



Lyle Center Watershed Restoration and Stormwater Management

Technical Resources Program

Fiscal Year 2026-2027

Upper San Gabriel River Watershed

Andy Wilcox

Associate Dean, College of Environmental Design

Cal Poly Pomona



Project Overview

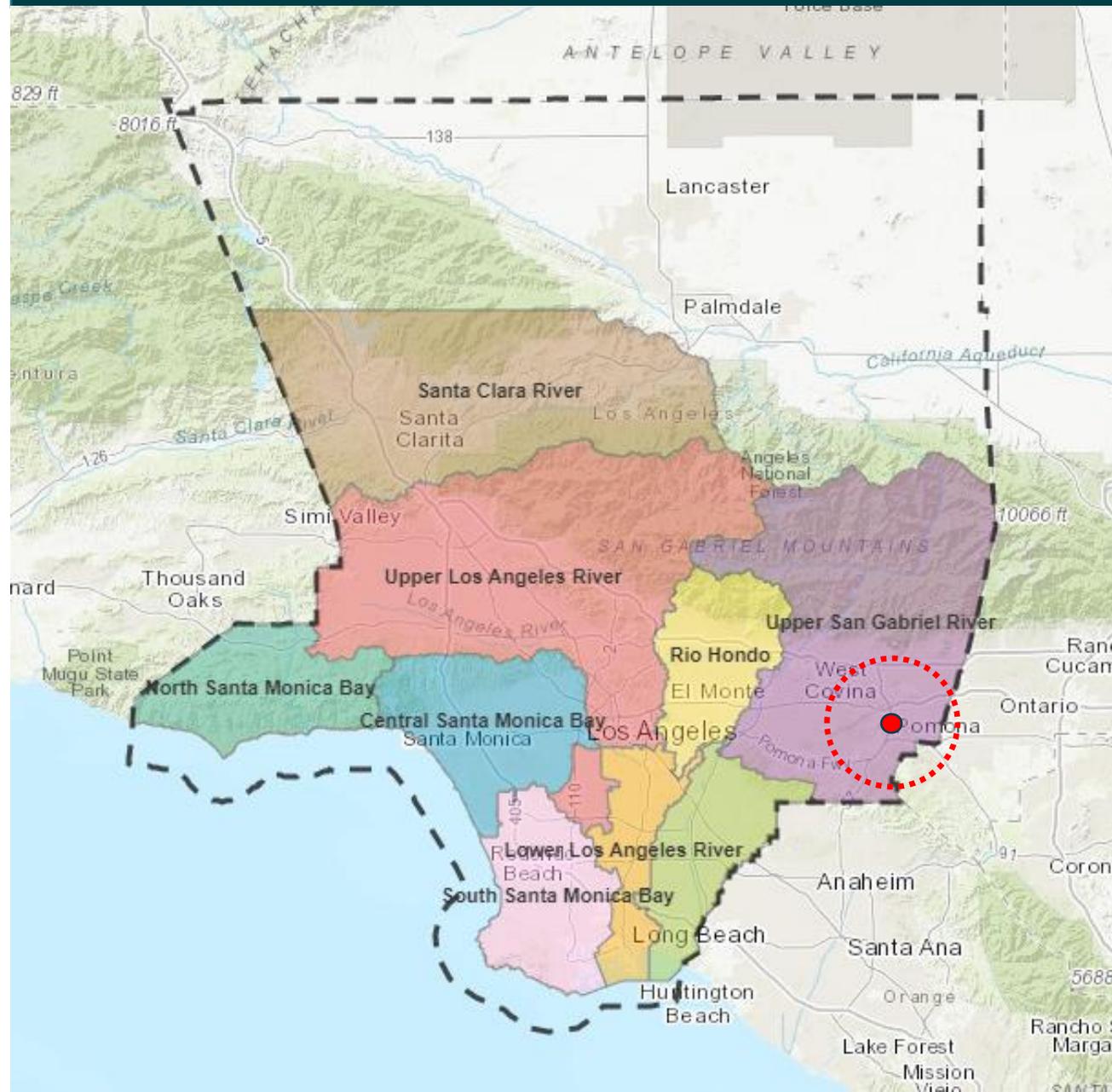
Transform (Lyle Center) campus grounds and facilities for habitat restoration and nature-based stormwater management to engage public education and the community.

- **Primary Objective:**
 - Address water quality, air quality, watershed and habitat restoration through nature-based solutions and green infrastructure on the Cal Poly Pomona campus as a regional example and resource.
- **Secondary Objectives:**
 - Expand the Lyle Center as a Living Laboratory and regional public education resource.
 - Expand community education - professional training resources, K-12 education, and regional water resource training for municipalities.
 - Expand access - public tours, co-design workshops, and/or student volunteer programs; develop mentoring partnerships with local non-profits or institutions for the direct benefit of surrounding neighborhoods.
- **Project Status:** PLANNING Phase – Technical Resource Support Requested
- Total Funding Requested: \$400,000





Project Location – Regional



Cal Poly Pomona Campus

3801 West Temple Ave.

Pomona

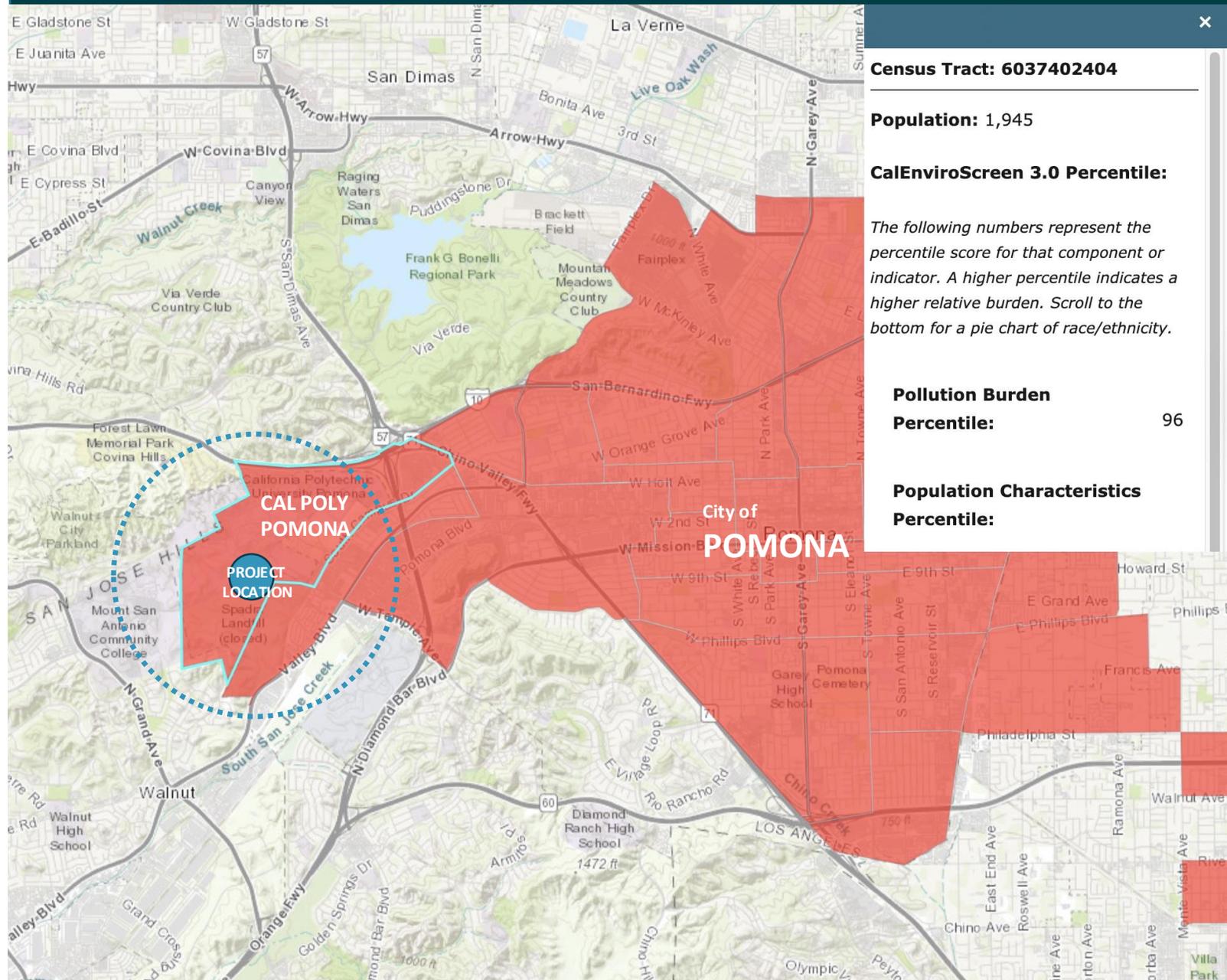
Lyle Center for Sustainability and Regenerative Studies

4105 West Temple Ave

Upper San Gabriel River Watershed



Project Location – Disadvantaged Communities



Census Tract: 6037402404

Population: 1,945

CalEnviroScreen 3.0 Percentile:

The following numbers represent the percentile score for that component or indicator. A higher percentile indicates a higher relative burden. Scroll to the bottom for a pie chart of race/ethnicity.

Pollution Burden Percentile: 96

Population Characteristics Percentile:

DAC Boundary Census Tract 6037402404

CalEnviroScreen Pollution Burden

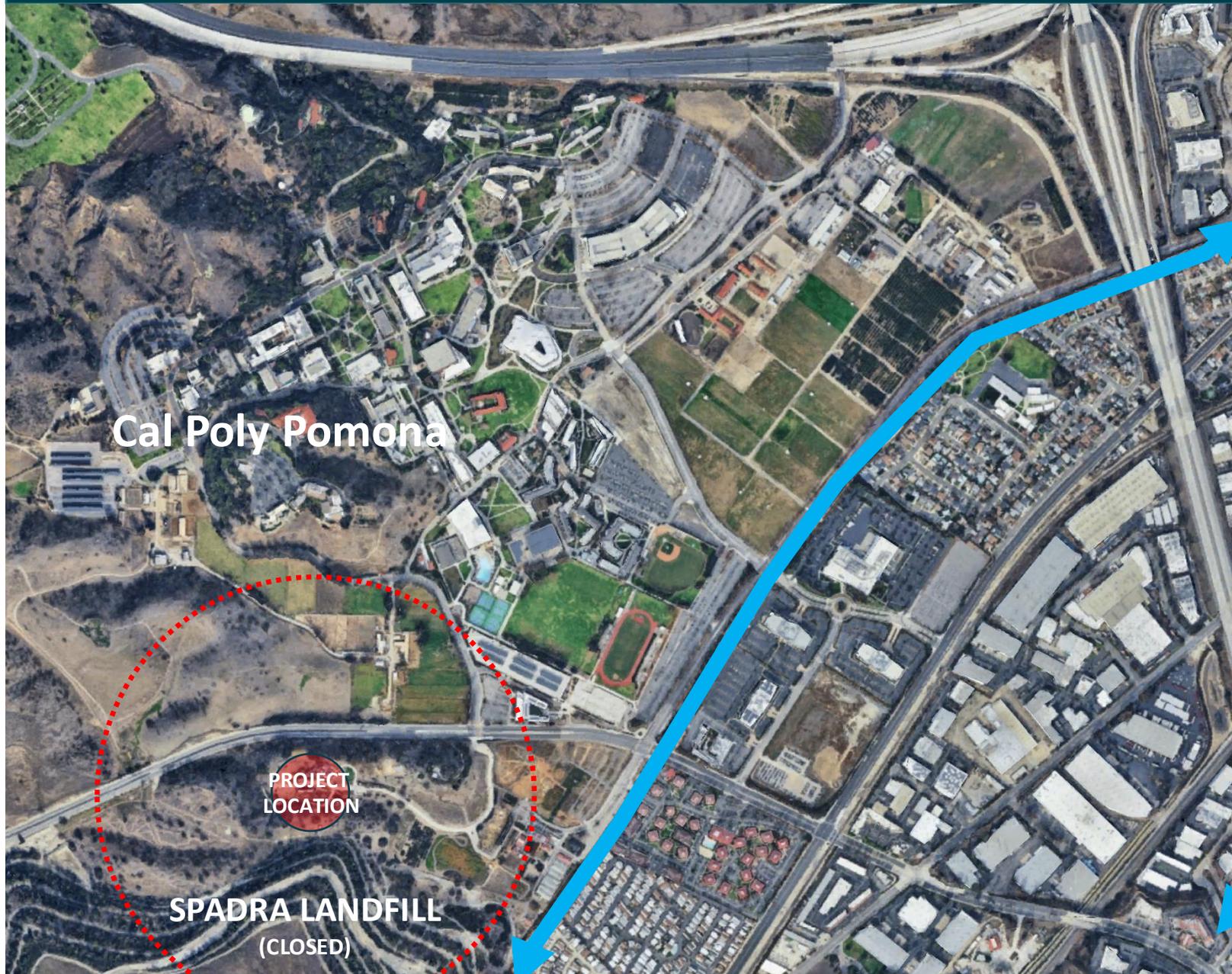
<u>Ozone:</u>	82
<u>PM 2.5:</u>	82
<u>Diesel:</u>	70
<u>Pesticides:</u>	59
<u>Toxic Releases:</u>	96
<u>Traffic:</u>	91
<u>Drinking Water:</u>	57
<u>Cleanups:</u>	40
<u>Groundwater Threats:</u>	34

<u>Hazardous Waste:</u>	50
<u>Impaired Water:</u>	15
<u>Solid Waste:</u>	68

Source: <https://oehha.maps.arcgis.com/>



Project Location – Cal Poly Pomona + DAC



Cal Poly Pomona is impacted by all measures of DAC designation.

- 27,000+ Students
- 55% First Generation
- 70% Pell Eligible
- Hispanic Serving Institution
- Asian American and Native American Pacific Islander-Serving Institution

Local School Districts

- Pomona Unified
- Walnut Valley Unified
- Glendora Unified
- Bonita Unified

Thompson Wash Connects to South San Jose Creek



Project Location

Lyle Center for Sustainability and Regenerative Studies

CAL POLY POMONA Campus

A mission **to advance the principles of environmentally sustainable living** through education, research, demonstration and community outreach.

The primary goal of the Lyle Center is to support education and research into environmental solutions for contemporary living. The educational programs continue to pursue this goal and remain a work-in-progress, a **living laboratory**.

Innovation through research.

Original Supporters:

W.K. Kellogg Foundation
Amundsen Foundation
LA County Sanitation District
Bank of America
Southern California Edison



Opened - 1994
Major renovation- 2025



Project Location

Lyle Center for Sustainability and Regenerative Studies

CAL POLY POMONA Campus

Regenerative Studies explores communities and systems that renew, restore, and grow stronger over time. **Incorporating natural processes, community action, technology and human creativity, regenerative design encourages a way of living that not only protects resources but actively enriches them** — ensuring that our shared future becomes more vibrant, balanced, and sustainable with each generation.

Recognition + Awards

Environmental Leadership Award, 2011

Environmental Committee of the Irwindale Chamber of Commerce.

Community Garden Service Award, 2012

Pomona Unified School District.

National Community Service Award, 2017

American Society of Landscape Architects.





Project Location

Lyle Center for Sustainability and Regenerative Studies

CAL POLY POMONA Campus
Education and Research Facility

Innovation through research.

Human Ecosystem with nature as a model
Passive Solar Design
Energy | Water | Waste | Shelter | Food

30 years on, innovation in water management
has outpaced the Lyle Center.

Reinvigorate the relevance of the Lyle Center
Regional Education and Training Facility

Can meet technical goals of SCW program and
Expand the education reach of SWC program -
field trips, tours and trainings

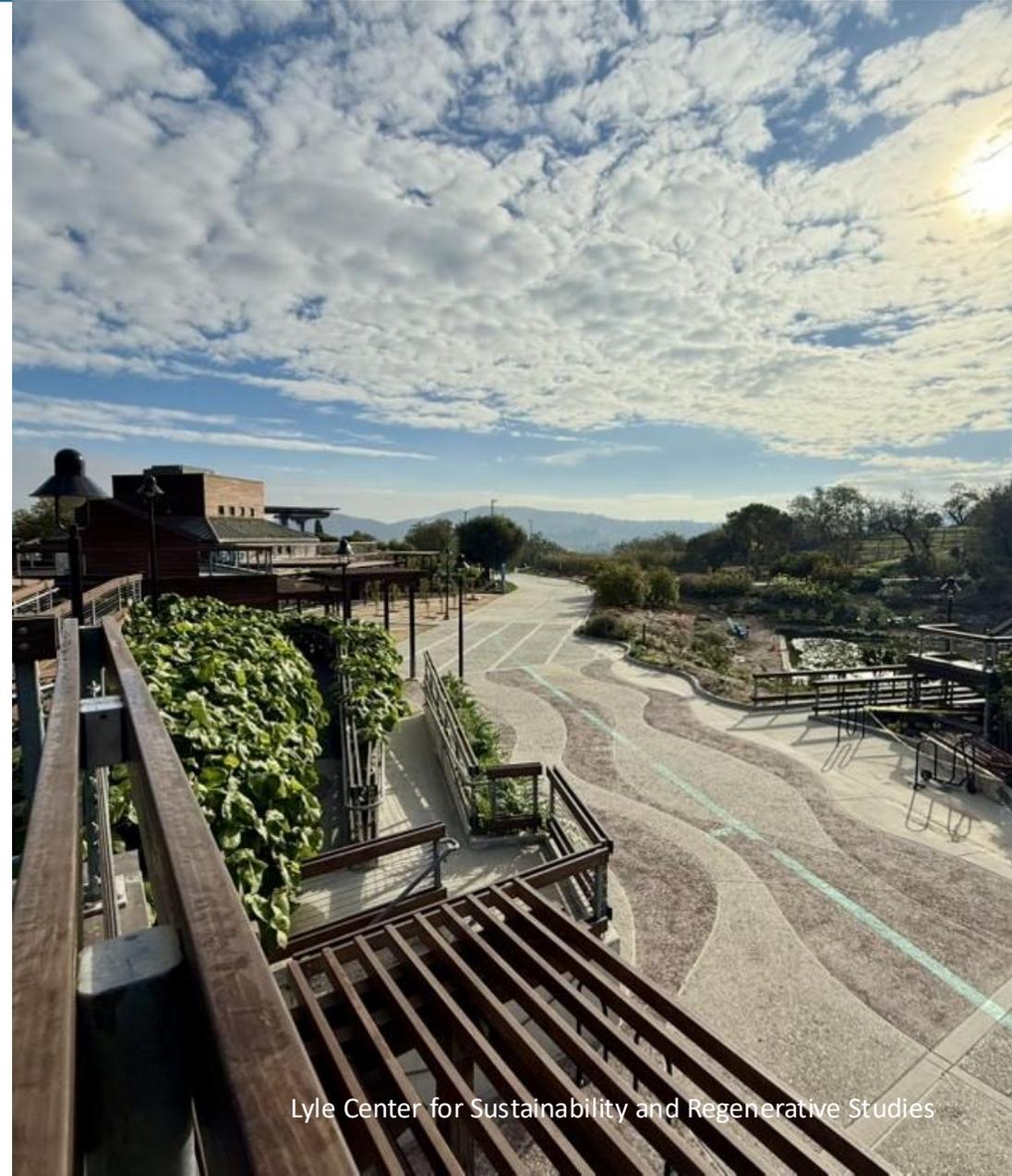


Co-Benefit Model
Environmental
Social
Economic



Project Background – LOCATION SELECTION

- Lyle Center for Sustainability and Regenerative Studies, on the Cal Poly Pomona campus, is a **regional leader** and example for **sustainability** and **regenerative design education** and **demonstration**.
- Existing site resources available to **leverage** for broader SCW project impact –**public education** facilities
- Site allows for **innovation** in open, nature—based solutions; ability to test and research
- Alignment with Campus **research initiatives** from sustainable agriculture to clean energy innovation and climate-resilient infrastructure
- Lyle Center is an **adaptable passive solar design** with a focus on five core systems – Energy, Water, Food, Shelter and Waste
- **Publicly accessible** as a part of the CPP Campus
- **SIGNIFICANT Community Benefits** in leveraging existing location infrastructure, operations and education experience.





Project Background – PROJECT DEVELOPMENT

- Alignment with a new **vision plan** for the Lyle Center, prioritizing **engagement** as a **living laboratory**
- Series of **failing ponds** that no longer align with best management practices for water management
- Campus to continue to demonstrate **regional leadership** and **impact** – especially regional social and economic impact
- Ability to develop future **partnerships** through grant funding, PPP opportunities or other.
- Opportunities to expand **public access** and **public education** around water quality and management
- Opportunity for **habitat restoration** – specifically, riparian and wetland
- Address stormwater management through **advanced and open** methods and processes - water quality improvement and increased supply

Regional Water Management Plan

- Not yet included in a current WMP
- Unincorporated LA County – Walnut Islands
- Upper San Gabriel River EWMP



Lyle Center Riverfront student housing and ponds 5+6



Project Details - CONCEPT

Lyle Center for Sustainability and Regenerative Studies

CAL POLY POMONA Campus
Education and Research Facility

An URBAN Model for Integrated Sustainability + Water Management

Regional Educational Destination – Model technology + community education for SCW Program

Leverage the history of the Lyle Center to deliver multi and co-benefit project

Riparian habitat restoration, species conservation, and community science.

Capture, detain, retain, filter and/or infiltrate 100% of site run-off

16-acre educational Living Laboratory with public access

Leverage Cal Poly Pomona Campus – Operations + Management per CPP



Co-Benefit Model

Environmental
Social
Economic



Project Details – Existing Facility – EDUCATIONAL LEVERAGE

Lyle Center for Sustainability and Regenerative Studies

CAL POLY POMONA Campus
Education and Research Facility

SunSpace: 6 units of student housing

Riverfront: 6 units of student housing

Classroom Bldg: 4 offices, 36 seat class, 24 seat class, small amphitheater, 1 wet lab, main office (lab rehab- not a part),

The COMMONS Bldg: 65 seat classroom/multipurpose room, with commercial kitchen (kitchen req. rehab- not a part)

6 existing ponds + 1 constructed wetland

16-acre site- existing Walnut woodlands, urban gardens, orchards, research space – existing sustainability and ecological infrastructure

Passive Solar Design

- Energy
- Water
- Waste
- Shelter
- Food





Project – EXISTING SITE- Hydrologic Conditions and Challenges

Existing Constructed Wetland – end of chain

Existing Ponds 5+6 – failing ponds, 2600 sqft surface each

Existing Ponds 3+4 – failing ponds, 2400 sqft surface each; replace with new habitat education pond

Existing Ponds 1+2 – failing ponds, 2600 sqft surface each; location for potential turnaround for public access

The Valley – reconnect to site hydrology and riparian habitat restoration

5-acre project boundary – proposed limit of work – project can capture beyond limit of work.

Wetland overflow to storm drain – to Thompson Creek Channel

Student Housing – Gutters connect to sewer, Riverfront has raised foundation with greywater connection possibility

Classrooms, offices, labs – Gutters connect to sewer, no current capture

Existing Road – Surface flow to single v-ditch to single large catch basin at bottom of hill

* Currently irrigate the site with reclaimed water from the LA Country Sanitation District





Project CONCEPT + CAPACITY

Redevelop Constructed Wetland –
address end of chain

Remove existing ponds and regrade site to reconnect hydrology - develop to support education of detention, filtration, and infiltration; wetland and riparian habitat restoration

Create new educational nexus at high point of site- develop to support retention and education; aquatic habitat restoration; potential for aquaculture demonstration

Regrade site to reconnect hydrology – restore hydrology and riparian habitat, infiltration and detention; trails and interactive signage throughout

5- acre project boundary – leverage existing site for multibenefit reach.

Wetland overflow to storm drain – Thompson Creek Channel

Student Housing –
7,500 sqft roof capture

Classrooms, offices, labs –
5,700sqft roof capture

Existing Road –
24,000 sqft of impermeable

1" Rain Event-
12,257 cubic feet total
~93,000 gallons

Site – 4.5 ac
8839 cubic feet
2.45cfs
Clay Soil/Dense VEG

Roof - .3 ac
1213 cubic feet
.34 cfs
Roof

Pavement -.5ac
2205 cubic feet
.61 cfs
Impermeable Pave





Project Framework – EDUCATION + GSI (Green Stormwater Infrastructure)

Integrated educational trails and self-guided tour path

Network of outdoor teaching environments and interactive elements.

Distributed system of multiple nature-based solutions; co-benefit + multibenefit modeling

Educational nexus- central location to explore the connections between water, energy, habitat and community

Reconnect site hydrology and riparian habitat restoration; check dams as trail crossings, habitat restoration, vegetated swales, evapotranspiration

5- acre project boundary – proposed; trails can expand across 16 acres, potentially more.

Wetland overflow to storm drain – Thompson Creek Channel – improve + update

Student Housing – Integrate stormwater capture – convey to open systems, rain gardens

Classrooms, offices, labs – Integrate stormwater capture – convey to open systems, link educational classroom spaces and interactive signage

Flow exchange- Movement of water and people between the GSI elements and educational spaces

Existing Impermeable Surfaces – De-pave and replace, curb cuts, biofiltration planters, tree wells, permeable paving (multiple types), open + semi-closed conveyance



NOTE: CPP replacing existing solar panels summer 2026; Center will be energy positive



Project Background – PROJECT BENEFITS

Municipality Benefits

- Water quality improvement into Thompson Wash and San Jose Creek - reduced pollutant loads
- Reduction in runoff volume and flows into Thompson Wash and San Jose Creek - more water managed on site
- Development of a regional hub for stormwater education and demonstration
- Expand public education through public access and engagement
- Habitat creation and improvement – species protection and establishment
- Connection with Cal Poly Pomona – outreach, research and innovation

Disadvantaged Communities Benefits

- Reduction in Pollution Burden
- Access to green spaces
- Public education access
- Potential for work force training, green job training

Cal Poly Pomona

- 27,000+ Students
- 55% First Generation
- 70% Pell Eligible
- Hispanic Serving Institution
- Asian American and Native American Pacific Islander-Serving Institution

Nearby School Districts

- Pomona Unified
- Walnut Valley Unified
- Glendora Unified
- Bonita Unified



Project Background – PROJECT BENEFITS

TRIPLE BOTTOM LINE

Environmental

- Numerous GSI Opportunities
- Increased Ecosystem Services
- Biodiversity + Restoration + Conservation
- Improved Water Quality + Mitigation

Social

- Public Education + Engagement
- Community Health + Wellness
- Environmental Leadership + Stewardship

Economic

- Municipality Training
- Potential Green Job Training
- Grant Funding + PPP opportunities



Student planting native oaks at the Lyle Center as part of NSF grant for avian research.



Partners

Lyle Center Watershed Restoration and Stormwater Management project has many potential partners.

- Numerous on-campus partnerships – ie **Campus Tribal Relations**
- Numerous external partnerships – ie **Green Schoolyards America**
- Numerous academic programs to engage- **civil engineering, landscape architecture, sustainability education, and more**
- CPP is recognized **HSI** and **AANAPISI** institution

Project implementation partners TBD based on TRP project development.

VECTOR Control has not been contacted- Lyle Center has an ongoing relationship with LA County vector control- provide mosquito fish to vector control

City of Pomona provided a Letter of Non-Objection

- City is aware of the proposed project concept and is supportive of Cal Poly's application for the Technical Resources Program funding to further refine the project concept into a feasibility study.



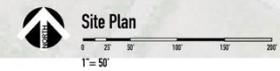
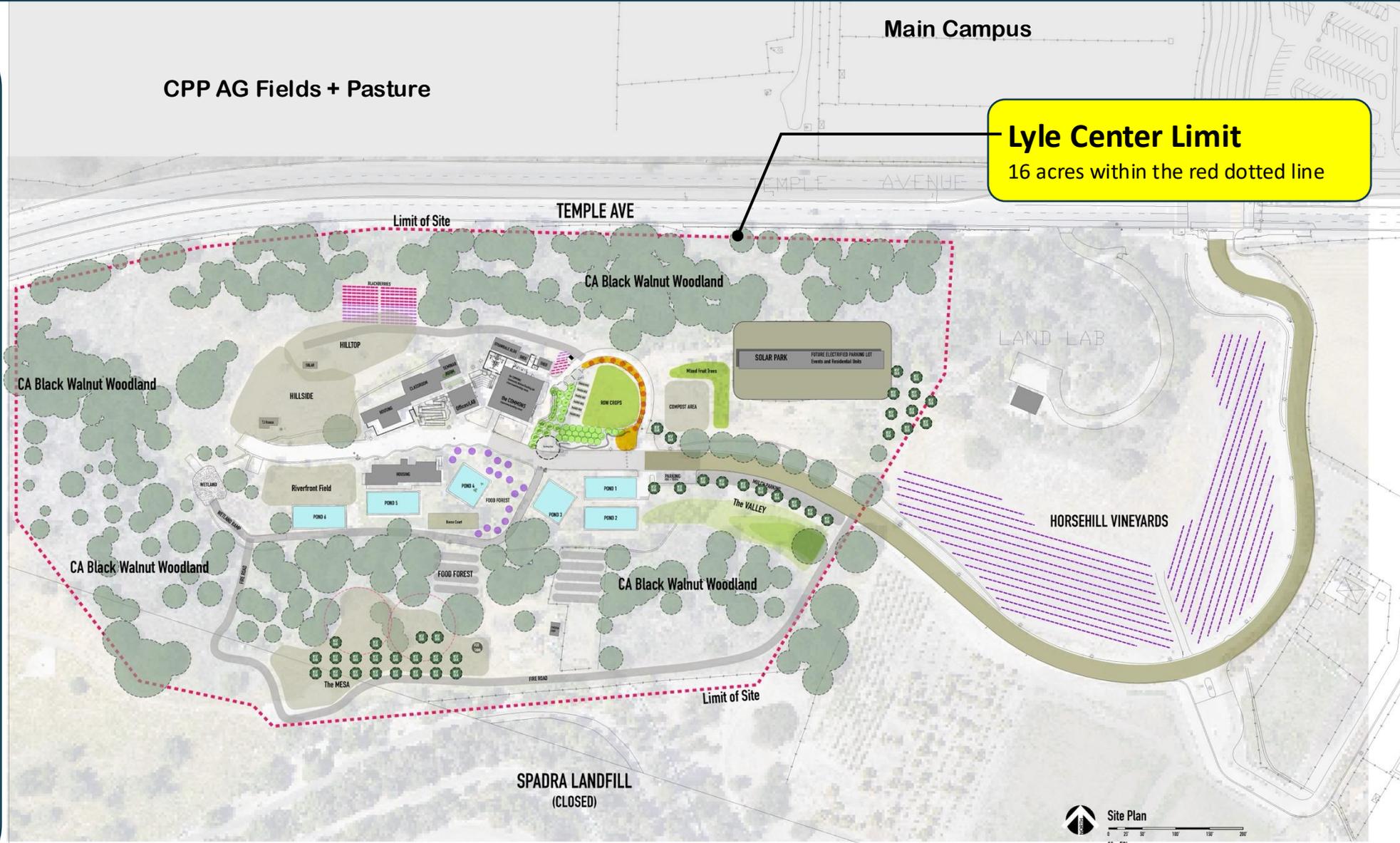
Project Site – EXISTING CONDITIONS

Lyle Center Watershed Restoration and Stormwater Management Technical Resources Project

16 Acres overall
5 Acre project area

Ongoing Research + Projects

- Oak Tree Research
- Apiary Partnership
- Orchard Culture
- Small-scale regenerative urban agriculture – berries, hops, apples
- Mesopredator monitoring
- Agroecology + Agroforestry
- Expanding Tribal relations + projects
- Native plant conservation – CA Black Walnuts





Project Site Plan – Co-Benefit Concept

Triple Bottom Line Project

Environmental

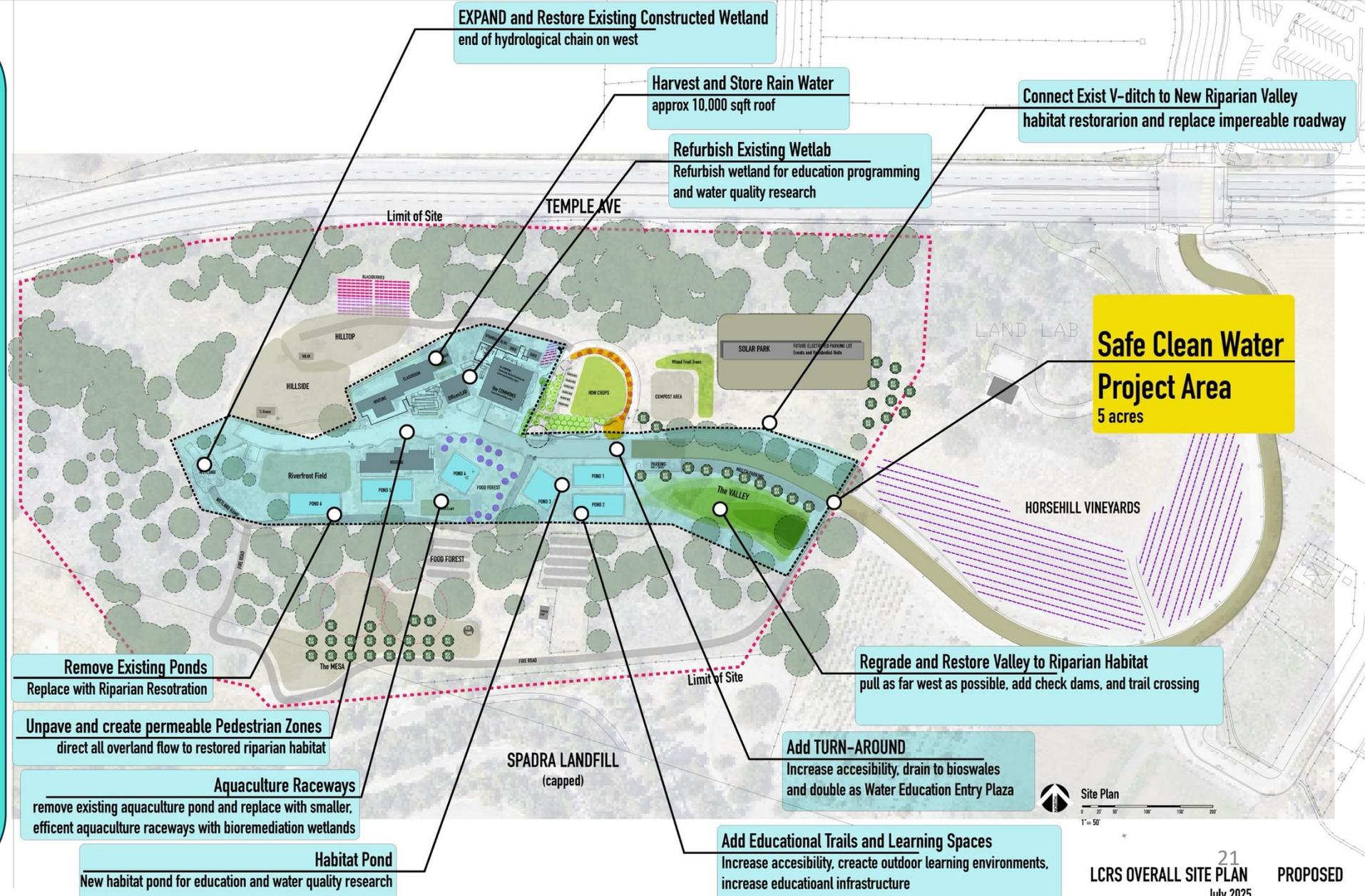
- Numerous GSI Opportunities
- Increased Ecosystem Services
- Biodiversity + Restoration + Conservation
- Improved Water Quality + Mitigation

Social

- Public Education + Engagement
- Community Health + Wellness
- Environmental Leadership + Stewardship

Economic

- Municipality Training
- Potential Green Job Training
- Grant Funding + PPP opportunities
- Institutional Partnerships

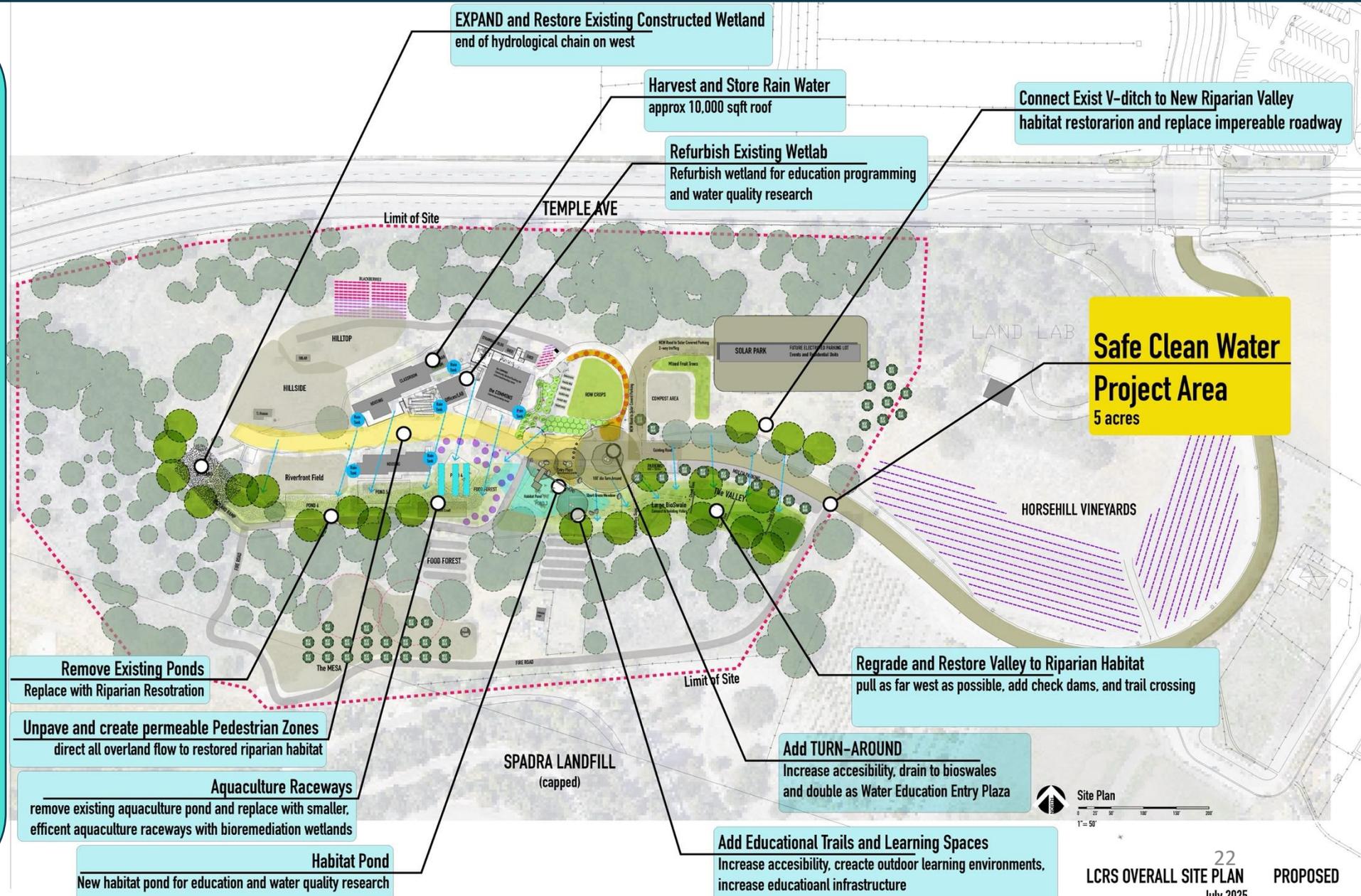




Project Site Plan – Concept with Design Elements

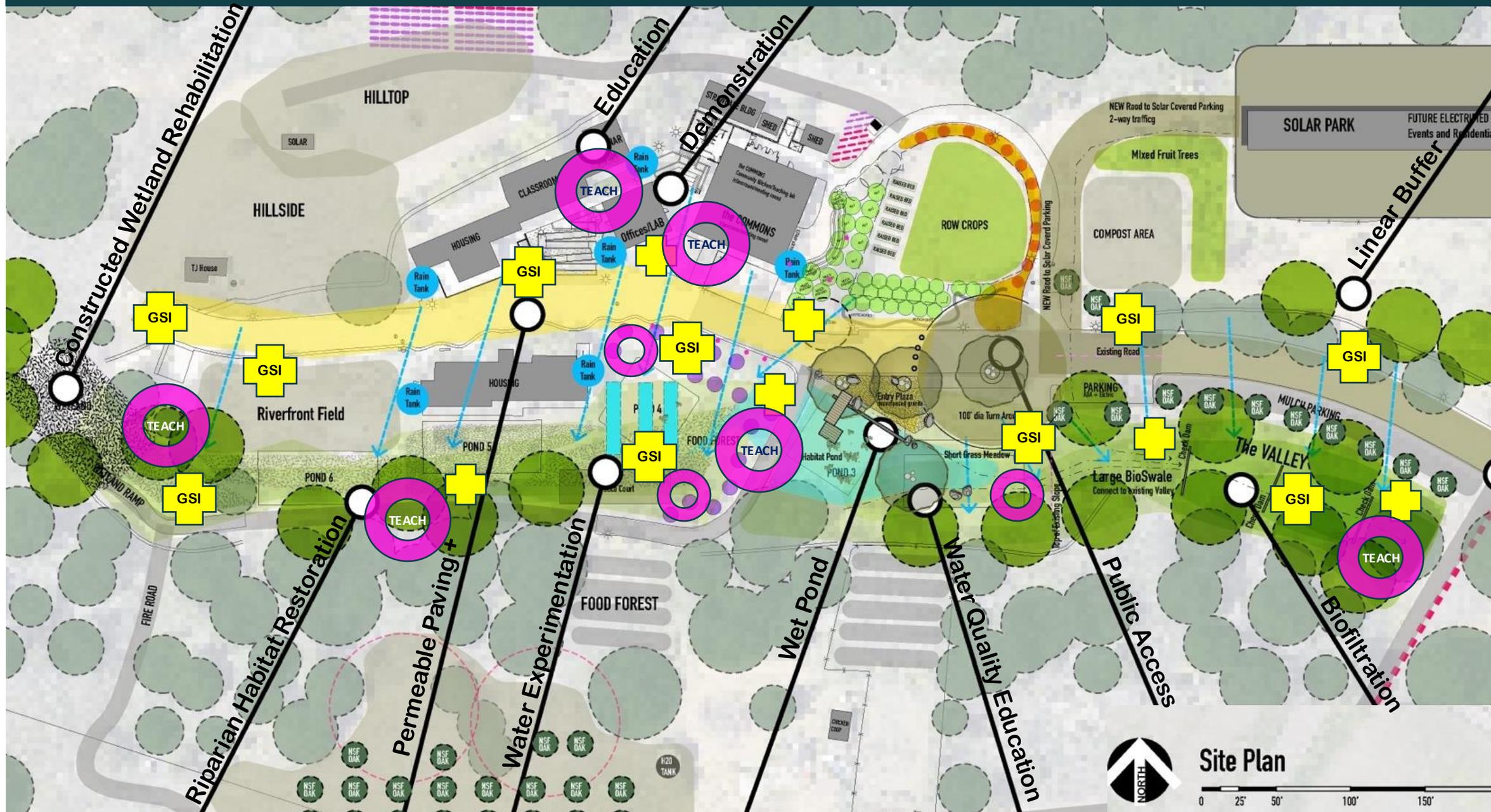
Innovation + Leverage

- Open and Nature-based
 - Rain Gardens
 - Permeable Pavement
 - Rain Barrels/Capture
 - Wet Ponds
 - Bioretention + Biofiltration
 - Constructed Wetland
 - Linear Buffer + Street Trees
-
- Professional Development + Training
 - Public Workshops + Education
 - K-12 Field Trips
 - Citizen Science Programming
-
- Existing Classrooms and Educational Infrastructure
 - Regional Reputation
 - CPP Economic impact - 11,000 jobs and an overall impact of \$1.5 billion in industry activity in 23/24.
 - CPP Research Initiatives - from sustainable agriculture to clean energy innovation and climate-resilient infrastructure.





Project Site Plan – Concept Design Detail





Cost & Schedule

Phase	Description	Cost	Completion Date
TRP	Technical Resource Plan Development	\$400,000	May 2027
Feasibility Study		TBD	November 2028
Infrastructure Program App	Design Outreach and Engineering	TBD	November 2029
Construction		TBD	March 2029
O+M	Project open- operation and management		November 2030 ongoing
TOTAL			

CPP and Lyle Center to **operate** and **manage** the project as part of normal campus and facility operations.



Funding Request

Year	SCW Funding Requested	Phase	Efforts during Phase and Year
1	\$400,000	Technical Resource Program	Stormwater Investment Plan Development + Feasibility Study Development
2	TBD	Feasibility Study Application	
3	TBD	Infrastructure Project Application	Application for Project Construction
4	TBD	Project Construction	
5	\$0	Operations + Management	CPP to assume complete operations and management of the project as a campus facility.
TOTAL	\$400,000		



Water Quality & Water Supply Benefits

- Primary mechanisms that achieve Water Quality and Water Supply Benefits will be **nature-based** and **educationally focused**.
- **Wet + Dry** - capturing localized dry and wet weather runoff – site should allow for 100% capture
- **Tributary Area** – Thompson Wash to San Jose Creek to Upper San Gabriel River
- **Capacity** – TBD – 12,257 cf existing wet base for 5 acres- likely to increase based on final project development
- Pollutant Reduction via **multiple types** of **GSI**
- Water Supply Use will be for **irrigation**, **water recycling**, and **habitat** support
- Water Supply and Water Quality Cost Effectiveness – continue and expand use of reclaimed water – potential for pond as reservoir



Educational Signage at the Lyle Center- to be expanded to include multiple languages, QR codes, and other innovations.



Community Investment Benefits

Community Investment Benefits

- Anticipated community investment benefits include access to locations for public education, increased environmental quality, and increased quality of life.
- Creation of regional resource and facility for sustainability leadership and skillset development; workforce development and training; professional development.
- New public educational resource and recreational resource – innovative + accessible interpretive signage and spaces
- Improved flood mitigation
- Increased biodiversity and biomass through restoration and tree planting
- Potential for additional partnerships from water quality and availability – Vector Control fish propagation, native tree propagation, tribal MOU, community group MOU, etc.



Lyle Center pond 4, Commons and the classroom building in the distance.



Nature Based Solutions

Nature-Based Solutions

- The project concept is anticipated to implement nature-based solutions wherever possible to become a regional resource.
- Slow, detain, capture and absorb/infiltrate
- Enhance and restore habitat
- Utilize natural and local materials
- Nature-based solutions align with the Lyle Center for the study of sustainability and regenerative design principles, nature-based solutions and the concept of nature as a model are embedded within the facility and grounds.
- Lyle Center grounds allow for a very broad range of GSI use and innovation- a broad catalog of types and applications.



Lyle Center ponds 5+6, to be removed and replaced with habitat restoration.



Leveraging Funds and Community Support

Leveraging Funds

- Upon completion of feasibility study and project estimate, additional sources of revenue will be explored from the state to philanthropic organizations and individuals.
- Grant and research opportunities through campus and partnerships

Leveraging Facilities

- The project proposes including the existing educational facilities of the Lyle Center to build public education and citizen science capacity
- CPP to assume all O+M

Community Support

- Community outreach will include the campus
- Community engagement can include multiple engagement types, including co-design
- Community outreach and engagement to date has been through the Cal Poly Pomona Campus community (an HSI and AANAPISI institution).



Lyle Center pedestrian core; replace paving with permeable and add Innovative GSI.



Cal Poly Pomona – Regional Impact + Partnership

Regional Reach: As part of the Los Angeles region, Cal Poly Pomona helped generate substantial economic impact across the area, supporting a total of 11,000 jobs and an overall impact of \$1.5 billion in industry activity — underscoring the campus’s vital role in regional economic vitality.

Workforce Power: Nearly half of all bachelor’s degrees in California are awarded by the CSU in disciplines directly tied to California’s evolving workforce needs in essential industries, such as the agriculture and engineering industries in the Los Angeles region, ensuring students are prepared for in-demand jobs in their communities, supporting local economies.

Research Impact: CSU research initiatives tackle some of California’s most urgent challenges — from sustainable agriculture and advanced manufacturing to clean energy innovation and climate-resilient infrastructure — while delivering globally significant science.

CSU 2025 Economic Impact Report Data

<https://www.calstate.edu/impact/Documents/Economic-Impact-Report-2025.pdf>





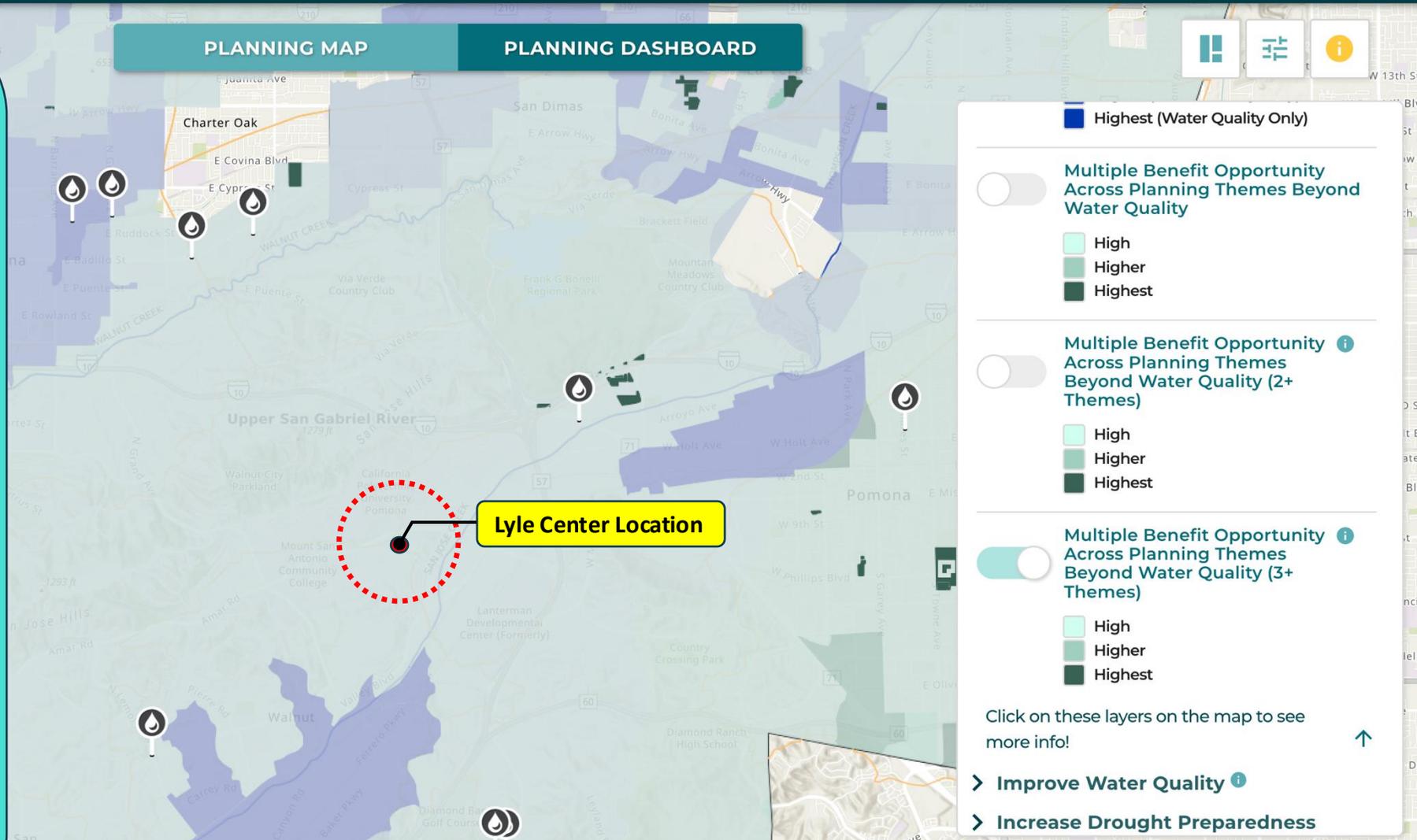
Alignment with Draft Initial Watershed Plans

SWC Planning Tool

Multiple Benefit Opportunity Across Planning Themes Beyond Water Quality +3 Themes - Layer was selected as it most aligns with the Lyle Center project and the co-benefit approach to the project.

- Increase Drought Preparedness
- Increase Local Supply through Stormwater Capture
- Improve public health
- Habitat Creation, Restoration or Enhancement
- **ADDED** benefits of public education
- **ADDED** benefit of scientific studies

NOTE: The project can be modified or updated to better align with Watershed Planning targets, strategies, actions, or opportunities during the TRP process.





QUESTIONS

Andy Wilcox

Associate Dean, College of Environmental Design, Cal Poly Pomona
Acting Director, Lyle Center for Sustainability and Regenerative Studies
Professor of Landscape Architecture
CA PLA #5191

