



BUILDING ON SUCCESS - SCHOOLS FOR THE NEXT GENERATION

MEASURE K BOND PROGRAM



Long Beach Unified School District Board Workshop



March 25, 2010





BUILDING ON SUCCESS - SCHOOLS FOR THE NEXT GENERATION
MEASURE K BOND PROGRAM

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Board of Education Workbook

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Board of Education
LONG BEACH UNIFIED SCHOOL DISTRICT

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BOARD ACTION
1/22/08 *re*

SUBJECT: A RESOLUTION OF THE BOARD OF EDUCATION OF THE LONG BEACH UNIFIED SCHOOL DISTRICT ADOPTING A FACILITY MASTER PLAN AND RELATED DOCUMENTS INCLUDING, EDUCATIONAL SPECIFICATIONS, DESIGN AND CONSTRUCTION MATERIAL STANDARDS AND DESIGN STANDARDS GUIDANCE DOCUMENT.

CATEGORY: New Business Item Reason for Board Consideration: Information/Action
Facilities Date: January 22, 2008

BACKGROUND:

On August 2005, the Board committed to the development of a Facility Master Plan which would outline the short and long term capital facility development goals and give direction for all future schools, new buildings and modernization projects to address the district's unique challenges of housing students in support of its academic goals. The planning process for the Facility Master Plan kicked-off in October 2005 with data collection and the development of a planning process. The first committees began to meet in October 2006. Concurrently, a team of four architectural firms began the process of completing the Building Needs Assessments. Since then, a number of committees have met through the end of September 2007 reviewing items such as enrollment trends, facility data, building condition, sustainable design guidelines and costs for improvements. As part of the Facility Master Plan, Educational Specifications and Construction and Material Standards were developed. Consequently, a Board workshop was held on December 10, 2007 to update the Board on all components of the plan and discuss the recommendations from the committees.

As a result of this process, staff now recommends that the Board approve and adopt the Facility Master Plan and its related documents. In order to ensure that the Facility Master Plan is kept up to date, staff further recommends that the Board of Education direct staff to update the various components of the plan and applicable reports as deemed necessary.

RECOMMENDATION:

Adopt Resolution No. 012208-A

A RESOLUTION OF THE BOARD OF EDUCATION OF THE LONG BEACH UNIFIED SCHOOL DISTRICT ADOPTING A FACILITY MASTER PLAN AND RELATED DOCUMENTS INCLUDING, EDUCATIONAL SPECIFICATIONS, DESIGN AND CONSTRUCTION MATERIAL STANDARDS AND DESIGN STANDARDS GUIDANCE DOCUMENT

Prepared by:
Carri Matsumoto
Executive Director,
Facilities Development & Planning

Approved and Recommended:

Christopher J. Steinhauser
Superintendent of Schools

Approved:

Kim Stallings
Chief Business & Financial Officer



RESOLUTION NO. 012208-A

A RESOLUTION OF THE BOARD OF EDUCATION OF THE LONG BEACH UNIFIED SCHOOL DISTRICT ADOPTING A FACILITY MASTER PLAN AND RELATED DOCUMENTS INCLUDING, EDUCATIONAL SPECIFICATIONS, DESIGN AND CONSTRUCTION MATERIAL STANDARDS AND DESIGN STANDARDS GUIDANCE DOCUMENT

WHEREAS, the Long Beach Unified School District building inventory consists of over ninety school sites and 20 Administrative support facilities comprising of over 8.5 million square feet; and

WHEREAS, Sixty-nine percent (69%) of the building inventory is greater than fifty years old and seventy four percent (74%) are in need of moderate to major renovations; and

WHEREAS, the Board of Education committed to the development of a comprehensive Facility Master plan on August 16, 2005 to investigate building conditions, enrollment trends, and future facility needs; and

WHEREAS, Dejong Inc. was selected on November 1, 2005 as the Facility Master Planner Consultant and has worked in conjunction with Decision Insite (demographics) and LPA inc. (Master Architect) to develop the Facility Master Plan; and

WHEREAS, since October 2006 thru September 2007, the District worked collaboratively with a number of stakeholders including a broad based representation of community members, teachers, administrators, classified staff, parents, businesses, students and city agencies to formulate recommendations for the Facility Master Plan; and

WHEREAS, the District was divided into seven Planning Area Committees by high school attendance areas in order to provide the opportunity to examine the facility needs of all geographic areas; and

WHEREAS, the District held over two hundred nineteen meetings with interested stakeholders to receive and incorporate feedback from the community and as part of the community outreach, the District posted flyers, distributed e-mail notifications, mailed letters and conducted a Cable Forum; and

WHEREAS, a number of committees have met to review items such as enrollment trends, facility data, building condition, sustainable design guidelines and costs for improvements; and

WHEREAS, the District held up to two Community Dialogues in each of the planning areas and posted questionnaires on the district's "www.lbusdfacilities.com" website in order to gather as much community input as possible; and

WHEREAS, the seven Planning Area Committees reviewed the results of the stakeholder input and developed recommendations for each respective planning area; and

WHEREAS, the seven Planning Area Committees reported to a Community Advisory Committee that was represented by members of each of the seven committees, parents, staff,

teachers, classified staff, senior citizens, the business community and other community representatives that served to consolidate the findings of the Planning Area Committees; and

WHEREAS, Elementary, Middle/K8 and High School committees met to develop the Educational Specifications that are hereby incorporated into the Facility Master Plan; and

WHEREAS, Trade Shop Committees and an Executive Committee consisting of teachers and school site administrators met to develop the Design And Construction Material Standards And Design Standards Guidance Document that are hereby incorporated into the Facility Master Plan; and

WHEREAS, The District engaged in several planning studies as part of the Facility Master Plan process such as: Demographic and Enrollment Trends, Building Needs Assessments, Sewer Surveys and Cost Analyses in order to understand the current facility conditions and to identify the future needs; and

WHEREAS, the Facility Master Plan contemplates a build-out plan through 2025 based upon 2015 enrollment projections; and

WHEREAS, at the Board Workshop that was held on December 10, 2007, the Board received and considered the Draft Facility Master Plan which includes information, documentation and recommendations;

NOW, THEREFORE, BE IT RESOLVED THAT THE BOARD OF EDUCATION OF THE LONG BEACH UNIFIED SCHOOL DISTRICT HEREBY ADOPTS AS FOLLOWS:

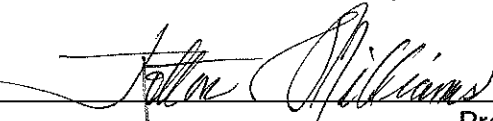
1. That the Board approve and adopt the Facility Master Plan and its related documents including, Educational Specifications, Design And Construction Material Standards And Design Standards Guidance Document;
2. That the Board directs staff to develop an Implementation Plan for potential projects as recommended by the Facility Master Plan with consideration of maximizing available funding (Local, State and Federal sources) and to continually assess opportunities for funding projects that may become available to the District;
3. The Board reserves the authority to prioritize projects as deemed necessary;
4. That the Board directs staff to review and update the Master Plan, applicable reports and the Implementation Plan at a minimum of every 5 years as necessary;
5. That the Board authorizes staff to create and/or reconvene committees as deemed necessary;
6. That the Board of Education encourages staff to explore and to test pilot new materials, equipment and systems for inclusion into the standards as appropriate to ensure best practices and current materials and methods are adopted and utilized.


ADOPTED, SIGNED AND APPROVED, this 22nd day of January, 2008

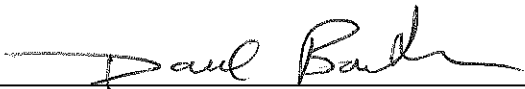
BOARD OF EDUCATION OF THE
LONG BEACH UNIFIED SCHOOL DISTRICT
OF LOS ANGELES COUNTY, CALIFORNIA

ADOPTED, SIGNED AND APPROVED, this 22nd day of January, 2008

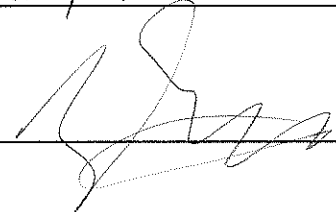
BOARD OF EDUCATION OF THE
LONG BEACH UNIFIED SCHOOL DISTRICT
OF LOS ANGELES COUNTY, CALIFORNIA

BY  President

BY  Vice President

BY  Member

BY  Member

BY  Member

~~Fac.~~ Fac.

BOARD ACTION

1/22/08 ee

**Board of Education
LONG BEACH UNIFIED SCHOOL DISTRICT**

SUBJECT: A RESOLUTION OF THE BOARD OF EDUCATION OF THE LONG BEACH UNIFIED SCHOOL DISTRICT ON SUSTAINABILITY, DESIGN GUIDELINES AND THE ADOPTION OF COLLABORATIVE FOR HIGH PERFORMANCE SCHOOLS (CHPS) CRITERIA

CATEGORY: New Business Item Reason for Board Consideration: Information/Action
Facilities Date: January 22, 2008

Background

As part of the Facility Master Plan process, committees consisting of administrators, educators, maintenance and operations personnel, architects and engineers were assembled to review and make recommendations in the areas of construction and material standards and create a guidance document for the design of future facilities. The committees met and reviewed current and past District practices and studied areas of improvement. Sustainable design and energy efficiency were among the topics covered. The benefits of high performance design includes day lighting, use of sound insulation or isolation to minimize noise and enhance acoustical quality in the classroom in order to create comfortable learning environments with the hope of improving student performance in a positive manner. Other benefits include minimizing operating costs through energy and water efficiency and minimizing the impact of District operations on the environment.

As a result of this process, the Executive Standards Committee recommends that the District utilize the guidelines and performance criteria associated with designing and building high performance schools. The committee further recommends that the Board direct staff to continue its effort to ensure that every new school and modernization project incorporate Collaborative for High Performance Schools (CHPS) Criteria to the extent feasible.

RECOMMENDATION:

Adopt Resolution No. 012208-B

A RESOLUTION OF THE BOARD OF EDUCATION OF THE LONG BEACH UNIFIED SCHOOL DISTRICT ON SUSTAINABILITY, DESIGN GUIDELINES AND THE ADOPTION OF COLLABORATIVE FOR HIGH PERFORMANCE SCHOOLS (CHPS) CRITERIA

Prepared by:

Carri Matsumoto
Executive Director,
Facilities Development & Planning

Approved and Recommended:

Approved:

Christopher J. Steinhauser
Superintendent of Schools

Kim Stallings
Chief Business & Financial Officer



RESOLUTION NO. 012208-B

A RESOLUTION OF THE BOARD OF EDUCATION OF THE LONG BEACH UNIFIED SCHOOL DISTRICT ON SUSTAINABILITY, DESIGN GUIDELINES AND THE ADOPTION OF COLLABORATIVE FOR HIGH PERFORMANCE SCHOOLS (CHPS) CRITERIA

WHEREAS, the Long Beach Unified School District has developed a Facility Master Plan to guide the District's future facility improvements, renovations and new construction; and

WHEREAS, the Collaborative for High Performance Schools (CHPS) has developed comprehensive design criteria based on the latest available information on sustainable school design, construction and operation; and

WHEREAS, the voters in the November 2nd election passed Proposition 1D, "Kindergarten-University Public Education Facilities Bond Act of 2006" which included \$100,000,000 for incentive grants to promote the use of materials and incorporate designs in new construction, modernization projects & relocatables that include the CHPS Criteria; and

WHEREAS, the District is interested in an integrated design approach that takes advantage of energy savings that become feasible when the interaction between separate building elements, such as windows, lighting, and mechanical systems are considered; and

WHEREAS, schools should employ design, construction and operation strategies that minimize environmental impacts and operating costs, including energy and water efficiency; and

WHEREAS, the principles and driving factors when considering materials and equipment for sustainable design includes the application of low-impact materials, energy efficiency, quality, durability, maintainability and lifecycle costs; and

WHEREAS, the Trade Committees, Internal Steering Committees and Executive Steering Committee's have met for the course of the year and reviewed current standards and discussed topics of sustainable design; and

WHEREAS, building or renovating a school provides a unique opportunity to move beyond standard designs to create school facilities and incorporate/apply substantial design guidelines to the extent feasible; and

WHEREAS, incorporating CHPS Criteria can have tangible benefits measured in the form of increased student attendance, higher test scores, reduced operating costs, elevated teacher and staff retention, and improve the indoor environment by providing among other things, better acoustics, and natural light such as the award winning Cesar Chavez Elementary School; and

WHEREAS, sustainable design reduces the impact to the environment by promoting responsible use of resources. It is environmentally friendly to the surrounding community and will positively impact the District and it's constituents in the future; and

WHEREAS, the Board of Education acknowledges the recommendations of the committees to adopt the CHPS Criteria;

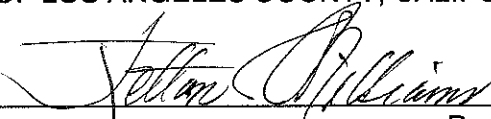
THEREFORE BE IT RESOLVED, that the Long Beach Unified School District Board of Education encourages staff to continue to expand this effort to ensure that every new school, new building, modernization project, and relocatable classroom, from the beginning of the design process, meet or exceed minimum eligibility under the CHPS Criteria and incorporate to the extent feasible CHPS best practices including sustainable design practices as recommended by the Facility Master Plan committees; and

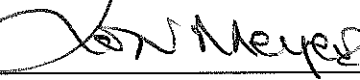
BE IT FURTHER RESOLVED, that the Long Beach Unified School District Board of Education authorizes the District to join the ranks of other proactive and visionary school districts in California and directs staff to join CHPS and include the Long Beach Unified School District as an active and participating member.

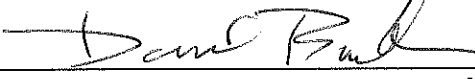
BE IT FURTHER RESOLVED, that the Long Beach Unified School District Board of Education recognizes that maintaining the Construction and Material Standards, Sustainability, Design Guidelines and incorporating the CHPS Criteria requires continual review to ensure alignment with the approved recommendations of the Facility Master Plan and that a committee may be convened as needed to review and update these guidelines and standards as required.

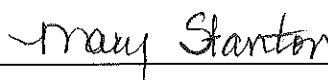
ADOPTED, SIGNED AND APPROVED, this 22nd day of January, 2008

BOARD OF EDUCATION OF THE
LONG BEACH UNIFIED SCHOOL DISTRICT
OF LOS ANGELES COUNTY, CALIFORNIA

BY 
President

BY 
Vice President

BY 
Member

BY 
Member

BY 
Member

Long Beach Unified School District



Energy Conservation Guidelines

Adopted by the Board of Education
(1/7/03)

Energy Conservation Guidelines

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Long Beach Unified School District Board Policy on Energy Conservation

RESOLUTION NO. 010703-C

A RESOLUTION BY THE BOARD OF EDUCATION OF THE LONG BEACH UNIFIED SCHOOL DISTRICT ON DISTRICT ENERGY MANAGEMENT CONSERVATION POLICY

WHERE AS the School Board of the Long Beach Unified School District, we believe it to be our responsibility to insure that every effort is made to conserve energy and natural resources while exercising sound financial management; and

WHERE AS the implementation of this policy is the joint responsibility of the board members, administrators, teachers, students and support personnel and its success is based on cooperation at all levels; and

WHERE AS the district will maintain accurate records of energy consumption and cost of energy and will provide information to the local media on the goals and progress of the energy conservation program; and

WHERE AS the principal will be accountable for energy management of his/her campus with energy audits being conducted and conservation program outlines being updated. Judicious use of the various energy systems of each campus will be the joint responsibility of the principal and plant supervisor to ensure that an efficient energy posture is maintained on a daily basis; and

THEREFORE to ensure the overall success of the energy management program, the following specific area of emphasis will be adopted:

1. Every student and employee will be expected to contribute to energy efficiency in our district. Every person will be expected to be an “energy saver” as well as an “energy consumer.”
2. Effective immediately, all unnecessary lighting in unoccupied areas will be turned off. All lights will be turned off when students and teachers leave school. Custodians will turn on lights only in the area in which they are working.
3. Energy management on his/her campus will be made a part of the principal’s annual evaluation.
4. The head custodian at each school will be responsible for a complete and total shutdown of the facility when closed each evening.
5. Within sixty (60) days, administrative guidelines will be adopted that will be the “rules of the game” in implementing the energy program.

RESOLUTION NO. 010703-C

WHEREAS the School Board bears responsibility for the best use of tax dollars; and

THEREFORE the School Board of Long Beach Unified School District directs the superintendent and his agents to develop short and long range strategies in the areas of facilities management and curriculum development dealing with energy awareness and conservation; and

IN WITNESS THEREOF, we have hereunto set our hand on this (date).

BOARD OF EDUCATION OF THE
LONG BEACH UNIFIED SCHOOL DISTRICT
OF LOS ANGELES COUNTY, CALIFORNIA

BY _____
President

BY _____
Vice President

BY _____
Member

BY _____
Member

BY _____
Member

APPROVED AS TO FORM:

Legal Advisor



BUSINESS DEPARTMENT
MANAGEMENT CONSERVATION RESOLUTION

The Long Beach Unified School District's responsibility is to insure that every effort is made to conserve energy and natural resources while exercising sound financial management and will therefore publish throughout the District and ensure that the public is made aware of its "Energy Conservation Guidelines". Therefore, after being officially accepted by the School Board, a signed and dated copy of Resolution no 010703-C, January 7, 2003 along with its attached revised "Energy Conservation Guidelines" should be disseminated to the widest distribution possible within the district; i.e., all bulletin boards, teacher lounges, district newsletters, etc.

Energy Conservation Guidelines

Disclaimer: These guidelines are not intended to be all-inclusive. They may be modified for local conditions. These guidelines supersede all previous instructions related to building management or energy usage guidelines. It is essential that these energy guidelines be observed and implemented as outlined.

Objective:

- Eliminate energy waste.

While:

- Ensuring the comfort of students, staff and community.
- Ensuring acceptable building functions per the education code, and industry standards.

Responsibilities:

- Every person is expected to be an "energy saver"
- Teachers are responsible for implementing the guidelines in the classrooms during scheduled school hours.
- Custodians are responsible for control of common areas, i.e. halls, cafeteria, etc.
- Since custodians are typically the last to leave a building in the evening, they are responsible for verification of the night-time shutdowns.

- Site administrators are responsible for the total energy usage of their respective site.
- Energy managers perform routine audits of all facilities (day evening and night), and communicates the results to the appropriate personnel.
- Energy managers provide regular reports to site administrators indicating performance with regard to energy savings, and copies to the business management.

GENERAL

1. Lighting in areas unoccupied for more than 5 minutes must be turned **off**. Fans, cooling, and heating equipment will be turned **off** when leaving an empty classroom for more than 15 minutes.
2. Utilize natural lighting whenever and wherever appropriate.
3. All outside lighting shall be **off** during daylight hours.
4. Gym and natatorium lights should not be left on unless they are being utilized.
5. If appropriate, use ½ lighting in rooms with skylights and large window banks.
6. Skylights must be kept clean to allow sunlight to offset artificial light.
7. All lights, fans, cooling, and heating equipment will be turned **off** when students and teachers leave school.
8. Refrain from turning lights on unless needed. Remember that lights not only consume electricity, but also give off heat that places an additional load on the air conditioning equipment.
9. No vending machine should be lit at any time.
10. The coil and evaporator must be cleaned regularly on all vending machines.
11. Where possible, a shut off time clock, or vending miser shall be installed on all vending machines.
12. All office machines (copy machines, laminating equipment, etc.) shall be switched **off** each night and during unoccupied times. Fax machines should remain on.

13. All computers should be turned **off** each night. This includes the monitor, local printer, and speakers, and no computers should be set for "auto on". Network equipment is excluded, the network monitor should be turned off.
14. All capable PC's should be programmed for the "energy saver" mode using *the power management* feature, to ensure that the monitor "sleeps" after 10-minutes of inactivity.
15. All fans should be off at the end of every day and during unoccupied hours
16. All privately owned refrigerators shall be unplugged during vacations lasting more than 5 days. They must be defrosted, and the coil must be cleaned regularly.
17. Personal or donated refrigerators or air conditioning equipment need approval from the Business Services Administrator before accepted.

AIR CONDITIONING & HEATING (HVAC) EQUIPMENT

1. During unoccupied times, the HVAC equipment shall be **off**.
2. No equipment shall be kept on, to heat or to cool animals when the room is unoccupied.
3. The automatic thermostats are set for 72 degrees cooling and 68 degrees heating. Core working times are 7AM to 3:30PM, and the override interval is 30 minutes. The unoccupied settings (setback) shall be 55 and 99 degrees. Outside sensors for boiler control will be set no higher than 68 degrees.
4. Central HVAC plants shall have a core working time of 7AM to 4PM. In case extra time is needed this will be worked out individually between the principal and the energy manager.
5. All doors and windows shall remain **closed** when HVAC is operating.
6. Where cross-ventilation is available during periods of mild weather, turn off air conditioning and adjust temperature with windows and doors.
7. When using twist or buttons timers, make sure they are turned off when leaving for the day.
8. Only operate boilers/heaters when heating is needed.

9. All domestic hot water systems shall be set no higher than 120°F or 140°F for cafeteria services.
10. Circulation pumps for hot water must be turned off during vacations lasting more than 5 days.

Individual Expectations

Board of Education members and Superintendent

- Supports and endorses the energy program.
- Encourages district employees to comply with the energy guidelines.
- Communicates concerns about conservation programs to the energy managers.

Executive staff

- Provides an annual report outlining progress of the energy conservation program to the Board of Education
- In cooperation with the energy manager, makes any determination necessary to conserve energy while maintaining an appropriate educational environment.
- Finds ways to provide incentives to school sites for conserving resources

Energy Manager

- Maintains accurate records of energy consumption and energy costs.
- Adjusts mechanical and automatic controls both set points and timing, to coincide with the seasons of the year and changes in daylight saving time.
- Provides regular reports to the director of maintenance.
- Uses data loggers to monitor temperature and light levels to ensure compliance with district guidelines and to check the accuracy of controls.
- Conducts ongoing energy-training for maintenance, and custodial staff that provides specific steps, tailored to each school on how to reduce energy waste.
- Develops shutdown procedures to turn off additional equipment during daily or extended unoccupied times.
- Monitors and analyzes consumption meters and utility bills.

- Sets annual benchmarks and goals.
- Keeps abreast of the energy efficiency technology advancements.
- Maximizes and manages federal, state and local rebate programs.
- Checks and adjusts building thermostats, controls and e.m.s. settings to remain within the guidelines of the energy management program.
- Analyzes usage trends daily and identifies and resolves issues related the energy management program.
- Reports building mechanical deficiencies to maintenance. (Malfunctions, equipment calibration, coil cleanliness, filter exchanges etc)
- Promotes energy conservation and best practices throughout the district.
- Solicits suggestions from staff for better building efficiency.
- Performs routine day, evening and night audits of all facilities in both occupied and unoccupied areas.
- Communicates the audit results to the appropriate personnel.
- Checks and communicates appropriate behaviors and adherence to the guidelines.
- Analyses the rate schedules from our energy suppliers and make sure we have the optimal meters for our consumption at all sites.

Principal

- Maintains responsibility for the total energy usage of his/her site.
- Schedules the use of classrooms and other spaces wisely and with the coordination of the Energy Manager to reduce energy consumption.
- Keeps a focus of energy management among staff throughout the year.
- Maintains ongoing communication with the energy manager to ensure optimum saving conditions.

Supervisor/Manager/Director

- Responsible for the total energy usage of his/her department.
- Schedules the use of rooms and other spaces wisely and with the coordination of the energy manager to reduce energy consumption.
- Keeps a focus of energy management among staff throughout the year and utilizes data to evaluate progress.
- Communicates with the energy manager for optimal conditions.

Teacher Responsibilities

- Keeps classroom doors and windows closed when HVAC is in use.
- Keeps classroom area air supply and return grills clear of furniture or displays.
- Keeps thermostats accessible, without a heat source nearby.
- When using twist or button timers for the HVAC make sure they are turned off when leaving for the day.
- Keeps non programmable thermostats within the energy management program guidelines, and turns them off when leaving.
- Reports faulty thermostats and other equipment that may be malfunctioning.
- Makes certain that lights are turned off when leaving the classroom empty.
- Turns off all fans when leaving the classroom.
- Turns off all computers and peripheral equipment at the end of the day or when not active for more than one hour.
- Keeps personal equipment clean and in optimal condition.
- Unplugs personal equipment when absent for more than 5 days.
- Ensures that no HVAC equipment shall be kept on, to heat or cool animals when the rooms are unoccupied.

Clerical Staff

- Keeps doors and windows closed HVAC system is in use.
- Keeps office area air supply and return grills clear of furniture or displays.
- Turns off all computers and peripheral equipment at the end of the day or when not active for more than one hour.
- Keeps thermostats accessible, without a heat source nearby such as a computer monitors, copiers, lamps, etc.
- Reports faulty thermostats and other equipment that may be malfunctioning.
- Makes certain that lights are turned off when leaving the office empty.
- Turns off all wall and floor fans when leaving the office.

Custodial Staff Responsibilities

- Controls temperature of common areas, i.e. halls, cafeteria, etc.
- Makes sure that doors and windows in common areas are closed when HVAC is in use.
- Turns off the boilers as soon as heating is no longer required or at the end of the day.
- Verifies nighttime shutdowns daily and holiday shutdowns when applicable.
- Checks for proper thermostat settings and functions. Checks for overheated and overcooled areas and communicates this information to the Energy Manager.
- Turns off lights in unused spaces.
- Night-custodians will turn on lights only in the areas in which they are currently working.
- Turns off all exhaust fans every night or during unoccupied hours unless necessary for indoor air quality.
- Follows procedures for setbacks/shutdowns during weekends and vacations.

Cafeteria Staff

- Appropriately monitors kitchen equipment, turning it on for usage time only.
- Assists coordination efforts during extended break periods, taking appropriate measures to turn off unnecessary equipment.
- Works with custodial staff to coordinate shutdown activities and maintenance.

Technology Staff

- Programs districts computers to comply with the energy guidelines. Automatic monitor sleep mode after 10 minutes of inactivity.
- Turns off all network monitors after use.

Maintenance Staff

- Verifies HVAC equipment is running properly and achieving night setback temperatures.
- Identifies equipment not adhering to the energy guidelines.
- Consistently sets equipment to district energy guidelines unless authorized by energy manager.
- Checks and repairs as necessary all building insulation, caulking and weather-stripping.

- Inspects heating and air conditioning equipment according to schedules.
- Replaces worn seals, fittings, traps, etc. and check ducts for leakage.
- Keeps refrigerator compressors and condensers clean.
- Inspects drinking fountains for proper operation and leaks.
- Checks all plumbing for leaks.
- Secures all attic and roof hatches.
- Keeps doors in good working condition.
- Repairs damaged windows and doors as soon as possible.
- Ensures all plumbing and/or intrusion (i.e. roof) leaks are reported and repaired immediately.
- Develops and implements a preventative maintenance and monitoring plan for its facilities and systems including heating and cooling.
- Installs timers on equipment where feasible.
- Keeps HVAC equipment clean and lubricated.
- Maintains optimal settings with the EMS system to coincide with the ambient temperature.

Contractor

- Adheres to the LBUSD energy conservation and building management guidelines.
- Turns off all work equipment at the end of the work day.
- Leaves HVAC systems off unless authorized.
- Programs the HVAC systems to the LBUSD standards.
- Keeps doors and windows closed when HVAC is in use.

Planning & Development

- When planning and carrying out new construction and modernization the District Planning & Development, will make every effort to exceed the energy efficiency standards outlined in Title 24 of the California Building Codes.
- To reduce initial cost, the District shall seek out and apply for all appropriate grants, rebates, or discounts from utility providers, state, or any other source from which said grants, rebates, or discounts are available.

Temporary Facility Users and Vendors

- Receives and implements energy guideline requirements from the principal.
- De-lamps or turns off the light on all vending machines,
- Keeps the coils and evaporators clean on all vending machines.
- Installs timers or vending misers where possible.

Understanding Green Building Program Options for Schools CHPS® Criteria & LEED® for Schools

This is written in response to a growing demand for answers to a common question in the school construction community: When building a green school, should I use the CHPS Criteria or LEED for Schools? The short answer is that CHPS is equal to about LEED for Schools Silver, but there is more to it than this.

To begin, the Collaborative for High Performance Schools (CHPS®) must first acknowledge that so long as an ever increasing number of schools being built and modernized are healthy, high performance, green, sustainable learning environments for children, then both the CHPS and USGBC programs are successful. However, CHPS recognizes that although both rating systems have similar intents, the CHPS Criteria and LEED are structurally, philosophically, and programmatically different, and that school districts, faced with both financial and time constraints, may need to make a choice between the two programs. When making this choice, school districts must consider ease of certification, recognition, cost, experience, flexibility, transparency, scope, and climate sensitivity, to name a few.

This paper addresses these considerations and also provides an historic thread that will help put these two rating systems into perspective.

A Historical Perspective of the CHPS Criteria and LEED for Schools

In 1993, the U.S. Green Building Council (USGBC) was established with the purpose of “fulfilling the building and construction industry’s vision for its own transformation to high-performance green building.” The USGBC developed LEED® (Leadership in Energy and Environmental Design), a green building rating system as a transformation tool to support their mission. The first product from LEED®, LEED for New Construction (LEED-NC) was launched in 1998 and publicly released for use in 2000.

In November 1999, the California Energy Commission called together Pacific Gas and Electric Company, San Diego Gas and Electric, and Southern California Edison to discuss the best way to improve the energy performance of California’s schools. The Collaborative for High Performance Schools, Inc. (CHPS), a non-profit, formed out of this partnership to specifically address California K-12 schools, and over the years has expanded beyond energy efficiency to address an array of issues that make up healthy and environmentally conscious school environments.

CHPS California was developed with the knowledge and support of the USGBC. In CHPS’ early years, USGBC did not have a rating system for specifically for schools. The CHPS leadership met in 2001 with Christine Ervin, then Executive Director of USGBC, to explore the possibility of a LEED for Schools type of program. She conveyed that it was USGBC’s policy to not develop building-specific rating systems. CHPS indicated that its intention was to develop a system for California K-12 schools and the message from Ms. Ervine in so many words was “go for it”. Therefore, in 2001 CHPS released its Best Practices Manual for designing, constructing and operating green schools. Volume III of the Best Practices Manual included a green building rating program for schools, the CHPS Criteria.

There were a number of reasons CHPS did not want to adopt LEED-NC and felt the need for both a California and schools specific rating program:

- California was and is still in the midst of a massive program to build new schools and modernize old ones.

- The LEED rating system did not address issues critical to high performance schools such as acoustics, daylighting, electric lighting, low-emitting materials, joint use of facilities, etc.
- California regulations and statutes (especially with regard to energy and stormwater) are more stringent than national standards referenced in LEED. In some cases minimum compliance with California codes and regulations achieved LEED points; CHPS felt that a true high performance school must be asked to go above and beyond minimum compliance.
- The school design and construction community in California could not afford the time and expense to go through the LEED certification process and an easier approach was needed.
- LEED was/is targeted for the top 25% of the nation's buildings (the leaders). The California community wanted a standard that could apply to all schools.
- The process for plan reviews and funding of California K-12 schools is unique and a rating system was needed that respects this process and provides appropriate leverage at the key pressure points.

After the first few years of operation CHPS gained the attention of state agencies and organizations across the nation. Starting in 2004, states including Massachusetts, New York, Washington, New Hampshire, Maine, Rhode Island, Vermont and Connecticut (now referred to as CHPS National states) saw the value in state / regional standards that address issues specific to schools and that are more flexible based on state and regional conditions.

After the demonstrated success of the CHPS Criteria as well as other building specific rating programs such as Labs21 and the Green Guide for Health Care (GGHC), in 2004 the USGBC changed its policy and allowed for the creation of "Application Guides" tailored to specific building types. At first the Application Guides did not change the LEED standard but just "interpreted it for a particular building type, but later in the process, the LEED Steering Committee put a process in place so that the LEED standard could be tailored for specific building types. LEED for Schools was the first rating program developed for a specific building type. Others are under development.

CHPS worked with USGBC to help develop LEED for Schools. The Application Guide for Schools (AGS) committee was created in late 2004, which included CHPS staff and technical committee representation as well as others from across the nation. Direction to the AGS from the LEED steering committee changed frequently for the first year or so and included the following:

- LEED-NC credits or points may not be changed, they may only be "interpreted" for schools.
- The LEED-NC credits may not be changed, but up to 6 additional points may be added for one or more new credits to deal with the specific requirements of schools.
- Any number of additional points and credits may be added and existing LEED credits may be modified.

After months of debate it was determined that the USGBC would create a LEED for Schools rating program as opposed to an application guide. Portions of the CHPS Criteria were adopted for the LEED for Schools rating system; in particular credits for daylighting, electric lighting, acoustics and low-emitting materials.

Choosing between the CHPS Criteria and LEED

The 2006 Edition CHPS Criteria and LEED for Schools are very similar in structure, however, distinctive characteristics between the two programs still remain that school districts should consider in choosing between them, particularly if they are in a CHPS National state. School districts that are focusing on the public recognition aspect of building a green school may be interested in the greater brand recognition that comes with LEED status. However, school districts face very real costs, state regulations, and local limitations that may override public relations concerns.

Programmatic Considerations

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Both CHPS and USGBC offer organizational support to supplement their green rating systems. This is an analysis of the similarities and differences between the two programs.

Similarities:

- Both programs are developed by technical committees with broad representation through a consensus, public review process.
- Both require that schools claim at least 2 points from the energy category. (2001 CHPS policy and 2007 USGBC policy.)
- Both offer 3rd Party verification / certification for compliance with programs requirements. (2000 USGBC policy and 2007 CHPS policy.)
- Both offer recognition.
- Both offer professional training and education on their programs.

Differences:

- CHPS has separate thresholds and applicability for school modernizations with, which are a large share of the California schools funding program.
- The CHPS program has separate thresholds and applicability for new buildings on an existing school campus.
- The USGBC's goal is to "transform the building marketplace to sustainability" by targeting its standards at the top 25% of buildings. CHPS' goal is to create a "new generation of green, healthy schools" by targeting all schools.
- CHPS offers both 3rd Party Verification (CHPS Verified) and Self-Certification (CHPS Designed) for school districts with varying financial and compliance needs. Costs for verification are minimal and districts can standardize credits to decrease fees district wide.
- The CHPS implementation approach works at the district level, to holistically integrate high performance standards into multiple school campuses.
- The CHPS Best Practices Manual is available for FREE download.
- USGBC offers professional accreditation (LEED AP). An individual can take an exam on the LEED rating system and on other green building issues to achieve accreditation.
- All of CHPS' resources, trainings and research are school-focused, whereas USGBC covers all building types.
- CHPS references state codes whereas USGBC references national codes.
- CHPS does not have Silver, Gold and Platinum status, but recognizes achievement at higher point levels. Higher point levels will also qualify schools for greater funding through the California school funding program.

Rating Systems Considerations

The CHPS Criteria and LEED for Schools credit and point structures differ in some areas as well as the minimum requirements for participation. In trying to make comparisons for meeting CHPS minimum threshold (32 points and all prerequisites) and LEED for Schools (29 points and all prerequisites) it is clear that at the minimum level for participation the CHPS Criteria is more stringent. For one, the CHPS Criteria has more prerequisites than LEED for Schools. The CHPS Criteria has 11, while LEED has 9, and one of LEED's is already a CA state requirement and is not included in CHPS' rating system (LEED's EQ P2 ETS). Additional prerequisites that CHPS schools must comply with include:

- Minimum requirements for construction waste management (ME2.0). LEED offers points for this but does not require a minimum.
- Minimum requirements for using the school as a teaching tool (CHPS SS6.0).

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- Calculating the schools annual water budget in accordance with local and state ordinances (WE1.0).
- In many comparisons it has been shown that minimum compliance with California's Title 24 is equivalent to compliance with ASHRAE 90.1, and the CHPS Criteria require that projects go beyond Title 24 by 10% as a prerequisite.
- The CHPS Criteria minimum requirements for indoor air quality, EQ2.0 exceeds LEED's requirements for EQ P1. Many of the requirements of EQ2.0 in the CHPS Criteria are included in LEED, but offered as points. This includes 5 separate LEED points.
- ASHRAE 55 Code Compliance is required in the CHPS Criteria and is given a point in LEED EQ C7.1.

A project that scores the minimum number of CHPS points is not equivalent to a minimum scoring LEED project. A brief analysis of the CHPS and LEED point systems reveals that the CHPS' Criteria are more stringent than LEED at the minimum certification levels. When a CHPS school meets all of CHPS' prerequisites it has met all of LEED's prerequisites. However, by merely meeting four out of the eleven CHPS prerequisites (EQ2.0, EQ4.0, ME2.0 and EE1.0), a project will have earned at least 7 additional points under LEED for Schools. Thus, a school that earns the minimum point requirements for CHPS (32 points) would most likely earn a LEED for Schools Silver certification (approximately 37 to 40 points). Conversely, a project that qualified for LEED's minimum certifications (a LEED for Schools Certified School) would most likely not earn CHPS certification.

For a detailed comparison of the two rating systems please see Appendix A. Highlighted in yellow are credits that both LEED and CHPS offer. For most of these credits, both CHPS and LEED offer the same number of points per credit. However, CHPS offers more points for superior energy performance (EE1.1), daylighting (EQ1.1) and improved acoustics (EQ3.0). CHPS created this point structure after determining that these credits are some of the hardest, yet most important, for school districts to achieve. The structure rewards those school districts that choose to invest in these significant high performance features.

Other Rating Systems Differences:

- The CHPS Criteria takes into consideration state / regional climate variations and state regulation and codes.
- The CHPS 2006 Edition Criteria more directly supports modernization projects, through adjusting the point thresholds and prerequisites based on the scope of the project. In addition, CHPS offers different applicability based on this project type.
- The CHPS Criteria rewards school districts for making long-term, ongoing policy and operations decisions that add to the health of children and the environment.
- The CHPS Criteria has 11 credits that LEED does not have and LEED has 7 credits that the CHPS Criteria does not have.

Parties interested in green school building should keep abreast of the 2009 Edition of the CHPS Criteria currently being developed, and the future plans for LEED 3.0 and LEED for Schools. All are invited to participate in the respective public reviews as these two systems further expand and develop.

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APPENDIX A – COMPARISON BETWEEN CHPS Criteria and LEED for Schools

About the Table: The table is not a perfect comparison of the two systems, since, although some credits have the same intent, their exact requirements and approaches may differ. Some of these credits are identified with a “*” after in the LEED for Schools column. The table was developed by first listing all of the CHPS Criteria credits and then listing the LEED for School credits in association with a corresponding CHPS credit or category. Some credits that are in one category for the CHPS Criteria, are in a different category for LEED for Schools, so, for example, a Site credit in LEED is listed under Policy and Operations for CHPS. In addition, under LEED there are a few credits where 2-3 credits are the same as 1 of CHPS credits; this is noted in the LEED for Schools Column (for example, SS1.1 reads “also see CHPS SS1.2”). All CHPS and LEED for Schools credits are listed in the table. Green highlights the prerequisites the two systems have in common and yellow highlights the credits the two systems have in common.

| | CHPS (2006 Edition Criteria) Possible Points: 85 Prerequisites: 11 32 Points Required New Schools 25 Points Required Major Modernizations 25 Points Required New Buildings * Schools are recognized for achieving higher point totals, but no specific levels of achievement identified (i.e. Gold) | | LEED for Schools Possible Points: 79 Prerequisites: 9 29 Points Required for Certification 37 Points Required for Silver 44 Points Required for Gold 58 Points Required for Platinum | |
|-------------------|---|-----------|---|-----------|
| MAIN CATEGORY | CREDIT TITLE | POINTS/PR | CREDIT TITLE | POINTS/PR |
| SUSTAINABLE SITES | 15 Points 3 Prerequisites | | | |
| | SS1.0 CA Code Compliance | PR | SS P2 Environmental Site Assessment | PR |
| | SS1.1 Environmentally Sensitive Land | 1 | SS C1 Site Selection | 1 |
| | | | SS C5.1 Protect and Restore Habitat (also see CHPS SS1.2) | 1 |
| | SS1.2 Greenfields | 1 | SS C5.1 Protect and Restore Habitat (also see CHPS SS1.1)* | 1 |
| | SS1.3 Central Location | 1 | SS C2 Development Density & Community Connectivity* | 1 |
| | SS1.4 Joint Use of Facilities | 1 | SS C10 Joint Use of Facilities (also see CHPS SS1.5) | 1 |
| | SS1.5 Joint Use of Parks | 1 | SS C10 Joint Use of Facilities (also see CHPS SS1.4) | 1 |
| | SS1.6 Reduced Footprint | 1 | SS C5.2 Maximize Open Space | 1 |
| | SS2.1 Public Transportation | 1 | SS C4.1 Public Transportation Access | 1 |
| | SS2.2 Bicycles | 1 | SS C4.2 Bicycle Use | 1 |
| | SS2.3 Minimize Parking | 1 | SS C4.3 Low Emitting & Fuel Efficient Vehicles (also see CHPS PO2.2) | 1 |
| | | | SS C4.4 Parking Capacity | 1 |
| | SS3.0 Construction Site Runoff Control | PR | SS P1 Construction Activity Pollution Prevention | PR |
| | SS3.1 Limit Stormwater Runoff | 1 | SS C6.1 Quantity Control | 1 |
| | SS3.2 Treat Stormwater Runoff | 1 | SS C6.2 Quality Control | 1 |
| | SS4.1 Reduce Heat Islands- Landscaping | 1 | SS C7.1 Heat Island- Non Roof | 1 |
| | SS4.2 Reduce Heat Islands- Cool Roofs | 1 | SS C7.2 Heat Island- Roof | 1 |
| | SS5.1 Light Pollution Reduction | 1 | SS C8 Light Pollution Reduction | 1 |
| | SS6.0 Educational Display | PR | - | - |
| | SS6.1 Demonstration Areas | 1 | - | - |
| | - | - | SS C3 Brownfield Redevelopment | 1 |
| | - | - | SS C9 Site Master Plan | 1 |
| WATER | 5 Points 1 Prerequisite | | | |
| | WE1.0 Create Water Use Budget | PR | - | - |
| | WE1.1 Reduce Potable Water for Landscaping | 1 or 2 | WE C1.1 Water Efficient Landscaping | 1 |
| | | | WE C1.2 WEL- No Potable Water Use or No Irrigation | 1 |
| | WE2.1 Reduce Sewage Conveyance from Toilets | 1 | WE C2 Innovative Wastewater Technologies | 1 |
| | WE2.2 Reduce Indoor Potable Water Use | 1 or 2 | WE C3.1 Water Use Reduction 20% | 1 |
| | | | WE C3.2 Water Use Reduction 30% or 40% | 1 or 2 |
| | - | - | WE C4 Process Water Use Reduction | 1 |
| ENERGY | 20 Points 2 Prerequisites | | | |
| | EE1.0 Minimum Energy Performance | PR | EA P2 Minimum Energy Performance* | PR |
| | EE1.1 Superior Energy Performance | 1 to 13 | EA C1 Optimize Energy Performance* | 1 to 10 |
| | EE1.2 Natural Ventilation | 1 | - | - |
| | EE1.3 Energy Management System | 1 | - | - |
| | EE2.1 Renewable Energy | 1 to 3 | EA C2 On-Site Renewable Energy | 1 to 3 |
| | EE3.0 Fundamental Building Systems Testing and Training | PR | EA P1 Fundamental Commissioning of the Building Energy Systems* | PR |
| | EE3.1 Enhance Commissioning | 1 or 2 | EA C3 Enhanced Commissioning | 1 |
| | | | EA C5 Measurement & Verification | 1 |
| | - | - | EA P3 Fundamental Refrigerant Management | PR |
| | - | - | EA C4 Enhanced Refrigerant Management | 1 |

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| | | | |
|------------------------------|---|----------|---|
| MATERIALS | <i>12 Points 2 Prerequisites</i> | | |
| | ME1.0 Storage & Collection of Recyclables | PR | MR P1 Storage & Collection of Recyclables PR |
| | ME2.0 Construction Waste Management | PR | - |
| | ME2.1 Construction Waste Management | 1 or 2 | MR C2 Construction Waste Management 1 or 2 |
| | ME3.1 Reuse of Structure and Shell | 1 or 2 | MR C1.1 Building Reuse 75% 1 MR C1.2 Building Reuse 95% 1 |
| | ME3.2 Building Reuse, Interior Non-structural | 1 | MR C1.3 Building Reuse 50% 1 |
| | ME4.1 Recycled Content | 1 or 2 | MR C4 Recycled Content 1 or 2 |
| | ME4.2 Rapidly Renewable Materials | 1 | MR C6 Rapidly Renewable Materials 1 |
| | ME4.3 Organically Grown Materials | 1 | - |
| | ME4.4 Certified Wood | 1 | MR C7 Certified Wood 1 |
| | ME4.5 Salvaged Materials | 1 or 2 | MR C3 Materials Reuse 1 or 2 |
| | ME4.6 Alternative: EPP | 1/2 to 7 | - |
| | - | - | MR C5 Regional Materials 1 or 2 |
| INDOOR ENVIRONMENTAL QUALITY | <i>20 Points 3 Prerequisites</i> | | |
| | EQ1.1 Daylighting | 1 to 4 | EQ C8.1 Daylight & Views 1 or 2 |
| | EQ1.2 View Windows | 1 | EQ C8.2 Daylight & Views 90% 1 |
| | EQ1.3 Electric Lighting | 1 | EQ C6.1 Lighting System Design and Controllability (also see CHPS EQ4.1) 1 |
| | EQ2.0 Minimum Requirements | PR | EQ P1 Minimum IAQ Performance PR EQ C3.1 Construction IAQ Management Plan 1 EQ C3.2 Construction IAQ Plan Before Occupancy 1 EQ C10 Mold Prevention 1 EQ C1 Outdoor Air Delivery 1 EQ C2 Increased Ventilation 1 |
| | EQ2.1 Thermal Displacement Ventilation | 2 | - |
| | EQ2.2 Low-Emitting Materials | 1/2 to 4 | EQ C4 Low-Emitting Materials 1 to 4 |
| | EQ2.3 Chemical and Pollutant Source Control | 1 | EQ C5 Indoor Chemical & Pollutant Source Control 1 |
| | EQ2.4 Ducted Returns | 1 | - |
| | EQ2.5 Filtration | 1 | - |
| | EQ3.0 Minimum Acoustical Performance | PR | EQ P3 Minimum Acoustical Performance PR |
| | EQ3.1 Improved Acoustical Performance | 1 or 3 | EQ C9 Enhanced Acoustical Performance 1 or 2 |
| | EQ4.0 ASHRAE 55 Code Compliance | PR | EQ C7.1 Thermal Comfort Design 1 |
| | EQ4.1 Controlability of Systems | 1 to 2 | EQ C6.1 Lighting System Design and Controllability (also see CHPS EQ1.3) 1 EQ C6.2 Thermal Comfort Controllability 1 |
| | CA - State Law (No Req for CHPS) | - | EQ P2 Environmental Tobacco Smoke (ETS) Control PR |
| | - | - | EQ7.2 Thermal Comfort Verification 1 |
| POLICY & OPERATIONS | <i>13 Points</i> | | |
| | PO1.1 CHPS Resolution | 1 | - |
| | PO1.2 Environmental Education Resolution | 1 or 2 | ID C3 The School as a Teaching Tool* 1 |
| | PO1.3 Periodic Assessment of Environmental Conditions | 1 | - |
| | PO1.4 Equipment Performance | 1 or 2 | - |
| | PO2.1 Buses | 1 | - |
| | PO2.2 Low Emission School Buses | 1 | SS C4.3 Low Emitting & Fuel Efficient Vehicles (also see CHPS SS2.3) 1 |
| | PO3.1 Maintenance Plan | 1 or 3 | ID C1 Low Impact Cleaning & Maintenance Equipment Policy* 1 |
| | PO3.2 Green Power | 1 | EA C6 Green Power 1 |
| OTHER | | | |
| | - | - | ID C1-1.4 Innovation in Design 1 to 4 |
| | - | - | ID C2 LEED AP 1 |

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Collaborative for High Performance Schools (CHPS) Designed Scorecard
Based on the 2006 Edition For New School Construction

School Name: Early College Academic & Technical School
Expected Completion: Fall 2011
School District: Long Beach Unified School District
School Address: 7025 E Parkcrest Street
City: Long Beach
State: CA
Zip: 90808
School Contact/Principal:
Student Capacity: 1,200
Approximate Square Feet: 152,500

Current Design / Construction Phase: DSA Submittal
Website:
Phone:
E-mail:

Registered Principal Architect (Signature):
Project Manager (Signature):

Name, Title, Date: Don Pender
Name, Title, Date: Samuel Lim

| CHPS SECTION | CREDIT NUMBER | TITLE | POSSIBLE POINTS | SUMMARY... | TARGET | POINTS EARNED | TEAM MEMBER(S) RESPONSIBLE | FOR SELF CERTIFICATION, PROVIDE NARRATIVE, CALCULATIONS, DOCUMENT/ PLAN REFERENCE HERE. (Use Separate Sheet as Necessary). | |
|---|-------------------------------------|--------------------------------|-----------------------------------|--|--|---------------|----------------------------|--|--|
| | | | | | X | X | | | |
| 1. SUSTAINABLE SITES (3 prerequisites; 15 possible points) | SS1.0 | Code Compliance | Req | Comply with all requirements of Title 5 and CA Education Code and Public Resource Code sections specified. | | | | Existing school site. | |
| | SS1.1 | Environmentally Sensitive Land | 1 | No development on sites that are: prime agricultural land, in flood zone, habitat for endangered species, near a wetland or considered parkland. | 1 | 1 | | Site is not located in a flood zone. | |
| | SS1.2 | Greenfields | 1 | Do not develop on greenfields. | 1 | 1 | | Existing school site. | |
| | SS1.3 | Central Location | 1 | Create centrally located sites within which 50% of students are located within minimum distances of the school. | | | | | |
| | SS1.4 | Joint-Use of Facilities | 1 | Design at least one space for "joint-use" and provide specified security measures. | 1 | | Arch/District | Pending CHPS verification. | |
| | SS1.5 | Joint-Use of Parks | 1 | Share park or recreation space. | 1 | | Arch/District | Pending CHPS verification. | |
| | SS1.6 | Reduced Footprint | 1 | Reduce the building footprint. | 1 | 1 | Arch | 104,450/152,500 = 1.46 complies with >1.2 requirement. | |
| | 2. Transportation (3) | SS2.1 | Public Transportation | 1 | Locate near public transportation. | | | | |
| | | SS2.2 | Bicycles | 1 | Provide bike racks & bike lanes for a percentage of the school population. | | | | |
| | | SS2.3 | Minimize Parking | 1 | Minimize parking lot & create preferred parking for carpools. | 1 | 1 | Arch | Parking capacity not to exceed 50 x 2.25 + 1,300 (students & staff) x .2 = 373. |
| | 3. Stormwater Management (2) | SS3.0 | Construction Site Runoff Control | Req | Control erosion & sedimentation to reduce negative impacts on water & air quality. | X | X | Civil | Prepare site specific control plan that complies with NPDES Construction General Permit. |
| | | SS3.1 | Limit Stormwater Runoff | 1 | Minimize runoff. | 1 | 1 | Civil | Retention Basins, bioswales, and pervious paving will mitigate excessive stormwater runoff. |
| | 4. Outdoor Surfaces (2) | SS4.1 | Treat Stormwater Runoff | 1 | Treat runoff. | 1 | 1 | Civil | Using the strategies listed above, retained water can be filtered before being released outside the site. |
| | | SS4.2 | Reduce Heat Islands - Landscaping | 1 | Shade or lighten impervious areas, or reduce impervious parking. | 1 | 1 | Landscape | Minimize the use of AC paving with pervious pavers in the parking lot. Provide natural gray concrete which has an SRI value of 35. Provide shade trees that will shade a majority to the site. |
| | 5. Outdoor Lighting (1) | SS5.1 | Reduce Heat Islands - Cool Roofs | 1 | Install cool roof. | 1 | 1 | Architecture | Roof material to have initial reflectance of at least 0.70 and initial emittance of at least 0.75 for a minimum of 75% of the roof surface. |
| | | SS5.1 | Light Pollution Reduction | 1 | Minimize outdoor illumination. | 1 | 1 | K-1 | |
| 6. Schools as Learning Tools (1) | SS6.0 | Educational Display | Req | Provide a permanent educational display. | X | X | Arch | | |
| | SS6.1 | Demonstration Areas | 1 | Create demonstration areas for three out of the five major high performance categories. | | | | | |

| WATER (1 prerequisite; 5 possible points) | | | | |
|--|---|-------|---|----|
| 1. Outdoor Systems (2) | WE1.0 Create Water Use Budget | Req | Establish water use budget & conform to the local water efficient landscape ordinance. | |
| | WE1.1 Reduce Potable Water for Landscaping | 1-2 | Create an irrigation commissioning plan and reduce potable water by 50% or 100%, or do not install permanent irrigation systems. | 2 |
| 2. Indoor Systems (3) | WE2.1 Reduce Sewage Conveyance from Toilets and Urinals | 1 | 35% reduction in potable water use for sewage conveyance. | 1 |
| | WE2.2 Reduce Indoor Potable Water Use | 1-2 | Decrease water use by and additional 20% or 40% after meeting Energy Policy Act of 1992. | 2 |
| ENERGY (2 prerequisites; 20 possible points; minimum 2 points required) | | | | |
| 1. Energy Efficiency (15) | EE1.0 Minimum Energy Performance | Req | Design building to exceed Title 24-2005 by 10%. | X |
| | EE1.1 Superior Energy Performance | 1-13 | 12% to 36% reduction in total net energy use from Title 24-2005 baseline. | 13 |
| | EE1.2 Natural Ventilation | 1 | HVAC interconnect controls with operable windows & doors. | 1 |
| | EE1.3 Energy Management Systems | 1 | Install Energy Management System and provide training and manuals for maintenance personnel. | 1 |
| 2. Alternate Energy Sources (3) | EE2.1 Renewable Energy | 1-3 | 5 to 15% of net energy use supplied by on-site renewable energy systems. | |
| 3. Commissioning & Training (2) | EE3.0 Fundamental Building Systems Testing and Training | Req | Third party or district verification of building systems & training. | X |
| | EE3.1 Enhanced Commissioning | 1-2 | Implement commissioning best practices. | 2 |
| MATERIALS (2 prerequisite; 12 possible points) | | | | |
| 1. Recycling (0) | ME1.0 Storage and Collection of Recyclables | Req | Meet local standards for recycling space & have spaces dedicated to recycling. | X |
| 2. Construction Waste Management (2) | ME2.0 Construction Waste Management | Req | Recycle, compost and/or salvage at least 50% of non-hazardous construction and demolition debris. | X |
| | ME2.1 Construction Site Waste Management | 1-2 | Recycle, compost and/or salvage at least 70% or 90% of non-hazardous construction and demolition debris. | 1 |
| 3. Building Reuse (3) | ME3.1 Reuse of Structure and Shell | 1-2 | Reuse 75% or 85% of existing structure and shell. | |
| | ME3.2 Reuse of Interior Partitions | 1 | Use existing on-site non-shell elements in at least 50% of completed building. | |
| 4. Sustainable Materials (7) | ME4.1 Recycled Content | 1-2 | Follow prescriptive or performance approach. | 2 |
| | ME4.2 Rapidly Renewable Materials | 1 | 2.5% of materials are rapidly renewable or specify rapidly renewables for 50% of one of the listed major interior finishes or structural materials. | |
| | ME4.3 Organically Grown Materials | 1 | For at least 50% of rapidly renewable materials use organic materials. | |
| | ME4.4 Certified Wood | 1 | 50% of wood must be certified | |
| | ME4.5 Salvaged Materials | 1-2 | Follow prescriptive or performance approach. | |
| | ME4.6 Alternative Environmentally Preferable Products | 1-2-7 | Use this credit instead of 4.1-4.5. Interior finishes must meet EQ2.2. Earn a one-half point for each certified EPP Product. | |

| INDOOR ENVIRONMENTAL QUALITY (3 prerequisites; 20 possible points) | | | | | |
|---|--------|--|-----------|-----------|-----------------|
| 1- Lighting and Daylighting (6) | 1-4 | Meet minimum requirements and choose one of three options. | 4 | 3 | Arch / K-1 |
| EQ1.1 Daylighting | 1 | Direct line of site glazing for 90% of classrooms, libraries and administration areas and provide view glazing equal to or greater than 7% of the floor area. | 1 | 1 | Architecture |
| EQ1.2 View Windows | 1 | Provide high quality and flexible classroom lighting. | 1 | 1 | K-1 |
| EQ1.3 Electric Lighting | Req | Establish minimum standards for indoor air quality that requires moisture control, building flush-out, outside air ventilation and HVAC basic requirements among other things. | X | X | Mech |
| EQ2.0 Minimum Requirements | 2 | Use thermal displacement ventilation in at least 90% of the classrooms. | | | |
| EQ2.1 Increased Ventilation Effectiveness | 1/2-4 | Earn one-half point for each category of low-emitting products used in all classrooms and staff work areas. | 4 | 4 | Interiors |
| EQ2.2 Low-Emitting Materials | 1 | Control dust, segregate pollutant sources, and local exhaust in kitchens. | 1 | 1 | Mech |
| EQ2.3 Chemical and Pollutant Source Control | 1 | Install ducted HVAC returns. | 1 | 1 | Mech |
| EQ2.4 Ducted Returns | 1 | Use HVAC with MERV 11 or greater rated filters through the HVAC system. | 1 | 1 | Mech |
| EQ2.5 Filtration | Req | Classrooms must have a maximum (unoccupied) noise level of 4.5dba, with maximum (unoccupied) reverberation times of 0.6 sec. | X | X | Arch |
| EQ3.0 Minimum Acoustical Performance | 1 or 3 | Classrooms must have a maximum (unoccupied) noise level of 4.5dba, with maximum (unoccupied) reverberation times of 0.6 sec. | | | |
| EQ3.1 Improved Acoustical Performance | Req | Comply with Title 24 required ASHRAE 55-2004 thermal comfort standard | X | X | Mech |
| EQ4.0 ASHRAE 55 Code Compliance | 1-2 | Provide operable windows and/or separate controls for each classroom. | 2 | 1 | Mech |
| EQ4.1 Controllability of Systems | | | | | |
| Each classroom includes both operable windows and dedicated thermostats. | | | | | |
| DISTRICT RESOLUTIONS (13 possible points) | | | | | |
| 1. District Level Credits (6) | 1 | District must pass a board-level resolution that mandates compliance with CHPS. | 1 | 1 | District |
| PO1.2 Environmental Education Resolution | 1-2 | District must pass a board-level resolution stating its commitment to integrate environmental based education & an establish implementation plan. Two point if school incorporates high performance educational display into curriculum. | | | |
| PO1.3 Periodic Assessment of Environmental Conditions | 1 | District must pass a board-level resolution committing to implementing US EPA's Healthy Seat Program or an equivalent program. | | | |
| PO1.4 Equipment Performance | 1-2 | Require Energy Star equipment & prohibit wasteful technologies, or new equipment to be within 20% of EPA Energy Star "best available" for the category. | 1 | | Arch / District |
| PO2.1 Buses | 1 | Provide busing service. | | | |
| PO2.2 Low Emission School Buses | 1 | 20% of bus & maintenance vehicle fleet serving the school must use alternative fuels and/or be retrofitted to reduce emissions. | | | |
| PO3.1 Maintenance Plan | 1-3 | Create a maintenance plan that includes an inventory of all equipment in the school & their preventative maintenance needs. District allocates budget to fund plan at 100%. For three points, in addition school district uses computerized maintenance management software. | | | |
| PO3.2 Green Power | 2 | Engage in a two-year power contract to purchase 50% of expected power use from renewable sources. | | | |
| TOTAL (Minimum points required for CHPS school is 32 of possible 85) | | | 53 | 42 | |

** The summary should not be used to determine requirements for a specific credit or prerequisite. Refer to the CHPS Best Practices Manual, Volume III. Criteria available at www.CHPS.net for credit and prerequisite specific requirements.



Glossary Sustainability Guidelines

March 25, 2010 Board Workshop

Carbon Footprint:

- Total set of greenhouse gas (GHG) emissions caused by an organization, event or product

Carbon Neutral:

- Achieving net zero carbon emissions by balancing measured amount of carbon released with equivalent amount sequestered or offset, or buying enough carbon credits to make up the difference

CEQA:

(California Environmental Quality Act)

- Statewide policy of environmental protection
- Requires state and local agencies within California to follow protocol of analysis and public disclosure of potential environmental impacts of development projects

CHPS:

(Collaborative for High Performance Schools)

- United States' first green building rating program especially designed for K-12 schools
- Provides information and resources to schools to facilitate construction and operation of high performance institutions
- High performance schools are energy and resource efficient as well as healthy, comfortable, well lit, and contain amenities for a quality education

Clean Energy or Renewable Energy:

- Energy that is generated from natural resources such as sunlight, wind, rain, tides, and geothermal heat, which are renewable (naturally replenished) and do not generate pollution

Cool Roofs:

- Roofs with reflective coating to reduce heat transfer into structure

Commissioning:

- Process by which equipment, facility, or plant is tested to verify if it functions according to its design objectives or specifications

Daylighting:

- Use of sun light to illuminate building interiors to reduce need for electrical lighting

Environmentally-Friendly:

- Environmentally-friendly (also eco-friendly, nature friendly, and “green”) are synonyms used to refer to goods and services, laws, guidelines and policies considered to inflict minimal or no harm on the environment
- To make consumers aware, environmentally-friendly goods and services often are marked with eco-labels

Green Schools:

- “Green” school is primarily focused on sustainable attributes
- May be used interchangeability with High Performance School
- School facility that is “green” can also be high performance and vice versa

Green Technology:

- Field of green technology encompasses continuously evolving group of methods and materials - from techniques for generating energy to non-toxic cleaning products

Grid Neutral:

- Power consumed is equal to power generated on an annualized basis

High Performance Schools:

“Good teachers and motivated students can overcome inadequate facilities and perform at a high level almost anywhere, but a well-designed facility can truly enhance performance and make education a more enjoyable and rewarding experience.”

High Performance Schools are:

- Healthy
- Comfortable
- Energy Efficient
- Material Efficient
- Easy to Maintain and Operate
- Commissioned
- Environmentally Responsive Site
- A Building That Teaches
- Safe and Secure
- Community Resource
- Stimulating Architecture
- Adaptable to Changing Needs

LEED:

(Leadership in Energy and Environmental Design)

- Green Building Rating System, developed by the United States Green Building Council (USGBC), provides suite of standards for environmentally sustainable design, construction and operation of buildings and neighborhoods
- Many specific project types addressed differently (ie LEED for Schools)
- Different “shades” of green (Certified, Silver, Gold and Platinum)

Sustainable Buildings or “Green” Buildings:

- Practice of creating structures and using processes that are environmentally responsible and resource-efficient throughout a building's life-cycle: from siting to design, construction, operation, maintenance, renovation, and deconstruction
- Expands and complements the classical building design concerns of economy, utility, durability, and comfort

Sustainable Design:

- Eliminate negative environmental impact through skillful, sensitive design

Sustainable Development:

- Pattern of resource use that aims to meet human needs while preserving environment so these needs can be met not only in the present, but also for future generations

Sustainability:

- Ability to maintain a certain process or state
- Capacity to endure