San Bernardino Valley College Landscape Master Plan

SPURLOCK NAC

March 18, 2024

Table of Contents

Document Organization

The Landscape Master Plan is organized in to 5 Sections. A brief description of the information covered in each section is provided and intended to guide the reader on the information being presented in the Landscape Master Plan:

Introduction includes an overview of the site context and existing conditions, project goals resulting from discussion of observation and needs with the SBVC planning team, and comparison of existing campus and proposed enhancements.

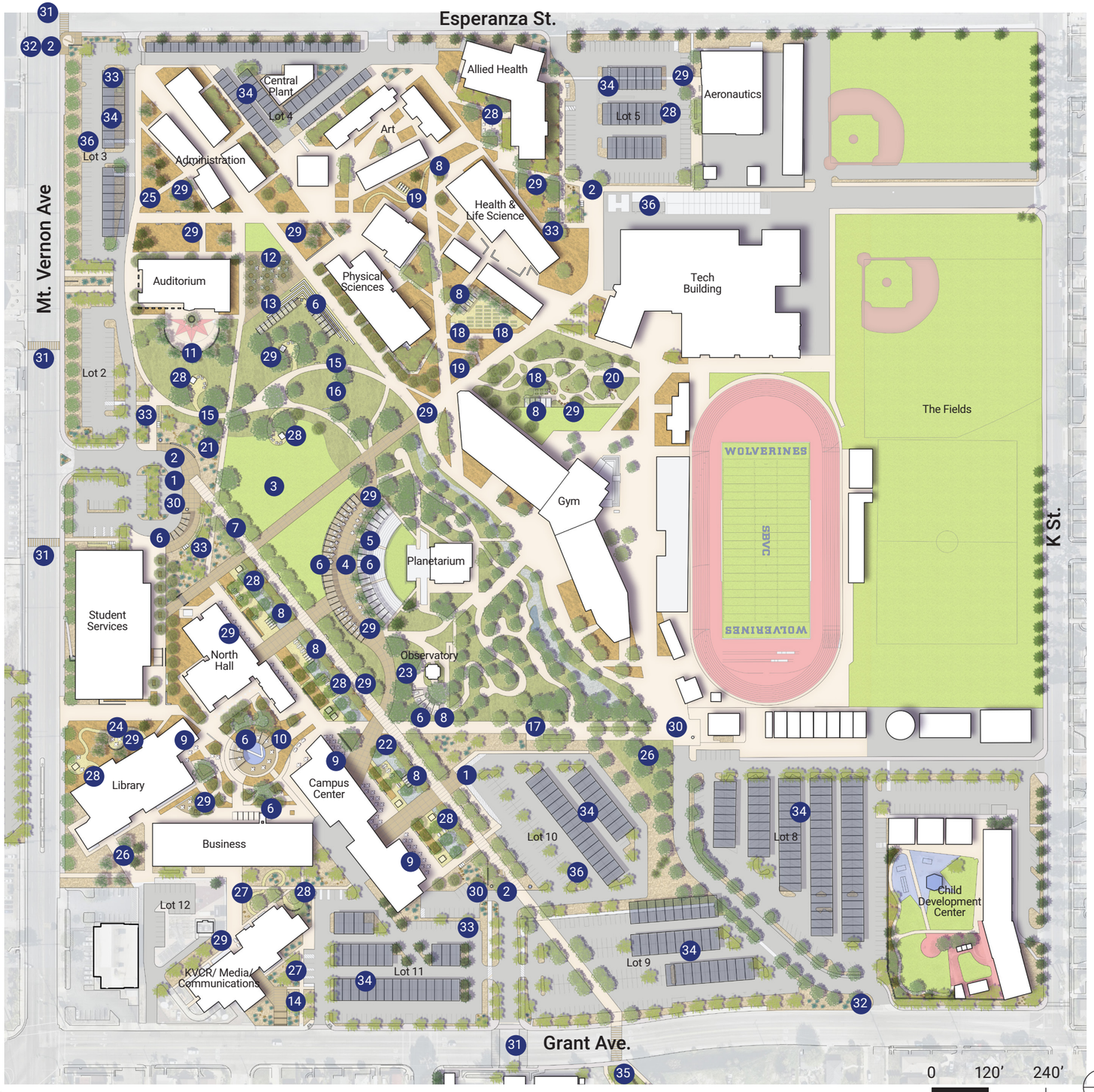
Master Plan Components includes a summary of the master plan components and the organizational framework elements that create a cohesive campus identity, clarify wayfinding and provide comfortable, functional and beautiful exterior program areas.

Master Plan Focus Areas includes enlarged conceptual plans and perspective views of the core campus area, illustrating key features of the Landscape Master Plan including new gathering spaces, entry and arrival areas and purposefully reorganized open space incorporating native and locally adapted plant materials.

Landscape Recommendations includes quantified summaries of existing and proposed planting, hardscape as well as material recommendations for each planting zone, and overview of irrigation system improvements.

Phasing and Implementation provides a diagram outlining discrete implementation projects and a description of project components along with an accompanying rough order of magnitude Opinion of Probable Cost.

1—Executive Summary



The purpose of the SBVC Landscape Master Plan (LMP) is to serve as a strategic planning document that will be used as a road map by SBVC leadership and future designers to help guide decision making in the creation of a vibrant, sustainable and welcoming campus. Through extensive collaboration with SBVC users and leadership, the planning team has documented campus community goals and design principles and illustrated strategies to for translating these into physical spaces, leveraging the many wonderful gardens and site assets already present on the campus as well as proposing new approaches to create an environmentally sensitive, inclusive, and functional open space network that can meet the needs of the ever-evolving higher educational community

The many Landscape Master Plan components - including spaces for learning and gathering, landscapes for learning and recreation pure enjoyment and sustainable site features that provide shade, respite and a unique sense of place - are described visually and narratively in the following pages.

Graphic Legend

- Native Planting
- Desert Landscape
- Waterwise Planting
- Low Water Turf
- Stormwater Planting

Legend

1. Drop Off
2. Arrival Plaza
3. Event Lawn
4. Central Event Plaza
5. Shaded Greek Theater
6. Shade Structure
7. Fault Line Promenade
8. Outdoor Classrooms
9. Outdoor Cafe
10. Business Quad
11. Auditorium Event Area
12. Arts Grove
13. Shaded Amphitheater
14. KVCR Event Patio
15. Oak Trail
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17. Richardson Walk
18. Community Garden
19. Medicinal Garden
20. Bio Garden
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23. Geology Garden
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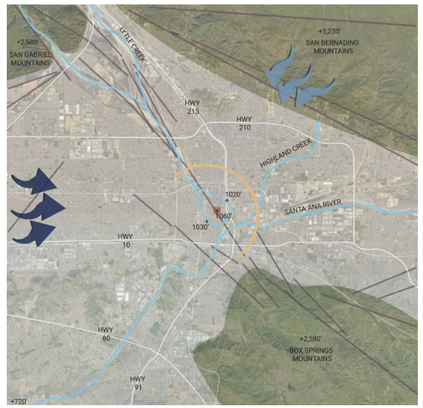
25. Chaparral Education Garden
26. Foothills Education Garden
27. Indigenous Garden
28. Collaboration Space
29. Informal Seating Area
30. Directory Kiosk
31. New Crosswalk
32. Monument Signage
33. E-Bike Charging & Bike Corral
34. Solar Shade Structure
35. Greenbelt Connection to Student Housing
36. EV Charging Station

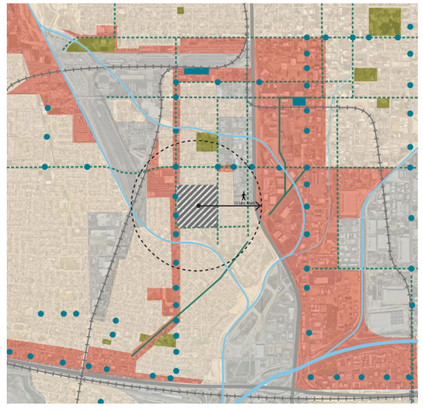
2—Introduction



Geographical Context

Legend

- Site
- Mountain Range
- Viewshed
- Creek
- Faultline
- Santa Ana Winds
- Prevailing Winds

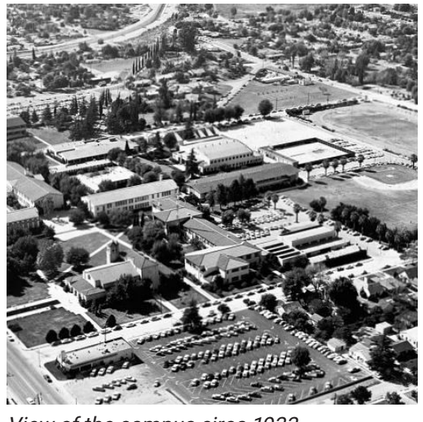


Urban Context

Legend

- Site
- Residential
- Commercial
- Industrial
- Parks
- Creek
- Highway
- Railroad
- Transit Station
- Bus Stop
- Existing Bikeway
- Proposed Bikeway

Aerial view circa 2002



View of the campus circa 1933

San Bernardino Valley College (SBVC) is embarking on an exciting chapter in its campus history. With the completion of its 2017 Comprehensive Master Plan (CMP) and implementation of over 6 new building projects that increase classroom and shared support spaces by over 251,694 square feet, SBVC has prepared this Landscape Master Plan (LMP) is to build upon and give form to the core landscape concepts and recommendations contained in the CMP. The LMP contains a framework and recommendations to help SBVC achieve its goals of beautifying and invigorating its 82 acre campus, creating inviting, functional, educational and sustainable open spaces that reflect the unique mission, history and character of the SBVC community.

Site Context

SBVC is located in a remarkable geographical setting. Set on the flat valley floor, at the confluence of Lytle and Highland creeks and the Santa Ana river, the campus has distant views to the peaks and foothills of the surrounding San Gabriel, San Bernardino and Box Springs mountains. The Mediterranean climate varies seasonally, with cool, wet, and winters, and dry, hot summers. The campus is buffeted by winds from across the valley and Santa Ana's that pour down the mountain slopes. Providing outdoor spaces that respond to and mitigate these climate conditions is critical to creating a sustainable, healthy and active campus environment.

The San Andreas Fault and San Jacinto Fault zones enter the San Bernardino valley along the San Bernardino Mountains and San Jacinto Mountains, respectively and in fact traverse the campus diagonally from northwest to southeast. Because of seismic risks, the majority of the original campus buildings were demolished in the early 2000's and have been replaced over the years. The earthquake fault and folding zone is a significant portion of the campus, dividing it into two building clusters, leaving The Glade-- which contains the earthquake fault and folding zones-- as the primary open space on campus.

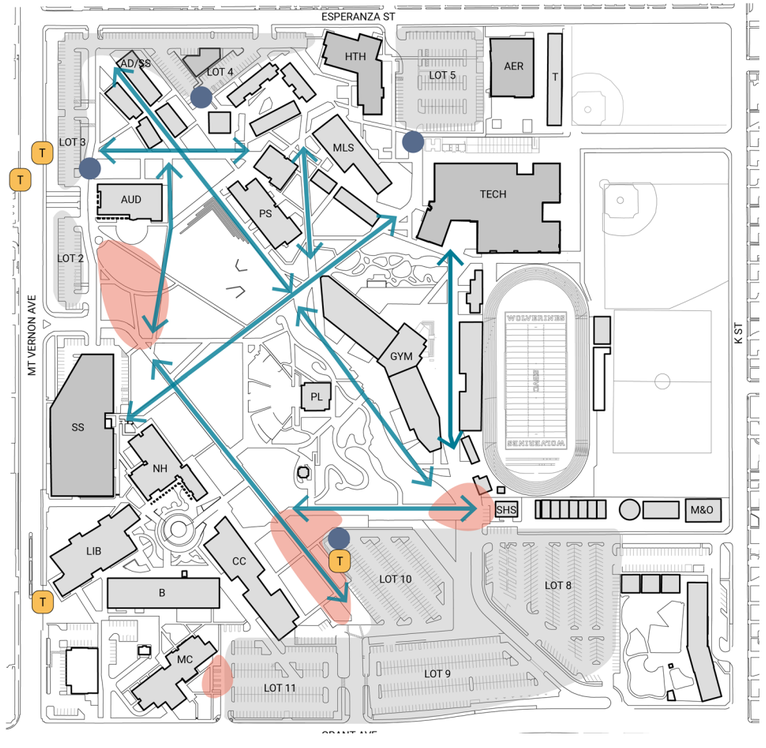
The campus is located in a comparatively transit-rich, mixed use neighborhood with commercial and industrial uses and infrastructure interspersed with residential neighborhoods. The campus is open to its neighborhood for the enjoyment of the community and as open space, parks, and outdoor recreational facilities are not plentiful in SBVC's neighborhood, use of the College campus and facilities is valued. Mt. Vernon is a busy connector street with two transit stops along the campus' frontage, providing convenient multi-modal access to SBVC.

Existing Campus

The existing campus comprises 82 acres. About 18 acres that lie within the earthquake fault and folding zones have been set aside as the Glade, a permanent open space. Much of the Glade currently consists of open lawn area, which is low maintenance but demands high water use. The north end of the Glade is lightly populated with large specimen and more recently planted shade trees. The more mature trees grace the areas near historic structures including the Auditorium and the Greek Theater.

The Oak Garden borders the east edge of the Glade and includes small scale seating areas, interpretive trails, stormwater treatment and native plants. The Fault Line Promenade borders the west edge of the Glade and is a main circulation spine connecting north and south campus entries. Distinctive academic courtyards surround the Glade including Arts, Administration and Health Quads and the newly redesigned Business Quad. The Bio Garden is a well-used and much-loved learning garden currently undergoing an expansion including shaded outdoor classroom. The east side of the campus--not a focus of the LMP-- is dedicated to athletic fields and the Child Development Center.

Entry and arrival occurs at parking lots located on the north south and west campus edges. The construction of the Student Services Building will help reinforce the central entry off Mt. Vernon as the main point of arrival. Visual "marquee moments" for the campus occur at the northwest and southeast corners of the campus as well as along the west edge. Other important arrival moments occur at pedestrian entries close to transit stops and entries that are visitor-serving--notably the radio station.



Circulation and Entry

- Multiple arrival points
- Unclear hierarchy
- Weak sense of arrival
- Outdated wayfinding
- Unsafe entries at Northwest and Southwest

Legend

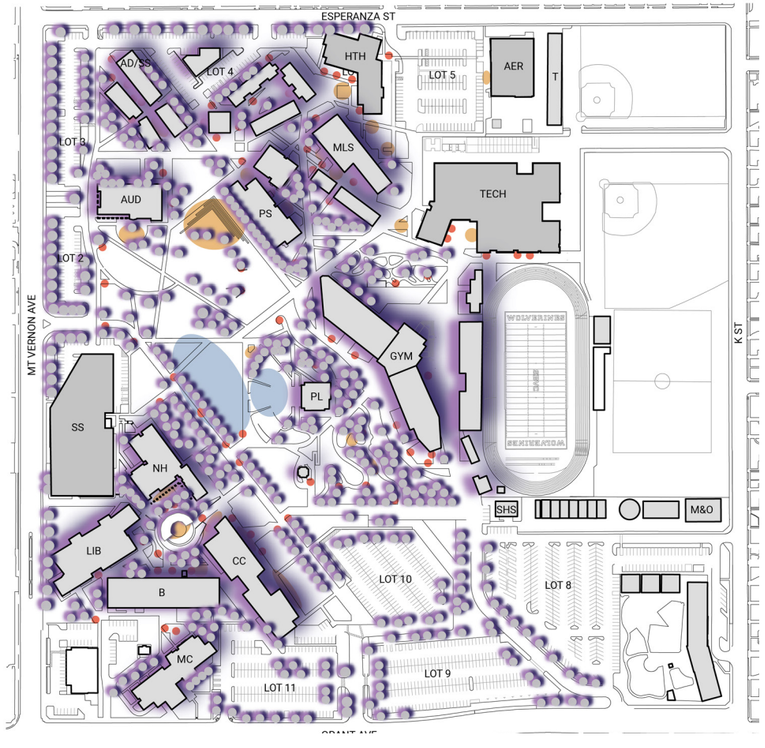
- Circulation / View Corridor
- Gateway / Arrival
- Drop Off
- Transit
- Parking

Existing Trees and Gardens

- Well-used educational gardens
- Many mature trees
- Excess lawn
- High maintenance planting
- Outdated irrigation system

Legend

- Courtyard Gardens
- Educational Gardens
- Buffer
- Turf
- Streetscape
- Allee
- Specimen Tree
- Canopy Tree



Gathering and Shade

- Courtyards near buildings well-used
- Inadequate shade in general
- Limited outdoor classrooms
- Parking lots contribute to heat island

Legend

- Shady PM
- Shady AM
- Large Seating
- Medium Seating
- Small Seating

Site Observations

Site visits, workshops and study of existing and pipeline landscape spaces formed the basis of the LMP assessment and analysis. The diagrams above graphically summarize key observations of the existing campus open space framework components. These were presented to SBVC community members and leadership in a series of workshops for further discussion. These workshops formed the basis of the LMP design principles and project goals, guided the development of master plan framework strategies, identified project priorities and strategies for implementation.

Summary of Key Observations

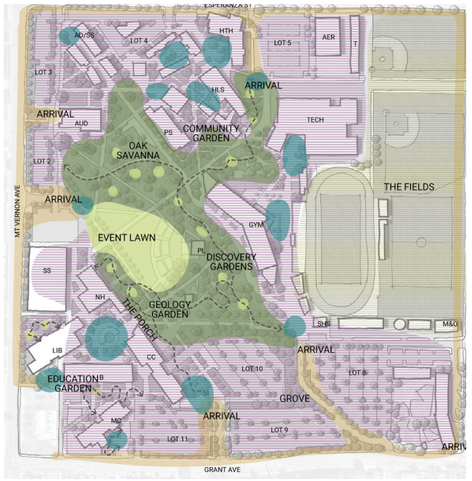
Entry and Arrival: Celebrate moments of arrival, improve curb appeal, improve pedestrian safety

Existing Planting: Many mature trees, well-used educational gardens, too much lawn, high-maintenance, outdated irrigation

Gathering and Shade: Inadequate shade in general, limited outdoor classrooms, courtyards in shade are well-used

Circulation: No clear connection between instructional building clusters

Character: Not a clear sense of identity and unique sense of space

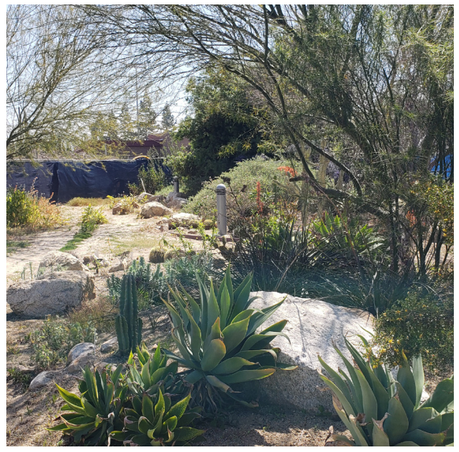


"Onion" scheme

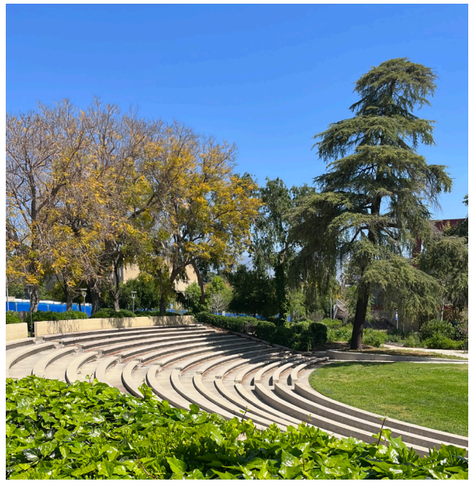
Legend

- Garden Gathering
- Courtyard Gathering
- Native Planting
- Streetscape
- Waterwise Planting
- Athletics

Oak Grove



Bio-garden



Greek Theater

Auditorium

Design Principles

The Landscape Master Plan strives to build off the historic assets and successful spaces already present on the campus, weaving new gardens, spaces and infrastructure into existing beloved spaces in order to create a strong and enduring sense of place and belonging. The preliminary conceptual diagram to the left-- the "Onion Scheme" --shows layers of landscape and program zones radiating from a central core for community gathering, embodying the following design principles:

•Reflect unique character of SBVC
•Enhance arrival and wayfinding
•Create functional outdoor program and amenities
•Use and interpret sustainable strategies
•Beautify the landscape
•Campus-wide Enriched Outdoor Environment

Project Goals

Improve Comfort, Heat & Shade
- Big trees and shady courtyards
- Shade at all gathering areas
- Comfortable and varied seating

Create a Sense of Place and Beautification
- Street frontage and larger setting
- Define the unique character of SBVC
- Beautify the landscape
- Unique setting
- Indigenous flora and fauna
- Native planting
- Learning landscapes
- Historic Character
- Public art

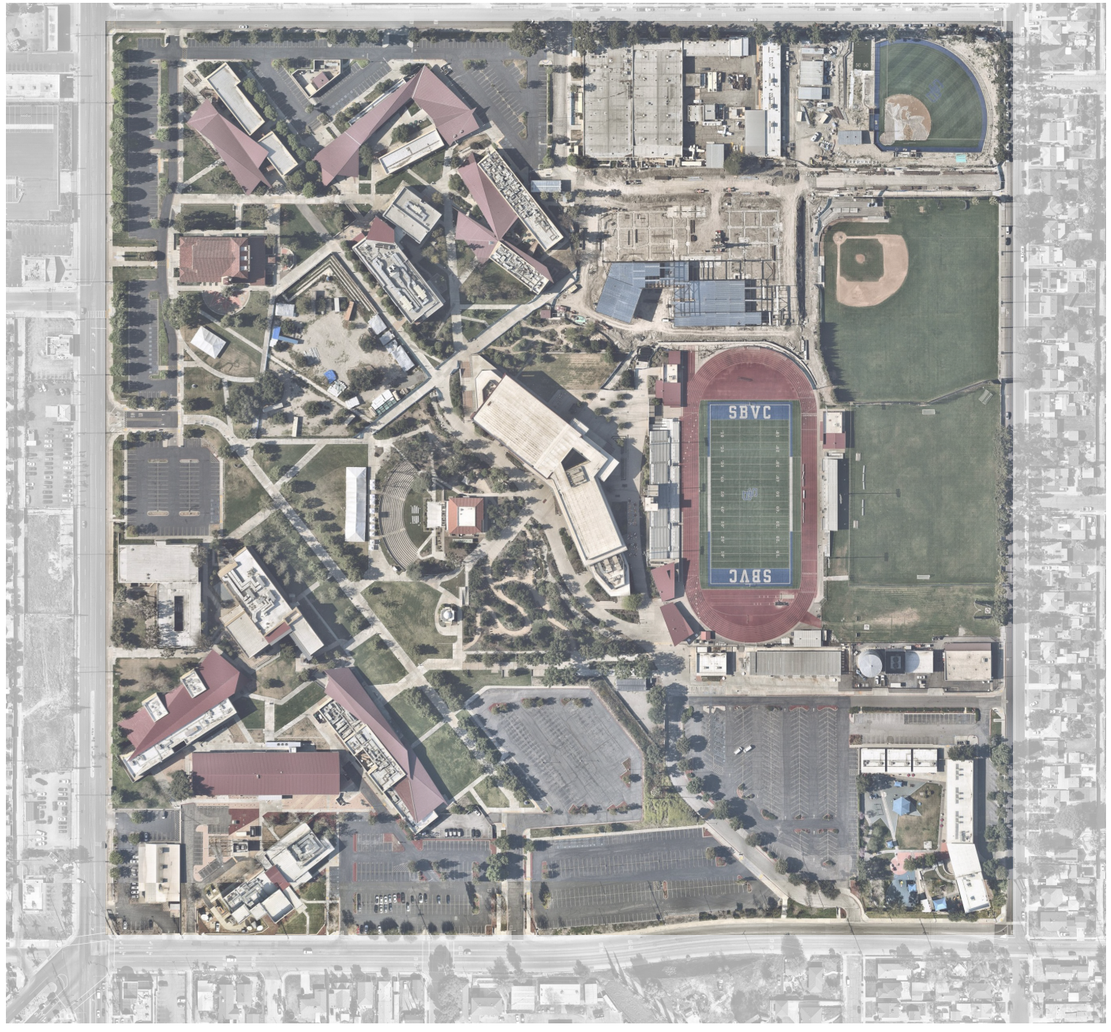
Improve Wayfinding and Arrival
- Axial nature of fault lines
- Define main drop off zones
- Create pedestrian safe entries
- Holistic signage
- Interpretation

Create opportunities for exterior gathering
- Interior and exterior connections (physical and curriculum)
- Outdoor classrooms with power and integrated technology
- Outdoor dining
- Varied gardens for community and educational gathering

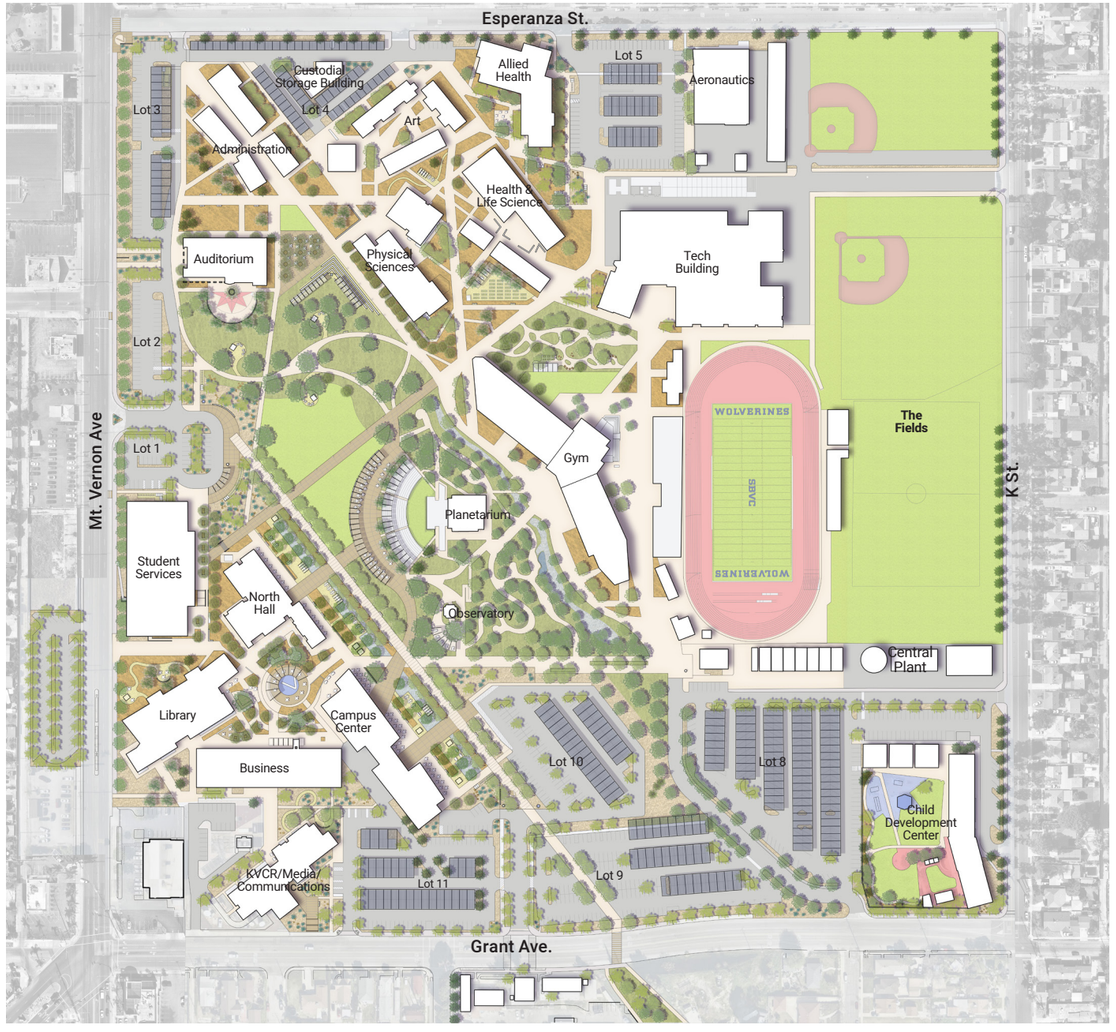
Maintenance and Sustainability
- Native and adapted planting
- Use and interpret sustainability strategies
- Waterwise
- Solar
- Efficient Irrigation
- Permeable paving solutions
- Support multimodal transportation
- Trees for shade, carbon sequestration and stormwater diversion
- Low maintenance best practices
- Limit turf to event areas
- Update irrigation systems and standards

Master Plan Scope

These comparative aerial views of the campus show the majority of existing trees, hardscape, parking and courtyards to remain. The landscape master plan supplements the existing campus features and frameworks with critical new features like seating, shade, outdoor classrooms and learning gardens as described in more detail in the following sections. The majority of recommendations address enhancements to the community-facing edges and entries of the campus, revitalization of the campus core (the Glade), clarification of circulation and wayfinding and introduction of beautiful, durable, sustainable planting strategies to connect, frame and enrich these spaces.



Current Campus Plan



Proposed Master Plan

3—Master Plan Components

Legend

1. Drop Off
2. Arrival Plaza
3. Event Lawn
4. Central Event Plaza
5. Shaded Greek Theater
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7. Fault Line Promenade
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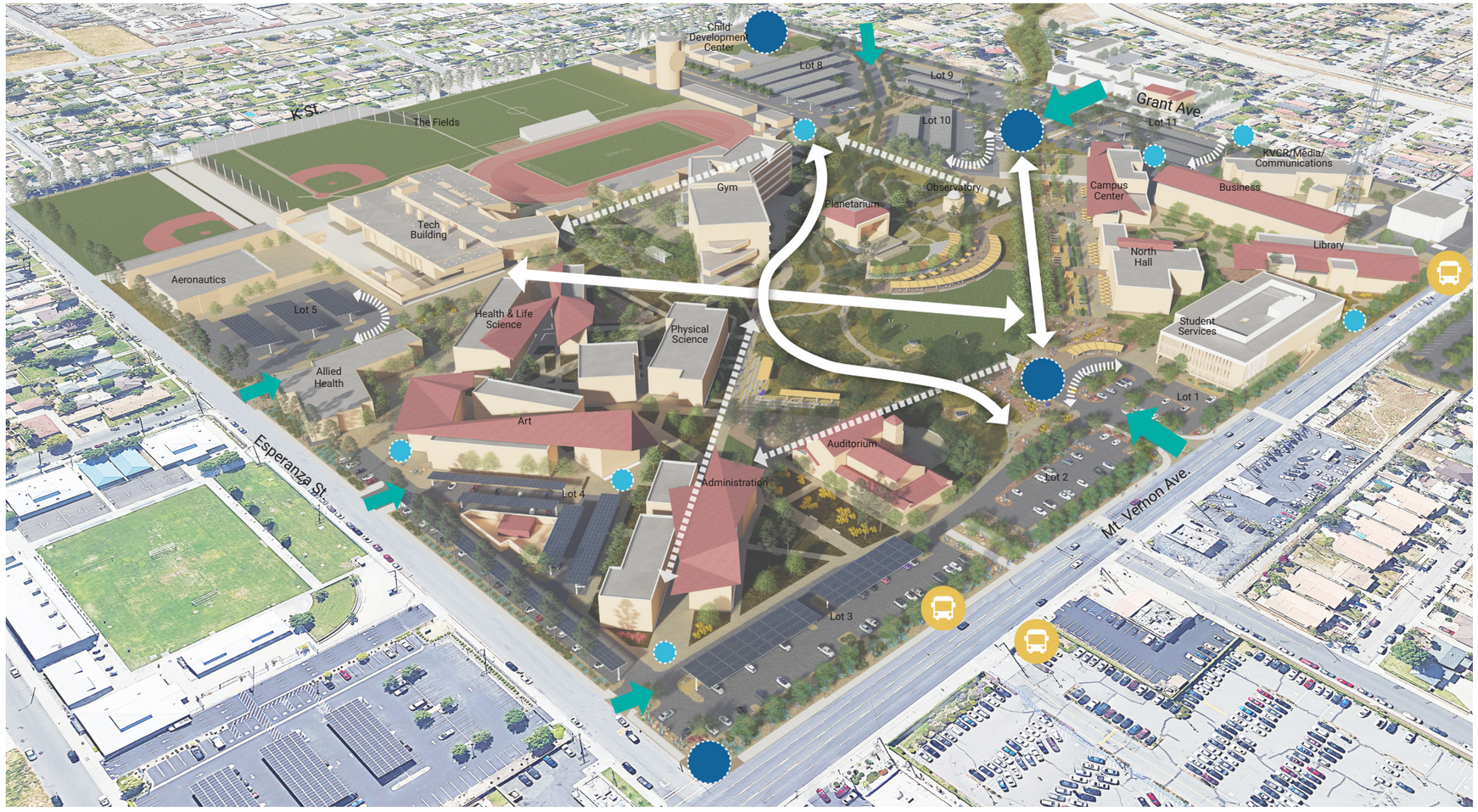
35. Greenbelt Connection to Student Housing
36. EV Charging Station

Overall Campus View to Southeast

Existing core SBVC campus open space framework elements are maintained and enhanced including the North Arrival Plaza, Fault Line Promenade, Arts Plaza and Oak Garden. Site enhancements include additional shade via a combination of architectural shade structures, pavilions and canopy trees, strategically located close to main circulation, seating and gathering spaces; native and xeric planting with iconic desert displays at entry and arrival points; purposeful use of lawn at limited event areas; strengthened circulation framework to improve wayfinding; small seating clusters, outdoor classrooms and learning gardens and large event and gatherings spaces to support the full range of community activities throughout the day. The following pages overlay framework elements on this aerial view including circulation, program and gathering, gardens and landscape spaces and sustainability measures that align with Envision Verification Program.

Arrival and Circulation

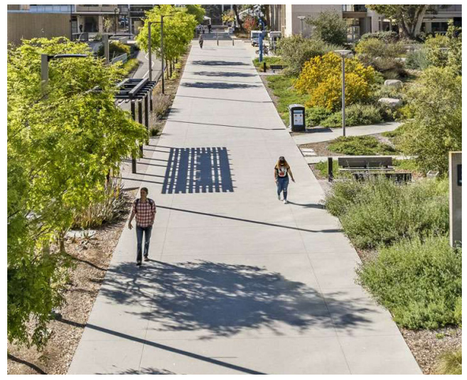


Legend

- Drop Off
- Major Pedestrian Connection
- Secondary Pedestrian Connection
- Major Vehicular Entry
- Vehicular Entry
- Main Visitor Arrival
- Pedestrian Entry
- Transit

Visitor arrival starts at the street with enhanced streetscape planting, iconic desert specimens and monument signage at northwest and southeast campus corners. Pedestrian entries receive similar planting treatment and signage. Major interior arrival plazas are clearly defined through accent hardscape and planting that frame views into the campus along main circulation corridors. The existing Oak Garden trail is extended to the western edge of the campus, intersecting and connecting important secondary paths and promenades while providing access to new seating and program areas in the campus core.

Pedestrian Plaza



Promenade

Pedestrian Pathway

Drop Off

Welcoming Arrival Experience

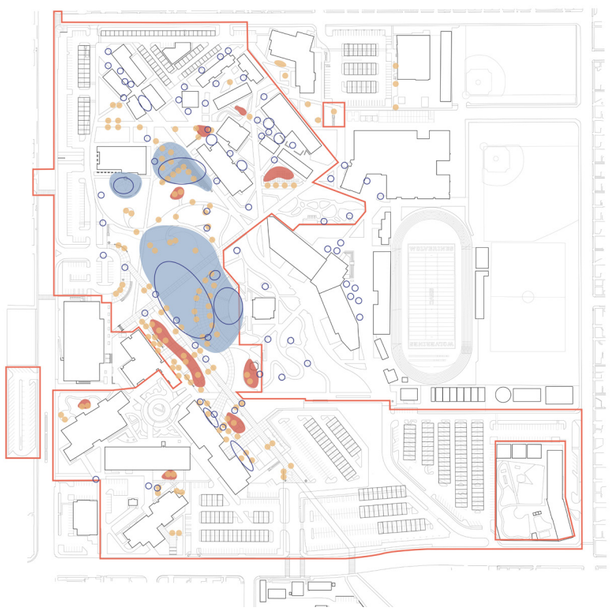
Program and Gathering

New Outdoor Seating and Program		
Space Type	**Description**	**Total SF/QTY**
Small Gathering Areas		
Informal Seating	Fixed and movable lounge seating, benches and seatwalls	306 (QTY)
Cafe Seating	Fixed and movable tables and chairs adjacent to buildings	436 (QTY)
Collaboration Spaces	Fixed and movable seating with power pedestals along circulation	258 (QTY)
Medium Gathering Areas		
Outdoor Classrooms	Shaded classroom spaces for up to 30 people	3500 (S.F.)
Learning Gardens	Includes geology, community, indigenous, medicinal and pollinator gardens	50,615 (S.F.)
Large Gathering Areas		
Event Plaza	40’ paved multi-purpose esplanade w/ shade structure	16,268 (S.F.)
Shaded Amphitheater	Shade structure at existing Greek Amphitheater	4,700 (S.F.)
Event Lawn	Multi-purpose lawn serving the campus core	46,807 (S.F.)
Arts Plaza	Tree bosque plaza w/ multi-level seatwalls and shade structure	11,530 (S.F.)
Auditorium Event Area	Enlarged auditorium event paving	5,120 (S.F.)

Additional seating and gathering spaces at a variety of scales accommodate the full range of informal and organized campus activities. Seating areas are located close to circulation for convenience and to encourage interaction and connection. Where possible, seating is located adjacent to existing trees and structures to take advantage of existing shade. New shade structures are proposed at the Greek Amphitheater and adjacent Event Plaza, existing seating steps east of the Auditorium, north Arrival Plaza and proposed Outdoor Classrooms. Outdoor collaboration and classroom spaces include power supplies and charging stations to support studying, and event spaces include power for special audio-visual needs. Large event spaces are located close to vehicular-rated circulation to facilitate equipment loading.

Legend

- Small
- Medium
- Large
- Existing Seating



Learning Landscapes

Legend

- Iconic Planting
- Educational Garden
- Native Plant Communities
- Stormwater Treatment
- Streetscape
- Multi-purpose Lawn

The SBVC community and leadership has requested native plant materials be incorporated into the campus landscape framework to reinforce identity and a unique sense of place. This creates opportunities to thoughtfully group and curate plants to represent distinct regional communities such as desert, foothill chaparral and oak savanna; emphasize ethnobotanical uses such as medicinal and edible plants and larger ecological topics such as stormwater treatment, drought tolerant and pollinator gardens. The Landscape Master Plan proposes to expand on the success of existing education and demonstration gardens through the thoughtful selection and placement of thematic plant palettes that support both campus identity as well as pedagogic goals.

Iconic Planting

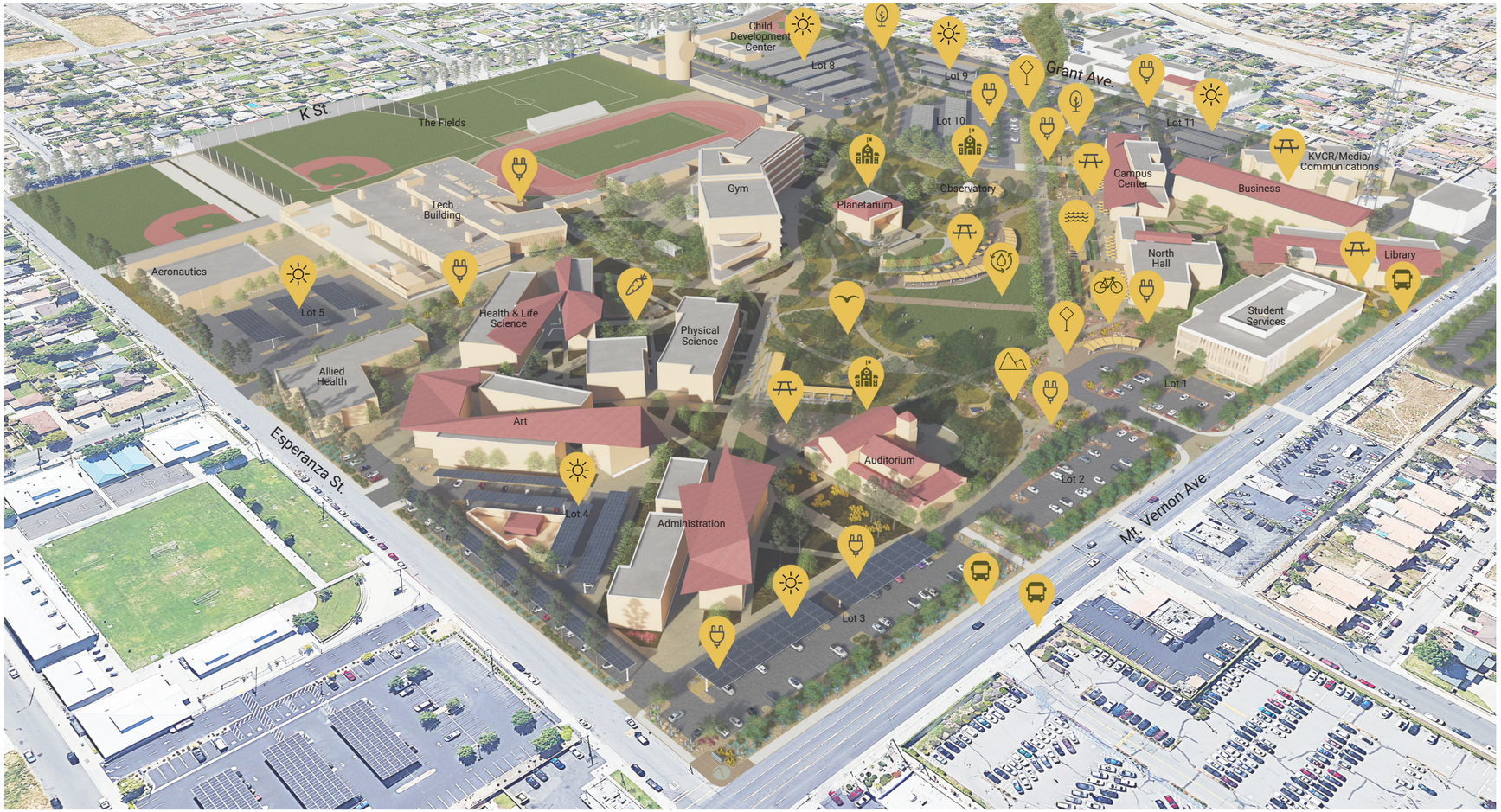
Educational Garden

Native Plant Communities

Stormwater Treatment

Streetscape

Sustainability



Legend

- Improve Community Quality of Life with Community Garden
- Improve Community Mobility with Bike Facilities
- E-Bike Charging Stations
- Encourage Sustainable Transportation
- Improve Access and Wayfinding
- Preserve Historic and Cultural Resources
- Enhance View and Local Character
- Enhance Public Space and Amenities
- Use Renewable Energy with Solar Panels
- Reduce Operational Water Consumption
- Manage Stormwater
- Enhance Functional Habitats
- EV Charging Stations
- Tree Canopy to Reduce Urban Heat Island Effect

Community Garden

Mobility: Bike Storage

Renewable Energy: Solar Panels

The Landscape Master Plan incorporates a diverse set of strategies to achieve SBVC's sustainability goals and align with Envision Verification Program. These include reducing the heat island effect through installation of shade structures, increasing the tree canopy and limiting hardscape where possible; treating stormwater run-off by draining hardscape to adjacent planting. Locating stormwater treatment areas in low-lying areas of the campus and designing them to be an amenity and learning environment; conserving water through improved irrigation efficiency and the use of native and local adapted plant material; photo-voltaic installations at parking lots and other shade structures; using locally sourced and sustainably manufactured products; encouraging human-powered transportation by improving pedestrian connections and expanded bike facilities; accommodating on-site food production by creating an edible garden for community use.

Sustainability Statement

San Bernardino Valley College is committed to integrating sustainability into every aspect of its campus. Sustainable development is critical for the well-being of our communities, the environment, and future generations. To guide our efforts, the Envision framework provides a comprehensive and holistic approach to sustainability.

The College strives to achieve high levels of sustainability by addressing the Envision categories of Quality of Life, Leadership, Resource Allocation, Natural World, and Climate and Risk. The aim is to create infrastructure and development that enhances the quality of life for all stakeholders, promotes social equity, and respects cultural and historical contexts. By demonstrating exemplary leadership, the College will inspire others and drive positive change in the educational field.

Each component of the Envision framework is a key consideration in the sustainability approach. The College will carefully manage resources such as energy, water, and materials, seeking efficiency and minimizing waste throughout the project lifecycle. We also prioritize the use of renewable and low-impact materials to reduce our environmental footprint.

Respecting and protecting the natural world is at the core of our sustainability commitment. The College aspires to integrate ecological considerations into our designs, striving to conserve and restore ecosystems, protect biodiversity, and promote resilient landscapes. We also prioritize the reduction of greenhouse gas emissions and the adaptation to climate change impacts to create a more sustainable and resilient future.

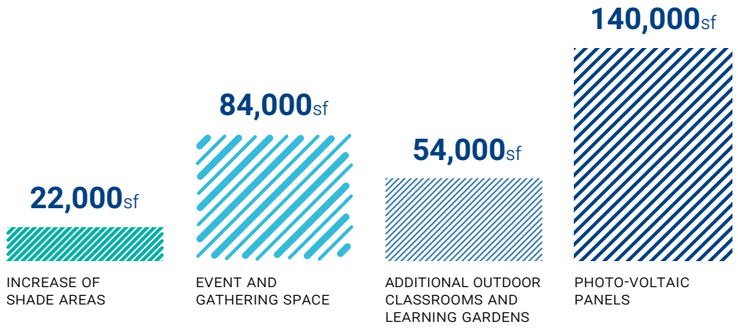
Our sustainability efforts go beyond individual projects. The College will actively engage with our students, stakeholders, professors, administrators, support professionals and communities to foster collaboration and knowledge sharing. By partnering with local organizations and investing in community initiatives, we aim to create lasting positive impacts that extend beyond our project boundaries.

The college embraces a culture of continuous improvement and accountability. We regularly assess our performance against established sustainability goals and strive to exceed industry standards. We also recognize the importance of ongoing education and professional development to ensure our College team is equipped with the latest knowledge and tools to deliver sustainable solutions.

The list of sustainable strategies below represent a start to implement and integrate sustainability into the College. It is by no means a static list. Sustainable strategies are meant to be dynamic to address current and future conditions. They are meant to be flexible so that end users equipped with sustainability for the long term can make logical and intelligible decisions that will impact both the short and long term. The latest San Bernardino Community College District Sustainability Plan and latest Envision Sustainable Infrastructure Framework Version should be used as a basis to inform and develop sustainability goal, objectives, and policies.

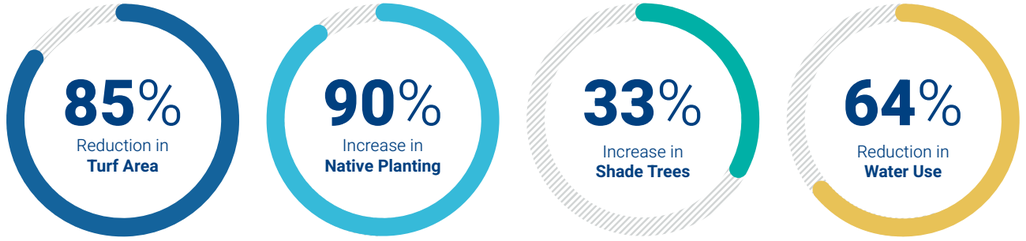
In summary, our sustainability statement encompasses the Envision framework by integrating sustainability into every aspect of our work effort from the classroom and administration to our homes and workplaces. Through our commitment to quality of life, leadership, resource allocation, the natural world, and climate and risk, we aim to create infrastructure and development that enhances communities, protects the environment, and leaves a positive legacy for future generations.

Sustainability Goals



1,000
Individual outdoor seats

Additional bike parking spaces including **E-bike** charging stations to meet **LEED Gold** Criteria



Decreased Maintenance

Including mowing, pruning, pesticides and fertilizer application

Higher-Efficiency Irrigation

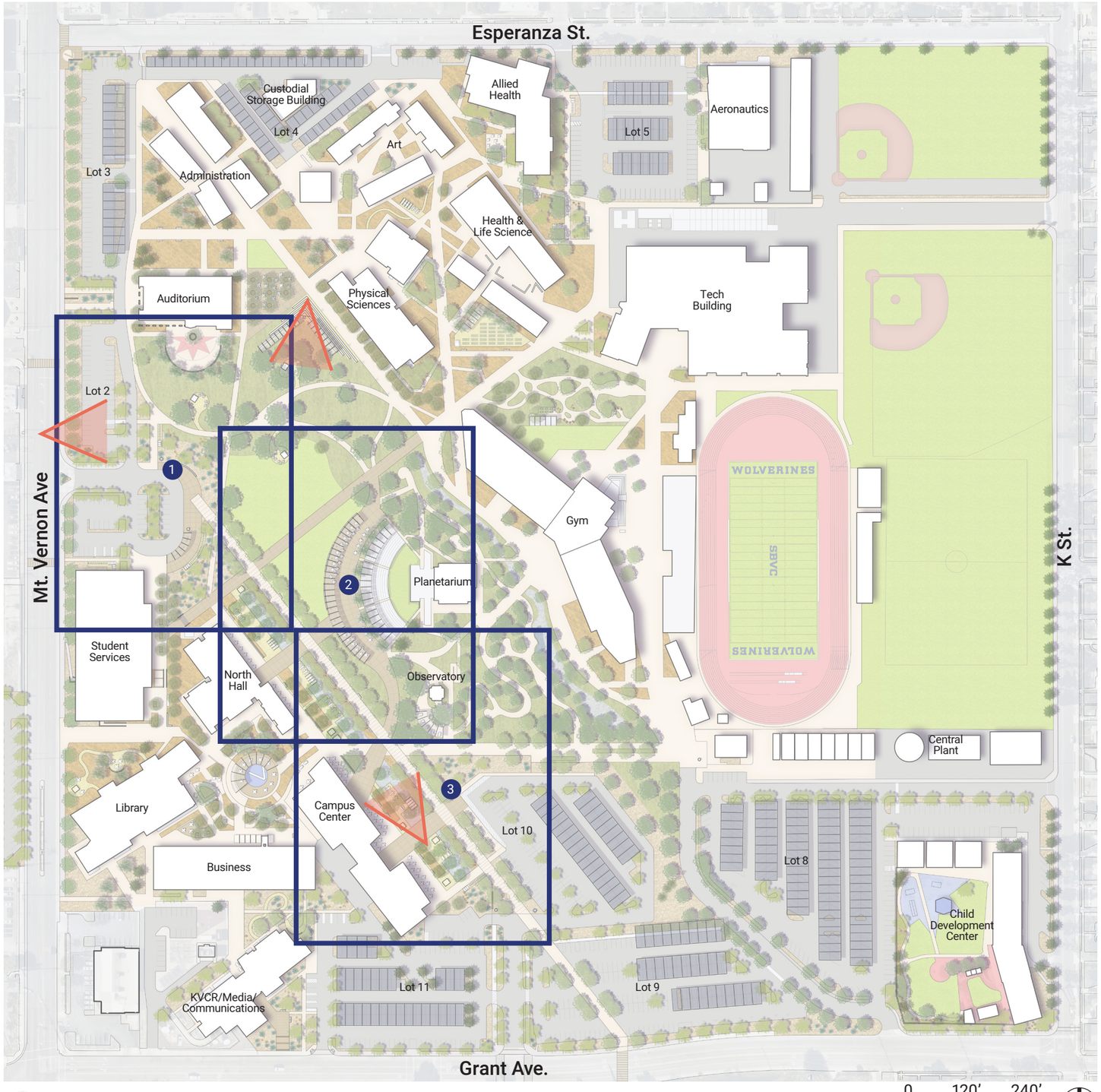
Including weather-based controllers, low-flow bubblers, high efficiency rotors and drip irrigation

Envision Framework

The Landscape Master Plan should be regarded as a companion document to the San Bernardino Community College District Sustainability Plan. Any projects that move forward from this plan should be implemented in coordination with the Sustainability Plan. The Envision Infrastructure Sustainability Framework is a supplemental document to further identify potential sustainability criteria for which actions may apply. Each sustainable action listed in this plan should be vetted for applicability to the appropriate plan or standard. The latest San Bernardino Community College District Sustainability Plan and latest Envision Sustainable Infrastructure Framework Version should be used to infom new projects.

	San Bernardino Community College District Sustainability Plan 2023							Envision Sustainable Infrastructure Framework Version 3				
Landscape Master Plan Sustainable Actions	SBCCD: 1.0 Carbon Mitigation Goal 1	SBCCD: 2.0 Energy Goals 1-6	SBCCD: 3.0 Water Goals 1-4	SBCCD: 4.0 Transportation Goals 1-3	SBCCD: 5.0 Materials Goals 1-2	SBCCD: 6.0 OnGoing Engagement and Transparency Goals 1-2	SBCCD: 7.0 Education Goals 1-2	ENV: Quality of Life	ENV: Leadership	ENV: Resource Allocation	ENV: Natural World	ENV: Climate and Resillence
Provide 1,000 individual outdoor seats					X			X		X		
Provide 84,000 square fee of event and gathering space					X	X		X		X		
Provide 54,000 additional square feet of outdoor classrooms and learning gardens		X			X		X	X	X	X		
Shade areas increase by 22,000 square feet					X					X		
Decreased maintenance, including mowing, pruning, pesticides and fertillzer application			X						X	X	X	
Provide bike parking spaces including E-bike charging stations	X			X				X		X		
Implement higher efficiency irrigation, including weather based controllers, low-flow bubbler, high efficiency rotors and drip irrigation			X							X		
Provide additional EV parking stalls	X			X				X				X
Provide 85% reduction in turf areas			X								X	
Provide 90% increase in native planting			X								X	
Provide 33% increase in shade trees											X	
Provide 64% reduction in water use			X							X		
Provide 140,000 square feet of photovoltaic panels	X	X								X		

4—Master Plan Focus Areas



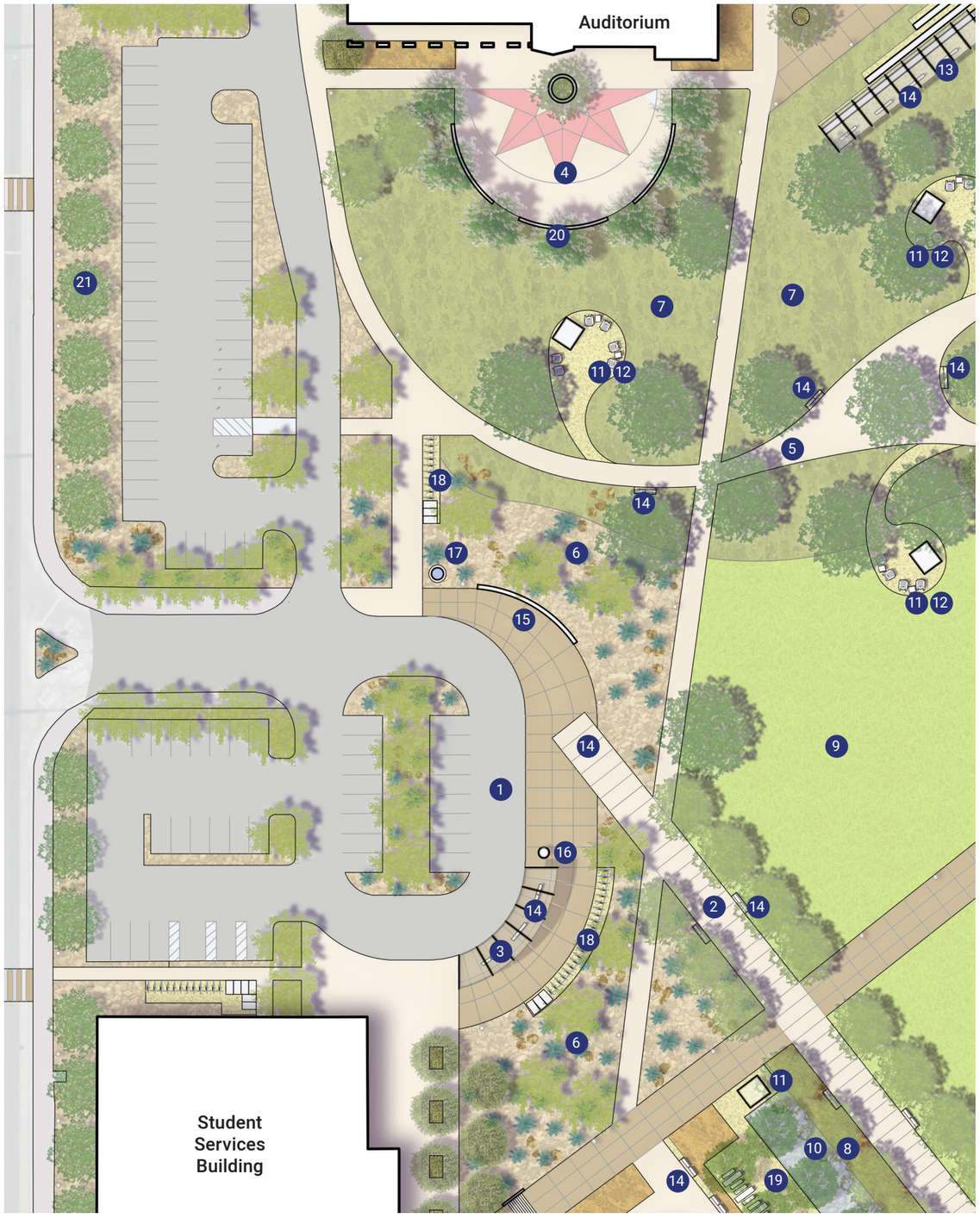
Legend

1. Main Entry and Arrival Plaza/ Streetscape
2. Central Event Plaza/ Event Lawn
3. Outdoor Classrooms/ Stormwater Treatment Garden

Focus View Area

The three focus plan areas within the Landscape Master Plan have been selected as they collectively include key physical framework elements described in the previous section. The following pages illustrate in more detail the vision for the campus including new and expanded seating and program areas that are conveniently located, shaded and inviting; clarified and strengthened planting and circulation frameworks that define and clarify a distinct and cohesive sense of place, reinforce intuitive wayfinding and as equally important, introduce sustainable strategies that mitigate heat-island effect, reduce maintenance and water use, and celebrate local materials.

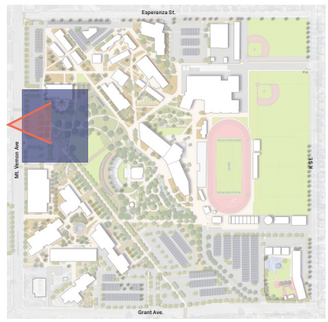
Main Entry and Arrival Plaza/ Streetscape



Features

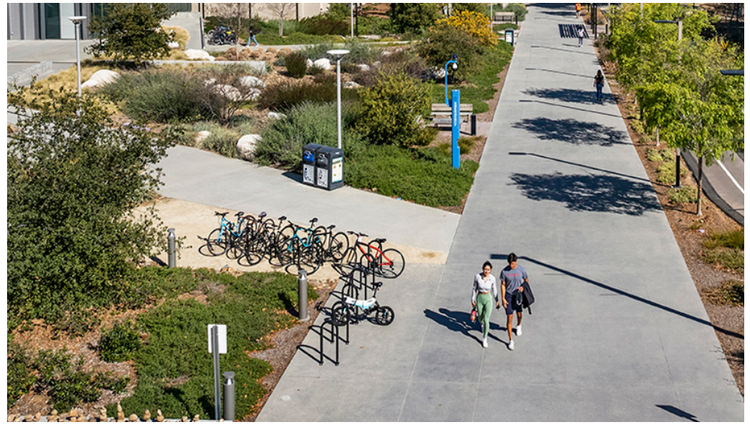
1. Drop Off
2. Fault Line Promenade
3. Arrival Plaza and Shade Structure
4. Auditorium Event Area
5. Oak Trail
6. Mojave Desert Garden
7. Oak Savanna
8. Waterwise Planting
9. Event Lawn
10. Stormwater Garden
11. Solar Powered Collaboration Table
12. Informal Seating Area
13. Shaded Amphitheater
14. Bench Seating
15. Seatwall
16. Directory Kiosk
17. Relocated SBVC Monument
18. E-Bike Charging & Bike Corral
19. Collaboration Space
20. Relocated Memorial Area
21. Desert Foothill Planting

Key Map

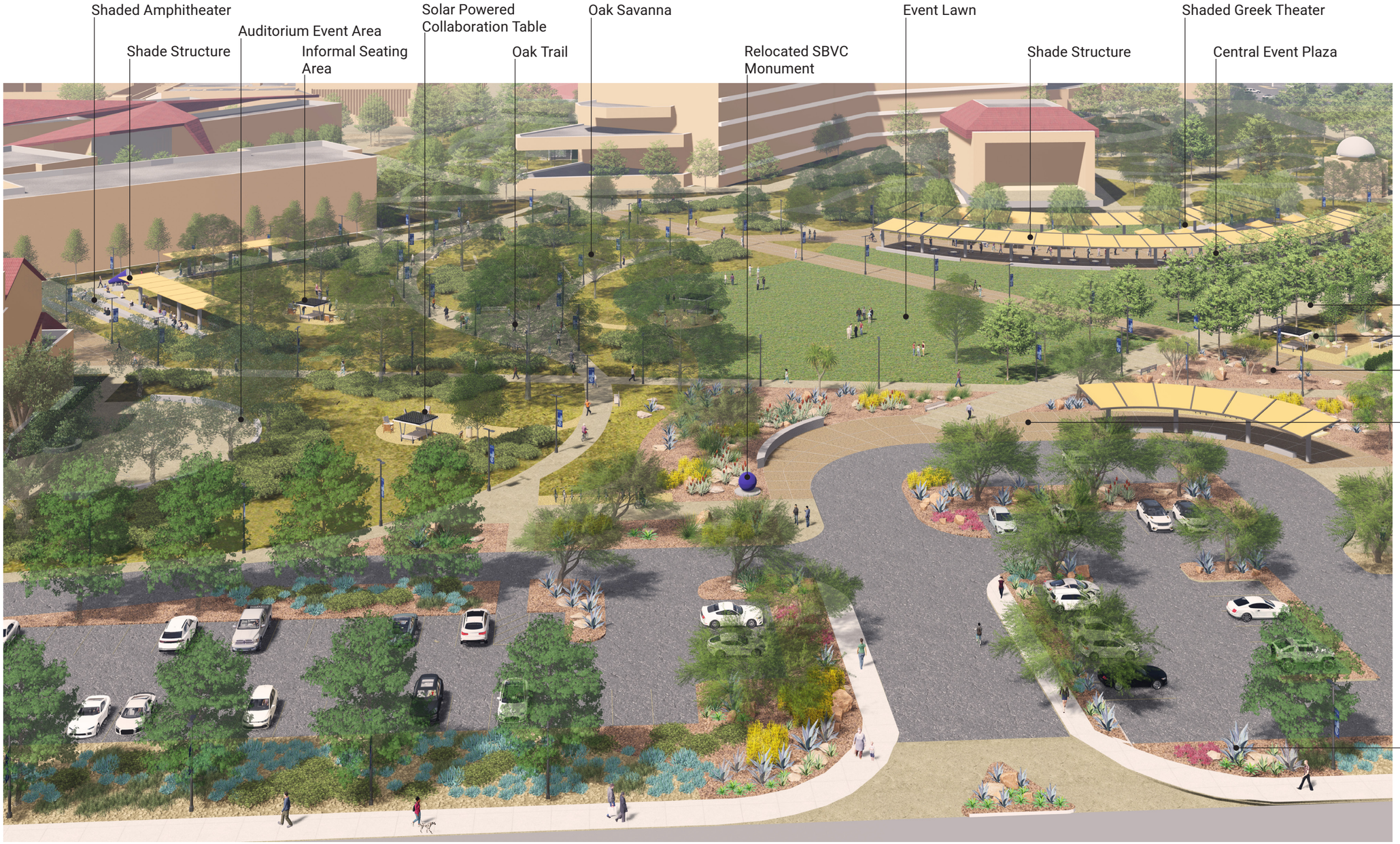


Arrival Plaza

Desert Garden



Bike Parking



Views to east of Main Entry and Arrival Plaza

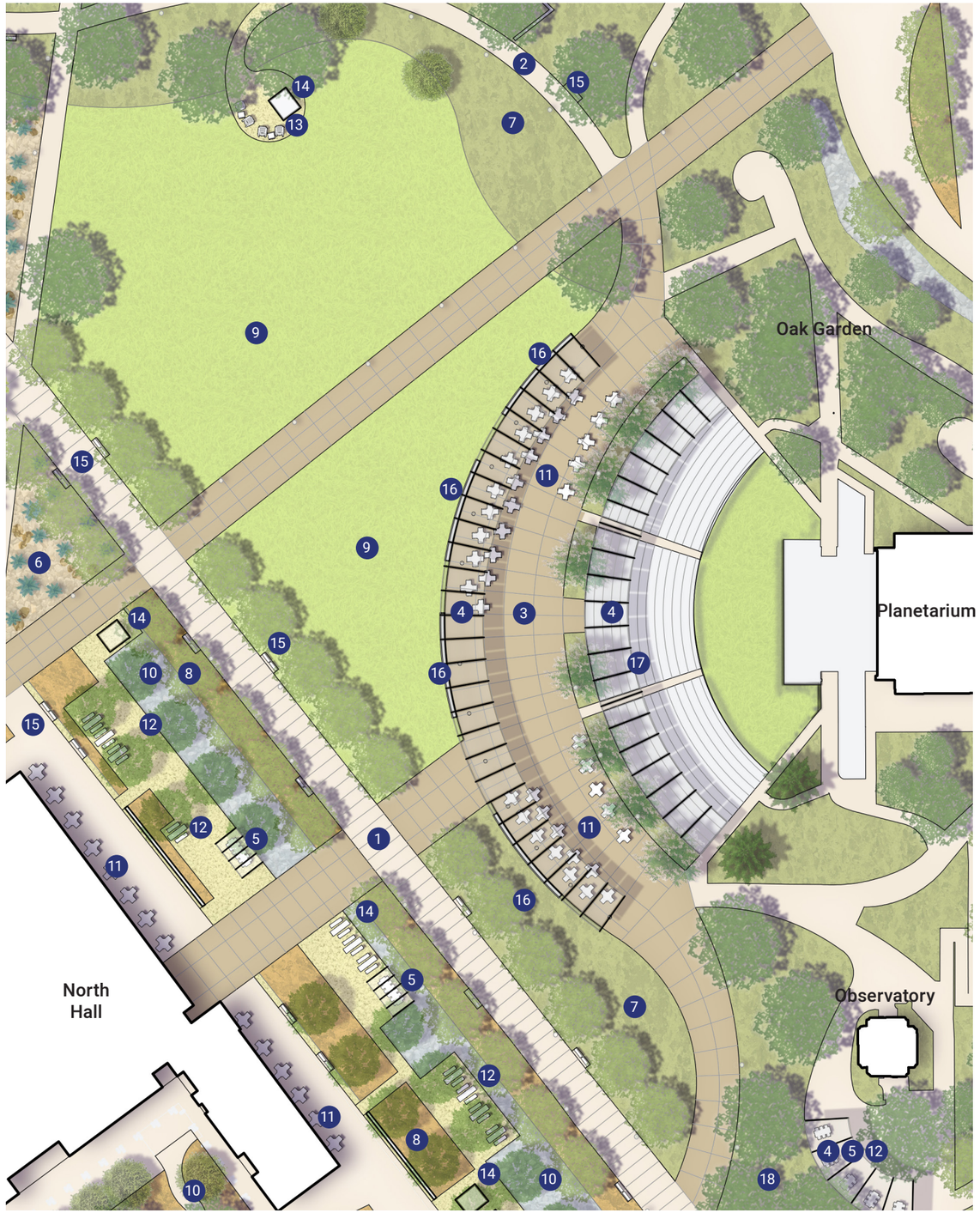
Located mid-block off Mt. Vernon Avenue and framed by the historic Auditorium and new Student Services Building, the North Arrival Plaza has expansive views of the heart of SBVC campus activities as well as distant views to the San Gabriel Mountains beyond. New native and drought tolerant planting along the streetscape leads visitors to a welcoming arrival plaza with shaded seating, signage, bike storage facilities surrounded by a dazzling display of specimen succulents and canopy trees that are native to the San Bernardino Valley and Mojave Desert. A campus crossroads, the extended Oak Garden trail and Fault Line Promenade direct students to academic courtyards and campus facilities to the east and south. The expanded Auditorium event plaza, shaded by a ring of canopy trees, and new event esplanade and iconic shade structure, adjacent to the Greek Amphitheater frame seating and gathering spaces set in the Oak Savannah and activities in the multi-purpose event lawn.

Main Entry and Arrival Plaza/ Streetscape Comparison

Existing

Proposed

Central Event Plaza / Event Lawn



Features

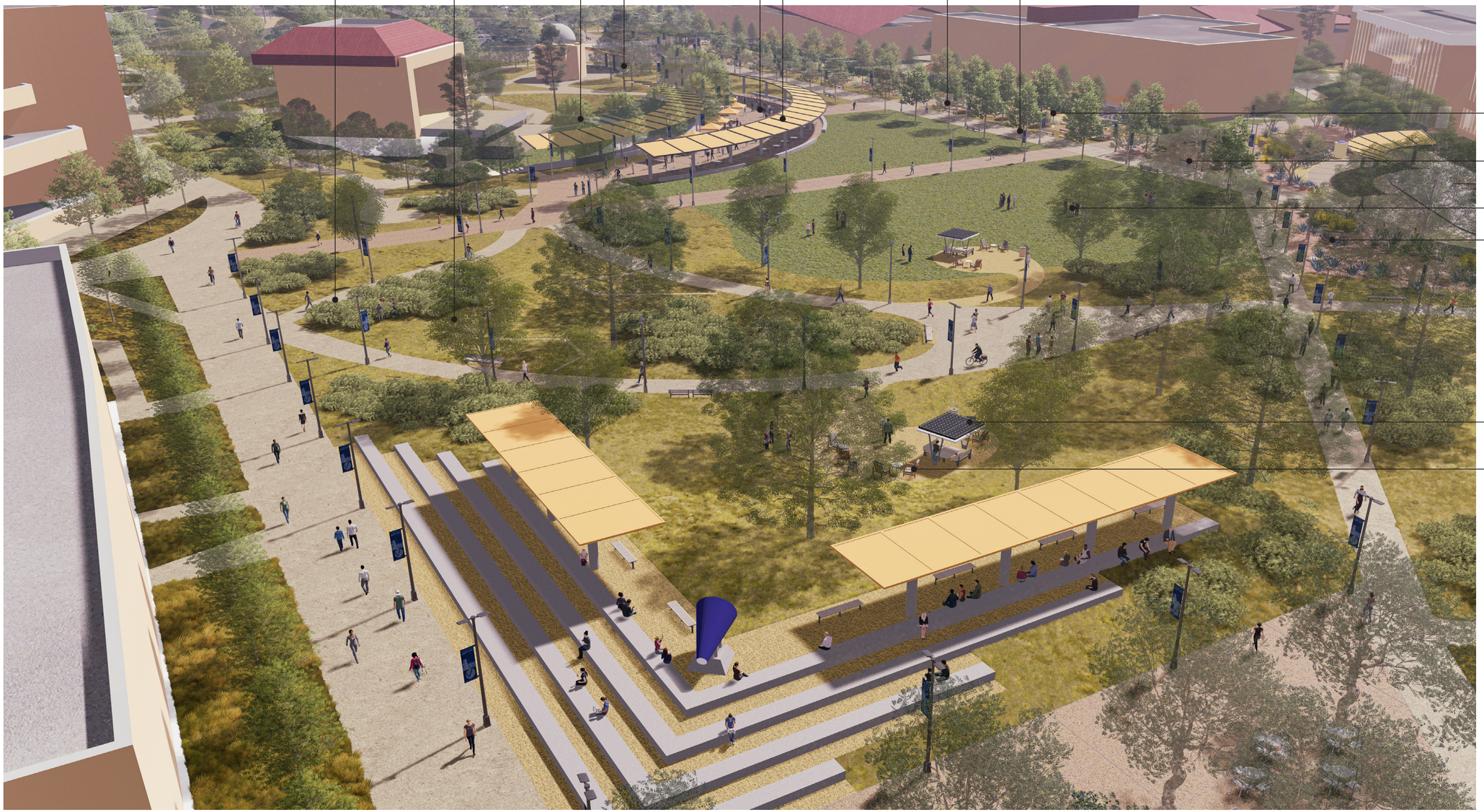
1. Fault Line Promenade
2. Oak Trail
3. Central Event Plaza
4. Shade Structure
5. Outdoor Classroom
6. Mojave Desert Garden
7. Oak Savanna
8. Waterwise Planting
9. Event Lawn
10. Stormwater Garden
11. Cafe Seating
12. Collaboration Space
13. Informal Seating
14. Solar Powered Collaboration Table
15. Bench Seating
16. Seatwall
17. Shaded Greek Theater
18. Geology Garden

Key Map

Custom Shade Structure

Informal Plaza Seating

Event Lawn

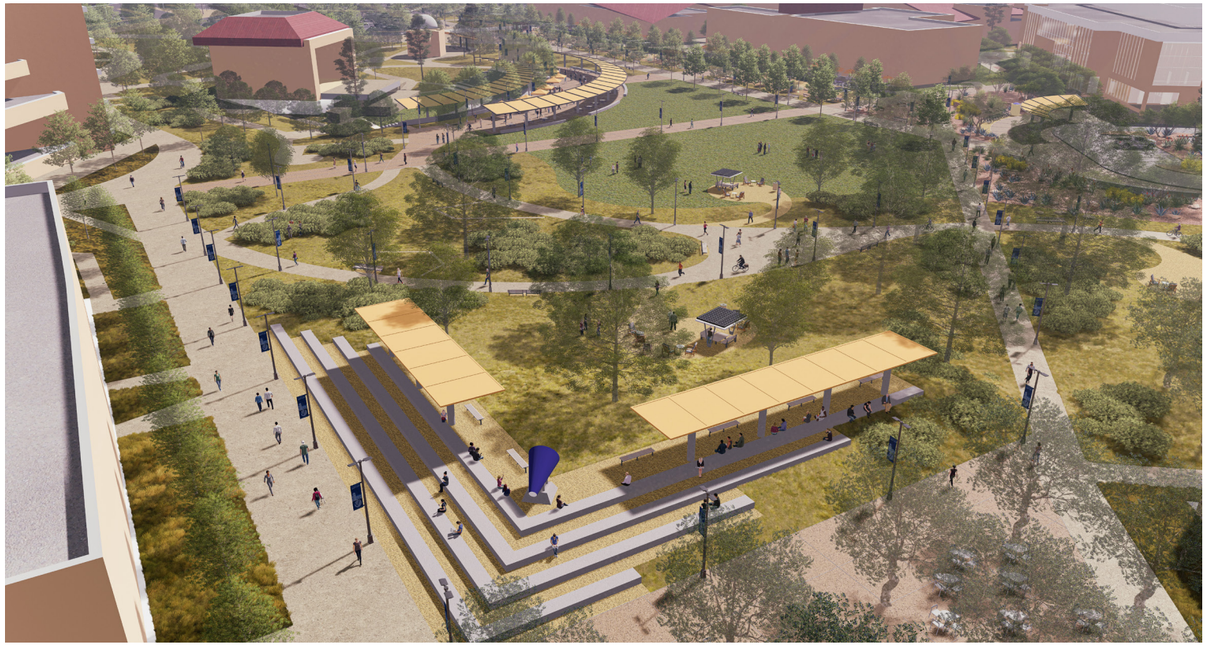


View to southwest of Central Event Plaza and Event Lawn

The core of the campus, the sequence of gathering and event spaces shown in this view accommodate the full range of campus activities. The existing Arts Plaza and seating stairs are more inviting with a new shade structure. New pedestrian paths and seating and gathering spaces wind through existing Oak and Sycamore creating shady spots to relax, collaborate and people watch. The “right-sized” event lawn is large enough to accommodate occasional tented activities as well as informal recreational activities. The Greek Amphitheater beyond features a new shade structure to provide comfortable seating opportunities for events or outdoor classes.

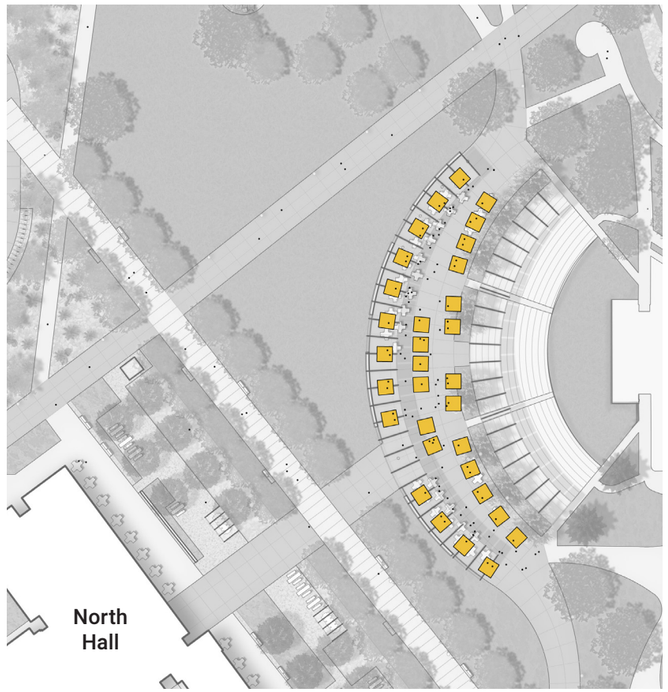
Central Event Plaza / Event Lawn Comparison

Existing



Proposed

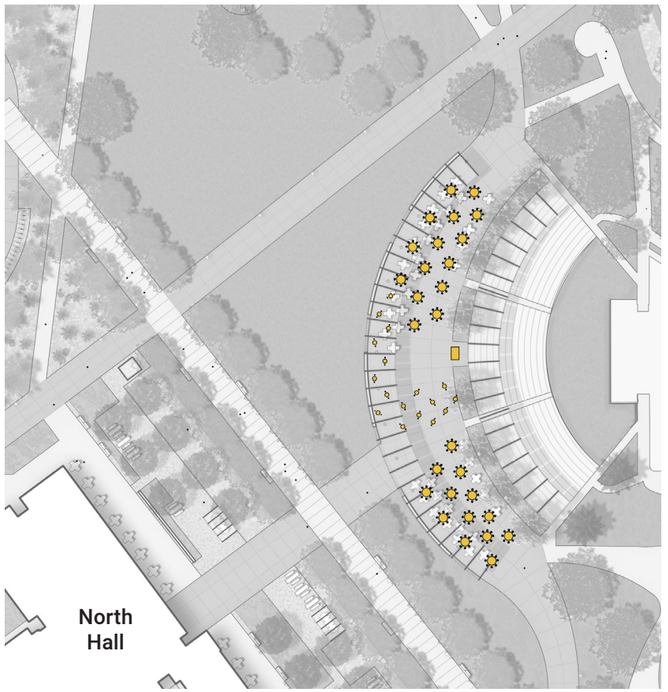
Central Event Plaza / Event Lawn - Sample Layout Scenarios



Scenario 1: Campus or Community Fair

- 16,268sf plaza
- 5,720sf plaza shade structure
- (32+) 10'x10' booths

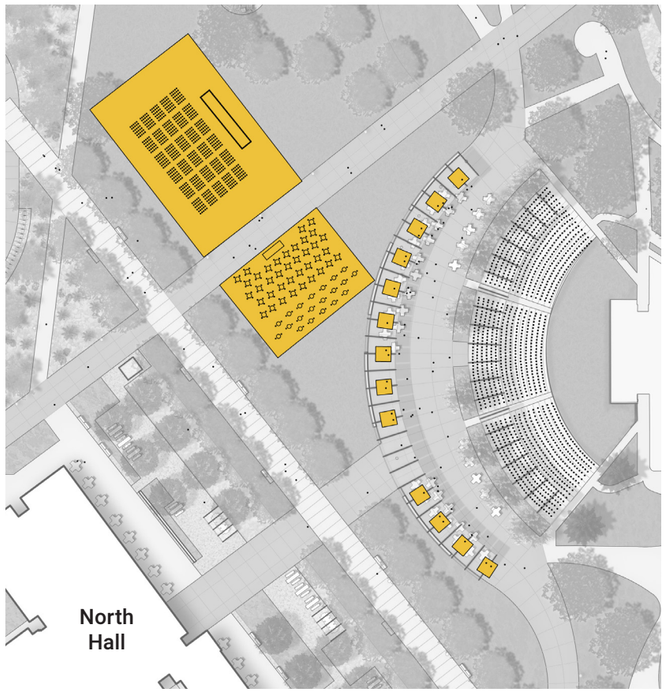
Career Fair



Scenario 2: 250 Person Catered Event

- (25+) 10 person tables
- (17+) cocktail tables
- 200sf stage, podium or speaker space
- 250 seated guests

Awards Ceremony

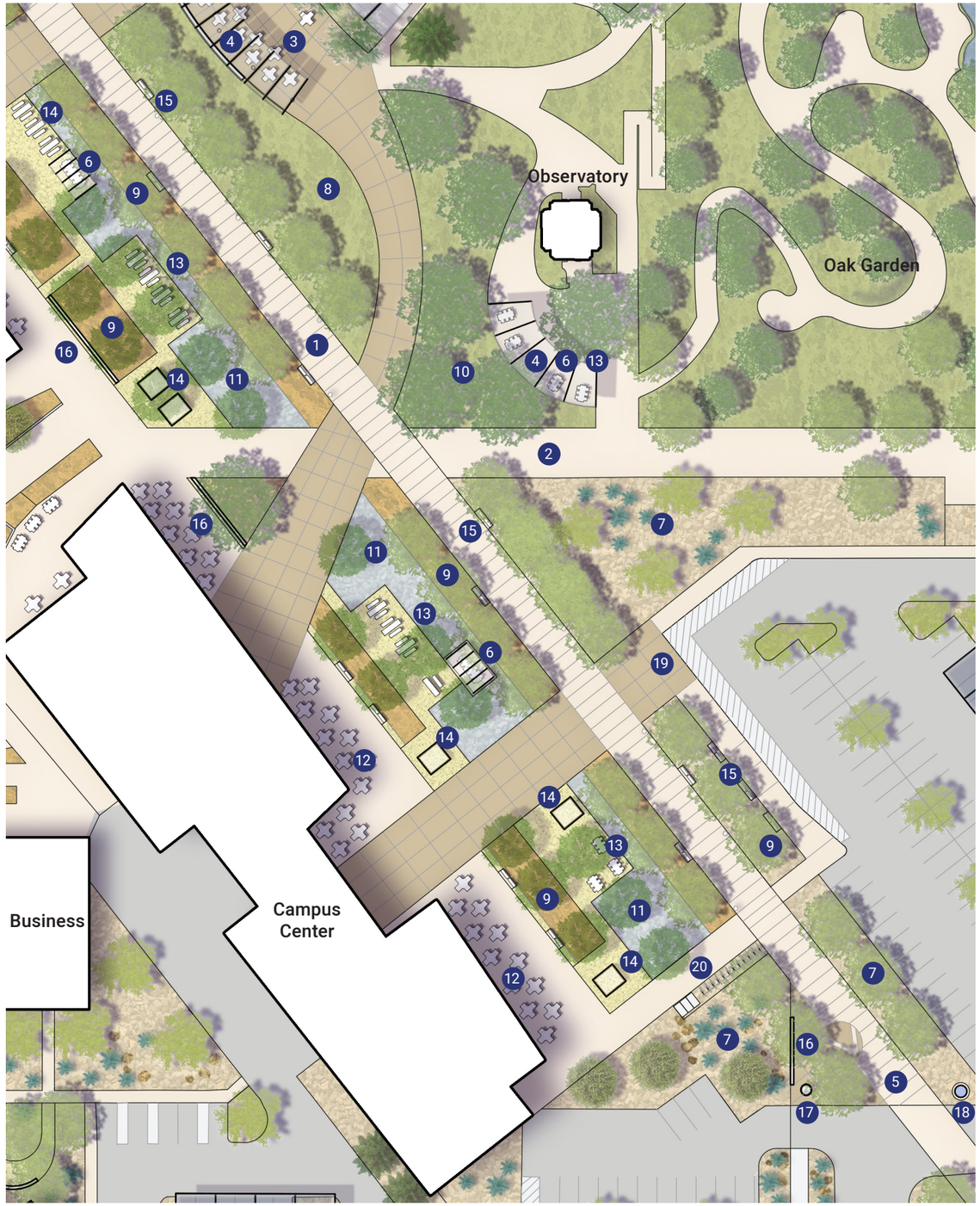


Scenario 3: Large Events

- 7200sf/500 person tent
- 4000sf/200 person tent
- 4,700sf amphitheater shade structure
- 1000 person amphitheater seating
- (20) 10'x10' booths

Tented Event

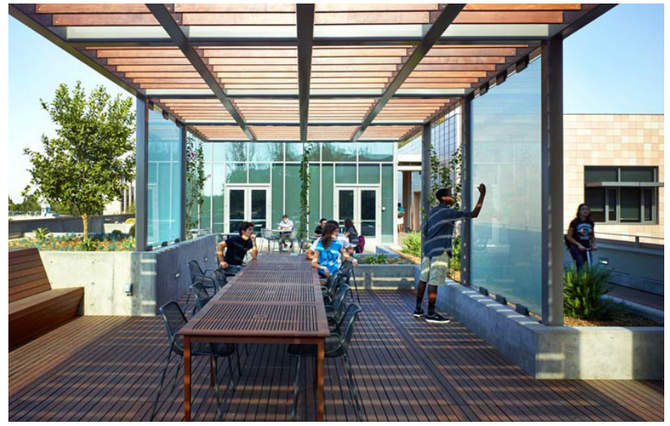
Outdoor Classrooms / Stormwater Treatment Garden



Features

1. Fault Line Promenade
2. Richardson Walk
3. Central Event Plaza
4. Shade Structure
5. Arrival Plaza
6. Outdoor Classroom
7. Desert Planting
8. Oak Savanna
9. Waterwise Planting
10. Geology Garden
11. Stormwater Garden
12. Outdoor Cafe
13. Collaboration Space
14. Solar Powered Collaboration Table
15. Bench Seating
16. Seatwall
17. Directory Kiosk
18. SBVC Monument
19. Drop-off
20. E-Bike Charging & Bike Corral

Key Map



Outdoor Classroom

Shaded Study Area

Outdoor Cafe Seating

*Some trees were omitted to visualize the proposed improvements.

View to north of Outdoor Classrooms and Stormwater Treatment Garden

The importance of Fault Line Promenade as a circulation connector and formal campus organizing element—indicating the presence and orientation of the fault lines running through the campus—is further amplified by locating major community gathering spaces parallel and adjacent to the Campus Center and North Hall. A series of open air outdoor classrooms include amenities to support learning including power for laptops and other audio-visual tools, collaboration tables and integrated white boards. Other flexible seating includes a combination of fixed elements like benches and tables as well as some movable furnishings that can be secured at the end of the day. A linear stormwater treatment garden is located between Promenade and seating areas, achieving sustainability goals and providing opportunity for interpretation and learning.

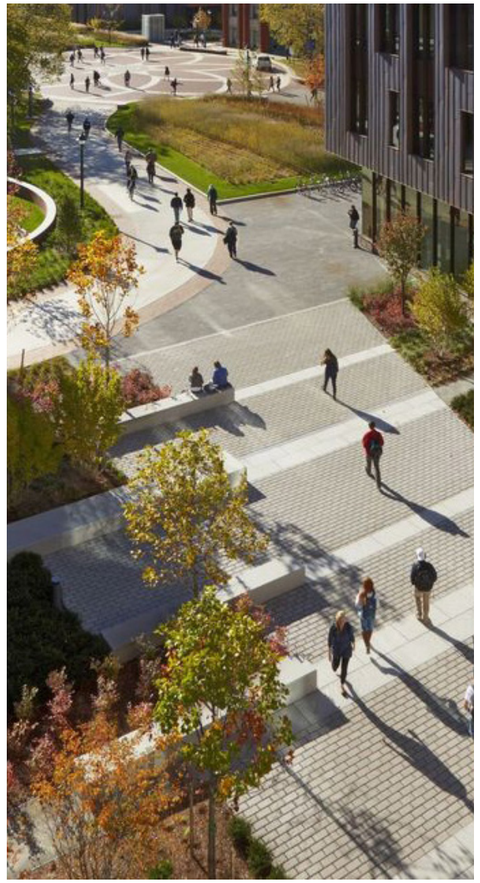
Outdoor Classrooms / Stormwater Treatment Garden Comparison

Existing

*Some trees were omitted to visualize the proposed improvements.

Proposed

5—Landscape Recommendations



The following section includes diagrams, material recommendations and accompanying imagery intended to convey the design principles and overall character of exterior spaces. Below is a summary discussion of recommendations for Planting and Hardscape. Irrigation recommendations follow later in this section.

Planting

The Landscape Master Plan includes an overall landscape framework that outlines a new approach to understory planting that supports the following principles:

Celebrate sense of place by using native plant materials including specimen succulents and cacti that are unique to the Mojave Desert and environs as well as locally sourced rock, cobble and boulders as mulch and groundcover.

Be Water Wise by limiting the use of turf to high use event and recreation areas; using a combination native and locally adapted xeric plants that meet or exceed state-mandated water use requirements; incorporating areas of rock and cobble groundcover.

Reduce Maintenance by considering mature size when installing new planting and not over-crowding; using native and locally-adapted plants that are disease and pest resistant; incorporate Integrated Pest Management principles by encouraging pollinators and other beneficial fauna.

Beautify, Engage and Educate by focusing planting displays where the community works, learns and gathers; develop more curriculum-based learning landscapes such as ethnobotanical, medicinal, pollinator and stormwater gardens.

Build an Urban Canopy by preserving and celebrating existing canopy trees and planting new shade trees wherever possible to capture garden, reduce heat island effect and create inviting, cooling spaces that benefit the community and the region.

Lighting

Provide uniform lighting in parking lots, walkways and plazas, avoiding darks spots where possible. Mitigate glare from light fixtures as much as possible with full cutoff features to reduce light pollution. Placement of lighting should be optimized so that nearby tree growth will not block light. Examine industry standards and identify opportunities for up-to-date lighting technologies, following the latest version of the Illuminating Engineering Society standards.

Hardscape

The Landscape Master Plan largely preserves existing circulation and hardscape areas, expanding or editing in some locations to eliminate redundancies or improve accessibility and wayfinding. New circulation, seating and program areas follow the following principles:

Unify the Campus by using materials and finishes that relate to existing campus hardscape, colors, themes and identity. Support intuitive wayfinding through consistent hardscape and site furnishings such as hardscape finishes, site lighting, bollards and benches. Identify focal areas and iconic features such as shade structures that can reinforce campus identity

Articulate major paths, nodes and plazas by using accent paving such as integral color concrete, contrasting finishes and/or score joint patterns. Use medallions and accent panels in select key locations such as arrival plazas.

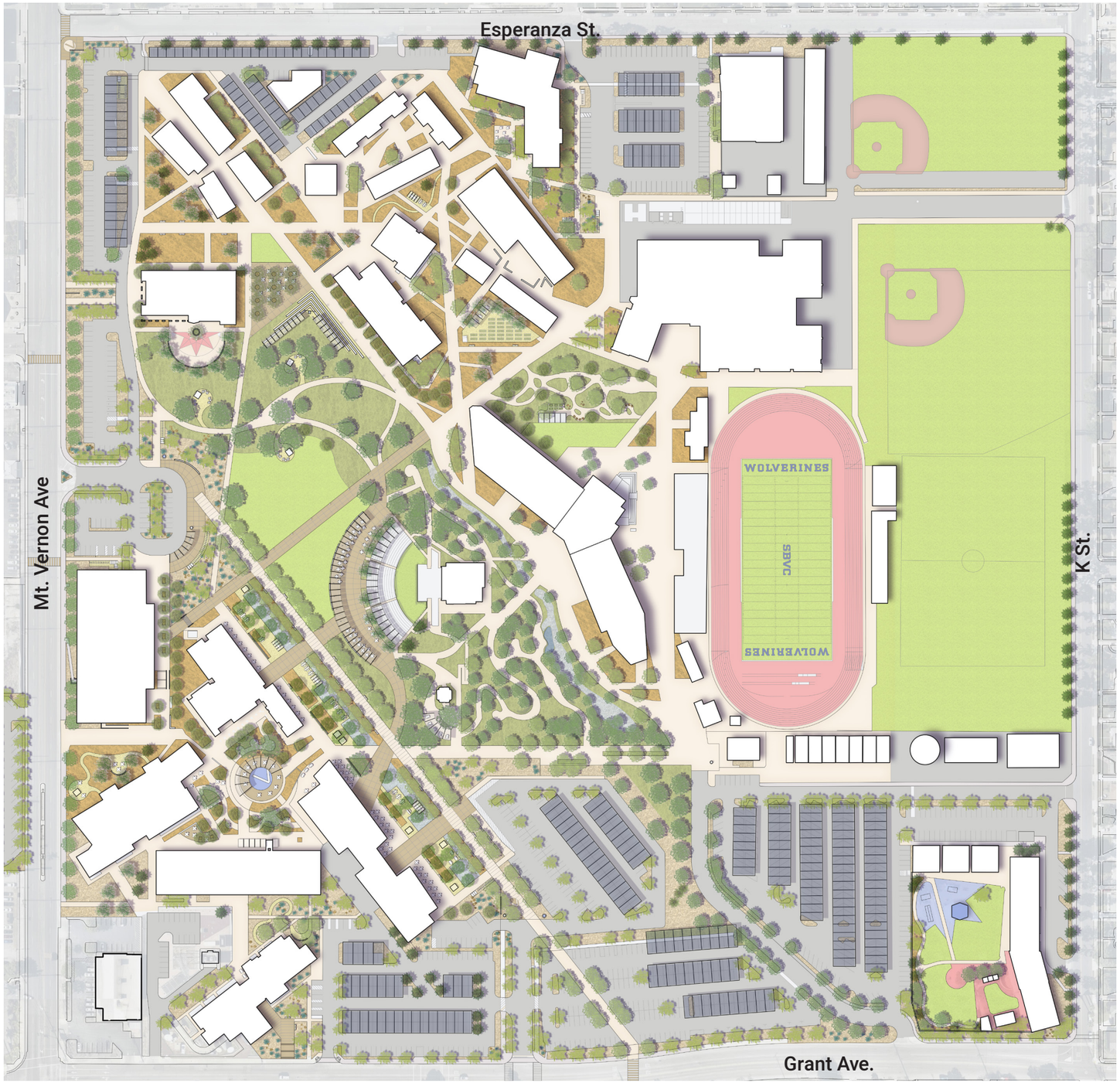
Prioritize Accessibility by ensuring existing and new paths and plazas meet ADA criteria; providing companion seating at gathering areas and benches with backs and arms.

Reduce Stormwater Run-off by using permeable surfaces where possible, draining hardscape to adjacent planting areas and reducing redundant or over-sized hardscape areas. Various stormwater bmps and technologies, such as cisterns, pumps, and control systems can be used to reduce stormwater runoff.

Consider Life-cycle Costs by setting campus standards that incorporate durable, high-efficiency and low-maintenance materials and products for paving, site walls, site furnishings and lighting.

Reduce embodied carbon by specifying materials that use lower levels of cement and low energy processing. All suppliers of hardscape materials should be required to provide an Environmental Product Declaration for comparison of available materials. Materials with lower Global Warming Potential (kg CO_2-eq) should be considered. Owner's specifications can be updated to require thresholds for GWP and provide guidance to contractor's in bidding.

Planting Framework



Graphic Legend

- Native Planting
- Desert Landscape
- Waterwise Planting
- Low Water Turf
- Stormwater Planting
- Oak
- Canopy Tree
- Accent Tree
- Sycamore

The diagrams below show areas of existing planting to be refreshed, areas of turf to be replaced with planting, proposed new trees and existing trees to remain in place.

Converted Planting Legend

- Turf Converted to Planting- 275,709 sf
- Refreshed Planting

Tree Legend

- 205 New Trees
- 623 Existing Trees

Native Planting

Native planting extends from the existing Oak Garden across the proposed Oak Savannah, wrapping the campus core. The use of native plant palettes here helps emphasize SBVC's unique sense of place, celebrates the beauty, fragrance, history and ethnobotanical value of indigenous plant materials while also reaping the benefits of their inherent drought tolerance, pest and disease resistance.

Total Area of Native Planting:
104,654 sf / 2.4 ac

Trees, such as:

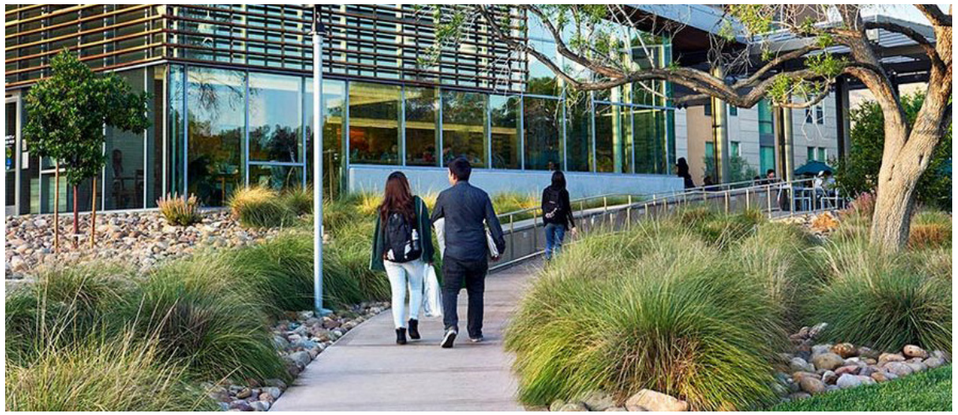
Ceanothus 'Ray Hartman'
Cercis occidentalis, Western Redbud
Heterolmeles arbutifolia, Toyon
Platanus racemosa, Western Sycamore
Quercus spp.
Rhus laurina, Laurel Sumac
Populus fremontii, Western Cottonwood
Salix spp., Arroyo Willow
Alnus rhombifolia, White Alder

Shrubs, such as:

Arctostaphylos cercocarpus, Mountain Mahogany
Artemesia californica, California Sagebrush
Baccharis pilularis, Coyote Brush
Carpenteria californica, Bush Anemone
Ceanothus griseus var. horizontalis, Wild Lilac
Encelia californica, California Brittlebrush
Eriogonum fasciculatum, California Buckwheat
Fremontodendron californicum, California Flannelbush
Myrica californica, Pacific Wax Myrtle
Prunus ilicifolia
Rhamnus crocea, Spiny Redberry
Rhus integrifolia, Lemonadeberry
Ribes speciosum, Currant

Grasses and Perennials, such as:

Achillea millefolium, Common Yarrow
Achillea x 'Moonshine', Moonshine Yarrow
Asclepias eriocarpa, Monarch Milkweed
Corethrogyne filaginifolia, California Aster
Dendromecon rigida, Island Bush Poppy
Eriophyllum confertiflorum, Golden Yarrow
Festuca californica, California Fescue
Galvezia speciosa 'Firecracker', Snapdragon
Leymus 'Canyon Prince,' Canyon Prince Wild Rye
Mimulus aurantiacus, Bush Monkey Flower
Muhlenbergia rigens, Deer Grass
Penstemon spectabilis, Showy Penstemon
Salvia apiana, White Sage
Salvia mellifera, Black Sage
Salvia clevelandii, Cleveland Sage

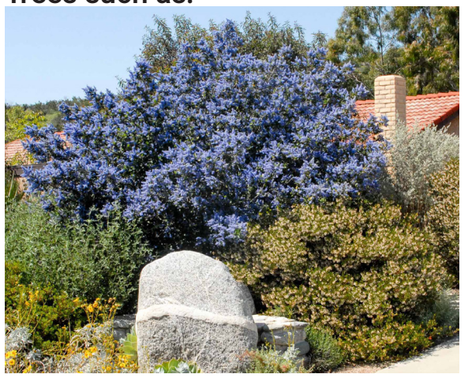


Native Grasses and Decorative Rock

Demonstration Habitat Garden

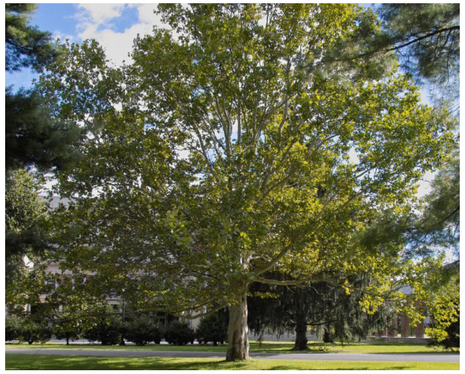
Native Meadow

Trees such as:


Ceanothus ‘Ray Hartman’


Cercis occidentalis


Heterolmeles arbutifolia


Platanus racemosa


Quercus agrifolia

Shrubs such as:


Artemesia californica


Baccharis pilularis ‘Pigeon Point’


Ceanothus griseus var. horizontalis


Myrica callifornica


Dendromecon rigida

Perennials and Grasses such as:


Eriogonum fasciculatum


Mimulus aurantiacus

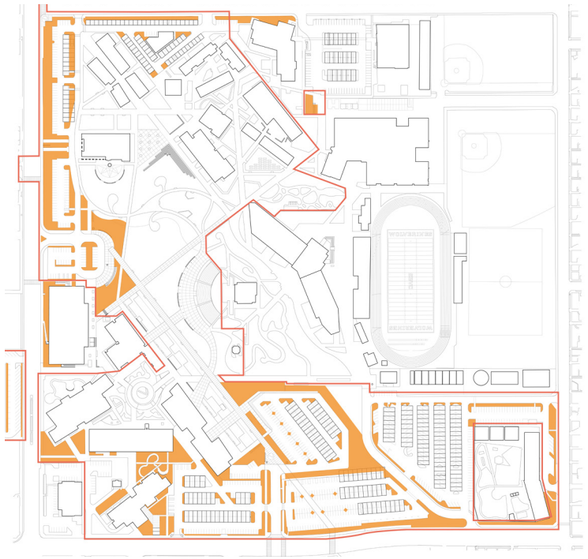

Galvezia speciosa ‘Firecracker’


Salvia clevelandii


Epilobium canum

Desert Planting

Similar to native planting, the Desert Plant palette celebrates SBVC's unique sense of place, displaying the sculptural forms, textures, adaptive characteristics and distinctive beauty of desert plants. Located along the campus perimeter and at major entry points, Desert planting asserts SBVC's pride in and identity with the neighboring Mohave Desert.



Total Area of Desert Planting:
222,844 sf / 5.1 ac

Trees, such as:

Chilopsis linearis, Desert Willow
Olneya testota, Desert Ironwood
Parkinsonia 'Desert Museum', Palo Verde
Prosopis glandulosa, Honey Mesquite
Yucca spp.
Acacia willardiana, Palo Blanco

Shrubs and Succulents, such as:

Acacia redolens, 'Desert Carpet'
Agave spp.
Calliandra californica, Baja Fairy Duster
Dasylirion wheeleri, Desert Spoon
Echinocactus grusonii, Golden Barrell Cactus
Encelia farinosa, Brittlebush
Hesperaloe, Desert Flamenco
Hesperoyucca whipplei, Our Lord's Candle
Justica californica, Chuparosa
Leucophyllum Frutescenes, Texas Sage
Opuntia robusta, Wheel Cactus
Peritoma arborea, Bladderpod
Teucrium x lucidrys, Hedge Germander
Tecoma x 'Sunrise,' Sunrise Esperanza

Perennials and Grasses, such as:

Baileya multiradiata, Desert Marigold
Dalea capitata, Lemon Dalea
Penstemon heterophyllus, Foothill Penstemon

Iconic Succulent Garden

Desert Trees

Decorative Rock and Desert Groundcover

Trees such as:


Chilopsis linearis


Olneya testota


Olneya testota


Parkinsonia ‘Desert Museum’


Prosopis glandulosa

Shrubs and succulents such as:


Agave americana

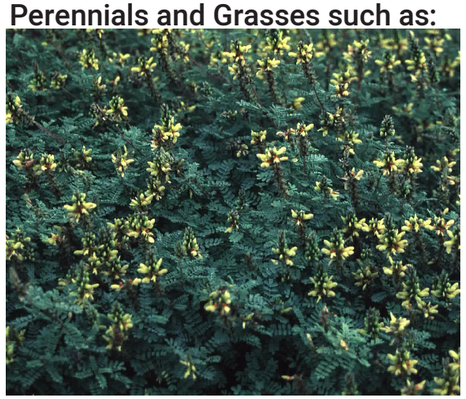

Agave attenuata


Dasylirion wheeleri


Echinocactus grusonii


Opuntia robusta

Perennials and Grasses such as:


Dalea capitata


Encelia farinosa


Hesperaloe


Leucophyllum Frutescenes


Penstemon heterophyllus

Waterwise Planting

This category encompasses the wide range of non-invasive, non-native plants from around the globe that are well-adapted to SBVC's Mediterranean, semi-desert climate. This includes a spectrum of trees, shrubs and flowering perennials that meet low-water use criteria. Already present in a number of newly planted projects on campus, the diversity of plant materials in this category make it well-suited to spaces with focal interest and distinctive character such as academic courtyards and quads.

Total Area of Waterwise Planting:
102,311 sf / 2.3 ac

Trees, such as:

Brachychiton acerifolius, Flame Tree
Cercis occidentalis, Western Redbud
Geijera parviflora, Australian Willow
Lagerstroemia indica, Crape Myrtle
Pinus eldarica, Afghan Pine
Rhus lancea, African sumac
Tipuana tipu, Tipu Tree

Shrubs, such as:

Acacia redolens, Desert Carpet
Bulbine frutescens, Stalked Bulbine
Callistemon 'Little John' Dwarf Callistemon
Cistus spp, Rockrose
Lantana camera, 'Gold Mound'
Leonotis leonurus, Lions Tail
Mukdenia rossii, Red-Leaf Mukdenia
Pittosporum tobira 'Variegata', Variegated Japanese Pittosporum
Rosmarinus sp., Rosemary
Santolina chamaecyparissus, Lavender Cotton
Tecoma stans, Esperanza
Verbena lilacina, de la mina
Verbena rigida, Sandpaper Verbena
Westringia fruticosa, Coast Rosemary

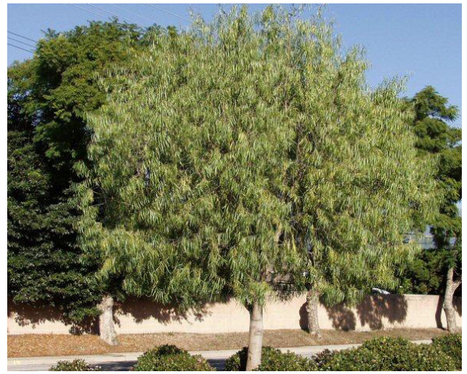
Background Planting

Garden Room

Waterwise Planting Palette

Trees such as:


Brachychiton acerifolius


Geijera parviflora


Lagerstroemia indica


Rhus lancea


Tipuana tipu

Shrubs such as:


Acacia redolens


Callistemon ‘Little John’


Pittosporum tobira ‘Variegatum’


Rosmarinus sp.


Westringia fruticosa


Leonitis leonurus


Cistus sp.


Lantana camera


Santolina chamaecyoarissus


Verbena lilacina

Stormwater Planting

The interstitial space between the Fault Line Promenade and new seating and out door classrooms is well suited for stormwater treatment as it lies at a low point on the campus and can be used for interpretive purposes similar to the existing stormwater garden at the Oak Garden. Plants in this location are native and selected for their general drought tolerance as well as their ability to withstand periodic inundation during rain events. Note final locations and total required square footage to be determined by Civil Engineer as part of project implementation strategy.

Total Area of Stormwater Planting:
11,367 sf / .26 acres

Trees, such as:

Alnus rhombofolia, White Alder
Cercis occidentalis
Platanus racemosa, Western Sycamore
Populus fremontii
Salix laevigata, Polished Willow

Shrubs, such as:

Anemopsis californica, Yerba Mansa
Baccharis salicifolia, Mulefat
Epilobium canum, California Fuchsia
Erigonum fasciculatum, California Buckwheat
Iva hayesiana, San diego Marsh Elder
Ribes viburnifolium, Catalina Currant
Salix laevigata, Red Willow

Grasses, such as:

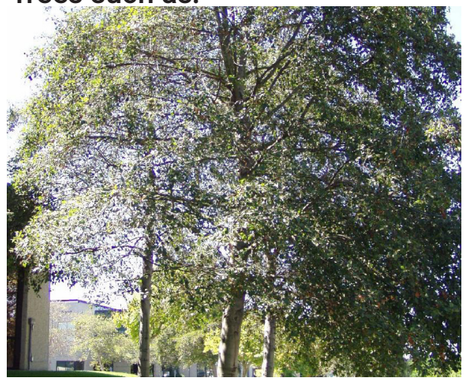
Carex divulsa, Berkeley Sedge
Chondropetalum tectorum, Small Cape Rush
Juncus spp.
Leymus condensatus ‘Canyon Prince’, Canyon
Muhlenbergia rigens, Deer Grass
Prince Giant Wild Rye

Stormwater Treatment Demonstration

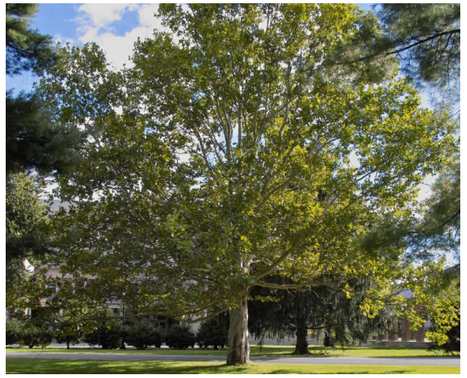
Locally Sourced Boulders and Cobble

Vegetated Swale

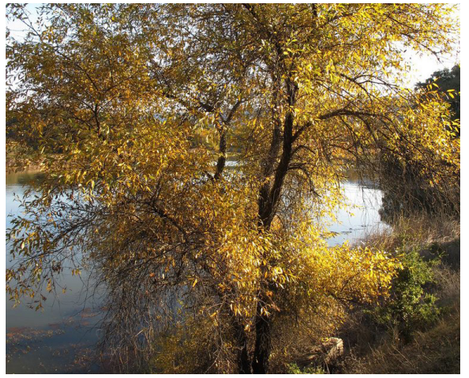
Trees such as:


Alnus rhombofolia


Cercis occidentalis


Platanus racemosa


Populus fremontii


Salix laevigata

Shrubs such as:


Achillea millefolium


Baccharis salicifolia


Epilobium canum


Erigonum fasciculatum


Iva hayesiana

Grasses such as:


Carex divulsa


Chondropetalum tectorum

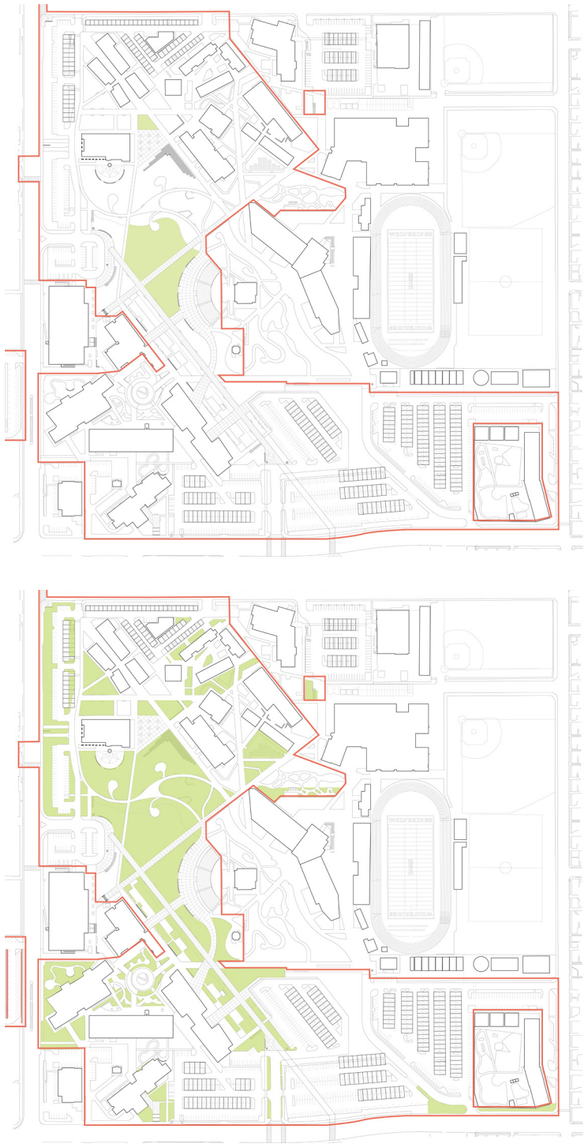

Juncus acutus


Leymus condensatus


Muhlenbergia rigens

Low Water Turf Planting

The amount of turf area in the core of campus has been reduced by 85% to 46,807 square feet/ 1.0 acres. It is located adjacent to the Central Event space where it can accommodate tented events and recreational activities. In addition, there are number of options for turf that consumes less water as well as “no-mow” species that can be left long and mowed for special events.



Total Area of Low Water Turf Planting:
46,807 sf / 1.0 acres

Open turf areas are a prime opportunity to implement a stormwater capture and use system. Capture and use refers to a specific type of stormwater BMP that operates by capturing stormwater runoff and holding it for efficient use at a later time. On a commercial or industrial scale, capture and use BMPs are typically synonymous with cisterns, which can be implemented both above and below ground. In the case of open turf areas, these systems would be buried underground. These systems typically include a pre-treatment device and pump with post treatment. Cisterns are sized to store a specified storm event with no surface discharge until this volume is exceeded through an overflow device. The primary use of captured runoff is for subsurface drip irrigation. Other uses may be proposed, but typically require increased post treatment levels. The temporary storage of surface runoff reduces the runoff volume from a property and may reduce the peak runoff velocity for small, frequently occurring storms. Alternatively, drywells can be used to infiltrate the storm event to recharge the groundwater. In addition, by reducing the amount of stormwater runoff that flows overland into a stormwater conveyance system, less pollutants are transported through the conveyance system into local streams and the ocean. The on site use of the harvested water for non-potable domestic purposes conserves city supplied potable water and, where directed to unpaved surfaces, can recharge groundwater in local aquifers.

Total Area of Existing Turf Planting:
322,516 sf / 7.4 acres

Recommended Low Water Turf Alternatives:

Hydro Seed Mix:
Native Fescue Mix (S&S Seed)
- Festuca rubra Molate,
- Festuca idahoensis,
- Festuca ovina var. ingrate Mokelumne

UC Verde Buffalo Grass

Sod:
Native Bentgrass - Agrostis pallens (Westcoast Turf)
Native Fine Fescue - Festuca rubra ‘Molate’ (Westcoast Turf)
Kurapia - Lippia nodiflora ‘Kurapia’ (Westcoast Turf)
Native Mow Free Sod (Delta Bluegrass)

Mowable Meadow

Low Water Turf

Event Lawn

Hardscape and Site Furnishings

Graphic Legend

- Paving
- Accent Paving
- Porous Paving
- Asphalt Paving
- Rock Mulch

Paving Legend

- New Paving: 80,679 sf
- Removed Paving: 11,028 sf
- Rock Mulch: 234,211 sf

Shade Legend

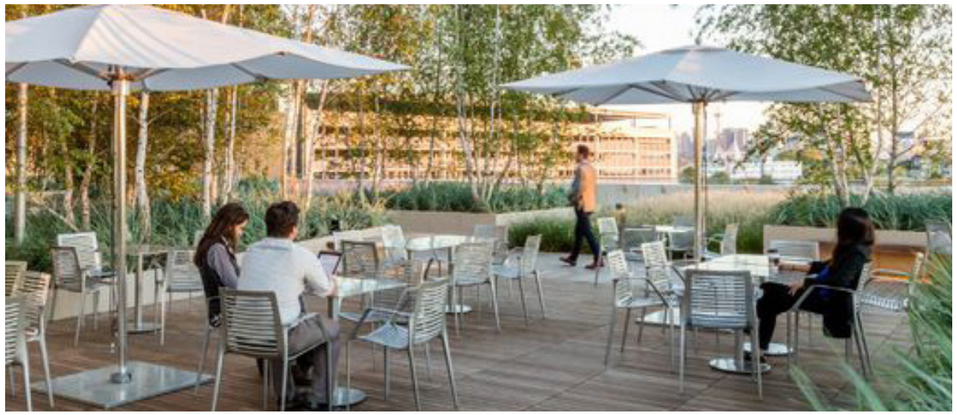
- Shade PM
- Shade AM
- Shade Structure (14,695 sf)
- New Tree Shade (6,150 sf)

0 120’ 240’

Small Gathering

Legend

- Small Gathering



Cafe Tables and Chairs

Collaboration Table

Communal Space

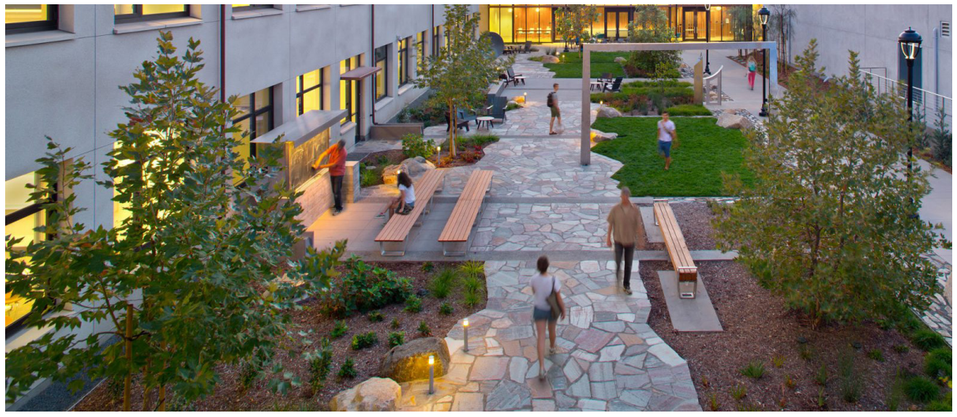
Medium Gathering

Legend

- Medium Gathering

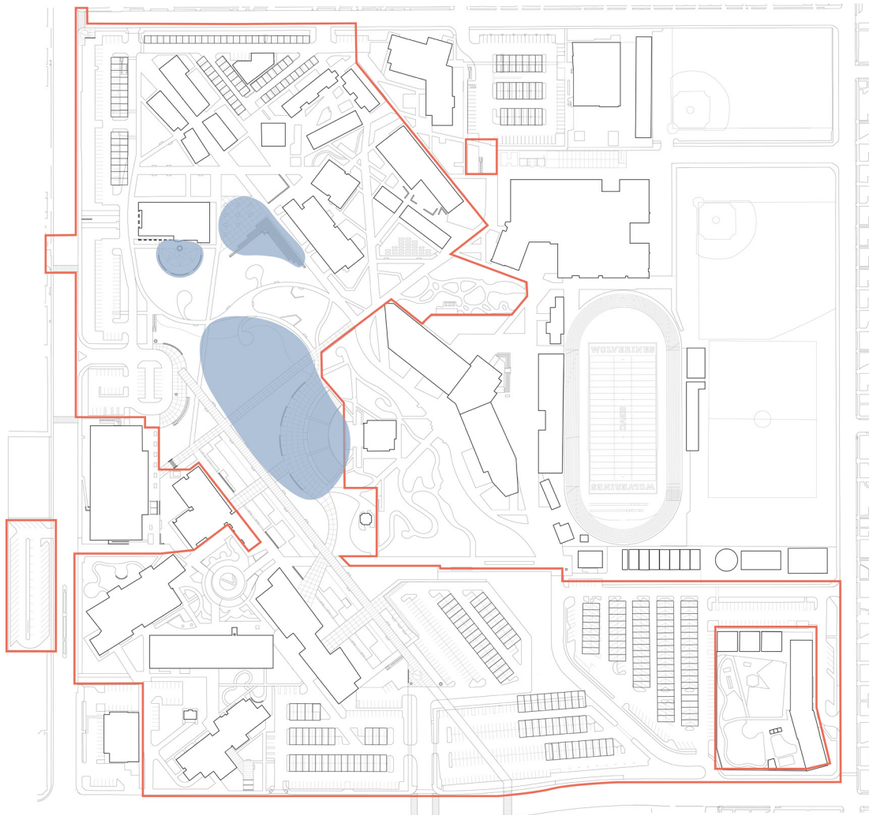
Learning Garden

Park Outdoor Classrom



Plaza Outdoor Classroom

Large Gathering



Legend

- Large Gathering

Events Plaza

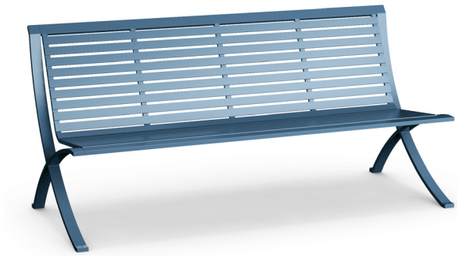
Event Lawn and Performance Stage

Shaded Amphitheater

Bench Low-High Recommendations

Concrete Bench
Low

Concrete Bench
Low



Freestanding Powdercoated Metal Bench
Medium

Recycled Plastic Bench
High

Freestanding Bench with Wood Seat/ Back
High

Cafe Seating Low-High Recommendations

Concrete
Low

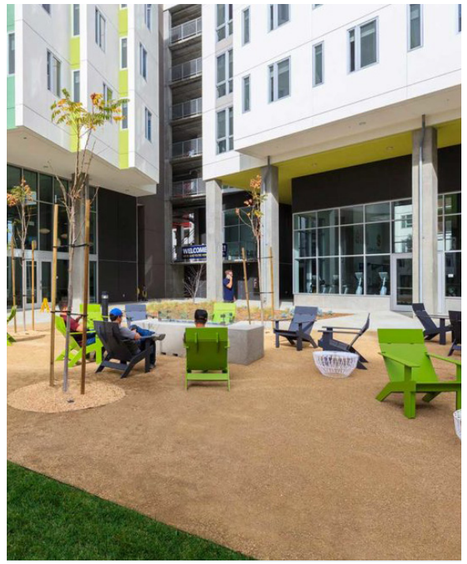
Steel and Recycled Plastic
Medium

Wood and Steel Mounted Table/ Chairs
Medium

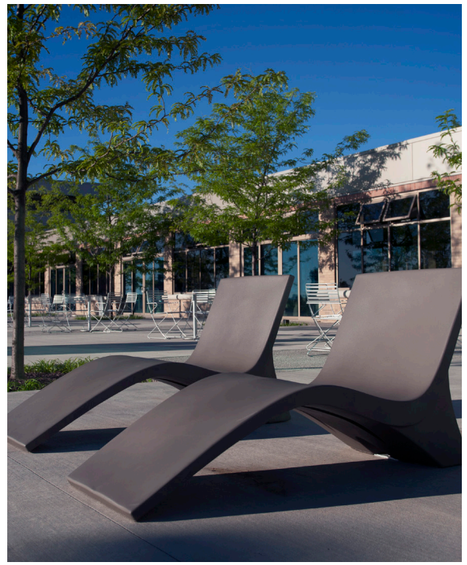
Aluminum/ Wood Mounted Table/ Benches
Medium

Mounted Cafe Table with Umbrella
High

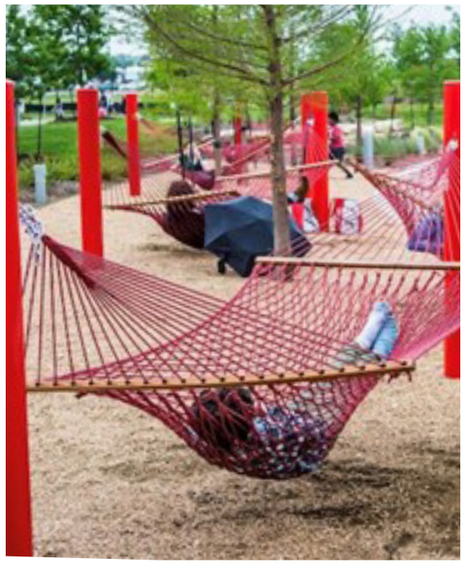
Fun Seating Low-High Recommendations



Recycled Plastic Adirondack Armchairs
Low



Plastic Chaise Lounge
Low



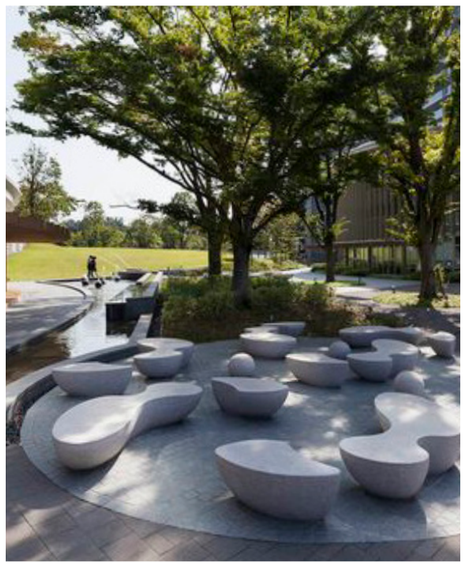
Hammock Loungers
Low

Hanging Basket Chairs
Low

Fixed Chaise Lounge
Medium

Recycled Plastic and Steel Lounger
Medium

Wobble Seatsl
Medium



Organic Shaped Concrete Seats
Medium

Wood and Steel Swing
High

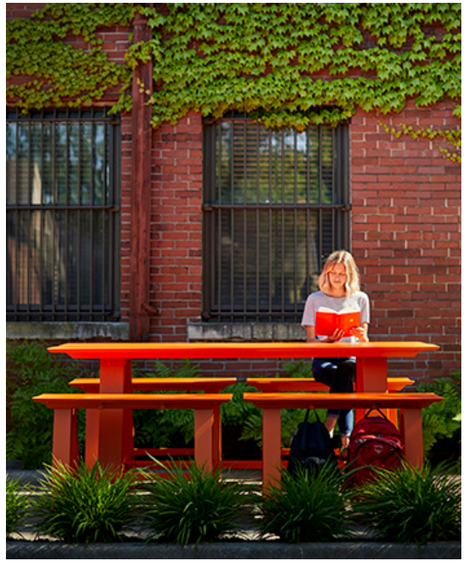
Seating Nook Canopy
High

Collaboration Table Low-High Recommendations

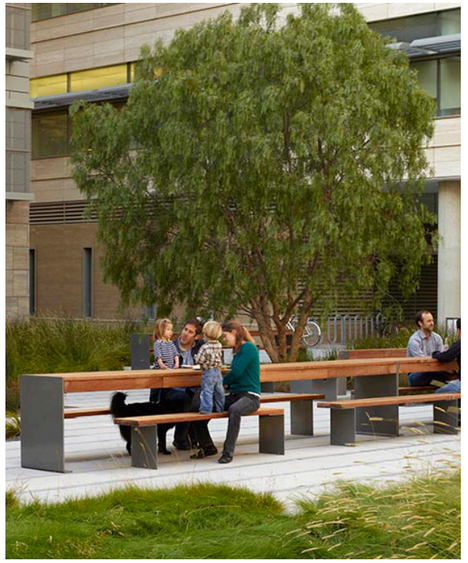
Collaborative Table - Concrete
Low

Concrete Table
Medium

Collaborative Table - Wood and Steel
Medium



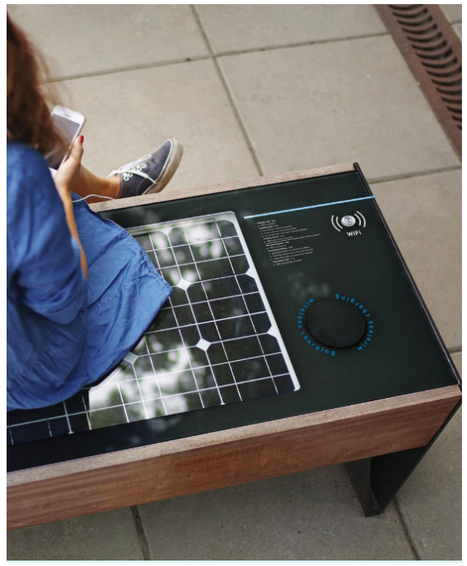
Collaborative Table - Recycled Plastic
Medium



Collaborative Table - Wood and Steel
High

Technology Low-High Recommendations

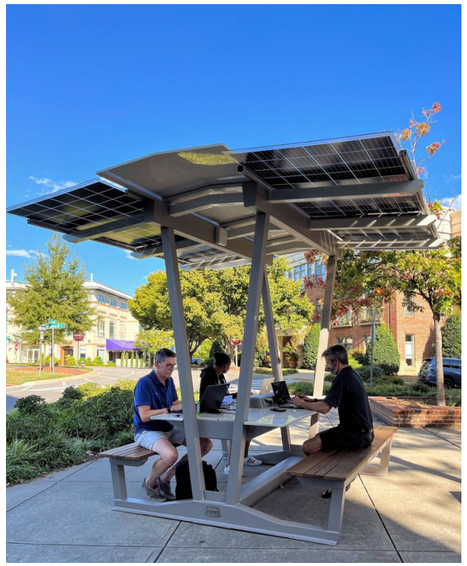
Charging Station
Low



Solar Powered Bench with Wifi
Medium

Solar Powered Bench with Charging Station
High

Solar Powered Bench with Charging Station
High

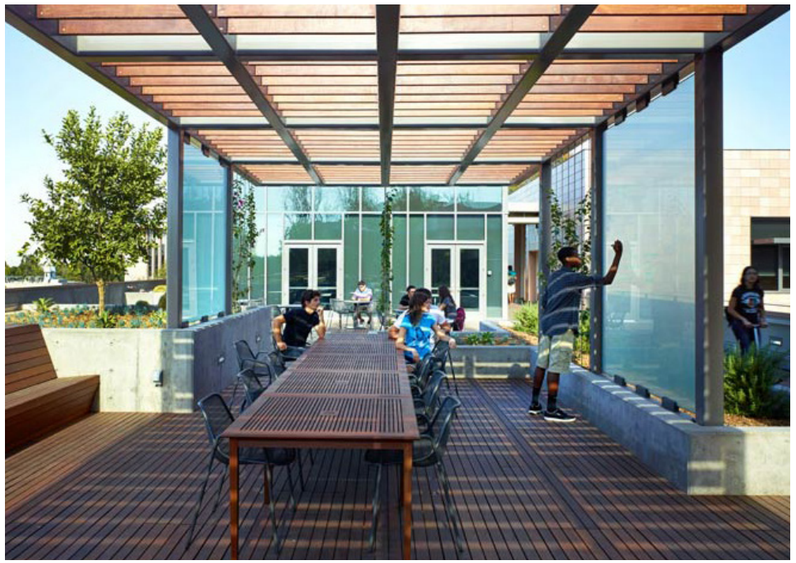


Solar Powered Tables with Charging Station
High

Outdoor Classroom Low-High Recommendations

Shade Sails
Low

Prefabricated System
Medium



Custom Classroom Pavilion
High

Shade Stategies Low-High Recommendations

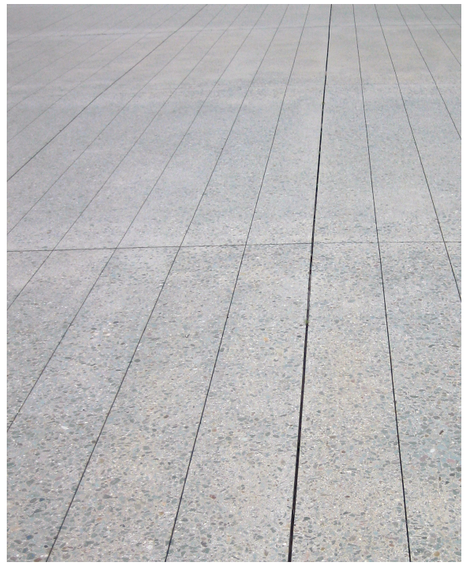
Cafe Table with Umbrella - Wood and Metal
Low

Shade Sails
Medium

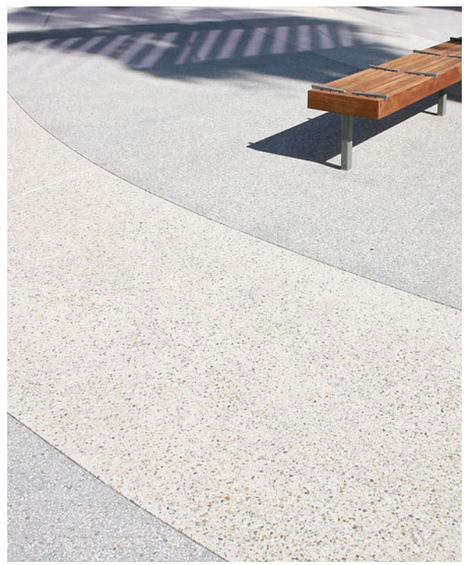
Prefabricated Shade Structure
High

Custom Shade Structure
High

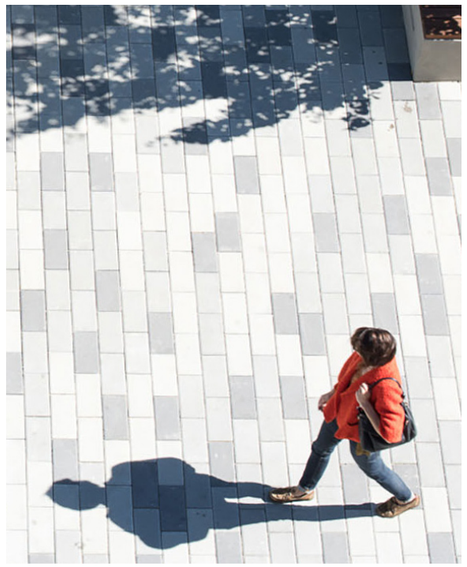
Accent Paving Low-High Recommendations



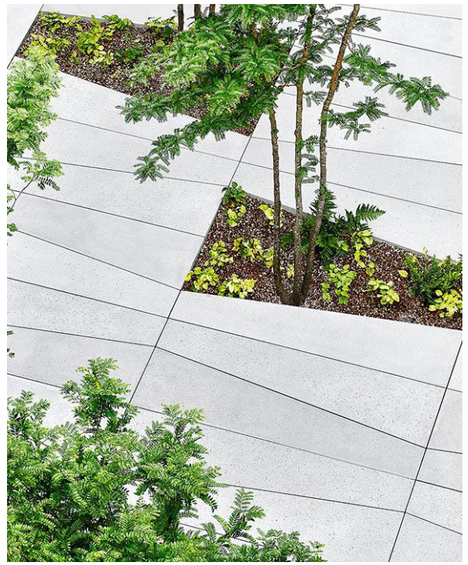
Standard Paving with Sawcut Jointing
Low



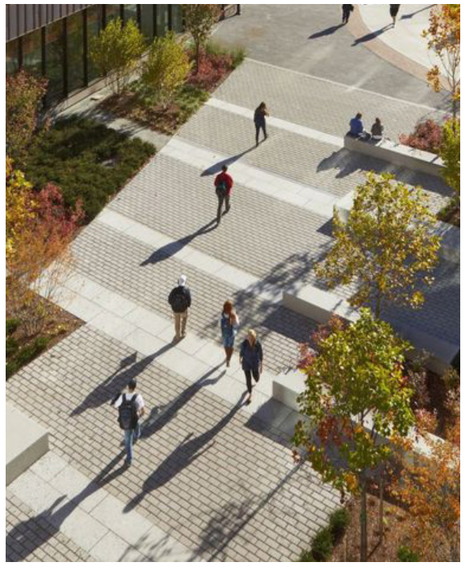
Colored Concrete Banding
Low



Uniform Unit Pavers
Medium

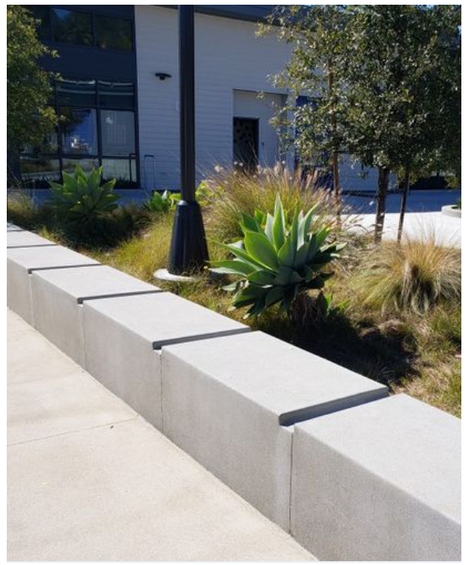


Large Scale Unit Pavers
High

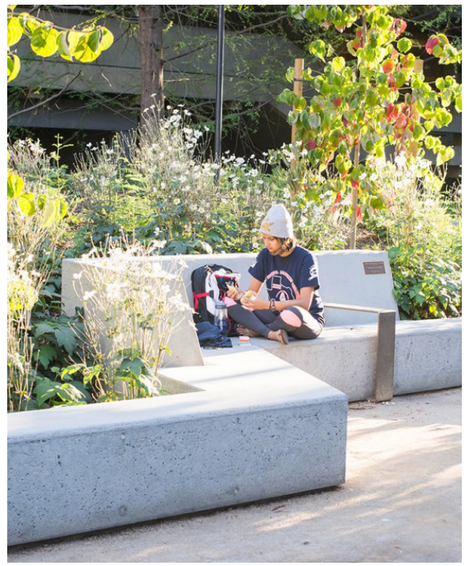


Mixed Size and Color Unit Pavers
High

Seatwall Low-High Recommendations

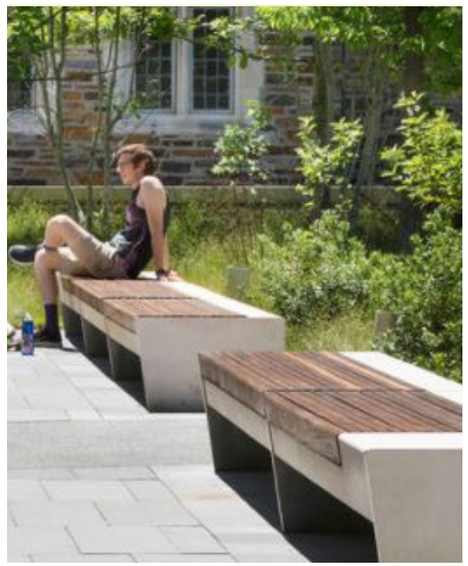


Concrete Seat Wall
Low



Concrete Seat Wall with Back
Medium

Concrete Seat Wall with Top-mounted Bench
Medium



Concrete Seat Wall with Recessed Bench
High

Concrete Seat Wall with Wood Seat and Back
High

Litter Bin Low-High Recommendations

Concrete Litter Bin
Low

Concrete and Steel Litter/ Reycle Bin
Medium

Steel Litter/ Reycle/ Compost Bin
High

Drinking Fountain Low-High Recommendations

Drinking Fountain
Low

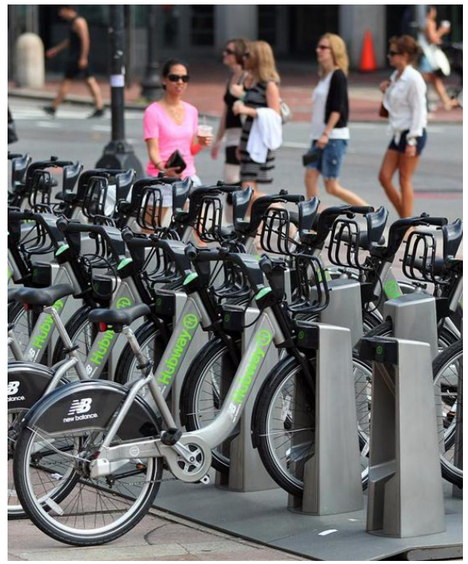
Drinking Fountain with Bottle Filler
High

Bike Low-High Recommendations

Bike Rack
Low

Bike Maintenance Station
Low

Bike Locker
Medium



Electric Bike Share
High

Bike Shelter
High

Planting Low-High Recommendations

Hydroseed Installation
Low

Sod Installation
High

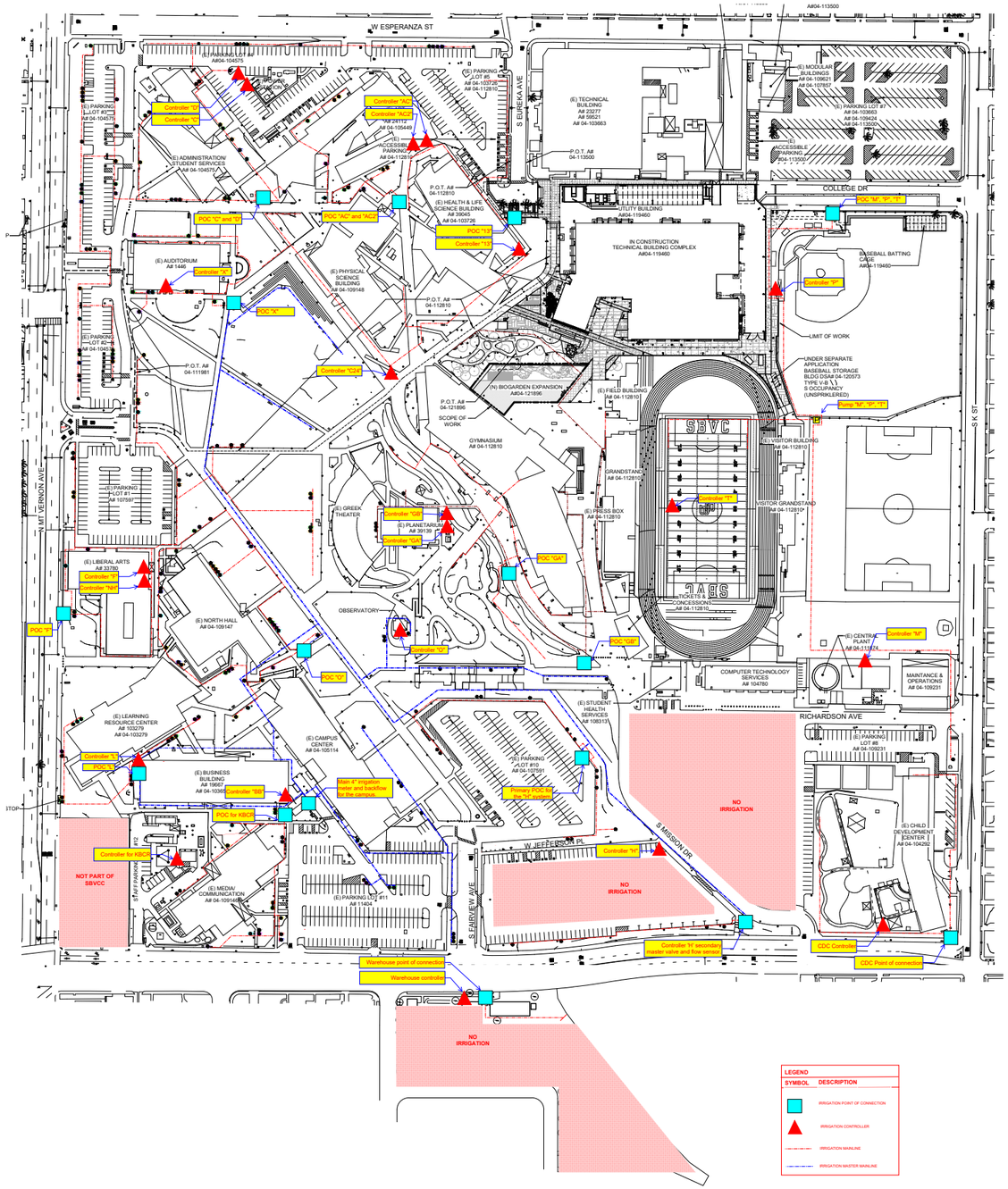
Plugs Planting
Low

Container Planting
High

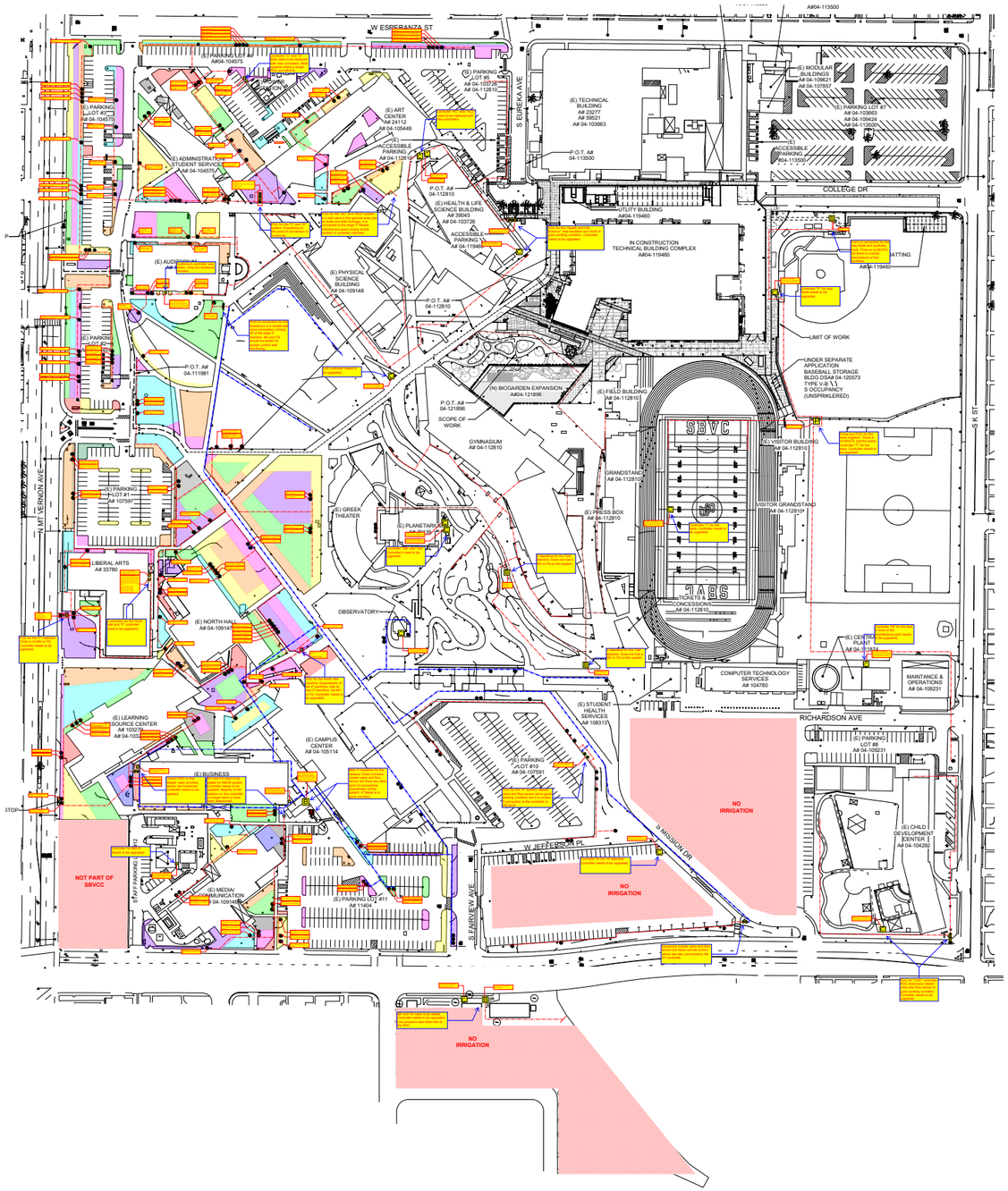
24” Box Tree
Low

60” Box Tree
High

Irrigation - Existing Core Equipment



Overall Existing Irrigation System



Irrigation

Summary of Existing Irrigation Observations

- All existing controllers are Rain Master DX controllers. These existing controllers are central control capable weather based smart controllers with water management control capabilities. These controllers also have master valve and flow sensor capability for efficient monitoring of irrigation systems. There was a total of twenty-one (21) existing DX controllers observed on the site.
- There are a total of seventeen (17) existing irrigation points of connections (POC) for the existing site. Most of the existing irrigation POCs do not have master valves and flow sensors. A total of six (6) of the existing POCs had master valves and flow sensors.
- Rain Bird PEB series valves were seen throughout the majority of campus. These valves are high grade professional series plastic valves, ideal for use on sites such as this campus. Most of the existing remote-control valves are in good functioning condition.
- Most large rotor zones observed appeared to be well designed and in good condition. These systems appeared to be providing appropriate coverage for the irrigated areas. Rotor heads are utilized for larger turf and shrub areas. Hunter I-20 rotors were the most observed existing rotors.
- Most of the spray head zones appeared to be providing adequate coverage and in good condition. Spray heads are utilized for smaller turf and shrub areas. Some of these existing overhead spray zones were older systems, some even utilizing very old, outdated brass sprinkler heads. Many systems observed had mixed nozzles with differing precipitation rates within the same zone. The use of mixed precipitation rate nozzles within a single zone provides inefficient irrigation as it can cause over or underwatering of plants within the zone.
- Drip irrigation was observed in some of the existing planter areas. Drip irrigation systems are typically more efficient than conventional overhead spray and rotor systems. Most of the existing drip systems observed were Netafim in-line drip and appeared to be in relatively good condition. Drip systems observed appeared to be missing PVC headers and footers. The use of PVC headers and footers for these in-line drip systems provides for a more durable system and more even supply of water for the drip lines. The existing drip systems also appeared to be missing flush valves and indicator heads. Flush valves allow for the efficient flushing of the driplines to prevent potential clogging by debris. This is especially important when the drip tubing is damaged and soil particles enter the driplines and can potentially clog the emitters. The flushing of these lines is performed following the repair of the damaged driplines. Drip indicator heads were not observed within the existing drip systems observed. Drip indicator heads provide a clear visible indication of when the drip systems are running and can be utilized by maintenance to confirm when the drip systems are running.
- Water pressure throughout the site appeared to be adequate. Observed pressures ranged from 90 PSI high range to 50 PSI low range. Low pressure was observed at the warehouse area POC on the south side of the project. An irrigation booster pump was observed supplying irrigation to the ballfield areas.
- A few areas did not appear to have functioning irrigation systems. These areas included the parking lot on the southwest corner of the site, parking lots # 8 & #9, as well as the warehouse on the south side of the campus.

Irrigation Master Plan General Recommendations

- The existing Rain Master DX controllers shall be replaced with Calsense centralized irrigation controller system. Calsense control system is per current College standards.
- Communication options for the Calsense controllers include hard wire ethernet, Wi-Fi, cellular and hard wire link. Communication type shall be based on available options at each controller location. College preference is Ethernet if available and Wi-Fi where available. Ethernet communication requires an MDF room within an adjacent building to be within 300 feet of the controller location. Cellular communication is the least preferred option due to the monthly cost associated with this communication.
- Existing point of connections (POC) shall utilize existing master valves and flow sensors where those exist. The remaining POCs shall have new master valves and flow sensors installed to connect to the new Calsense controllers. This will allow for the ability to monitor water use for each of the controllers.
- Install and maintain the same spray nozzle packages with matched precipitation rates within each zone. This provides the most efficient overhead spray systems with consistent precipitation rates throughout each zone. The higher efficiency will provide greater potential for water savings.
- The current existing irrigation equipment should be utilized as long as it is functioning properly. As the existing equipment breaks down it should be replaced with equipment consistent with the current College irrigation standard equipment. For new construction all irrigation shall match the current College irrigation standard equipment. This will provide for consistency throughout the site irrigation systems. This will be a benefit for long term irrigation system maintenance.

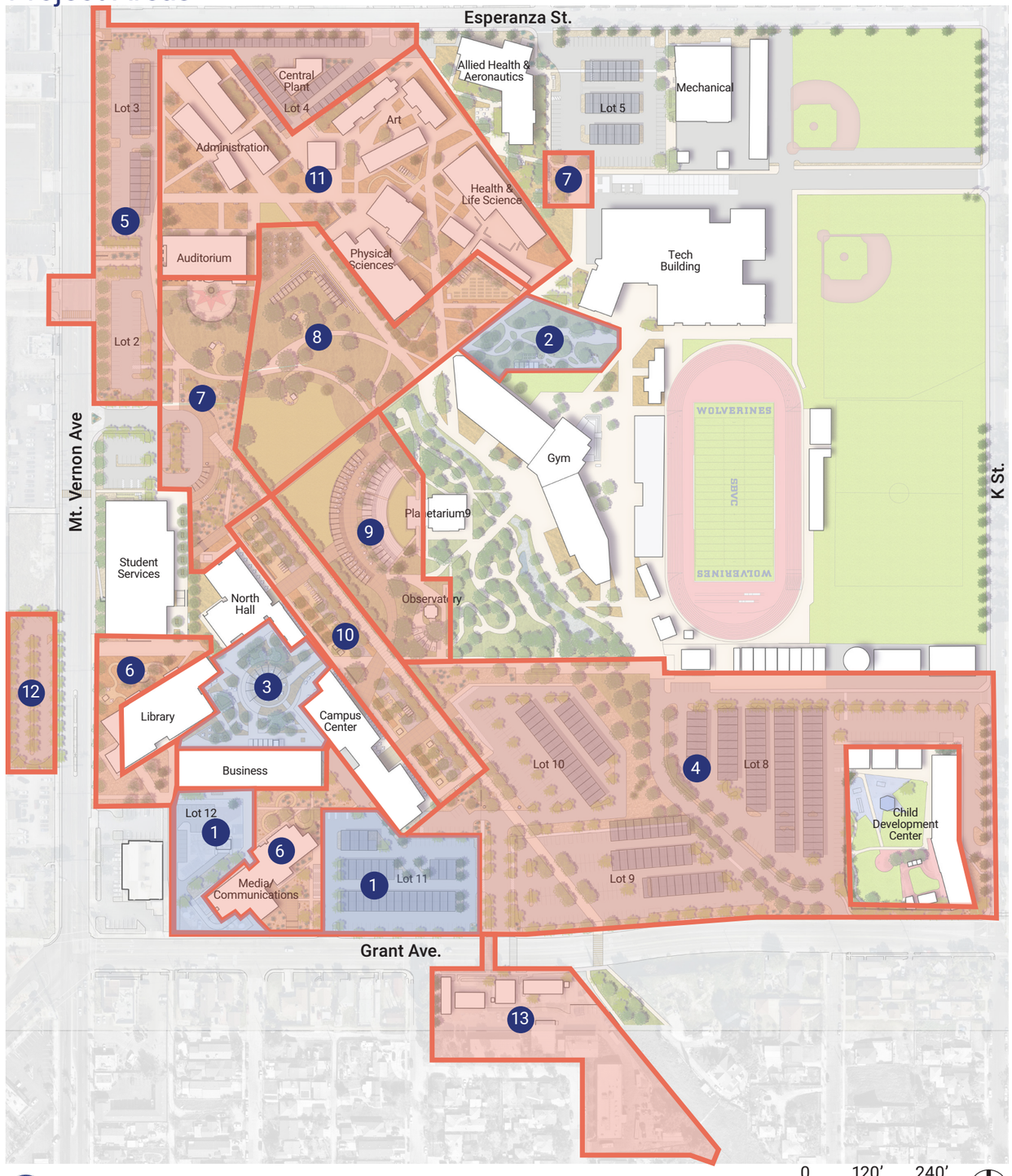
6—Implementation

With the understanding that project funding will become available incrementally over time, the Landscape Master Plan is intended to serve as road map for implementation, outlining comprehensive framework ideas for SBVC's campus open space system to ensure that individual projects contribute to the overarching and cohesive vision for the campus as a whole.

The following pages include a summary breakdown of individual projects proposed within the Landscape Master Plan and an accompanying rough order of magnitude Opinion of Probable Cost for each project. Conceptual costs include "high" and "low" options for some planting and hardscape components to provide flexibility. These projects have been numbered sequentially, however this does not necessarily reflect project priorities. Indeed, over the course of time, unforeseen implementation opportunities may present themselves. The project descriptions and conceptual costs are intended to support ongoing decision making about landscape capital expenditures and priorities.

Additionally, while the Landscape Master Plan proposes a clear open space framework with conceptual hardscape and planting components, layouts and even material palettes, these are intended to serve as planning guidelines. These elements and components will be further refined and evolve as design teams are engaged to develop design and construction documents for individual projects. Indeed the flexibility and resiliency of planning frameworks is a measure of a successful master plan.

Project Areas



1 Lot 11 and 12 (Phase 1)
Located adjacent to high use and high-profile entries and buildings, these parking lots are enhanced with native planting for screening and shading. Lot 12 will also receive solar panel shade structures as part of SBVC's sustainability initiative.

2 Bio Garden (Phase 1)
Building on the success of the existing Bio Garden, expanded spaces include more interpretive gardens and an open air pavilion equipped for use as an outdoor lab and classroom.

3 Business Quad (Phase 1)
In the process of design, the reimagined Business Quad includes additional shade and seating areas and locally adapted xeric planting, creating an inviting space for relaxation, dining and collaboration.

4 South and East Frontage and Parking
Define a continuous sense of campus identity on SBVC's east side and south parking lot by implementing a cohesive strategy to address ground plane planting areas. Mitigate heat island effect by shading existing sidewalks with new canopy trees. Provide expanded paving at bus and vehicular drop off and arrival zone with wayfinding signage, bicycle parking facilities, shaded seating.

Define a strong sense of arrival at SBVC's southern end and mitigate heat island effect by shading existing parking with new canopy trees. Provide expanded paving at drop off and arrival zones with wayfinding signage, bicycle parking facilities, shaded seating and information kiosks

5 Northwest Street Frontages
Define a unified frontage that projects a strong message about SBVC's commitment to sustainable practices and the campus' unique identity. Adopt a xeric approach to understory planting while preserving and supplementing existing mature trees. Celebrate regional identity by using locally sourced cobble mulch and native plant materials.

6 West Street Frontage
Create a window into campus activities that reflects SBVC's identity and values. Create new accessible walkway from Mount Vernon Avenue to southwest corner of the campus. Define arrival points with demonstration gardens featuring groves of locally adapted low-water trees and understory plants; develop garden trails and informal seating areas.

7 Arrival Plaza/Auditorium Event Space
Create a welcoming sense of arrival that reinforces SBVC's unique identity, welcomes and orients visitors, celebrates historic structures and spaces, showcases events and activities and frames views to the campus interior spaces and circulation.

8 North Open Space/Community Garden
Rethink the campus' iconic central greensward to make a shaded, inviting collection of informal gathering spaces. Celebrate the regional context by framing iconic views through the campus to the mountains beyond as well as using native trees and understory. Create a strong pedestrian link to the east side of the campus.

9 Central Event Plaza
Expand the plaza space adjacent to the exiting Greek Amphitheater to create a high-capacity flexible use space for a variety of campus events and celebrations. Iconic shade structure and large canopy trees frame views and provide cooling shade to plaza and amphitheater seating. Conveniently located next to the mow-able meadow, the space can accommodate a range of equipment configurations from large tents, to stages, tables and portable canopies.

10 Fault Line Promenade
Reinforce the geometry of the existing Fault Line Promenade by creating a series of outdoor amenity spaces that align with and engage this major circulation spine. Further activate the east side of the existing dining and classroom buildings with outdoor classrooms and informal seating areas set among tree allees. Create a dense and lively community gathering space that supports the wide range of campus community activities from academic collaboration, to outdoor dining and informal gatherings.

11 Academic Courtyard Refresh
Refresh existing drought tolerant planting at academic courtyards to facilitate provide new teaching and interpretive garden opportunities, simplify maintenance and create additional seating areas. Create new Entry mini- plaza at Lot 5.

12 West Parking Area
Provide shade to mitigate heat island effect per Cal Green requirements. Provide accessible stalls and curb cuts as required. Provide safe and accessible pedestrian walkways to connect to existing signalized cross-walks.

13 Maintenance Yard
Provide shade to mitigate heat island effect per Cal Green requirements. Provide accessible stalls and curb cuts as required. Provide safe and accessible pedestrian walkways to connect to existing signalized cross-walks.

Phase 1 Project Area - Bio Garden

Building on the success of the existing Bio Garden, expanded spaces include more interpretive gardens and an open air pavilion equipped for use as an outdoor lab and classroom.

Legend

1. Lath House
2. Outdoor Classroom
3. Raised Planter Beds
4. Boulder Seating
5. Relocated Boulders (19 total)
6. Outdoor Sink
7. Drinking Fountain
8. Decomposed Granite Paving
9. Log Seating
10. Existing Trees
11. Plant Buffer
12. Edging
13. Trash Receptacle

SBVC BIOLOGY GARDEN RENOVATION ILLUSTRATIVE PLAN

SBCCD + SBVC BIOLOGY DEPARTMENT

July 27th, 2022

EPTDESIGN

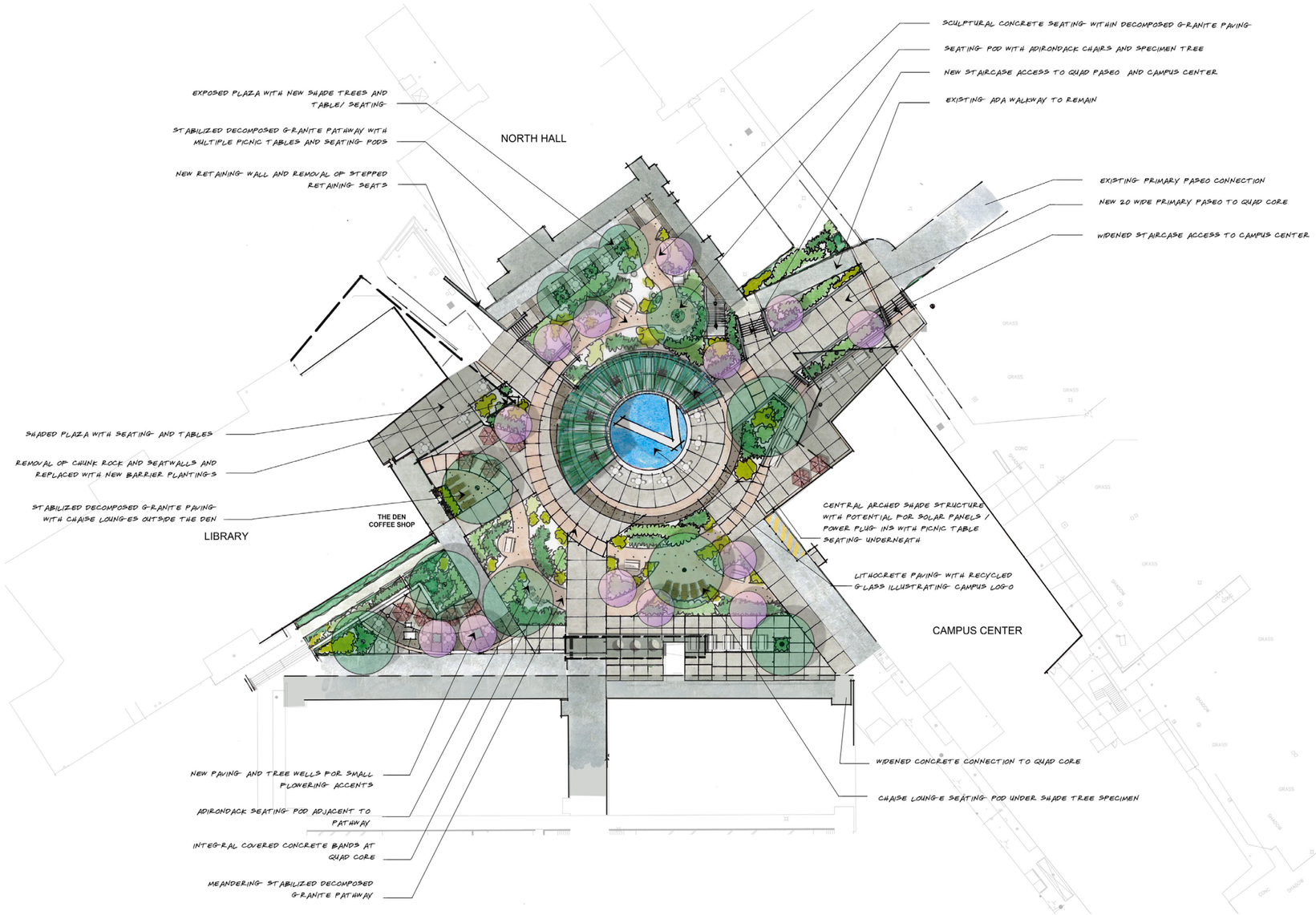
5

Lath House Rendering

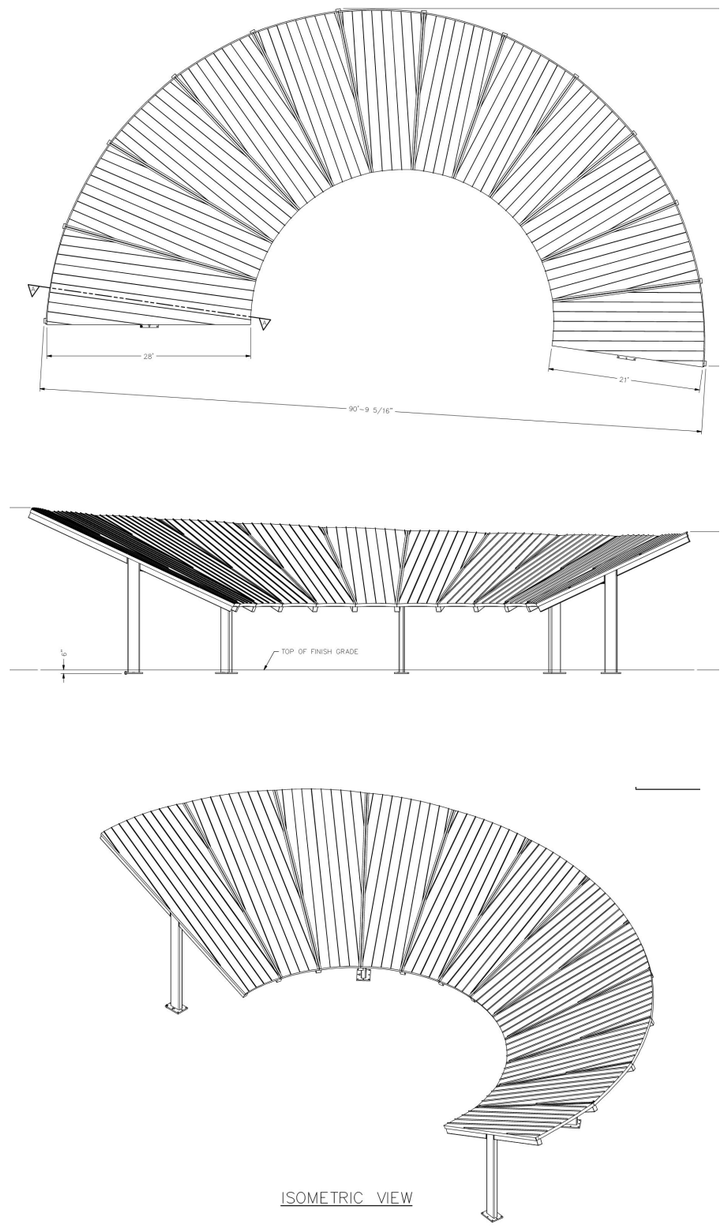
Planting Plan

Phase 1 Project Area - Business Quad

In the process of design, the reimagined Business Quad includes additional shade and seating areas and locally adapted xeric planting, creating an inviting space for relaxation, dining and collaboration.



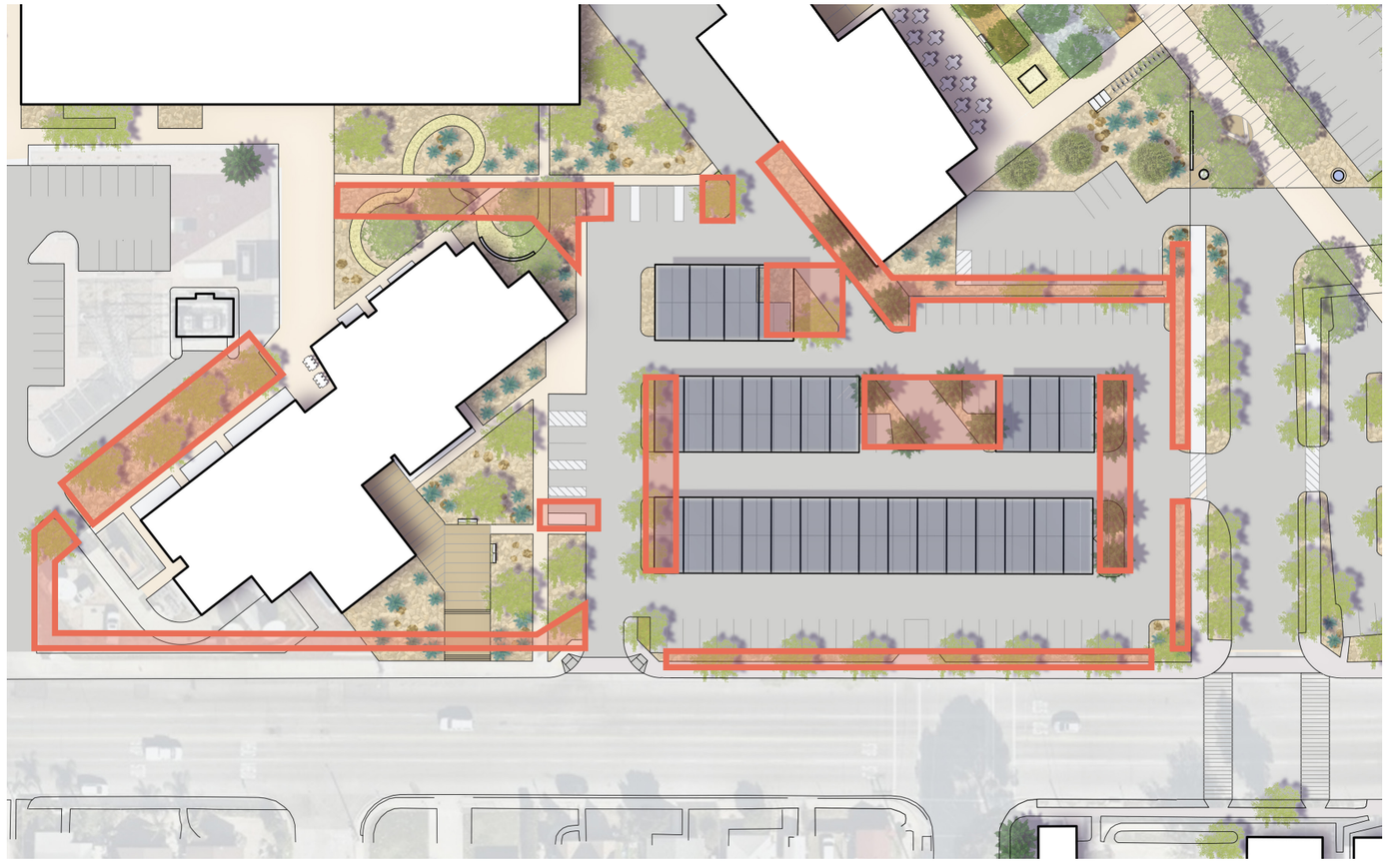
Site Plan



Shade Structure

Phase 1 Project Area - Lot 11, 12

Located adjacent to high use and high-profile entries and buildings, these parking lots are enhanced with native planting for screening and shading. Lot 12 will also receive solar panel shade structures as part of SBVC's sustainability initiative.



Updated Landscape Areas

Site Landscaping

Site Landscaping

7—Acknowledgements

The Landscape Master plan was developed through a series of site visits, interactive surveys, presentations, review meetings and workshops conducted from May through September 2023. The grateful for the active participation from the SBVC community.

SBVC Executive Leadership
Dr. Linda Fontanilla, SBVC Interim President
Tenille Norris, SBVC Interim Vice President
Jose F. Torres, SBCCD Executive Vice Chancellor
John Duong, SBCCD Project Manager
Farrah Farzaneh, SBCCD Director, Facilities Planning, Emergency Management & Construction
Abel Favela, SBCCD Associate Director, Bond Program Planning & Construction
Bob Jenkins, SBCCD Director of Facilities
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Cumming
Merilyn Olave, Associate Director

“Such as“ Plant List

This is a suggested plant list for the planting areas. All plants shall be low water per WUCOLS, except for bioswale areas. On center spacing shall allow plants to reach their mature size.

Trees				
Botanic Name	Common Name	Use Area	Mature Size	Water Use
Acacia willardiana	Palo Blanco	D	20` H X 15` W	Low
Alnus rhombifolia	White Alder	N, S	50` H X 40` W	Moderate
Brachychiton acerifolius	Flame Tree	W	25`-40` H X 20`-30` W	Low
Ceanothus x 'ray hartman'	Ray Hartman Wild Lilac	N	10`-20` H X 5`-10` W	Low
Cercis occidentalis	Western Redbud	N,W,S	10`-20` H X 10`-15` W	Low
Chilopsis linearis	Desert Willow	D	15`-20` H X 15`-20` W	Low
Geijera parviflora	Australian Willow	W	20`-30` H X 15`-20` W	Low
Heteromeles arbutifolia	Toyon	N	8`-12` H X 6`-8` W	Low
Lagerstroemia indica	Crape Myrtle	W	10`-25` H X 15`-25` W	Low
Olneya tesota	Desert Ironwood	D	20`-30` H X 20`-30` W	Low
Parkinsonia x 'desert museum'	Desert Museum Palo Verde	D	25` H X 25` W	Low
Pinus eldarica	Afghan Pine	W	30`-50` H X 15`-25` W	Low
Platanus racemosa	California Sycamore	N,S	30`-80` H X 30` W	High
Populus fremontii	Fremont Cottonwood	N,S	40`-90` H X 25`-35` W	High
Prosopis glandulosa `maverick` tm	Honey Mesquite	D	25`-35` H X 25`-35` W	Low
Prunus ilicifolia	Hollyleaf Cherry	N	10`-30` H X 10`-25` W	Low
Quercus spp.	Oak	N	40`-60` H X 50`-70` W	Low
Rhus lancea	African Sumac	W	20`-30` H X 20-35` W	Low
Rhus laurina	Laurel Sumac	N	10`-20` H X 10’-20` W	Low
Salix laevigata	Red Willow	N,S	30`-40` H X 30`-40` W	High
Tipuana tipu	Tipuana Tree	W	25`-40` H X 30`-60` W	Low

Shrubs						
Botanic Name	Common Name	Use Area	Mature Size Range	TYP. O.C. Spacing	Paving Offset	Water Use
Acacia redolens 'desert carpet'	Desert Carpet Bank Catclaw	N	2` H X 12` W	8’-0”	5’-0”	Low
Anemopsis californica	Yerba Mansa	S	1` H X 1`-2` W	2’-0”	1’-0”	Moderate
Arctostaphylos cercocarpus	Mountain Mahogany	N	8`-20` H X 10`-12` W	10’-0”	5’-0”	Low
Artemisia californica	California sagebrush	N	4-8`H X 3-5`W	4’-0”	3’-0”	Low
Baccharis pilularis `pigeon point`	Pigeon Pt Dwarf Coyote Brush	N	2` H X 6`-8` W	6’-0”	5’-0”	Low
Calliandra californica	Red Baja Fairy Duster	D	3`-5` H X 5` W	5’-0”	3’-0”	Low
Callistemon citrinus `little john`	Dwarf Bottle Brush	W	3`-5` H X 4`-6` W	4’-0”	3’-0”	Low
Carpenteria californica	Bush Anemone	N	4`-8` H X 4`-8` W	8’-0”	4’-0”	Low
Ceanothus griseus horizontalis `yankee point`	Yankee Point Carmel Creeper	N	2`-3` H X 6`-8` W	6’-0”	5’-0”	Low
Dasylirion wheeleri	Grey Desert Spoon	D	4`-6` H X 3`-4` W	4’-0”	4’-0”	Low
Echinocactus grusonii	Golden Barrel Cactus	D	2` H X 2`-3` W	4’-0”	3’-0”	Low
Encelia californica	California Encelia	N	2`-5` H X 3`-7` W	5’-0”	3’-0”	Low
Epilobium canum	California Fuchsia	S	.5`-1` H X 2`-3` W	3’-0”	1’-6”	Low
Eriogonum fasciculatum	California Buckwheat	N,S	3`-5` H X 3`-5’ W	5’-0”	3’-0”	Low
Fremontodendron californicum	California Flannel Bush	N	8`-18` H X 6`-10` W	10’-0”	6’-0”	Low
Hesperaloe parviflora 'desert flamenco'	Desert Flamenco Red Yucca	D	3` H X 3` W	3’-0”	3’-0”	Low
Hesperoyucca whipplei	Chaparral Yucca	D	2`-12` H X 2`-3` W	3’-0”	3’-0”	Low
Iva hayesiana	San Diego Poverty Weed	S	2`-4` H X 6`-9` W	6’-0”	5’-0”	Low
Justicia californica	Chuparosa	D	2`-4` H X 3`-4` W	4’-0”	2’-0”	Low
Lantana camara 'gold mound'	Gold Mound Lantana	W	2`-3` H X 3`-4` W	4’-0”	3’-0”	Low
Leonotis leonurus	Lion's Tail	W	4`-6` H X 4`-6` W	5’-0”	3’-0”	Low
Leucophyllum frutescens	Texas Sage	D	6`-10` H X 6`-10` W	10’-0”	5’-0”	Low
Mukdenia rossii	Mukdenia	W	1`-2` H X 1`-2` W	2’-0”	2’-0”	Moderate
Myrica californica	Pacific Wax Myrtle	N	10`-15` H X 10`-12` W	10’-0”	6’-0”	Low
Opuntia robusta	Silver Dollar Prickly Pear	D	6`-10` H X 8`-10` W	10’-0”	10’-0”	Low
Peritoma arborea	Bladderpod	D	1`-6` H X 6` W	6’-0”	4’-0”	Low

Shrubs						
Botanic Name	Common Name	Use Area	Mature Size	O.C. Spacing	Paving Offset	Water Use
Pittosporum tobira 'variegata'	Variegated Japanese Pittosporum	W	4`-5` H X 4`-5` W	5′-0″	3′-0″	Low
Rhamnus crocea	Redberry	N	3`-6` H X 3`-6` W	5′-0″	3′-0″	Low
Rhus integrifolia	Lemonade Berry	N	6`-10` H X 10`-15` W	12′-0″	10′-0″	Low
Ribes speciosum	Fuchsia Flowering Gooseberry	N	6`-10` H X 3`-8` W	6′-0″	4′-0″	Low
Ribes viburnifolium	Evergreen Currant	S	3`-4` H X 4`-6` W	5′-0″	3′-0″	Low
Santolina chamaecyparissus	Lavender Cotton	W	1`-2` H X 3`-4` W	4′-0″	2′-0″	Low
Tecoma stans	Yellow Bells	W	10`-20` H X 10`-20` W	15′-0″	10′-0″	Low
Tecoma x 'sunrise'	Sunrise Yellow Bells	D	6`-8` H X 6`-8` W	8′-0″	4′-0″	Low
Teucrium x lucidrys	Hedge Germander	D	1` H X 1`-2` W	2′-0″	2′-0″	Low
Verbena lilacina `de la mina`	Lilac Verbena	W	1`-2` H X 3`-4` W	4′-0″	2′-0″	Low
Westringia fruticosa	Coast Rosemary	W	4`-6` H X 6`-12` W	9′-0″	4′-6″	Low

Grasses and Perennials						
Botanic Name	Common Name	Use Area	Mature Size	O.C. Spacing	Paving Offset	Water Use
Achillea millefolium	Common Yarrow	N	1`-3` H X 1`-2` W	1′-6″	1′-6″	Low
Achillea x 'moonshine'	Moonshine Yarrow	N	1`-2` H X 1` W	1′-0″	1′-6″	Low
Asclepias eriocarpa	Indian Milkweed	N	1`-2` H X 1` W	1′-0″	1′-6″	Low
Baileya multiradiata	Desert Marigold	D	1` H X 1` W	1′-0″	1′-0″	Low
Carex divulsa	European Grey Sedge	S	1`-2` H X 1`-2` W	2′-0″	1′-0″	Low
Chondropetalum tectorum	Small Cape Rush	S	2`-3` H X 3`-4` W	4′-0″	4′-0″	Moderate
Corethrogyne filaginifolia	Califonia Aster	N	1`-3` H X 3`-5` W	4′-0″	2′-0″	Low
Dalea capitata	Dalea	D	1` H X 3` W	3′-0″	2′-0″	Low
Elymus condensatus	Giant Wild Rye	S	3`-6` H X 2`-8` W	6′-0″	6′-0″	Low
Eriophyllum confertiflorum	Golden Yarrow	N	1`-2` H X 2`-3` W	3′-0″	1′-6″	Low
Festuca californica	California Fescue	N	1`-4` H X 2`-3` W	3′-0″	1′-6″	Low
Leymus condensatus 'canyon prince'	Canyon Prince Giant Wild Rye	N,S	2`-3` H X 2-3` W	3′-0″	3′-0″	Low
Mimulus aurantiacus	Sticky Monkeyflower	N	4`-5` H X 4`-5` W	5′-0″	3′-0″	Low
Muhlenbergia rigens	Deer Grass	N,S	3`-5` H X 3`-5` W	4′-0″	4′-0″	Low
Penstemon heterophyllus	Foothill Penstemon	D	3`-5` H X 5` W	5′-0″	3′-0″	Low
Penstemon spectabilis	Showy Penstemon	N	2`-4` H X 3`-4` W	4′-0″	2′-0″	Low
Salvia apiana	White Sage	N	3`-5` H X 3`-8` W	7′-0″	4′-0″	Low
Salvia clevelandii	Cleveland Sage	N	3`-5` H X 8` W	8′-0″	4′-0″	Low
Salvia mellifera	Black Sage	N	3`-6` H X 3`-10` W	8′-0″	3′-0″	Low

N: Native Planting
D: Desert Planting
W: Waterwise Planting
S: Stormwater Planting