

Figure 1. Morrison Creek Revitalization Project Site

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With thanks to our generous funders:









Vision

The Morrison Creek Revitalization Project will transform a mile of this Southeast Sacramento waterway from a fenced storm water channel into a neighborhood asset. By reshaping the creek channel, planting native vegetation, and installing paths for bicycles and pedestrians, the project will create a neighborhood spot for recreation, education, and relaxation while safely connecting residents to nearby schools and parks and maintaining the creek's flood protection function.



Figure 2. City locks and gates located at Logan St. prevent community members from actively using the creek corridor.

The project is focused along Morrison Creek between Power Inn Road and 63rd Street, roughly parallel to Lemon Hill Avenue. A major purpose of the project is to increase access to and community stewardship of Morrison Creek in the Avondale, Glen Elder, and Southeast Village neighborhoods by strengthening residents' deep roots and commitment to diversity through extensive community involvement in the project's design and implementation. Community residents have also provided input to the project through listening sessions and visioning exercises. As an important component of the Creek's revitalization, the project aims to tackle serious environmental justice issues that are also urban problems in these neighborhoods like homeless encampments, illegal dumping, and violence.

History

The Morrison Creek Revitalization Project was initiated in 2016 by leaders of the Avondale Glen Elder Neighborhood Association (AGENA) and the Capital Regional Organizing Project (CROP). For some 20 years these organizations have led efforts to address environmental justice issues in the South Sacramento region, including the formerly proposed underground storage of natural gas, underutilization of vacant lots, and reduced public transportation services. Instead of being reactive to decisions with negative impacts made without input from the primarily impacted community, leaders decided to be proactive, and identified neighborhood assets that should be prioritized, Morrison Creek being one of them. In an effort to clean up the creek's garbage, residents were inspired by an opportunity to not only clean it, but also to revitalize it.

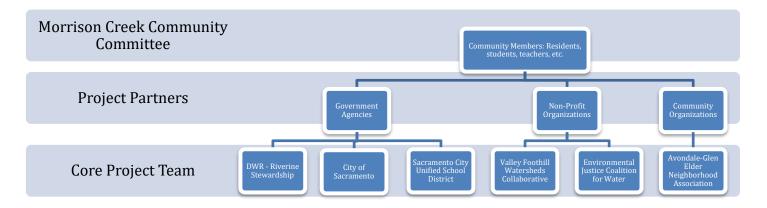
Goals

Urban stream revitalization projects and the multiple community benefits they confer for human health, social well-being, and environmental quality are of growing interest at all levels of government, in the nonprofit sector, in private institutions and among commercial interests as well. The need for these projects is particularly acute in low-income and minority communities where environmental pollution, less access to green space, housing discrimination, higher levels of poverty and unemployment, and lower levels of education are legacies of racial inequality. These neighborhoods in particular have a high need for alternative transportation routes for children and families making their way to the Sacramento City Unified School District's elementary school and middle school adjacent to the creek. Currently, the only access points to these important locations are along major arterial roads with insufficient sidewalks, bicycle lanes, or safety signage. This makes active transportation to the schools difficult and unsafe, and increases traffic congestion during student pick up and drop off hours.

The following project goals were developed from community input over a year-long period spanning 2017-18, and reflect long-held aspirations of the area's residents for this underutilized neighborhood space. Supporters hope achievement of these goals will demonstrate possibilities for improvements to Morrison Creek upstream and downstream of this project site as well.

Enhance connectivity Create a community asset Strengthen connections between schools, parks, and Increase opportunities for in the Morrison Creek between community & other community assets community leadership corridor institutional partners adjacent to Morrison Creek Revive an alternative transportation route for Maintain community Restore some of the natural Develop community community use in the stability for current environment along stewardship for Morrison Morrison Creek Morrison Creek residents Creek corridor

Project Structure (See Appendix A for a more detailed description of project partners)



Major elements of the Morrison Creek Improvement Project include project management and development, community and stakeholder outreach, affordable housing and displacement mitigation, and environmental reconciliation. Of the many partners, a few have formed a Coordinating Team ("Core Team) with representatives from the California State Department of Water Resources Riverine Stewardship Program and the National Parks Services Rivers, Trails, and Conservation Assistance Program who are providing in-kind technical assistance, work planning, and community engagement support. A Community Committee sponsored by AGENA and meeting once a month has been formed to guide the project visioning and maintain community involvement throughout the project's visioning, design, construction, and maintenance phases. The goal is for the Community Committee to eventually form the basis for an Adopt-a-Creek program to maintain the new improvements for the foreseeable future.

Geography

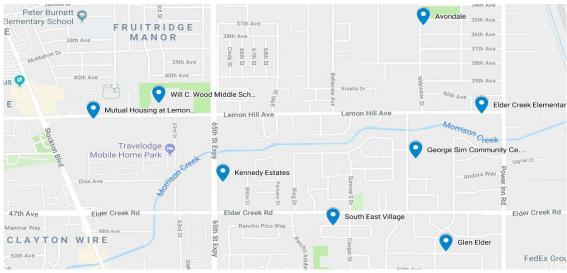
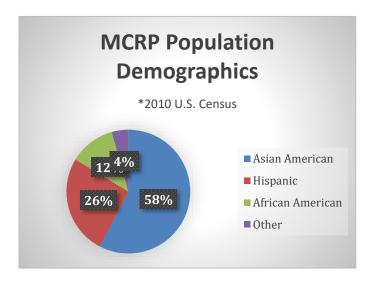


Figure 3. Project area and community assets, Google Maps street view.

Morrison Creek runs through the heart of Southeast Sacramento. The trapezoidal, concrete lined channel provides flood protection measures capable of conveying flows of a 100-year flood event. This low flow channel with outer banks lined with grass, is on average 10 feet wide. The banks on average are at a 55% grade and about 13 feet deep. The bottom of the creek is encased with concrete and the banks are armored with grouted rock at channel bends.



Development adjacent to the creek corridor is primarily residential single family units. Important community destinations nearby include the George Sim Park and Community Center, Elder Creek Elementary School and Child Care Center, Will C. Woods Middle School, and a mature community garden and farm. Despite the highly urbanized nature of the project area, several privately owned, vacant lots are also adjacent to the creek. Over 48 different languages are spoken by students attending the Sacramento Unified School District schools in this region.

This area of Southeast Sacramento was established around the 1940's as a result of "redlining," i.e., discriminatory and racialized land use and housing patterns that forced people of color out of the city center and towards South Sacramento in search of housing opportunities. Increasing urbanization and a series of floods prompted federal, state, and local agencies to undertake flood damage reduction projects. By the early 1970's the Army Corps of Engineers began channelizing Morrison Creek as part of a massive infrastructure project to provide flood protection for the growing South and Southeast Sacramento greater Metropolitan area.

Although the project section of Morrison Creek was an engineered channel by about 1978, older neighborhood residents recall still having creek access, and share memories of bike riding between Rancho Cordova and Elk Grove in the creek corridor. Today, this corridor is closed off to the community with posted "No Trespassing" signs. Nevertheless, some intrepid young



Figure 4. USGS Geological Survey, inset of Morrison Creek Project area in blue (1949)

people manage to use the creek banks as a short-cut from home, to school, to friends, to parks, and to other favorite neighborhood destinations, underscoring the creativity of the community with a lack of access to safe and enjoyable routes around their environment. In addition to being separated from their creek, residents of the Avondale, Glen Elder, and Southeast Village neighborhoods are heavily impacted by serious urban problems

of illegal dumping and gang violence. Unhoused individuals also set up camp along the creek banks, underpasses, and adjoining properties. Safety is therefore a major concern of residents in the neighborhoods surrounding Morrison Creek, and must be addressed in any design for its improvement.



Figure 5. CalEnviroScreen Overall Results showing the MCRP focus area, outlined in blue, that the area scores 60 - 65 and higher further away

The neighborhoods of Avondale, Glen Elder, and Village, Southeast Fruitridge Manor, where the MCRP focus area is located, carry greater environmental pollution burden. According CalEnviroScreen 3.0, а science-based screening tool to identify communities most affected by sources of pollution, this area scores between 61-65, indicating a level environmental of

pollution exposure and socio-economic vulnerability over 60% greater than the rest of the state's census tracts. The nearby Army Depot, a former military complex built in 1941, is contaminated with volatile organic compounds and heavy metals from decades of manufacturing military products and improper disposal of electronics waste. Residents therefore live within blocks of a Superfund site (identified by the USEPA as a candidate for clean-up and placed on the National Priorities List), one of 4 in Sacramento County. A major FedEx hub is also located within a mile from the project focus area, increasing the chances of air pollution from truck emissions.

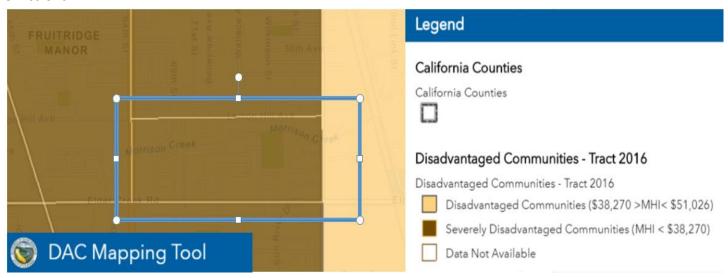


Figure 6. Disadvantaged Communities experiencing high environmental toxin burdens and low environmental benefits surround the project area (blue box) via CalEnviroScreen 3.0 Mapping Tool

Recent systematic reviews have assessed a range of evidence to understand the benefits and value of urban trees, urban parks and the overall effectiveness of urban green space to reduce heat, ozone and ultraviolet (UV) radiation, and air pollution in urban areas¹. Urban green spaces generally provide significant health benefits for residents and the community, which are directly related to the size, quality, location, and density of the green space. Emerging evidence shows some neighborhoods may be disproportionality burdened by heat-related health risks associated with a lack of urban trees, the distribution of which varies according to "ethno-racial" and socioeconomic background. Living in areas with less tree cover was associated with greater inequality in terms of heat-related health risk.². All types of green space, from single green walls to large urban forests, have been associated with relief from heat stress, reduced urban heat islands and air pollution reductions.

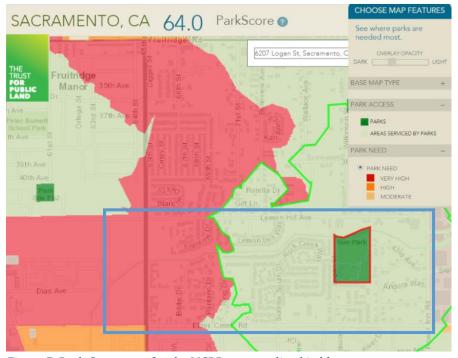


Figure 7. Park-Score map for the MCRP area, outlined in blue.

Both small and large parks can provide islands cool in cities. Spatial configuration may be more important than size when it comes to cooling. Parks that are connected and closely spaced can improve the flow of cool air through the city and thereby contribute to both cooling and air pollution mitigation. Trees in the city are particularly crucial for reducing heat stress, reducing urban heat island and reducing air pollution. While other structures can provide shade, trees have the unique ability to provide micro-cooling through evapotranspiration and relief from heat stress through shade. Several studies show inequitable distributions

neighborhood green space that is often related to socioeconomic status. This may represent health inequities and inequalities related to heat and pollution burdens. All studies of urban forests report considerable cooling and pollution mitigation effects. Similar to parks, a greater amount of trees, green density and spatial connectivity increases the cooling and pollution-mitigating capacity of urban forests

The George Sim Park, a 13.9 acre City of Sacramento park located within the project boundary, currently serves around 623 low income residents community members within a one mile radius. Figure 7 shows that the MCRP focus area will address a high need for parks and green space in the western portion of the project area, helping connect those neighborhoods to the benefits of George Sim Park and Morrison Creek.

¹ (see Roy, Byrne & Pickering, 2012; Konijnendijk et al, 2013 and Bowler, Buyung-Ali, Knight & Pullin, 2010)

² (Jesdale, MorelloFrosch & Cushing, 2013)

Existing Plans

City Planning



Figure 8. Project Prioritization, Draft 2018 City of Sacramento Bicycle Master Plan Implementation Plan. Morrison Creek project area is demarcated as a Mid-term project.

While the Morrison Creek Revitalization Project has largely been a grassroots idea and effort, several local and regional planning reports intersect with the project goals. The City of Sacramento published a 2035 City of Sacramento General Plan, which provides policy guidelines for future development and is divided into several "elements" which correspond to the MCRP. The "Mobility" element of the plan codifies the development of a multi-modal transportation network, which includes an outline of the city's requirement to create a Bicycle Master and Implementation Plan to guide the development of bikeways, supports facilities like bike parking, and programs such as education and coordination. The City's General Plan also includes a "Community Plan Area and Special Study Area Element", which identifies "opportunity markers" for areas that have a high infill, reuse, or redevelopment potential. MCRP's area intersects with 3 opportunity markers identified in the plan: Lemon Hill neighborhood, Power Inn Center, and Army Depot Center. Relatedly, the 2018 Draft Bicycle Master Implementation Plan identifies the Morrison Creek corridor as a mid-term bicycle, off-road transportation corridor. As a mid-term project, the potential implementation falls within 5 to 10 years of plan adoption and does not yet have allocated funding from the City of Sacramento.

Regional Planning

One of the projects long term goals is to inspire similar revitalization efforts up and downstream of the MCRP focus area as well as other locations in the watershed. Regional planning efforts correspond with this hope, like the 2030 Sacramento County General Plan which includes "developing a comprehensive and accessible bicycle system, implementing and updating the Sacramento City/County Bicycle Master Plan, constructing and maintaining bicycle facilities that minimize conflicts with pedestrians and motorist, and collaborating with neighboring jurisdictions and regional agencies to coordinate the planning and development of the County's bicycle network." Similarly, the 2010 Sacramento County Bicycle Master Plan aims to increase bicycle transportation at a county-wide level and also prioritizes improvement projects.



Figure 9. Morrison Creek lies within the American River Basin where, along with the combined flow of Laguna Creek, it reaches the Sacramento River north of Stone Lakes Wildlife Refuge.



Figure 10. Inset of Sacramento County Bicycle Plan highlighting the MCRP project area, in blue.

Since its early iteration, approved in 1993, the Sacramento County Bicycle Master Plan outlines the entirety of Morrison Creek, from its origination in Rancho Cordova to its confluence with Laguna Creek at Stone Lake National Wildlife Refuge, and is identified as a planned off-road bike trail. In terms of priority, this 2010 county plan includes Morrison Creek bike path from Florin Road to Rancho Cordova, as a short term priority project. It identifies a potential length of 9.51 miles with an approximate cost of \$7,836,000 (Figure 10).

Project Milestones

2016

Avondale & Glen Elder community members concieve the project concept

2017

Project team is assembled, project is awarded Kaiser Permanente and California Endowment Grants to fund outreach and project development. Contact is established with City of Sacramento officials regarding MCRP.

April 2018

Community "Visioning" Workshop following 1st Creek Clean Up hosted by MCRP establishes community priorities for the project

May 2018

1st Morrison Creek Community Committee (MCCC) Meeting. MCRP entered into update of the American River Basin (ARB) Integrated Regional Water Plan and the new ARB Storm Water Resource Management plan to be eligible for future state grant funds as a multi-benefit project.

August 2018

Three, 2-D HEC-RAS water flow models based on community priorities and developed by DWR staff were proposed and approved by the City of Sacramento staff for further design development.

September 2018

"Urban Creek Tour" is held with over 35 community member and stakeholder participants to visit other creek revitalizations in the area & learn about the challenges and opportunities in continuing the MCRP, with a 2nd design visioning workshop. The project is designed to 15% completion.

November 2018

Funding from the Confluence Regional Partnership is secured to finish pre-engineering and feasibility study and design to 30%.

Spring 2019

Application Due for State "Urban Steams" Grant Program to fund design and possibly construction.

Summer 2019

60% Design and Specs: Preliminary Permitting

100% Design and Specs: Bid Package

Construction!

Launch, Monitoring, and Maintenance

Appendix A: Project Partners and Funders

The Morrison Creek Revitalization Project follows a holistic approach to improving the quality of life in the neighborhoods through which this creek flows. Therefore, a wide variety of partners are involved. Their interests as well as roles and responsibilities are described below. Additional partners will undoubtedly be added as the project progresses.

Avondale and Glen Elder Neighborhood Association (AGENA)

AGENA is a neighborhood association established by the City of Sacramento with a mission to enhance the livability for residents in the Avondale/Glen Elder community. Through their fiscal sponsor CROP, AGENA received a \$10,000 grant from The California Endowment to convene neighborhood residents to identify neighborhood improvements and to create a plan of action around their ideas. The Morrison Creek Improvement Project was identified as a priority.

Capital Region Organizing Project (CROP)

CROP is a community- organizing 501c3 nonprofit with a mission to build power for Sacramento residents through democratic engagement, civic engagement, leadership opportunities, and collaboration. CROP has provided fiscal sponsorship and community organizing assistance to AGENA on the Morrison Creek Improvement

Project.

The California Endowment - Building Healthy Communities Program

Building Healthy Communities (BHC) is a 10 year, \$1 billion comprehensive community initiative launched by The California Endowment in 2010 to advance statewide policy, change the narrative, and transform 14 of California's communities devastated by health inequities into places where all people and neighborhoods thrive. The MCRP falls within the regional priorities area and BHC has committed \$130,000 over 4 years (2016-2020). For more information, visit http://www.calendow.org/building-healthy-communities/

CBEC Engineering

This local eco-hydrology and engineering consulting firm is engaged to provide design alternatives that reflect hydrologic conditions and community visions of an enhanced Morrison Creek. CBEC will supplement its in-kind assistance with funding from Kaiser Permanente and The California Endowment to develop illustrations and other communication tools for discussion of the project's technical issues in collaboration with DWR's Riverine Stewardship Program. CBEC is also completing the project's pre-engineering and feasibility study, funded by SHRA CDBG.

City of Sacramento

The creek channel within the project area, as well as the adjacent Sim Park and the George Sim Community Center, are City property. Therefore, the City is coordinating with DWR on modelling alternative channel configurations to achieve the project goals, and must approve the final project design. The City will also have

responsibility for the project's ongoing operation and maintenance. As landowner of the creek, the city is the project owner, so they have to be the lead applicant on some of the State or Federal grant applications for the project. This includes conversations and relationships with City Council members as well as City staffers in varying departments, including: Parks and Recreation, Utilities, Storm-water Management, and others.

Department of Water Resources (DWR)

DWR has combined its Fish Passage Improvement and Urban Streams Restoration Programs into the *Riverine Stewardship Program* with a mission "to advance the stewardship of California Rivers and Streams and help communities realize the full value of their water resources" through a comprehensive program offering research, community engagement, design, construction and operational support. Through this program, DWR has committed \$150,000 for two areas of in-kind support over three years to the Morrison Creek project: (1) developing hydrologic and hydraulic models of the creek, i.e., its morphological characteristics and ability to carry floodwaters, and how they would be affected by changes such as the shape of the channel and the introduction of vegetation; and (2) coordinating and conduct a project-related community outreach program with the goal to build community capacity for involvement in all phases of the project from visioning through the design phase to construction and stewardship.

Environmental Justice Coalition for Water (EJCW)

EJCW is a Sacramento-based statewide coalition that works to empower low-income and communities of color to advocate for clean, safe, and affordable water. EJCW uses education, training, litigation, community organizing, capacity-building, and technical assistance to build the advocacy movement, and to connect grassroots communities with policy advocates to tackle structural inequity in how California's water resources are managed. EJCW has acted in project management, convening, outreach, and fundraising roles for the MCRP.

Kaiser Permanente

Kaiser Permanente's community involvement with the MCRP uniquely pairs grant funding with nearly 70 years of clinical expertise, medical research, and volunteerism to support prevention-focused, evidence-based programs that expand access to care, create healthy environments and advance health knowledge. Kaiser Permanente has contributed \$40,000 over two years to aid people in this community get access to the resources they need to lead a healthy life with support for community organizing to complement a community-based visioning process. For more information about Kaiser Permanente's work in the community, visit www.kp.org/communitybenefit/ncal.

Rivers, Trails and Conservation Assistance Program (RTCA), National Park Service (NPS)

As the "Community Assistance Arm of the National Park Service," RTCA provides planning and technical assistance to community efforts to conserve their valued local natural and cultural resources, and to provide recreational opportunities close to home. RTCA is assisting the project team with development of a collaborative project approach and work planning.

Sacramento Area Bicycle Advocates (SABA)

SABA is interested in supporting MCRP efforts as it will provide a bike-able transportation connection between Power Inn Road and 63rd St. To that end, they have applied for grants to fund end-of-trip bicycle facilities and will continue to coordinate with the project team on the project design and implementation.

Sacramento Area Flood Control Agency (SAFCA)

SAFCA is responsible for management of Morrison Creek both downstream and upstream of the project, but does not have direct control of the area. The City of Sacramento is a member organization of SAFCA, which will facilitate the project's approval. SAFCA has provided information about other creek revitalization efforts. They have also provided the project a support letter for our NPS grant.

Sacramento Housing Alliance (SHA)

SHA is a non-profit, 501c3 that advocates for safe, stable, accessible, and affordable homes for homeless and lower income people and for healthy communities through education, leadership, and policy change. SHA is providing technical and policy assistance on housing issues and anti-displacement strategies within the project area. Possible gentrification is an area of concern for the community and a project goal is to avoid such displacement occurring.

California State University, Sacramento (Sac State)

Faculty, staff and students from Sacramento State University regularly participate in a variety of community based efforts, including watershed restoration projects in the American River Basin, and faculty from several departments teach courses on watershed restoration research and field methods. Through Sac State Sustainability, the campus provides volunteer leads and site captains for volunteer cleanup events along the American River, and participates in data collection projects and events to support Sacramento Area Creeks Council "Creek Week" and the City of Roseville's Adopt-A Creek Program. The MCRP area is only 3.5 miles away from campus, and so provides an excellent opportunity to support volunteer efforts and conduct research. Educational components are being incorporated into the project, with hopes to leverage Sac State Sustainability's relationship with Sac City Unified School District for a wider impact.

Sacramento Tree Foundation

Sacramento Tree Foundation is a non-profit organization with the mission to grow healthy, livable communities in the Sacramento region by building the best regional urban forest in the nation. The organization plans to leverage existing funding from the Greenhouse Gas Reduction Fund (GGRF) to provide native trees for the Morrison Creek Revitalization Project and to collaborate with the community for this aspect of the project.

Sacramento Sewer and Sanitation District - Confluence Regional Partnership Grant

The Sacramento Sewer and Sanitation District awarded EJCW over \$52,000 to complete the 30% design and feasibility study, with the long term goals of promoting watershed education and improved water quality as a result of increased stewardship.

Sacramento Housing and Redevelopment Agency (SHRA): Community Development Block Grant

SHRA awarded VFWC a CDBG worth \$50,000 for the design and project management of MCRP in order to move the project forward.

Sacramento Community Land Trust

SCLT prevents displacement and builds historically discriminated neighborhood power to combat deterioration and market speculation by fostering equitable development for generations to come. The Land Trust will take ownership of empty parcels along Morrison Creek for community use and affordable housing development.

Valley Foothill Watersheds Collaborative (VFWC)

VFWC is a regional partnership focused on creek-stream watershed health in the American River Basin bounded by the Bear, Sacramento and Cosumnes Rivers, and Folsom Lake. VFWC shares expertise from nonprofit, government, and private organizations to help implement priority projects for watershed health by connecting partners to pooled services and resources for project planning, funding, volunteers, integrating related projects, and outreach. Dry Creek Conservancy has been the fiscal agent and a founding member of the VFWC, along with Sacramento Area Creeks Council (SACC) and Laguna Creek Watershed Council. VFWC and SACC have donated in-kind staff to the Morrison Creek Revitalization Project for planning and grant-writing.

Walk Sacramento

Walk Sacramento leads the region in developing safe, walkable communities that promote health and economic growth. This non-profit organization works with transportation and land use planners, elected officials and community groups on behalf of safe and walkable environments especially for children, seniors, disabled, and low-income individuals. Walk Sacramento has been engaged in the project through technical expertise such as walk audits which identify important access points for community members and are critical elements to include in the project design. They will also be involved in the design of walking paths for the project. Once project improvements begin, Walk Sacramento will help to increase walking and biking paths leading to the creek to increase community access.

Wells Fargo

Wells Fargo contributed the in-kind support of its community engagement consultant *Pacific Community Solutions, Inc.* to help develop the project's initial community engagement, especially for community recruitment and participation in visioning.

Appendix B: Funding

	Funding to Date
The California Endowment- Building Health Communities Grant	\$130,000 (2016-2020)
Kaiser Permanente- Community Benefit Grant	\$40,000 (2017-2019)
Wells Fargo	\$7,280 in-kind for a community outreach consultant (2017)
National Parks Service - Rivers, Trails & Conservation Assistance Program	In-kind, 200 hours of consulting for project management (2018)
California Department of Water Resources - Riverine Stewardship Program	In-kind, \$150,000, for technical assistance (2016-2019)
CBEC EcoEnginering, Inc	In-kind, amount undisclosed for consulting for project conceptualization (2017 – continuing)
Confluence Regional Partnership Funding, Sacramento Regional County Sanitation District	\$52,500 for Eco-engineering firm to complete 30% Design and Feasibility Study (2018 – continuing)
Valley Foothill Watersheds Collaborative – Dry Creek Conservancy	In-kind, \$34,000 project development staff time (2017-continuing)

Upcoming Funding Opportunities				
Agency and Program	Funding	Status		
Sacramento Housing and Redevelopment Agency Community Development Block Grant	\$50,000	Available Jan. 2019		
California Department of Water Resources, Urban Streams Grant	Up to \$1,000,000 for creek bed improvements	Application due May 2019		
California Transportation Department, Adaptation Planning and Sustainable Communities Grants	\$100,000 - \$1,000,000	Application due November 2019		
Land and Water Conservation Fund Outdoor Recreation Legacy Partnership Program, Department of the Interior, National Park Service	\$250,000 - \$750,000	Application due Fall 2019		

Appendix C: Community and Stakeholder Engagement

Event	Community Participants	# Meetings	Notes
AGENA Board Meetings	Core Team members	12	Monthly, beginning 2017 to relay project updates and solicit feedback
Morrison Creek Community Committee	4-15 each	8	Monthly, beginning May 2018
Spartan Club, Will C. Wood Middle School	5-20 students	10	A Civic Club run by science teacher, ongoing as of Jan. 2019
Mutual Housing Alliance Resident's Meeting	10	1	February 2018, Vietnamese community engagement
Parent-Counselor Coffee Chats, Elder Creek Elementary School	20-30	3	Monthly, student and family engagement
Other Community Events	15-50	6+	Elder Creek Family Night Feb. 2018, AGENA Eggstravaganza March 2018, Junior Giants Ceremonies 2017, 2018, AGENA Ghouls and Goblins Oct. 2018, AGENA National Night Out Sept. 2018

^{*}Surveys about the project were administered to parents, teachers, and children at each event, while at visioning events, charrette-style activities were conducted.

Appendix D: Preliminary Design Concepts

