVC 2 IN, 90 Degree	5522220	\$1.69	1	\$1.69	5522220	\$1.69	1	\$0.00
Coupling, Conduit PVC 2 IN	5522180	\$0.51	2	\$1.01	5522180	\$0.51	2	\$0.00
Cement, PVC Clear solvent	5850580	\$2.53	1	\$2.53	5850580	\$2.53	1	\$0.00
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$0.00
Water Seal, Compound, Waterproofing 3-3/4" x 3-3/4"x1/8"	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$0.00
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.00
Grounding (1 every 1/4 mile) - UG Circuits			0.12	\$0.31			0.11	\$0.00
Rod, Ground, Sectional, Copper Bonded, Threadless Length	9293260	\$8.87	2	\$2.11	9293260	\$8.87	2	\$0.00
Coupler, Ground Rod Sectional, Copper, Threadless 1/2-1	9281300	\$3.54	1	\$0.42	9281300	\$3.54	1	\$0.00
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.09	9272950	\$0.74	1	\$0.00
CONDUIT				\$160.32				\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	155	\$110.79	5522010	\$0.72	0	\$0.00
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/pmtd seq. fig	5853530	\$0.04	175	\$6.60	5853530	\$0.04	20	\$0.00
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$0.00
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	9	\$4.42	5522180	\$0.51	1	\$0.00
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STANDARD	5850580	\$2.53	0.5	\$1.31	5850580	\$2.53	0.0	\$0.00
Gell Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	2	\$33.82	5558230	\$16.91	2	\$0.00
Wood - UG Svc Conduit			100%	\$25.84			100%	\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	35	\$25.04	5522010	\$0.72	35	\$0.00
STRAP, GALV 2 IN 2 HOLE	5512420	\$0.20	2	\$0.40	5512420	\$0.20	2	\$0.00
ANCHOR, MASONRY, TAPCON SCREW, HEX HEAD, 1/4 X 1 1/4 INCH	1901543	\$0.10	4	\$0.40	1901543	\$0.10	4	\$0.00
TOTAL MATERIAL				\$410.41				\$132.49
LABOR/VEHICLE								
HAUL & SET POLE		\$ 163.28	0	\$0.00		\$ 163.28	1	\$163.28
ENGINEERING POLE		\$ 50.30	0	\$0.00		\$ 50.30	1	\$50.30
RUN OH CONDUCTOR (includes terminate @ Secondary)		\$ 1.19	0.0	\$0.00		\$ 1.19	144.8	\$172.82
TRENCH & INSTALL CONDUIT		\$ 6.53	164.8	\$1,076.86		\$ 6.53	0.0	\$0.00
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)		\$ 1.43	164.8	\$235.62		\$ 1.43	0.0	\$0.00
INSTALL UG SVC TO EXISTING WOOD POLE		\$ 243.06	1	\$243.06		\$ 243.06	0	\$0.00
MATERIAL HANDLING		\$103.30	1	\$103.30		\$33.35	1	\$33.35
TOTAL LABOR/VEHICLE				\$1,658.84				\$419.75
TOTAL COST				\$2,069.25				\$552.24

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INSTALLATION COST - WOOD POLES

MATERIAL	WOOD				WOOD				
	Stock #	Unit Cost	# of Units	35FT - OH SVC	INACCESSIBLE	Stock #	Unit Cost	# of Units	30FT - OH SVC
				Avg OH Span:					Avg OH Span:
				149.9					145.4
				0.0					0.0
POLE avg				\$106.99					\$75.34
	5210160	\$152.89	1	\$153	5210300	\$75.34	155	\$11,658	
	5210200	\$223.26	1	\$223					
	5210350	\$132.75	147	\$19,448					
	5210360	\$93.02	282	\$26,209					
CABLE				\$58.26					\$56.53
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG = OH Span	5430340	\$0.39	149.9	\$58.26	5430340	\$0.39	145.4	\$56.53	
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG = UG Span + 10	5322230	\$0.72	0.0	\$0.00	5322230	\$0.72	0.0	\$0.00	
CABLE HARDWARE w/ P&B Cable (UG only)				\$0.78					\$0.78
Hook, Drive Pilot Point 4-3/4" Overall Length	5261930	\$0.44	1	\$0.44	5261930	\$0.44	1	\$0.44	
Clamp, Service AL #4 - #2 STR	9261730	\$0.34	1	\$0.34	9261730	\$0.34	1	\$0.34	
OH				ratio OH/UG				ratio OH/UG	
UG				ratio OH/UG				ratio OH/UG	
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	40	\$0.00	5322230	\$0.72	40	\$0.00	
Connector, Vice CU #4 STR	9280450	\$1.95	1	\$0.00	9280450	\$1.95	1	\$0.00	
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$0.00	5251300	\$2.28	2	\$0.00	
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$0.00	5581800	\$7.29	2	\$0.00	
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$0.00	5531950	\$12.16	1	\$0.00	
Conduit, PVC 2 IN 20 FT Bell End	5522000	\$0.45	40	\$0.00	5522000	\$0.45	40	\$0.00	
Elbow, Conduit PVC 2 IN, 90 Degree	5522220	\$1.69	1	\$0.00	5522220	\$1.69	1	\$0.00	
Coupling, Conduit PVC 2 IN	5522180	\$0.51	2	\$0.00	5522180	\$0.51	2	\$0.00	
Cement, PVC Clear solvent	5850580	\$2.53	1	\$0.00	5850580	\$2.53	1	\$0.00	
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$0.00	5852800	\$5.30	1	\$0.00	
Water Seal, Compound, Waterproofing 3-3/4" x 3-3/4"x1/8"	5851120	\$12.90	1	\$0.00	5851120	\$12.90	1	\$0.00	
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.00	5858200	\$0.71	1	\$0.00	
Grounding (1 every 1/4 mile) - UG Circuits				Spans per 1/4 mi				Spans per 1/4 mi	
Rod, Ground, Sectional, Copper Bonded, Threadless Length	9293260	\$8.87	2	\$0.00	9293260	\$8.87	2	\$0.00	
Coupler, Ground Rod Sectional, Copper, Threadless 1/2-1	9281300	\$3.54	1	\$0.00	9281300	\$3.54	1	\$0.00	
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.00	9272950	\$0.74	1	\$0.00	
CONDUIT				\$0.00				\$0.00	
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	0	\$0.00	5522010	\$0.72	0	\$0.00	
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/pmted seq. fig	5853530	\$0.04	20	\$0.00	5853530	\$0.04	20	\$0.00	
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$0.00	5522220	\$1.69	2	\$0.00	
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	1	\$0.00	5522180	\$0.51	1	\$0.00	
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STANDARD	5850580	\$2.53	0.0	\$0.00	5850580	\$2.53	0.0	\$0.00	
Gel Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	2	\$0.00	5558230	\$16.91	2	\$0.00	
Wood - UG Svc Conduit				100%				100%	
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00	
STRAP, GALV 2 IN 2 HOLE	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00	
ANCHOR, MASONRY, TAPCON SCREW, HEX HEAD, 1/4 X 1 1/4 INCH	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00	
TOTAL MATERIAL				\$166.03				\$132.65	
LABOR/VEHICLE									
HAUL & SET POLE		Unit Cost	# of Units	Cost		Unit Cost	# of Units	Cost	
ENGINEERING POLE		\$ 163.28	1	\$163.28		\$ 163.28	1	\$163.28	
RUN OH CONDUCTOR (includes terminate @ Secondary)		\$ 50.30	1	\$50.30		\$ 50.30	1	\$50.30	
TRENCH & INSTALL CONDUIT		\$ 1.19	149.9	\$178.95		\$ 1.19	145.4	\$173.63	
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)		\$ 6.53	0.0	\$0.00		\$ 6.53	0.0	\$0.00	
INSTALL UG SVC TO EXISTING WOOD POLE		\$ 1.43	0.0	\$0.00		\$ 1.43	0.0	\$0.00	
		\$ 243.06	0	\$0.00		\$ 243.06	0	\$0.00	
MATERIAL HANDLING		\$41.79	1	\$41.79		\$33.39	1	\$33.39	
TOTAL LABOR/VEHICLE				\$434.33				\$420.61	
TOTAL COST				\$600.36				\$553.26	

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INSTALLATION COST - WOOD POLES

MATERIAL	WOOD			
	Stock #	Unit Cost	# of Units	Cost
POLE avg				\$202.11
	5210400	\$195.10	13	\$2,488
	5210470	\$214.88	7	\$1,504
CABLE	based on OH/UG			\$53.03
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG = OH Span	5430340	\$0.39	136.4	\$53.03
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG = UG Span + 10	5322230	\$0.72	0.0	\$0.00
CABLE HARDWARE w/ P&B Cable (UG only)				\$0.78
Hook, Drive Pilot Point 4-3/4" Overall Length	5261930	\$0.44	1	\$0.44
Clamp, Service AL #4 - #2 STR	9261730	\$0.34	1	\$0.34
OH		ratio OH/UG		100%
UG		ratio OH/UG		0%
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	40	\$0.00
Connector, Vice CU #4 STR	9280450	\$1.95	1	\$0.00
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$0.00
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$0.00
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$0.00
Conduit, PVC 2 IN 20 FT Bell End	5522000	\$0.45	40	\$0.00
Elbow, Conduit PVC 2 IN, 90 Degree	5522220	\$1.69	1	\$0.00
Coupling, Conduit PVC 2 IN	5522180	\$0.51	2	\$0.00
Cement, PVC Clear solvent	5850580	\$2.53	1	\$0.00
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$0.00
Water Seal, Compound, Waterproofing 3-3/4" x 3-3/4"x1/8"	5851120	\$12.90	1	\$0.00
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.00
Grounding (1 every 1/4 mile) - UG Circuits			Spans per 1/4 mi 10	\$0.00
Rod, Ground, Sectional, Copper Bonded, Threadless Length	9293260	\$8.87	2	\$0.00
Coupler, Ground Rod Sectional, Copper, Threadless 1/2-1	9281300	\$3.54	1	\$0.00
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.00
CONDUIT				\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	0	\$0.00
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/prntd seq. fig	5853530	\$0.04	20	\$0.00
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$0.00
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	1	\$0.00
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STANDARD	5850580	\$2.53	0.0	\$0.00
Gel Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	2	\$0.00
Wood - UG Svc Conduit			100%	\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	35	\$0.00
STRAP, GALV 2 IN 2 HOLE	5512420	\$0.20	2	\$0.00
ANCHOR, MASONRY, TAPCON SCREW, HEX HEAD, 1/4 X 1 1/4 INCH	1901543	\$0.10	4	\$0.00
TOTAL MATERIAL				\$255.92
LABOR/VEHICLE	Unit Cost	# of Units	Cost	
HAUL & SET POLE	\$ 163.28	1	\$163.28	
ENGINEERING POLE	\$ 50.30	1	\$50.30	
RUN OH CONDUCTOR (includes terminate @ Secondary)	\$ 1.19	136.4	\$162.87	
TRENCH & INSTALL CONDUIT	\$ 6.53	0.0	\$0.00	
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)	\$ 1.43	0.0	\$0.00	
INSTALL UG SVC TO EXISTING WOOD POLE	\$ 243.06	0	\$0.00	
MATERIAL HANDLING	\$64.41	1	\$64.41	
TOTAL LABOR/VEHICLE			\$440.86	
TOTAL COST				\$696.78

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TAMPA ELECTRIC COMPANY
 DOCKET NO. 080317-EI
 LIGHTING INCREMENTAL COST STUDY - 2008
 SUPPLEMENTAL MFR SCHEDULE 13D
 WITNESS: ASHBURN
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 FILED: 08/11/2008

**Installation and
Maintenance Labor**

LIGHTING
MAINTENANCE LABOR

MAINTENANCE COST
TIME AND LABOR - GENERAL

AVERAGE UNIT TIME

Operation	Unit Time min	Unit Time min	Unit Time min	Unit Time min	Unit Time min	Unit Time min	
TRAVEL TIME - MAINTENANCE							
		Maint	Group Maint				
a Locate Ticket on MDT		0.5	-				
b Compute Route		1	-				
c Average Travel		22.5	5				
d Arrive		-	-				
# subtotal time (min)		24	5				
# subtotal time (hr)		0.40	0.08				
SET UP BUCKET - MAINTENANCE							
		Bucket Maint	Climb Maint	UG Maint	Nxt Pole/ MidSpan Bucket Maint	Climb Maint	2nd Man Climb Maint
Turn on flashers, rotating lights,							
a arrow board		1	1	1	0	0	1
b Read Ticket on MDT		1	1	1	0	0	1
c Set cones out		1	1	1	1	1	1
d Gather and set out Materials		2	2	2	0	0	0
e Raise Bucket		1	-	-	1	-	-
e1 Set up and secure Ladder		-	7	-	-	7	-
# subtotal time (min)		6	12	5	2	8	3
# subtotal time (hr)		0.10	0.20	0.08	0.03	0.13	0.05
PREPARE TO TRAVEL - MAINTENANCE							
		Bucket Maint	Climb Maint	UG Maint	Nxt Pole/ MidSpan Bucket Maint	Climb Maint	2nd Man Climb Maint
a Lower Bucket		1	-	-	1	-	-
a1 Stow Ladder		-	7	-	-	7	-
b Dispose of Materials		1	1	1	0	0	1
c Pick up and Store cones		1	1	1	1	1	1
d Relocate to NxtPole/MidSpan		-	-	-	2	2	-
e Turn off flashers, rotating lights, arrow board		1	1	1	0	0	-
f Complete Ticket on MDT		1	1	1	0	0	1
# subtotal time (min)		5	11	4	4	10	3
# subtotal time (hr)		0.08	0.18	0.07	0.07	0.17	0.05
CALL IN 2ND MAN/ WAIT TIME							
		All Maint					
a Call on Radio		1					
b Wait Time		30					
# subtotal time (min)		31					
# subtotal time (hr)		0.52					

MAINTENANCE COST
TIME AND LABOR - LUMINAIRES

AVERAGE UNIT TIME

Operation	Unit Time min	Unit Time min	Unit Time min	Unit Time min	Crew	S/Hr	
LAMP FAILURE						SL1	\$87.21
	Bucket Maint	Climb Maint	2nd Man Climb Maint				
a Travel Time	24	24	24				
b Call in for 2nd Man/Wait Time	-	-	31				
c Set up Bucket	6	12	3				
c1 Extra Access Time	0.01	0.01	-				
d Light Maintenance	5	8	8				
e Prepare to Travel	5	11	11				
# subtotal time (min)	40	55	77				
# subtotal time (hr)	0.67	0.92	1.28			\$ 76.36	
Bucket/Climb Ratio	86%	14%					
<i>Repair Type</i>		<i>All Maint</i>					
Extra Access Time (move surrounding items e.g. cars)	15	0.06%					
LUMINAIRE PARTS FAILURE						SL1	\$87.21
	Bucket Maint	Climb Maint	Memo	2nd Man FR Climb			
a Travel Time (Maint)	24	24	24	24			
b Set up Bucket	6	12	6	3			
Inspect/Diagnose							
c Problem/Remove Part	18	21	Bucket or Climb	Join Job			
d Lower Bucket	1	-		31			
e Call in for 2nd Man/Wait Time	-	-		Join Job			
f Pull Material Off Truck	4	4					
g Raise Bucket	1	-					
h Repair Luminaire	10	12		12			
i Prepare to Travel	5	11	5	3			
# subtotal time (min)	69	84	35	70			
# subtotal time (hr)	1.15	1.40	0.58	1.17		\$ 125.07	
Bucket/Climb Ratio	95%	5%					
FR/Memo Ratio	100%		5.7%				
<i>Part Group</i>	<i>All Maint</i>		<i>Individual Frequency</i>	<i>Ratio of Group</i>	<i>Memo</i>		
Starting Aide	1	1	1.0%	25.69%	5%		
Capacitor	15	18	2.2%	59.54%	5%		
Ballast	30	36	0.07%	1.77%	10%		
Glass	2	4	0.5%	13.01%	10%		
Average	10	12	3.7%				

MAINTENANCE COST
TIME AND LABOR - LUMINAIRES

AVERAGE UNIT TIME

Operation	Unit Time min	Unit Time min	Unit Time min	Unit Time min	Crew	\$/Hr
PHOTOCELL REPLACEMENT					SL1	\$87.21
	Bucket Maint	Climb Maint	2nd Man FR Climb			
a Travel Time (Maint)	24	24	24			
b Set up Bucket	6	12	12			
c Remove Part	10	14	Join Job			
d Lower Bucket	1	-				
e Call in for 2nd Man/Wait Time	-	-	31			
f Pull Material Off Truck	4	4	Join Job			
g Raise Bucket	1	-				
h Repair Luminaire	1	3	3			
i Prepare to Travel	5	11	11			
# subtotal time (min)	52	68	81			
# subtotal time (hr)	0.87	1.13	1.35			\$ 82.63
Bucket/Climb Ratio	95%	5%				
FR/Memo Ratio		100%				

MAINTENANCE COST
TIME AND LABOR - POLES

AVERAGE UNIT TIME

Operation	Unit Time min	Unit Time min	Unit Time min	Crew	Crew (Alt)	\$/Hr	\$/Hr (Alt)
CABLE & UG PARTS FAILURE				SL1	SL2	\$87.21	\$174.43
	Bucket Maint FR	Climb Maint FR	FR All (pre Memo)	Memo (UG Parts)	Memo (LT-UG Cable)		
a	Travel Time (Maint)	24	24	24	24		
b	Set up Bucket	6	12	6	5		
c	Inspect/Diagnose Problem	3	5	3.1			
d	Prepare to Travel NxtPole	4	10	4			
e	Set up Bucket NxtPole	2	8	2			
f	Inspect/Diagnose Problem (determine is UG issue)	3	5	3.1	FR	FR	
g	Lower Bucket	1	-	1			
h	Locate HH/Feed Source	10	10	10			
i	Inspect/Diagnose Problem	2	2	2			
	Add'l Inspect/Diagnose Handhole/Connector/Fuse/Fuse Holder (may determine is UG Cable issue)	-	-	-	2		
i1		-	-	-			
j	Remove Old Conductor	-	-	-	-	30	
k	Pull Material Off Truck	4	4	4	4	4	
l	Measure Cable	-	-	-	-	15	
m	Repair/Replace Conductor	-	-	-	-	30	
n	Repair/Replace Handhole/Connector/Fuse/Fuse Holder	3	3	3	3	-	
o	Raise Bucket	1	-	1	1	1	
p	Cover PC/Test Light	1	1	1	1	1	
q	Prepare to Travel	5	11	4	4	4	
#	subtotal time (min)	69	95	60	44	114	
#	subtotal time (hr)	1.15	1.58	1.00	0.73	1.90	\$ 145.82
	Bucket/Climb Ratio	95%	5%				
	FR/Memo Ratio		86%	14%	0.2%	13.8%	

Part Group	Insp/ Diagnose/ Remove	Replace	Individual Frequency	Ratio	All FR Freq	All Memo Freq
UG Cable Failure FR			0.15%	14%	100%	100%
Hand Hole	10	11	0.02%	2%	85%	15%
UG Connector	5	4	0.05%	5%	100%	0%
UG Fuse	2	2	0.74%	68%	100%	0%
UG Fuse Holder	3	9	0.13%	12%	100%	0%
Average	2	3	1.09%		100%	14.0%

FR/Memo Ratio	UG Parts	LT-UG Cable
	86.0%	0.2%
	14%	13.8%

MAINTENANCE COST
TIME AND LABOR - POLES

AVERAGE UNIT TIME

Operation	Unit Time min	Unit Time min	Unit Time min	Crew	Crew (Alt)	\$/Hr	\$/Hr (Alt)
CABLE & OH PARTS FAILURE				SL1	SL2	\$87.21	\$174.43
	Bucket Maint FR	Climb Maint FR	FR (pre Memo) All	Memo (OH Parts)	Memo (LT-2/4 SVC)	2nd Man FR Climb	
a	Travel Time (Maint)	24	24	24	24	24	
b	Set up Bucket	6	12	6.3	6	3	
c	Inspect/Diagnose Problem	3	5	3.1			
d	Prepare to Travel NxtPole	4	10	4.3			
e	Set up Bucket NxtPole	2	8	2.3			
f	Cable Issue	3	5	3.1			
ff	Add'l Inspect/Diagnose Connector/Fuse	1	1	1	FR	FR	Join FR Job
g	Prepare to Travel MidSpan	4	4	-			
h	Create Memo on MDT Call in for 2nd Man/Wait Time or log as	-	-	1			
i	Memo	-	-	-	-	31	
j	Pull Material Off Truck	4	4	4	4	Join FR Job	
k	Measure Cable	10	10	-	10	10	
l	Set up Bucket MidSpan	2	2	-	2	2	
m	Repair/Replace Conductor - tree trim/make splice	15	25	Memo	-	48	25
n	Add'l Repair/Replace Connector/Fuse	1	1	1	1	1	
o	Prepare to Travel NxtPole	4	10	4.3	-	10	
p	Set up Bucket NxtPole	2	8	2.3	-	8	
q	Reenergize	2	2	2	-	2	
r	Prepare to Travel	5	11	5.3	5	3	
#	subtotal time (min)	92	142	51	49	99	119
#	subtotal time (hr)	1.54	2.37	0.84	0.81	1.66	\$ 191.37
Bucket/Climb Ratio	95%	5%					
FR/Memo Ratio	70%		14%	16%			
Repair Type	Clear	in Trees					
Cut old Cable	4	4					
Attach Rope, pull Old Cable Out of Trees, pull	20	35					
Hang & Sag Cable	8	8					
Make Hot (connect)	3	3					
Dispose of Materials, add'l	2	2					
Repair/Replace Cable Sum	37	52					
Clear/Tree Trim Ratio	30%	70%					
Repair/Replace Cable Avg	48						
Part	Inspect Diagnose Remove	Replace	Individual Frequency	Ratio	All FR Freq	All Memo Freq	
OH Cable Failure FR	5	4	0.39%	66%	100%	25%	
OH Connector	2	1	0.12%	20%	100%	0%	
OH Fuse	2	1	0.08%	14%	0%	100%	
Average	1	1	0.60%			30%	
FR/Memo Ratio	OH Parts	86.2%	14%				
	LT-2/4 SVC	65.8%	16%				

MAINTENANCE COST
TIME AND LABOR - POLES

AVERAGE UNIT TIME

Operation	Unit Time		Crew	Crew (Alt)	\$/Hr	\$/Hr (Alt)
	min	min				
CLEAN & PAINT POLES			PT1	PT2	\$83.53	\$92.24
	First Pole	PT 30'				
a	Travel Time (Group)	24	24			
b	Set up	10	10			
c	Pressure Wash Pole	20	20			
d	Paint Pole & Fixture	20	45			
e	Prepare to Travel Nxt Pole	8	8			
f	Re-Grid Pole	5	5			
g	Restore Site/Stow Materials	2	2			
h	Prepare to Travel Nxt Pole	8	8			
#	subtotal time (min)	97	122			
#	subtotal time (hr)	1.62	2.03			
					PT 30'	
					\$135.03	\$187.56
	Interim Pole	PT 30'				
a	Travel Time (Group)	5	5			
b	Set up	5	5			
c	Pressure Wash Pole	20	20			
d	Paint Pole & Fixture	20	45			
e	Prepare to Travel Nxt Pole	8	8			
f	Re-Grid Pole	5	5			
g	Restore Site/Stow Materials	2	2			
h	Prepare to Travel Nxt Pole	8	8			
#	subtotal time (min)	73	98			
#	subtotal time (hr)	1.22	1.63			
					PT 30'	
					\$101.62	\$150.66
	Last Pole	PT 30'				
a	Travel Time (Group)	5	5			
b	Set up	5	5			
c	Pressure Wash Pole	20	20			
d	Paint Pole & Fixture	20	45			
e	Prepare to Travel Nxt Pole	8	8			
f	Re-Grid Pole	5	5			
g	Restore Site/Stow Materials	15	15			
h	Prepare to Travel	6	6			
#	subtotal time (min)	84	109			
#	subtotal time (hr)	1.40	1.82			
					PT 30'	
					\$116.94	\$167.57
					PT/30' Pole Ratio	89%
						11%
Clean/Paint Pole Summary						
		PT	30'		PT	30'
Pole Sequence	Labor/ Vehicle per Pole	Labor/ Vehicle per Pole	Qty Poles (avg job)	Extended	Extended	
First Pole	\$135.03	\$187.56	1	\$135.03	\$187.56	
Interim Pole	\$101.62	\$150.66	26	\$2,642.17	\$3,917.22	
Last Pole	\$116.94	\$167.57	1	\$116.94	\$167.57	
			28	\$2,894.14	\$4,272.36	
Average Labor/Vehicle per Pole				\$103.36	\$152.58	

MAINTENANCE COST
TIME AND LABOR - DOUBLE POST TOP BRACKET

AVERAGE UNIT TIME

Operation	Unit Time min	Crew	\$/Hr
REPLACE DOUBLE BRACKET - POST TOP		SL1	\$87.21
	Bucket		
a Travel Time (Maint)	24		
b Set up Bucket	6		
c Remove Fixtures & Bracket	30		
d Lower Bucket	1		
e Make up Double Bracket & Fixtures	6		
f Install Double Bracket & Fixtures	12		
# subtotal time (min)	79		\$ 114.83
# subtotal time (hr)	1.32		

MAINTENANCE COST
TIME AND LABOR - TIMER

Operation	AVERAGE UNIT TIME		Crew	\$/Hr
	Unit Time min	Unit Time min		
TIMER REPLACEMENT			SL1	\$87.21
	FR	Memo		
a Travel Time (Maint)	24	24		
b Set up Bucket	6	6		
Energize Relay/inspect/ Diagnose				
c Problem/ Remove	40	FR		
d Lower Bucket	1			
e Create Memo	1			
f Program Timer in Office	-	15		
g Pull Material Off Truck		4		
h Raise Bucket	Memo	1		
i Replace Relay/Timer/Reenergize		10		
j Prepare to Travel	5	5		
# subtotal time (min)	77	65		
# subtotal time (hr)	1.28	1.08		\$ 206.40
FR/Memo Ratio	100%	100%		

MAINTENANCE COST
TIME AND LABOR - RELAY

Operation	AVERAGE UNIT TIME		Crew	\$/Hr
	Unit Time min	Unit Time min		
RELAY REPLACEMENT			SL1	\$87.21
	FR	Memo		
a Travel Time (Maint)	24	24		
b Set up Bucket	6	6		
c Energize Relay/inspect/ Diagnose				
c Problem/ Remove	36			
d Lower Bucket	1			
e Create Memo*				
f Program Timer in Office	-			
g Pull Material Off Truck	4			
h Raise Bucket	1			
i Replace Relay/Timer/Reenergize	20			
j Prepare to Travel	5	5		
# subtotal time (min)	97	35		
# subtotal time (hr)	1.62	0.58		\$ 176.61
FR/Memo Ratio	100%	70%		

*Relay - 20% is a special relay, must memo to order part.

LIGHTING
INSTALLATION LABOR

INSTALLATION COST
TIME AND LABOR - GENERAL

AVERAGE UNIT TIME

Operation	Unit Time min	Unit Time min	Unit Time min	Unit Time min	Unit Time min	Unit Time min	Unit Time min	Unit Time min
TRAVEL TIME								
	Crew	Group	Engineering					
a Review Work Request for Location	0.5	-	0.5					
b Compute Route	1	-	1					
c Average Travel	22.5	5	22.5					
d Arrive	-	-	-					
# subtotal time (min)	24	5	24					
# subtotal time (hr)	0.40	0.08	0.40					
SET UP BUCKET								
	Bucket	Climb	UG	Nxt Pole/ MidSpan		Subdivision/ Comm		Roadway
				Bucket	Climb	Engineering1	Engineering2	Engineering3
a Turn on flashers, rotating lights, arrow board	1	1	1	0	0	1	1	1
b Review Work Request	1	1	1	1	1	-	-	-
c Set cones out	2	2	2	0	0	-	-	-
d Put on PPE (Ops is already wearing)	-	-	-	-	-	-	1	2
e Gather and set out Materials	2	2	2	0	0	-	-	-
f Raise Bucket	1	-	-	1	-	-	-	-
f1 Set up and secure Ladder	-	7	-	-	7	-	-	-
# subtotal time (min)	7	13	6	2	8	1	2	3
# subtotal time (hr)	0.12	0.22	0.10	0.03	0.13	0.02	0.03	0.05
PREPARE TO TRAVEL								
	Bucket	Climb	UG	Nxt Pole/ MidSpan		Engineering 1		
				Bucket	Climb			
a Lower Bucket	1	-	-	1	-	-		
a1 Stow Ladder	-	7	-	-	7	-		
b Dispose of Materials	1	1	1	0	0	-		
c Pick up and Store cones	1	1	1	1	1	-		
d Relocate to NxtPole/MidSpan	-	-	-	2	2	-		
e Remove PPE (Ops remains wearing)	-	-	-	-	-	1		
f Turn off flashers, rotating lights, arrow board	1	1	1	0	0	1		
f Process Work Request Paperwork	1	1	1	0	0	-		
# subtotal time (min)	5	11	4	4	10	2		
# subtotal time (hr)	0.08	0.18	0.07	0.07	0.17	0.03		

INSTALLATION COST
TIME AND LABOR - LUMINAIRE/POLE SHARED COSTS

Operation	AVERAGE UNIT TIME				Crew	Crew (Alt)	\$/Hr	\$/Hr (Alt)		
	Unit Time (min)	Unit Time (hr)	Unit Time (min)	Unit Time (hr)						
INSTALL NEW POLE & NEW FIXTURE - Al & Steel					LN1		\$211.36			
New Pole (w/Fixture) assuming conduit and cable is pulled (UG)										
a	Install Conduit	<i>separate task</i>				pole				
b	Pull Wire and Install Conductor	<i>separate task</i>				pole				
c	Install Hand Hole & Connect to Secondary (UG only)	<i>separate task - part of Install Conductor</i>				pole				
d	Load Material	6	6	6	6	shared				
e	Travel Time (Install)	24	24	2	2	shared				
f	Set up Bucket	7	7	2	2	shared				
g	Set up Site/Pole Hauler	5	5	3	3	pole				
h	Make up Material (fixture & bracket)	8	8	8	8	fixture				
i	Make up Material (pole)	2	2	2	2	pole				
j	Run Cable down thru Pole (UG only)	12	12	12	12	pole				
k	Wire New Fixture/Bracket & Install on Pole	15	15	15	15	fixture				
l	Dig Hole/Set Pole	25	25	25	25	pole				
m	Run OH Cable & Connect to Secondary (OH only)	<i>separate task</i>				pole				
n	Connect Pole Wire to HH (UG)	8	8	8	8	pole				
o	Energize (All)	2	2	2	2	fixture				
p	Raise Bucket	1	1	1	1	fixture				
q	Test Light	2	2	2	2	fixture				
r	Restore Site/Stow Material	6	2	2	6	pole				
s	Prepare to Travel	5	4	4	5	shared				
#	subtotal time (min)	128	123	94	99					
#	subtotal time (hr)	2.13	2.05	1.57	1.65					
								Avg per Unit, Normalized by Pole/Job Distribution		
								\$ 141.42 per Fixture		
								\$ 233.74 per Pole		
							1<x<2	3>x>4	5<x<7 & multiples	
							Ratio	20.7%	24.1%	55.2%
Fixture Subtotal time (min)		49	48.5	35	35.5		Cost	\$ 172.61	\$480.84	\$789.07
Fixture Subtotal time (hr)		0.82	0.81	0.58	0.59	Fixture	Unit Cost	\$ 172.61	\$ 137.38	\$ 131.51
Pole Subtotal time (min)		79	74.5	59	63.5		Cost	\$ 278.29	\$797.88	\$1,317.47
Pole Subtotal time (hr)		1.32	1.24	0.98	1.06	Pole	Unit Cost	\$ 278.29	\$ 227.97	\$ 219.58
INSTALL NEW POLE & NEW FIXTURE - PT Decorative					LN1		\$211.36			
New Pole (w/Fixture) assuming conduit and cable is pulled (UG)										
a	Install Conduit	<i>separate task</i>				pole				
b	Pull Wire and Install Conductor	<i>separate task</i>				pole				
c	Install Hand Hole & Connect to Secondary (UG only)	<i>separate task - part of Install Conductor</i>				pole				
d	Load Material	6	6	6	6	shared				
e	Travel Time (Install)	24	24	2	2	shared				
f	Set up Bucket	6	6	2	2	shared				
g	Set up Site/Pole Hauler	5	5	3	3	pole				
h	Make up Material (fixture & bracket)	6	6	6	6	fixture				
i	Make up Material (pole)	2	2	2	2	pole				
j	Run Cable down thru Pole (UG only)	6	6	6	6	pole				
k	Wire New Fixture/Bracket & Install on Pole	11	11	11	11	fixture				
l	Dig Hole/Set Pole	25	25	25	25	pole				
m	Run OH Cable & Connect to Secondary (OH only)	<i>separate task</i>				pole				
n	Connect Pole Wire to HH (UG)	8	8	8	8	pole				
o	Energize (All)	2	2	2	2	fixture				
p	Raise Bucket/Set up Ladder	-	-	-	-	fixture				
q	Test Light	2	2	2	2	fixture				
r	Restore Site/Stow Material	6	2	2	6	pole				
s	Prepare to Travel	4	4	4	4	shared				
#	subtotal time (min)	113	109	81	85					
#	subtotal time (hr)	1.89	1.82	1.35	1.42					
								Avg per Unit, Normalized by Pole/Job Distribution		
								\$ 115.47 per Fixture PT Fixture		
								\$ 211.31 per Pole		
							1<x<2	3>x>4	5<x<7 & multiples	
							Ratio	20.7%	24.1%	55.2%
Fixture Subtotal time (min)		41	41	28	28		Cost	\$ 144.43	\$391.01	\$637.60
Fixture Subtotal time (hr)		0.68	0.68	0.47	0.47	Fixture	Unit Cost	\$ 144.43	\$ 111.72	\$ 106.27
Pole Subtotal time (min)		72	68	53	57		Cost	\$ 253.63	\$720.38	\$1,187.13
Pole Subtotal time (hr)		1.20	1.13	0.88	0.95	Pole	Unit Cost	\$ 253.63	\$ 205.82	\$ 197.86

INSTALLATION COST
 TIME AND LABOR - LUMINAIRE/POLE SHARED COSTS

Operation	AVERAGE UNIT TIME				Crew	Crew (Alt)	\$/Hr	\$/Hr (Alt)																																	
	Unit Time min	Unit Time min	Unit Time min	Unit Time min																																					
INSTALL NEW POLE & NEW FIXTURE - UG Conc								LN1	\$211.36																																
New Pole (w/Fixture) assuming conduit and cable is pulled (UG)																																									
a		1<x<2			First	Interim	Last	Time Allocation																																	
b		separate task			pole																																				
c		separate task			pole																																				
d		separate task - part of Install Conductor			pole																																				
e	6	6	6	6	shared																																				
f	24	24	2	2	shared																																				
g	7	7	2	2	shared																																				
h	5	5	3	3	pole																																				
i	8	8	8	8	fixture																																				
j	2	2	2	2	pole																																				
k	15	15	15	15	pole																																				
l	15	15	15	15	fixture																																				
m	25	25	25	25	pole																																				
n		separate task			pole																																				
o	8	8	8	8	pole																																				
p	2	2	2	2	fixture																																				
q	1	1	1	1	fixture																																				
r	2	2	2	2	fixture																																				
s	6	2	2	6	pole																																				
t	5	4	4	5	shared																																				
# subtotal time (min)	131	126	97	102																																					
# subtotal time (hr)	2.18	2.10	1.62	1.70																																					
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INSTALL NEW POLE & NEW FIXTURE - Wood & OH Conc								LN1	\$211.36																																
New Pole (w/Fixture) assuming conduit and cable is pulled (UG)																																									
a		1<x<2			First	Interim	Last	Time Allocation																																	
b		separate task			pole																																				
c		separate task			pole																																				
d		separate task - part of Install Conductor			pole																																				
e	6	6	6	6	shared																																				
f	24	24	2	2	shared																																				
g	7	7	2	2	shared																																				
h	5	5	3	3	pole																																				
i	8	8	8	8	fixture																																				
j	2	2	2	2	pole																																				
k	15	15	15	15	pole																																				
l	25	25	25	25	pole																																				
m		separate task			pole																																				
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# subtotal time (hr)	1.80	1.72	1.23	1.32																																					
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INSTALL PT DOUBLE BRACKET (for 2nd FIXTURE)								LN1	\$211.36																																
additional time for Bracket & 2nd Fixture																																									
a	6	Time Allocation																																							
b	12	100% fixture																																							
# subtotal time (min)	18																																								
# subtotal time (hr)	0.30																																								
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Bucket	6	Time Allocation																																							
	12	100% fixture																																							
# subtotal time (min)	18																																								
# subtotal time (hr)	0.30																																								
									part of another job																																

INSTALLATION COST
 TIME AND LABOR - LUMINAIRE/POLE SHARED COSTS

AVERAGE UNIT TIME																																							
Operation	Unit Time	Unit Time	Unit Time	Unit Time	Crew	Crew (Alt)	\$/Hr	\$/Hr (Alt)																															
	min	min	min	min																																			
ENGINEERING - FIELD/WORK ORDER																																							
Field Design Work																																							
E/F: \$80.27																																							
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	1<x<2	Subdivision	Commercial	Street /Bvd	Time Allocation																																		
Trips to job site	1	3	4	3																																			
# Lights Range	<5	10>>25	6>>??	17.6/side*																																			
# Lights Avg	1	17.5	10	16.3																																			
FIELD VISIT 1																																							
a1	24	24	24	24	Pole & Fixture																																		
b1	1	2	2	3	Pole & Fixture																																		
c1	5	23	45	-	Pole & Fixture																																		
d1	5	-	-	-	Pole & Fixture																																		
e1	5	-	-	-	Fixture																																		
f1	5	-	-	30	Pole & Fixture																																		
g1	25	-	-	-	Pole & Fixture																																		
h1	2	0	0	0	Pole & Fixture																																		
#	subtotal time (min)																																						
#	subtotal time (hr)																																						
	72	48.5	71	57																																			
	1.2	0.81	1.18	0.95																																			
FIELD VISIT 2																																							
a2		24	24	24	Pole & Fixture																																		
b2		2	2	3	Pole & Fixture																																		
c2		15	30	-	Pole & Fixture																																		
d2		10	10	10	Pole & Fixture																																		
e2		10	10	0	Fixture																																		
f2		0	0	45	Pole & Fixture																																		
g2		40	40	15	Pole & Fixture																																		
h2		0	0	0	Pole & Fixture																																		
#	subtotal time (min)																																						
#	subtotal time (hr)																																						
	0	101	116	97																																			
	0.00	1.68	1.93	1.62																																			
FIELD VISIT 3																																							
a3		24	24	24	Pole																																		
b3		2	2	3	Pole																																		
c3		15	20	-	Pole																																		
d3		-	-	33	Pole																																		
e3		0	0	0	Pole																																		
#	subtotal time (min)																																						
#	subtotal time (hr)																																						
	0	41	46	60																																			
	0.00	0.68	0.77	0.99																																			
FIELD VISIT 4																																							
a4			24		Pole																																		
b4			2		Pole																																		
c4			15		Pole																																		
d4			0		Pole																																		
#	subtotal time (min)																																						
#	subtotal time (hr)																																						
	0	0	41	0																																			
	0.00	0.00	0.68	0.00																																			
Combined subtotal time (min)																																							
Combined subtotal time (hr)																																							
	72	190.5	274	213.6																																			
	1.20	3.18	4.57	3.56																																			
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	1<x<2	Subdivision	Commercial	Street/ Blvd																																			
Fixtures	\$ 51.51	\$ 106.69	\$ 131.77	\$ 103.01																																			
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* Intersection/15' roadway/.5 mi 2sides, 150' span = 17.6/side																																							
<table border="1"> <thead> <tr> <th>Visits</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> </thead> <tbody> <tr> <td>Visit 1 Duration</td> <td>45</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Visit 1 (Intro Meeting) % attended</td> <td>50%</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Visit 2 Duration</td> <td>30</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Visit 2 (Pre Construction Meeting) % attended</td> <td>50%</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Staking of Site (min per light)</td> <td></td> <td></td> <td>2</td> <td></td> </tr> </tbody> </table>										Visits	1	2	3	4	Visit 1 Duration	45				Visit 1 (Intro Meeting) % attended	50%				Visit 2 Duration	30				Visit 2 (Pre Construction Meeting) % attended	50%				Staking of Site (min per light)			2	
Visits	1	2	3	4																																			
Visit 1 Duration	45																																						
Visit 1 (Intro Meeting) % attended	50%																																						
Visit 2 Duration	30																																						
Visit 2 (Pre Construction Meeting) % attended	50%																																						
Staking of Site (min per light)			2																																				

INSTALLATION COST
TIME AND LABOR - LUMINAIRE/POLE SHARED COSTS

AVERAGE UNIT TIME										
Operation	Unit Time (min)	Unit Time (min)	Unit Time (min)	Unit Time (min)	Crew	Crew (Alt)	\$/Hr	\$/Hr (Alt)		
ENGINEERING - PRELIMINARY					E/O		\$80.27			
Office Design Work										
					Time Allocation		\$ 107.02		Fixture Only	
	# Lights Range	1<x<2	Subdivision	Commercial	Street /Blvd					
	# Lights Avg	<5	10>	6>	17.6/side*					
		1	17.5	10	16.3					
a	Lighting Design - Design software	10	87.5	50	81.5	Fixture			Avg per Unit, Normalized by Job Distribution	
b	Lighting Design - Design Revisions	0	20	20	20	Fixture	\$ 11.98		per Fixture	
c	CIAC	0	10	10	10	Pole&Fixture	\$ 29.75		per Pole	
d	Electrical Design	60	120	90	150	Pole	\$ 41.73		TOTAL	
e	Permitting				60	Pole				
f	Packaging work request (contract, prints, voltage drop, wire)	10	20	15	15	Pole&Fixture				
#	subtotal time (min) based on # of fixtures	80	257.5	185	336.5					
#	subtotal time (hr)	1.33	4.29	3.08	5.61					
		1<x<2	Subdivision	Commercial	Street/ Blvd					
		20.7%	20.4%	24.1%	34.8%					
	Fixture Subtotal time (min)	15.0	122.5	82.5	114.0	Fixture	\$ 20.07	\$ 163.88	\$ 110.37	\$ 152.51
	Fixture Subtotal time (hr)	0.25	2.04	1.38	1.90	Fixture	\$ 20.07	\$ 9.36	\$ 11.04	\$ 9.36
	Pole Subtotal time (min)	65.0	135.0	102.5	222.5	Pole	\$ 86.96	\$ 180.60	\$ 137.13	\$ 297.66
	Pole Subtotal time (hr)	1.08	2.25	1.71	3.71	Pole	\$ 86.96	\$ 10.32	\$ 13.71	\$ 18.26

* Intersection/15' roadway/.5 mi 2sides, 150' span = 17.6/side

INSTALLATION COST - TIME AND LABOR - POLES

Operation	Unit Time	Unit Time	Unit Time	Unit Time	Crew	\$/Hr
INSTALL CONDUIT						
					CC2	\$170.48
Trips to job site						
		UG Install	UG Install	UG Install		
		1	3	4		
Feet	100	500	1000			
FIELD VISIT 1						
a1 Load Material	10	20	25			
b1 Travel Time (Install)	24	24	24			
c1 Safety Tail Board (Set cones, safety flashers, etc)	5	5	5			
d1 Unload Equip (Backhoe, air compressor)	6	6	6			
e1 Unload Material (PVC, hand tools)	6	6	8			
f1 Spot Utilities	10	10	10			
g1 Dig Trench	120	185	165			
h1 Install conduit (cutting, gluing, blow rabbit)	10	21	25			
i1 Pull Tape	5	6	7			
j1 Back fill	90	123	132			
k1 Load Equipment	6	6	6			
l1 Load Material	5	5	5			
m1 Complete DARs	5	5	5			
n1 Prepare to Travel	4	4	4			
# subtotal time (min)	306	425.3	426.9			
# subtotal time (hr)	5.1	7.1	7.1			
FIELD VISIT 2						
a2 Load Material		20	25			
b2 Travel Time (Install)		24	24			
c2 Safety Tail Board (Set cones, safety flashers, etc)		5	5			
d2 Unload Equip (Backhoe, air compressor)		6	6			
e2 Unload Material (PVC, hand tools)		6	8			
f2 Dig Trench		185	165			
g2 Install conduit (cutting, gluing, blow rabbit)		21	25			
h2 Pull Tape		6	7			
i2 Back fill		123	132			
j2 Load Equipment		6	6			
k2 Load Material		5	5			
l2 Complete DARs		5	5			
m2 Prepare to Travel		4	4			
# subtotal time (min)	0	415.3	416.9			
# subtotal time (hr)	0.0	6.9	6.9			
FIELD VISIT 3						
a3 Load Material		20	25			
b3 Travel Time (Install)		24	24			
c3 Safety Tail Board (Set cones, safety flashers, etc)		5	5			
d3 Unload Equip (Backhoe, air compressor)		6	6			
e3 Unload Material (PVC, hand tools)		3	8			
f3 Dig Trench		81	165			
g3 Install conduit (cutting, gluing, blow rabbit)		9	25			
h3 Pull Tape		3	7			
i3 Back fill		54	132			
j3 Load Equipment		6	6			
k3 Load Material		5	5			
l3 Complete DARs		5	5			
m3 Prepare to Travel		4	4			
# subtotal time (min)	0	224.4	416.9			
# subtotal time (hr)	0.0	3.7	6.9			
FIELD VISIT 4						
a4 Load Material			25			
b4 Travel Time (Install)			24			
Safety Tail Board (Set cones, safety flashers, etc)						
c4			5			
d4 Unload Equip (Backhoe, air compressor)			6			
e4 Unload Material (PVC, hand tools)			5			
f4 Dig Trench			105			
g4 Install conduit (cutting, gluing, blow rabbit)			16			
h4 Pull Tape			4			
i4 Back fill			84			
j4 Load Equipment			6			
k4 Load Material			5			
l4 Complete DARs			5			
m4 Prepare to Travel			4			
# subtotal time (min)	0	0	294			
# subtotal time (hr)	0.0	0.0	4.9			
Combined subtotal time (min)	306	1085	1555			
Combined subtotal time (hr)	5.10	17.75	25.92			

\$	5.98	Avg per Foot, Normalized by Pole/Job Distribution
----	------	---

	100 Ft	500 Ft	1000 Ft
\$	7.90	5.57	4.10
per Foot Ratio	44.8%	12.3%	43.0%

INSTALLATION COST - TIME AND LABOR - POLES

Operation	Unit Time min	Unit Time min	Unit Time min	Unit Time min	Crew	\$/Hr
INSTALL HAND HOLE - NEW INSTALL						
					CC1	\$184.04
					One Man of Two Man Crew	
	Part of Existing Visit					
	Only	First	Next			
a Load Material	1	1	1			
b Travel Time (Install)	existing trip					
c Pull Material Off Truck	4	4	3			
d Dig Hole	5	5	5			
e Install Hand Hold	5	5	5			
f Prepare to Travel NxtPole	0	0	0			
g Set up Bucket NxtPole	0	0	0			
h Prepare to Travel	existing trip					
# subtotal time (min)	15	15	14			
# subtotal time (hr)	0.25	0.25	0.23			
					Single HH Install	
					\$23.00	One Man of Two Man Crew
					imbedded in Pull Conductor Task	
PULL CONDUCTOR IN CONDUIT						
					CC1	\$184.04
	Feet	100	500	1000		
a Load Material in Yard		10	10	10		
b Travel Time (Install)		0	0	0		
c Set Up Bucket (Install)		0	0	0		
d Safety Tail Board (Set cones, safety flashers, etc)		5	5	5		
e Unload Equip (Backhoe, air compressor)		5	6	6		
f Unload Material (wire, hand tools)		5	5	5		
g Pull in Wire		3	15	30		
h Install Handhole(s)* (1 every Avg Span, 1.5 first span		8	32.9	60.0		
i Terminate conductor (both ends) to URD Hand Hole		5	11.5	21.2		
j Dig In & Connect to Secondary		5	5	5		
k Load Equipment		2	6	6		
l Load Material		2	2	2		
m Complete DARs		5	5	5		
n Prepare to Travel (Install)		0	0	0		
# subtotal time (min)		47.5	103	155		
# subtotal time (hr)		0.79	1.72	2.59		
					\$ 0.87	Avg per Foot, Normalized by Pole/Job Distribution
					* HH time from separate task - includes HH install & connections & connect to Secondary. Time halved for One Man of Two Man Crew.	
					100 Ft	500 Ft
					per Foot	\$1.35
					Ratio	44.8%
						\$0.59
						\$0.44
						12.3%
						43.0%
INSTALL UG FEED TO WOOD POLE						
					LN1	\$211.36
					part of Install Fixture, need LN1	
a Load Material		6				
b Travel Time (Install)		existing trip				
Install Conduit		separate task	\$7.90	per foot Conduit		
Pull Wire and Install Conductor		separate task	\$1.35	per foot Conductor		
Install Hand Hole & Connect to Secondary (UG only)		separate task				
Pull Material Off Truck		5				
Measure & Make up Conduit & Cable for Wood Pole Svc		20				
Dig to Install Conduit & Elbow Below Ground		20				
Attach Svc Conduit to Pole w/Straps		10				
f Connect Pole Wire to HH (UG)		8				
g Energize		Fixture Task				
k Prepare to Travel		existing trip				
# subtotal time (min)		69				
# subtotal time (hr)		1.15				
					\$243.06	Existing Pole
RUN OH CABLE						
					LN1	\$211.36
					part of Set Pole/Install Fixture, need LN1	
	Feet	141.6				
a Load Material		6				
b Travel Time (Install)		existing trip				
d Pull Material Off Truck		5				
e Measure Cable		10				
c Raise Bucket		1				
f Connect to Luminaire		3				
g Pull in Conductor - Hang & Sag		15				
h Prepare to Travel NxtPole		4				
i Set up Bucket NxtPole		2				
j Connect to Secondary Feed		2				
k Prepare to Travel		existing trip				
# subtotal time (min)		48				
# subtotal time (hr)		0.80				
					\$1.19	per foot, Avg OH Span basis
					\$169.09	

MAINTENANCE COST
 TIME AND LABOR- RELAY AND TIMER

Operation	Unit Time	Unit Time	Unit Time	Unit Time	Crew	Crew (Alt)	\$/Hr	\$/Hr (Alt)										
INSTALL RELAY/TIMER					SL1	LN1	\$87.21	\$211.36										
	<table border="1"> <thead> <tr> <th colspan="4">Relay</th> <th>Timer Relay</th> </tr> <tr> <th>OH</th> <th>UG</th> <th>Oil Switch</th> <th></th> <th></th> </tr> </thead> </table>				Relay				Timer Relay	OH	UG	Oil Switch						
Relay				Timer Relay														
OH	UG	Oil Switch																
a	6	6	12	6														
b	-	-	-	15														
c	24	24	24	24														
d	6	6	6	6														
e	4	4	4	4														
f	-	per foot	-	-			\$6.53 per foot											
g	-	per foot	-	-			\$1.43 per foot											
h	-	20	-	-														
i	10	-	10	-														
j	1	-	1	-														
k	15	-	15	-														
l	1	-	1	-														
m	2	-	2	1														
n	-	-	30	-														
o	25	60	-	15														
p	2	2	2	-														
q	-	-	25	-														
r	5	5	30	-														
s	5	5	5	5														
#	106	132	167	76														
#	1.77	2.20	2.78	1.27														
Install Conduit (feet of)		110																
Install Conductor (feet of)		110																
ENGINEERING - RELAY or TIMER or PT DOUBLE BRACKET					E/O		\$80.27											
<i>Office Design Work</i>																		
	<table border="1"> <thead> <tr> <th>Relay</th> <th>w/Timer</th> <th>PT Double Bracket</th> </tr> </thead> </table>			Relay	w/Timer	PT Double Bracket												
Relay	w/Timer	PT Double Bracket																
a	10	10	10															
b	5	2	2															
c	0	0	0															
d	existing job						\$20.07	Relay										
e	existing job						\$16.05	Timer										
#	15	12	12				\$16.05	PT Double Bracket										
#	0.25	0.20	0.20															

**Miscellaneous
Support**

MAINTENANCE FREQUENCY BY ACTIVITY AND LUMINAIRE TYPE

SL2 and OL1										
DESCRIPTION	Fixture Type	Sum of FIXTURE (WP Memo)	Sum of Lamp	Sum of PHOTO CELL	Sum of RELAY	Sum of TIMER	Sum of Luminaire Parts	Sum of OH Cable Failure/ OH Parts (FR&M)	Sum of UG Cable Failure/ UG Parts (FR&M)	Sum of Paint Pole
100W HPS	Cobra	1.06%	19.80%	8.24%	0.22%	0.0210%	2.06%	0.69%	1.31%	0.01%
150W HPS	Cobra	0.91%	17.00%	6.98%	0.23%	0.0210%	1.78%	0.75%	1.00%	0.01%
250W HPS	Cobra	1.20%	21.55%	8.22%	0.24%	0.0210%	3.17%	0.76%	1.20%	0.01%
	Flood	1.20%	21.55%	8.22%	0.24%	0.0210%	3.17%	0.76%	1.20%	0.00%
400W HPS	Cobra	1.28%	21.85%	9.98%	0.28%	0.0358%	4.57%	0.88%	1.37%	0.23%
	Flood	1.28%	21.85%	9.98%	0.28%	0.0358%	4.57%	0.88%	1.37%	0.00%
	Mongoose	1.28%	21.85%	9.98%	0.28%	0.0358%	4.57%	0.88%	1.37%	12.57%
	Turnpike	0.00%	0.00%	0.00%	0.00%	0.0000%	0.00%	0.00%	0.00%	0.00%
50W HPS	Cobra	1.07%	18.97%	9.80%	0.22%	0.0210%	2.98%	0.91%	0.98%	0.44%
	Post Top	1.07%	18.97%	9.80%	0.22%	0.0210%	2.98%	0.91%	0.98%	7.72%
70W HPS	Cobra/NEMA	0.96%	17.77%	7.31%	0.22%	0.0210%	2.05%	0.67%	0.97%	0.97%
	Coach Post Top	0.96%	17.77%	7.31%	0.22%	0.0210%	2.05%	0.67%	0.97%	0.26%

OL3										
DESCRIPTION	Fixture Type	Sum of FIXTURE (WP Memo)	Sum of LAMP	Sum of PHOTO CELL	Sum of RELAY	Sum of TIMER	Sum of Luminaire Parts	Sum of OH Cable Failure/OH Parts (FR&M)	Sum of UG Cable Failure/UG Parts (FR&M)	Sum of Paint Pole
100W HPS	Classic Post Top	0.79%	19.39%	5.04%	0.15%	0.01%	0.874%	0.4547%	1.41%	13.44%
	Colonial Post Top	0.79%	19.39%	5.04%	0.15%	0.01%	0.873%	0.4547%	1.41%	13.44%
	Contemporary/Cube Post Top	0.91%	21.54%	5.04%	0.15%	0.01%	1.734%	0.4547%	1.41%	13.44%
	Salem Post Top	0.79%	19.39%	5.04%	0.15%	0.01%	0.873%	0.4547%	1.41%	13.44%
	Shoebox	0.79%	19.39%	5.04%	0.15%	0.01%	0.873%	0.4547%	1.41%	0.00%
250W HPS	Shoebox	1.07%	23.55%	15.17%	0.15%	0.01%	3.806%	1.1909%	3.77%	0.00%
400W HPS	Shoebox	1.03%	23.87%	5.69%	0.15%	0.01%	2.523%	0.4082%	0.88%	0.00%
	Flat Decorative	0.00%	0.00%	0.00%	0.00%	0.00%	0.000%	0.0000%	0.00%	0.00%
175W MH	Salem Post Top	1.31%	24.60%	11.98%	0.27%	0.03%	9.055%	0.8786%	2.55%	13.44%
	Shoebox	1.32%	24.53%	11.98%	0.27%	0.03%	9.140%	0.8786%	2.55%	0.00%
	General Post Top	1.31%	24.52%	11.98%	0.27%	0.03%	9.060%	0.8786%	2.55%	13.44%
400W MH	Cobra	1.51%	30.07%	10.18%	0.27%	0.01%	8.554%	0.3598%	0.75%	0.00%
	Flood	1.52%	30.12%	10.18%	0.27%	0.01%	8.592%	0.3598%	0.75%	0.00%
	Shoebox	1.50%	29.65%	9.70%	0.27%	0.01%	8.759%	0.3598%	0.75%	0.00%
	Cube/Decorative	2.24%	41.25%	10.18%	0.27%	0.01%	16.011%	0.3598%	0.75%	0.00%
1000W MH	Flood	2.96%	42.65%	12.08%	0.36%	0.01%	33.062%	0.6535%	1.47%	0.00%
	Shoebox	2.96%	42.63%	12.08%	0.36%	0.01%	33.040%	0.6535%	1.47%	0.00%

Group Misc UG Parts Failure: UG Fuse, Fuse Holder UG, Bad Connector, Hand Hole
 Group Misc Luminaire Parts Failure: Glass, Photo Eye Socket, Lamp Socket, Capacitor, Starting Aide

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TAMPA ELECTRIC COMPANY
 DOCKET NO. 080317-EI
 LIGHTING INCREMENTAL COST STUDY - 2008
 SUPPLEMENTAL MFR SCHEDULE 13D
 WITNESS: ASHBURN
 PAGE 73 OF 77
 FILED: 08/11/2008

CREW MAKEUP AND ENGINEERING LABOR

Installation & Maintenance Crews

POSITION	Hourly	Comments	Conductor Crew	Conduit Crew	Engineering Field	Engineering Office	Line Crew	Paint Crew	Paint Crew	Street Light Crew	Street Light Crew	System Service Crew
CREW CODE			CC1	CC2	E/F	E/O	LN1	PT1	PT2	SL1	SL2	SS1
CREW MAKEUP			\$184.04	\$170.48	\$85.11	\$80.27	\$211.36	\$83.53	\$92.24	\$87.21	\$174.43	\$112.18
Apprentice Lineman III	\$23.77						1.00					
Lineman	\$32.43						1.00					
Cable Splicer	\$32.43											
Lighting Repairman	\$22.66											
Lighting Repairman/ Serviceman (Avg)	\$23.19									1.00	2.00	
Troubleman	\$33.59											1.00
Serviceman	\$30.12											
Special Utility Worker	\$16.77	for conduit										
UG Serviceman	\$25.41	for conduit	2.00	2.00								
Utility Worker	\$13.40							2.00	2.00			
FET (S9)	\$29.29				1.00	1.00						
LFET (Avg)	\$26.16											
Light Vehicle (Rsc 04)	\$4.84	Air Compressor, Small Pole Trailer, Light Trailer	2.00	2.00	1.00			1.00				
Medium Vehicle (Rsc 13)	\$9.09											
Heavy Vehicle (Rsc 05) - Class A	\$11.59	Mini Backhoe, Semi Pole Hauler	1.00	1.00			1.00					
Heavy Vehicle (Rsc 05) - Class B	\$13.56	Aerial Truck	1.00				1.00		1.00			1.00
Heavy Vehicle (Rsc 05) - Class C	\$19.12	Aerial Truck								1.00	2.00	
Heavy Vehicle (Rsc 05) - Class D	\$21.21	Digger Derrick					1.00					

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TAMPA ELECTRIC COMPANY
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 LIGHTING INCREMENTAL COST STUDY - 2008
 SUPPLEMENTAL MFR SCHEDULE 13D
 WITNESS: ASHBURN
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LABOR AND EQUIPMENT FACTORS

Inflation rate =	1.024
A&G =	70.00%
Fringe =	72.00%
Small Tools % for TEC Field Labor =	2.68%
% Supv & Admin Lighting Field - TEC Labor (Maintenance) =	48.92%
% Supv & Admin TEC Lighting Engineering - TEC Labor (Installation) =	32.1%
% Supv & Admin TEC Lighting Field - TEC Labor (Installation) =	32.1%
ED Material Handling % =	25.17%
At-Cost Labor Conversion Factor (ACRF) =	1.38
Street fixture life *	19
Area fixture life *	17
Premium fixture life *	15
* Assume fixtures are in place equal to their book lives	

AVERAGE SPAN LENGTH
IES DESIGN STANDARD

Fixture Type	Rate	Fixture Long Desc	Lamp	Fixture	Scenario	Ratio PL	Ratio Rowy	OH Span to meet IES	UG Span to meet IES	Number Lights Plotted for Avg	Typical Pole Height	TSN	Average OH Span	Average UG Span
Flood	468	250W HPS Flood	HPS	Flood	Parking Lot	100%	0%	137	137	5	29	5585810	137.0	137.0
Flood	478	400W HPS Flood	HPS	Flood	Parking Lot	100%	0%	140	140	5	29	5585815	140.0	140.0
PT	509	50W HPS PT	HPS	PT	OL1			N/A	65			5583610	N/A	65.0
Cobra	520	400W MH Cobra	MH	Cobra	Parking Lot	100%	0%	150	115	5	29	5587000	150.0	115.0
Shoobox	550	100W HPS Shoobox	HPS	Shoobox	Parking Lot	10%	90%	95	95	5	29	5587550	153.5	153.5
					Roadway Subdivision			160	160	2	29	5587550		
Shoobox	552	400W HPS Shoobox	HPS	Shoobox	Parking Lot	90%	10%	120	120	5	29	5580150	127.5	127.5
					Roadway			195	195			5580150		
Shoobox	554	400W MH Shoobox FWT & MC	MH	Shoobox	Parking Lot	85%	15%	126	126	5	29	5586450	128.9	128.9
					Roadway Subdivision			145	145	3	29	5586450		
Flood	556	400W MH Flood	MH	Flood	Parking Lot	100%	0%	100	100	5	29	5588590	100.0	100.0
Flood	558	1000W MH Flood	MH	Flood	Parking Lot	100%	0%	145	145	5	29	5585900	145.0	145.0
Decorative	562	400W MH Decorative - Cuba	MH	Decorative - Cuba	zero Customers									
Shoobox	564	175W MH Shoobox	MH	Shoobox	Parking Lot	90%	10%	106	106	5	29	5580260	111.4	111.4
					Subdivision Roadway			160	160	5	29	5580260		
Shoobox	566	250W HPS Shoobox	HPS	Shoobox	Parking Lot	10%	90%	120	120	2	29	5580170	187.5	187.5
					Roadway Subdivision			195	195	2	29	5580170		
PT	570	100W HPS PT Classic(Promena	HPS	PT Classic	Parking Lot	25%	75%	N/A	85	5	13	5586268	N/A	100.0
					Parking Lot			N/A	85	5	13	5582120		
					Subdivision Roadway			N/A	105	4	13	5582120		
PT	571	100W HPS PT Cube/Contempor	HPS	PT Cube/Contemporary				N/A					N/A	100.0
PT	572	100W HPS PT Colonial	HPS	Colonial	Parking Lot	25%	75%	N/A	85	5	13	5586150	N/A	100.0
					Roadway			N/A	105	4	13	5586150		
PT	573	100W HPS PT Salem	HPS	PT Salem	Parking Lot	25%	75%	N/A	85	5	13	5586661	N/A	100.0
					Subdivision Roadway			N/A	105	4	13	5586661		
PT	574	175W MH PT General (Enhance	MH	PT Genera	Parking Lot	25%	75%	N/A	85	5	13	5587760	N/A	100.0
					Parking Lot			N/A	85	5	13	5583350		
					Parking Lot			N/A	85	5	13	5584200		
PT	575	175W MH PT Salem	MH	PT Salem	Subdivision Roadway			N/A	105	4	13	5584200		
					Parking Lot	75%	25%	N/A	85	5	13	5582050	N/A	90.0
Roadway								N/A	105	4	13	5582050		
Shoobox	576	1000W MH Shoobox FWT & MC	MH	Shoobox	Parking Lot	100%	0%	140	140	5	29	5580216	140.0	140.0
Cobra	662	70W HPS Cobra	HPS	Cobra	OL1			146	82	5	29	5586210	146.0	77.6
					OL1	OL1	146	66	5	29	5586222			
PT	668	70W HPS PT Coach	HPS	PT Coach	OL1			N/A	65	5	13	5586170	N/A	65.0
Cobra	672	100W HPS Cobra	HPS	Cobra	Roadway	25%	75%	146	146	3	29	5586220	144.5	144.5
					Roadway			146	146	3	29	5586290		
					Parking Lot			83	83	5	29	5586221		
Mongoose	679	400W HPS Mongoose	HPS	Mongoose	Parking Lot	50%	50%	126	126			5586663	148.0	178.0
					Roadway			170	230	2	40	5586663		
Cobra	682	250W HPS Cobra	HPS	Cobra	Roadway	70%	30%	170	195	3	29	5586700	153.1	161.1
					Roadway			170	195	3	29	5586010		
					Roadway			170	195	3	29	5586190		
					Parking Lot			145	145	5	29	5586200		
Cobra	692	400W HPS Cobra DOT	HPS	Cobra	Roadway	60%	40%	170	230	2	40	5586280	154.0	192.1
					Roadway			170	230	2	40	5586160		
					Roadway			170	230	2	40	5586160		
					Roadway Staggered			170	230	2	40	5586160		
Parking Lot	126	126	5	29	5586280									
Turnpike	699	400W HPS Turnpike	HPS	Turnpike				N/A						
Cobra	742	50W HPS Cobra	HPS	Cobra	OL1			144.5	60	5	29	5566230	144.5	60.0
					Roadway	160	160	3	29	5586050				
Cobra	752	150W HPS Cobra	HPS	Cobra	Roadway	50%	50%	160	160	3	29	5586020	141.4	141.4
					Roadway			160	160	3	29	5586020		
					Parking Lot			118	118	5	29	5586050		
AVERAGE SPAN													141.6	129.1
Total Poles													39%	61%
OVERALL AVERAGE SPAN													134.0	

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CALCULATION OF 19-YEAR LEVELIZED FIXED CHARGE RATE

	COST RATE	RATIO																		
COMMON EQUITY	0.1200	0.5500																		
PREFERRED STOCK	0.0000	0.0000																		
DEBT	0.0690	0.4600																		
NET SALVAGE	0.00																			
BOOK DEPR. RATE	0.0525	INITIAL COST 1.00																		
DISCOUNT RATE	0.0851	BOOK LIFE 19 Years																		
TAX RATE	0.3858	TAX LIFE 7 Years																		
ITC RATE	0.0000																			
OTHER TAX RATE	0.0144	0.0148	0.0153	0.0157	0.0162	0.0167	0.0172	0.0177	0.0182	0.0188	0.0194	0.0199	0.0205	0.0211	0.0218	0.0224	0.0231	0.0238	0.0245	
DEPRECIATION	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	
TAX BASIS	1.000																			
TAX DEP RATE %	14.290	24.490	17.490	12.490	8.930	8.920	8.930	4.460												
TAX DEP	0.143	0.245	0.175	0.125	0.089	0.089	0.089	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
BOOK DEP	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053
RATE BASE ADJUSTMENTS																				
DEFERRED TAXES	0.035	0.074	0.047	0.028	0.014	0.014	0.014	-0.003	-0.020	-0.020	-0.020	-0.020	-0.020	-0.020	-0.020	-0.020	-0.020	-0.020	-0.020	-0.020
ACC DEF TAXES	0.035	0.109	0.156	0.184	0.198	0.212	0.226	0.223	0.203	0.183	0.162	0.142	0.122	0.102	0.081	0.061	0.041	0.020	0.000	0.000
ACC BOOK DEP	0.053	0.105	0.158	0.211	0.263	0.316	0.368	0.421	0.474	0.526	0.579	0.632	0.684	0.737	0.789	0.842	0.895	0.947	1.000	0.000
ITC AMORTIZATION	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ACC DEF ITC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RATE BASE																				
NET PLANT	0.956	0.849	0.736	0.646	0.572	0.505	0.439	0.380	0.339	0.307	0.275	0.242	0.210	0.178	0.145	0.113	0.081	0.048	0.016	0.000
AVG DEF TAXES	0.035	0.109	0.156	0.184	0.198	0.212	0.226	0.223	0.203	0.183	0.162	0.142	0.122	0.102	0.081	0.061	0.041	0.020	0.000	0.000
AVG ITC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
AVG COMMON	0.526	0.467	0.405	0.355	0.315	0.278	0.241	0.209	0.187	0.169	0.151	0.133	0.116	0.098	0.080	0.062	0.044	0.027	0.009	0.000
AVG PREF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
AVG DEBT	0.430	0.382	0.331	0.291	0.257	0.227	0.197	0.171	0.153	0.138	0.124	0.109	0.095	0.080	0.065	0.051	0.036	0.022	0.007	0.000
REVENUE REQUIREMENTS																				
O & M EXPENSES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PROPERTY TAXES/INS	0.014	0.015	0.015	0.016	0.016	0.017	0.017	0.018	0.018	0.019	0.019	0.020	0.021	0.021	0.022	0.022	0.023	0.024	0.025	0.025
RETURN-DEBT	0.030	0.026	0.023	0.020	0.018	0.016	0.014	0.012	0.011	0.010	0.009	0.008	0.007	0.006	0.005	0.004	0.003	0.002	0.001	0.000
RETURN-PREF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RETURN-COMMON	0.063	0.056	0.049	0.043	0.038	0.033	0.029	0.025	0.022	0.020	0.018	0.016	0.014	0.012	0.010	0.007	0.005	0.003	0.001	0.000
RETURN-ITC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL RETURN	0.093	0.082	0.071	0.063	0.056	0.049	0.043	0.037	0.033	0.030	0.027	0.024	0.020	0.017	0.014	0.011	0.008	0.005	0.002	0.000
CURRENT TAXES	0.005	-0.039	-0.017	-0.001	0.010	0.007	0.004	0.019	0.034	0.033	0.032	0.030	0.029	0.028	0.028	0.028	0.025	0.024	0.022	0.021
TOTAL TAXES	0.040	0.035	0.030	0.027	0.024	0.021	0.018	0.016	0.014	0.013	0.011	0.010	0.009	0.007	0.006	0.005	0.003	0.002	0.001	0.000
CASH DEP	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053
TOTAL REVENUE REQ	0.199	0.185	0.170	0.158	0.148	0.139	0.131	0.123	0.118	0.114	0.110	0.106	0.102	0.098	0.095	0.091	0.087	0.083	0.079	0.079
FIXED CHARGE RATE	0.19947	0.18507	0.16982	0.15779	0.14807	0.13931	0.13056	0.12302	0.11789	0.11396	0.11004	0.10615	0.10227	0.09840	0.09456	0.09074	0.08693	0.08315	0.07939	0.07939
PRESENT WORTH REVENUE REQUIREMENTS																				
2008 DOLLARS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
NPV	0.199	0.171	0.144	0.124	0.107	0.093	0.080	0.069	0.061	0.055	0.049	0.043	0.038	0.034	0.030	0.027	0.024	0.021	0.018	
FIXED CHARGE RATE	0.19947	0.17056	0.14424	0.12351	0.10681	0.09262	0.08000	0.06947	0.06135	0.05465	0.04864	0.04324	0.03839	0.03404	0.03015	0.02666	0.02354	0.02075	0.01826	
CUM NPV	0.199	0.370	0.514	0.638	0.745	0.837	0.917	0.987	1.048	1.103	1.151	1.195	1.233	1.267	1.297	1.324	1.347	1.368	1.386	
K-FACTOR	1.3864																			
LEVELIZED FIXED CHARGE RATE	0.1379																			
DEPRECIATION BOOK LIFE	19																			

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