



Jeff Seymour
Family Center

Bioswale

GREEN
INFRASTRUCTURE
ELEMENT



A bioswale is landscaping feature used to slow, collect, infiltrate, and filter stormwater. At the Jeff Seymour Family Center, the bioswales are designed to provide shade, reduce water use, improve air quality, and provide habitat for birds, butterflies, and native plants. Bioswales enhance the campus experience by creating a more naturalistic environment.



Metrics

	Stormwater Capacity <small>and space created</small>	1800 <small>cubic feet</small>
	Habitat Value	<input checked="" type="checkbox"/>
	Heat Island Reduction <small>surface temperature reduction in previous conditions</small>	10 °F
	Promotes Physical Activity	<input checked="" type="checkbox"/>
	Greenhouse Gas Uptake <small>of trees over 40 years</small>	126 <small>metric tons</small>
	Value of GHG Uptake <small>of trees over 40 years</small>	\$28,000

Funding for this project has been provided by the California Greenhouse Gas Reduction Fund through the California Department of Forestry and Fire Protection (CAL FIRE), Urban and Community Forestry Program.



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Grass

Bioswale





Jeff Seymour
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Rain Garden

GREEN
INFRASTRUCTURE
ELEMENT



A rain garden is a planted depression that absorbs stormwater runoff from impervious urban surfaces, recharging our groundwater supply. Rain gardens located throughout the Jeff Seymour Family Center collect and infiltrate water from rooftops, sidewalks, asphalt blacktops, and parking lots. These rain gardens also help cool surrounding surfaces and provide habitat for native plants, birds, and butterflies.



BEFORE

The rain garden in front of you began as a flat area of only grass. Amigos de los Rios staff, volunteers and conservation corps workers removed the grass and changed the shape of the ground to better capture stormwater.



AFTER

The rain garden today is planted with water-wise and native shrubs and trees, with mulch and gravel to help absorb and infiltrate stormwater as well as provide habitat to birds, butterflies, and other pollinators.

Metrics

	Stormwater Capacity <small>and score of all construction projects</small>	7000 <small>cubic feet</small>
	Habitat Value	<input checked="" type="checkbox"/>
	Heat Island Reduction <small>average temperature reduction vs. previous conditions</small>	10°F
	Promotes Physical Activity	<input checked="" type="checkbox"/>
	Greenhouse Gas Uptake <small>at trees over 40 years</small>	428 <small>metric tons</small>
	Value of GHG Uptake <small>at trees over 40 years</small>	\$94,000

Asphalt / Grass



Rain Garden



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Rain Modules

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ELEMENT



Rain modules collect and help infiltrate stormwater. In a heavy storm, water fills the empty space inside the modules, allowing time for the water to seep into the soil below. As gravity pushes the water through layers of soil, it is naturally cleaned before reaching our underground water supply. At the Jeff Seymour Family Center, rain modules were strategically installed underneath rain gardens cut out of the school blacktop.

BEFORE



The asphalt blacktop did not allow water to infiltrate. Instead, water ran off the blacktop and into the storm drain system and the nearby Rio Hondo.

AFTER



Asphalt was removed and rain modules installed five feet below the surface. The modules are surrounded by gravel and a layer of sand, allowing stormwater to collect and infiltrate.

Asphalt



NO WATER INFILTRATION

Rain Garden +
Rain Modules



Rain Modules

Metrics

	Stormwater Capacity	400 <small>cubic feet created</small>
	Habitat Value	<input checked="" type="checkbox"/>
	Heat Island Reduction	13 °F <small>average temperature reduction vs. previous conditions</small>
	Promotes Physical Activity	<input checked="" type="checkbox"/>
	Greenhouse Gas Uptake	39 <small>lb of trees over 40 years</small>
	Value of GHG Uptake	\$9,000 <small>if trees over 40 years</small>

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Sidewalk Furrow

GREEN
INFRASTRUCTURE
ELEMENT



Sidewalk furrows are long, vegetated strips between the sidewalk and the street. The furrows have gently bowl-shaped depressions under a layer of mulch to capture stormwater running off nearby impermeable surfaces. Amigos de los Rios staff, volunteers and conservation corps workers removed grass and planted the furrows with native vegetation and shade trees, creating habitat and helping to cool the parking lot and sidewalk.



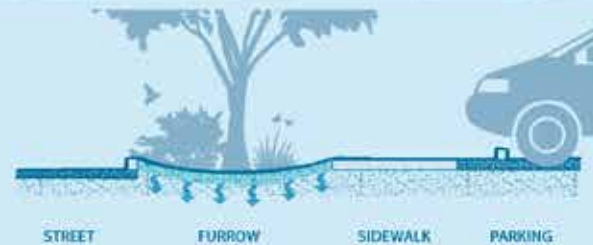
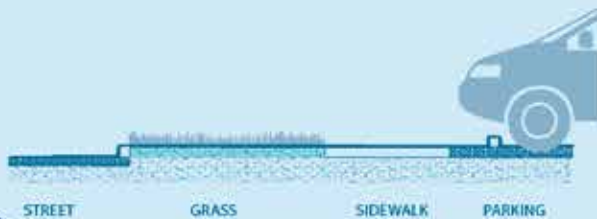
Metrics

	Stormwater Capacity	290 <small>1,000 gal.</small>
	Habitat Value	<input checked="" type="checkbox"/>
	Heat Island Reduction	10 °F <small>average temperature reduction in peak summer conditions</small>
	Promotes Physical Activity	<input checked="" type="checkbox"/>
	Greenhouse Gas Uptake	90 <small>lb CO₂ eq./yr.</small>
	Value of GHG Uptake	\$20,000 <small>at \$220/ton CO₂ eq.</small>

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Jeff Seymour
Family Center

Urban Forestry

GREEN
INFRASTRUCTURE
ELEMENT



Over 400 new trees were planted throughout the Jeff Seymour Family Center—cooling surfaces, creating habitat, improving air quality, capturing stormwater, and beautifying the campus environment. The grove of trees in front of you includes California native Oak, Hollyleaf Cherry, and Toyon. Cottonwood trees encircle the rain garden behind you.



BEFORE



The grass field had little habitat value and no shade. The campus as a whole had very few trees.

AFTER



Hundreds of new trees can now be found throughout the Jeff Seymour Family Center campus, benefiting both people and the environment.

Grass Field

Metrics

	Stormwater Capacity <small>and space created</small>	30 <small>cubic feet</small>
	Habitat Value	<input checked="" type="checkbox"/>
	Heat Island Reduction <small>average temperature reduction in paved conditions</small>	15 °F
	Promotes Physical Activity	<input checked="" type="checkbox"/>
	Greenhouse Gas Uptake <small>of trees over 40 years</small>	1219 <small>metric tons</small>
	Value of GHG Uptake <small>of trees over 40 years</small>	\$268,000

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Jeff Seymour
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Walking Paths

GREEN
INFRASTRUCTURE
ELEMENT



Studies have shown that exposure and access to green space improves academic behavior and positively affects mental and physical health. The walking paths at the Jeff Seymour Family Center provide opportunities for physical fitness in a more natural setting. A walking path loops around the campus field and alongside a bioswale shaded by native Cottonwood, Sycamore, and Oak. In the blacktop area, planting space was cut out of asphalt, creating paths amongst native trees and shrubs.



BEFORE



The field and blacktop did not have designated places to walk.

AFTER



Walking paths surrounding the field and throughout the former blacktop area provide opportunities for physical fitness in a natural setting.

Grass Field

Metrics

	Stormwater Capacity <small>last space created</small>	—
	Habitat Value	<input checked="" type="checkbox"/>
	Heat Island Reduction <small>average temperature reduction vs. previous conditions</small>	12 °F
	Promotes Physical Activity	<input checked="" type="checkbox"/>
	Greenhouse Gas Uptake <small>at trees over 10 years</small>	632 <small>metric tons</small>
	Value of GHG Uptake <small>at trees over 10 years</small>	\$139,000

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Jeff Seymour
Family Center

Stormwater Basin

GREEN
INFRASTRUCTURE
ELEMENT



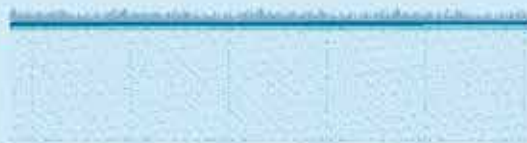
A stormwater basin is a large depression in the landscape that detains and absorbs stormwater runoff, helping to recharge our groundwater supply. During large storms, hundreds of gallons of water flow across the campus field and parking lot towards street storm drains. The basin captures this water before it reaches the street and acts as an overflow area for the nearby bioswale.



Metrics

	Stormwater Capacity <small>will store runoff</small>	1000 <small>cubic feet</small>
	Habitat Value	<input checked="" type="checkbox"/>
	Heat Island Reduction <small>average temperature reduction vs. previous conditions</small>	10 °F
	Promotes Physical Activity	<input checked="" type="checkbox"/>
	Greenhouse Gas Uptake <small>at least over 10 years</small>	15 <small>tons of CO2</small>
	Value of GHG Uptake <small>at least over 10 years</small>	\$3,500

Grass Field



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Bioswale

GREEN
INFRASTRUCTURE
ELEMENT



A bioswale is landscaping feature used to slow, collect, infiltrate, and filter stormwater. This bioswale captures stormwater running off the field. Designed like a dry stream bed, the bioswale is planted with California native trees and shrubs. A pipe directs excess water to the stormwater basin to the southeast.



Metrics

	Stormwater Capacity <small>land area treated</small>	3700 <small>cubic feet</small>
	Habitat Value	<input checked="" type="checkbox"/>
	Heat Island Reduction <small>average temperature reduction vs. previous conditions</small>	10 °F
	Promotes Physical Activity	<input checked="" type="checkbox"/>
	Greenhouse Gas Uptake <small>at trees over 20 years</small>	126 <small>metric tons</small>
	Value of GHG Uptake <small>at trees over 20 years</small>	\$26,000

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Jeff Seymour
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Bike Safety Track

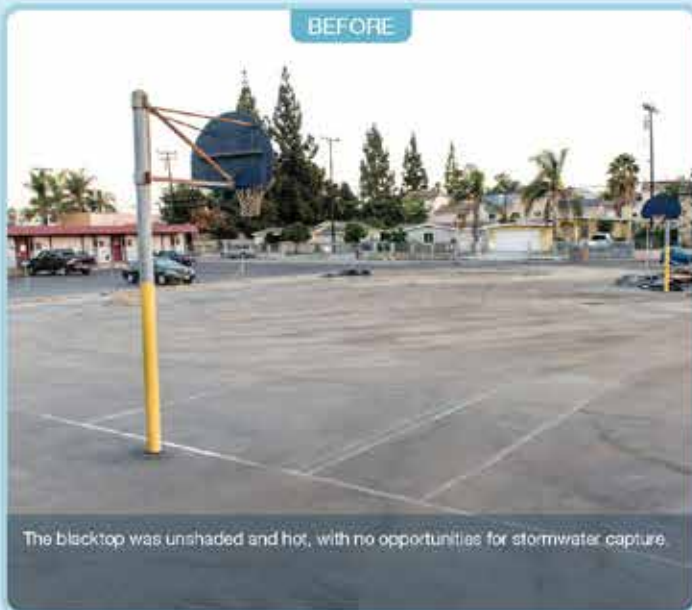
GREEN
INFRASTRUCTURE
ELEMENT



The Jeff Seymour Family Center bike safety track is an innovative resource for the community to learn to safely ride city streets. The track was created by removing asphalt from the campus blacktop and resurfacing the area with a “cool pavement” coating, reducing surrounding temperatures. The asphalt cut-outs capture stormwater runoff and are planted with trees and native shrubs.



BEFORE



The blacktop was unshaded and hot, with no opportunities for stormwater capture.

AFTER



The bike track helps the community learn safe bike riding skills. It features a “cool pavement” surface, trees and native shrubs, and stormwater capture.

Metrics

	Stormwater Capacity <small>and space created</small>	700 <small>cubic feet</small>
	Habitat Value	<input checked="" type="checkbox"/>
	Heat Island Reduction <small>average temperature reduction in previous conditions</small>	13 °F
	Promotes Physical Activity	<input checked="" type="checkbox"/>
	Greenhouse Gas Uptake <small>of trees over 40 years</small>	45 <small>metric tons</small>
	Value of GHG Uptake <small>of trees over 40 years</small>	\$9,800

Asphalt Blacktop



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Jeff Seymour
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Bike Skills Track

GREEN
INFRASTRUCTURE
ELEMENT



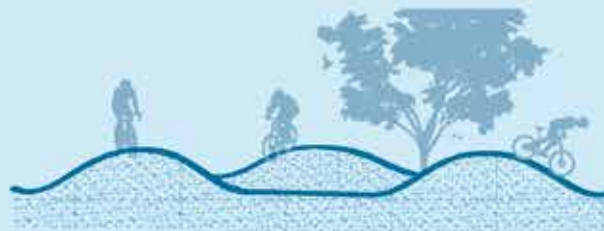
With a view of the San Gabriel Mountains, this bike skills 'pump' track is a place to practice off-road biking skills. The track continues around the field with 'table tops' that connect to the children's bike skills area. The track is surrounded by a walking path and planted with native trees. **The Bike Skills Track is not yet open to the public. Please contact Amigos de los Rios or Bike SGV for information about use of the track.**



Metrics

	Stormwater Capacity	—
	Habitat Value	<input checked="" type="checkbox"/>
	Heat Island Reduction	9 °F
	Promotes Physical Activity	<input checked="" type="checkbox"/>
	Greenhouse Gas Uptake	84
	Value of GHG Uptake	\$18,500

Grass Field



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Jeff Seymour
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Kids Bike Skills

GREEN
INFRASTRUCTURE
ELEMENT



The Kids Bike Skills Track is a place for children to get exercise in a natural setting and practice off-road biking skills. The track surrounds a rain garden and stormwater basin and is bordered by native trees and shrubs. **The Kids Bike Skills Track is not yet open to the public. Please contact Amigos de los Rios or Bike SGV for information about use of the track.**



BEFORE



The open field had limited outdoor recreation opportunities.

AFTER



The kids bike skills track helps children get exercise and improve their off-road biking abilities.

Metrics

	Stormwater Capacity	—
	Habitat Value	✓
	Heat Island Reduction	XX °F
	Promotes Physical Activity	✓
	Greenhouse Gas Uptake	84 tons/yr
	Value of GHG Uptake	\$18,500

Grass Field



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Jeff Seymour
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Community Garden

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INFRASTRUCTURE
ELEMENT



These community garden boxes are located throughout the Jeff Seymour Family Center, making food production accessible to the students, staff, and visitors of the center. Many of these boxes are tended by students of the Opportunity Program and have become an extension of the classroom, giving students hands-on learning in science, math, art, and nutrition.



Metrics

	Stormwater Capacity <small>and space credit</small>	140 <small>CREEFest</small>
	Habitat Value	<input checked="" type="checkbox"/>
	Heat Island Reduction <small>average temperature reduction vs. paved, outdoor</small>	5 °F
	Promotes Physical Activity	<input checked="" type="checkbox"/>
	Greenhouse Gas Uptake <small>if trees over 10 years</small>	—
	Value of GHG Uptake <small>if trees over 40 years</small>	—

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Jeff Seymour
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Permeable Parking

GREEN
INFRASTRUCTURE
ELEMENT



When stormwater flows across parking lots, it picks up oils, metals and other pollutants along the way which end up in our storm drain system. Infiltrating water on site helps protect our water supply. At the Jeff Seymour Family Center, permeable parking solutions include rain gardens cut out of the asphalt, gravel parking spaces, and pervious concrete, all of which help absorb stormwater runoff.



Metrics

	Stormwater Capacity <small>with space of all campus permeable parking</small>	420 <small>cubic feet</small>
	Habitat Value	<input checked="" type="checkbox"/>
	Heat Island Reduction <small>Average temperature reductions, previous conditions</small>	5 °F
	Promotes Physical Activity	<input checked="" type="checkbox"/>
	Greenhouse Gas Uptake <small>of trees, over 40 years</small>	28 <small>metric tons</small>
	Value of GHG Uptake <small>of trees, over 40 years</small>	\$8,000



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Pervious Concrete

GREEN
INFRASTRUCTURE
ELEMENT



Pervious concrete is a special type of concrete that allows water to pass directly through, helping to absorb stormwater runoff and to recharge our groundwater supply. Look down at the concrete you're standing on. Can you see the difference? At the Jeff Seymour Family Center, pervious concrete was installed at strategic locations in the sidewalk and parking lots.



Regular Concrete



NO WATER INFILTRATION



Pervious Concrete



Metrics

	Stormwater Capacity <small>add space of 80 cubic feet pervious concrete</small>	90 <small>cubic feet</small>
	Habitat Value	<input checked="" type="checkbox"/>
	Heat Island Reduction <small>average temperature reduction vs. pervious concrete</small>	7 °F
	Promotes Physical Activity	<input checked="" type="checkbox"/>
	Greenhouse Gas Uptake <small>of trees over 40 years</small>	—
	Value of GHG Uptake <small>of trees over 40 years</small>	—

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Cool Pavement

GREEN
INFRASTRUCTURE
ELEMENT



Dark-colored pavement, like the asphalt of school blacktops, absorb and store large amounts of sunlight, contributing to the Urban Heat Island effect and creating hot, unpleasant conditions for people. At the Jeff Seymour Family Center, large areas of asphalt are covered with a solar reflective coating which stays cooler in the sun. Asphalt was removed in many other areas of the blacktop to create planting space for trees and shrubs, further cooling the pavement.



BEFORE

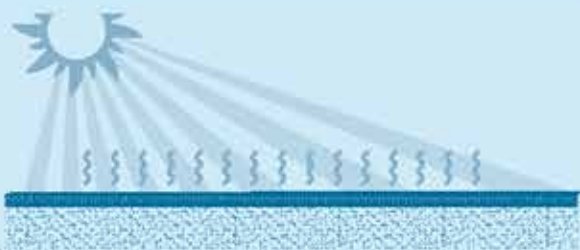


AFTER



Metrics

	Stormwater Capacity	—
	Habitat Value	—
	Heat Island Reduction	13 °F
	Promotes Physical Activity	<input checked="" type="checkbox"/>
	Greenhouse Gas Uptake	—
	Value of GHG Uptake	—



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Jeff Seymour
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Rain Barrels

GREEN
INFRASTRUCTURE
ELEMENT



The rain barrels throughout the campus courtyards capture stormwater from the roof and condensation from air conditioning units for use in the community gardens. Installation of these rain barrels and their pedestals were part of an Eagle Scout project by Troop...
<coming>



BEFORE

AFTER

COMING SOON

Metrics



Stormwater Capacity

total space created

XXX

public foot



Habitat Value

—



Heat Island Reduction

average temperature reduction vs. previous conditions

XX °F



Promotes Physical Activity

☒



Greenhouse Gas Uptake

of trees over 40 years

—



Value of GHG Uptake

of trees over 40 years

—

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