



Davis Joint Unified School District Audit Report

May 2017

PREPARED BY CLEAResult

PREPARED FOR Davis Joint Unified School District

Energy Audit Report

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Executive Summary

CLEAResult performed a comprehensive energy audit of Davis Joint Unified School's facilities on March 29th, 2017. The following sites were included in the audit:

- Davis Senior High School, 315 W 14th St, Davis, CA 95616

The results of the audit include:

- Description of the existing facility systems
- Energy use and benchmarking analysis
- List of energy efficiency projects recommended for implementation
- Engineering analysis to support savings estimates for each recommendation
- Financial characteristics of each recommendation
- **All information required to submit an energy expenditure plan for Prop 39 award funding**

A total of **5** energy saving projects were identified across all sites with the potential to save an estimated **\$101,432** in annual energy costs.

Financial Summary	
Total Project Costs	\$1,606,470
Estimated Utility Rebates	\$101,102
Net Project Costs	\$1,505,368
Annual Energy Cost Savings	\$101,432
Simple Payback Period (years)	14.8
Net Present Value	\$1,848,002
Savings to Investment Ratio (SIR)	1.30

Davis Joint Unified School (DJUSD) spends approximately **\$429,689** per year on energy for the site listed above. By implementing all of the recommendations identified in this audit report, DJUSD can reduce their energy costs by an estimated **24%**.

The reduction in annual emissions resulting from this energy savings would be approximately **341** tons of CO₂, or the equivalent of emissions from **72** cars.

Overview

Congratulations on your decision to take advantage of Proposition 39 (Prop 39) in order to make Davis Joint Unified School more energy efficient! We are pleased to offer our wealth of knowledge, years of experience, and breadth of services to help you realize your energy-saving goals.

Energy efficiency is a critical element in cutting operating costs, reducing greenhouse gas emissions, and creating a cleaner, safer, and more comfortable learning environment. Our goal is to help DJUSD take full advantage of the Prop 39 opportunity and maximize the energy efficiency potential of the school. To achieve this, we have conducted a systematic study of your facility which includes an on-site audit and analysis of your usage data. The data we collected has allowed us to fully identify inefficiencies and provide recommendations for implementing solutions to capture energy savings. All of this information is detailed in the following report, including:

Benchmarking Results

By benchmarking, we are able to determine the energy use intensity of your facility, and fulfill the requirement for the Prop 39 Energy Expenditure Plan.

Audit Report

This report documents site conditions and provides an inventory of findings to identify energy savings opportunities. It also includes the Project Summary that prioritizes projects that offer the greatest improvement first. The Project Summary table illustrates measure priority ranked by SIR, showing the most cost-effective projects first.

Energy Expenditure Plan (EEP)

We have summarized all of our audit findings, recommendations, and associated utility rebates into the LEA Project SIR Worksheet as required by the California Energy Commission (CEC). This document will be provided separately for the district's use.

Project Summary

DAVIS SENIOR HIGH SCHOOL

Energy Efficiency Project	Electricity Savings (kWh/yr)	Natural Gas Savings (therms/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Estimated Utility Rebate (\$)	Net Project Cost (\$)	Project Life (yr)	SIR	NPV (\$)	Simple Payback (yr)
Davis Joint Unified School District - Lighting - Replace Exterior Lighting Lamps/Fixtures	127,550	0	\$28,139	\$67,650	\$11,760	\$55,890	15	7.62	\$400,120.57	2.0
Davis Joint Unified School District - Lighting Controls - Exterior Photocell/Occupancy Sensors	11,108	0	\$2,451	\$7,020	\$0	\$7,020	8	2.93	\$19,513.06	2.9
Davis Joint Unified School District - Lighting Controls - Interior Occupancy Sensors	38,235	0	\$8,435	\$57,750	\$0	\$57,750	8	1.35	\$74,119.07	6.8
Davis Joint Unified School District - Lighting - Replace Interior Fixtures with LED Fixtures	306,309	-26	\$60,199	\$1,006,350	\$89,342	\$917,008	15	1.34	\$1,159,811.45	15.2
Davis Joint Unified School District - HVAC - Package Unit Replacement	8,812	264	\$2,208	\$467,700	\$0	\$467,700	15	0.44	\$194,437.97	211.9
Total	492,014	238	\$101,432	\$1,606,470	\$101,102	\$1,505,368		1.30	\$1,848,002	14.8

Facility Observations

Davis Joint Unified School is located in Northern California, in Yolo County. The district includes two high schools, three junior high schools, nine elementary schools and three other institutions which educated a student body of 8,626 according to the California Department of Education during the 2015-16 school year. The following facilities are included in this report:

- Davis Senior High School, 315 W 14th St, Davis, CA 95616

A general facility description of the school followed by brief energy end use equipment descriptions is provided below.

END-USE EQUIPMENT DESCRIPTIONS

HVAC

Davis Senior High School

The heating, ventilating and air conditioning (HVAC) serving Library (Bldg Q) at Davis Senior High School was only audited at the request of the district. The HVAC serving the library consists of single gas heating/DX cooling package units and split air conditioning units. There were a total of (23) single package units and (3) split air conditioning units, all located on rooftop of the library building, that provide air conditioning to the library building. Most of the package units were manufactured around 1996 and are manufactured by Carrier.



Davis Senior High HVAC Equipment – Library Bldg Q

The Table below shows the equipment in operation at Davis Senior High.

Equipment	Model Number	Mfg Year	Qty	Capacity			Efficiency	
				Per Unit	Total	Units	Existing	Units
Davis Senior High School - 3 - Library Bldg Q	Carrier Package Rooftop Units - 48HJD008	1996	3	8	23	Ton	11.00	EER
Davis Senior High School - 3 - Library Bldg Q	Carrier Package Rooftop Units - 48HJD005	1996	20	4	80	Ton	11.05	EER
Davis Senior High School - 3 - Library Bldg Q	Mitsubishi Split Condensing Unit - PU18EK1	Old	3	2	5	Ton	9.90	EER

LIGHTING

Interior Lighting

Lighting design varies from one room to another. The predominant interior lighting types at the facility are the T8 fluorescent fixture powered by electronic ballast and compact fluorescent lights (CFLs). Depending on the burned out lamps and lighting intensity needed, troffers hold from one to four T8 lamps. Troffers can be 2x2', 2x4' or 1x4'. Lighting provided by compact fluorescent lights (CFLs) has also been noticed. Almost all lit areas did not include occupancy sensors, including portables. Only a few restrooms had an occupancy sensor, while the rest of the rooms have manual switches.



Davis Senior High Interior Lighting

Exterior Lighting

Exterior lighting is provided by a variety of Compact Fluorescent Lights (CFLs) bulbs and High-Intensity Discharge (HIDs) lamps. Lamps can be mounted on poles, wall-mounted fixtures, flood or canopy fixtures. Although it is difficult to access exterior lighting fixtures and thus know their precise wattage, it is assumed that typical wall-mounted CFLs wattage is in the range of 13 to 26W, and HIDs wattage would be within the range of 100 to 500W.



Davis Senior High Exterior Lighting

Energy Use and Cost Analysis

Each site's energy usage and costs were analyzed on a monthly basis and using 15-minute interval data when available. Electric and gas billing data from July 2015 through June 2016 was available and used for the analysis.

DAVIS SENIOR HIGH SCHOOL

The table below shows the benchmarking results from the Energy Savings Calculator. The results are shown for the 222,425 square feet of conditioned space on campus.

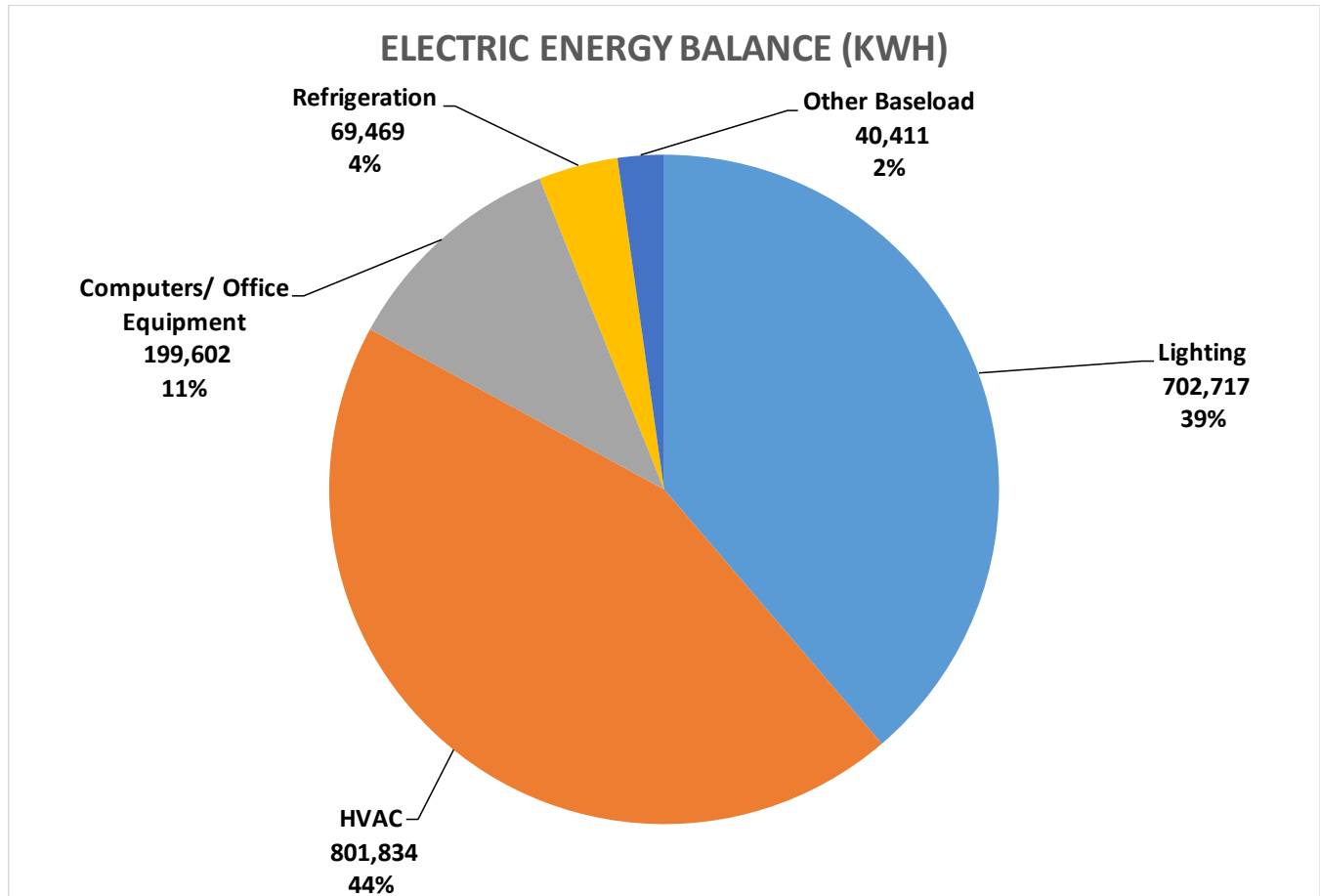
Energy Use Intensity (EUI)					
Electricity		Natural Gas		Other Fuels	
N/A	W/SF	0.15	Therms/SF/Yr	-	Propane gal/SF/Yr
8.16	kWh/SF/Yr	\$0.13	Gas Cost/SF/Yr	-	Fuel Oil gal/SF/Yr
\$1.80	Cost/SF/Yr			-	Fuel Cost/SF/Yr
Energy Costs/SF/Year:		\$1.93	Energy EUI (kbtu/SF/Year):		42.65

The next table shows the total energy use and cost in 2015-16 broken down by month. The combined usage equates to an electric rate of \$0.2206/kWh and a gas rate of \$0.8945/therm.

Energy Usage									
Month	Solar Generation (kWh)	Solar Cost (\$)	Electric Utility Usage (kWh)	Electric Utility Cost (\$)	Total Electric Usage (kWh)	Total Electric Cost (\$)	Gas Usage (Therm)	Gas Cost (\$)	Total Energy Cost (\$)
7/29/2015	88,836	\$13,850	31,486	\$14,786	120,322	\$28,636	104	\$170	\$28,806
8/30/2015	84,470	\$13,169	68,068	\$32,921	152,538	\$46,090	130	\$214	\$46,304
9/29/2015	74,372	\$11,595	115,763	\$24,067	190,135	\$35,662	274	\$310	\$35,972
10/28/2015	61,408	\$9,574	120,444	\$20,304	181,852	\$29,878	337	\$357	\$30,236
11/30/2015	41,996	\$6,547	103,691	\$9,678	145,687	\$16,225	5,635	\$5,058	\$21,283
12/29/2015	31,972	\$4,984	108,345	\$8,492	140,317	\$13,476	7,850	\$6,604	\$20,080
1/28/2016	32,334	\$5,041	117,804	\$9,382	150,138	\$14,423	8,991	\$7,754	\$22,177
2/29/2016	42,153	\$6,572	101,380	\$10,214	143,533	\$16,786	5,130	\$5,187	\$21,974
3/29/2016	62,221	\$9,700	72,074	\$10,139	134,295	\$19,839	2,776	\$2,251	\$22,089
4/28/2016	72,545	\$11,310	67,776	\$8,725	140,321	\$20,035	1,094	\$905	\$20,940
5/30/2016	87,893	\$13,703	80,220	\$18,402	168,113	\$32,105	497	\$482	\$32,587
6/28/2016	85,971	\$13,403	60,812	\$113,643	146,783	\$127,046	148	\$196	\$127,242
Total	766,171	\$119,448	1,047,863	\$280,754	1,814,034	\$400,202	32,966	\$29,488	\$429,689

ENERGY BALANCE

The chart below shows the breakdown of Davis's electric use among different end-uses.



End Use	Electric Usage (kWh/yr)	Source
Lighting	702,717	Lighting Inventory
HVAC	860,052	Estimated from HVAC inventory
Computers/ Office Equipment	199,602	Based on number of computers
Refrigeration	69,469	Typical refrigeration
Other Baseload	14,173	Remaining
Total	1,814,034	

An energy balance has been created for this site to better understand how your facility is using electric energy. Lighting is the predominant load and based on actual usage. The HVAC load consists primarily of heating energy and is largely related to the portable heat pump unit. There is a fair amount of computers and office equipment to validate typical usage levels for this site. There is only a small residential style refrigerator with very little equipment left over for baseloads.

Engineering and Technical Analysis

The following section contains the recommendations of CLEARResult on a measure by measure basis for your school district. These recommendations are based on observations from the on-site energy audit as well as conversations with facility personnel before, during, and after the audit. The energy and cost savings estimates are meant to inform the district's decision makers on the value and benefits of implementing energy efficiency measures. Final savings will be determined upon installation and/or commissioning systems and equipment upgrades.

The recommendations include a summary table of energy and financial savings with annual cost savings and the Savings to Investment Ratio (SIR). Some of the basic assumptions that apply to all measures are listed below. The assumptions that the California Energy Commission (CEC) include in Proposition 39 analyses are listed as the CEC financial assumptions. There are some additional financial assumptions listed that apply to financial metrics beyond what the CEC may or may not consider in analyses. The blended utility rate used for energy cost is included for each audited site that is based on utility data collected.

CEC financial assumptions:

Inflation rate: 2.0%
Discount rate: 5.0%
Energy escalation: 4.0%
Non-energy benefits: 5.0%
Maintenance savings: 2.0%

Additional financial assumptions:

Cost of capital: 10%

Blended utility rate used for energy costs:

Davis Senior High:	\$0.2206/kWh	\$0.8945/therm
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It is important to note that some of the measures identified in this report may be eligible for rebates or incentives through PG&E programs for which CLEARResult is the program implementer. Eligible measures under the SEE program must follow the procedures and requirements of that program as well as Proposition 39 procedures and requirements. It is noted in our recommendation where applicable energy efficiency measures fall under the SEE programs if there is a value for rebates in the savings table.

The effective useful life (EUL) data is based on numbers provided by the CEC, which is used to calculate SIR and other financial metrics. The EUL information used in the energy expenditure plan (EEP) also uses the EULs from the Prop 39 guidelines document, so that values should remain consistent.

CALCULATION METHODOLOGY

During the inspection, the facility staff was interviewed to understand the typical schedules and maintenance practices. Documenting operational characteristics is vital in maintaining the embedded knowledge in the site. Typically, not all information related to operational history at the site is available through an on-site inspection. In order to gain visibility in this area, an interval data analysis is performed to better document how the site is operated. Whenever 15-minute electric data and daily gas data sets were made available by PG&E and the site, these documents are used to supplement assumptions.

Energy usage and savings have been evaluated to reflect actual savings for projects whenever information was available. Standard engineering simulation techniques have been used that include direct calculations for lighting projects and calibrated simulations for HVAC measures. Weather correlations use data from the National Oceanic and Atmospheric Administration (NOAA) weather station located at the UC Davis airport.

Incentives and rebates for qualifying SEE measures have also been included within this report to provide your district with the best information to make decisions. Incentives and rebates change periodically based upon utility program cycles and adjusted baselines due to the newly adopted "Title 24" California energy code, so these results should be validated at the time of installation to ensure that they still apply.

Installation costs have been estimated through various means. Lighting retrofit costs have been estimated based upon the average cost of similar project installations in California at schools (K-12). These costs represent a basic cost for the project. These costs can increase for many reasons that include the necessity to pay prevailing wage or scope creep potentially related to supplemental Title 24 requirements. Commissioning measures are dominated by time estimates for the expected work and use RS MEANS cost data to estimate labor cost.

ENERGY SAVINGS RECOMMENDATIONS

Based on surveyed conditions at the time of the on-site energy audit, as well as information collected from program staff, this report has developed recommendations for reducing energy use through school system retrofits. Recommendations are grouped by Facility End-Use, and include a description of the retrofit recommendation along with an economic analysis. The values provided are estimates and are derived by comparing baseline operating conditions and equipment in use documented through the audit process. This process is used to recommend operational and equipment upgrades that this audit has found to be viable energy saving retrofit options. These estimates are meant to help the school evaluate the relative value of implementing a system upgrade and make an informed purchasing decision that incorporates the benefits associated with energy efficiency.

This report does not provide equipment or contract with the participant to install the recommended measures. It is up to the school district to identify and secure a method of installation. CLEAResult can assist in evaluating contractor proposals and assist the school in securing a contractor to perform the work. It is critical for the school to inform the SEE Program that it is interested in a project before any action is taken. CLEAResult will continue to assist in evaluating any of the recommended retrofit

projects as they develop, since changing the type and/or quantity of equipment purchased will impact the rebate or incentive associated with the project or projects. *Failure to notify CLEAResult may cause a retrofit project to become ineligible for rebate or incentive.*

LIGHTING – REPLACE EXTERIOR LIGHTING LAMPS/FIXTURES

Description

LED lighting is an efficient technology that has many benefits over traditional, older technology lighting. LED's require a smaller power draw than other technologies such as HID's, incandescent lamps, or even fluorescent lamps. LED lighting has made its way into the mainstream lighting market and prices on this technology are steadily decreasing. LEDs are directional light sources, so nearly 100% of the light produced is useable and reduces the effects of light pollution. The benefits of LED exterior lighting systems include durability, resistance to outdoor conditions, free from mercury, expected long life and very low maintenance.



The applications of LED technology range from building-mounted wall-packs or “porch light” replacements, to floodlight fixtures for exterior area, perimeter, or security lighting.

Recommendation

Replace all existing wall pack exterior lights with appropriate LED fixtures.

See Appendix D: Energy Efficiency Measure Details for specific replacements.

Cost and Savings

Financial Summary								
Site Name + Measure Type	Electric Savings (kWh/yr)	Gas Savings (therm/yr)	Cost Savings (\$/yr)	Measure Cost (\$)	Rebates (\$)	Net Measure Cost (\$)	SIR	SPB (yr)
Davis Joint Unified School District - Lighting - Replace Exterior Lighting Lamps/Fixtures	127,550	0	\$28,139	\$67,650	\$11,760	\$55,890	7.62	2.0
Inputs and Assumptions								
1) Project Life: 15 years								
2) See Energy Efficiency Measures Table Line(s) 1 to 23								

Energy Calculations

Savings are calculated considering existing fixture wattages, proposed fixture wattages, fixture counts, and operating hours. Calculations are provided in the “B072_Davis Senior High School_Lighting” Excel file.

LIGHTING CONTROLS – EXTERIOR

Description

Exterior fixtures can be accidentally left on during the day due to a number of reasons. To avoid this occurrence all new exterior fixtures should be specified with photocell sensors. Photocell sensors will detect when the sun rises and sets and will ensure that the fixture is turned off during the day. In many cases, even with photocells, the fixture may be located in a shaded spot or the photocell eye is dirty and the light stays on even during the daytime. By installing a time clock concurrently with the photocells, the lights can be shut down during the daylight hours even though the photocell may detect that the area appears dark. The three sensor technologies listed here are required by Title 24 in most retrofit situations. Sensor installations can be on each fixture individually or included at a site level through an EMS control strategy. Actual savings may vary depending on the operation of the associated fixture. Information regarding interior sensors can be found in the “Lighting Controls – Interior Sensors” section of this report.



Photocell: Exterior fixtures can be accidentally left on during the day due to a number of reasons. To avoid this occurrence all new exterior fixtures should be specified with photocell sensors. Photocell sensors will detect when the sun rises and sets and will ensure that the fixture is turned off during the day. Photocells are required by Title 24.

Occupancy: Required by Title 24 for mounting heights under 24-ft, an occupancy sensor will turn the fixture on to full brightness when the sensor detects movement, heat, or both, depending on the type of sensor.

Timeclock: In many cases, even with photocells, the fixture may be located in a shaded spot or the photocell eye is dirty and the light stays on even during the daytime. By installing a time clock concurrently with the photocells, the exterior lights can be shut down during the daylight hours even though the photocell may detect that the area appears dark. Time-based controls are required by Title 24.

Recommendation

Replace all wall pack exterior lights with appropriate LED fixtures and with title 24 compliant exterior sensors.

Cost and Savings

Financial Summary								
Site Name + Measure Type	Electric Savings (kWh/yr)	Gas Savings (therm/yr)	Cost Savings (\$/yr)	Measure Cost (\$)	Rebates (\$)	Net Measure Cost (\$)	SIR	SPB (yr)
Davis Joint Unified School District - Lighting Controls - Exterior Photocell/Occupancy Sensors	11,108	0	\$2,451	\$7,020	\$0	\$7,020	2.93	2.9
Inputs and Assumptions								

1) Project Life: 8 years
2) See Energy Efficiency Measures Table Line(s) 24 to 58

Energy Calculations

Savings are calculated considering existing fixture wattages, proposed fixture wattages, fixture counts, and operating hours. Calculations are provided in the "B072_Davis Senior High School_Lighting" Excel file.

LIGHTING CONTROLS – INTERIOR

Description

Interior fixtures can be left on for significant periods during the day due to a number of reasons. To limit this unnecessary operation all new interior fixtures should be specified with sensors. Daylight sensors will detect when the natural light levels are sufficient to adjust the level of artificial light in the room and vacancy sensors will ensure that the fixture is turned off during the unoccupied times. By installing a time clock concurrently with the sensors, the lights can be shut down during non-business hours. The three sensor technologies listed here are potentially required by Title 24 in retrofit situations. Sensor installations can be on each fixture individually or included at a site level through an EMS control strategy. Actual savings may vary depending on the operation of the associated fixture. Information regarding exterior sensors can be found in the “Lighting Controls – Exterior Sensors” section of this report.

Daylighting: A daylight harvesting system has the potential to reduce interior lighting energy use while the space is occupied. As the daylight sensor reacts to light levels, the light emitted from each fixture is adjusted accordingly to apply a uniform, consistent light level across the space. Aside from energy-saving benefits, studies have shown a positive effect on human health and productivity by using light from the sun in classrooms (Daylighting Pattern Book, Lighting Research Center, 2010). Daylighting controls are now required in many spaces by Title 24.

Dimming: Provides the ability to decrease lighting levels in the room from full brightness down to 10% brightness. Allows the light in the room to be tailored to a specific activity: full bright for lab time and dimmed down for smartboard or projector based lessons. Title 24 code specifies how many “steps” or levels of dimming are required for a particular space type.

Vacancy: Two types of sensing mechanisms are available with occupancy/vacancy sensors: Passive Infrared (PIR), which detects large motions, and Ultrasonic, which can detect smaller motions. Use sensors that employ both technologies, called Dual Technology Sensors, in order to limit the occurrence of false-offs. These sensors are especially effective if teachers leave the lights on during class breaks and if lights are left on in the classrooms until the night custodians leave. More information regarding different sensors types can be found in “Appendix C – Lighting Controls”. Title 24 now requires occupancy-based lighting controls for most interior spaces.

Timeclock: Installing time-of-day controls in addition to the sensor type listed above will allow the lighting system to be turned on only within specified operating hours. Shut-off controls are required by Title 24.

Please Note: No rebates for interior controls are generally available after June 30, 2014 due to changes in Title 24, CA Building Codes and Standards.

Recommendation

Replace interior luminaires with appropriate LED luminaires and with title 24 compliant interior sensors.

Cost and Savings

Financial Summary								
Site Name + Measure Type	Electric Savings (kWh/yr)	Gas Savings (therm/yr)	Cost Savings (\$/yr)	Measure Cost (\$)	Rebates (\$)	Net Measure Cost (\$)	SIR	SPB (yr)
Davis Joint Unified School District - Lighting Controls - Interior Occupancy Sensors	38,235	0	\$8,435	\$57,750	\$0	\$57,750	1.35	6.8
Inputs and Assumptions								
1) Project Life: 8 years								
2) See Energy Efficiency Measures Table Line(s) 59 to 225								

Energy Calculations

Savings are calculated considering existing fixture wattages, proposed fixture wattages, fixture counts, and operating hours. Calculations are provided in the "B072_Davis Senior High School_Lighting" Excel file.

LIGHTING - REPLACE INTERIOR LIGHTING LAMPS/FIXTURES

Metal Halide to LED Description

Light Emitting Diode (LED) technology is a much more energy efficient technology which uses less than a third of the energy of incandescent bulbs to produce the same amount of light, and lasts up to five times longer. Also, screw-in LED replacements for incandescent lamps are available, which do not require any special retrofitting.

LEDs come at a slightly higher upfront cost when compared to Metal Halide lamps, but this can be easily recovered through energy savings and reduced lamp replacement costs over the lifetime of the bulb. The applications of LED technology range from simple bulb replacements on spot lighting, to replacing high bay fixtures.



T8 to LED Description

LED troffer or panel fixtures represent the next step in advanced lighting design for interior spaces. Particularly in school districts, troffer and surface-mounted linear fluorescent fixtures are predominant in interior lighting systems. Options for upgrading these systems with higher efficiency linear fluorescent products is limited, but making the choice to install LED fixtures, tubes or retrofit kits will result in significantly more energy savings.



Aside from the tremendous energy benefits associated with installing high efficiency lighting, some additional advantages of LED technology include a much longer lifespan, consistent light output, wide selection of performance characteristics, and the ease of integrating controls.

Two options exist when eliminating linear fluorescent fixtures in favor of LED fixtures: LED retrofit kits and LED luminaire (fixture) replacements. Retrofit kits are ideal when the existing fixture housing is in good condition, fixtures are accessible, and the fixture spacing is appropriate for the new light source. A complete new LED fixture may be the best choice if the existing fixtures are in poor condition, new aesthetics are desired, or as part of a larger remodeling project.



Considerations for selecting an appropriate retrofit kit or fixture replacement include:

- Desired lighting properties: CRI, color temp, direct/indirect illumination
- Existing luminaire condition and characteristics
- Accessibility to the ceiling plenum

Due to differences in the light emitted from a fixture and the specialized nature of light emitted from an LED, it is advisable to think beyond a 1-for-1 retrofit strategy; depending on the needs of occupants and

the room configuration, a reconfigured fixture layout may further optimize the lighting system. A lighting contractor should be consulted to arrange a room mock-up or test fixture before making a decision on large scale implementation of LED fixture replacement or retrofit. In most cases, a lighting system upgrade will trigger California Building Code (otherwise known as Title 24). To ensure compliance with Title 24, all mandatory measures pertaining to Altered Lighting Systems will need to be followed.



Currently, interior LED fixtures and retrofit kits qualify for a custom incentive from PG&E, while the tubular LED (TLED) lamps will be offered as a deemed rebate in 2015. It is recommended to replace T8 troffer and wraparound fixtures with LED troffer or surface-mount replacement fixtures or retrofit kits. Fixture counts can be reduced for the areas noted below, but a lighting vendor should be consulted before finalizing fixture count reduction plans.

Rebates are available for certain fixture types, including low- and high-bay, track, surface, pendant and recessed downlights. Fixtures or retrofit kits must be ENERGY STAR qualified, and must be on PG&E's approved list at:

http://www.pge.com/en/mybusiness/save/rebates/lighting/led/index.page?WT.mc_id=Vanity_led

See the "Energy Efficiency Measure Details" table for exact recommendations on replacement fixtures for the district's existing fixtures.

For all catalog rebates, please refer to the PG&E rebate catalogs for rebate requirements.

<http://www.pge.com/en/mybusiness/save/rebates/byequipment/index.page>

Recommendation

Replace 1 to 4 lamp linear fluorescent T8 fixtures with dimmable LED fixtures or LED retrofit kits. Replace CFL fixtures in the restrooms in the Assembly Room buildings.

See Appendix D: Energy Efficiency Measure Details for specific replacements.

Cost and Savings

Financial Summary								
Site Name + Measure Type	Electric Savings (kWh/yr)	Gas Savings (therm/yr)	Cost Savings (\$/yr)	Measure Cost (\$)	Rebates (\$)	Net Measure Cost (\$)	SIR	SPB (yr)
Davis Joint Unified School District - Lighting - Replace Interior Fixtures with LED Fixtures	306,309	(26)	\$60,199	\$1,006,350	\$89,342	\$917,008	1.34	15.2
Inputs and Assumptions								
1) Project Life: 15 years								
2) See Energy Efficiency Measures Table Line(s) 226 to 404								

Energy Calculations

Savings are calculated considering existing fixture wattages, proposed fixture wattages, fixture counts, and operating hours. Calculations are provided in the “B072_Davis Senior High School_Lighting” Excel file.

HVAC – PACKAGE UNIT REPLACEMENT

Description

State of the art single zone, constant volume, packaged rooftop units (RTUs) are significantly more efficient than those available fifteen years ago. Older units require greater input energy levels to achieve the conditioning needs of the occupants, and the expense to operate and maintain these units over time increases. Problems often identified with RTUs include: broken economizers, improper refrigerant charge, unoccupied period operation, fan/compressor short cycling, inadequate ventilation air, poor air flow, and dirty filters/coils. Existing RTUs should be replaced when:

- Existing RTUs are 15 years old (with a proactive plan in place for units at the 10-year mark).
- Existing RTUs are in poor operating condition and require expensive repairs.
- Improved humidity and comfort control of the building is required.
- The building is undergoing a comprehensive retrofit.
- Existing RTUs use R22 refrigerant.

Newer package units contain components and technology designed to minimize energy usage, thereby enhancing cost-effectiveness and energy efficiency. Higher efficiency units do cost incrementally more. However, more efficient units have additional benefits:

- High efficiency systems use less energy, which translates to less money spent on energy bills.
- By using less energy high efficiency systems reduce the negative environmental effects of burning fossil fuels and greenhouse gas emissions.
- Depending upon the space served, new units may include demand control ventilation to ensure that required ventilation is met without over ventilating the space.
- Humidity – High efficiency systems not only help keep the air at the preferred temperature, but can more effectively remove moisture from the air. Modulated systems run longer cycles at lower pressures, helping to cool the air comfortably. Air that cools too fast without proper moisture removal can lead to mold and other airborne problems - See more at: <http://www.ac-heatingconnect.com/seer-101/#sthash.gGzQU3NW.dpuf>

Proper sizing and installation can have a significant impact on HVAC equipment efficiency; ensure replacement units are properly sized and installed. An HVAC technician can perform load calculations to determine appropriate equipment sizing for your location. Equipment resizing can reduce energy usage by as much as 35 percent, according to the CEE. In order to properly size a system, it must be checked for duct leakage and other inefficiencies that adversely affect performance.

Recommendation

When choosing a new heat pump (HP), look for efficiency ratings in the following ranges:

- Split HP units under 5.42 tons: 12.0 to 12.5 EER
- Single package HP units under 5.42 tons: 11.6 to 12.0 EER
- Wall mount heat pump units: 11.4 EER
- 5.42 to <20 ton units: 11.5 to 12.2 EER
- 20 ton units and larger: 10.3 to 10.8 EER

The units recommended for replacement are listed in the table below.

Package Unit Replacement					
Location	Unit Information	Size	Qty	Existing Efficiency	Proposed Efficiency
Davis Senior High School - 3 - Library Bldg Q	Carrier Package Rooftop Units - 48HJD008	7.5 Tons	3	11.00 EER	12.20 EER
Davis Senior High School - 3 - Library Bldg Q	Carrier Package Rooftop Units - 48HJD005	4 Tons	20	11.05 EER	12.00 EER
Davis Senior High School - 3 - Library Bldg Q	Mitsubishi Split Condensing Unit - PU18EK1	1.5 Tons	3	9.90 EER	12.00 EER

This measure may be impacted by the 2016 Title 24 standards. Title 24 required features cannot be combined with other measures such as programmable thermostats and enhanced ventilation under PG&E rebate programs when installing new units.

Cost and Savings

Financial Summary								
Site Name + Measure Type	Electric Savings (kWh/yr)	Gas Savings (therm/yr)	Cost Savings (\$/yr)	Measure Cost (\$)	Rebates (\$)	Net Measure Cost (\$)	SIR	SPB (yr)
Davis Joint Unified School District - HVAC - Package Unit Replacement	8,812	264	\$2,208	\$467,700	\$0	\$467,700	0.44	211.9
Inputs and Assumptions								
1) Project Life: 15 years								
2) See Energy Efficiency Measures Table Line(s) 405 to 407								

Energy Calculations

Savings are calculated using the effective full load hours for both heating and cooling. The calculation tool is provided in the EEP supporting files as "HVAC Energy Savings Calculator – Davis Senior High School".

Calculated costs consider equipment, material, and labor costs in addition to crane services and curb adaptor.

ENERGY MANAGER SERVICES

Description

An energy manager is an individual who is responsible for optimizing the energy use of a facility. The energy manager's primary goal is to improve energy efficiency while ensuring that the needs of the facility are still met. This is accomplished by planning and executing a strategic approach to reducing energy consumption.

Energy managers provide a number of different services to the organization they serve, which may include (but are not limited to):

- Monitoring and evaluating a facility's current energy usage
- Setting energy-related goals and determining savings potential
- Creating policies and programs that promote energy efficiency among building occupants
- Providing training for building operators
- Identifying energy saving opportunities within the facility and quantifying their relative merits
- Developing plans and strategies for implementing energy-saving measures
- Managing the implementation of energy efficiency projects
- Measuring and verifying energy savings resulting from project implementation

Energy managers play a key role in reducing energy consumption at a facility because they are experienced energy professionals and because they are fully focused on energy efficiency. They do not have competing priorities; as other employees do. In particular, it is very beneficial to have an energy manager who can oversee all phases of project implementation, including:

- Developing a project scope of work
- Initiating the application process for any available utility incentives
- Soliciting bids from potential contractors to complete the project
- Working with contractors to develop a suitable schedule and budget
- Monitoring and facilitating project implementation to ensure schedule and budget are met
- Reviewing the final commissioning of the project

Some organizations have a full-time energy manager on their staff. Others retain the services of an independent "consulting" energy manager.

Recommendation

The Proposition 39 guidelines allow for school districts to request energy manager funding as part of their initial planning funds request and through their energy expenditure plan. Districts have the option of requesting up to 10% of their annual award allocation to hire or retain an energy manager.

If Davis Joint Unified School District is interested in energy manager services, CLEARResult recommends that it spends up to 100% of its planning funds and up to 10% of its annual award (years 2-5) to retain the services of a consulting energy manager.

Cost

The following table shows DJUSD's annual award funding as well as the corresponding amount available for energy manager services.

Summary	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Total Prop 39 Funding	\$333,193	\$291,191	\$266,048	\$411,397	\$398,942	\$1,700,771
Maximum Energy Manager Allocation	\$130,000	\$29,119	\$26,605	\$41,140	\$39,894	\$266,758

Total Prop 39 Funding Spent (Phase I)						\$214,269
Maximum Energy Manager Spent (Phase I)						\$120,529

Total Prop 39 Funding Remaining (Phase II)						\$1,365,973
Maximum Energy Manager Allocation Remaining (Phase II)						\$146,229

Appendices

APPENDIX A – NO COST / LOW COST ACTIONS

CLEAN LIGHT FIXTURE LENSES

Description

Lenses on exterior fixtures serve many purposes - they protect the lamp, keep the interior of the fixture clear of debris and modify or direct the light emitted from the lamp. Over time, the lenses become discolored and yellow due to interactions between dust, heat, and ultraviolet light. All exposed surfaces of the fixture will accumulate dirt unless cleaned. Between these conditions, usable light output can diminish by more than 20%.

Recommended Action

Keep exterior fixture lenses clean. Cleaning a dirty lens can increase light output by 10%. Alternatively, replacement lenses made of acrylic can transmit approximately 92% of a fixture's light.

HVAC EQUIPMENT LABELS

Description

Labeling of HVAC components is an inexpensive and effective method for helping facilities personnel properly operate and maintain the HVAC systems. The labels should be easy to read when standing next to the equipment, and durable to match the life of the equipment to which they are attached.

"AHU" refers to any air handling unit that is associated with outdoor air supply.

Recommended Action

At a minimum, the following components should be labeled in each ventilation zone of the school and should correspond with the HVAC diagrams and drawings:

- The number or name of the AHU (e.g., AHU ##, or AHU for West Wing)
- The outdoor air (OA), supply air (SA), return air (RA), and exhaust or relief air (EA) connections to the AHU, each with arrows noting proper airflow direction
- The access door(s) for the air filters and the minimum filter dust-spot (or MERV) efficiency (Air Filters, minimum xx% dust spot efficiency)
- The filter pressure gauge and the recommended filter change pressure (Filter Pressure, max 0.x in. w.g.)
- The access door(s) for the condensate drain pan (Drain Pan)
- Other pertinent access doors such as to energy recovery ventilation wheels or plates (Energy Recovery Ventilation Unit)
- The minimum amount of outdoor air for each AHU (### CFM minimum during occupied times)
- The outdoor air damper (OA Damper), with special marks noting when the damper is in the fully closed (Closed), fully opened (Open), and minimum designed position (Min)
- If a motorized relief damper is installed (EA Damper), note the same positions as above.

- The access door to any outdoor air controls (OA Control(s)) such as damper position adjustments, outdoor airflow measuring stations, resets, fuses, and switches)
- Breakers for exhaust fans (Exhaust Fan ##), AHU, unit ventilators
- Access doors for inspection and maintenance of air ducts
- Any dampers and controls for air side economizers (as appropriate)
- The number or name of all exhaust fans, including the air quantity exhausted (EF##, ###CFM)

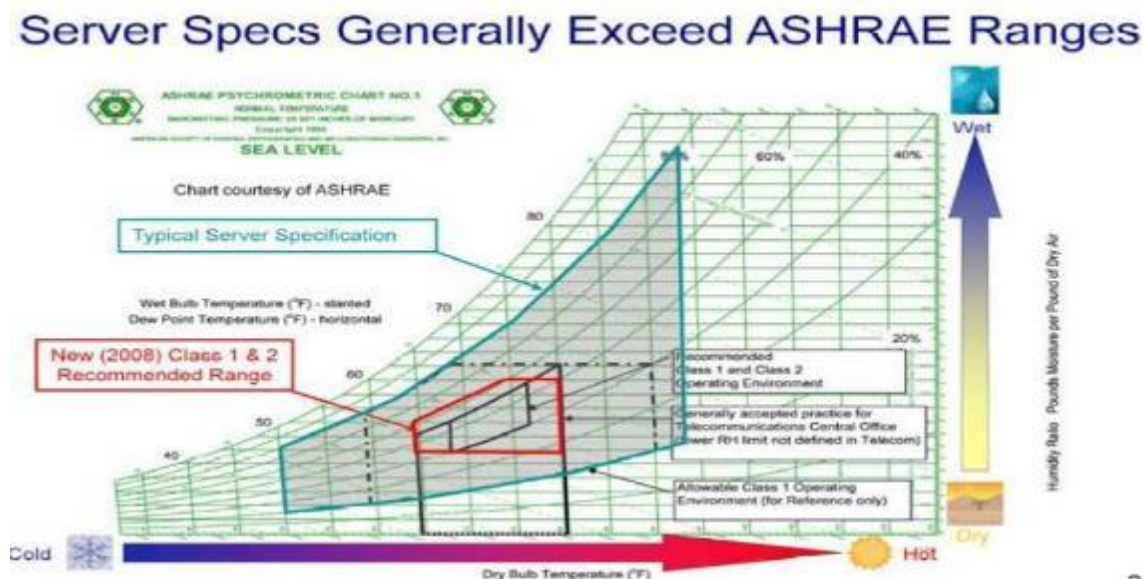
SERVER CLOSET THERMAL ENVIRONMENT RESET

Description

Reset server closet temperature. The supply temperature to the server areas can often be raised above traditional settings without affecting the thermal equipment environment. Use environmental specifications provided by ASHRAE or NEBS to target appropriate temperatures within the range of 59°F - 90°F.

Recommended Action

Reset server closet temperatures to a higher setting. Energy savings of about 1% per degree F rise in temperature can be realized.



WALL-SWITCH TIMERS

Description

Wall-switch timers come in different forms. Some allow for pre-programming of a certain length of time that the lights are turned on for each time the button is pushed. Others are a simple twist timer that allows the occupant to set the length of time that they wish the lights to be on. In spaces that see

intermittent use, wall switch occupancy sensors are typically a good recommendation. However, for spaces that are larger and cannot be covered by a wall-switch sensor alone, a wall-switch timer is a good alternative to ensure that the lights eventually turn off once people leave the room.

Recommended Action

This technology is optimal for areas that are too large for a standard wall-switch occupancy sensor to use and have intermittent short usage such as break rooms, work areas, or teachers' lounges where the more expensive ceiling mounted occupancy sensors are not required.

APPENDIX B – SUGGESTED MEASURES

HVAC – Furnace Replacement

Description

Single zone, constant volume, packaged systems are among the most economical heating and ventilating equipment available when considering first-cost only. However, the expense to operate and maintain these units over time rises disproportionately in comparison with more centralized systems. Problems often identified with furnaces include: unoccupied period operation; inadequate ventilation/combustion air; poor air flow and dirty filters/coils.

High efficiency furnaces should be considered when:

Existing furnaces are more than 10 years old.

Existing furnaces are in poor operating condition and require expensive repairs.

The building is undergoing a comprehensive retrofit.

When choosing a new furnace, look for higher efficiency units and compare their incremental cost with their additional benefits:

High efficiency systems use less energy, which translates to less money spent on energy bills.

By using less energy high efficiency systems reduce the negative environmental effects of burning fossil fuels and greenhouse gas emissions.

This measure may be impacted by the 2013 Title 24 standards. Potential impacts are listed in Appendix D – Building Energy Efficiency Standards (Title 24, Part 6) of this report for HVAC replacement measures.

Recommendation

This measure is not recommended due to a low heating load resulting in low savings and a long payback. If units require extensive service or fail it is recommended to replace the units with 84% thermally efficient units or better.

STANDARD EFFICIENCY MOTOR REPLACEMENT

Description

The cost of electricity to operate a motor over its life time is much greater than the initial capital cost of the motor itself. Typical life time of a motor, according to motor manufacturers is about 40,000 hours. Therefore, it is cost effective to invest in the purchase of the highest efficiency motor available because of the huge energy saving potential over the life time. It is recommended to replace old and worn out motors with premium efficiency motors rather than rewind because, according to US Department of Energy studies of motors and motor drives in manufacturing facilities, rewinding makes a motor about 2% less efficient every time. Other advantages of premium efficiency motors include cooler operation because of lower losses and higher power factor and longer lifetime because of heavier duty bearings found on them.

Recommended Action

Replace old, worn out, or broken standard efficiency motors with the highest efficiency motor that is feasible.

OFFICE EQUIPMENT

Description

Small appliances, such as mini fridges, microwaves, and coffeemakers, can proliferate in the school environment, leading to high plug loads. Each plugged-in appliance contributes somewhat to overall energy consumption at the site, sometimes referred to as “phantom loads” and can often represent an opportunity to lower the site’s energy demand baseline.

Lots of references exist to address these types of issues. A good description of the issues is presented in this reference:

<http://energy.maryland.gov/incentives/schools/resources/presentations/workshop2/Plugloads.pdf>

Furthermore, the Department of Energy (DOE) through the Federal Energy Management Program (FEMP) provides good guidance on identifying and addressing phantom loads within school facilities. These items are included:

TV	1 watt
VCR	2 watts
DVD Player	1 watt
Audio Product	1 watt
Desktop Computer	2 watts
Workstation	2 watts
Laptop Computer	1 watt
Copier	1 watt
Printer	1 watt

Recommended Action

Limit possession of personal appliances in classrooms and offices, if applicable. Education campaigns for the site population, including students, staff, and faculty, have been effective at raising awareness

and reducing energy consumption attributed to personal appliances without compromising occupant comfort or convenience.

REPLACE INCANDESCENT/FLUORESCENT EXIT SIGNS

Description

Emergency egress signs are one of the few electrical items in operation at a school 24 hours/365 days per year. Light Emitting Diodes (LEDs) provide bright, constant, and uniform illumination to the word "EXIT". LED Exit signs are also the most popular type of exit sign available today because of their combination of efficiency, longevity (8-10 years) and value. A typical LED exit sign will pay back itself in the form of energy savings within 3 years. Compared to traditional incandescent and fluorescent illuminated exit signs, LED exit signs are 10 times more efficient, drastically reducing electricity costs associated with exit signs.

Incandescent exit signs typically consume 30-40 watts while LED models consume 2 to 4. Additionally, light source lifespan is expanded from 2,500 hours (incandescent) to 80,000 hours (LED), eliminating maintenance cost and time while improving reliability and building safety.

Note: LED exit signs are no longer eligible for rebates but the measure is still recommended as "low hanging fruit" that the district can easily do to achieve energy savings.



Recommended Action

Replace any incandescent or CFL exit signs in your facility with LED exit signs.

LOW FLOW DEVICES

High Efficiency Toilets

Early models of low flow toilets gave little consideration to the design of the bowl and focused solely on reducing the amount of water used per flush. This led to problems with clogging and multiple flushes. The new generation of high efficiency toilets has not only improved flushing ability, but has further reduced the amount of water per flush. New toilets have flush rates as low as 1.0 gallons per flush (GPF), compared to the current federal standard of 1.6 GPF. Replacing first generation low-flow toilets not only saves money from reduced water use; it also improves toilet performance and reduces sewer costs.

Faucet Aerators

Faucet aerators are a simple, inexpensive way to reduce water usage without decreasing faucet pressure. Aerators are small screened cylinders that screw onto your existing faucet. When the water flows through them, it is mixed with air from the gaps in the screen. This helps maintain a high, consistent water pressure without letting as much water through. Bathroom faucets without aerators

use between two and four gallons of water per minute, while faucets with aerators typically use less than one gallon per minute.

HIGH EFFICIENCY KITCHEN EQUIPMENT

Kitchen equipment at the end of its life, is optimal for replacement with an efficient model. Since kitchens which actively cook food represent a significant portion of energy costs, selecting energy efficient kitchen equipment is an effective way to reduce consumption. Water savings of 25% and energy savings of 25% are possible by upgrading from standard efficiency models.



Three organizations provide mainstream efficiency standards, and guidelines for commercial foodservice equipment:

- For ratings, please visit Energy Star's website, <http://www.energystar.gov/>.
- For rebates, check out Foodservice Technology Center (FSTC), <http://www.fishnick.com/>.
- Find further resources at the Consortium for Energy Efficiency (CEE), <http://www.cee1.org/>.

Recommended Action

Develop an energy efficient equipment replacement plan to take advantage of equipment failure. Consider replacing equipment which is more than 10 years old. Check out www.fishnick.com for current information about rebates available for kitchen equipment of all types.

APPENDIX C – LIGHTING CONTROLS: SENSOR APPLICATIONS

▪ ***Fixture Integrated Occupancy Sensor***

Install fixture integrated occupancy sensors on linear fluorescent high bay fixtures. If the lights will be frequently turned on and off, consider using program-start ballasts with the fixtures as well. One of the benefits of fluorescent high bay fixtures over HID fixtures is the instant re-strike time, which makes it possible to turn the lights on and off instantly. This allows those fixtures to work well with occupancy sensors. Purchase fluorescent high bay fixtures with an occupancy sensor integrated directly into the fixture. Each fixture will then be controlled with an occupancy sensor, so when only half of the gym is being used, the lights on the other end can be shut off. These sensors can be modified to fit a particular space (i.e. an aisle or gymnasium) by changing the sensitivity as well as the amount of buffer time to leave the lights on when no activity is detected. When used in conjunction with T8 and T5 lamps, Program-Start ballasts can help prolong the lamp life in areas where occupancy sensors would be used.



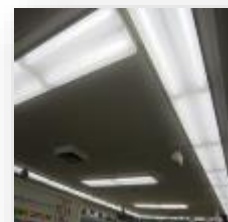
▪ ***Wall-Mounted Occupancy Sensor***

Install wall-switch occupancy sensors in private offices and other small spaces where automated light switches will save energy. Wall-switch occupancy sensors are relatively inexpensive and easy to install because they can replace a normal wall switch without special wiring. They are ideally suited for small spaces such as individual offices, closets, or personal restrooms. Make sure the sensor has a clear view to all areas for proper operation and can cover the space required.



▪ ***Ceiling-Mounted Occupancy Sensor***

Install ceiling mounted occupancy sensors in larger spaces such as classrooms where automated lighting controls will save energy. Ceiling mounted occupancy sensors are most effective in large, open areas where their high position reduces the likelihood furniture, like TV stands or book cases, will block the sensor's view. Two types of sensing mechanisms are available with these occupancy sensors: Passive Infrared (PIR), which detects large motions, and Ultrasonic, which can detect smaller motions. Use sensors that employ both technologies, called Dual Technology Sensors, for classrooms or study areas in order to limit the occurrence of “false-offs”. These sensors are especially effective if teachers leave the lights on during class breaks and if lights are left on in the classrooms until the night custodians leave.



APPENDIX D – 2013 BUILDING ENERGY EFFICIENCY STANDARDS (TITLE 24, PART 6)

HVAC REPLACEMENT

Whole Packaged or Split HVAC Units

Whole packaged units and split HVAC units must meet the following requirements when being replaced under the 2013 Title 24 standards:

- Must meet thermostatic control requirements
- Outside air supply and exhaust equipment shall be installed with dampers that automatically close upon fan shutdowns
- Equipment must meet or exceed minimum cooling and heating efficiencies
- Minimum design quantities of outside air must be met through natural or mechanical ventilation
- Must have demand control ventilation if the unit has an economizer and is designed for high occupancy (classrooms exempt)
- Demand shed controls for units with direct digital controls (DDC) down to the zone level
- Equipment sized per cooling and heating load calculation guidelines
- Meet fan power consumption guidelines for systems with greater than 25-hp in fan motors
- Must be equipped with economizers if greater than 4.5 cooling tons
- Must meet duct sealing and leakage testing requirements
- Must meet duct insulation requirements if replacing or installing any ducting beyond the unit supply or return plenum

Heat Pumps

Heat pumps must meet the following requirements when being replaced under the 2013 Title 24 standards:

- Must meet thermostatic control requirements
- Outside air supply and exhaust equipment shall be installed with dampers that automatically close upon fan shutdowns
- Equipment must meet or exceed minimum cooling and heating efficiencies
- Minimum design quantities of outside air must be met through natural or mechanical ventilation
- Must have demand control ventilation if the unit has an economizer and is designed for high occupancy (classrooms exempt)
- Demand shed controls for units with DDC controls down to the zone level
- Equipment sized per cooling and heating load calculation guidelines
- Meet fan power consumption guidelines for systems with greater than 25-hp in fan motors
- Must be equipped with economizers if greater than 4.5 cooling tons
- Must meet duct sealing and leakage testing requirements
- Must meet duct insulation requirements if replacing or installing any ducting beyond the unit supply or return plenum

- Supplementary electric resistance heaters must have specialized controls that minimize the use of supplementary heating

Furnace

Furnaces must meet the following requirements when being replaced under the 2013 Title 24 standards:

- Must meet thermostatic control requirements
- Outside air supply and exhaust equipment shall be installed with dampers that automatically close upon fan shutdowns
- Equipment must meet or exceed minimum heating efficiencies
- Minimum design quantities of outside air must be met through natural or mechanical ventilation
- Equipment sized per heating load calculation guidelines
- Must meet fan power consumption guidelines for systems with greater than 25-hp in fan motors
- Must meet duct sealing and leakage testing requirements
- Must meet duct insulation requirements if replacing or installing any ducting beyond the unit supply or return plenum

Gas and oil fired furnaces with 225,000 BTU/h input or greater will need the following measures to minimize stand by losses under the 2013 Title 24 standards:

- Intermittent ignition or interrupted device
- Either power venting or a flue damper (vent dampers acceptable if combustion air supplied from conditioned space)
- Furnaces located outside of conditioned space will have a maximum of 0.75% jacket losses

HVAC REPAIR

When altering an HVAC unit, design requirements must be completed by a third party Professional Engineer under 2013 Title 24 standards. Additional requirements may be required when altering the following equipment on HVAC units:

- Cooling coil or heating coil – thermostatic control requirements must be met.
- Sensors and control equipment – thermostatic control and demand control ventilation requirements must be met, and units must be equipped with economizers and supply air temperature reset controls.
- Dampers – ventilation calculation guidelines must be followed and demand control ventilation requirements must be met.

HVAC CONTROLS

HVAC Unitary Systems

Under Title 24, unitary HVAC systems are considered to be one of the following types of units:

- Package terminal air conditioners
- Unitary air conditioners and condensing units
- Unitary heat pumps
- Applied heat pumps
- Variable refrigerant flow units
- Forced air furnaces
- Unit heaters

Unitary HVAC equipment undergoing control installations must meet the following requirements under the 2013 Title 24 standards (note that some units are exempt or some requirements only apply to certain equipment types):

- Must have setback capable zone thermostats
- Units must have demand control ventilation (Unit heaters exempt)
- Must have shutoff and reset capabilities
- Outside air supply and exhaust equipment must have dampers that automatically close upon fan shutdowns (Unit heaters exempt)
- Must contain isolation devices for multi-zone equipment serving over 25,000 square feet (only applies to Applied heat pumps and Variable refrigerant flow units)
- Demand shed controls for units with zone level control (Unitary air conditioners and condensing units, Unitary heat pumps, and Unit heaters exempt)
- Economizer fault detection and diagnostics (FDD) systems must be installed on units greater than 4.5 cooling tons (Unit heaters exempt)
- Zone controls that prevent reheating, recooling, and simultaneous heating and cooling of the same zone (some exemptions apply for VAV systems) (only applies to Package terminal air conditioners, Applied heat pumps, and Variable refrigerant flow units)
- Supply temperature reset (only applies to Package terminal air conditioners)
- Variable flow control (only applies to Package terminal air conditioners, Applied heat pumps, and Variable refrigerant flow units)

Boilers and Chillers

Boilers and chillers undergoing control installations must meet the following requirements under the 2013 Title 24 standards:

- Must have shutoff and reset capabilities
- Combustion air equipment must have dampers that automatically close upon fan shutdown (Boilers only)
- Mechanical room ventilation fans where chillers are located must have dampers that automatically close upon fan shutdown (Chillers only)
- Must contain isolation devices for multi-zone equipment serving over 25,000 square feet
- Demand shed controls will include settings for capable of disabling, manually controlling, or automatically operating equipment
- Prevention of simultaneous heating and cooling (some exemptions for VAV systems)

- Supply temperature reset
- Variable flow control

The 2013 Building Energy Efficiency Standards commonly known as Title 24, Part 6 can be found on the California Energy Commission's website here:

<http://www.energy.ca.gov/2012publications/CEC-400-2012-004/CEC-400-2012-004-CMF-REV2.pdf>.

In addition, the California Statewide Codes & Standards Program is an additional resource that can be used to aid in understanding of codes and standards set forth by Title 24, Part 6. The Energy Code Ace website is the vehicle through which they provide free tools and resources, such as triggers sheets. They are funded by utility customers under the California Public Utilities Commission and the major investor owned utilities. The previously mentioned trigger sheets can be found on their website here:

<http://energycodeace.com/content/resources-trigger-sheets/>.

They are an excellent resource in pointing you to directly applicable sections of the 2013 Title 24 standards.

APPENDIX E – ENERGY EFFICIENCY MEASURE DETAILS

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
1	Davis Senior High School - 00 - Site Lighting - Admin Building A Wallpacks	1-Lamp, 150W High Pressure Sodium Fixture	19	75W LED Wall Packs/Floods	19	8,803	0.00	0	\$6,650	\$1,140	\$5,510	\$1,942
2	Davis Senior High School - 00 - Site Lighting - Building B Wallpacks	1-Lamp, 100W High Pressure Sodium Fixture	2	28W LED Wall Packs/Floods	2	902	0.00	0	\$700	\$80	\$620	\$199
3	Davis Senior High School - 00 - Site Lighting - Building B Wallpacks	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	3	28W LED Wall Packs/Floods	3	381	0.00	0	\$1,050	\$120	\$930	\$84
4	Davis Senior High School - 00 - Site Lighting - Adult Education Wallpacks	1-Lamp, 150W High Pressure Sodium Fixture	1	75W LED Wall Packs/Floods	1	463	0.00	0	\$350	\$60	\$290	\$102
5	Davis Senior High School - 00 - Site Lighting - Adult Education Wallpacks	1-Lamp, 100W High Pressure Sodium Fixture	1	28W LED Wall Packs/Floods	1	451	0.00	0	\$350	\$40	\$310	\$99
6	Davis Senior High School - 00 - Site Lighting - Auto Shop Building E Wallpacks	1-Lamp, 150W High Pressure Sodium Fixture	6	75W LED Wall Packs/Floods	6	2,780	0.00	0	\$2,100	\$360	\$1,740	\$613
7	Davis Senior High School - 00 - Site Lighting - Building B Wallpacks	1-Lamp, 150W High Pressure Sodium Fixture	1	75W LED Wall Packs/Floods	1	463	0.00	0	\$350	\$60	\$290	\$102

Energy Efficiency Measure Details												
	Existing Equip.			Proposed Equip.		Savings			Project Costs			
Line #	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
8	Davis Senior High School - 00 - Site Lighting - Building D Wallpacks	1-Lamp, 150W High Pressure Sodium Fixture	2	75W LED Wall Packs/Floods	2	927	0.00	0	\$1,000	\$120	\$880	\$204
9	Davis Senior High School - 00 - Site Lighting - Building D Wallpacks	1-Lamp, 100W High Pressure Sodium Fixture	1	28W LED Wall Packs/Floods	1	451	0.00	0	\$200	\$40	\$160	\$99
10	Davis Senior High School - 00 - Site Lighting - Building S Wallpacks	1-Lamp, 100W High Pressure Sodium Fixture	4	28W LED Wall Packs/Floods	4	1,804	0.00	0	\$800	\$160	\$640	\$398
11	Davis Senior High School - 00 - Site Lighting - Classroom Building N Wallpacks/poles	1-Lamp, 150W High Pressure Sodium Fixture	8	75W LED Wall Packs/Floods	8	3,706	0.00	0	\$2,800	\$480	\$2,320	\$818
12	Davis Senior High School - 00 - Site Lighting - Classrooms Science S1 Wallpacks	1-Lamp, 150W High Pressure Sodium Fixture	5	75W LED Wall Packs/Floods	5	2,317	0.00	0	\$1,750	\$300	\$1,450	\$511
13	Davis Senior High School - 00 - Site Lighting - Classrooms Wallpacks/poles	1-Lamp, 150W High Pressure Sodium Fixture	4	75W LED Wall Packs/Floods	4	1,853	0.00	0	\$1,600	\$240	\$1,360	\$409
14	Davis Senior High School - 00 - Site Lighting - Classroom Building L ceiling mounted	1-Lamp, 150W High Pressure Sodium Fixture	6	75W LED Wall Packs/Floods	6	2,780	0.00	0	\$1,200	\$360	\$840	\$613

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
15	Davis Senior High School - 00 - Site Lighting - Gym Wallpacks	1-Lamp, 150W High Pressure Sodium Fixture	6	75W LED Wall Packs/Floods	6	2,780	0.00	0	\$1,200	\$360	\$840	\$613
16	Davis Senior High School - 00 - Site Lighting - Gym Wallpacks	1-Lamp, 100W High Pressure Sodium Fixture	3	28W LED Wall Packs/Floods	3	1,353	0.00	0	\$1,050	\$120	\$930	\$298
17	Davis Senior High School - 00 - Site Lighting - Library Wallpacks	1-Lamp, 150W High Pressure Sodium Fixture	11	75W LED Wall Packs/Floods	11	5,096	0.00	0	\$3,850	\$660	\$3,190	\$1,124
18	Davis Senior High School - 00 - Site Lighting - Old Gym Wallpacks	1-Lamp, 150W High Pressure Sodium Fixture	4	75W LED Wall Packs/Floods	4	1,853	0.00	0	\$1,400	\$240	\$1,160	\$409
19	Davis Senior High School - 00 - Site Lighting - Old Gym Wallpacks	1-Lamp, 100W High Pressure Sodium Fixture	2	28W LED Wall Packs/Floods	2	902	0.00	0	\$700	\$80	\$620	\$199
20	Davis Senior High School - 00 - Site Lighting - Performance Arts Wall Packs	1-Lamp, 150W High Pressure Sodium Fixture	19	75W LED Wall Packs/Floods	19	8,803	0.00	0	\$3,800	\$1,140	\$2,660	\$1,942
21	Davis Senior High School - 00 - Site Lighting - Pole Lights	1-Lamp, 150W High Pressure Sodium Fixture	49	75W LED Wall Packs/Floods	49	22,702	0.00	0	\$19,600	\$2,940	\$16,660	\$5,008
22	Davis Senior High School - 00 - Site Lighting - Stadium Poles	1-Lamp, 500W Quartz Halogen Fixture	25	84W LED Floods	25	42,901	0.00	0	\$5,000	\$1,500	\$3,500	\$9,465
23	Davis Senior High School - 00 - Site Lighting - Stadium Wallpacks	1-Lamp, 100W High Pressure Sodium Fixture	29	28W LED Wall Packs/Floods	29	13,079	0.00	0	\$10,150	\$1,160	\$8,990	\$2,885

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
24	Davis Senior High School - 00 - Site Lighting - Admin Building A Wallpacks	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	935	0.00	0	\$180	\$0	\$180	\$206
25	Davis Senior High School - 00 - Site Lighting - Adult Education Wallpacks	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	49	0.00	0	\$180	\$0	\$180	\$11
26	Davis Senior High School - 00 - Site Lighting - Adult Education Wallpacks	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	18	0.00	0	\$180	\$0	\$180	\$4
27	Davis Senior High School - 00 - Site Lighting - Auto Shop Building E Wallpacks	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	295	0.00	0	\$180	\$0	\$180	\$65
28	Davis Senior High School - 00 - Site Lighting - Building B Wallpacks	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	37	0.00	0	\$180	\$0	\$180	\$8
29	Davis Senior High School - 00 - Site Lighting - Building B Wallpacks	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	55	0.00	0	\$180	\$0	\$180	\$12
30	Davis Senior High School - 00 - Site Lighting - Building B Wallpacks	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	49	0.00	0	\$180	\$0	\$180	\$11
31	Davis Senior High School - 00 - Site	No Sensor	1	Exterior T24 compliant sensor	1	20	0.00	0	\$180	\$0	\$180	\$4

Energy Efficiency Measure Details												
	Existing Equip.			Proposed Equip.		Savings			Project Costs			
Line #	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
	Lighting - Building D Wallpacks			package: Occupancy + Timer + Photocell								
32	Davis Senior High School - 00 - Site Lighting - Building D Wallpacks	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	98	0.00	0	\$180	\$0	\$180	\$22
33	Davis Senior High School - 00 - Site Lighting - Building D Wallpacks	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	18	0.00	0	\$180	\$0	\$180	\$4
34	Davis Senior High School - 00 - Site Lighting - Building S Wallpacks	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	73	0.00	0	\$180	\$0	\$180	\$16
35	Davis Senior High School - 00 - Site Lighting - Building W-Z Wallpacks	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	79	0.00	0	\$180	\$0	\$180	\$17
36	Davis Senior High School - 00 - Site Lighting - Classroom Building L ceiling mounted	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	295	0.00	0	\$180	\$0	\$180	\$65
37	Davis Senior High School - 00 - Site Lighting - Classroom Building N Wallpacks/poles	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	394	0.00	0	\$180	\$0	\$180	\$87
38	Davis Senior High School - 00 - Site	No Sensor	1	Exterior T24 compliant sensor	1	128	0.00	0	\$180	\$0	\$180	\$28

Energy Efficiency Measure Details												
	Existing Equip.			Proposed Equip.		Savings			Project Costs			
Line #	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
	Lighting - Classrooms Building M Wallpacks			package: Occupancy + Timer + Photocell								
39	Davis Senior High School - 00 - Site Lighting - Classrooms ceiling mounted	No Sensor	2	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	2	315	0.00	0	\$360	\$0	\$360	\$69
40	Davis Senior High School - 00 - Site Lighting - Classrooms Science S1 Wallpacks	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	69	0.00	0	\$180	\$0	\$180	\$15
41	Davis Senior High School - 00 - Site Lighting - Classrooms Science S1 Wallpacks	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	246	0.00	0	\$180	\$0	\$180	\$54
42	Davis Senior High School - 00 - Site Lighting - Classrooms Wallpacks/poles	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	197	0.00	0	\$180	\$0	\$180	\$43
43	Davis Senior High School - 00 - Site Lighting - Gym Wallpacks	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	89	0.00	0	\$180	\$0	\$180	\$20
44	Davis Senior High School - 00 - Site Lighting - Gym Wallpacks	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	295	0.00	0	\$180	\$0	\$180	\$65

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
45	Davis Senior High School - 00 - Site Lighting - Gym Wallpacks	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	55	0.00	0	\$180	\$0	\$180	\$12
46	Davis Senior High School - 00 - Site Lighting - Library Wallpacks	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	541	0.00	0	\$180	\$0	\$180	\$119
47	Davis Senior High School - 00 - Site Lighting - Library Wallpacks	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	49	0.00	0	\$180	\$0	\$180	\$11
48	Davis Senior High School - 00 - Site Lighting - Old Gym Wallpacks	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	138	0.00	0	\$180	\$0	\$180	\$30
49	Davis Senior High School - 00 - Site Lighting - Old Gym Wallpacks	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	20	0.00	0	\$180	\$0	\$180	\$4
50	Davis Senior High School - 00 - Site Lighting - Old Gym Wallpacks	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	197	0.00	0	\$180	\$0	\$180	\$43
51	Davis Senior High School - 00 - Site Lighting - Old Gym Wallpacks	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	37	0.00	0	\$180	\$0	\$180	\$8
52	Davis Senior High School - 00 - Site	No Sensor	1	Exterior T24 compliant sensor	1	904	0.00	0	\$180	\$0	\$180	\$199

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
	Lighting - Parking Lights			package: Occupancy + Timer + Photocell								
53	Davis Senior High School - 00 - Site Lighting - Performance Arts Entry Hall	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	236	0.00	0	\$180	\$0	\$180	\$52
54	Davis Senior High School - 00 - Site Lighting - Performance Arts Wall Packs	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	935	0.00	0	\$180	\$0	\$180	\$206
55	Davis Senior High School - 00 - Site Lighting - Pole Lights	No Sensor	4	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	4	2,411	0.00	0	\$720	\$0	\$720	\$532
56	Davis Senior High School - 00 - Site Lighting - Portables Wallpacks	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	69	0.00	0	\$180	\$0	\$180	\$15
57	Davis Senior High School - 00 - Site Lighting - Stadium Poles	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	1,230	0.00	0	\$180	\$0	\$180	\$271
58	Davis Senior High School - 00 - Site Lighting - Stadium Wallpacks	No Sensor	1	Exterior T24 compliant sensor package: Occupancy + Timer + Photocell	1	533	0.00	0	\$180	\$0	\$180	\$118
59	Davis Senior High School - 1 - Performance Arts Entrance	No Sensor	2	Interior Title 24 compliant sensor package: Occupancy +	2	109	0.00	0	\$500	\$0	\$500	\$24

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
				Timer + Multi-level + Daylighting								
60	Davis Senior High School - 1 - Performance Arts Entrance	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	44	0.00	0	\$250	\$0	\$250	\$10
61	Davis Senior High School - 1 - Performance Arts Gallery	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	33	0.00	0	\$250	\$0	\$250	\$7
62	Davis Senior High School - 1 - Performance Arts Hall	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	43	0.00	0	\$250	\$0	\$250	\$9
63	Davis Senior High School - 1 - Performance Arts Hall - Booth Room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	58	0.00	0	\$250	\$0	\$250	\$13
64	Davis Senior High School - 1 - Performance Arts Hall - Crew Log Room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	21	0.00	0	\$250	\$0	\$250	\$5

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
65	Davis Senior High School - 1 - Performance Arts Hall - Dressing Room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	52	0.00	0	\$250	\$0	\$250	\$12
66	Davis Senior High School - 1 - Performance Arts Hall - Green Room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	84	0.00	0	\$250	\$0	\$250	\$18
67	Davis Senior High School - 1 - Performance Arts Hall - Instrumental Music Room - Hall	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	7	0.00	0	\$250	\$0	\$250	\$2
68	Davis Senior High School - 1 - Performance Arts Hall - Instrumental Music Room - Hall	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	31	0.00	0	\$250	\$0	\$250	\$7
69	Davis Senior High School - 1 - Performance Arts Hall - Instrumental Music Room - Lab	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	52	0.00	0	\$250	\$0	\$250	\$12
70	Davis Senior High School - 1 - Performance Arts	No Sensor	1	Interior Title 24 compliant sensor package:	1	42	0.00	0	\$250	\$0	\$250	\$9

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
	Hall - Instrumental Music Room - Office			Occupancy + Timer + Multi-level + Daylighting								
71	Davis Senior High School - 1 - Performance Arts Hall - Instrumental Music Room - Storage	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	14	0.00	0	\$250	\$0	\$250	\$3
72	Davis Senior High School - 1 - Performance Arts Hall - Instrumental Music Room - Storage	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	58	0.00	0	\$250	\$0	\$250	\$13
73	Davis Senior High School - 1 - Performance Arts Hall - PA10	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	194	0.00	0	\$250	\$0	\$250	\$43
74	Davis Senior High School - 1 - Performance Arts Hall - PA3	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	461	0.00	0	\$250	\$0	\$250	\$102
75	Davis Senior High School - 1 - Performance Arts Hall - PA8	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-	1	432	0.00	0	\$250	\$0	\$250	\$95

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
				level + Daylighting								
76	Davis Senior High School - 1 - Performance Arts Hall - PA9	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	29	0.00	0	\$250	\$0	\$250	\$6
77	Davis Senior High School - 1 - Performance Arts Hall - Stairways	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	14	0.00	0	\$250	\$0	\$250	\$3
78	Davis Senior High School - 1 - Performance Arts Hall - Trap/Storage	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	209	0.00	0	\$250	\$0	\$250	\$46
79	Davis Senior High School - 1 - Performance Arts Restrooms	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	136	0.00	0	\$250	\$0	\$250	\$30
80	Davis Senior High School - 1 - Performance Arts Restrooms	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	22	0.00	0	\$250	\$0	\$250	\$5

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
81	Davis Senior High School - 1 - Performance Arts Theater	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	224	0.00	0	\$250	\$0	\$250	\$49
82	Davis Senior High School - 1 - Performance Arts Theater	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	237	0.00	0	\$250	\$0	\$250	\$52
83	Davis Senior High School - 10 - Classrooms - Custodial & Eqpt room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	26	0.00	0	\$250	\$0	\$250	\$6
84	Davis Senior High School - 10 - Classrooms - P10 to P-14 and P-20 to P-25	No Sensor	11	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	11	2,828	0.00	0	\$2,750	\$0	\$2,750	\$624
85	Davis Senior High School - 10 - Classrooms - Restrooms	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	14	0.00	0	\$250	\$0	\$250	\$3
86	Davis Senior High School - 10 - Classrooms - Store	No Sensor	1	Interior Title 24 compliant sensor package:	1	18	0.00	0	\$250	\$0	\$250	\$4

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
				Occupancy + Timer + Multi-level + Daylighting								
87	Davis Senior High School - 11 - Classroom Bldg L - S-8,9,10 and prep room	No Sensor	4	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	4	1,649	0.00	0	\$1,000	\$0	\$1,000	\$364
88	Davis Senior High School - 12 - Classroom Bldg P - A-5	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	243	0.00	0	\$250	\$0	\$250	\$54
89	Davis Senior High School - 13 - Classroom Bldg W-Z - N-CC, N-1 to N-12	No Sensor	13	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	13	2,827	0.00	0	\$3,250	\$0	\$3,250	\$624
90	Davis Senior High School - 13 - Classroom Bldg W-Z - N-CC, N-1 to N-12	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	34	0.00	0	\$250	\$0	\$250	\$7
91	Davis Senior High School - 14 - Building S - Shop O-4 to O-7	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-	1	503	0.00	0	\$250	\$0	\$250	\$111

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
				level + Daylighting								
92	Davis Senior High School - 15 - Adult Education - Rooms	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	249	0.00	0	\$250	\$0	\$250	\$55
93	Davis Senior High School - 16 - Portables - T1 to T7	No Sensor	4	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	4	667	0.00	0	\$1,000	\$0	\$1,000	\$147
94	Davis Senior High School - 16 - Portables - T1,2,3,6,7	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	9	0.00	0	\$250	\$0	\$250	\$2
95	Davis Senior High School - 16 - Portables - T1,2,3,6,7	No Sensor	4	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	4	971	0.00	0	\$1,000	\$0	\$1,000	\$214
96	Davis Senior High School - 16 - Portables - T4,5	No Sensor	2	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	2	170	0.00	0	\$500	\$0	\$500	\$37

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
97	Davis Senior High School - 2 - Gymnasium Concession	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	31	0.00	0	\$250	\$0	\$250	\$7
98	Davis Senior High School - 2 - Gymnasium Concession	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	5	0.00	0	\$250	\$0	\$250	\$1
99	Davis Senior High School - 2 - Gymnasium Hall	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	71	0.00	0	\$250	\$0	\$250	\$16
100	Davis Senior High School - 2 - Gymnasium Hall	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	905	0.00	0	\$250	\$0	\$250	\$200
101	Davis Senior High School - 2 - Gymnasium Hall	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	22	0.00	0	\$250	\$0	\$250	\$5
102	Davis Senior High School - 2 -	No Sensor	1	Interior Title 24 compliant sensor package:	1	52	0.00	0	\$250	\$0	\$250	\$12

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
	Gymnasium Restrooms			Occupancy + Timer + Multi-level + Daylighting								
103	Davis Senior High School - 2 - Gymnasium Storage	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	52	0.00	0	\$250	\$0	\$250	\$12
104	Davis Senior High School - 2 - Gymnasium Ticket	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	5	0.00	0	\$250	\$0	\$250	\$1
105	Davis Senior High School - 2 - Gymnasium Ticket	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	10	0.00	0	\$250	\$0	\$250	\$2
106	Davis Senior High School - 2 - Gymnasium Visitor Room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	31	0.00	0	\$250	\$0	\$250	\$7
107	Davis Senior High School - 3 - Library - Academic Center L10	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-	1	10	0.00	0	\$250	\$0	\$250	\$2

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
				level + Daylighting								
108	Davis Senior High School - 3 - Library - Academic Center L10	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	187	0.00	0	\$250	\$0	\$250	\$41
109	Davis Senior High School - 3 - Library - Career Center	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	130	0.00	0	\$250	\$0	\$250	\$29
110	Davis Senior High School - 3 - Library - GSA HQ L20	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	231	0.00	0	\$250	\$0	\$250	\$51
111	Davis Senior High School - 3 - Library - Library	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	29	0.00	0	\$250	\$0	\$250	\$6
112	Davis Senior High School - 3 - Library - Main Hall	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	52	0.00	0	\$250	\$0	\$250	\$12

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
113	Davis Senior High School - 3 - Library - Main Hall	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	1,244	0.00	0	\$250	\$0	\$250	\$274
114	Davis Senior High School - 3 - Library - Main Hall	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	584	0.00	0	\$250	\$0	\$250	\$129
115	Davis Senior High School - 3 - Library - Performance Room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	173	0.00	0	\$250	\$0	\$250	\$38
116	Davis Senior High School - 3 - Library - Storage/Closet/Ro of Access	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	21	0.00	0	\$250	\$0	\$250	\$5
117	Davis Senior High School - 3 - Library - Text Book Room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	605	0.00	0	\$250	\$0	\$250	\$134
118	Davis Senior High School - 3 - Library	No Sensor	1	Interior Title 24 compliant sensor package:	1	173	0.00	0	\$250	\$0	\$250	\$38

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
	- West Conference Room			Occupancy + Timer + Multi-level + Daylighting								
119	Davis Senior High School - 3 - Library Classrooms	No Sensor	12	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	12	4,222	0.00	0	\$3,000	\$0	\$3,000	\$931
120	Davis Senior High School - 3 - Library Hallway	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	308	0.00	0	\$250	\$0	\$250	\$68
121	Davis Senior High School - 3 - Library Hallway	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	66	0.00	0	\$250	\$0	\$250	\$14
122	Davis Senior High School - 3 - Library Hallway	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	55	0.00	0	\$250	\$0	\$250	\$12
123	Davis Senior High School - 3 - Library Record Room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-	1	403	0.00	0	\$250	\$0	\$250	\$89

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
				level + Daylighting								
124	Davis Senior High School - 3 - Library Record Room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	178	0.00	0	\$250	\$0	\$250	\$39
125	Davis Senior High School - 3 - Library Restrooms	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	199	0.00	0	\$250	\$0	\$250	\$44
126	Davis Senior High School - 3 - Library Restrooms	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	22	0.00	0	\$250	\$0	\$250	\$5
127	Davis Senior High School - 4 - Admin Building A - ACP Room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	86	0.00	0	\$250	\$0	\$250	\$19
128	Davis Senior High School - 4 - Admin Building A - ACP Room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	192	0.00	0	\$250	\$0	\$250	\$42

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
129	Davis Senior High School - 4 - Admin Building A - Another VP Office	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	86	0.00	0	\$250	\$0	\$250	\$19
130	Davis Senior High School - 4 - Admin Building A - Athletics Office	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	43	0.00	0	\$250	\$0	\$250	\$10
131	Davis Senior High School - 4 - Admin Building A - Attendant Office	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	130	0.00	0	\$250	\$0	\$250	\$29
132	Davis Senior High School - 4 - Admin Building A - Campus Coor	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	29	0.00	0	\$250	\$0	\$250	\$6
133	Davis Senior High School - 4 - Admin Building A - Campus Coor	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	109	0.00	0	\$250	\$0	\$250	\$24
134	Davis Senior High School - 4 - Admin Building A - Closet	No Sensor	1	Interior Title 24 compliant sensor package:	1	10	0.00	0	\$250	\$0	\$250	\$2

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
				Occupancy + Timer + Multi-level + Daylighting								
135	Davis Senior High School - 4 - Admin Building A - Copy Room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	43	0.00	0	\$250	\$0	\$250	\$10
136	Davis Senior High School - 4 - Admin Building A - Counselling Office	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	130	0.00	0	\$250	\$0	\$250	\$29
137	Davis Senior High School - 4 - Admin Building A - Counselling Office	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	7	0.00	0	\$250	\$0	\$250	\$2
138	Davis Senior High School - 4 - Admin Building A - Data Center	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	21	0.00	0	\$250	\$0	\$250	\$5
139	Davis Senior High School - 4 - Admin Building A - Finance	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-	1	58	0.00	0	\$250	\$0	\$250	\$13

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
				level + Daylighting								
140	Davis Senior High School - 4 - Admin Building A - Hallway	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	113	0.00	0	\$250	\$0	\$250	\$25
141	Davis Senior High School - 4 - Admin Building A - Hallway	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	31	0.00	0	\$250	\$0	\$250	\$7
142	Davis Senior High School - 4 - Admin Building A - Hallway	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	230	0.00	0	\$250	\$0	\$250	\$51
143	Davis Senior High School - 4 - Admin Building A - Hallway	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	43	0.00	0	\$250	\$0	\$250	\$9
144	Davis Senior High School - 4 - Admin Building A - Hallway	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	22	0.00	0	\$250	\$0	\$250	\$5

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
145	Davis Senior High School - 4 - Admin Building A - Hallway	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	63	0.00	0	\$250	\$0	\$250	\$14
146	Davis Senior High School - 4 - Admin Building A - Hallway	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	115	0.00	0	\$250	\$0	\$250	\$25
147	Davis Senior High School - 4 - Admin Building A - Large Conference Room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	84	0.00	0	\$250	\$0	\$250	\$18
148	Davis Senior High School - 4 - Admin Building A - Mailing Room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	29	0.00	0	\$250	\$0	\$250	\$6
149	Davis Senior High School - 4 - Admin Building A - Mailing Room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	109	0.00	0	\$250	\$0	\$250	\$24
150	Davis Senior High School - 4 - Admin	No Sensor	1	Interior Title 24 compliant sensor package:	1	58	0.00	0	\$250	\$0	\$250	\$13

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
	Building A - Nurse's Office			Occupancy + Timer + Multi-level + Daylighting								
151	Davis Senior High School - 4 - Admin Building A - Nurse's Office	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	5	0.00	0	\$250	\$0	\$250	\$1
152	Davis Senior High School - 4 - Admin Building A - Principal Office	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	72	0.00	0	\$250	\$0	\$250	\$16
153	Davis Senior High School - 4 - Admin Building A - Principal Office	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	57	0.00	0	\$250	\$0	\$250	\$13
154	Davis Senior High School - 4 - Admin Building A - Principal Office - Conference Room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	29	0.00	0	\$250	\$0	\$250	\$6
155	Davis Senior High School - 4 - Admin Building A - Psych/Prevention/ Crisis Manager	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-	1	86	0.00	0	\$250	\$0	\$250	\$19

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
				level + Daylighting								
156	Davis Senior High School - 4 - Admin Building A - Restrooms	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	5	0.00	0	\$250	\$0	\$250	\$1
157	Davis Senior High School - 4 - Admin Building A - Restrooms	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	63	0.00	0	\$250	\$0	\$250	\$14
158	Davis Senior High School - 4 - Admin Building A - Restrooms	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	11	0.00	0	\$250	\$0	\$250	\$2
159	Davis Senior High School - 4 - Admin Building A - Staff Room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	159	0.00	0	\$250	\$0	\$250	\$35
160	Davis Senior High School - 4 - Admin Building A - Staff Room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	5	0.00	0	\$250	\$0	\$250	\$1

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
161	Davis Senior High School - 4 - Admin Building A - Staff Room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	14	0.00	0	\$250	\$0	\$250	\$3
162	Davis Senior High School - 4 - Admin Building A - Storage	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	21	0.00	0	\$250	\$0	\$250	\$5
163	Davis Senior High School - 4 - Admin Building A - Storage	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	7	0.00	0	\$250	\$0	\$250	\$2
164	Davis Senior High School - 4 - Admin Building A - VP Office	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	58	0.00	0	\$250	\$0	\$250	\$13
165	Davis Senior High School - 5 - Old Gym - Boys Locker room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	398	0.00	0	\$250	\$0	\$250	\$88
166	Davis Senior High School - 5 - Old	No Sensor	1	Interior Title 24 compliant sensor package:	1	22	0.00	0	\$250	\$0	\$250	\$5

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
	Gym - Boys Locker room			Occupancy + Timer + Multi-level + Daylighting								
167	Davis Senior High School - 5 - Old Gym - Boys Locker room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	29	0.00	0	\$250	\$0	\$250	\$6
168	Davis Senior High School - 5 - Old Gym - Closet	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	73	0.00	0	\$250	\$0	\$250	\$16
169	Davis Senior High School - 5 - Old Gym - Dance room	No Sensor	4	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	4	879	0.00	0	\$1,000	\$0	\$1,000	\$194
170	Davis Senior High School - 5 - Old Gym - Girls Locker Room	No Sensor	2	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	2	429	0.00	0	\$500	\$0	\$500	\$95
171	Davis Senior High School - 5 - Old Gym - Gymnasium	No Sensor	6	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-	6	1,173	0.00	0	\$1,500	\$0	\$1,500	\$259

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
				level + Daylighting								
172	Davis Senior High School - 5 - Old Gym - Hallway	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	11	0.00	0	\$250	\$0	\$250	\$2
173	Davis Senior High School - 5 - Old Gym - Hallway	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	105	0.00	0	\$250	\$0	\$250	\$23
174	Davis Senior High School - 5 - Old Gym - Office	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	21	0.00	0	\$250	\$0	\$250	\$5
175	Davis Senior High School - 5 - Old Gym - Restrooms	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	94	0.00	0	\$250	\$0	\$250	\$21
176	Davis Senior High School - 5 - Old Gym - Restrooms	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	5	0.00	0	\$250	\$0	\$250	\$1

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
177	Davis Senior High School - 5 - Old Gym - Storage	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	21	0.00	0	\$250	\$0	\$250	\$5
178	Davis Senior High School - 5 - Old Gym - Storage	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	21	0.00	0	\$250	\$0	\$250	\$5
179	Davis Senior High School - 5 - Old Gym - Store	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	73	0.00	0	\$250	\$0	\$250	\$16
180	Davis Senior High School - 5 - Old Gym - Team room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	21	0.00	0	\$250	\$0	\$250	\$5
181	Davis Senior High School - 5 - Old Gym - Weight room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	670	0.00	0	\$250	\$0	\$250	\$148
182	Davis Senior High School - 6 -	No Sensor	1	Interior Title 24 compliant sensor package:	1	453	0.00	0	\$250	\$0	\$250	\$100

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
	Building B & E - Auto Shop			Occupancy + Timer + Multi-level + Daylighting								
183	Davis Senior High School - 6 - Building B & E - Auto Shop Classroom	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	209	0.00	0	\$250	\$0	\$250	\$46
184	Davis Senior High School - 6 - Building B & E - Auto Shop Closet	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	84	0.00	0	\$250	\$0	\$250	\$18
185	Davis Senior High School - 6 - Building B & E - Shop	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	398	0.00	0	\$250	\$0	\$250	\$88
186	Davis Senior High School - 6 - Building B & E - Shop Custodial Office	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	52	0.00	0	\$250	\$0	\$250	\$12
187	Davis Senior High School - 6 - Building B & E - Shop O-1	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-	1	188	0.00	0	\$250	\$0	\$250	\$42

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
				level + Daylighting								
188	Davis Senior High School - 6 - Building B & E - Shop O-1	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	22	0.00	0	\$250	\$0	\$250	\$5
189	Davis Senior High School - 6 - Building B & E - Shop O-1A	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	188	0.00	0	\$250	\$0	\$250	\$42
190	Davis Senior High School - 6 - Building B & E - Shop O-1A	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	22	0.00	0	\$250	\$0	\$250	\$5
191	Davis Senior High School - 6 - Building B & E - Shop Office	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	84	0.00	0	\$250	\$0	\$250	\$18
192	Davis Senior High School - 7 - Classrooms Building M - Break room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	79	0.00	0	\$250	\$0	\$250	\$17

Energy Efficiency Measure Details												
	Existing Equip.			Proposed Equip.		Savings			Project Costs			
Line #	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
193	Davis Senior High School - 7 - Classrooms Building M - C-1 to C-4	No Sensor	4	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	4	1,081	0.00	0	\$1,000	\$0	\$1,000	\$238
194	Davis Senior High School - 7 - Classrooms Building M - Classroom	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	216	0.00	0	\$250	\$0	\$250	\$48
195	Davis Senior High School - 7 - Classrooms Building M - Classroom	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	52	0.00	0	\$250	\$0	\$250	\$12
196	Davis Senior High School - 7 - Classrooms Building M - Closet	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	108	0.00	0	\$250	\$0	\$250	\$24
197	Davis Senior High School - 7 - Classrooms Building M - Closet/Data Center	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	52	0.00	0	\$250	\$0	\$250	\$12
198	Davis Senior High School - 7 - Classrooms	No Sensor	1	Interior Title 24 compliant sensor package:	1	13	0.00	0	\$250	\$0	\$250	\$3

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
	Building M - Computer room			Occupancy + Timer + Multi-level + Daylighting								
199	Davis Senior High School - 7 - Classrooms Building M - Conf room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	36	0.00	0	\$250	\$0	\$250	\$8
200	Davis Senior High School - 7 - Classrooms Building M - Conf room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	52	0.00	0	\$250	\$0	\$250	\$12
201	Davis Senior High School - 7 - Classrooms Building M - Hallway	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	39	0.00	0	\$250	\$0	\$250	\$9
202	Davis Senior High School - 7 - Classrooms Building M - Learning Center	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	252	0.00	0	\$250	\$0	\$250	\$56
203	Davis Senior High School - 7 - Classrooms Building M - Office	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-	1	26	0.00	0	\$250	\$0	\$250	\$6

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
				level + Daylighting								
204	Davis Senior High School - 7 - Classrooms Building M - Restrooms	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	170	0.00	0	\$250	\$0	\$250	\$38
205	Davis Senior High School - 7 - Classrooms Building M - Speech Therapist	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	52	0.00	0	\$250	\$0	\$250	\$12
206	Davis Senior High School - 7 - Classrooms Building M - Storage	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	13	0.00	0	\$250	\$0	\$250	\$3
207	Davis Senior High School - 7 - Classrooms Building M - Storage	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	13	0.00	0	\$250	\$0	\$250	\$3
208	Davis Senior High School - 7 - Classrooms Building M - Storage/part-time teacher's office	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	52	0.00	0	\$250	\$0	\$250	\$12

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
209	Davis Senior High School - 7 - Classrooms Building M - Student store	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	105	0.00	0	\$250	\$0	\$250	\$23
210	Davis Senior High School - 7 - Classrooms Building M - Teacher room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	144	0.00	0	\$250	\$0	\$250	\$32
211	Davis Senior High School - 8 - Classroom - Data Center	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	13	0.00	0	\$250	\$0	\$250	\$3
212	Davis Senior High School - 8 - Classroom - Mechanical Room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	52	0.00	0	\$250	\$0	\$250	\$12
213	Davis Senior High School - 8 - Classroom - S-1 to S-7	No Sensor	7	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	7	2,539	0.00	0	\$1,750	\$0	\$1,750	\$560
214	Davis Senior High School - 8 -	No Sensor	1	Interior Title 24 compliant sensor package:	1	13	0.00	0	\$250	\$0	\$250	\$3

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
	Classroom - S-2 closet			Occupancy + Timer + Multi-level + Daylighting								
215	Davis Senior High School - 8 - Classroom - S-4 office	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	26	0.00	0	\$250	\$0	\$250	\$6
216	Davis Senior High School - 8 - Classroom - Science Prep Hallway	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	13	0.00	0	\$250	\$0	\$250	\$3
217	Davis Senior High School - 8 - Classroom - Science Prep room	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	105	0.00	0	\$250	\$0	\$250	\$23
218	Davis Senior High School - 8 - Classroom - Science workroom	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	157	0.00	0	\$250	\$0	\$250	\$35
219	Davis Senior High School - 9 - Classroom Bldg N - A6,7	No Sensor	2	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-	2	419	0.00	0	\$500	\$0	\$500	\$92

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
				level + Daylighting								
220	Davis Senior High School - 9 - Classroom Bldg N - A6,7	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	137	0.00	0	\$250	\$0	\$250	\$30
221	Davis Senior High School - 9 - Classroom Bldg N - Hallway	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	157	0.00	0	\$250	\$0	\$250	\$35
222	Davis Senior High School - 9 - Classroom Bldg N - Office	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	105	0.00	0	\$250	\$0	\$250	\$23
223	Davis Senior High School - 9 - Classroom Bldg N - S-11&12	No Sensor	2	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	2	419	0.00	0	\$500	\$0	\$500	\$92
224	Davis Senior High School - 9 - Classroom Bldg N - S-11&12	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	137	0.00	0	\$250	\$0	\$250	\$30

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
225	Davis Senior High School - 9 - Classroom Bldg N - Science Storage & Art	No Sensor	1	Interior Title 24 compliant sensor package: Occupancy + Timer + Multi-level + Daylighting	1	314	0.00	0	\$250	\$0	\$250	\$69
226	Davis Senior High School - 00 - Site Lighting - Building D Wallpacks	2-Lamp, Twin 13W CFL Fixture	2	15W 6' LED Can	2	131	0.00	0	\$400	\$26	\$374	\$29
227	Davis Senior High School - 00 - Site Lighting - Building W-Z Wallpacks	2-Lamp, Twin 13W CFL Fixture	8	15W 6' LED Can	8	525	0.00	0	\$1,600	\$104	\$1,496	\$115
228	Davis Senior High School - 00 - Site Lighting - Classrooms Building M Wallpacks	2-Lamp, Twin 13W CFL Fixture	13	15W 6' LED Can	13	853	0.00	0	\$4,550	\$169	\$4,381	\$186
229	Davis Senior High School - 00 - Site Lighting - Classrooms ceiling mounted	2-Lamp, Twin 13W CFL Fixture	32	15W 6' LED Can	32	2,099	0.00	0	\$12,800	\$416	\$12,384	\$458
230	Davis Senior High School - 00 - Site Lighting - Classrooms Science S1 Wallpacks	2-Lamp, Twin 13W CFL Fixture	7	15W 6' LED Can	7	459	0.00	0	\$2,450	\$91	\$2,359	\$100
231	Davis Senior High School - 00 - Site Lighting - Gym Wallpacks	2-Lamp, Twin 13W CFL Fixture	9	15W 6' LED Can	9	590	0.00	0	\$1,800	\$117	\$1,683	\$129

Energy Efficiency Measure Details												
	Existing Equip.			Proposed Equip.		Savings			Project Costs			
Line #	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
232	Davis Senior High School - 00 - Site Lighting - Library Wallpacks	2-Lamp, Twin 13W CFL Fixture	5	15W 6' LED Can	5	328	0.00	0	\$1,000	\$65	\$935	\$72
233	Davis Senior High School - 00 - Site Lighting - Old Gym Wallpacks	2-Lamp, Twin 13W CFL Fixture	14	15W 6' LED Can	14	918	0.00	0	\$5,600	\$182	\$5,418	\$200
234	Davis Senior High School - 00 - Site Lighting - Old Gym Wallpacks	3-Lamp, Twin 13W CFL Fixture	2	15W 6' LED Can	2	271	0.00	0	\$700	\$26	\$674	\$29
235	Davis Senior High School - 00 - Site Lighting - Parking Lights	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	48	2x4 - 29W LED Troffer	48	5,963	0.00	0	\$16,800	\$1,728	\$15,072	\$1,285
236	Davis Senior High School - 00 - Site Lighting - Performance Arts Entry Hall	2-Lamp, Twin 13W CFL Fixture	24	15W 6' LED Can	24	1,574	0.00	0	\$4,800	\$312	\$4,488	\$344
237	Davis Senior High School - 00 - Site Lighting - Portables Wallpacks	2-Lamp, Twin 13W CFL Fixture	7	15W 6' LED Can	7	459	0.00	0	\$2,800	\$91	\$2,709	\$100
238	Davis Senior High School - 1 - Performance Arts Entrance	2-Lamp, Twin 13W CFL Fixture	20	15W 6' LED Can	20	781	0.01	-9	\$8,000	\$260	\$7,740	\$286
239	Davis Senior High School - 1 - Performance Arts Entrance	2-Lamp, Quad 13W CFL Fixture	8	15W 6' LED Can	8	312	0.00	-3	\$3,200	\$104	\$3,096	\$115
240	Davis Senior High School - 1 -	2-Lamp, Twin 13W CFL Fixture	6	15W 6' LED Can	6	234	0.00	0	\$2,100	\$78	\$2,022	\$86

Energy Efficiency Measure Details												
	Existing Equip.			Proposed Equip.		Savings			Project Costs			
Line #	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
	Performance Arts Gallery											
241	Davis Senior High School - 1 - Performance Arts Hall	2-Lamp, 2ft 17W T8 Fixture with NLO Electronic Ballast	6	2x2 - 20W LED Troffer	6	197	0.00	0	\$1,200	\$162	\$1,038	\$40
242	Davis Senior High School - 1 - Performance Arts Hall - Booth Room	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	4	2x4 - 40W LED Troffer	4	483	0.00	0	\$1,400	\$144	\$1,256	\$104
243	Davis Senior High School - 1 - Performance Arts Hall - Crew Log Room	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	2	2x4 - 29W LED Troffer	2	148	0.00	0	\$800	\$72	\$728	\$31
244	Davis Senior High School - 1 - Performance Arts Hall - Dressing Room	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	5	2x4 - 29W LED Troffer	5	370	0.00	0	\$1,000	\$180	\$820	\$78
245	Davis Senior High School - 1 - Performance Arts Hall - Green Room	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	8	2x4 - 29W LED Troffer	8	591	0.00	0	\$3,200	\$288	\$2,912	\$125
246	Davis Senior High School - 1 - Performance Arts Hall - Instrumental Music Room - Hall	2-Lamp, 2ft 17W T8 Fixture with NLO Electronic Ballast	1	2x2 - 20W LED Troffer	1	33	0.00	0	\$350	\$27	\$323	\$7
247	Davis Senior High School - 1 - Performance Arts Hall - Instrumental Music Room - Hall	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	3	2x4 - 29W LED Troffer	3	222	0.00	0	\$600	\$108	\$492	\$47
248	Davis Senior High School - 1 - Performance Arts	2-Lamp, 4ft 32W T8 Fixture with	5	2x4 - 29W LED Troffer	5	370	0.00	0	\$1,000	\$180	\$820	\$78

Energy Efficiency Measure Details												
	Existing Equip.			Proposed Equip.		Savings			Project Costs			
Line #	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
	Hall - Instrumental Music Room - Lab	NLO Electronic Ballast										
249	Davis Senior High School - 1 - Performance Arts Hall - Instrumental Music Room - Office	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	4	2x4 - 29W LED Troffer	4	296	0.00	0	\$1,600	\$144	\$1,456	\$63
250	Davis Senior High School - 1 - Performance Arts Hall - Instrumental Music Room - Storage	1-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	2	1x4 - 19W LED Troffer	2	60	0.00	0	\$800	\$72	\$728	\$12
251	Davis Senior High School - 1 - Performance Arts Hall - Instrumental Music Room - Storage	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	4	2x4 - 40W LED Troffer	4	483	0.00	0	\$800	\$144	\$656	\$104
252	Davis Senior High School - 1 - Performance Arts Hall - PA10	4-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	12	2x4 - 44W LED Troffer	12	1,980	0.02	0	\$4,200	\$432	\$3,768	\$429
253	Davis Senior High School - 1 - Performance Arts Hall - PA3	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	32	2x4 - 40W LED Troffer	32	3,864	0.03	0	\$6,400	\$1,152	\$5,248	\$832
254	Davis Senior High School - 1 - Performance Arts Hall - PA8	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	30	2x4 - 40W LED Troffer	30	3,623	0.03	0	\$12,000	\$1,080	\$10,920	\$780
255	Davis Senior High School - 1 - Performance Arts Hall - PA9	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	2	2x4 - 40W LED Troffer	2	242	0.00	0	\$800	\$72	\$728	\$52

Energy Efficiency Measure Details												
	Existing Equip.			Proposed Equip.		Savings			Project Costs			
Line #	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
256	Davis Senior High School - 1 - Performance Arts Hall - Stairways	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	1	2x4 - 40W LED Troffer	1	121	0.00	0	\$400	\$36	\$364	\$26
257	Davis Senior High School - 1 - Performance Arts Hall - Trap/Storage	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	20	2x4 - 29W LED Troffer	20	1,478	0.01	0	\$4,000	\$720	\$3,280	\$313
258	Davis Senior High School - 1 - Performance Arts Restrooms	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	13	2x4 - 29W LED Troffer	13	961	0.01	-11	\$4,550	\$468	\$4,082	\$204
259	Davis Senior High School - 1 - Performance Arts Restrooms	2-Lamp, Twin 13W CFL Fixture	4	15W 6' LED Can	4	156	0.00	-2	\$1,600	\$52	\$1,548	\$57
260	Davis Senior High School - 1 - Performance Arts Theater	2-Lamp, Twin 13W CFL Fixture	41	15W 6' LED Can	41	1,600	0.01	0	\$14,350	\$533	\$13,817	\$587
261	Davis Senior High School - 1 - Performance Arts Theater	2-Lamp, 60W Incandescent Lamp Fixture	13	50W LED	13	2,220	0.02	0	\$5,200	\$180	\$5,020	\$490
262	Davis Senior High School - 10 - Classrooms - Custodial & Eqpt room	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	2	2x4 - 29W LED Troffer	2	148	0.00	0	\$700	\$60	\$640	\$32
263	Davis Senior High School - 10 - Classrooms - P10 to P-14 and P-20 to P-25	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	157	2x4 - 40W LED Troffer	157	18,959	0.16	0	\$54,950	\$4,719	\$50,231	\$4,100
264	Davis Senior High School - 10 -	2-Lamp, Twin 32W CFL Fixture	2	15W 6' LED Can	2	229	0.00	0	\$700	\$26	\$674	\$29

Energy Efficiency Measure Details												
	Existing Equip.			Proposed Equip.		Savings			Project Costs			
Line #	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
	Classrooms - Restrooms											
265	Davis Senior High School - 10 - Classrooms - Store	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	1	2x4 - 40W LED Troffer	1	121	0.00	0	\$350	\$30	\$320	\$26
266	Davis Senior High School - 11 - Classroom Bldg L - S-8,9,10 and prep room	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	126	2x4 - 29W LED Troffer	126	9,314	0.08	0	\$44,100	\$3,787	\$40,313	\$1,988
267	Davis Senior High School - 12 - Classroom Bldg P - A-5	4-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	12	2x4 - 44W LED Troffer	12	1,980	0.02	0	\$4,200	\$361	\$3,839	\$430
268	Davis Senior High School - 13 - Classroom Bldg W-Z - N-CC, N-1 to N-12	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	216	2x4 - 29W LED Troffer	216	15,967	0.13	0	\$75,600	\$6,492	\$69,108	\$3,408
269	Davis Senior High School - 13 - Classroom Bldg W-Z - N-CC, N-1 to N-12	1-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	4	1x4 - 19W LED Troffer	4	121	0.00	0	\$1,400	\$120	\$1,280	\$25
270	Davis Senior High School - 14 - Building S - Shop O-4 to O-7	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	48	2x4 - 29W LED Troffer	48	3,548	0.03	0	\$16,800	\$1,443	\$15,357	\$757
271	Davis Senior High School - 15 - Adult Education - Rooms	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	19	2x4 - 29W LED Troffer	19	1,404	0.01	0	\$6,650	\$571	\$6,079	\$300
272	Davis Senior High School - 16 - Portables - T1 to T7	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	51	2x4 - 29W LED Troffer	51	3,770	0.03	0	\$10,200	\$1,836	\$8,364	\$799

Energy Efficiency Measure Details												
	Existing Equip.			Proposed Equip.		Savings			Project Costs			
Line #	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
273	Davis Senior High School - 16 - Portables - T1,2,3,6,7	2-Lamp, 2ft 17W T8 Fixture with NLO Electronic Ballast	1	2x2 - 20W LED Troffer	1	33	0.00	0	\$350	\$23	\$327	\$7
274	Davis Senior High School - 16 - Portables - T1,2,3,6,7	4-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	48	2x4 - 44W LED Troffer	48	7,918	0.06	0	\$16,800	\$1,443	\$15,357	\$1,721
275	Davis Senior High School - 16 - Portables - T4,5	1-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	20	1x4 - 19W LED Troffer	20	604	0.00	0	\$7,000	\$601	\$6,399	\$123
276	Davis Senior High School - 2 - Gymnasium Concession	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	3	2x4 - 29W LED Troffer	3	222	0.00	0	\$1,050	\$57	\$993	\$48
277	Davis Senior High School - 2 - Gymnasium Concession	2-Lamp, Twin 13W CFL Fixture	1	15W 6' LED Can	1	39	0.00	0	\$350	\$13	\$337	\$14
278	Davis Senior High School - 2 - Gymnasium Hall	3-Lamp, Twin 13W CFL Fixture	13	15W 6' LED Can	13	1,047	0.01	0	\$4,550	\$169	\$4,381	\$186
279	Davis Senior High School - 2 - Gymnasium Hall	1-Lamp, 400W Metal Halide Fixture	16	155W LED High Bay	16	11,827	0.10	0	\$5,600	\$480	\$5,120	\$559
280	Davis Senior High School - 2 - Gymnasium Hall	2-Lamp, Twin 13W CFL Fixture	4	15W 6' LED Can	4	156	0.00	0	\$1,400	\$52	\$1,348	\$57
281	Davis Senior High School - 2 - Gymnasium Restrooms	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	5	2x4 - 29W LED Troffer	5	370	0.00	0	\$1,750	\$150	\$1,600	\$79
282	Davis Senior High School - 2 - Gymnasium Storage	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	5	2x4 - 29W LED Troffer	5	370	0.00	0	\$1,750	\$96	\$1,654	\$80

Energy Efficiency Measure Details												
	Existing Equip.			Proposed Equip.		Savings			Project Costs			
Line #	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
283	Davis Senior High School - 2 - Gymnasium Ticket	3-Lamp, Twin 13W CFL Fixture	1	15W 6' LED Can	1	81	0.00	0	\$350	\$13	\$337	\$14
284	Davis Senior High School - 2 - Gymnasium Ticket	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	1	2x4 - 29W LED Troffer	1	74	0.00	0	\$350	\$30	\$320	\$16
285	Davis Senior High School - 2 - Gymnasium Visitor Room	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	3	2x4 - 29W LED Troffer	3	222	0.00	0	\$1,050	\$108	\$942	\$47
286	Davis Senior High School - 3 - Library - Academic Center L10	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	1	2x4 - 29W LED Troffer	1	74	0.00	0	\$350	\$36	\$314	\$16
287	Davis Senior High School - 3 - Library - Academic Center L10	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	13	2x4 - 40W LED Troffer	13	1,570	0.01	0	\$2,600	\$468	\$2,132	\$338
288	Davis Senior High School - 3 - Library - Career Center	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	9	2x4 - 40W LED Troffer	9	1,087	0.01	0	\$3,150	\$271	\$2,879	\$235
289	Davis Senior High School - 3 - Library - GSA HQ L20	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	16	2x4 - 40W LED Troffer	16	1,932	0.02	0	\$3,200	\$576	\$2,624	\$416
290	Davis Senior High School - 3 - Library - Library	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	2	2x4 - 40W LED Troffer	2	242	0.00	0	\$700	\$38	\$662	\$53
291	Davis Senior High School - 3 - Library - Main Hall	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	5	2x4 - 29W LED Troffer	5	370	0.00	0	\$1,750	\$150	\$1,600	\$79

Energy Efficiency Measure Details												
	Existing Equip.			Proposed Equip.		Savings			Project Costs			
Line #	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
292	Davis Senior High School - 3 - Library - Main Hall	1-Lamp, 400W Metal Halide Fixture	22	155W LED High Bay	22	16,262	0.13	0	\$7,700	\$660	\$7,040	\$769
293	Davis Senior High School - 3 - Library - Main Hall	1-Lamp, 250W Metal Halide Fixture	16	100W LED High Bay	16	7,612	0.06	0	\$6,400	\$400	\$6,000	\$600
294	Davis Senior High School - 3 - Library - Performance Room	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	12	2x4 - 40W LED Troffer	12	1,449	0.01	0	\$4,200	\$361	\$3,839	\$313
295	Davis Senior High School - 3 - Library - Storage/Closet/Ro of Access	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	2	2x4 - 29W LED Troffer	2	148	0.00	0	\$400	\$72	\$328	\$31
296	Davis Senior High School - 3 - Library - Text Book Room	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	42	2x4 - 40W LED Troffer	42	5,072	0.04	0	\$14,700	\$1,262	\$13,438	\$1,097
297	Davis Senior High School - 3 - Library - West Conference Room	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	12	2x4 - 40W LED Troffer	12	1,449	0.01	0	\$4,800	\$432	\$4,368	\$312
298	Davis Senior High School - 3 - Library Classrooms	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	293	2x4 - 40W LED Troffer	293	35,383	0.29	0	\$102,550	\$10,548	\$92,002	\$7,620
299	Davis Senior High School - 3 - Library Hallway	4-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	19	2x4 - 44W LED Troffer	19	3,134	0.03	0	\$6,650	\$571	\$6,079	\$681
300	Davis Senior High School - 3 - Library Hallway	2-Lamp, Twin 13W CFL Fixture	12	15W 6' LED Can	12	468	0.00	0	\$4,800	\$156	\$4,644	\$172
301	Davis Senior High School - 3 - Library Hallway	1-Lamp, 150W High Pressure Sodium Fixture	2	75W LED Wall Packs/Floods	2	551	0.00	0	\$700	\$50	\$650	\$75

Energy Efficiency Measure Details												
	Existing Equip.			Proposed Equip.		Savings			Project Costs			
Line #	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
302	Davis Senior High School - 3 - Library Record Room	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	28	2x4 - 40W LED Troffer	28	3,381	0.03	0	\$9,800	\$1,008	\$8,792	\$728
303	Davis Senior High School - 3 - Library Record Room	4-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	11	2x4 - 44W LED Troffer	11	1,815	0.01	0	\$3,850	\$331	\$3,519	\$395
304	Davis Senior High School - 3 - Library Restrooms	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	19	2x4 - 29W LED Troffer	19	1,404	0.01	0	\$6,650	\$571	\$6,079	\$300
305	Davis Senior High School - 3 - Library Restrooms	2-Lamp, Twin 13W CFL Fixture	4	15W 6' LED Can	4	156	0.00	0	\$1,400	\$52	\$1,348	\$57
306	Davis Senior High School - 4 - Admin Building A - ACP Room	2-Lamp, 2ft 17W T8 Fixture with NLO Electronic Ballast	12	2x2 - 20W LED Troffer	12	393	0.00	0	\$2,400	\$324	\$2,076	\$79
307	Davis Senior High School - 4 - Admin Building A - ACP Room	1-Lamp, 150W High Pressure Sodium Fixture	7	75W LED Wall Packs/Floods	7	1,930	0.02	0	\$2,450	\$175	\$2,275	\$262
308	Davis Senior High School - 4 - Admin Building A - Another VP Office	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	6	2x4 - 40W LED Troffer	6	725	0.01	0	\$2,400	\$216	\$2,184	\$156
309	Davis Senior High School - 4 - Admin Building A - Athletics Office	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	3	2x4 - 40W LED Troffer	3	362	0.00	0	\$1,050	\$108	\$942	\$78
310	Davis Senior High School - 4 - Admin Building A - Attendant Office	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	9	2x4 - 40W LED Troffer	9	1,087	0.01	0	\$3,150	\$271	\$2,879	\$235

Energy Efficiency Measure Details												
	Existing Equip.			Proposed Equip.		Savings			Project Costs			
Line #	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
311	Davis Senior High School - 4 - Admin Building A - Campus Coor	2-Lamp, 2ft 17W T8 Fixture with NLO Electronic Ballast	4	2x2 - 20W LED Troffer	4	131	0.00	0	\$1,400	\$90	\$1,310	\$27
312	Davis Senior High School - 4 - Admin Building A - Campus Coor	1-Lamp, 150W High Pressure Sodium Fixture	4	75W LED Wall Packs/Floods	4	1,103	0.01	0	\$1,400	\$100	\$1,300	\$150
313	Davis Senior High School - 4 - Admin Building A - Closet	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	1	2x4 - 29W LED Troffer	1	74	0.00	0	\$350	\$36	\$314	\$16
314	Davis Senior High School - 4 - Admin Building A - Copy Room	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	3	2x4 - 40W LED Troffer	3	362	0.00	0	\$1,050	\$108	\$942	\$78
315	Davis Senior High School - 4 - Admin Building A - Counselling Office	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	9	2x4 - 40W LED Troffer	9	1,087	0.01	0	\$3,150	\$271	\$2,879	\$235
316	Davis Senior High School - 4 - Admin Building A - Counselling Office	2-Lamp, 2ft 17W T8 Fixture with NLO Electronic Ballast	1	2x2 - 20W LED Troffer	1	33	0.00	0	\$350	\$23	\$327	\$7
317	Davis Senior High School - 4 - Admin Building A - Data Center	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	2	2x4 - 29W LED Troffer	2	148	0.00	0	\$700	\$38	\$662	\$32
318	Davis Senior High School - 4 - Admin Building A - Finance	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	4	2x4 - 40W LED Troffer	4	483	0.00	0	\$800	\$144	\$656	\$104
319	Davis Senior High School - 4 - Admin Building A - Hallway	1-Lamp, 400W Metal Halide Fixture	2	155W LED High Bay	2	1,478	0.01	0	\$1,000	\$60	\$940	\$70

Energy Efficiency Measure Details												
	Existing Equip.			Proposed Equip.		Savings			Project Costs			
Line #	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
320	Davis Senior High School - 4 - Admin Building A - Hallway	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	3	2x4 - 29W LED Troffer	3	222	0.00	0	\$1,350	\$108	\$1,242	\$47
321	Davis Senior High School - 4 - Admin Building A - Hallway	2-Lamp, 4ft 34W T12 Fixture with Mag-ES Ballast	22	2x4 - 29W LED Troffer	22	2,324	0.02	0	\$7,700	\$792	\$6,908	\$499
322	Davis Senior High School - 4 - Admin Building A - Hallway	2-Lamp, 2ft 17W T8 Fixture with NLO Electronic Ballast	6	2x2 - 20W LED Troffer	6	197	0.00	0	\$2,100	\$162	\$1,938	\$40
323	Davis Senior High School - 4 - Admin Building A - Hallway	2-Lamp, Twin 13W CFL Fixture	4	15W 6' LED Can	4	156	0.00	0	\$1,400	\$52	\$1,348	\$57
324	Davis Senior High School - 4 - Admin Building A - Hallway	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	6	2x4 - 29W LED Troffer	6	444	0.00	0	\$2,400	\$216	\$2,184	\$94
325	Davis Senior High School - 4 - Admin Building A - Hallway	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	8	2x4 - 40W LED Troffer	8	966	0.01	0	\$4,000	\$288	\$3,712	\$208
326	Davis Senior High School - 4 - Admin Building A - Large Conference Room	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	8	2x4 - 29W LED Troffer	8	591	0.00	0	\$2,800	\$288	\$2,512	\$125
327	Davis Senior High School - 4 - Admin Building A - Mailing Room	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	2	2x4 - 40W LED Troffer	2	242	0.00	0	\$800	\$72	\$728	\$52
328	Davis Senior High School - 4 - Admin Building A - Mailing Room	1-Lamp, 150W High Pressure Sodium Fixture	4	75W LED Wall Packs/Floods	4	1,103	0.01	0	\$1,400	\$100	\$1,300	\$150

Energy Efficiency Measure Details												
	Existing Equip.			Proposed Equip.		Savings			Project Costs			
Line #	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
329	Davis Senior High School - 4 - Admin Building A - Nurse's Office	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	4	2x4 - 40W LED Troffer	4	483	0.00	0	\$800	\$144	\$656	\$104
330	Davis Senior High School - 4 - Admin Building A - Nurse's Office	2-Lamp, Twin 13W CFL Fixture	1	15W 6' LED Can	1	39	0.00	0	\$350	\$13	\$337	\$14
331	Davis Senior High School - 4 - Admin Building A - Principal Office	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	5	2x4 - 40W LED Troffer	5	604	0.00	0	\$1,750	\$180	\$1,570	\$130
332	Davis Senior High School - 4 - Admin Building A - Principal Office	2-Lamp, 2ft 17W T8 Fixture with NLO Electronic Ballast	8	2x2 - 20W LED Troffer	8	262	0.00	0	\$2,800	\$180	\$2,620	\$54
333	Davis Senior High School - 4 - Admin Building A - Principal Office - Conference Room	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	2	2x4 - 40W LED Troffer	2	242	0.00	0	\$700	\$72	\$628	\$52
334	Davis Senior High School - 4 - Admin Building A - Psych/Prevention/Crisis Manager	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	6	2x4 - 40W LED Troffer	6	725	0.01	0	\$2,100	\$216	\$1,884	\$156
335	Davis Senior High School - 4 - Admin Building A - Restrooms	2-Lamp, Twin 13W CFL Fixture	1	15W 6' LED Can	1	39	0.00	0	\$400	\$13	\$387	\$14
336	Davis Senior High School - 4 - Admin Building A - Restrooms	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	6	2x4 - 29W LED Troffer	6	444	0.00	0	\$2,100	\$216	\$1,884	\$94
337	Davis Senior High School - 4 - Admin	2-Lamp, Twin 13W CFL Fixture	2	15W 6' LED Can	2	78	0.00	0	\$700	\$26	\$674	\$29

Energy Efficiency Measure Details												
	Existing Equip.			Proposed Equip.		Savings			Project Costs			
Line #	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
	Building A - Restrooms											
338	Davis Senior High School - 4 - Admin Building A - Staff Room	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	11	2x4 - 40W LED Troffer	11	1,328	0.01	0	\$3,850	\$396	\$3,454	\$286
339	Davis Senior High School - 4 - Admin Building A - Staff Room	2-Lamp, Twin 13W CFL Fixture	1	15W 6' LED Can	1	39	0.00	0	\$350	\$13	\$337	\$14
340	Davis Senior High School - 4 - Admin Building A - Staff Room	1-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	2	1x4 - 19W LED Troffer	2	60	0.00	0	\$700	\$60	\$640	\$12
341	Davis Senior High School - 4 - Admin Building A - Storage	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	2	2x4 - 29W LED Troffer	2	148	0.00	0	\$800	\$72	\$728	\$31
342	Davis Senior High School - 4 - Admin Building A - Storage	2-Lamp, 2ft 17W T8 Fixture with NLO Electronic Ballast	1	2x2 - 20W LED Troffer	1	33	0.00	0	\$350	\$23	\$327	\$7
343	Davis Senior High School - 4 - Admin Building A - VP Office	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	4	2x4 - 40W LED Troffer	4	483	0.00	0	\$1,600	\$144	\$1,456	\$104
344	Davis Senior High School - 5 - Old Gym - Boys Locker room	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	38	2x4 - 29W LED Troffer	38	2,809	0.02	0	\$7,600	\$1,368	\$6,232	\$596
345	Davis Senior High School - 5 - Old Gym - Boys Locker room	2-Lamp, Twin 13W CFL Fixture	4	15W 6' LED Can	4	156	0.00	0	\$1,400	\$52	\$1,348	\$57
346	Davis Senior High School - 5 - Old	3-Lamp, 4ft 32W T8 Fixture with	2	2x4 - 40W LED Troffer	2	242	0.00	0	\$700	\$60	\$640	\$52

Energy Efficiency Measure Details												
	Existing Equip.			Proposed Equip.		Savings			Project Costs			
Line #	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
	Gym - Boys Locker room	NLO Electronic Ballast										
347	Davis Senior High School - 5 - Old Gym - Closet	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	7	2x4 - 29W LED Troffer	7	517	0.00	0	\$2,450	\$210	\$2,240	\$110
348	Davis Senior High School - 5 - Old Gym - Dance room	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	84	2x4 - 29W LED Troffer	84	6,209	0.05	0	\$29,400	\$2,525	\$26,875	\$1,325
349	Davis Senior High School - 5 - Old Gym - Girls Locker Room	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	41	2x4 - 29W LED Troffer	41	3,031	0.02	0	\$14,350	\$1,232	\$13,118	\$647
350	Davis Senior High School - 5 - Old Gym - Gymnasium	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	112	2x4 - 29W LED Troffer	112	8,279	0.07	0	\$39,200	\$3,366	\$35,834	\$1,767
351	Davis Senior High School - 5 - Old Gym - Hallway	2-Lamp, Twin 13W CFL Fixture	2	15W 6' LED Can	2	78	0.00	0	\$800	\$26	\$774	\$29
352	Davis Senior High School - 5 - Old Gym - Hallway	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	10	2x4 - 29W LED Troffer	10	739	0.01	0	\$3,500	\$301	\$3,199	\$158
353	Davis Senior High School - 5 - Old Gym - Office	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	2	2x4 - 29W LED Troffer	2	148	0.00	0	\$700	\$60	\$640	\$32
354	Davis Senior High School - 5 - Old Gym - Restrooms	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	9	2x4 - 29W LED Troffer	9	665	0.01	0	\$3,150	\$271	\$2,879	\$142
355	Davis Senior High School - 5 - Old Gym - Restrooms	2-Lamp, Twin 13W CFL Fixture	1	15W 6' LED Can	1	39	0.00	0	\$200	\$13	\$187	\$14

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
356	Davis Senior High School - 5 - Old Gym - Storage	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	2	2x4 - 29W LED Troffer	2	148	0.00	0	\$700	\$60	\$640	\$32
357	Davis Senior High School - 5 - Old Gym - Storage	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	2	2x4 - 29W LED Troffer	2	148	0.00	0	\$700	\$60	\$640	\$32
358	Davis Senior High School - 5 - Old Gym - Store	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	7	2x4 - 29W LED Troffer	7	517	0.00	0	\$1,400	\$252	\$1,148	\$110
359	Davis Senior High School - 5 - Old Gym - Team room	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	2	2x4 - 29W LED Troffer	2	148	0.00	0	\$700	\$60	\$640	\$32
360	Davis Senior High School - 5 - Old Gym - Weight room	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	64	2x4 - 29W LED Troffer	64	4,731	0.04	0	\$22,400	\$2,304	\$20,096	\$1,003
361	Davis Senior High School - 6 - Building B & E - Auto Shop	2-Lamp, 8ft 86W T8 Fixture with NLO Electronic Ballast	28	2x4 - 44W LED Troffer	28	7,898	0.06	0	\$9,800	\$1,008	\$8,792	\$1,725
362	Davis Senior High School - 6 - Building B & E - Auto Shop Classroom	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	20	2x4 - 29W LED Troffer	20	1,478	0.01	0	\$7,000	\$720	\$6,280	\$313
363	Davis Senior High School - 6 - Building B & E - Auto Shop Closet	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	8	2x4 - 29W LED Troffer	8	591	0.00	0	\$2,800	\$240	\$2,560	\$126
364	Davis Senior High School - 6 - Building B & E - Shop	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	38	2x4 - 29W LED Troffer	38	2,809	0.02	0	\$13,300	\$1,142	\$12,158	\$600

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
365	Davis Senior High School - 6 - Building B & E - Shop Custodial Office	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	5	2x4 - 29W LED Troffer	5	370	0.00	0	\$1,750	\$180	\$1,570	\$78
366	Davis Senior High School - 6 - Building B & E - Shop O-1	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	18	2x4 - 29W LED Troffer	18	1,331	0.01	0	\$6,300	\$541	\$5,759	\$284
367	Davis Senior High School - 6 - Building B & E - Shop O-1	2-Lamp, Twin 13W CFL Fixture	4	15W 6' LED Can	4	156	0.00	0	\$1,400	\$52	\$1,348	\$57
368	Davis Senior High School - 6 - Building B & E - Shop O-1A	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	18	2x4 - 29W LED Troffer	18	1,331	0.01	0	\$6,300	\$541	\$5,759	\$284
369	Davis Senior High School - 6 - Building B & E - Shop O-1A	2-Lamp, Twin 13W CFL Fixture	4	15W 6' LED Can	4	156	0.00	0	\$1,400	\$52	\$1,348	\$57
370	Davis Senior High School - 6 - Building B & E - Shop Office	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	8	2x4 - 29W LED Troffer	8	591	0.00	0	\$2,800	\$240	\$2,560	\$126
371	Davis Senior High School - 7 - Classrooms Building M - Break room	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	6	2x4 - 29W LED Troffer	6	444	0.00	0	\$2,100	\$180	\$1,920	\$95
372	Davis Senior High School - 7 - Classrooms Building M - C-1 to C-4	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	60	2x4 - 40W LED Troffer	60	7,246	0.06	0	\$21,000	\$1,803	\$19,197	\$1,567

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
373	Davis Senior High School - 7 - Classrooms Building M - Classroom	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	12	2x4 - 40W LED Troffer	12	1,449	0.01	0	\$4,200	\$432	\$3,768	\$312
374	Davis Senior High School - 7 - Classrooms Building M - Classroom	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	4	2x4 - 29W LED Troffer	4	296	0.00	0	\$1,400	\$76	\$1,324	\$64
375	Davis Senior High School - 7 - Classrooms Building M - Closet	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	6	2x4 - 40W LED Troffer	6	725	0.01	0	\$1,200	\$216	\$984	\$156
376	Davis Senior High School - 7 - Classrooms Building M - Closet/Data Center	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	4	2x4 - 29W LED Troffer	4	296	0.00	0	\$800	\$144	\$656	\$63
377	Davis Senior High School - 7 - Classrooms Building M - Computer room	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	1	2x4 - 29W LED Troffer	1	74	0.00	0	\$350	\$36	\$314	\$16
378	Davis Senior High School - 7 - Classrooms Building M - Conf room	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	2	2x4 - 40W LED Troffer	2	242	0.00	0	\$700	\$72	\$628	\$52
379	Davis Senior High School - 7 - Classrooms Building M - Conf room	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	4	2x4 - 29W LED Troffer	4	296	0.00	0	\$800	\$144	\$656	\$63
380	Davis Senior High School - 7 - Classrooms	2-Lamp, 4ft 32W T8 Fixture with	3	2x4 - 29W LED Troffer	3	222	0.00	0	\$1,050	\$58	\$992	\$48

Energy Efficiency Measure Details												
Line #	Existing Equip.			Proposed Equip.		Savings			Project Costs			
	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
	Building M - Hallway	NLO Electronic Ballast										
381	Davis Senior High School - 7 - Classrooms Building M - Learning Center	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	14	2x4 - 40W LED Troffer	14	1,691	0.01	0	\$4,900	\$504	\$4,396	\$364
382	Davis Senior High School - 7 - Classrooms Building M - Office	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	2	2x4 - 29W LED Troffer	2	148	0.00	0	\$700	\$60	\$640	\$32
383	Davis Senior High School - 7 - Classrooms Building M - Restrooms	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	13	2x4 - 29W LED Troffer	13	961	0.01	0	\$4,550	\$246	\$4,304	\$208
384	Davis Senior High School - 7 - Classrooms Building M - Speech Therapist	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	4	2x4 - 29W LED Troffer	4	296	0.00	0	\$1,400	\$120	\$1,280	\$63
385	Davis Senior High School - 7 - Classrooms Building M - Storage	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	1	2x4 - 29W LED Troffer	1	74	0.00	0	\$200	\$36	\$164	\$16
386	Davis Senior High School - 7 - Classrooms Building M - Storage	2-Lamp, 4ft 34W T12 Fixture with Mag-ES Ballast	1	2x4 - 29W LED Troffer	1	106	0.00	0	\$350	\$36	\$314	\$23
387	Davis Senior High School - 7 - Classrooms Building M - Storage/part-time teacher's office	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	4	2x4 - 29W LED Troffer	4	296	0.00	0	\$1,400	\$144	\$1,256	\$63

Energy Efficiency Measure Details												
	Existing Equip.			Proposed Equip.		Savings			Project Costs			
Line #	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
388	Davis Senior High School - 7 - Classrooms Building M - Student store	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	8	2x4 - 29W LED Troffer	8	591	0.00	0	\$2,800	\$240	\$2,560	\$126
389	Davis Senior High School - 7 - Classrooms Building M - Teacher room	3-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	8	2x4 - 40W LED Troffer	8	966	0.01	0	\$1,600	\$288	\$1,312	\$208
390	Davis Senior High School - 8 - Classroom - Data Center	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	1	2x4 - 29W LED Troffer	1	74	0.00	0	\$200	\$36	\$164	\$16
391	Davis Senior High School - 8 - Classroom - Mechanical Room	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	4	2x4 - 29W LED Troffer	4	296	0.00	0	\$1,400	\$120	\$1,280	\$63
392	Davis Senior High School - 8 - Classroom - S-1 to S-7	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	194	2x4 - 29W LED Troffer	194	14,340	0.12	0	\$67,900	\$5,831	\$62,069	\$3,061
393	Davis Senior High School - 8 - Classroom - S-2 closet	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	1	2x4 - 29W LED Troffer	1	74	0.00	0	\$350	\$30	\$320	\$16
394	Davis Senior High School - 8 - Classroom - S-4 office	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	2	2x4 - 29W LED Troffer	2	148	0.00	0	\$700	\$60	\$640	\$32
395	Davis Senior High School - 8 - Classroom - Science Prep Hallway	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	1	2x4 - 29W LED Troffer	1	74	0.00	0	\$350	\$30	\$320	\$16

Energy Efficiency Measure Details												
	Existing Equip.			Proposed Equip.		Savings			Project Costs			
Line #	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
396	Davis Senior High School - 8 - Classroom - Science Prep room	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	8	2x4 - 29W LED Troffer	8	591	0.00	0	\$1,600	\$288	\$1,312	\$125
397	Davis Senior High School - 8 - Classroom - Science workroom	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	12	2x4 - 29W LED Troffer	12	887	0.01	0	\$4,200	\$361	\$3,839	\$189
398	Davis Senior High School - 9 - Classroom Bldg N - A6,7	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	32	2x4 - 29W LED Troffer	32	2,365	0.02	0	\$11,200	\$962	\$10,238	\$505
399	Davis Senior High School - 9 - Classroom Bldg N - A6,7	2-Lamp, Twin 13W CFL Fixture	20	15W 6' LED Can	20	781	0.01	0	\$7,000	\$260	\$6,740	\$286
400	Davis Senior High School - 9 - Classroom Bldg N - Hallway	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	12	2x4 - 29W LED Troffer	12	887	0.01	0	\$4,200	\$361	\$3,839	\$189
401	Davis Senior High School - 9 - Classroom Bldg N - Office	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	8	2x4 - 29W LED Troffer	8	591	0.00	0	\$2,800	\$240	\$2,560	\$126
402	Davis Senior High School - 9 - Classroom Bldg N - S-11&12	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	32	2x4 - 29W LED Troffer	32	2,365	0.02	0	\$11,200	\$1,152	\$10,048	\$502
403	Davis Senior High School - 9 - Classroom Bldg N - S-11&12	3-Lamp, Twin 13W CFL Fixture	20	15W 6' LED Can	20	1,610	0.01	0	\$7,000	\$601	\$6,399	\$345
404	Davis Senior High School - 9 - Classroom Bldg N - Science Storage & Art	2-Lamp, 4ft 32W T8 Fixture with NLO Electronic Ballast	24	2x4 - 29W LED Troffer	24	1,774	0.01	0	\$8,400	\$721	\$7,679	\$379

Energy Efficiency Measure Details												
	Existing Equip.			Proposed Equip.		Savings			Project Costs			
Line #	Location	Description	Qty.	Description	Qty.	kWh/yr	kW	Therm s/yr	Install Cost	Rebate	Net Install Cost	Annual Savings
405	Davis Senior High School - 3 - Library Bldg Q	Carrier Package Rooftop Units - 48HJD008	3	New Efficient Gas/DX	3	2,076	2.41	171	\$83,700	\$0	\$83,700	\$629
406	Davis Senior High School - 3 - Library Bldg Q	Carrier Package Rooftop Units - 48HJD005	20	New Efficient Gas/DX	20	5,915	6.88	93	\$354,750	\$0	\$354,750	\$1,398
407	Davis Senior High School - 3 - Library Bldg Q	Mitsubishi Split Condensing Unit - PU18EK1	3	New Efficient Gas/DX	3	821	0.95	0	\$29,250	\$0	\$29,250	\$181
Totals						492,014	13	238	\$1,606,470	\$101,102	\$1,505,368	\$101,432

APPENDIX F – DEFINITIONS

FINANCIAL DEFINITIONS

Future Value

Future-Value cash flows are the estimated annual energy savings in dollars spread over the life of an investment.

Discount Rate

Discount-Rate is the minimum rate of return required by a district. The Discount-Rate is used as the interest rate in Present-Value calculations. The Discount-Rate is used as a measure of risk, used to account for any variables or changes that may affect the economic value of the investment. The higher the perceived risk of an investment, the higher the Discount-Rate should be. The higher the Discount-Rate assigned to an investment, the lower the Present-Value of the investment will be

Present-Value

Present-Value is the discounted sum of all Future-Value cash over the life of an investment. Using a Discount-Rate, the district discounts the Future-Value cash flows of the investment based upon the perceived risk the investment poses to the organization.

$$PV = FV \text{ Cash Flow} / (1 + \text{Discount-Rate})^{\text{Project Life}}$$

Net-Present-Value

Net-Present-Value is the Present Value of all future cash flows over the life of an investment minus the initial project cost.

$$NPV = \text{Sum}(\text{Present Value Cash Flows}) - \text{Investment Cost}$$

Internal-Rate-of-Return

Internal-Rate-Of-Return is an internal financial metric used by districts to decide whether or not to undertake an investment. The higher an investments Internal-Rate-Of-Return, the more desirable it is to undertake. Assuming all investments require the same upfront cost, the investment with the highest IRR would be considered the best and undertaken first. The basic rule is that if an investment produces an Internal-Rate-Of-Return greater than the investment's Discount-Rate, the investment is economically feasible. If the Internal-Rate-Of-Return is less than the investment's Discount-Rate, the investment should not be undertaken.

Modified Internal-Rate-of-Return

Modified-Internal-Rate-Of-Return is an internal financial metric used by districts to decide whether or not to undertake an investment. Similar to Internal-Rate-Of-Return, a Modified-Internal-Rate-Of-Return greater than the investor's Discount-Rate would indicate that the investment should be undertaken. Modified-Internal-Rate-Of-Return has an advantage in that it assumes cash flows from the investment are re-invested at a "safe-rate". The "safe-rate" in the context of energy efficiency is the required rate of return for an investment, typically equal to the Discount-Rate.

Simple Payback Period

Compared to the more sophisticated financial measures such as Net-Present-Value and Modified-Internal Rate-Of-Return, Simple Payback is simple to understand. Its simplicity however can cause districts to overlook potentially very profitable investments. Simple Payback is calculated as the number of years it takes for an investment to “pay for itself” through the annualized savings or benefits that the investment creates. The major drawback of using Simple Payback as a decision making tool is that it measures only time, and does not take in to account the cost of money or the profitability of an investment after the project has paid for itself.

Capital Recovery Rate (j)

The interest rate used in the capital recovery factor formula. Typically, most districts will use their Weighted Average Cost of Capital (WACC), adjusted up or down for perceived risk.

Capital Recovery Factor

The Capital Recovery Factor (CRF) is used to determine a single annual cost incurred, spread out over the economic life of an investment. The purpose of using a CRF is to provide a district with a single cost to use when budgeting capital expenses, such as energy efficiency improvements. The Capital Recovery Factor takes into account the Discount Rate (j) used in the cash flow valuation of an investment and the economic life (n) of the investment to provide investors with a present value cost. The formula is shown below:

$$\text{Capital Recovery Factor (CRF)} = [j(1+j)^n] / [(1+j)^n - 1]$$

Annualized Project Cost

Annualized Project Cost is used in the Cost-of Delay financial model. This metric identifies all of the costs and benefits associated with an investment and amortizes them as a fixed amount that can be budgeted over the economic life of the equipment, similar to how home mortgage payments are determined. The Annualized Project Cost is determined by multiplying the project cost by the Capital-Recovery-Factor.

Annual Cost-of-Delay

The Annual-Cost-of-Delay is the annual cost a district would incur by operating inefficient equipment compared to investing in an efficient upgrade. The equation is shown below:

$$\text{Annual-Cost-of-Delay} = \text{Annual Gross Energy Savings (\$)} - \text{Annualized Project cost}$$

Savings-to-Investment Ratio

The Savings-to-Investment Ratio (SIR) is calculated based on the net present value, the project installation cost, and any benefits to the cost including rebates, grants, and non-energy benefits. Under Proposition 39 guidelines non-energy benefits are generally considered to be 5% of project costs. Bond funds can be considered grants when they are tax-backed bonds or non-general obligation bonds, for which a tax source repays the bonds. Additional fund sources can be used to finance projects, but will not “buy down” the cost of the project. The SIR equation is as follows:

$$SIR = NPV / (\text{Project Installation Cost} - \text{Rebates} - \text{Grants} - \text{Non-energy Benefits})$$