U.S. DEPARTMENT OF EDUCATION

GreenRibbonSchools

2015-2016 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. The Department of Defense Education Activity (DoDEA) is not subject to the jurisdiction of OCR. The nominated DoDEA schools, however, are subject to and in compliance with statutory and regulatory requirements to comply with Federal civil rights laws.
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 2015-2016

☐ Public ☐ Charter ☐ Title I ☐ Magnet ☒ Private ☐ Independent ☐ Rural

Name of Principal: **Mrs. Pam Shay**

Official School Name: **Bishop O'Dowd High School**

Official School Name Mailing Address: **9500 Stearns Ave, Oakland, CA 94605**

County: **Alameda** State School Code Number *: **01 61259 6932784**

Telephone: **510-577-9100** Fax: **510-638-3259**

Web site/URL: http://www.bishopodowd.org/ E-mail: pshay@bishopodowd.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.

Pam Shay
Principal's Signature) Date: 1/26/2016

U.S. DEPARTMENT OF EDUCATION

GreenRibbonSchools

Name of Head of School: **Dr. Steven Phelps**

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

Stephen W Phelps Date: 1/26/16

Head of School'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**

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

Tom Torlakson Date: **January 28, 2016**

(Nominating Authority's Signature)

SUMMARY AND DOCUMENTATION OF NOMINEE'S ACHIEVEMENTS

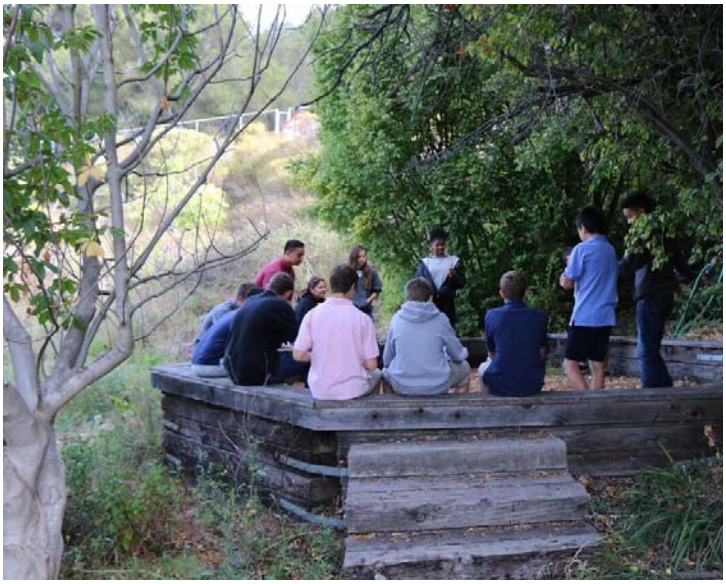
Provide a coherent summary that describes how your school is representative of your jurisdiction's highest achieving green school efforts. Summarize your strengths and accomplishments in all three Pillars. Then, include concrete examples for work in every Pillar and Element. Only schools that document progress in every Pillar and Element can be considered for this award.

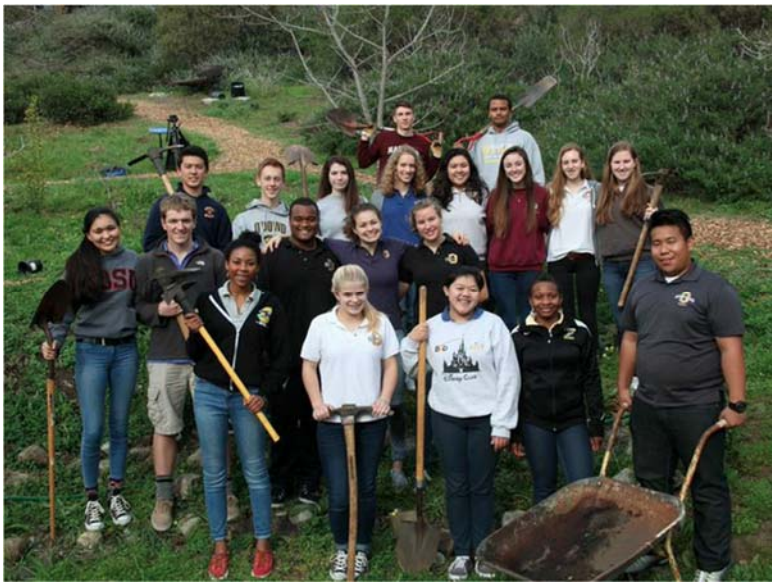
SUBMISSION

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 ed.green.ribbon.schools@ed.gov according to the instructions in the Nominee Submission Procedure.

OMB Control Number: 1860-0509
Expiration Date: March 31, 2018

Public Burden Statement





Bishop O'Dowd High School

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

Prepared by
California Department of Education
School Facilities and Transportation Services Division
http://www.cde.ca.gov/ls/fa/sf/greenribbonprog.asp
January 2016

PART II – SUMMARY OF ACHIEVEMENTS

Bishop O'Dowd High School, Oakland, Calif.

Bay Area private school aims for Zero-Net Energy by 2025

Bishop O'Dowd High School is a Catholic, coeducational, college preparatory high school administered by the Diocese of Oakland. As part of its mission to prepare skilled leaders committed to justice, peace, and the values of the Catholic Church, O'Dowd is committed to being a sustainable school and was recognized as a California Green Ribbon School at the Gold Level (2015) and the Silver Level (2014).

Sustainability programs and initiatives at O'Dowd are built around a clear vision for what sustainability is, and how it connects to a Catholic identity. O'Dowd has adapted the Nested Triple Bottom Line (TBL) Framework to connect directly with its core values (charism). O'Dowd also uses the Four-Cs Sustainability Framework (adapted from the Sustainable Schools Project and Plymouth University) to guide their approach to "greening" the campus and operations; infusing sustainability into the curriculum and educational programming; engaging the community; and integrating sustainability into the overall culture. Ultimately, O'Dowd's approach to sustainability aims to equip students with the tools, resources, and life experiences to create an environmentally sustainable, socially just, and economically viable world.

Despite having a long history of being committed to environmental education, with the 2013 hiring of the first full-time high school sustainability director in Northern California, O'Dowd's commitment to sustainability has become more tangible every year. Campus initiatives outlined in the 2014 Sustainability Management Plan (SMP) point to concrete examples of how O'Dowd has begun to shift the behavior and culture so that students and faculty/staff are able to "walk the talk" of sustainability each day.

The SMP identifies school-wide benchmarking, long- and short-term goals, implementation steps, evaluation metrics, and responsible parties. Energy is part of the SMP's Resource Conservation section, with a goal to be Zero-Net Energy by 2025. Currently, nearly 250 on-site solar panels meet approximately 10% of the energy demand. In 2015, O'Dowd partnered with Carbon Lighthouse to do a comprehensive energy audit and to create an energy action plan to be carbon neutral; the plan is scheduled to be implemented in 2016.

O'Dowd's Center for Environmental Studies (CES), completed in 2014, is a LEED Platinum certified building. The campus also supports a four-acre "Living Lab" that has undergone ecological restoration annually since 2000 and received Bay Friendly certification and Wildlife Habitat Certification. The Living Lab features four different local ecosystems—chaparral, oak woodland, redwood, and riparian pond zone—and bee hives, chickens and rabbits, edibles, and water catchment systems. It is used for field research, experiential learning, and spiritual meditation. The rainwater harvesting capacity at the school exceeds 25,000 gallons.

Large and small sustainability projects help O'Dowd actively reduce its ecological footprint, save money, and create lasting social change. The 2015-16 school year has been about moving beyond the low-hanging fruit (e.g., sorting waste correctly, implementing a green cleaning program, etc.), and going after the harder-to-tackle objectives such as shifting purchasing habits and engraining sustainability decision-making into the smallest of renovation projects. Green Gloves, a 2015 partnership with Clean Water Action's ReThink Disposable project, replaced

disposable plates and bowls in the cafeteria with reusable baskets, reducing solid waste by 3,376 pounds per year.

The commitment to weaving Education for Sustainability (EfS) throughout the O'Dowd curriculum has also begun to take form as the 9th grade curriculum transitions to taking a deeper look at sustainability topics and issues through the lens of multiple subject areas; and as teachers at multiple grade levels begin experimenting with different EfS techniques and topics. In 2013 and 2014, community engagement on sustainability topics and issues was sometimes met with resistance, but 2015 has proven to be a turning point in these efforts as more and more teachers and staff members have come on board to transform programs and curriculum, and attendance from students and parents at sustainability-related activities and events has increased significantly.

All 9th graders at O'Dowd take "Science and the Environment," which is an interdisciplinary science course that teaches biology, physics, earth science, and chemistry through the lens of environmental science. O'Dowd's Sustainability Certificate Program has place-based environmental education at its core. Students do this hands-on learning in three different tracks: Community Impact Certificates are focused on initiatives on campus or in the greater Bay Area community; Living Lab Certificates utilize the four-acre Living Lab to establish a strong foundation in ecology and provide intense training, knowledge, and skills related to edible and wildlife gardening, animal husbandry, and resource systems; and Junior Ranger Certificates focus on students becoming well-versed in local hiking trails, basic wilderness and outdoor survival training, and wildlife restoration.

O'Dowd has eagerly stepped forward to be leaders of a sustainable paradigm shift, and is excited to see what can be accomplished in the future.

PART III – DOCUMENTATION OF STATE EVALUATION OF SCHOOL NOMINEE

Pillar I: Reduce Environmental Impact and Costs

Element IA: Energy

- O'Dowd adopted a Sustainability Management Plan (SMP) in 2014 to manage campus initiatives. The SMPs calls for benchmarking, long/short term goals, implementation steps, evaluation metrics, and responsible parties. Energy is part of the SMP's Resource Conservation section - goal to be Zero-Net Energy (NZE) by 2025. In 2015, O'Dowd partnered with Carbon Lighthouse to do a comprehensive energy audit, and to create an energy action plan to be carbon neutral - scheduled to implement in 2016.
- O'Dowd calculated a 5% reduction in GHG emission calculations from September 2013 through December 2015. Calculations include Scope 1, 2, and 3 emissions based off of ENERGY STAR Portfolio Manager data, Solar Panel dashboards, and internal transportation survey data.
- The school documents a 1.5% reduction in non-transportation energy use from 9/2013 to 12/2015 calculated through PG&E data analysis, ENERGY STAR Portfolio Manager, and Enphase/Powersise Solar Dashboard data. Additional data for analysis came from a Carbon Lighthouse Energy Audit.
- The Center for Environmental Studies (CES) has 46 Solar Panels (PV). It is a 1.4kW system that produces 60-70% of the energy required for the building and 2% of overall campus. The classroom building has a shade awning solar installation (complete

summer 2015) with 198 solar panels (PV). This produces about 8% of the energy of the overall campus.

- PG&E has 19% of their mix from renewable energy sources, which is applied to all PG&E customers. Oakland currently has no Community Choice Aggregation (CCA) options for renewable energy sources, but in early 2016 PG&E will have a Solar Choice Program (PG&E and Regional) where customers can purchase 50% or 100% of energy from renewable options. With the help of Carbon Lighthouse, O'Dowd will be choosing between the Solar Choice and Carbon Allowances as of February 2016.
- Recent energy projects include:
    - Summer 2015: Installed a shade awning structure with 198 solar panels on the south side of the main classroom building, with a goal of reducing classroom temperatures by 7-10 degrees while generating more on-site renewable energy.
    - May 2014: CES construction complete on the 5,553 square feet (5% of overall campus) - LEED Platinum certification awarded in Jan. 2015
    - Main classroom building: retrofit areas are 20% of the 74,256 square feet: windows double pane e-glass, T-12 lighting with T-8 and T-5 energy efficient lighting, and some LED. Bathroom renovations included changing out faucet aerators, toilets to low-flush toilets, and waterless urinals.
    - Pursuing Green Business Certification.
- The CES has a cool roof, and the surrounding pavements are made up of permeable pavers, native and drought tolerant landscaping, and mulch, which reduce the heat island effect and restore biodiversity. This serves as a model for future master plan changes on the rest of the campus.
- 1) Energy monitored (gas and electric) through ENERGY STAR Portfolio Manager, PG&E's online usage tracking, and use Powerwise and Enfase to track solar installation. 2) Retrofits include: - Lighting Retrofits – 99% complete: All T-12s replaced with T8/T5 CFL tubes. All individual CFLs and incandescent bulbs replaced by LEDs. - Natural Gas: Replaced one boiler (four total) with a high-efficiency ENERGY STAR boiler. And changed out radiator control panels in classrooms to allow for individuals to turn down (or off). 3) Planted shade trees around the classroom building to keep classrooms cool.

Element IB: Water and Grounds

- Water use has been tracked with EBMUD utility bills and on an internal water tracking system. Despite two major leaks over the summer of 2015, O'Dowd was able to reduce water use slightly. Sub-metering for major aspects of irrigation water use began in August 2015.
- At least 70% of the school's landscaping is water-efficient and/or regionally appropriate.
- Mulch is used regularly on all campus landscaping for water conservation, but with a heavy emphasis in the Living Lab Ecosystems and trails. On-campus mulch conserves water by substantially retaining soil moisture, slowing erosion, slowing evaporation, and protecting roots from overheating. O'Dowd produces its own mulch on campus through an onsite compost system, and teaches about the magic of mulch in the Living Lab ecosystems certificate.
- 85% of the four-acre Living Lab is dedicated to native and water-efficient plants (the rest is an edible garden): trees, shrubs, perennials/annuals. Examples include: Arbutus Menziesii - Madrone (tree), Quercus agrifolia - Coast Live Oak (tree), Juglans californica - California Black Walnut (tree), A. Californica - California Sagebrush (shrub). The Living Lab has undergone ecological restoration annually since 2000, and has been awarded

Bay Friendly certification and Wildlife Habitat Certification. The CES landscaping is 100% native and drought-tolerant (similar plants to Living Lab), 60% of the main campus plants are native or water-efficient.

- During storms, rainwater from the main classroom building roof fills three 7,000 gal underground cisterns that top off the Living Lab pond and serve the Living Lab. A water cistern in the lower Living Lab garden waters the edible garden.
- At least 40% of the school site is permeable. The CES has bioswales, rain gardens, and permeable pavers that slow down and reroute stormwater into vegetation and permeable areas. The CES also has a 4,300 gallon rainwater harvesting system connected to the roof, which catches rain from storms (and precipitation). This water is used for flushing toilets in the CES. In the Living Lab, overflow moves through the pond, marsh, and swales to trees at the lower property. Non-vegetated areas are covered in jute net and/or hydroseeding.
- O'Dowd has been working on water conservation efforts for many years, but with recent Stage 4 water restriction goals, the school looked for a more impactful way to cut water use. In summer 2015, 11,000 square feet of water intensive lawn was replaced, with the goal of cutting 60,000 gallons of water use per year. Additionally, large sections of water-intensive landscaping around the classroom building were replaced with native and drought tolerant landscaping.
- To comply with California Bay Area Green Business certification standards, indoor water fixture were also upgraded: showerheads (2.0 gal/min); kitchen faucets (1.5 gal/min); bathroom faucets (1.0 gal/min); low-flush toilets (1.6 gal/min); and waterless urinals. O'Dowd has two sets of rainwater catchment – one 4,500-gallon system for flushing toilets at the CES, and three 7,000-gallon tanks for the Living Lab. Water usage is tracked weekly via a sub-meter at the Living Lab, to monitor for leaks and to reduce overall water usage.
- 30% of the school grounds are devoted to ecologically beneficial uses. The four-acre "Living Lab" is a certified wildlife and native plant habitat that features four different local ecosystems (chaparral, oak woodland, redwood, riparian pond zone) bee hives, chickens and rabbits, and edibles, and water catchment systems. It is used for field research, experiential learning, and spiritual meditation. It has earned Bay Friendly Certification and Wildlife Habitat Certification. The Bay Vista Terrace and classroom building landscaping are additional native habitat spaces.

Element IC: Waste

- 51% of solid waste is diverted from landfilling or incinerating due to reduction, recycling, and/or composting.
- Students and Living Lab Staff manage O'Dowd's on-site closed loop compost system. The inputs come from the fresh cuts (fruits and veggies) in the cafeteria, plant material clippings, chicken coop and rabbit hutch droppings, and occasionally paper products. This is mixed and turned regularly in a three-bin compost system, and applied directly back in the edible garden. The compost system is a main feature in the Living Lab Certificate program and in 9th grade Science and Social Studies curriculum.
- O'Dowd partners with Waste Management for processing other organic materials (e.g., food scraps, soiled paper products, weeds and large plant materials, etc.). A tri-bin set-up is part of every waste station, so the diversion of organic materials is high. Waste Management donates mulch back to the school to be used on campus landscaping. Davey Tree also provides mulch for the Living Lab and CES trails.

- 100% of the school's total office/classroom paper content is postconsumer material, fiber from forests certified as responsibly managed, and/or chlorine-free
- O'Dowd has the goal of being zero-waste by 2025. A first step to accomplishing this was establishing a tri-bin waste system, with landfill, recycling, and compost/organics at every station with clear sorting guides. Every month staff tracks how often the dumpsters are picked up (2-3 times a week), and how full they are when they are picked up. Twice a year, they track how accurately waste was sorted during a 3-4 week period.
- The majority of toxic waste on-site comes from household batteries, fluorescent light bulbs, paint, and aerosol cans. Some waste is also generated in the Chemistry Lab science program. O'Dowd uses a permanent Federal EPA ID # to bring hazardous waste to the Alameda Household Hazardous Waste facility four times a year. Examples include fuels and motor oils, fluorescent bulbs, and Chemistry Lab chemicals.
- O'Dowd provides annual training for staff and students on sorting at the tri-bin waste system, participates in Green Alliance's Green Cup Challenge, and administers an in-house "Green Gloves" program, a partnership with Clean Water Action's ReThink Disposable project (2015) to reduce disposable plates/bowls in the cafeteria by replacing them with reusable baskets, reduced 3,376 pounds of waste a year.
- Scratch paper reuse boxes are located in copy rooms. Plastic water bottles are banned on campus. The school hosts two annual e-waste drives in addition to toner/ink recycling and ongoing small device drop.
- O'Dowd has a comprehensive Sustainability Purchasing Policy. Currently the following are in place:
    - Office Products: recycled paper, PaperCut system on copy machines (reduce unnecessary copying), ink/toner recycling program, refillable ink for dry erase markers, new purchases (scissors, staplers, etc.) made with recycled materials
    - Other Paper Products: tissues, paper towels and toilet paper EcoLogo Certified
    - Food: Contract with Epicurean, who purchase fresh, seasonal, and some organic produce within a 100 mile radius
    - Snacks and Beverages: Fair Trade coffee and teas; Fair Trade chocolate candy grams for ASB Christmas and Valentines activities; Candy dishes have Fair Trade or organic candies; sustainable snack purchasing guide for all other snacks (ex: chips, crackers, bars, etc.) and beverages (soda and juice)
    - Apparel in school store (Dragon Den) adhere with Fair Trade purchasing policy
    - Plastic Water Bottle Ban (implemented summer 2015).

Element ID: Alternative Transportation

- O'Dowd tracks walkers (1%), bicyclers (1%), carpooling (32%) and bussing (13%). The school conducts an extremely comprehensive annual transportation survey of the entire student body and faculty/staff, calculating GHG emissions based on travel distance and vehicle type. Data can be broken down by grade level and separated from faculty and staff data. This shows that O'Dowd freshmen take the most sustainable means of transportation to school.
- O'Dowd has a well-publicized no-idling policy that applies to all vehicles including school buses. School busses (and any other commercial vehicles) are prohibited from idling for more than 30 seconds within the school zone, and for no more than 5 minutes in other locations.

- Three secure bicycle areas and skateboard storage racks are available to encourage bicycling or skating to school. Bike/lock-up areas on campus were increased to include high visible, easy-to-access areas.
- Security guards guide people daily through the loading zone areas, which are 25 feet from the main classroom building.
- O'Dowd has installed new electric vehicle charging stations (for four cars) in the main parking lot, and has two more in the Cummins Hall Garage. The school actively encourages the use of electric vehicles. The on-campus fleet of custodian and maintenance vehicles is comprised of electric golf carts.
- O'Dowd is predominately a commuter school, with kids coming from all over the Bay Area. Two routes on the public bus system bring students directly to school, and a "safe route" shuttle brings students to and from BART. A comprehensive carpool program allows for safe routes to school by matching available parent and student drivers with students in their neighborhood who need a ride. In addition to all of the above, students travel in vans and busses to events, which is more efficient than multiple cars.
- O'Dowd publishes Spare the Air alerts on the website portals and partners with Carpool-To-School to promote environmentally-friendly transportation. S4S hosts annual transportation awareness in spring that aligns well with national carpool, bike/walk, and public transportation campaigns. Additionally, staff/faculty members partner with "Bike East Bay" to promote the annual bike to work day in May.

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

Element IIA: Environmental Health

- O'Dowd has a written Integrated Pest Management (IPM) plan. EcoLab does routine monthly inspections of kitchen/cafeteria and other campus areas, and records visits in a log. Rodents: First Strike bait traps in lock box stations outside kitchen. Cockroaches: Vendetta or Eco 2000-xp bait traps. Ants: Termidor spray 2x/year.
- O'Dowd 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.
- The school has good acoustics. The PA system is in the less than 45 dBA range, and the CES has LEED-certified acoustics in the less than 45 dBA range.
- Classrooms also have good natural lighting, especially in the CES building, reducing the need for artificial overhead lights. High-quality T8 and T5 overhead electrical lighting on AB switches allows use only when and where necessary.
- Humidity control is done through natural ventilation, fans, and radiators; O'Dowd does not use forced air for heat or air conditioning.
- Classrooms have views of nature, looking out onto a beautiful hillside of pine trees and native landscaping. Students can also see the Living Lab and Knowland Regional Park. The view from the north side of the building looks out onto the entire Bay Area.
- O'Dowd has installed local exhaust systems for major airborne contaminant sources. Local exhaust systems are used in the kitchen, science and art rooms, and bathrooms. The CES and main classroom buildings also have an exhaust system that is used to flush out the building at night. Biannual surveys are performed ventilation systems, resulting in biannual or annual filter change.

- O’Dowd uses toxic-free green-certified cleaning chemicals in its cleaning program. Entryways have high-quality mats (according to LEED certification) that aim to reduce the amount of outdoor allergens tracked into the indoor environment. Landscaping around campus is increasingly native, which reduces asthma triggers to non-native pollen plants. During renovations, O’Dowd tests for mold, asbestos, and allergens.
- O’Dowd routinely checks for leaks in all heating systems, and has replaced and repaired all the steam and plumbing in the gym, main classroom building, and administration buildings.
- The school purchases lead-free paint and ensures that water is lead-free. Lead is removed if exposed during renovation projects. Site soil in the Living Lab is tested by science classes on a bi-annual basis for contaminates.
- 90% of East Bay MUD’s (EBMUD) water is from the Mokelumne River watershed (90 miles away in the Sierra Nevada). Three aqueducts protect from pesticides, agricultural and urban runoff, municipal sewage and industrial discharges. Local watersheds provide 10% of the water supply.
- EBMUD's lab tests water samples daily checking for trace organics (pesticides, metals, lead, and microbes). They meet or surpass state and federal EPA requirements every day, and will come test site water if there is ever a concern about lead.
- O’Dowd contracts with San Francisco-based custodial company No More Dirt, a green cleaning company that controls exposure to chemicals significantly. They have regular trainings on how to use products, and the safest procedures. Chemistry labs and kitchen areas are well-ventilated, and custodians and teachers have received proper training. EcoLab, the pest management provider, uses lock box stations for bait traps so that no staff or student is exposed, and when they spray for ants it is during summer or winter break. Floor mats minimize tracking of chemicals.
- No More Dirt also has a green cleaning policy and a high-performance cleaning program that is aligned with USGBC LEED certification requirements. They use equipment and products that are environmentally preferable and non-toxic, and have a strong social justice policy for employees. They also comply with the CDPH Guide, “Healthy Cleaning and Asthma-Safer Schools.”
- 85% of all cleaning products are third-party-certified as green. Green cleaning chemicals, disinfectants, metal polish, floor finishes and strippers used include GS-37 and GS-40; and Environmental Choice CCD-110, CCD146, CCD-148, CCD-112, CCD-113, CCD-115, CCD-147. These products are aligned with USBGC LEED certification requirements and Bay Area Green Business Certification.
- Safety: The facilities team and a dean or vice principal does a once-a-month walkthrough with an administrator to check for safety issues including environmental health. This means that there are three pairs of eyes looking at the facility and checking for safety issues.
- EPA IAQ Tools: O’Dowd conducted an IAQ survey of the newest CES building after the 2014-15 school year and implemented an IAQ survey of faculty/staff, using the data to inform decision-making on the Solar/Shade Awning project on the south side of the classroom building. The main focus of that project was to reduce temperatures in those classrooms on hot days by 7-10 degrees. Indoor plants: There are live plants throughout the indoor buildings, with a special emphasis to promote plants that bring a healthy indoor environment.
- O’Dowd actively seeks to protect outdoor environmental quality. This can be seen with all of the ecological restoration efforts in the Living Lab, and in the commitment to

converting hardscape areas to native/drought tolerant landscaping. Additionally, every December, there is an annual tree planting that takes place on different areas throughout the campus. December 2015 featured a Mediterranean Orchard planting.

Element IIB: Nutrition and Fitness

- Epicurean Group is the school's breakfast, lunch, and events catering group. They have a strict food purchasing policy that is environmentally preferable and healthy. Their Farm to School program requires all produce, meat, poultry, and eggs to be sourced from local farms and ranches (within 150 miles), with the majority being organic. Meals are fresh and seasonal, with a rotating menu. Epicurean provides ongoing nutrition education to the community. The edible vegetable garden and orchard supply produce to Epicurean weekly for Living Lab soup and entree (once per week). This promotes a micro Farm-to-School experience and has O'Dowd participating regularly in California Thursdays and Green Mondays.
- The four-acre Living Lab (school garden) is maintained by students, staff, and families in a number of programs: Wednesday Weeding, Thursday Afternoon Volunteering, and monthly Saturday work parties.
    - The Living Lab edible garden and orchard supply produce for participation in California Thursdays and Green Mondays.
    - A new program piloted in 2015-16 is "Sustainability Certificates," including Ecosystems Certificate, Edible Gardening Certificate, and Native Habitat Gardening Certificate. Over 100 students participated in the pilot. Living Lab certification will expand to include Domestic Animals, Permaculture, and Sustainable Systems Management.
    - All 9-11th graders receive instructional time in the garden through science, Social Studies, English, and/or religion. Other select classes spend instructional time in the garden. Additionally, many senior elective courses participate in garden instruction.
- O'Dowd requires four semesters of physical education, with vigorous total body activities and sport and game activities (50% outdoors), and a comprehensive health course. Health measures are integrated into assessments.
- More than 60% of students participate in interscholastic athletics including basketball, cross country, golf, lacrosse, rugby, soccer, swimming, tennis, track & field, water polo, and cheerleading; Men's football and baseball; and Women's softball and volleyball. O'Dowd offers non-competitive fitness opportunities through clubs that emphasize health and wellness, including cycling, Zumba, ultimate Frisbee, outdoor adventure, etc.
- The official school wellness committee will be formed in Spring 2016. Currently, wellness is addressed by the Director's Council and Sustainability and Counseling Department. All wellness policies incorporate a focus on all levels of programming, before, during and after school. One recent example of a wellness policy was the decision to incorporate diversity training and programming at all levels of programs. Other examples include a comprehensive student support program (both academic and personal well-being), and Concussion Management program. Future wellness that involves "greening" efforts is addressed by the Master Planning committee, of which the Director of Sustainability is a sitting member.
- Students can access "Living Lab" school garden and CES Terrace space throughout the day, and are required to use it for many classes (i.e., science, English, religion, etc.). Two Sustainability Certificates tracks—Living Lab and Junior Ranger Certificate—are

extracurricular activities that promote outdoor education and exercise. One takes place in the Living Lab and the other takes place in local regional parks (ex: Junior Ranger Hiking Certificate). Many of the interscholastic athletics are outdoor sports.

- More than 150 students (approximately 13% of students) are enrolled in one of three sustainability aligned course—AP Environmental Science, Earth Science, or AP Human Geography—each of which requires hours outside of class time that include activities such as Living Lab Certificates and Stewardship, hikes on local or Bay Area trails, and other nature-oriented activities.
- Fitness: O'Dowd's principal sponsors an on-campus yoga class for staff twice a week. Staff are encouraged to use the staff workout room (with connecting locker/changing room) on their own or with the strength and conditioning coach. There is a growing number of staff who bike to school together. The administration sponsors five free healthy, organic, fresh, local, and seasonal, lunches from Epicurean, and has a private dining area. Before staff meetings or PD sessions, the administration reinforces their commitment to the health and well-being of the staff by catering breakfast and/or lunch through Epicurean. Staff and faculty are well-supported by HR policies that support the whole person (e.g., ample sick days or time off, and a flexible work schedule for teachers and administrators). The Living Lab provides a weekly raffle to win an edible garden basket of produce and fresh eggs from the garden. Over 50% of the staff participate excitedly!
- Athletics Guest Speaker Program: The athletics program sponsors a guest speaker series, which partners with professional athletes and coaches to provide at least four guest speakers a year who come to talk about lifelong fitness, health and well-being. AP Human Geography and APES have a three-week unit that focuses on analyzing the food system and promoting healthy and local food behavior.
- O'Dowd partnered with Pantry and Byte to have an off-hours vending machine on-campus that provides fresh food from local farms. The school partners with Green Monday to provide education to the community around a sustainable food system that promotes plant-based eating. This effort dovetails with other sustainable food efforts (Epicurean and Living Lab) and participation in California Thursdays (Center for Ecoliteracy).
- The athletic department employs a full-time trainer and strength and conditioning coach. Their approach is to prevent, assess, treat, and rehabilitate athletic injuries for students and for staff. Because so many students take part in the athletic program, athletic trainers are key to school health issues. This resource is also available to faculty and staff.
- Every grade level receives specific appropriate instruction on drugs and alcohol and other teen-related issues, such as stress and growing up in the digital age. This program partners with the Diocesan Safe Environment program and other relevant guest speakers. Parents participate annually in the Partnering in Parenting program, which features relevant and notable guest speakers that focus on brain development and teen issues (e.g., stress, drugs/alcohol, social/emotional well-being, mitigating at-risk behaviors, etc.).
- The school is currently developing programming to promote an ongoing focus on diversity on campus for students, faculty/staff, and the greater O'Dowd community. This year, O'Dowd partnered with BLINK and Sojourn to the Past.
- Every other year, the school partners with Harvard to conduct a school safety survey.

- O'Dowd has a school-based health center that students can access during the day, and a full-time crisis counselor.
- The Counseling Department has ten staff members who focus on academic and college counseling, as well as personal counseling (or refer out). Required religion courses have built-in reflection and wellness activities. Personal counseling is also available to faculty and staff.
- Ongoing leadership training is geared towards "advanced" and "emerging" leaders, which brings together student leaders in dynamic ongoing training. The student life team also focuses on strengthening clubs geared towards celebrating diversity and deepening peer mentorship (retreats and clubs).
- Campus Ministry has a 9th grade retreat run by 80 seniors that focuses on mental health and anti-bullying. 10th grade students participate in a retreat addressing community social justice issues. 10th – 12th graders have the option to attend overnight retreats that support their development and well-being. Diversity training is geared towards addressing school climate issues.

Pillar III: Provide Effective Environmental and Sustainability Education

Element IIIA: Interdisciplinary Learning

- The Academic Council has adopted a broad definition of environmental literacy based on two definitions of Education for Sustainability (EfS), one from the Cloud Institute and the other from the President's Council for Sustainable Development. These definitions are posted on a placard in all classrooms that have begun the process of integrating EfS into their curriculum. There is also a policy to incorporate EfS into every new course (approval by Academic Council anticipated in Jan 2016).
- 9th grade is a foundational year for O'Dowd's sustainability literacy requirement; the following are examples:
    - All 9th graders take "Science and the Environment," which is an interdisciplinary science course that teaches biology, physics, earth science, and chemistry through the lens of environmental science.
    - Every 9th grade English class teaches a one-week focus on analyzing Of Mice and Men in the context of sustainability and the Triple Bottom Line (Earth – Society – Economics).
    - 9th grade geo-history classes do a "design a sustainable civilization" project in their first unit. This incorporates a one-day experiential lesson in the Living Lab.
    - 9th grade religion courses analyze Old Testament documents to better understand "Kinship with Creation."
- The O'Dowd master plan incorporates green schoolyard elements into the vision and overall design of O'Dowd through 2050. The Director of Sustainability is working directly with the architects to ensure this vision is upheld.
- The Science department integrates sustainability into all science courses. This is a natural fit for the work they are doing to integrate the Next Generation Science Standards, but they are going the extra mile by developing courses like "Green Chemistry" and Engineering Physics with a sustainability emphasis.
- O'Dowd's administrative team and academic council have agreed to weave sustainability throughout the core content areas at each grade level, and to work it into elective areas.

This requires a significant amount of PD. The Director of Sustainability has taken the following steps for PD:

  - Leading a full faculty PD session on Education for Sustainability (Feb 2015).
  - Working with the entire 9th grade team on multiple occasions to understand EfS and how to bring it into the curriculum (2014-15).
  - At the core of these PD sessions is time spent aligning curriculum with current EfS standards (e.g., Cloud Institute and National Education for Sustainability), and sharing ideas generated from prepared curriculum (e.g., California Education for the Environment [EEI], Facing the Future, and Creative Change).
  - Additionally, teachers are learning new pedagogy techniques for engaging students in EfS, such as systems thinking, project and place-based learning, simulations and games, etc.
  - Working with departments and individual teachers (ongoing).

- O'Dowd has developed the AP Human Geography course to be a full-year sustainability elective course, with all units directly connecting to sustainability. APES and Earth Science are also offered, and integrate sustainability into all units. A new course for 2016-17 will integrate sustainability with entrepreneurship.
- The Living Lab (garden) is deeply connected to multiple courses and subject areas. It is used as a research laboratory for sciences and math classes, an experiential learning environment for humanities, and a mix of other uses for electives and other courses.
- This year, the Students for Sustainability (S4S) group and Living Lab Club merged together to form the Sustainability Corps (S-Corps). These two are the highly active student action team for the Department of Sustainability: S4S engages their peers in understanding major environmental sustainability and social justice topics and issues; and in making the shift to a more sustainable lifestyle. Team Living Lab is involved in weekly maintenance of Living Lab (Native and Edible Garden). There are also a number of other student clubs focused on social justice and economic development issues.
- Students in APES, APHG, and Earth Science have a Beyond the Classroom Requirement that requires environmental education. CPP and Outdoor Adventure Club also take environmentally related field trips. Science partners with Ecology Project International and Nature Bridge for annual trips where students conduct ongoing research with scientists and explore the local ecology (e.g., Yellowstone, Belize, Cost Rica, Galapagos, Yosemite).
- O'Dowd's required 11-12th grade service learning requirement (Anawim Project) requires students to work with marginalized populations for 60 hours. Many students choose to do this through environmental projects such starting school gardens, volunteering with East Bay Regional Parks, etc.
- The Sustainability Certificate Program has place-based environmental education at its core. Students do this hands-on learning in three different tracks:
  - Community Impact Certificates are focused on initiatives on campus or in the greater Bay Area community.
  - The Living Lab certificates utilize the four-acre Living Lab to establish a strong foundation in ecology, and provide intense training of knowledge and skills related to edible and wildlife gardening, animal husbandry, and resource systems.

- The focus of the Junior Ranger certificates is becoming well-versed in local hiking trails, basic wilderness and outdoor survival training, and wildlife restoration.

Element IIIB: STEM Content, Knowledge, and Skills

- The science department uses environmental sustainability as a common thread in their courses. Their courses align with the Next Generation Science Standards; environmental science research is guided by the Cornell Environmental Inquiry process, and energy framed by the U.S. Department of Energy's Energy Literacy Framework. Some also work with outside partners (e.g., Lawrence Hall of Science, Chabot Space Center, Academy of Science) to give context to specific concepts.
    - All 9th graders take Science and the Environment, which lays the foundation for understanding STEM courses in the context of the environment.
    - 10th grade biology builds on the sustainability foundation that students learn in 9th grade; students also complete an Animal Project in this year, where they do research on an endangered animal.
    - Other science selections all touch on various aspects of sustainability, and 70% of students sign up for one of these three popular courses in their 11th and 12th grade year: APES, Earth Science, and Physics Engineering. These courses have sustainability aligned in the majority or all of their units.
    - O'Dowd also offers a 12th grade research course, with the majority of students doing research on issues connecting to sustainability.
- Math courses integrate sustainability topics such as climate change, population growth, resource use and distribution, equity, and ecological footprint. The Engineering Physics course and Robotic/Makers Club both use sustainability and the environment as a context for learning about green technologies. The IT department integrates e-waste and corporate social responsibility into their courses.
- O'Dowd is developing a Sustainable Engineering course for its middle school summer academy, which will pilot in 2016. This course will be taken in tandem with a gardening course in the Living Lab.
- The Sustainability Certificate program (described above) offers multiple avenues for students to develop real world skills that will prepare them for sustainability oriented college, careers, and lifestyles. All certificates are built around a similar structure: knowledge foundation, applied action, service, and reflection. The program also develops important 21st century skills such as innovative problem solving, collaboration, systems thinking, and public speaking skills.
- In partnership with the Department of Sustainability, the Career Partnership Program (CPP) was redesigned to offer a more robust career readiness experience, and to infuse sustainability ethics into the content. In 10-11th grade, CPP is an extracurricular program that allows students to explore their interests and develop skills to prepare them for the professional world. Students participate in a four-tiered certificate program, each centered on a different element of career readiness: Professional Foundations, Personal Branding, Interpersonal Communications, and Ethics and Industry. Each certificate is earned by attending workshops, field trips, and guest speakers. In 12th grade, students may elect to take the CPP Capstone course, which provides them the opportunity to create a business or participate in a real world internship. 75% of CPP students put environment and sustainability in their top three choices for future careers.

- Every month, the Department of Sustainability and S-Corps sponsor a guest speaker from an industry that connects to the current S4S topic (e.g., Energy). Speakers are asked to share information about relevant green technologies, and to help students understand the career pathways available in that industry.

Element IIIC: Civic Knowledge and Skills

- The Community Impact Sustainability Certificates (available 10-12th grade) is a civic/community engagement project that connects directly with sustainability. Students analyze topics from an environmental sustainability, social justice, and economic lens before taking action.
- O'Dowd's required Service Learning program partners with 250 organizations to help students understand social justice issues and practice Catholic Social Teachings by learning from people they serve. Freshmen visit with the elderly (10 hours minimum). Sophomores mentor children or people with developmental disabilities (25 hours minimum) and experience one day with homeless people in San Francisco. Juniors and seniors research social justice issues in their Peace and Justice course, then work with marginalized populations (60 hours minimum) in a capstone project that calls them to engage in change agent action.
- Service Learning at O'Dowd calls students to walk the talk of social justice, and to deepen their understanding of the impact individuals can make.
    - All active clubs and sports teams are required to do one service project a year, which integrates social justice and community engagement into the majority of extracurricular programs.
    - The Emerging Leaders program has helped students see the impact of their collective work.
    - An optional immersion program guides students in analyzing social and environmental justice issues in urban areas (e.g., New Orleans, Oakland, etc.) with hands-on service projects during spring break.
    - Grade level Campus Ministry Teams lead the school in multiple social justice efforts including monthly "Dollar Day" charity drives; December Food and Toy Drive (St. Vincent DePaul); and a Spring Mission Drive that focuses on a different international charity every year. While the drives always focus on social justice, the Spring Mission Drive makes a strong connection to environmental sustainability related issues (e.g., climate change and Philippines typhoon, access to clean water in Sudan, etc.)
- While there are many examples of specific courses that not all students take (art, Spanish 4, APES, 12th Grade Science Fiction, etc.), using the Living Lab for lessons, there are also a certain amount of classes that now require all students do a meaningful outdoor lesson in the Living Lab.
    - 9th Grade: Science and the Environment conducts multiple lessons in the Living Lab, Geo-history does an experiential lesson in the Living Lab Edible Garden and Domestic Animal Area, Religion courses do a meditative walk through the Living Lab to connect to Creation stories.
    - 10th Grade: English acts out Oedipus in the CES outdoor amphitheater, and geometry does an outdoor investigation looking for geometry examples in nature.
    - 11th Grade: English classes do Transcendentalist unit in the Living Lab

    - 12th Grade: Peace and Justice course does a reflective activity in the Living Lab; 12th Grade Writing (70% of students) does a descriptive writing project in the lab for one week.
    - 10-12th Grade: Beyond the Classroom program for APES, Earth Science and APHG has an outdoor learning requirement (e.g., gardening work days in the Living Lab, guided hikes of local regional parks and watersheds, overnight field-trips at regional parks, etc.)
    - 9-12th Grade Science students: Every science class has at least one lesson in the Living Lab, which means all 1,160 students get exposure to the lab. Additionally, a smaller group of students participate in the Ecology Project International and Nature Bridge for trips where students conduct ongoing research with scientists and explore the local ecology (9th – Montana Yellowstone Ecosystem or Belize dolphin research; 10th – Costa Rica ocean and forest ecosystems; 11th – Galapagos Island Turtle Research; 11th and 12th – Baja Sur Mexico's island ecosystems; 9th and 11th – Yosemite National Park).
- O'Dowd marked the first Living Schoolyard Month (2015) with a special celebration for the last Saturday work party in May. An ambitious senior, Chris Leboa, made it his mission to provide people with disabilities greater access to the Living Lab by fundraising enough money to provide the Living Lab with an all-terrain wheelchair. The first ride in the all-terrain wheel chair took place in May by Living Lab founder, Dave Nesmith (now disabled from multiple strokes).
- Outdoor learning is a key component of sustainability education, as research shows that direct exposure to nature is essential for healthy childhood development and for the physical, emotional, intellectual, and spiritual health of children and adults. O'Dowd brings outdoor and nature-based activities into required curriculum and choice-based programmatic offerings. Outdoor learning is integrated for content learning, developing skills, and engaging the community in the following ways:
    - Beyond the Classroom Program (previously described): Living Lab and Junior Ranger Certificates teach APES, Earth Science, and APHG in outdoor context.
    - Science Field Research Trips (previously described): The partnership with Ecology Project International and Nature Bridge. Students take domestic and international trips to engage with the broader scientific community and help conduct ongoing research. Students also learn science in the context of a local ecology.
    - Lessons in the Living Lab: The Living Lab offers teachers from multiple departments a perfect setting to teach a lesson in an outdoor context. Examples include science labs, 11th grade English Transcendentalist unit, visual arts including drawing and painting, math classes doing human sundial experiments, religion courses reinforcing "Kinship with Creation" in an outdoor context, Social Studies examining the food system and using the Living Lab as a case study for understanding urban agricultural and the locavore movement, etc.
    - Living Lab Volunteer Stewardship Opportunities: The Wednesday Weeding, Thursday Afternoon Volunteering, and monthly Saturday work parties are open to the entire community and develop both gardening skills and civic service skills.
    - Sustainability Guest Speaker Series: Twice yearly, this is offered as an evening program open to parents, alumni, and the greater community.

- O’Dowd has made the commitment to have a full-time Director of Sustainability, and to champion Education for Sustainability (EfS) not only internally, but also to lead the greater community towards achieving a more sustainable future. Examples include:
    - O’Dowd’s Director of Sustainability shares the 4 C’s sustainability framework—Campus, Curriculum, Community, and Culture—at local, regional, and national conferences.
    - At least once a month, the Director of Sustainability hosts teachers and administrators from other schools looking to learn from O’Dowd’s 4 C’s approach, Living Lab, and CES. These institutions are not only seeking inspiration from school facilities, but also seek guidance on how to develop a more comprehensive EfS approach.
    - O’Dowd hosted the 2014 Northern California High School Sustainability Roundtable and plans to host the 2016 Roundtable.
    - To engage students, O’Dowd has partnered with multiple organizations including Generation Waking Up, Green School Alliance, StopWaste.org, San Francisco Green Festival, etc. to advance the Three Pillars at O’Dowd and in the greater community.
    - O’Dowd partners with local community members and organizations to come to O’Dowd for assemblies, audits, and guest speaking, including Waste Management, Clean Water Action, NRDC, Center for Biological Diversity, Alliance for Climate Education, Save the Bay, 350.org, San Francisco Green Festival, Sierra Club, etc.
    - O’Dowd partners with the Oakland Zoo for a variety of activities including fundraisers, the Conservation Speaker Series, field trips, etc.
- Over the past three years, a significant aspect of aligning sustainability with school culture and programming has been to help the community understand how an assortment of programs and initiatives that are not about environmental sustainability are still aligned with Sustainability. This has helped the community better understand the other two aspects of sustainability—Society, in particular social justice; and Economics and Livelihood. Examples of how O’Dowd has done this include reframing courses and co-curricular activities in a sustainability lens:
    - Student Leadership: re-examine how all student leadership activities work towards a more sustainable future.
    - Academic co-curricular/education activities that have developed over the past 20 years include a History of the Holocaust Study Seminar and two-week Eastern Europe immersion, Close-Up Washington D.C., Mock Trial, and Speech & Debate, which have civic engagement and social justice understanding built into the core of their programs.
    - Campus Ministry and Service Learning: build social justice awareness and active civic engagement. The New Campus Ministry immersion program takes students on a deep dive for one week (e.g., New Orleans, Detroit, Oakland).
    - CORE program (serving over 100 students with learning differences who normally would not have access to a private school education) and International Studies Program (30-40 international students) are two unique offerings that develop students’ awareness of the importance of diversity in culture and thinking.

4Cs Sustainability Framework at O'Dowd

CAMPUS

Greening O'Dowd's Facilities and Operations

- **Resource Conservation**
  - Climate (GHG)
  - Energy & Water
  - Transportation
- **Material Flows**
  - Waste: Solid & Toxic
  - Purchasing
  - Food & Dining
- **Building & Grounds**
  - Indoor Env. Quality (IEQ)*
    * *Includes HVAC & Cleaning*
  - Grounds & Landscaping
  - Construction/Renovation

CURRICULUM

Stepping out as Leaders in the Education for Sustainability Movement

A) Content: Weaving Ecoliteracy principles, and sustainability topics/issues and themes throughout the subject areas.

B) Pedagogy: Innovative 21st century teaching including interdisciplinary collaboration, and experiential place-based learning.

COMMUNITY

INTERNAL

Engaging the internal community around sustainability topics, lifestyle choices, and events:

- Student
- Teachers/Staff
- Parents
- Alumni

EXTERNAL

Developing strategic and mutually beneficial partnerships that build a more sustainable community

INSTITUTIONAL CULTURE

Mission – Charism – Graduation Outcomes – Decision Making – Sustainability Legacy

Sustainability Certificates

Community Impact Certificates

- Resource Conservation
- Consumption & Waste
- Health & Well-being
- Thriving Communities

Living Lab Certificates

- Ecosystems
- Edible Gardening
- Wildlife Gardening
- Animal Husbandry
- Permaculture
- Systems

Junior Rangers Certificates

- Hiking
- Wilderness Survival
- Natural History
- Ecological Restoration

Developing Real-World Sustainability Skills through knowledge foundation - student directed research or direct instruction - applied action, service, and reflection.

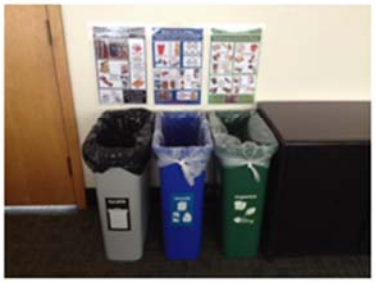
Three Certificate Pathways:

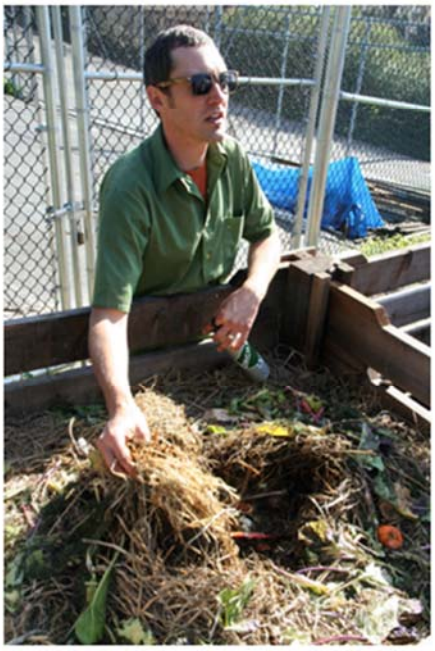
Community Impact Coordinators

Living Lab Ecological Gardening

Junior Ranger

Zero-Waste at O'Dowd
Tri-Bin Infrastructure - Green Gloves - On-Site Composting





Farm-to-Fork Edibles

Living Lab fruit and vegetables featured weekly by Epicurean

Weekly Living Lab Soup for Sale at Lunch

Weekly Edible Raffle for Faculty and Staff

Diverse Assortment Living Lab Chickens' Eggs on sale this Spring!