U.S. DEPARTMENT OF EDUCATION

GreenRibbonSchools

# 2014-2015 School Nominee Presentation Form

## ELIGIBILITY CERTIFICATIONS

### School and District's Certifications

The signatures of the school principal and district superintendent (or equivalents) on the next page certify that each of the statements below concerning the school's eligibility and compliance with the following requirements is true and correct to the best of their knowledge. *In no case is a private school required to make any certification with regard to the public school district in which it is located.*

1. The school has some configuration that includes grades Pre-K-12.
2. The school has been evaluated and selected from among schools within the Nominating Authority's jurisdiction, based on high achievement in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental education.
3. Neither the nominated public school nor its public school district is refusing the U.S. Department of Education Office of Civil Rights (OCR) access to information necessary to investigate a civil rights complaint or to conduct a district wide compliance review.
4. OCR has not issued a violation letter of findings to the public school district concluding that the nominated public school or the public school district as a whole has violated one or more of the civil rights statutes. A violation letter of findings will not be considered outstanding if OCR has accepted a corrective action plan to remedy the violation.
5. The U.S. Department of Justice does not have a pending suit alleging that the public school or the public school district as a whole has violated one or more of the civil rights statutes or the Constitution's equal protection clause.
6. There are no findings of violations of the Individuals with Disabilities Education Act in a U.S. Department of Education monitoring report that apply to the public school or public school district in question; or if there are such findings, the state or public school district has corrected, or agreed to correct, the findings.
7. The school meets all applicable federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.

## U.S. Department of Education Green Ribbon Schools 2014-2015

☐ Charter ☐ Title I ☐ Magnet ☐ Private ☐ Independent

Name of Principal: **Mr. Ken Griest**
(Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in the official records)

Official School Name: **Carmel Middle School**
(As it should appear on an award)

Official School Name Mailing Address: **P.O. Box 222700, Carmel, CA 93922**

Physical Address: **4380 Carmel Valley Road, Carmel, CA 93923**
(If address is P.O. Box, also include street address.)

County: **Monterey** State School Code Number *: **27-65987-6026033**

Telephone: **(831) 624-2785** Fax: **(831) 624-0839**

Web site/URL: www.carmelmiddle.org E-mail: kgriest@carmelunified.org

**Private Schools: If the information requested is not applicable, write N/A in the space*

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate.

Date: **January 12, 2015**

(Principal's Signature)

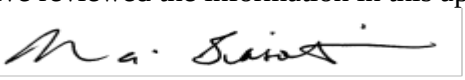
U.S. DEPARTMENT OF EDUCATION

GreenRibbonSchools

Name of Superintendent: **Mr. Marvin Biasotti**
(Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in official records)

District Name: **Carmel Unified School District**

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate.



Date: **January 12, 2015**

(Superintendent's Signature)

**Nominating Authority's Certifications**

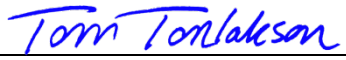
The signature by the Nominating Authority on this page certifies that each of the statements below concerning the school's eligibility and compliance with the following requirements is true and correct to the best of the Authority's knowledge.

1. The school has some configuration that includes grades Pre-K-12.
2. The school is one of those overseen by the Nominating Authority which is highest achieving in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental and sustainability education.
3. The school meets all applicable federal civil rights and federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.

Name of Nominating Agency: **California Department of Education**

Name of Nominating Authority: **State Superintendent of Public Instruction Tom Torlakson**
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

I have reviewed the information in this application and certify to the best of my knowledge that the school meets the provisions above.



Date: **January 27, 2015**

(Nominating Authority's Signature)

## SUMMARY AND DOCUMENTATION OF NOMINEE'S ACHIEVEMENTS

Provide a coherent "snapshot" that describes how your school is representative of your jurisdiction's highest achieving green school efforts. Summarize your strengths and accomplishments in all three Pillars and nine Elements. Then, include documentation and concrete examples for work in every Pillar and Element.

## SUBMISSION

The nomination package, including the signed certifications and documentation of evaluation in the three Pillars should be converted to a PDF file and emailed to green.ribbon.schools@ed.gov according to the instructions in the Nominee Submission Procedure.

OMB Control Number: 1860-0509
Expiration Date: February 28, 2015

**Public Burden Statement**

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is 1860-0509. Public reporting burden for this collection of information is estimated to average 37 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. The obligation to respond to this collection is required to obtain or retain benefit P.L. 107-110, Sec. 501, Innovative Programs and Parental Choice Provisions. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the U.S. Department of Education, 400 Maryland Ave., SW, Washington, DC 20202-4536 or email ICDocketMgr@ed.gov and reference the OMB Control Number 1860-0509. Note: Please do not return the completed ED-Green Ribbon Schools application to this address.

# *Carmel Middle School*

California Nominee to
U.S. Department of Education Green Ribbon Schools

U.S. DEPARTMENT OF EDUCATION
GreenRibbonSchools

DEPARTMENT OF EDUCATION
STATE OF CALIFORNIA

Prepared by
California Department of Education
School Facilities and Transportation Services Division
http://www.cde.ca.gov/ls/fa/sf/greenribbonprog.asp
January 2015

## PART II – SUMMARY OF ACHIEVEMENTS

### Carmel Middle School, Carmel, Calif.

*Outdoor learning is at the heart of student programming*

Carmel Middle School (CMS) is the sole middle school for Carmel Unified School District (CUSD), a district that stretches from Big Sur on the Pacific Coast to Cachagua in the Carmel Valley, drawing a diversity of students from over 600 square miles, a district roughly the size of Rhode Island. CMS focuses on academic achievement, balanced with an appreciation for the uniqueness of each child, which fosters a love of learning, environmental stewardship, a healthy lifestyle, and civic engagement. CMS is dedicated to providing a safe and positive learning environment where students can thrive and make meaningful contributions to their world.

The CMS campus includes the award-winning 10-acre Hilton Bialek Habitat (The Habitat), an environmental education nature center that, in partnership with MEarth (the Habitat's non-profit organization), offers science, environmental education, and sustainability programming. This programming, including Ecoliteracy, Nature Studies, Social Studies, English-Language Arts, and World Language seamlessly integrates sustainability education into curriculum lessons and activities. Annually, MEarth serves over 1,000 Carmel Unified students and another 975 underserved students from the greater Monterey Peninsula at the Habitat. The Habitat's Silver LEED-certified green building was completed in 2012 and offers a living laboratory for environmental practices, earth-friendly materials/construction plus the introduction to green technology and jobs. The building is the first LEED-certified public school building in Monterey County.

One of CMS's highest goals is to create an atmosphere where every student feels safe, respected, and included in school. There are many initiatives that address school climate and culture such as the prevention of cyberbullying and bullying (Middle School Success), drug and alcohol use (Life Skills), mentorship programs (Building a Connection, for 6th-graders; Welcome Buddies for 6th-8th-graders), tolerance and understanding (Challenge Day), community / teamwork (Ohana Day), and civic engagement (Serve-a-Thon), to name just a few.

In addition to the sustainability programming and ecological restoration activities at the Habitat, CMS offers many outdoor education opportunities including: 1) Monterey Bay Outdoor Education (MBOE), an intense three-day rotational program for 7th-graders to experience local ecological sites including the Carmel River, Elkhorn Slough, and Point Lobos to learn from local experts about habitat protection, environmental impacts and environmental advocacy; 2) field trips and hikes to local and distant sites including the Monterey Bay Aquarium, Anza-Borrego Desert State Park, and Yosemite; and 3) Winter Outdoor Education (WOE) for 7th-graders at Sequoia National Park in the southern Sierra Mountains with instruction in ecology, zoology, geology, astronomy, winter survival, and winter sports.

CMS was part of the district's facility modernization in 2002-03, during which time all classrooms were retrofitted with energy-efficient lighting, occupancy sensors, acoustical treatments/insulation, new HVAC systems, lead-free plumbing fixtures, and low-flow toilets. Additional retrofits continued in 2011 with induction lighting and occupancy sensors installed in the gymnasium. A preventative maintenance plan addresses all the school's maintenance needs, and CMS maintains active plans to address integrated pest management, structure inspection, leaks, spills, and water damage. An energy management system, installed in 2003 and upgraded in 2013, provides continual monitoring of energy use. CMS has drastically reduced student paper consumption approximately 1,000,000 pieces of paper to about 500,000

million over one school year with teachers distributing and receiving documents in electronic format using an assignment management software program, "My School". In 2015 there will be 1:1 computing for all students, with the goal of moving paper consumption towards zero.

# PART III – DOCUMENTATION OF STATE EVALUATION OF DISTRICT NOMINEE

## Pillar I: Reduce Environmental Impact and Costs

### *Element IA: Energy*

- CUSD is committed to reducing the use of energy. Long-range strategic goals and objectives embody environmental priorities including: reductions in energy use via system upgrades, the audit of current usage levels, and expansion of photovoltaic and solar systems, occupancy sensors and centrally-controlled classroom thermostats. Additional Proposition 39 energy efficiency projects, including installing LED exterior lighting fixtures in school parking lots, are planned.
- CUSD's 2002-03 modernization project was motivated by the desire to reduce schools' environmental footprint. CUSD installed then, state-of-the-art, high-efficiency equipment to reduce energy consumption. CMS worked with The Offset Project to turn the green building's energy efficiencies into offsets for the Monterey Bay Carbon Fund over a period of two years.
- The district has tracked energy usage through the efforts of its district-wide Environmental Team since 2009. CMS has documented a 3% reduction in total non-transportation energy use from January 2009 through December 2013. CMS enrollment increased more than 18% over the same time period, but the school was still able to reduce non-transportation energy use. The Environmental Team's data gathering efforts include monitoring of monthly billings from energy providers.
- 3.8 Kilowatt photovoltaic panels exist on the green classroom as a demonstration project, representing approximately 5% of the school's energy use.
- 19% of electricity purchased from Pacific Gas & Electric (PG&E) comes from renewable sources: wind, geothermal, biomass, etc.
- Energy Watch, a program of the Association of Monterey Bay Area Governments (AMBAG), evaluated CMS in 2010 and recommended replacing gymnasium light fixtures with induction lighting and occupancy sensors. This retrofit was completed at the start of the 2010-11 school year. In addition, MEarth participated in PG&E's Bright Ideas Grant Program in May 2010, receiving a grant to implement campus campaigns to reduce energy consumption, install a solar-powered hot water heater, and install interpretive learning stations.
- In 2012, CUSD opened the first LEED-certified public school classroom in Monterey County. This 1,600-square-foot multi-purpose classroom is sited at the Habitat. This unique classroom and learning environment includes a state-of-the-art culinary kitchen to support MEarth's FoodConnect and ClassroomConnect programming. The passive-solar building was constructed using repurposed and recyclable materials, photovoltaic and solar thermal panels, four rainwater catchment tanks of 1,500 gallons each, a living roof with 500 native plants grown on the Habitat grounds, daylighting features to reduce energy consumption, and a LUCID Building Dashboard that visually displays and

monitors weather, energy use/offsets, water conservation and more. CMS's green building received LEED Silver Certification in 2012.

- CMS has reduced the heat island effect in the 10-acre CMS Hilton Bialek Habitat by reducing pavements and constructing walkways and accessible paths of stabilized decomposed granite. The trail system traversing the multi-acre grasslands adjacent to the Habitat are replenished with wood chips from tree trimming on district property.
- In 2002-03, CMS replaced all classroom lighting with T8 ballasts and installed occupancy sensors. An energy management system by Johnson Controls, installed in 2003, was updated in 2013. All gymnasium lighting was replaced with induction fixtures and occupancy sensors in 2011. In addition to the energy-saving features in the LEED-certified building, a Lucid Building Dashboard monitors consumption and energy generation.

### *Element IB: Water and Grounds*

- Using monthly statements from the local water company, CMS documented a reduction in total water consumption of 12% from September 2009 (4,105 gallons/person/year) through September 2013 (3,598 gallons/person/year). CMS enrollment increased more than 18% over the same time period, but the school was still able to reduce water use. Also, the CMS overall site of 46.36 acres serves the broader community in part because the City of Carmel does not provide recreational fields. CMS maintains its sports fields year-round for students and the community at large.
- 100% of the school's landscaping is considered water-efficient and/or regionally appropriate. The Habitat includes a native plant nursery and shade shed, supplying plant material for the school's restoration sites. MEarth staff/instructors work with CMS teachers and students in five major restoration sites on campus and the 10-acre Habitat property, including the bee garden, demonstration gardens, and classroom living roof. Native plant material includes: Ceanothus "Julia Phelps," Fremontodendron Californica, Leymus "Canyon Prince," Salvia "Winifred G," and seasonal wildflowers.
- Landscape irrigation is supplied by a well and this water source is stable and reliable. CMS retrofitted all turf area sprinklers with water-saving sprinkler heads. The green building's living roof is supplied by four, 1,500-gallon rainwater catchment tanks and is supplemented by the district well, as necessary. With the establishment of five native plant restoration sites, irrigation needs have been significantly reduced in these areas.
- Water is a crucial issue for all who live on the Monterey Peninsula. Retention ponds to hold storm water runoff were constructed in the late 1990's and continue to be functional. All the walkways/paths and parking areas in the 10-acre Habitat are constructed of decomposed granite.
- The school's drinking water system (municipal source) is totally separate from the water supply used for irrigation. Four filtered water stations are located on campus for both water fountain use and bottle filling purposes. Two additional exterior water stations for filtered and refrigerated water have been purchased by the Parent-Teacher Organization (PTO) and will be installed in early-2015. Upon installation, CMS will ban the sale of single-use plastic water bottles onsite.
- Lead-free plumbing fixtures were installed at CMS during modernization. Currently, Cal Am Water Company tests water quality on a monthly basis and if, hypothetically, drinking water is found to have unacceptable levels of lead, water outlets will be flushed daily for at least 30 seconds prior to use. CMS has not experienced any incidences of unacceptable concentrations of lead in the school's drinking water.

- 25% of the CMS school grounds are devoted to ecologically beneficial uses, including five native plant restoration sites on the CMS main campus. The 10-acre Hilton Bialek Habitat is home to an abundance of wildlife and native plant habitat, with resident mammals (including rabbits and bobcats), insects, over 185 species of birds, rodents, bees, native plant demonstration gardens, a one-acre organic garden and orchard, composting (both vermiculture and traditional), greenhouses, Silver LEED-certified green building, pond, native grasslands, and extensive outdoor learning areas.

### *Element IC: Waste*

- 72.6% of solid waste is diverted from landfilling or incinerating due to reduction, recycling, and/or composting. The monthly waste generated per person is 0.022 cubic yards.
- Chemicals used on site are limited to custodial cleaning concentrates, art supplies, science supplies, and wood shop supplies. Chemicals are inventoried and each product's condition is assessed annually. Results are shared with the CMS Principal and any materials at the end of shelf life or in poor condition are removed. CUSD contracts with PARC Environmental to dispose of hazardous materials that need to be removed. Generally, the school is not a generator of hazardous waste.
- CMS works with several local government, nonprofit, and private waste management entities for waste diversion, recycling, and disposal. Comprehensive waste audits were conducted at CMS in May 2014 to develop waste snapshots and recommendations for increased diversion. These waste audits complement the recycling rates tracked by sixth-grade CMS students during their Ecoliteracy classes and help inform our recycling practices.
- The Environmental Responsibility Team's key focus is the reduction of waste and increased waste diversion. Their efforts are augmented by the work of Ecoliteracy students who regularly collect classroom recycling and circulate to every recycling bin after lunchtime to separate bottles, cans, compostables, paper containers, and chip bags. Students bring compostable materials to the Habitat and routinely turn the compost for eventual garden use. Recycling is redeemed, including chip bags.
- CMS green cleaning efforts pertain to the LEED-certified green building and grounds, which aggressively adhere to green practices and products to model environmentally-sound behavior. Only green cleaning products are utilized within the classroom and restrooms. CMS is in the process of reducing the number of chemicals used to just a few that have multiple uses.
- CMS drastically reduced student paper use beginning in 2007 by concurrently equipping all English-Language Arts classes with computers and implementing assignment management software allowing teachers to distribute documents electronically. Notes, articles, outlines, essays, tests, and quizzes that used to be distributed in paper form are now completed online. CMS expanded these efforts in 2014 by providing all 6th-grade students with Chromebooks, allowing electronic communication for Science and other subject areas. In 2015, CMS will implement 1:1 computing for all students, with a goal to reduce paper consumption to almost zero. Data reveals paper use was reduced from 1 million pieces of paper to 500,000 pieces in one year.

### *Element ID: Alternative Transportation*

- As CMS serves students within 600 square-miles and is located adjacent to the main artery leading into Carmel Valley (Carmel Valley Road), the majority of students cannot readily walk or bicycle/scooter/skateboard to school safely. Public transportation is not

reliable or viable due to the placement of the bus stop, schedule, and busy roadway. Carpooling is occurring, however data has not been collected to gauge its frequency. CMS tracks student school bus use (34%) and walkers (1%).

- CMS has a well-publicized no-idling policy that applies to all vehicles (including school buses that are required to meet the California Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools Regulation), and vehicle loading/unloading areas are at least 25 feet from building intakes, doors, and windows. A secure bicycle area and skateboard storage racks are available to encourage bicycling or skating to school.
- An external audit of the school transportation system conducted in 2012 to assess route consolidation feasibility concluded it was efficiently serving schools. Additionally, all transit buses have been retrofitted with exhaust particulate filters.

## Pillar II: Improve the Health and Wellness of Students and Staff

### *Element IIA: Environmental Health*

- Regular inspections of CMS are conducted as part of the preventative maintenance program. Three maintenance staff attended Integrated Pest Management (IPM) Coordinator training and work collaboratively to address pest management for the school. All records are maintained by the Director of Facilities and Transportation in accordance with standard policies. Regular inspections occur on the Habitat grounds to monitor pests, rodents, etc., which are addressed using only environmentally-sound products and practices. CMS has a written IPM Plan.
- Annual pesticide use is 0.007 gallon/student/year. Landscaping fabric and a weed flamer are used to control weeds. Trapping, housekeeping, and barriers are used to control gophers, ants, yellow jackets, etc. Only natural remedies are used within the Habitat grounds.
- CUSD prohibits smoking on all property and in all district vehicles, has identified and properly removed sources of elemental mercury and prohibits its purchase and use in the school, uses fuel burning appliances and has taken steps to protect occupants from carbon monoxide (CO), and has identified that there are no wood playground or other structures that contain chromate copper arsenate.
- CUSD adheres to the Asbestos Act and has an asbestos management plan in place. All material that tested positive for asbestos was removed during modernization in 2002-03.
- CMS classrooms have good acoustics (less than 45 dBA), good daylighting and high-quality electrical light when needed, and good relative humidity control (ASHRAE 30-60%). New, state-of-the-art HVAC equipment, acoustical treatments, insulation, and energy-efficient lighting and occupancy sensors were installed on campus as part of modernization in 2002-03 to ensure indoor environmental standards were of the highest levels. A preventative maintenance program is in place coupled with teacher feedback regarding facilities issues, and CMS addresses indoor environmental issues as soon as they arise.
- CMS ensures that all chemicals are inaccessible to students. Instructional-use chemicals are stored in a locked room with access restricted solely to teachers. Custodial chemicals are in locked storage areas accessible only to custodial personnel and site administrators. A yearly inventory is conducted by the District's insurance company and chemicals are removed based upon shelf life and condition. In accordance with regulations, Material Safety Data Sheets are retained for all chemicals used on campus.

- To ensure the school is lead-safe, CMS monitors buildings and grounds for potential lead-related issues in buildings, water, and soil. Painted surfaces are kept intact whenever possible; before any renovation or remodeling is begun, lead exposure hazards are professionally evaluated and remediated. Drinking water is monitored regularly. If high lead content is found in soil, it is encapsulated with plantings, concrete, or asphalt. Ensuring that the buildings and grounds are lead-safe is one of the highest maintenance priorities of the school and district.
- To prevent exposure to asthma triggers in and around the school, classrooms are cleaned and vacuumed daily and regular cleaning and inspection of HVAC equipment is conducted as part of the preventative maintenance program. Smoking is prohibited on campus and is discouraged in students' homes and meeting places off-campus. The location of the school within several miles of the Pacific Ocean provides excellent air quality and few pollutants. As a result, outdoor air quality triggers are negligible. Parents are directed not to idle their vehicles in the pick-up zones to further address air quality pollutants. Classroom humidity is monitored through electronic temperature controls, keeping mold and any moldy materials in check. CMS prohibits the use of strong fragrances by all students and staff. In addition, district policy prohibits school buses from idling.
- CMS is regularly inspected for leaks, spills, and water damage. Wet materials are dried for 48 hours and leaks are repaired immediately. Temperature is electronically monitored in all classrooms to ensure appropriate humidity control.
- CMS has installed local exhaust systems for major airborne contaminant sources.
- The maintenance department has a comprehensive preventative maintenance plan, with staff members specifically dedicated to preventative maintenance tasks. HVAC systems are inspected at intervals recommended by the manufacturer(s) or adjusted intervals based upon the conditions within individual classrooms and other buildings.
- Heating, ventilation, and air conditioning systems are operated, inspected, and maintained in accordance with existing regulations. School buildings are inspected annually to ensure they have adequate ventilation systems to preclude the buildup of mold, mildew, and other air contaminants. Filters are changed frequently; indoor painting of school buildings occurs when school is not in session; low-emission cleaning products are used whenever possible and custodial duties that require other products are performed after classes are dismissed; paints, adhesives and solvents are purchased in small quantities to avoid storage exposure and are stored in well-ventilated areas; exterior wall and foundation cracks, if found, are sealed immediately to control exposure to radon; water-damaged ceiling tiles, carpet and other building materials are removed as quickly as possible; plain water and soap are preferred as cleaning agents, and aerosols, including air fresheners, are avoided.

### *Element IIB: Nutrition and Fitness*

- The school's one-acre garden/orchard has an extensive farm-to-table program and provides fruits and vegetables for the numerous classes held at the Habitat. All Habitat classes stress healthy foods and good nutrition.
- CMS students receive 200 minutes of physical education instruction per week, primarily outdoors. Students set fitness goals for cardio, strength, and flexibility. There are daily 1/2-mile runs and 1-1.5 mile runs weekly. 7th-graders participate in State-mandated fitness testing that measures aerobic capacity, strength/flexibility, and body composition. Students keep a health journal to track their progress, particularly cardiovascular health.

All students participate in a Health Class with lessons and assessments including drug and alcohol awareness, healthy lifestyle choices, and relaxation techniques.

- CUSD has a District Wellness Policy and holds regular Wellness Committee meetings to discuss health-related matters, including nutrition education, physical activity, and other activities to promote student wellness. After school programs such as athletics, clubs, and activities align with Wellness practices and policies.
- Outdoor education and recreation have been integrated into our students' campus life. Every class held at the Habitat is focused on outdoor, hands-on, experiential learning in Science, Social Studies, English-Language Arts, World Language, and Ecoliteracy. The Habitat's one-acre organic garden/orchard, greenhouses, demonstration gardens, pond ecosystem, bird sanctuary, and grasslands were created for outdoor learning. Students explore nesting bird habitat, grassland prairies, and pond ecosystems via the Habitat's wildland trail system, which is also used for cross-country practice. Students plant, harvest, and cook from the garden regularly. Students participate in Cornell University's FeederWatch Program, observing and tracking bird counts. Students are engaged in native plant restoration activities at the Habitat and five restoration sites on campus utilizing native plants they propagated onsite. Annual outdoor education programs take 7th and 8th-graders off-campus several days each year.
- CMS is insured by the Monterey County Schools Insurance Group (MCSIG), which offers staff an incentive-based wellness program, the “Healthy Lifestyle $olutions Incentive Program.” Staff register, complete an online Wellness Assessment, and prioritize the lifestyle changes they commit to make in a one-year period. Each wellness-related activity, including having a routine physical, performing physical activity per day, being tobacco-free, maintaining a Body Mass Index score of 29 or less, participating in community health events, self-directed learning, etc., all equate to points that, at the end of the year, result in a financial reward. The program also provides tips for healthy eating and nutrition. CMS participates in MCSIG's annual Exercise Challenge, a free, 10-week program to add more physical activity to daily life. Participants must exercise at least 90 minutes per week and document their activity. Twenty-one CMS staff members participated in the Exercise Challenge last year.
- The CMS-MEarth curriculum leverages a 10-year partnership with Casanova and La Bicyclette Restaurants of Carmel that includes a visiting chef program and produce exchange. Every six weeks, professional chefs work alongside MEarth instructors and CMS students to create a garden-to-table meal. The goal of each lesson is to encourage healthy eating with delicious organic and seasonal food. Every session includes a salad from the garden. Through MEarth, CMS partners with several expert landscapers, organic farmers, tree pruners, and nursery growers who generously donate their time and expertise in support of programs and growing food for students.
- CMS also provides an extensive after-school program in 8-week sessions. Class offerings include tennis, golf, running club, cooking, and gardening, enrolling upwards of 100 students. CMS also offers "no-cut" sports in 12-week sessions, giving all students the opportunity to play golf, wrestle, run cross country, and/or run track.
- CMS uses a Coordinated School Health approach and is committed to the physical, social/emotional, and academic needs of students. One nurse and two, full-time student counselors, in conjunction with the Wellness Committee and Student Support Team (comprised of school leadership, counselors, psychologist, nurse, and therapist), work collaboratively in support of student physical and mental health as well as academic achievement. The Wellness Committee focuses on health-related issues, including nutrition education, physical activity, and wellness. Counselors meet weekly with

struggling students to provide academic and emotional support and the school offers on-site, individual counseling through Community Human Services of Monterey County. An intervention team meets every six weeks to discuss students in need of support. In spring, counselors are part of the team that meets with 5th-grade parents and students to acquaint them with curriculum, routines, and expectations. CMS endeavors to create a solid foundation at the start of middle school and build on that support every year.

- CMS partners with many community organizations in support of student health and safety including:
    - Monterey Rape Crisis Center, providing lessons on sexual harassment, personal safety, and rape prevention;
    - Community Human Services of Monterey County, providing weekly, individual student on-site counseling with the Super Teens Program;
    - Carmel C.A.R.E.S. (Committed to Achieving Results and Ensuring Success), an organization comprised of staff, parents, and community partners to develop and promote safe events for students;
    - CMS PTO, sponsoring special programs such as Ohana Day (leadership) and "Not In Our School Day" (anti-bullying); and
    - Monterey County Sheriff's Office and CalFire, coordinating an annual major emergency drill involving the issues of fire, earthquake, and campus intruders.
- CMS shares a full-time nurse with Carmel High School, a 1.4-mile one-way distance between schools. The shared nurse efficiently and effectively manages the work responsibilities for both schools.
- CMS programs to support student mental health and school climate include:
    - Building a Connection, a mentoring program that pairs a CMS Leadership student with a small group of incoming 6th-graders. Mentors conduct an orientation the day before school starts, with games, team-building activities, and a campus tour. During the year, mentors meet with their group to ensure a continuing, positive transition from elementary school.
    - Middle School Success, a six-week rotation for 6th-graders, where students learn a variety of topics, including anti-bullying, anti-cyberbullying, Pillars of Character, study and organization skills, and growth mindset.
    - Challenge Day, where 7th-graders participate in a nationally-recognized program devoted to building connections between students and developing empathy for their peers.
    - Ohana Day, where 8th-graders work in teams to build community and understand their responsibility to be campus leaders and role models. Counselors/psychologists provide group counseling for emotionally fragile students.

## Pillar III: Provide Effective Environmental and Sustainability Education

### *Element IIIA: Interdisciplinary Learning*

- CMS offers a unique, comprehensive curricular program for its students supported by MEarth, the school's nonprofit partner. Environmental and sustainability concepts are integrated in multiple disciplines with a goal that each student understands that every choice he or she makes has an impact on our planet's health.

- The school's hallmark environmental program is called "Ecoliteracy," a six-week required course for all sixth-graders. Ecoliteracy focuses on learning about threats to biodiversity such as habitat destruction, invasive species, human population, pollution, and overharvesting. In addition, there is a strong emphasis on reduction and elimination of single-use plastic and watershed/ocean protection. Ecoliteracy lessons also include the study, harvesting, and cooking of fresh, local, organic, seasonal, and sustainable foods utilizing the Habitat's organic garden and orchard and the LEED-certified green classroom.
- Ecoliteracy students run the classroom recycling program as well as the lunch waste diversion program that separates bottles, cans, compost, paper serving boats, and chip bags from the waste stream. Students check the numerous campus recycling bins every morning. All compost is taken to the Habitat where Ecoliteracy students are responsible for turning and managing the compost that is used in the organic garden and orchard. On Wednesdays, Ecoliteracy students collect recycling from every classroom and every office. All recyclables are collected and redeemed for cash, which is then donated to a worthy, environmental cause.
- A prevalent theme in Ecoliteracy is environmental advocacy, encouraging students to understand issues, determine a position, and firmly act on what they believe to be the right course of action. CMS also offers a "Nature Studies" elective class where students learn about local wildlife in a hands-on way. Working outside, students discover, identify, and learn the stories of hundreds of birds, amphibians, insects, wildflowers, and other critters. Activities include bug collection and identification, creating bird field guides, making nature videos, and conducting scientific studies.
- CMS science teachers utilize the Habitat's native plant nursery and grounds for the study of botany, plant structure and species, photosynthesis, salmonid life cycle, watershed protection, and ocean protection. Science students participate in Cornell University's FeederWatch Program studying bird species and monitoring bird counts.
- An exceptional and highly successful Social Studies and English-Language Arts cross-curricular program engages students in hands-on learning of ancient history in nine individual units throughout the academic year. As examples, students conduct an irrigation simulation of the Mesopotamia time period, make reed boats to replicate Egyptian means of transport and, in the study of Ancient Greece and culture, plant fava beans in the fall, harvest the beans, and prepare fava bean hummus in the spring.
- Other programming includes World Languages, with Chinese, Spanish, and French lessons held in the Habitat with each student participating in three, 2-day hands-on cultural cooking lessons during the academic year. Students work in teams to cook regional specialties such as ratatouille, fruit crepes, fried rice, tortillas, and black beans as they learn vocabulary and practice speaking the language.
- CMS has an active Environmental Club mentored by a teacher with a strong interest and commitment to environmental stewardship. This amazing group of students has led school-wide education efforts regarding recycling and reduction of single-use plastics and worked with a local business, EcoCarmel to provide reusable lunch containers for every CMS student. Since 2009, the Environmental Club has assisted CMS in earning NOAA's Ocean Guardian School status. These students make presentations at The Gathering (a weekly assembly of all CMS students), participate in Zero Waste Week Lunch activities each March, and through their efforts, reduced the school's use of single-use plastic baggies by more than 10% between the 2012-13 and 2013-14 school years.

- Recently, the Environmental Club made a presentation to the District Superintendent and head of Food Service, advocating for the elimination of single-use plastic water bottles and use of compostable or recyclable serving solutions in the cafeteria. As a result, all plastic water bottles will cease to be sold in the cafeteria starting in 2015 and food service is exploring alternative serving plate solutions.
- In terms of assessment, CMS has endeavored to better understand the long-term impacts of environmental education on its students. Through a Master's Program Capstone Project with the University of San Francisco, the current Executive Director of MEarth evaluated the short-and-long-term impact of CMS's and MEarth's programming on students and their families. Measuring self-reported changes in specific environmental behaviors and knowledge/attitude outcomes, the data suggested CMS and MEarth programs are positively impacting student eco-behaviors, which in turn positively influence eco-behaviors in their homes. Conducted in January 2014, CMS students (with an 84% response rate), Carmel High School students (with a 60% response rate), and parents were surveyed. Researchers found the eco-behaviors and actions taught to CMS students continued through their high school years, demonstrating impact and relevance. Across all groups and timeframes, programs had a significant impact on behavioral outcomes related to refusing single-use plastics and growing/purchasing/cooking with organic and local food choices. Data also indicated programs resulted in greater interest by students in appreciating nature and the outdoors, and learning more about wildlife, native plants, habitat restoration, watersheds, and ocean protection.

### *Element IIIB: STEM Content, Knowledge, and Skills*

- CMS uses sustainability and the environment as a context for learning science, technology, engineering, and mathematical thinking skills and content knowledge. In science, 6th-graders learn, discuss, and design posters to promote water conservation at home and school; they count and graph the migration patterns of birds; and through Cornell University's Ornithology Program's FeederWatch, students conduct scientific observations and use spreadsheets to record and analyze bird behavior and biology. 6th-graders also map the Carmel River Watershed; learn the different stages of the lifecycle of steelhead; and learn about ocean currents, gyres, and the Great Pacific Garbage Patch. 7th-graders use Citizen Science programs to learn about native plants and botany, and document plant changes over time. Monterey Bay Outdoor Education (MBOE) trips focus on geology, marine biology, and ecology with visits to the Carmel River, Elkhorn Slough, wastewater treatment plant, and Point Lobos. Winter Outdoor Education (WOE) trips provide a winter mountain experience that includes instruction in geology, zoology, ecology, and astronomy. They also participate in riparian plant identification and water-quality measurements at Garland Ranch Regional Park and the Carmel River.
- In the area of technology, the green classroom offers real-time monitoring of energy and water use/generation through the Lucid Building Dashboard, which also captures photovoltaic and solar-thermal power generation, weather statistics, and rainwater catchment totals.
- In engineering, students work on restoration projects developing site plans and monitoring implementation, build Felucca boats (Egyptian studies) that must float, and replicate irrigation practices in Ancient Mesopotamia by building water channels. Students learn about the rainwater catchment system on the green building and its laundry-to-landscape greywater recycling system, as well as the siting/daylighting of the building.

- In math, every cultural cooking and Ecoliteracy class requires students to scale recipes to the group size. Students measure water quality in the Carmel River. Native plant demonstration gardens and the wildlife that live there provide a backdrop for students to develop monitoring and data collection skills.
- CMS also uses sustainability and the environment as a context for learning green technologies and career pathways. The Silver, LEED-certified classroom provides a natural context to learn about green technologies. Ecoliteracy students are introduced to sustainable building practices and green technologies as part of their 6-week lessons and activities, all held at the Habitat and within the green building. The building is constructed with sustainable materials, includes passive solar design and heating and a living roof, and exemplifies the use of sustainable resources for cabinetry, flooring, wall surfaces, countertops, lighting, and equipment (such as energy-efficient washers, dryers, refrigerators, cooktops, and stoves).
- CMS supports the annual “MEarth Day” at the Hilton Bialek Habitat, the area's large, sustainability fair in April for Earth Day, which brings sustainability products, businesses, and services together to showcase green technologies and jobs in emerging related fields. This event drew over 1,000 students and adults last year and confirms that the CMS Habitat and green building are the community's go-to resource for sustainability information and models.

### *Element IIIC: Civic Knowledge and Skills*

- The CMS Student Environmental Club has a strong community ethic, providing education to students and parents on the environmental impact of single-use plastics, advocating to school leadership, and leading the school's Zero Waste Week Lunch activities, which resulted in a 10% reduction in the use of single-use plastic between 2012-13 and 2013-14. The Club donated all recycling proceeds to Heifer International, a nonprofit working to eradicate poverty and hunger. The Club's efforts have resulted in the decision to stop selling single-use plastic water bottles on campus beginning in 2015. CMS's Environmental Club has exhibited at the annual MEarth Day, interacting with attendees and showcasing their environmental achievements at the school.
- The 7th-grade MBOE program includes both an advocacy element, with students conducting letter-writing campaigns to local officials on issues related to watershed health, ecology, and marine stewardship; and service learning projects that focus on restoration of the environment. For example, students remove invasive species and learn the importance of ecology restoration at the Elkhorn Slough.
- Ecoliteracy classes for all 6th-graders teach students that they have a voice and role to play in environmental stewardship. Students have conducted letter-writing campaigns in support of a plastic bag ban in local cities and increased native plant restoration in the area.
- In partnership with California State Parks and the Monterey Peninsula Regional Park District, 7th and 8th-grade students participate in restoration activities at Marina Dunes State Beach, Odello Fields, and Garland Park.
- CMS's annual Serve-a-Thon is a PTO-sponsored community service fundraiser with students (of all grade levels) obtaining financial sponsorships from individuals and businesses in exchange for community engagement projects at the school and in the broader community. Environmental projects include beach clean-ups, restoration, and work in the organic garden.

- Meaningful, hands-on outdoor learning is a priority for all grades. 6th-grade Ecoliteracy involves students in daily Habitat visits to learn about biodiversity, habitat loss, invasive species, population impacts, pollution, and overharvesting. Students manage composting, collect school recycling, and learn the importance of bees, birds, mammals, and insects as environmental indicators. Students plant, harvest, and cook fresh, seasonal, and organic foods, thus raising their awareness of food miles, good nutrition, and consumer choice.
- In the 6th-grade Social Studies classes, students are better able to understand ancient history when they visit the Habitat and replicate historical foods, lifestyles, and customs of different cultures.
- All 7th-grade science classes include up to 16 days of outdoor education at the Habitat. Lessons include scientific observation of bird species behavior and biology, the study of photosynthesis and plant structure, function, and diversity. Students also learn genetics (cloning by making cuttings of willow trees) and evolution (nature vs. nurture by looking at the same species at different locations), conduct controlled scientific experiments, and participate in native plant propagation and restoration activities.
- The 7th-grade field trip to Garland Ranch Regional Park provides hands-on ecology lessons identifying riparian plants and taking water-quality measurements from the Carmel River. The three-day MBOE takes 7th-grade students to local sites to learn about marine biology and ecology. At Elkhorn Slough, for example, students write in journals about the importance of wetlands and physically remove the invasive Vinca plant.
- Using an air pressure rocket, 8th-grade students study the relationship between pressure and height of flight in an outdoor lab; they also propagate native plants. The 8th-grade Lava Beds National Monument field trip provides a 5-day science immersion experience to learn high-desert ecology, wildlife, natural and human history, and geology.
- Outdoor learning is at the heart of student programming and field trips. In the study of Mesopotamia, students work in teams to create city-states along a hand-forged river bank, build irrigation systems, vie for water, and experience how conflicts grew along the shores of the Tigris and Euphrates Rivers. Students make flatbread as they simulate the flight of the Israelites from Egypt in the Exodus, when there was no time for bread to rise. To better understand early-human culture and practices, students create an artifact in the same way an early hominid might have done, bury the artifact in a plot of land, dig from another class's plot, and then classify the hominid based on clues from the artifact.
- The Nature Studies class affords students the opportunity to learn about nature, plants, wildlife, insects, and bees, with students creating bug collections, conducting aphid studies, creating bird field guides, and participating in scientific investigations. Nature Studies also teaches art through scientific illustration and crafts such as embroidery, photography, and book making. Art teachers utilize the natural, inspirational setting of the Habitat to sketch trees year-round.
- In the field of Science, teachers create outdoor lessons in biology, botany, genetics and evolution, scientific experimentation, and participate in Citizen Science projects through the study of the watershed, water cycle, native plant propagation and restoration, and ornithology. Because outdoor education lessons are labor intense, CMS engages the parent community and community partners in helping with programming and classroom support. MEarth has hosted numerous sustainable living workshops for adults in the broader community, including native plant gardening, green retrofits, non-toxic cleaning supplies, edible landscaping, recycling, and home compost systems.

- CMS's key partner in support of the Three Pillars of U.S. Department of Education Green Ribbon Schools is MEarth which, with its focus on environmental teaching and sustainability, touches the lives of district students (some 1,000 annually), teachers, and the parent community. MEarth also serves the communities of Seaside, Marina, Monterey, and Salinas in Monterey County. With the support of CUSD, MEarth brings environmental and sustainability education to underserved students and family members throughout the year, serving approximately 975 youth and their families.
- CMS and MEarth share many partnerships within the local community, including but not limited to:
    - NOAA and their Ocean Guardian Program;
    - The Ventana Wildlife Society, presenting the topic of condor conservation to the student body;
    - California State Parks and Monterey Peninsula Regional Park District, for field trips and restoration opportunities;
    - Elkhorn Slough Estuarine Research Reserve, for field trips and service learning projects;
    - The Monterey Audubon Society, supporting bird-related programming;
    - The Monterey Bay Aquarium; for field trips and teacher professional development; and
    - EcoCarmel, a local business offering sustainable, eco-friendly products.
- In support of two key MEarth programs, ClassroomConnect (where teachers work hand-in-hand with MEarth staff to bring traditional classroom learning to life with memorable, hands-on custom curricula) and FoodConnect (immersing students across the grades in the simple joy of learning how to grow, harvest, and cook foods that are healthy for both the people who eat them and the land on which they are grown), numerous local chefs and restaurants partner with the school. In addition, CMS has long-term partnerships with the California Native Plant Society (invasive species removal and restoration activities), CSU Monterey Bay (undergraduate student service learners), and the Monterey Institute for International Studies (work-study graduate students).
- In 1998, the original Habitat founder, CMS Science teacher Craig Hohenberger, and a small team of peers began working on a 10-acre piece of fallow land adjacent to the school in an effort to establish an outdoor living laboratory for students to study ecology, botany, ornithology, and biology in the natural world. Under the fiscal sponsorship of CUSD, Hohenberger and a parent volunteer began to raise money through grants and foundations to develop the educational infrastructure of the property, engaging the broader community in its efforts, to include: California native plant demonstration gardens, greenhouses, a pond (for habitat exploration and scientific study, such as the endangered red-legged frog and aquatic ecosystem), native grasslands, outdoor amphitheater/bird habitat, and organic/edible gardens. This one-of-a-kind learning resource became affectionately known to the students and community as “The Habitat.” Programmatic offerings took shape beginning in 2003, offering classes in hands-on watershed science/ecology/botany, French/Spanish/Chinese cultural cooking, historical cooking, language arts, as well as the cornerstone of the program, a required 6-week class for CMS 6th-graders called Ecoliteracy. Building upon the success and desire to expand programming, a $1.2 million LEED-certified, multi-purpose 1,600-square-foot classroom was built by CUSD. For almost two decades, CMS has supported its students and teachers in integrating sustainability education and hands-on environmental learning into core curriculum through expansive outdoor education activities, coupled with a focus

on fostering the next generation of environmental leaders with a strong service ethic and sense of civic responsibility.

Clockwise from bottom: Exterior of the 1,600 square foot Silver LEED-certified classroom at the Habitat; Students preparing the ground to bury hand-made artifacts in the study of early cultures; Interior of the Habitat's culinary classroom, featuring energy efficient appliances and lighting and eco-friendly and recycled materials.

Clockwise from bottom: Students planting native plants, propagated by them, on the Habitat property; Students journaling to document scientific observations on an ocean field trip; Students conducting water sampling in the Habitat's pond; Students handling the recycling of bottles, cans, chip bags, and compostables; Students conducting hands-on science experiments in the Habitat's native plant nursery.