

COASTAL CONSERVANCY

Staff Recommendation

September 28, 2017

LIVING SCHOOLYARDS FOR OAKLAND PROJECT

Project No. 17-019-01

Project Manager: Jessica Davenport

RECOMMENDED ACTION: Authorization to disburse up to \$566,000 to the Trust for Public Land to conduct the first pilot project of its Living Schoolyards Program in partnership with the Oakland Unified School District and Green Schoolyards America by converting asphalt playgrounds to living schoolyards with shade trees, native plant landscaping, nature-based outdoor education and play areas, vegetable gardening spaces, and bioswales to infiltrate stormwater on the grounds of five public schools serving disadvantaged communities in the City of Oakland, Alameda County.

LOCATION: Five public schools, City of Oakland, County of Alameda

PROGRAM CATEGORY: San Francisco Bay Area Conservancy

EXHIBITS

Exhibit 1: [Project Locations, Photographs and Conceptual Designs](#)

Exhibit 2: [Project Letters](#)

RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31160-31165 of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes disbursement of an amount not to exceed five hundred sixty-six thousand dollars (\$566,000) to the Trust for Public Land to design and implement a pilot project that will replace asphalt with climate-appropriate, native plantings, trees, vegetable gardening spaces, bioswales, and nature-based outdoor education and play areas on the grounds of five public schools serving disadvantaged communities, subject to the following conditions:

1. No Conservancy funds shall be disbursed for the project until the Executive Officer of the Conservancy has reviewed and approved in writing:
 - a. A final work plan, including a budget and schedule.
 - b. The name and qualifications of any contractors that the Trust for Public Land intends to retain to carry out the project.
 - c. A signage plan that acknowledges Conservancy funding.

- d. A written agreement between the Trust for Public Land and the Oakland Unified School District, and any other necessary agreements, allowing the project to be implemented, maintained, and monitored, and protecting the public interest in the project.
2. The Trust for Public Land shall provide evidence that all necessary permits and approvals have been obtained.”

Staff further recommends that the Conservancy adopt the following findings:

“Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed authorization is consistent with Chapter 4.5 of Division 21 of the Public Resources Code, regarding the San Francisco Bay Area Conservancy Program.
2. The proposed project is consistent with the current Conservancy Project Selection Criteria and Guidelines.
3. The Trust for Public Land is a nonprofit organization existing under section 501(c)(3) of the U.S. Internal Revenue Code, and whose purposes are consistent with Division 21 of the Public Resources Code.”

PROJECT SUMMARY:

The Trust for Public Land (TPL) has developed a Living Schoolyards Program in partnership with the Oakland Unified School District (OUSD) and Green Schoolyards America (GSA) that seeks to conduct its first pilot project by converting asphalt playgrounds to living schoolyards with native plant landscaping, nature-based outdoor education and play areas, vegetable gardening spaces, bioswales, and shade trees on the grounds of five public schools serving disadvantaged communities in Oakland. Staff recommends that the Conservancy authorize the disbursement of \$566,000 to TPL to design and implement this proposed pilot project.

The proposed project consists of removal of 0.49 acres of paving and installation of 0.46 acres of Bay-friendly drought-resistant landscaping, 17 new vegetable garden beds, and 50 trees in student-accessible locations. The project also includes construction of nature-based outdoor learning and play areas, meaning these areas will be integrated with the landscaping and gardens, and will be constructed using pervious, natural materials, e.g., seating made up of wood stumps or logs, play tunnels created with trees and shrubs, etc.

By replacing pavement with trees, landscaping, and nature-based education and play areas, all using drought tolerant Bay-friendly plants, the proposed project will help absorb stormwater from a half-acre drainage area and, since these areas drain to San Francisco Bay, improve water quality in the Bay. The planting of trees will reduce the urban heat island effect through increasing shade cover on the school grounds. Thus, the proposed project will improve Bay watershed health and help adapt to climate change.

The proposed project will provide low-income students at the five schools with nature areas for recreation and education. In addition, the proposed project will benefit the broader community because OUSD has a joint use agreement with the City of Oakland (City) that allows each school to provide for public use of the school grounds when not in use by the school. Thus, replacing pavement with native plantings and trees will increase access to neighborhood green space for

low-income student populations, as well as the broader community. The joint use agreement results in increased equity and access to resources for over 56,000 people within a ten-minute walk of the five sites.

The proposed project will result in a series of green spaces and gardens that serve as outdoor classrooms, facilitating environmental education and allowing students to care for and observe natural processes, including the behavior of stormwater in the urban environment. As a complementary part of its Living Schoolyards Program, TPL intends to work with GSA and OUSD to facilitate education about the environmental benefits and water resource sustainability components of the proposed project, and about the students' bioregion and their place in it. The outdoor spaces created by the proposed project will promote watershed stewardship and environmental literacy through hands-on learning and nature play; many of the school children have not previously had the opportunity to experience a curriculum of this kind.

The sites for this proposed project were selected based on the following criteria:

- Need of the population served by the schools, e.g., serving a disadvantaged community;
- Current state of the school site, i.e., high percentage of impervious cover and lack of vegetation; and
- Readiness of each individual school to implement and maintain the improvements, i.e., presence of a dedicated garden teacher or support from the principal and school community for the project.

The primary work product is to design and construct living schoolyards at five schools across Oakland (Exhibit 1). At each school, pavement will be removed and replaced with permeable surfaces and combinations of natural elements selected through the master planning process, which may include:

- Shade trees, which cool the schoolyard and help water filter into the soil;
- Native plants, which can be used for learning about habitat values and incorporated into art projects;
- Outdoor classrooms, composed of natural materials, such as tree stumps and wood chips;
- Raised planting beds for growing vegetables and learning about healthy eating habits; and
- Bioswales, which are vegetated areas designed for stormwater infiltration that can be used for learning about watershed functions.

As part of the proposed project, TPL will lead several design workshops with students, parents, teachers and school staff to learn about their aspirations and priorities for their schoolyards. Following the workshops, TPL will prepare a master plan for each school that represents each school community's vision for their schoolyard. TPL, partners, and consultants, including landscape architects, will then work with each school to refine designs for the greening elements, develop detailed construction drawings, and plan for implementation. TPL will seek necessary approvals from OUSD's Facilities Planning and Management Department and from the Department of the State Architect, which will ensure campus additions are safe and follow state guidelines. Once construction documents are approved, work that will require heavy machinery or specialized skills will be constructed by contractors. Once initial construction is complete,

each school community may coordinate volunteer workdays to plant trees and shrubs or build other improvements on the site.

Overall, the project will involve:

- Development of schoolyard master plans, including greening elements;
- Refinement of conceptual designs for greening elements into construction drawings;
- Implementation of construction projects;
- Post-project monitoring in the form of a user survey and report after implementation; and
- A summary of living schoolyard best practices to inform OUSD's Facilities Master Plan.

GSA will provide training for school principals to ensure that the improvements are connected to the curriculum in a meaningful way.

The Living Schoolyards Project is a partnership of TPL, OUSD and GSA. TPL has extensive experience managing construction projects and has been creating and enhancing parks, gardens, and greenways, and preserving natural open spaces in California since 1973. To help address the need for green space for the 80% of Americans that live in cities and metropolitan areas, TPL developed the Parks for People Program, and has successfully created green schoolyards in urban areas across the country. In New York, TPL has greened over 180 school grounds and will draw on their experience with participatory design and park development experience for its Living Schoolyards Program. The Conservancy has granted to TPL numerous times to facilitate urban greening, including support of the EcoVillage Farm Center in Richmond and creation of the Glen Canyon Park Master Plan.

GSA supports the project and brings 18 years of expertise in living schoolyard best practices, research and case studies. GSA's founder, Sharon Danks, has advised several California school districts, and collaborated with public agencies in support of children's health and environments. GSA's work was instrumental in initiating San Francisco's green schoolyard program which began twenty years ago and continues to thrive. GSA will provide training for school principals to ensure that living schoolyards are connected to the curriculum in a meaningful way.

OUSD has committed time and staffing to this project at both the school sites and the administrative levels, with the District's Facilities Planning and Management Department, the Garden Coordinator, and school communities being full partners in design, implementation and maintenance. The OUSD Garden Coordinator and individual schools will provide ongoing stewardship of the improvements. GSA and TPL will assist by connecting schools to existing environmental education resources and monitoring the improvements.

Site Description: OUSD has 120 schools on over 400 urban acres, mostly covered by dark and impervious asphalt and with very few trees or plantings. These paved areas contribute to the urban heat island effect and increase the flow of polluted stormwater runoff into adjacent culverted creeks. They also create unwelcoming conditions for Oakland's children. Asphalt can be up to 68°F hotter than the air temperature around it and when there are no trees or shade, conventional schoolyards adversely impact the health of students and surrounding communities.

The five schoolyards selected are primarily covered with impervious paving. Areas that are unpaved and/or have canopy cover are often inaccessible to students and therefore provide few benefits to them.

Markham Elementary School: Markham is a K-5 school with 350 students, of which 54% are Latino and 38% African American. The school is in the Eastmont neighborhood, two blocks from an open creek draining into San Leandro Bay. The 2.76-acre school site is currently 90% impervious paving and rooftops with current annual stormwater runoff estimated at 1,668,775 gallons.

Melrose Leadership Academy: Melrose is a Spanish/English K-8 school with 495 students: 70% are Latino, 13% are African American, and 11% are Caucasian. The school is in East Oakland, in the urbanized Peralta Creek watershed which drains into San Leandro Bay. The 3.3-acre school site is 84% impervious paving and rooftops with current annual stormwater runoff estimated at 1,796,938 gallons. During the school day, 0% of unpaved surfaces and 0% of the campus tree canopy is available to students.

International Community School/ Think College Now (ICS/TCN): ICS shares a campus with TCN. Both are K-5 schools, but demographics are different. ICS has 322 students: 92% Latino, 2% Asian/Pacific Islander, 2% African American. TCN has 306 students: 70% Latino, 9% Asian/ Pacific Islander, 15% African American. The campus is in the Fruitvale neighborhood, in the Sausal Creek watershed, half a mile from the Bay. The 4.5-acre school site is 93% impervious paving and rooftops with annual stormwater runoff estimated at a 2,736,861 gallons. Several trees are located south of the main play yard, but due to a grade change do not shade the blacktop.

Ralph J. Bunche High School: Bunche is a 9-12 continuation high school with 201 students: 29% are Latino, 63% are African American, and 4% are Asian/Pacific Islander. The school is in West Oakland, located .75 miles from the Bay. The 3-acre school site is 91% impervious paving and rooftops with annual stormwater runoff estimated at a 1,821,389 gallons. Existing trees and unpaved areas are far from the main buildings, making it necessary to cross a large stretch of asphalt to access shade.

Emiliano Zapata Street Academy Alternative School: Street Academy is a 9-12 school with 83 students: 56% are African American, 33% are Latino, and 5% are Asian/Pacific Islander. The school is in Central Oakland, in the Glen Echo watershed, a half mile from Lake Merritt. The 1.25-acre site is 84% impervious paving and rooftops with current annual stormwater runoff estimated at 682,103 gallons. Student-accessible tree canopy is 3%; unpaved accessible spaces account for only 1% of the campus.

Project History: In 2015 TPL initiated a collaboration with OUSD and Melrose Leadership Academy through intensive participatory design process that resulted in a Living Schoolyard Master Plan for that school. This set the stage for work with the other OUSD school sites to develop plans for their particular grounds and identify areas for asphalt removal.

TPL has successfully implemented previous Conservancy grants to facilitate urban greening in the San Francisco Bay Area, including \$700,000 authorized in October 2002 to acquire the site of the EcoVillage Farm Center in Richmond and \$289,950 authorized in December 2012 to develop a master plan for Glen Canyon Park in San Francisco. TPL is currently managing implementation of the Iron Triangle Urban Greening Project, for which the Conservancy

authorized a \$500,000 grant to the City of Richmond in February 2017, which will plant trees and create bioswales in the City’s most underserved neighborhood.

PROJECT FINANCING

Coastal Conservancy	\$566,000
Trust for Public Land (General Program Funds)	\$40,000
Project Total	\$606,000

The expected source of funding for this \$566,000 authorization is the fiscal year 2017/18 appropriation to the Conservancy from the “Water Quality, Supply, and Infrastructure Improvement Act of 2014” (Proposition 1, Division 26.7 of the Water Code, § 79700 et seq.). Funds appropriated to the Conservancy derive from Chapter 6 (commencing with Section 79730) and may be used “for multi-benefit water quality, water supply, and watershed protection and restoration projects for the watersheds of the state” (Section 79731). Section 79732(a) identifies the specific purposes of Chapter 6, of which the following pertain to this project: subsections (a)(2): implement watershed adaptation projects in order to reduce the impacts of climate change on communities and ecosystems; (a)(11): reduce pollution or contamination of rivers and streams, and protect or restore natural system functions that contribute to water supply, water quality, or flood management; and (a)(9): protect and restore urban watershed health to improve watershed storage capacity, protection of life and property, stormwater resource management and greenhouse gas reduction.

As required by Proposition 1, the proposed project provides multiple benefits and will help achieve the above-referenced Chapter 6 purposes. By replacing pavement with trees, landscaping, gardens and nature-based outdoor nature education and play spaces, using drought tolerant Bay-friendly landscaping, the project will help absorb stormwater from a half-acre drainage area and, since these areas drain to San Francisco Bay, improve water quality in the Bay. The planting of 50 trees will address climate change by reducing the urban heat island effect through increasing shade cover on the school grounds.

OUSD and school volunteers will provide in-kind contributions of their time to the project for planting and stewardship of native plants.

CONSISTENCY WITH CONSERVANCY’S ENABLING LEGISLATION:

The proposed project would be undertaken pursuant to Chapter 4.5 of the Conservancy’s enabling legislation, Public Resource Code (PRC) Sections 31160-31165, which states that the Conservancy may award grants in the nine-county San Francisco Bay Area to help achieve the goals of the San Francisco Bay Area Conservancy Program. The proposed project is located in Alameda County, one of the nine San Francisco Bay Area counties.

Pursuant to PRC Section 31162(d), the Conservancy is authorized to award grants to “promote, assist, and enhance projects that provide open space and natural areas that are accessible to urban populations for recreational and educational purposes.” By converting five asphalt school yards to landscaped natural areas that will then become available for use by surrounding residents, this project will provide natural areas that are accessible to both students and other residents of the City of Oakland for recreational and educational purposes.

Pursuant to PRC Section 31163(b), the Conservancy is authorized to award grants to “support interagency actions and public/private partnerships in the San Francisco Bay Area ...providing for broad-based local involvement in, and support for, the San Francisco Bay Area Conservancy Program.” This project involves public and private partners making natural areas more accessible to urban communities.

This project is appropriate for prioritization under the selection criteria set forth in Section 31163(c) in that: (1) it is supported by adopted local or regional plans, such as the 2016 *Estuary Blueprint* (the San Francisco Estuary Partnership’s Comprehensive Conservation and Management Plan for the San Francisco Estuary), which calls for managing stormwater by using green infrastructure, such as rain gardens that slow and filter polluted runoff; (2) it will include multi-jurisdictional participation by building on lessons learned from the San Francisco’s green schoolyard program and providing a model for other area schools and districts; (3) TPL is ready to commence work immediately upon award of Conservancy funding; (4) it will provide opportunities for benefits (urban greening) that would be lost if not quickly implemented; and (5) TPL has matching funds.

CONSISTENCY WITH CONSERVANCY’S 2013 STRATEGIC PLAN GOAL(S) & OBJECTIVE(S), AS REVISED JUNE 25, 2015:

Consistent with **Goal 12, Objective M** of the Conservancy’s 2013-2018 Strategic Plan, the proposed project will improve public access, recreation and educational facilities by implementing projects that create and improve environmental educational programs, especially those that are available to urban populations. The project will result in new green, accessible open space in the community; the joint use agreement results in increased equity and access to resources for over 56,000 people within a ten-minute walk of the five sites. For students, the project results in a series of green spaces and gardens that serve as outdoor classrooms, facilitating environmental education and allowing students to care for and observe natural processes including the infiltration of rainwater in the urban environment. It will also contribute to achieving **Goal 11, Objective F** of the Strategic Plan by enhancing watershed functions and processes for the benefit of wildlife and water quality.

CONSISTENCY WITH CONSERVANCY’S PROJECT SELECTION CRITERIA & GUIDELINES:

The proposed project is consistent with the Conservancy’s Project Selection Criteria and Guidelines, last updated on October 2, 2014, in the following respects:

Required Criteria

1. **Promotion of the Conservancy’s statutory programs and purposes:** See the “Consistency with Conservancy’s Enabling Legislation” section above.
2. **Consistency with purposes of the funding source:** See the “Project Financing” section above.
3. **Promotion and implementation of state plans and policies:** The project will help achieve Strategy 6 of the *CA Climate Adaptation Strategy*, “Prioritize climate risk communication, education, and outreach efforts to build understanding among all Californians,” by providing an economically disadvantaged, park poor community of students and neighbors with natural

open space and resources to experience hands-on learning. The Health Implementation Plan of the Safeguarding California Plan specifically identifies urban greening as a strategy to reduce the impacts of extreme heat events and heat islands.

4. **Support of the public:** All five school principals and their teachers and garden coordinators support this project.

In addition, the following individuals and public officials support this project (Exhibit 2):

- State Senator Nancy Skinner
- Roseann Torres, Board of Education Director, OUSD
- Cesat Monterrosa, Director of Facilities Planning and Management, OUSD
- Renee Lafrenz, Sustainability and Energy Manager, OUSD
- Grey Kolevzon, Garden Program Specialist, OUSD

5. **Location:** The project is located in the City of Oakland in Alameda County, within the jurisdiction of the San Francisco Bay Area Conservancy Program.
6. **Need:** The project will not occur without Conservancy participation. OUSD is fully supportive and willing to contribute in-kind support, but due to budget cuts is unable to fund these pilot projects. The OUSD Facilities Department is currently working on updating the Facilities Master Plan that will guide their improvements for the next few years. The pilot projects will provide valuable information and lessons to inform how OUSD can make green schoolyards the rule rather than the exception. The Facilities Master Plan will also inform what will be included in the next school bond for Oakland. The timing is critical if green schoolyards are to be considered during the next round of OUSD improvements.
7. **Greater-than-local interest:** The project is of regional interest because it reduces disparities in access to natural areas, improves water quality entering the San Francisco Bay, and reduces the urban heat island effect while increasing carbon sequestration, within a disadvantaged urban community. It also provides a model for non-profit and school district planning and cooperation that could be followed around the region.
8. **Sea level rise vulnerability:** None of the project sites are located in an area affected by a projected 1.4-meter sea level rise.

Additional Criteria

10. **Resolution of more than one issue:** The City of Oakland has over 400 acres of outdoor space on school grounds, including asphalt parking lots, that could benefit from green schoolyard designs. Designs will improve environmental function—stormwater management, air quality improvement, climate change mitigation—while providing opportunities for hands-on learning across the curriculum, including opportunities for classroom gardening, science experiments, art classes, and physical and emotional development.
11. **Leverage:** See the “Project Financing” section above. In addition, Kaiser Permanente of Northern California previously provided grant funding to TPL to assess the feasibility of developing a living schoolyards program in Oakland. This included conducting a needs assessment, engaging OUSD leadership, identifying barriers and opportunities to greening

schoolyards, exploring potential funding, and educating policymakers and stakeholders about the benefits of green schoolyards.

14. **Readiness:** TPL has a long history of working with under-resourced communities and with vulnerable populations and has been coordinating with the OUSD and GSA to develop this project. The sites were selected based on readiness, meaning the existence of support within the schools for the project and the ability to proceed through design to implementation. Prior to starting construction, TPL will seek necessary approvals from OUSD's Facilities Planning and Management Department and from the Department of the State Architect, which will ensure campus additions are safe and follow state guidelines.
17. **Cooperation:** The proposed project is a partnership among TPL, OUSD and GSA. TPL is developing a Bay Area Living Schoolyards Program for greening across Oakland and potentially in other vulnerable Bay Area communities. OUSD supports the project and will incorporate living schoolyard best practices into their Facilities Master Plan for capital improvements. OUSD departments which have been involved include Buildings and Grounds and Facilities Planning and Management (see Exhibit 2 for letters of support from OUSD). GSA supports the project and brings 18 years of expertise in living schoolyard best practices, research and case studies.
18. **Vulnerability from climate change impacts other than sea level rise:** The urban heat island effect will be exacerbated by climate change. The project will plant 50 trees to shade schoolyards to reduce ambient temperatures. Climate change is expected to result in more extreme rainfall events that can cause localized flooding. The project's green spaces will absorb stormwater runoff, reducing the volume of water contributing to flood flows.
19. **Minimization of greenhouse gas emissions:** Greenhouse gas sources related to the project include construction equipment and fuel, transportation of new materials for the schoolyard, and demolition and disposal of materials (such as asphalt removal). Wherever feasible, materials will be selected that reuse or recycle existing materials and support sustainable production practices. The project will use salvaged, recycled and locally sourced materials as much as feasible.

COMPLIANCE WITH CEQA:

The proposed project is exempt from California Environmental Quality Act (CEQA) pursuant to the CEQA Guidelines at 14 Cal. Code Regs. sections 15304 and 15311. Section 15304 exempts minor alterations in the condition of land, water and/or vegetation that do not involve removal of healthy, mature trees. Section 15311 exempts construction of minor structures accessory to existing commercial, industrial or institutional facilities. The proposed project is exempt pursuant to these sections because it entails minor alteration of five school yards by replacing asphalt with native plant landscaping, gardens, bioswales and nature-based education and play areas. To the extent the project includes construction of nature-based outdoor learning areas and play structures, these are minor structures accessory to the school facilities. Upon Conservancy approval, staff will file a Notice of Exemption.