



Lighting Program



Greg Nelson, Interim VP for College Operations

Lighting Project for KTD & IVC

- Statement of needs by the District
- Contract through GC4217 for energy related projects (lighting retrofit)
- 2 weeks public notice
- Describe type of contract, financing and savings to the District
- BOT must identify that project is a cost savings to the district
- BOT must approve financing contract/master agreement, future meeting

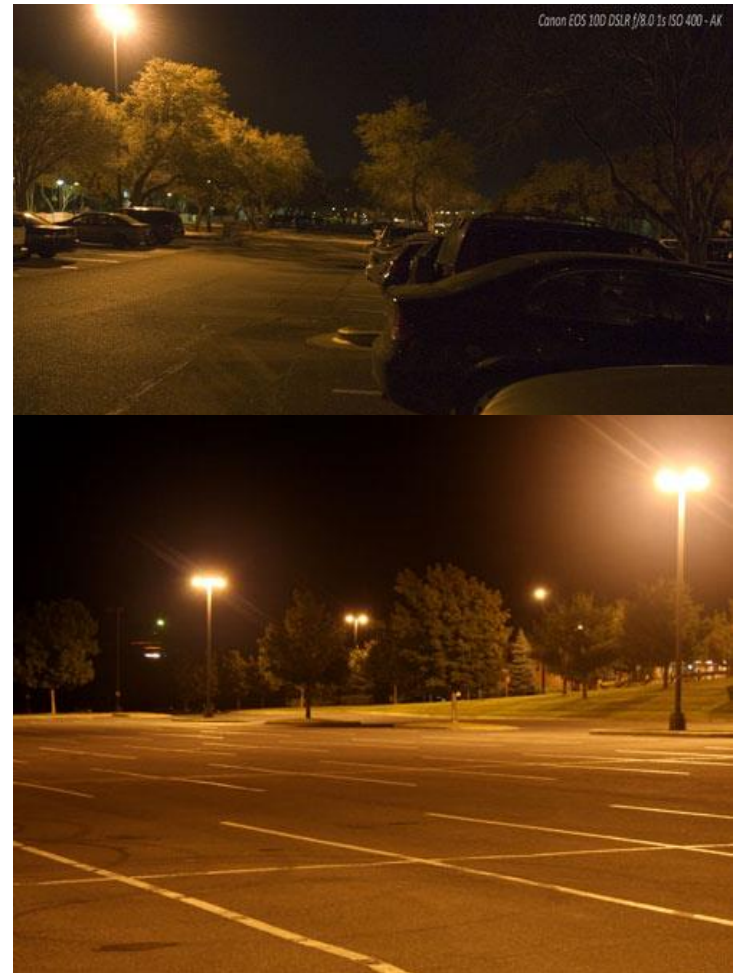
Existing Lighting System

- KTD and IVC have very similar Pan Head design
- Both use a high pressure sodium fixture
- Also referred to as “amber lights”
- Most lights are 25+ years old and not efficient



Safety & Security Concerns

- Lighting is poor for students and staff moving across campus
- We have a lot of dark spots on campus with little to no lighting
- Poor visibility for police doing patrols by foot or by car



New Lighting System

- New LED lights for all external light fixtures for pathways and parking lots
- More downward facing lighting
- Step down technology
- Longer life span
- Better visibility



Amber vs LED



Amber vs LED



Kentfield Campus

- **130 total** parking lot lights covering all parking lots, this includes pathway lights
- Increasing lighting output would only require us to keep **118 of the current 130** light fixtures
- Reduction would occur in lots **15 & 9**
- 7 differing styles of light heads currently used
- Would retrofit to **2 standards**. 1 for lots and 1 for pathway lighting

Kentfield (Data Provided by PG&E)

					Existing							Proposed Replacement											
Location	??/Note	Description	Svc Volts	Rate Sch	Watts	Tech/Type	Monthly kWh	Annual kWh	QTY			Hours	Description of Solution	Watts	Mntg.	QTY	LED Annual kWh Total	Exist Annual kWh Total	Annual Energy Savings kWh	CO2 Reduction	Annual Energy Savings \$	Incentive	
P2		post top globes			100	MV	40	480	9				single LEDway/fitter 30 LED 525MA	53	9 single	9	1955.7	4320	2364.3	1239	184.8812	450	
P4	Staff and HCP- Perf Arts	Showbox			250	HPS	100	1200	4				single LEDway/fitter 60 LED 700MA	134	4 single	4	2197.6	4800	2602.4	1364	203.4999	320	
P5	Library lot	shoebox			400	HPS	154	1848	2				single LEDway/fitter 100 LED 525MA	167	2 single	2	1369.4	3696	2326.6	1219	181.9331	250	
P6	#91,92,93,94,279,	Yoke mount shoebox	480		400	HPS	154	1848	6				Cree Ledway /fitter 100 LED 525ma	167	6 single	6	4108.2	11088	6979.8	3657	545.7994	750	
P7	?	Yoke mount shoebox	480		400	HPS	154	1848	8				Cree Ledway /fitter 100 LED 525ma	167	8 single	8	5477.6	14784	9306.4	4877	727.7326	1000	
P9 single	#239,283	shoebox			250	HPS	100	1200	2				single LEDway/fitter 60 LED 700MA	134	2 single	2	1098.8	2400	1301.2	681.8	101.7499	160	
p9 twin	#2,9,10,11	shoebox			2/250	HPS	100	1200	8				single LEDway/fitter 100 LED 700MA type 5	227	4 single	4	3722.8	9600	5877.2	3080	459.5794	320	
P9	#244,245	cobra head			150	HPS	60	720	2				Cree LEDway 40 LED 525MA	66		2	541.2	1440	898.8	471	70.28346	120	
P9 area	#87,88,222,246	small shoebox			150	HPS	60	720	4				Cree single LEDway/fitter 40 LED 525MA	66	4 single	4	1082.4	2880	1797.6	941.9	140.5669	240	
P10	Confirm post top only	post top			150	hps	60	720	3				Deco custom retrofit kit	60		3	738	2160	1422	745.1	111.1961	180	
P12	ltg under PV Parking Structures	flood lights			150	HPS	60	720	32				Cree WS4 59L 40K FD SSL TP kit	63		32	8265.6	23040	14774.4	7742	1155.314	1920	
p12	PV Parking area - most not on map	Post top			150	HPS	60	720	26				Deco custom retrofit kit	60		26	6396	18720	12324	6458	963.6998	1560	
p12	PV Parking entrance	Yoke mount shoebox	277		400	HPS	154	1848	1				Cree Ledway /Fitter100 LED 525ma	167	1 single	1	684.7	1848	1163.3	609.6	90.96657	125	
P15 single		shoebox			250	HPS	100	1200	7				single LEDway/fitter 60 LED 700MA	134	7 single	7	3845.8	8400	4554.2	2386	356.1248	560	
p15 twin		shoebox			2/250	HPS	100	1200	16				single LEDway/fitter 100 LED 700MA type 5	227	8 single	8	7445.6	19200	11754.4	6159	919.1588	640	
																	118			79446.6	41630	\$6,212.49	\$8,595.00

Indian Valley Campus

- **70** total parking lot lights covering all parking lots, this includes pathway lights
- Increasing lighting output would only require us to keep 70 of the current **67** light fixtures
- Reduction would occur in **lot 1**
- 4 differing styles of light heads currently used
- Would retrofit to **2 standards**. 1 for lots and 1 for pathway lighting

Indian Valley Campus (Data Provided by PG&E)

Location	??/Note	Description	Svc Volts	Rate Sch	Existing							Proposed Replacement										
					Watts	Monthl y kWh	Annua l kWh	Tech/Type	QTY			Hours	Description of Solution	Watts	Mntg.	QTY	LED Annual kWh Total	Exist Annual kWh Total	Annual Energy Savings kWh	CO2 Reduction	Annual Energy Savings \$	Incentive
P1 single		Shoebox			250	100	1200	HPS	2				single LEDway/fitter 60 LED 700M	134	2 single	2	1098.8	2400	1301.2	681.8	101.7499	160
P1 twin		shoebox			2/250	100	1200	HPS	4				single LEDway/fitter 100 LED 700	227	2 single	2	1861.4	4800	2938.6	1540	229.7897	160
P2		shoebox			250	100	1200	HPS	6				single LEDway/fitter 60 LED 700M	134	6 single	6	3296.4	7200	3903.6	2045	305.2498	480
P3	Large Pericline				400	154	1848	HPS	2				Cree Ledway / fitter 100 LED 525i	167	2 single	2	1369.4	3696	2326.6	1219	181.9331	250
P4	Large Pericline				400	154	1848	HPS	3				Cree Ledway / fitter 100 LED 525i	167	3 single	3	2054.1	5544	3489.9	1829	272.8997	375
P5	Large Pericline				400	154	1848	HPS	4				Cree Ledway / fitter 100 LED 525i	167	4 single	4	2738.8	7392	4653.2	2438	363.8663	500
Ignacio Bl	Large Pericline				250	100	1200	HPS	10				Cree LEDway / fitter 60 LED 700M	134	10 single	10	5494	12000	6506	3409	508.7497	800
Entrance Rd- Ignacio Blvd	Large Pericline				400	154	1848	HPS	6				Cree Ledway / fitter 100 LED 525i	167	6 single	6	4108.2	11088	6979.8	3657	545.7994	750
Entrance Rd twin	Small pericline				2/150	60	720	hps	2				Cree LEDway AA 40 LED 525MA	66	note AA	1	270.6	1440	1169.4	612.8	91.44357	60
Back service rd	Traditional Pericline				100	41	492	hps	31				Cree Ledway AA 20 LED 700MA	47	note AA	31	5973.7	15252	9278.3	4862	725.5352	1550

GC4217

- 4217.12. (a) Notwithstanding any other provision of law, a public agency may enter into an energy service contract and any necessarily related facility ground lease on terms that its governing body determines are in the best interests of the public agency if the determination is made at a regularly scheduled public hearing, public notice of which is given at least two weeks in advance, and if the governing body finds: (1) That the anticipated cost to the public agency for thermal or electrical energy or conservation services provided by the energy conservation facility under the contract will be less than the anticipated marginal cost to the public agency of thermal, electrical, or other energy that would have been consumed by the public agency in the absence of those purchases. (2) That the difference, if any, between the fair rental value for the real property subject to the facility ground lease and the agreed rent, is anticipated to be offset by below-market energy purchases or other benefits provided under the energy service contract. (b) State agency heads may make these findings without holding a public hearing.
- 4217.18. The provisions of this chapter shall be construed to provide the greatest possible flexibility to public agencies in structuring agreements entered into hereunder so that economic benefits may be maximized and financing and other costs associated with the design and construction of alternate energy projects may be minimized. To this end, public agencies and the entities with whom they contract under this chapter should have great latitude in characterizing components of energy conservation facilities as personal or real property and in granting security interests in leasehold interests and components of the alternate energy facilities to project lenders.
- <http://www.leginfo.ca.gov/cgi-bin/displaycode?section=gov&group=04001-05000&file=4217.10-4217.18>

Public Notice Published in Marin IJ

The Marin Community College District will be holding a public hearing in compliance with government code 4217 as it relates to contracting with PG&E to retrofit existing external lighting for the IVC and KTD campuses. Public hearing will be held on February 18, 2014 at the KTD campus in student cafeteria in the xxxxx . California Code Section 4217 provides in part the following and can be found in its full length at <http://www.leginfo.ca.gov>

GC 4217.10. To help implement the policy set forth in Section 25008 of the Public Resources Code, and to extend that policy to facilities of local governments, public agencies may develop energy conservation, cogeneration, and alternate energy supply sources at the facilities of public agencies in accordance with this chapter.

Contract & Financing

- On bill financing with PG&E. No up front cost to District
- All surveys and drawings done by PG&E staff
- BOT would be asked to approve Master Agreement with scope and terms in March
- Differential between financing, rebates and tiered billing reduction will cover the cost of program. District will see all savings after year 10

Cost and Savings

- Cost of the project is approximately 150k
- Savings per year cost is estimated at 10k
- Estimated reduction of 64k lbs of CO₂ per year
- \$26 per light with current system
- \$19 per light with newer system
- Tiered billing would drop thus offsetting cost of program
- Estimated 10 yr payback if locked in before March 1

Q & A

