

Exhibit "B"
LIGHTING SCOPE OF WORK
AND REQUIREMENTS

Hillsborough City School District has a mixture of interior and exterior lighting technologies. Past modernization projects have included the replacement of most T12 interior lamps and magnetic ballasts with second generation T8 lamps and electronic ballasts. This project will provide continued energy reduction while greatly improving the overall quality of light.

This project calls for the replacement of all remaining T12 lamps and magnetic ballasts with T8 LED lamps and new electronic ballasts. Identified T12 (4) lamp fixtures are to be de-lamped to (3) lamps. All discolored or broken lighting diffusers encountered during this project shall be replaced. All expended lighting lamps and ballasts will be properly disposed of per current EPA regulations. Ballasts containing PCB's will be treated as hazardous waste and will be disposed of per EPA hazardous waste regulations.

Wall mounted and ceiling mounted lighting occupancy sensors are to be installed in specified spaces.

Metal halide, mercury vapor and high pressure sodium exterior fixtures are to be replaced with LED fixtures and specified with Title 24 compliant lighting controls.

All District preferred equipment is identified in the itemized scope of work.

Unless specifically requested by the District, the intent of lighting retrofit is not to increase light levels but rather to maintain the existing or better lighting levels while maximizing energy savings without re-designing the overall system. In some cases, where the areas are over illuminated (per Illumination Engineering Society recommendations), light levels may be reduced to the recommended levels.

Below is the Itemized Scope of Work for specific retrofit strategies and fixture totals for each site:

FACILITIES: **Crocker Middle School**, 2600 Ralston Avenue, Burlingame, CA 94010
 North Elementary School, 545 Eucalyptus Avenue, Hillsborough, CA 94010
 South Elementary School, 303 El Cerrito Avenue, Hillsborough, CA 94010
 West Elementary School, 376 Barbara Way, Hillsborough, CA 94010
 District Office, 300 El Cerrito Avenue, Hillsborough, CA 94010

SCHEDULE: Scope of Work for Interior Lighting Retrofits, Installation of Interior Lighting Controls, Exit Signage Replacements, and Exterior Lighting Retrofits are to occur during summer break starting on June 12, 2017 through August 4, 2017.

ESTIMATED PROJECT BUDGET: \$175,000

ENERGY CONSERVATION MEASURE - Interior Lighting Retrofit

- Annual Anticipated Energy Savings: 75,877 kWh

SPECIFICATIONS:

- Replace 48" T8 32-watt lamps with 17-watt Sylvania SubstiTUBE Value LED T8 3500K, or equivalent.
- Replace 48" T12 40-watt lamps with 17-watt Sylvania SubstiTUBE Value LED T8 3500K, or equivalent and replace all T12 magnetic ballasts with T8 electronic ballasts.

Site	Location	EXISTING				PROPOSED				
		Fixture Type	Fixture Quantity	Lamp Quantity	Existing Wattage Per Fixture	Fixture Lamp Type	Fixture Qty	Lamp Quantity	Proposed Wattage Per Fixture	Qty of Ballasts To Be Replaced
Crocker Middle School	Administration Office	48" T8 32W	15	45	96	48" T8 LED 12W 3500K	15	45	51	-
Crocker Middle School	Classrooms	48" T8 32W	312	936	96	48" T8 LED 12W 3500K	312	936	51	-
Crocker Middle School	Portable Classrom 1	48" T12 40W	12	48	160	48" T8 LED 12W 3500K	12	36	51	12
Crocker Middle School	Portable Classrom 2	48" T12 40W	12	48	160	48" T8 LED 12W 3500K	12	36	51	12
Crocker Middle School	Portable Classrom 3	48" T12 40W	12	48	160	48" T8 LED 12W 3500K	12	36	51	12
North Elementary School	Administration Office	48" T12 40W	10	40	160	48" T8 LED 12W 3500K	10	30	51	10
North Elementary School	Portable Classrom 28	48" T12 40W	12	48	160	48" T8 LED 12W 3500K	12	36	51	12
North Elementary School	Portable Classrom 29	48" T12 40W	12	48	160	48" T8 LED 12W 3500K	12	36	51	12
South Elementary School	Lab	48" T12 40W	14	56	160	48" T8 LED 12W 3500K	14	42	51	14
South Elementary School	Transitional Kinder	48" T12 40W	10	40	160	48" T8 LED 12W 3500K	10	30	51	10
South Elementary School	Portable Room O	48" T12 40W	10	40	160	48" T8 LED 12W 3500K	10	30	51	10
South Elementary School	Portable Room P	48" T12 40W	10	40	160	48" T8 LED 12W 3500K	10	30	51	10
South Elementary School	Portable Room Q	48" T12 40W	10	40	160	48" T8 LED 12W 3500K	10	30	51	10
South Elementary School	Portable Room R	48" T12 40W	10	40	160	48" T8 LED 12W 3500K	10	30	51	10
West Elementary School	Administration Office	48" T12 40W	10	40	160	48" T8 LED 12W 3500K	10	30	51	10
West Elementary School	Portable Classroom A	48" T12 40W	12	48	160	48" T8 LED 12W 3500K	12	36	51	12
West Elementary School	Portable Classroom B	48" T12 40W	12	48	160	48" T8 LED 12W 3500K	12	36	51	12
District Office	Shop Area	48" T12 40W	12	4	160	48" T8 LED 12W 3500K	12	3	51	12
District Office	Office & Server Room	48" T12 40W	3	3	160	48" T8 LED 12W 3500K	3	2	51	3
District Office	Facilities Office	48" T12 40W	2	4	160	48" T8 LED 12W 3500K	2	3	51	2
District Office	Copy/Hall	48" T12 40W	3	3	160	48" T8 LED 12W 3500K	3	2	51	3
TOTAL			515	1,667			515	1,495		188

ENERGY CONSERVATION MEASURE – Interior Lighting Controls

- Annual Anticipated Energy Savings: 28,855 kWh

SPECIFICATIONS:

- Wall Mounted Sensor: Remove existing wall switch and install Watt Stopper DSW-301 Dual Technology Wall Switch Occupancy Sensor, or equivalent.
- Ceiling Mounted Sensor: Install Watt Stopper DT-305 Dual Technology Ceiling Mounted Occupancy Sensor, or equivalent.

		PROPOSED	
District Site	Area	Wall Mounted Sensor	Ceiling Mounted Sensor
Crocker Middle School	Building A Room 101, 101B, 102, 103, 104, 105, 110, 111, 112, 113, 114, 124, 125, 129, 221(2), 222, 225, 226, 229, 230, 231, 232, Building B Room 302, 303, 304, 305, 307, 308, 309, 312, 313, 314, 315, 316, 317, 318, 320, 323, 326, Building C Room 403, 404, 405, 407, 408, 410, 412, 413, 414, 420, 422, 431, 427, 422, 423, 424, 425, 432, 428	60	
Crocker Middle School	Building A Room 100, 106/2, 107/1, 108, 109, 120/5D, 121/5A, 122/5B, 123/SC, 127/4, 128/3, 200/17, 201/15, 202/13, 203/11, 204/9, 205/7, 206/6, 207/8, 208/10, 209/12, 210/14, 211/16, 220, 223, 224 Building B Room 300, 324, 325, Building C Room 400, 406, 411, 415, 416, 429, 425, 433, 434, Portable Classroom 1, 2 & 3		41
North Elementary School	Building A Restroom, Custodian, Storage, Storage, Office, Workroom, Principal, Counselor, Storage, Restroom, Office Building D Custodian, Reading Building F Boiler Room Building G SGI Room Building H Custodian	16	
North Elementary School	Building C Room 9 Portable Building E Room 16, 17 and 18 Building G Room 22, 23 and 24 Building H Room 25, 26, 27 Portable Classroom 28 and 29		12
South Elementary School	Building A Room A, B SGI, Girls, Boys, Wet Area, Room C SGI, Teacher Planning, Room D SGI, Room E SGI, Girls, Boys, Wet Area, Room G SGI, Teacher Planning, Room H SGI, Room I SGI, Teacher Planning, Room J SGI, Room K Open, Room K SGI, Equipment, Kinder Toilet, Girls, Boys, Men's Staff Restroom, Women's Staff Restroom, Resource, Control Room, Woodland Court, Storage, Principal, Computer Lab, Workroom, First Aid, First Aid Toilet, Counseling	37	
South Elementary School	Building B Math/Science/Lab, Room M, Portable Rooms O, P, Q and R		6
West Elementary School	Building A1 Nurse, Work Room, Principal, Counselor, Room 2A, Elec/IT, Boys Restrm, Girls Restrm Building B1 Classroom 5A, 6A, Restroom Building B2 Classroom Restroom, Art, PE Storage Building D Restroom (2)	16	
West Elementary School	Building A1 Main Office, Classroom 1, 2, 3 & 4 Building B1 Library, Classroom 5, 6, 7, 8 Building B2 Classroom 9, 10, 11 Building C Classroom 13, 14, 15, 16 Building D Classroom 12, MPR, Teacher's Dining, Kitchen Portable A and Portable B Building E Classroom 17, 18, 19, 20		27
District Office	Board Rm. Business Office, Front Office, Lunch Room, Pre School, Maintenance Shop, Maintenance Grounds Shop, (4) Office, Copy Room, Boiler Room, Office, Conference Rm. Custodian Room, Women's Restroom, Facilities Office, (2) Office, Foundation Office, Boiler Room Men's Restroom	23	
TOTAL		152	86

ENERGY CONSERVATION MEASURE – Exit Sign Replacement

- Annual Anticipated Energy Savings: 3,936 kWh

SPECIFICATIONS:

- Replace existing incandescent exit signs with Evenlite Telesis TCXCOM LED Exit and Emergency Light, or equivalent.

		EXISTING	PROPOSED
District Site	Area	Incan. Exit Sign Quantity	LED Exit Sign Quantity
Crocker Middle School	Multi-Purpose Room	4	4
Crocker Middle School	Gymnasium	2	2
North Elementary School	Administration Office	2	2
South Elementary School	Building A Room A	1	1
South Elementary School	Building A Room B	2	2
South Elementary School	Building A Room C	2	2
South Elementary School	Building A Room D	1	1
South Elementary School	Building A Room E	2	2
South Elementary School	Building A Room F	1	1
South Elementary School	Building A Room G	2	2
South Elementary School	Building A Room H	1	1
South Elementary School	Building A Room I	1	1
South Elementary School	Building A Teacher Planng Adj to Room I	1	1
South Elementary School	Building A Room J	2	2
South Elementary School	Building A Room K	3	3
South Elementary School	Building A Resource Room	1	1
South Elementary School	Building A Media Center	4	4
South Elementary School	Building A Woodland Court	2	2
West Elementary School	Building A1 Room 2	1	1
West Elementary School	Building B1 Rooms 5, 6, 6A, 8, Boys RR	5	5
West Elementary School	Multi-Purpose Room	3	3
District Office	Board Room, Front Office, Pre-School, Copy Room	4	4
TOTAL		47	47

ENERGY CONSERVATION MEASURE - Exterior Lighting Retrofit

- Annual Anticipated Energy Savings: 8,559 kWh

SPECIFICATIONS:

- Refer to the table below for District preferred product. Equivalent products, not to exceed proposed wattage, acceptable.

District Site	Area	EXISTING			PROPOSED		
		QTY.	Fixture Lamp Type	Lamp Wattage	Fixture Lamp Type	Lamp Wattage	Fixture
Crocker Middle School	Front Driveway - Pole Lamp (Double Head)	2	MV	175W	LED	80W	Phillips Gardco PureForm LED P21
Crocker Middle School	Front Driveway - Pole Lamp (Single Head)	3	MH	150W	LED	77W	Holophane Memphis Pedestrian LED Retrofit
Crocker Middle School	Front Driveway - Pole Lamp (Double Head)	2	MH	150W	LED	77W	Holophane Memphis Pedestrian LED Retrofit
North Elementary School	Center Median - Front of School - Pole Lamp	3	MV	250W	LED	80W	Phillips Gardco Pureform LED P21
North Elementary School	Portable at turn around/playground	1	HPS	100W	LED	20W	Lumark Crosstour
North Elementary School	Playground	2	HPS	400W	LED	130W	Atlas PFL84LED
North Elementary School	Drop off Area (Building Mounted) - Flood Lamp	3	HID	300W	LED	60W	Osram Sylvania Kreios Floodlight
North Elementary School	Portable Building - Wall Pack	1	HPS	175W	LED	42W	Atlas WLM 43LED with Photocell
South Elementary School	Entry Path - Pole Lamp	3	MH	175W	LED	80W	Phillips Gardco Pureform LED P21
South Elementary School	Playground - Pole Lamp	2	MH	175W	LED	80W	Phillips Gardco Pureform LED P21
South Elementary School	Entry Path, Parking Lot - Pole Lamp	3	HPS	100W	LED	80W	Phillips Gardco Pureform LED P21
South Elementary School	MPR Building - Wall Pack	3	MH	175W	LED	42W	Atlas WLM 43LED with Photocell
West Elementary School	Corner of Room 2, South side of MPR, Front of school	3	MV	250W	LED	80W	Mounted on existing conduit stanchion on Building
West Elementary School	NE Corner of MPR	1	MV	250W	LED	80W	Mounted
TOTAL		32					