

SOLANO COMMUNITY COLLEGE DISTRICT 2013 FACILITIES MASTER PLAN



BOOK 1: THE MASTER PLAN AND GUIDELINES

BOARD APPROVED APRIL 2, 2014
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Under Separate Cover

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Equity and
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INTRODUCTION

Mission Statement: Transforming Students' Lives

Solano Community College's mission is to educate a culturally and academically diverse student population, drawn from our local communities and beyond. We are committed to helping our students achieve their educational, professional and personal goals centered in basic skills education, workforce development and training, and transfer-level education. The College accomplishes this three-fold mission through its dedicated teaching, innovative programs, broad curricula, and services that are responsive to the complex needs of all students.

List of Participants

The Facilities Master Plan had numerous participants throughout its duration. In certain instances participants have been identified by meeting group and date. For dedicated Committees we have listed all members whether they were present or not. Note some Faculty and Staff are no longer at Solano Community College and the District wishes to thank all participants both past and present.

President
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Leadership
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Yulian Ligioso
Peter Bostic

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Don Pederson
Rich Cross
Ralph Meyer
Kelly Trujillo
Jeff Lehfeldt
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Dave Froelich
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Justin Howell
Scott Ota

Institutional Research
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Deans
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Frances “Betsy” Julian
Thomas “Jerry” Kea
Jeffrey Lamb
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Maire Morinec
Erin Vines
Arturo Reyes

Associated Students
Attendees August 28, 2012
Attendees April 23, 2013

Community Workshop
Attendees May 15-16, 2012
Attendees August 24, 2012

Flex Day Participants
Attendees August 9, 2012

Joint EMP-FMP Attendees
Attendees May 9, 2012
Attendees February 27, 2013
Attendees March 14, 2013

Online Survey 2013
Landscape Survey: 200
Architectural Survey: 666

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Denis Honeychurch, J.D.
Jowel C. Laguerre, Ph.D
Kayla Salazar (former)
Latifah Alexander
Michael A. Martin
Monica Brown
Pam Keith
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Rosemary Thurston
Sarah E. Chapman, Ph.D

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Child Development Staff
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May 2, 2013 Attendees

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Sandra Diehl
Gene Thomas
Patricia Itaya
Bruce Alex Riddell
Melanie Lutz
Danielle Widemann
Phillip Petersen
John Nogue
Phillip Summers
James DeKloe
March 7, 2013 Attendees
May 2, 2013 Attendees

Veterans Programs
Amy Utt
Amy Adams
Eli Asneri



President’s Letter

This Solano Community College Facilities Master Plan is the College’s Educational Master Plan manifested. The Plan, approved by the Solano Community College Board of Trustees in February of 2014, incorporates the needs of our institution as we serve the greater Solano County community and beyond, and is a document that reflects the collaborative efforts of the Solano College faculty, classified staff, students, and administrators.

The purpose of this plan was to creatively design and develop a leading edge college that will serve as a destination for all of Solano County citizens seeking a higher education by offering remarkable educational programs and services. The Plan will serve as a framework for the growth and transformations necessary for the institution to be prepared for projected growth and space needs, as well as for the innovative technologies and learning environments that are soon to be a necessity in appropriately preparing the workforce of tomorrow for businesses and industries that are being created today.

This Plan is a blueprint for building an institution that will be welcoming to the public, which will illuminate without words the strategic initiatives of the College, and one that will be in sync with the College’s core mission and overarching vision and values.

Some important notes about the Plan that should be highlighted include: the plan assumes that Solano County deserved an exceptional educational resource, replete with advanced learning technologies, welcoming landscapes, and intelligent buildings, and the plan is aligned with the salient priorities of the region in terms of workforce needs and the new State of California energy standards.

Solano Community College District’s focus on Clean Energy and Sustainability is evident by the work that has already commenced on our solar panel installations on each campus. The Plan will further develop this emphasis moving Solano College towards its goal of achieving a minimum rating of Silver in the LEED Certified Green Building Rating System.

All in all, the Plan is a comprehensive document that will grow Solano Community College to where it needs to be to best serve our community – students, faculty, staff, and our industry and community partners alike. I wish to share thank you, along with offerings of deepest respect to those who came together to develop this Plan, including STV|vbn, for their exceptional and responsive work, and the Solano Community College faculty, classified staff, students and administrators for working together to determine what Solano College needed currently, as well as what the Institution will need to move into the near future.

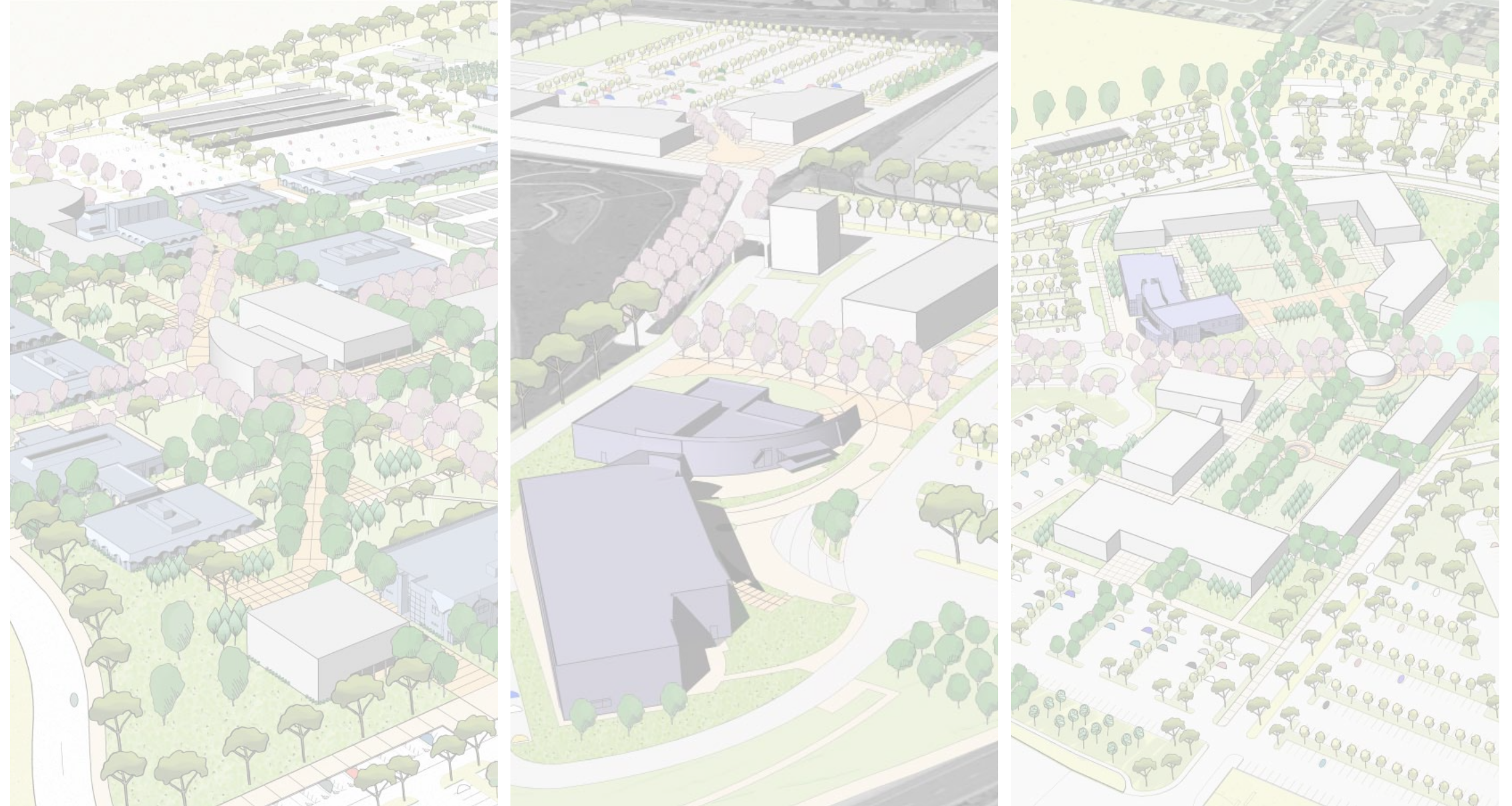
Sincerely,
Jowel C. Laguerre, Ph.D.
Superintendent-President

Master Planning Team
STV|vbn, Facilities Planning
Gates and Associates, Landscape Architects
CSW|ST2, Civil Engineering
Interface Engineering, Mechanical Electrical Plumbing
Guidepost Solutions, Security, Technology and Fire Alarm
Swanson Associates, Accessibility
Kate Keating Associates, Signage & Wayfinding
STV|vbn, Traffic Engineers
Dovetail, Fixtures, Furnishings and Equipment
STV|vbn & ONUMA, Asset Management
Sherwood Engineers, Conceptual Site Water Strategies



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Each
Campus
should
become a
“Third Place”



THE FACILITIES MASTER PLAN

Purpose And Process Of The Facilities Master Plan

The purpose of the 2013 Facilities Master Plan is to create a roadmap for facilities development that addresses the educational program needs as identified in the *2014 Solano Community College Educational Master Plan*. This Plan reflects the College’s vision and goals on how best to address those needs while maximizing opportunities to enhance the value of Solano Community College to its communities.

The 2013 Facilities Master Plan process was a shared governance process led by STV|vbn from December 2011 through February 2014. It was developed over a series of meetings, workshops, online surveys and dedicated committees. Stakeholder participation and involvement occurred throughout the process and included input from Students, Faculty, Staff, Facilities & Maintenance, Administration, College President and the Board. For more detail on the process please see Part IV of this document.

Master Plan Vision

The District Vision is to be a recognized leader in educational excellence - transforming students' lives. The four Strategic Plan Goals are:

- Foster Excellence in Learning
- Maximize Student Access and Success
- Strengthen Community Connections
- Optimize Resources

The Facilities Master Plan Vision is to create District campuses that are sustainable, support and enhance the District's strategic goals, and are a "third place" for students, staff, faculty and community members.

The vision for being the "third place" (home and work being the first and second respectively) rests in the desire to enhance both student success and the value of Solano Community College to the communities it serves. By creating environments that encourage students, staff, faculty and community members to stay on campus, the opportunities for support, creating, learning, collaborating and community-building expand enormously. The community in of itself attracts others to join and stay. Retention and transfer rates go up as students find the support they need to continue their education.



Imagesource: Brad Zweerink/Daily Republic



Master Plan Goals

To help achieve the Master Plan Vision, the following Master Plan Goals were identified during this Facilities Master Plan Process (2011-2013) and by the Associated Students of Solano Community College (ASSC) workshop held in March 2007:

- Improve overall campus identity & visibility
- Create a campus that models social, economic and environmental sustainability
- Create a campus that keeps students, faculty, staff and visitors on campus
- Create multiple “opportunity spaces” - both interior and exterior - where students can gather, study, tutor, work, play and reflect
- Cultivate an atmosphere of academic excellence
- Maximize District resources and facilities
- Infrastructure for the future
- Enhance the value of SCCD to the communities it supports
- Improve campus aesthetics (Fairfield specific)
- Improve vehicular and pedestrian circulation and way-finding (Fairfield Specific)
- Improve sense of security (Fairfield specific)



Master Plan Priorities

The Final Master Plans for each campus, shown within this document, are a Long-Range Plan which helps inform Short-Term Projects. Short-Term Projects are based on District priorities that can be tailored to available funding.

The District is still evaluating the Short-Term Program and Infrastructure priorities to be funded by the Measure Q Bond. Here is a list of the Short-Term Projects that the District is considering for the Measure Q Bond, listed in alphabetical order:

INFRASTRUCTURE SHORT-TERM PROJECTS:

- Above and Below Ground Utilities Replacement/Expansion as needed by Building Projects and Age of Systems
- Central Plant (New or Expansion) as may be required (FF and VV)
- Energy Saving Modernizations (FF)
- Information Technology Infrastructure Projects (all sites)
- Landscape Projects associated with Building Projects (all sites)
- Maintenance/Access Small Projects (all sites)
- Photovoltaics Installation (FF, VV and VJ)
- Signage and Wayfinding (all sites)
- South Entry Traffic Mitigation (FF)
- South Parking Lot (FF)
- Water Retention Systems (FF and VV)

PROGRAM SHORT-TERM PROJECTS:

- Academic Success Center/Learning Resource Center (FF)
- Autotechnology/Education Center/Student Services (VJ)
- Biotech/Multi-Science/Student Services(VV)
- Building 300 Renovation (FF)
- Building 500 Renovation (FF)
- Building 1500 Renovation or Replacement (FF)
- Corporate Training and Aeronautics (Nut Tree)
- Cosmetology/CTE Building (FF)
- Science and Mathematics Building (FF)
- Theater Modernization & Small Expansion (FF)
- Veterans Center (FF)

Enhance the
Value of
Solano CCD



FAIRFIELD MASTER PLAN

Overview

Please refer to the Facilities Master Plan Chapter for the Master Plan Vision and Goals, as well as the Signage Master Plan and Fixtures, Furniture and Equipment Master Plan Chapters, that apply to the Fairfield Campus. On the following pages you will find the following additional information specific to the Fairfield Campus:

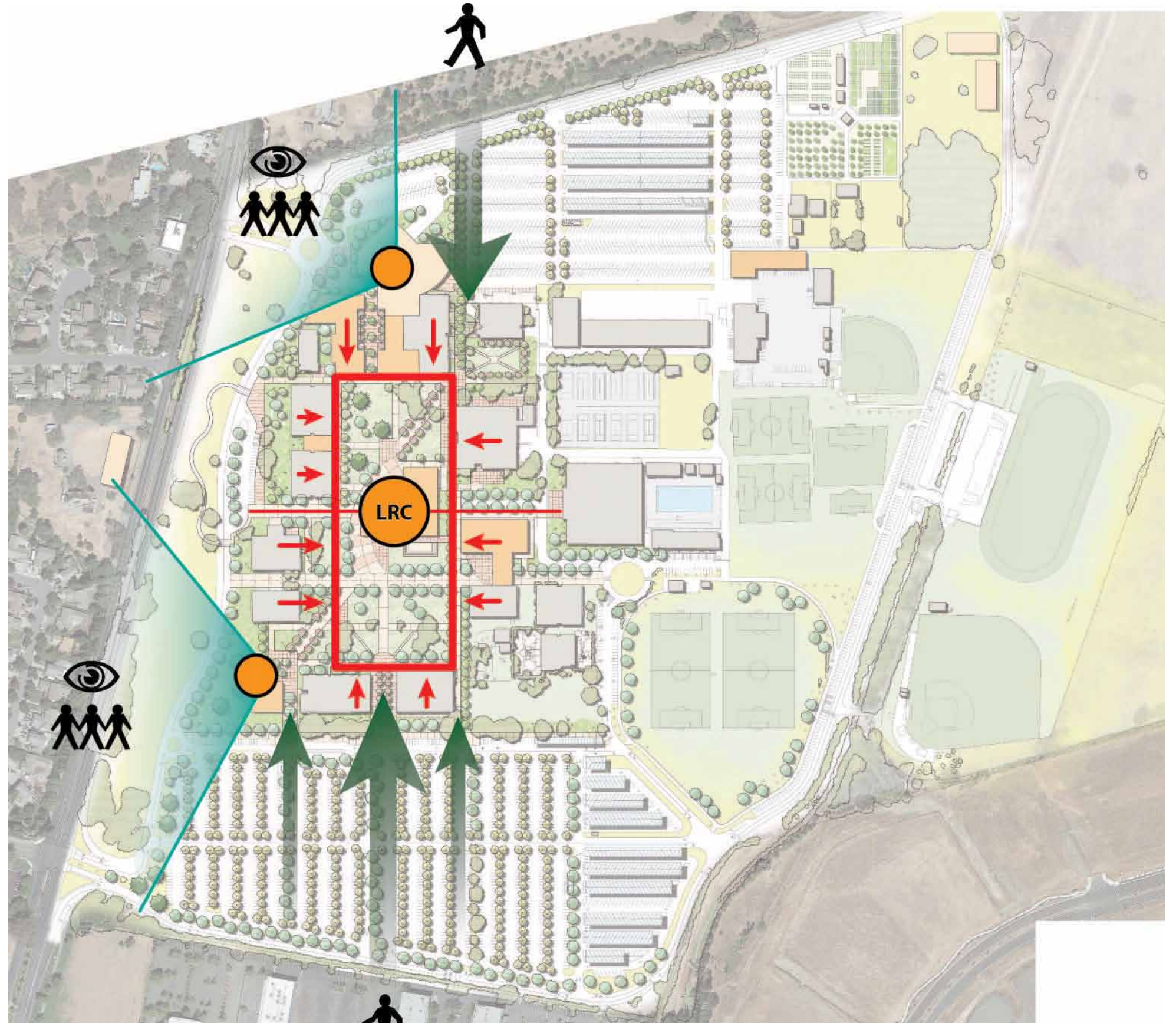
- Fairfield Key Master Plan Concepts
- Site Master Plan and 3D View
- Landscape Master Plan
- Traffic and Parking Master Plan
- Infrastructure Master Plan
- Accessibility Master Plan



Fairfield Key Concepts

To accomplish the District Vision and Goals for the Master Plan the Fairfield Campus was organized as follows:

- By placing two-story buildings on the north and south corners of the campus (facing Suisun Valley Road) campus identity is improved by enhanced visibility from roads leading to campus.
- Programs that are community oriented are located close to parking, to strengthen community connections and community comfort.
- The new Learning Resource Center (which also houses the Academic Success Center) is located at the core of the campus where it is easy to find. This vital building reinforces the social center of the campus and helps animate the north & south quads.
- Other new buildings are placed to reinforce the quads, which enhances wayfinding, walkability, comfort and safe growth of the campus.
- Entries and parking lots are reconfigured to improve wayfinding, vehicular circulation, pedestrian connections into campus and to address sustainability goals.
- Campus Design and Sustainability Guidelines (see Part II) help accomplish the sustainability and aesthetic goals established by the District.





FAIRFIELD LONG RANGE SITE PLAN

Note: forms shown here are conceptual placeholders for the proposed facilities identified. Final form, size and programming for each project will be determined once those projects are funded.



FAIRFIELD 3D BIRD'S EYE VIEW

Fairfield Landscape

The Landscape Master Plan articulates the main outdoor components of each Solano Community College site and offers suggestions for future design and development of exterior spaces that promote educational and social interaction.

LANDSCAPE GOALS

- Create a strong identity on campus
- Create visibility along major streets
- Create opportunities for educational, recreational, and social interaction among students
- Placemaking through a variety of spaces and uses
- Sustainable water and construction practices
- Keep all stormwater on site
- Use drought tolerant plantings
- Enhance vehicular and pedestrian connectivity
- Provide structure to the campus through a hierarchy of paths
- Allow for easier wayfinding and landscape legibility

FAIRFIELD LANDSCAPE VISION

The campus retains the look and feel of the original agrarian and native oak woodland of the area, while adding the distinctive hallmarks of an academic campus.



0' 125' 250' 500'
SCALE: 1" = 250'-0"



FAIRFIELD VEHICULAR ENTRIES AND ARRIVAL

The Fairfield Campus is surrounded by residential areas, businesses, and natural open space. Since most students will be approaching from Suisun Valley Road, the campus needs to be visible and identifiable from that street, and especially along the two entries.

Main Entrances

The *Northern Entry* primarily serves students coming to the northern parking lots. The roundabout by the Performing Arts Center Plaza is an opportunity for campus branding, signage, and accent planting.

The *Southern Entry* is the ceremonial entrance to campus and serves as the campus first impression. It feeds into the southern parking lots, with drop-off circulation and longer term parking options.

Other Arrival Points

Drop Offs

- Provide direct access to campus core
- Offer view corridors into the heart of the campus
- Allow for safe pedestrian access

Service Roads

- Provide access for maintenance and service to buildings without interruption of circulation
- Should be screened and/or differentiated from non-service entries

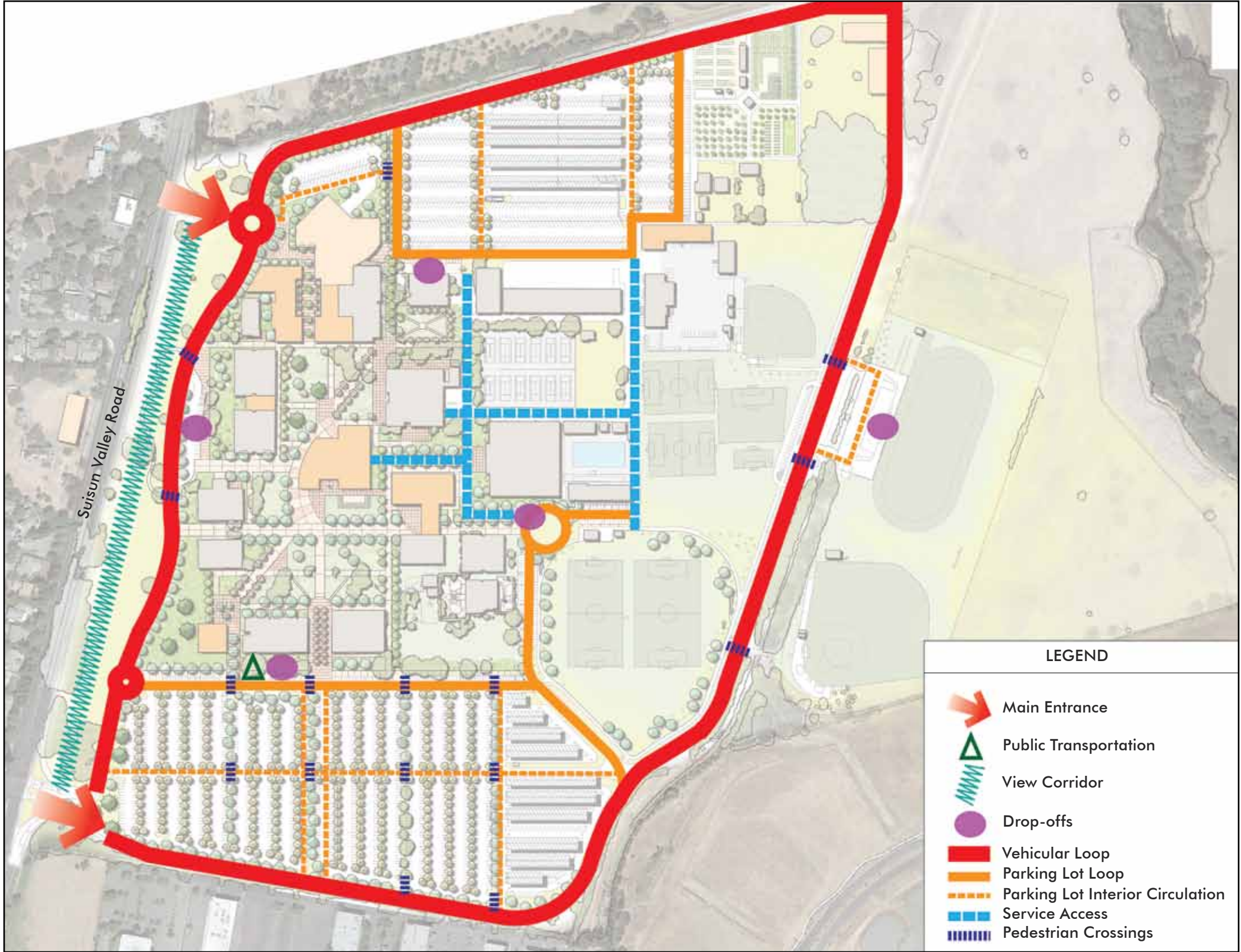
Pedestrian Crossings

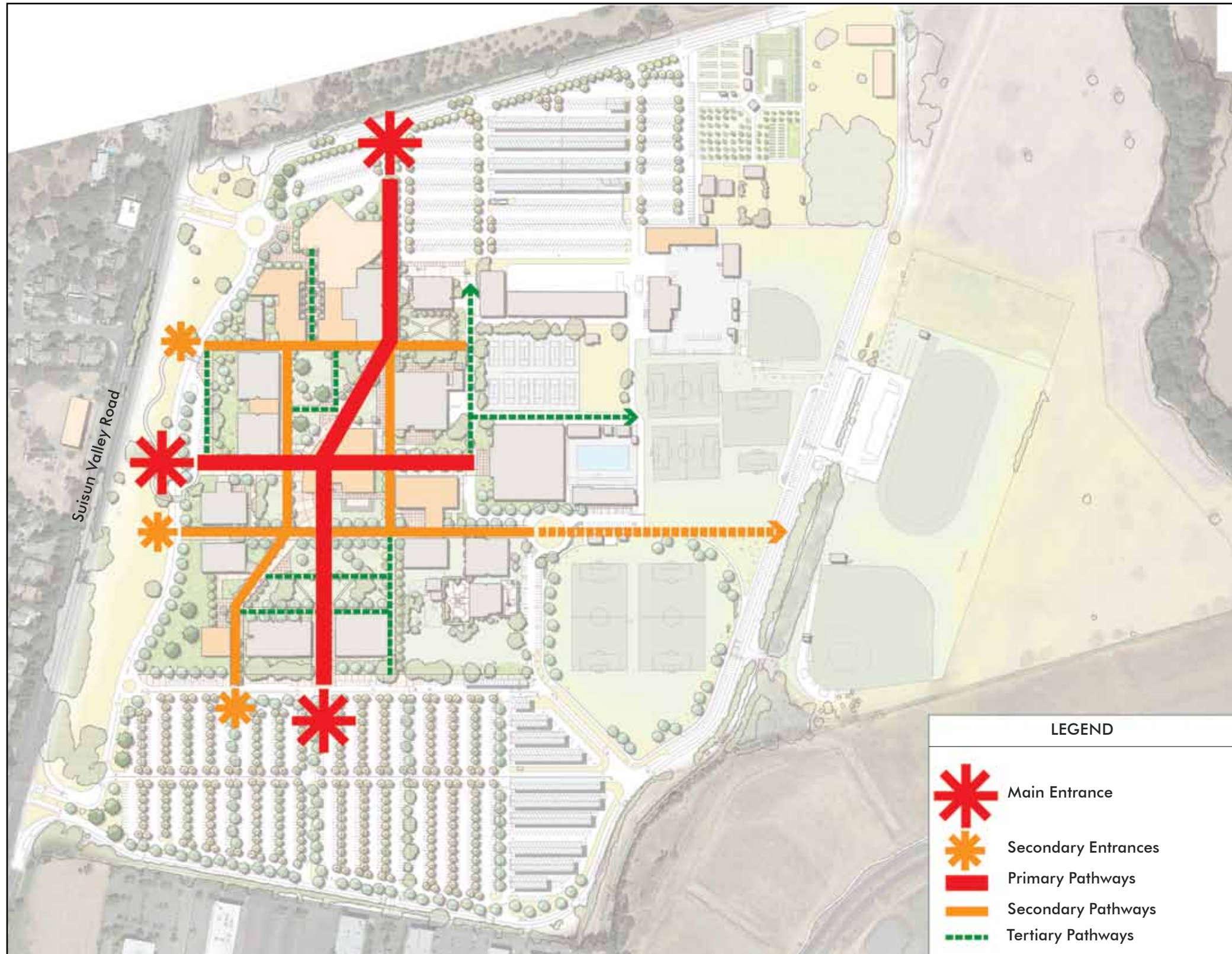
- Should be designed with raised crosswalks with special pavers to create safe interactions between pedestrians and vehicles

Other Considerations

View Corridors (Suisun Valley Road)

- Are prime opportunities to showcase campus architecture
- Landscape should be low to allow views into campus





0' 150' 300' 600'
SCALE: 1" = 300'-0"

FAIRFIELD PEDESTRIAN ENTRIES & ARRIVAL

The Pedestrian entries and arrivals on the Fairfield campus signify the most important places of identity and branding. These spaces should create the first impressions of the campus. They should demonstrate clarity of circulation, hierarchy of the network of paths and confirmation of a destination.

Entrances

Main Entrances

- Fed primarily by parking lots
- Are aligned with main spines and lead directly to campus core
- Are emphasized with specialty pavers & accent trees
- Should be related to one another with planting theme or design element

Secondary Entrances

- More commonly used by those familiar with campus
- Are connected to secondary pathways

Pathways

Primary Pathways

- Are major organizing spines within the campus
- Provide direct routes between north and south side of campus
- Have wider walkways to accommodate an increased flow of pedestrian traffic
- Lead to Main Quad and the Learning Resource Center which constitute the campus core
- Shall be lined with trees to create promenades and reinforce hierarchy of path network

Secondary Pathways

- Accommodate circulation from secondary entries

Tertiary Pathways

- Are intimate and narrower pathways that create connectivity within the greater network of paths

FAIRFIELD OPEN/GREEN SPACE

The Fairfield campus has programmed Athletic Fields, maintained lawn social spaces and natural rural open space all within its boundaries. Each form of green space provides its amenity and value to the greater campus.

Northern and Southern Quad

- Offer both passive and active recreation space
- Connect northern and southern entries
- Allows visitors to orient themselves
- Have space for larger activities and events
- Serve as a campus mall
- Activate the heart of the campus

Fine Arts Garden

- Offers opportunity for art and sculpture displays
- Is an opportunity for smaller scale gatherings and passive activities
- Formal in layout and design

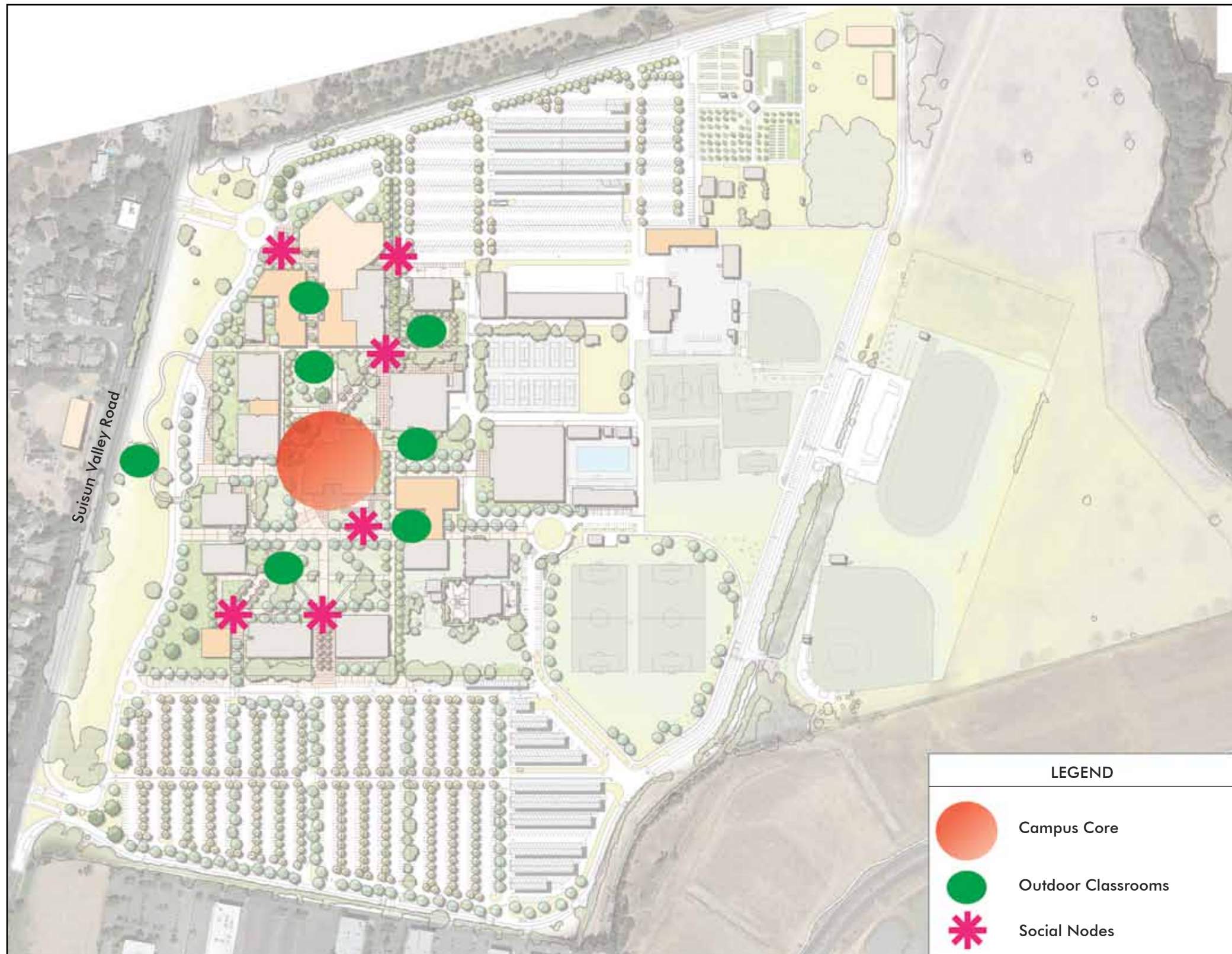
Athletic Fields

- Connects campus to the greater open spaces of the Suisun Creek
- Provides opportunity for collegiate sports as well as community use

All open spaces areas, unless noted otherwise, shall be planted with lower water using, noninvasive, California native plant species. Using these plant types will reduce overall water use and demand less maintenance. Please see Design Standard for Planting in Part III.



0' 150' 300' 600'
SCALE: 1" = 300'-0"



0' 150' 300' 600'
SCALE: 1" = 300'-0"

FAIRFIELD OUTDOOR SPACES

Between the lawns, quads and formal gardens lie the outdoor space opportunities of plazas, courtyards, eating areas and more. By providing seating options, protection from the elements and appropriate scale people will begin to utilize the outdoors and allow activities that are commonly held inside to move out beyond the walls of the buildings and classrooms.

Campus Core

- Serves as the social and academic hub of the campus
- Visually connects to the rest of the campus for easy orientation
- Activated by the Northern and Southern Quad

Outdoor Classrooms

- Adjacent to buildings and classrooms so classwork can be brought outside
- May be amphitheaters, informal seating or a collection of benches
- Opportunity to display classwork

Social Nodes

- Gathering spaces
- Opportunity for quiet studying or active socializing
- Outdoor dining

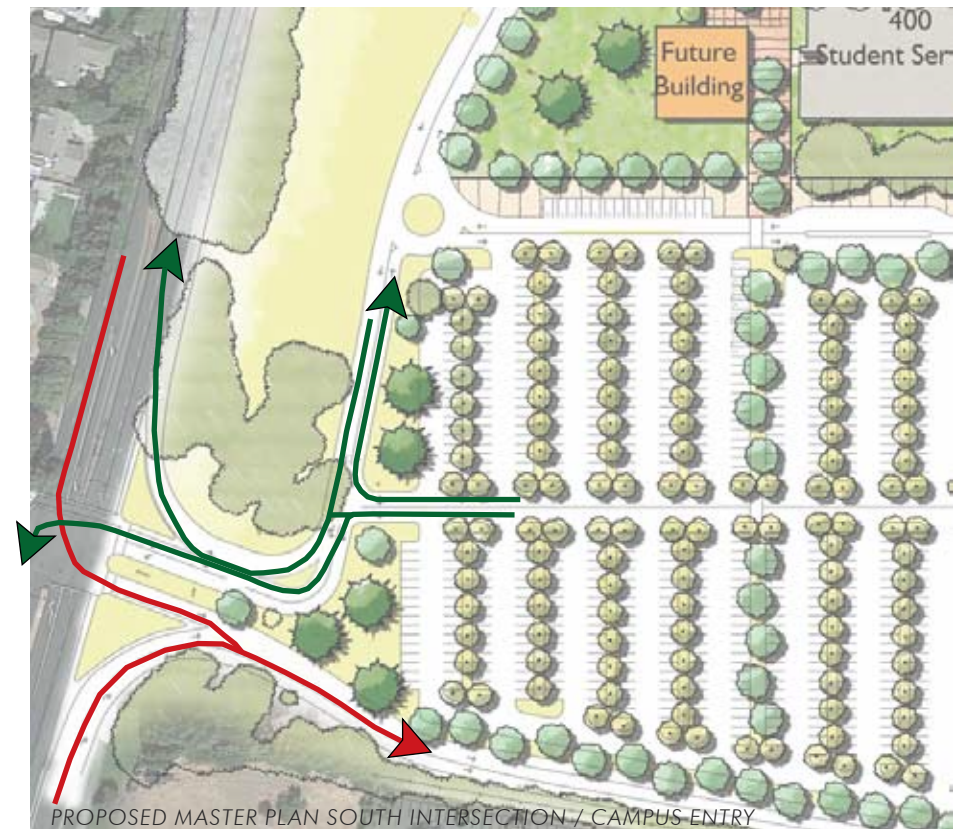
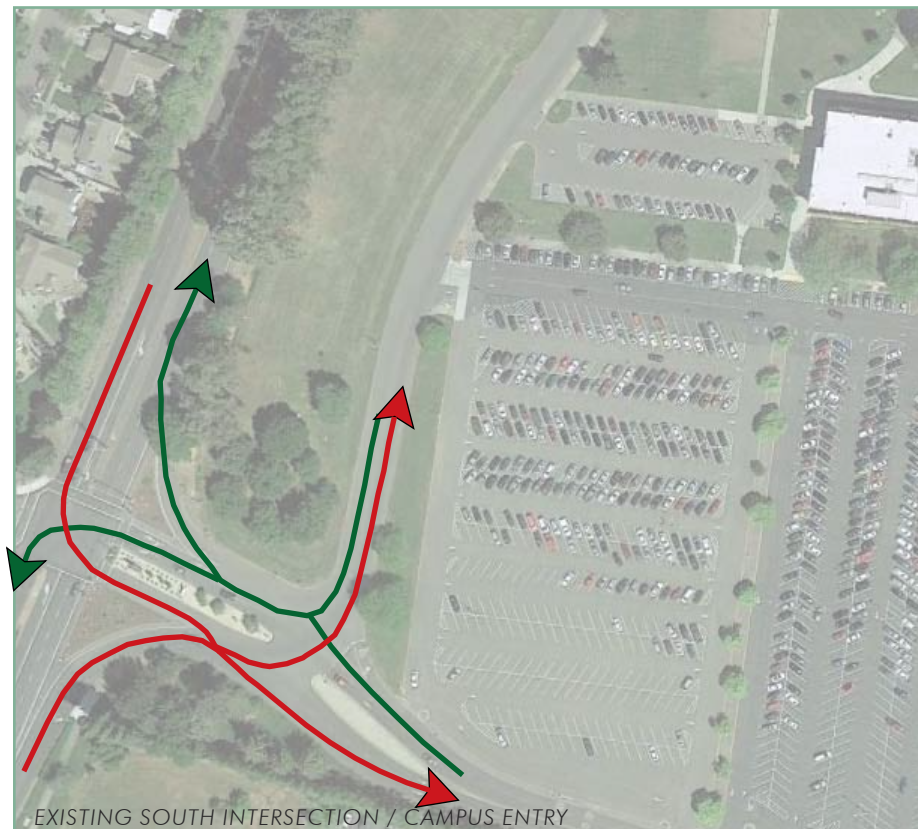
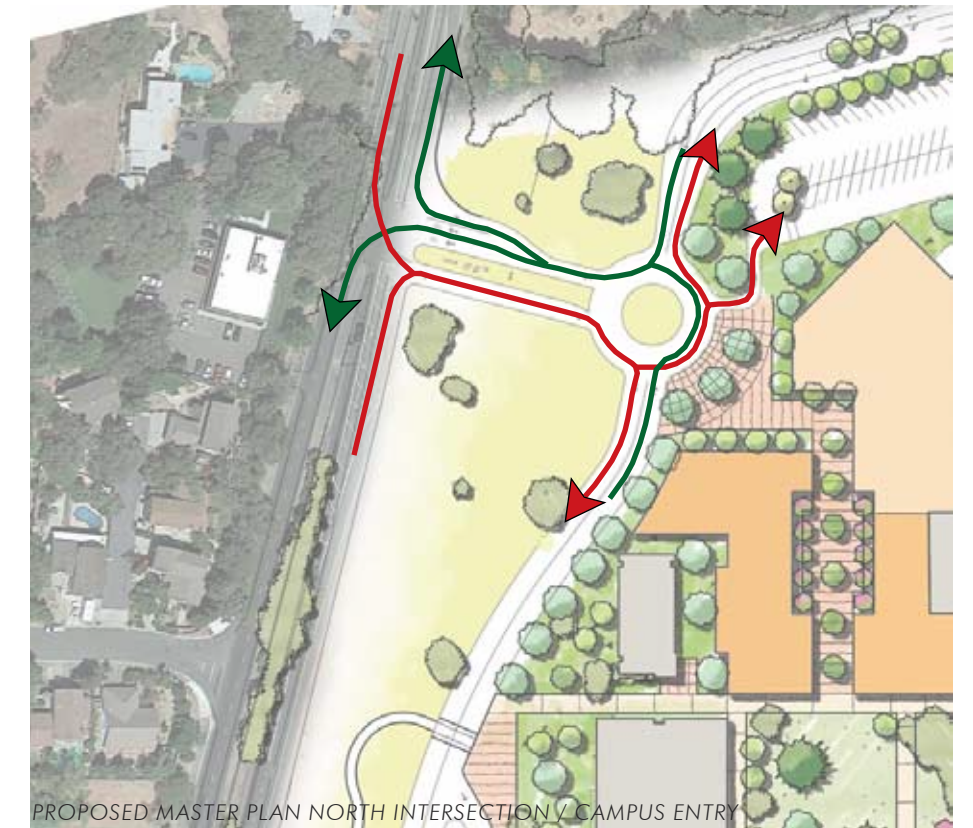
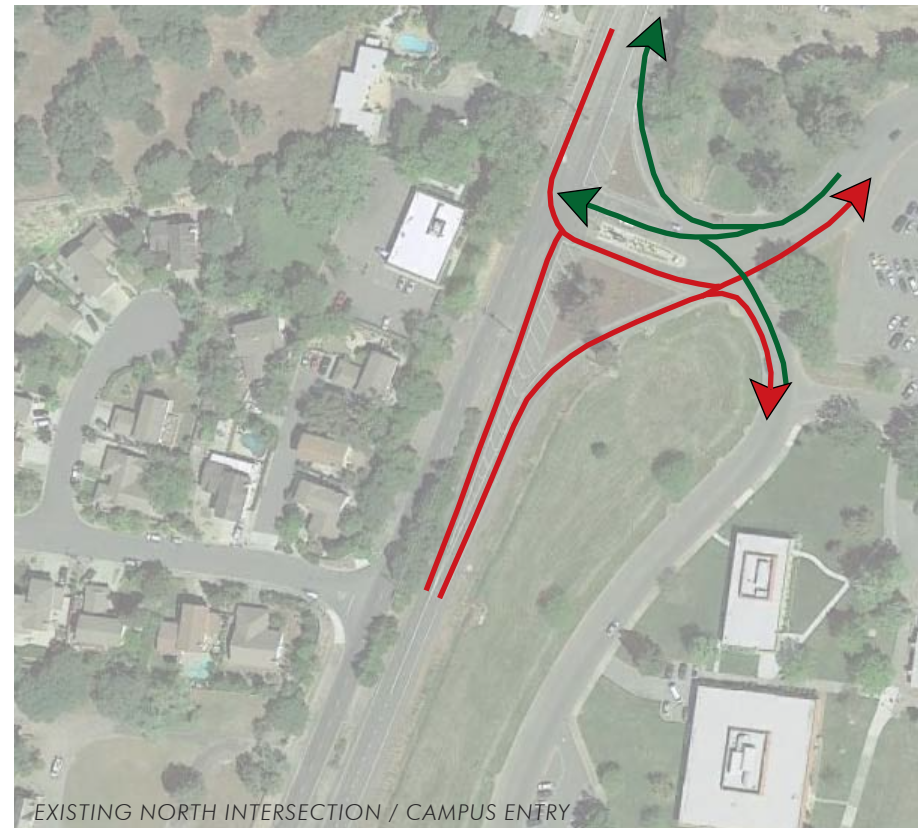
Fairfield Traffic/Parking

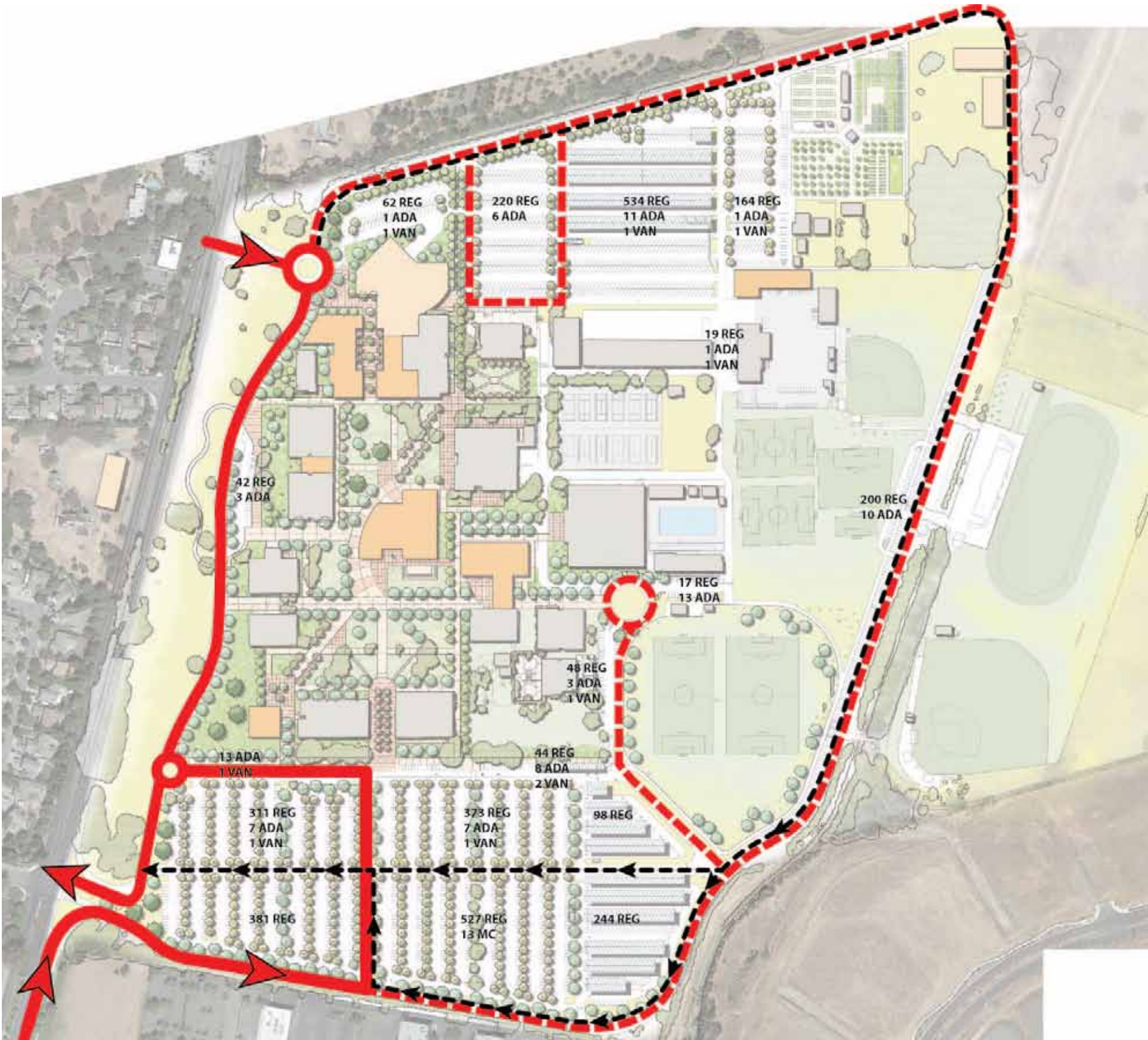
The District and our team identified traffic concerns with both the south and north entries into the Fairfield Campus. The traffic rights-of-way are confusing to motorists at both of these intersections and at the south intersection (the most heavily used of the two) there are delays in the westbound direction as eastbound vehicles are given the right of way. At the north intersection, the north and westbound approaches have curved geometries meeting at odd angles that form, along with the presence of a fifth leg, a very wide intersection that contributes further to operational issues.

This Master Plan proposes to rectify these issues by reconfiguring the south entry to provide an effective separation of vehicular movements. This is achieved by eliminating the east and southbound left-turn movements and the southbound approach, making a short section of Solano College Road one-way eastbound. The reconfigured intersection would eliminate traffic delays by allowing the east and southbound traffic to flow freely. The east-bound direction leads to widened parking lot driveways that direct vehicles to the new drop-off in front of Building 400 and parking lots on the south side.

Improvements to the north intersection involve eliminating the northbound right-turn ramp from Suisun Valley Road. Instead, the northbound Suisun Valley Road approach would be restriped to provide a dedicated right-turn lane at the north entrance. This would allow north and southbound traffic entering the campus to merge in a conventional manner, and eliminate one leg at the Solano College Road north intersection. The Master Plan also reconfigures the north intersection as a roundabout, which would better channelize vehicular movements and eliminate vehicular conflicts.

With the exception of the reconfigured south entry that makes a short portion of the existing loop road one-way in the eastbound direction, the rest of the existing loop road is maintained. The westbound direction has two options for exiting once it reaches the south side of campus.





The Master Plan proposes a new drop-off and bus stop location at the south side of campus in lieu of the existing one at the west side of buildings 500 and 600. A reconfigured drop-off is also proposed on the north side, once the Performing Arts Center is built.

With respect to parking this Master Plan is proposing to re-configure the existing parking lots to address several goals:

- Better wayfinding
- Safer flow from the parking stalls on to campus
- Storm water treatment & more shade (see Sustainability Guidelines in Part II)
- More aesthetically pleasing parking lots since they are the first “face” of the campus to the community

Our analysis shows that when the parking lots are reconfigured as shown in the Facilities Master Plan, the net loss in parking is only 5%. There was stakeholder consensus that this loss in parking was very acceptable given that currently only 46% of the parking lots are utilized on one of the heaviest teaching days/times in the Spring Semester. Even accounting for heavier Fall attendance, the expected rise in head counts, and more buildings added to the campus, the amount of parking provided in the Facilities Master Plan was deemed appropriate.

	New Total	Existing	% Difference
South Parking Lot (Lot 1, 3, 5 and C)	2048	2235	92%
North Parking Lot (Lot 2, 6, E and F)*	1028	941	109%
Lot A (unchanged)	45	50	90%
Lot B (Removed)	0	59	0%
Lot D (unchanged)	82	82	100%
Lot G (Removed)	0	6	0%
Lot H (Unchanged)	210	210	100%
Lot I (Removed)	0	11	0%
Lot J (Unchanged)	21	21	100%
GRAND TOTAL	3434	3615	95%
Utilization Tuesday April 16, 2013 (busiest day of wk)		1655	
% of Parking Utilized at Peak Demand		46%	

* Note: both existing parking count and utilized count excluded Lot 4 since it was not in use due to Building 1300 construction.

Fairfield Infrastructure

The purpose of the Infrastructure Master Plan is to show future utility improvements that are required due to the existing condition of those utilities, and to support future buildings and renovations proposed in this Master Plan. Details on the existing capacity/condition analysis, the assumptions made for future buildings and renovations, and the opinion of probable construction costs for identified improvements can be found in the Chapter on Infrastructure Assessments, found in Book 3 of the Facilities Master Plan.

Sewer System

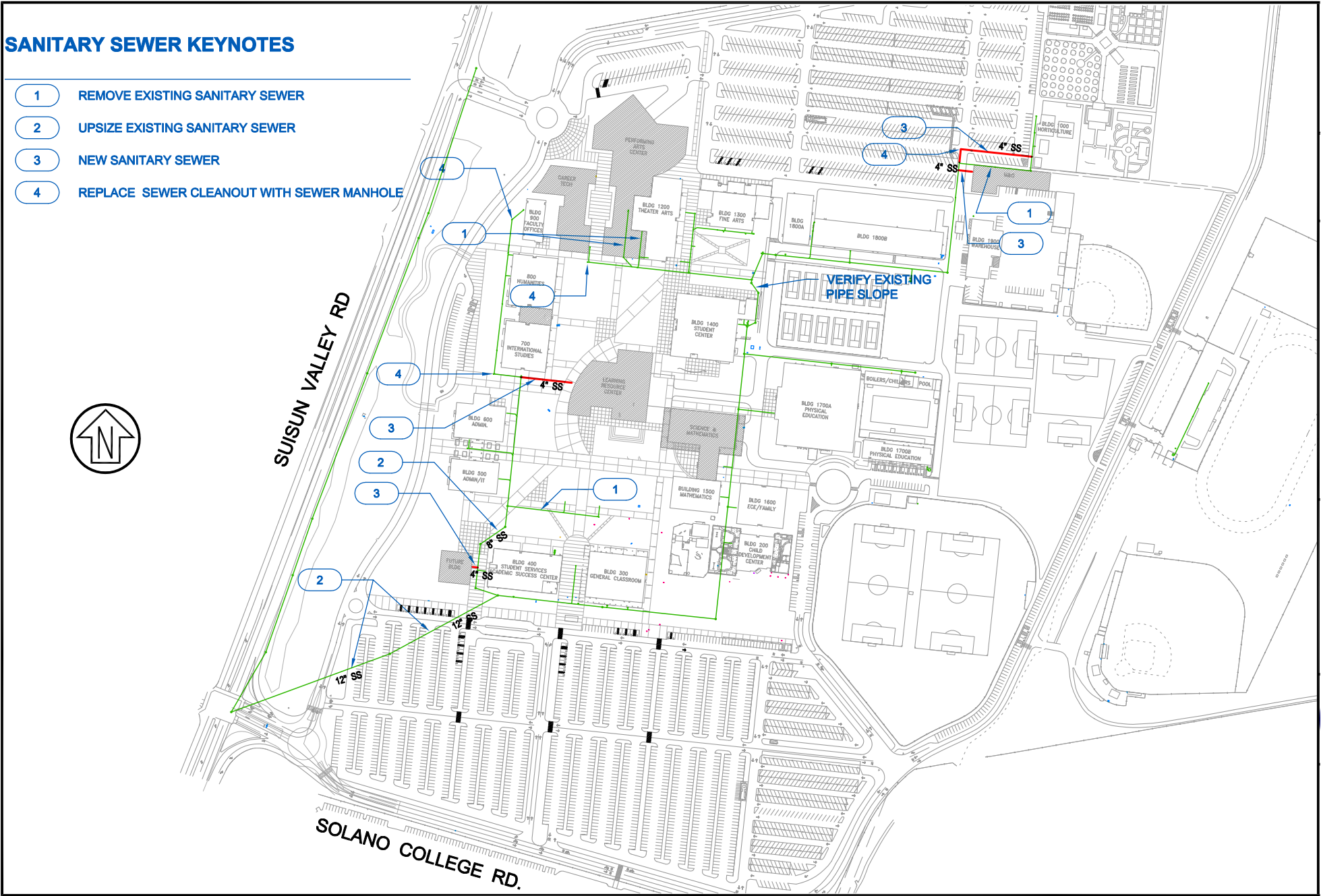
The increase of sewage load on the existing system from the future buildings results in the hydraulic grade line rising to within 2 feet or less of finished grade, which is less than the standard practice freeboard. Therefore, we recommend upsizing approximately 825 linear feet of the 10 inch main to 12 inch which results in the hydraulic grade line remaining more than 2 feet from the surface elevations.

There are several areas of the system on campus where Sewer System Clean Outs should be replaced with sewer manholes to meet standard practice and ease of maintenance.

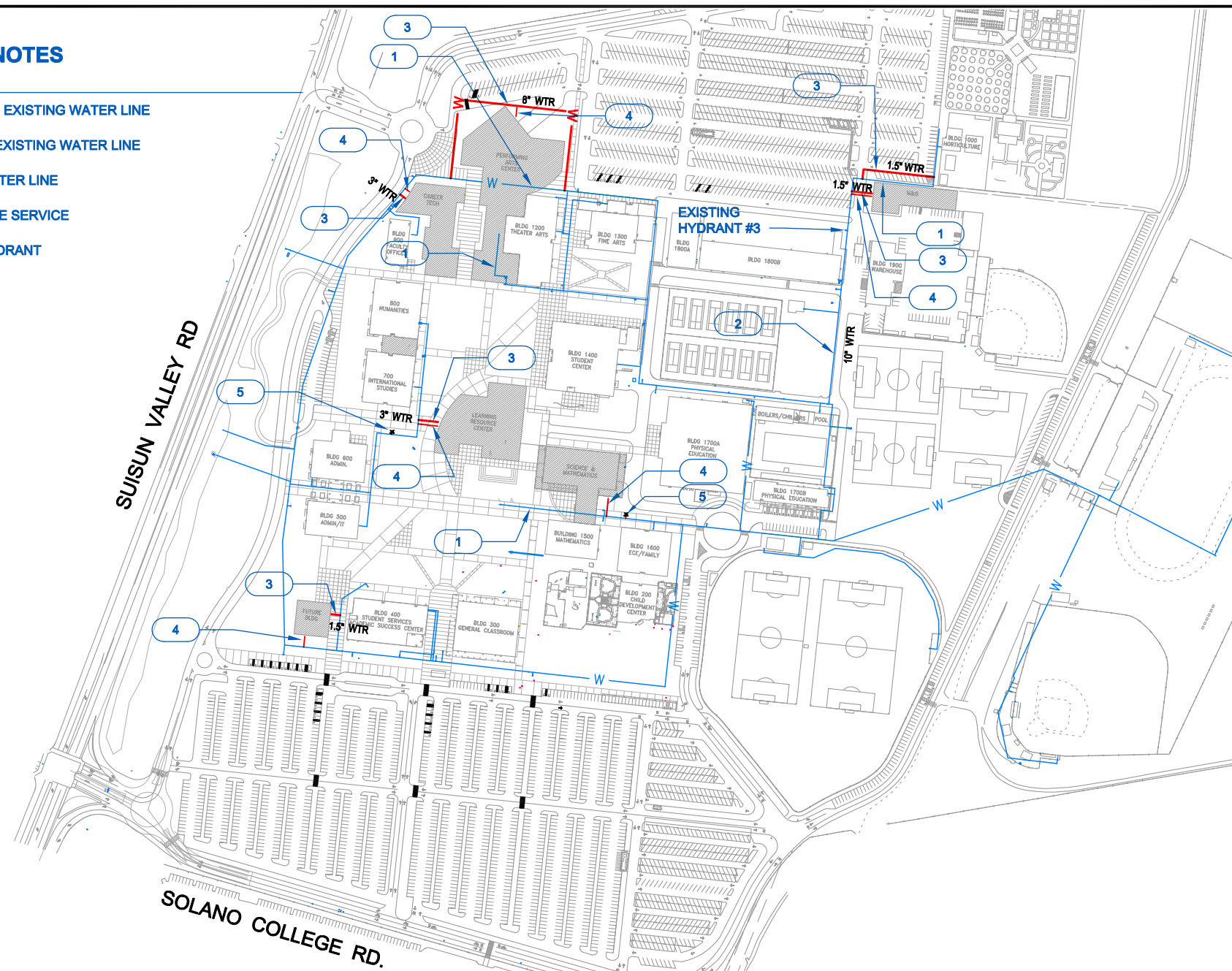
The proposed new Maintenance & Operations building is located on top of an existing 4 inch sewer line that serves the Horticulture building (Building 1000). This line will need to be relocated to avoid the new building footprint.

The sewer line located near the northeast corner of Building 1400 appears to have reverse flow and should therefore be checked in the field to verify the inverts. If it does in fact have reverse flow, the pipe segment directly downstream should be analyzed to see if it can be lowered enough to replace the reverse flow pipe with a positive flow pipe.

Exhibit to right identifies future sewer layout and sizes.



- 1 REMOVE EXISTING WATER LINE
- 2 UPSIZE EXISTING WATER LINE
- 3 NEW WATER LINE
- 4 NEW FIRE SERVICE
- 5 NEW HYDRANT



The future campus build out requires re-routing of existing water mains to avoid the new building footprints. An 8 inch water main will need to be re-routed around the new proposed Performing Arts building and a 1.5 inch water main will be re-routed around the proposed new Maintenance & Operations building. In addition to the new mains, new 3 inch domestic services will need to be added to serve the new LRC and CTE buildings.

In order to meet the fire flow requirements for the hydrant at building 1900, it will be necessary to upsize the 6 inch service main (300 linear feet) that's located between the pool and building 1900 to a 10 inch main.

In addition to upsizing the existing 6 inch main and re-routing the water lines mentioned in the Potable water section, all new buildings will have new fire services extended to the buildings to meet current fire code requirements.

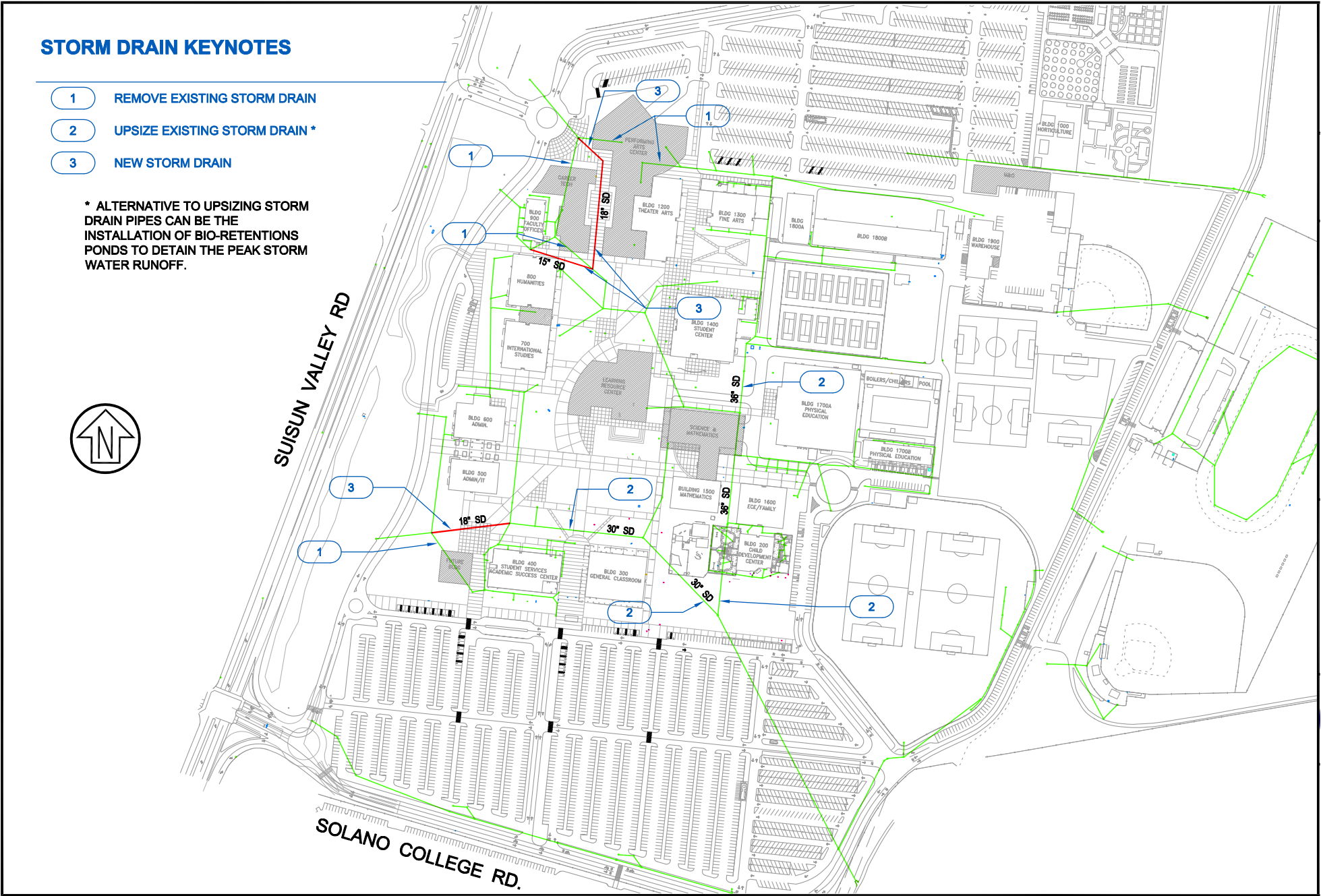
Exhibit to left identifies future water layout and sizes.

Storm Drain System

The future campus build out requires re-routing of existing storm drains to avoid the new building footprints. The new storm drain pipes will be sized to have sufficient capacity to handle a 15 year storm. As noted in the existing conditions, several storm drain pipes will need to be upsized to meet the 15 year storm capacity.

As an alternative to upsizing existing pipes, it is possible to create Bioretention facilities upstream of the undersized pipes to reduce the peak flows entering the storm drain system.

Exhibit to right identifies new storm drains and upsized storm drains.



Chiller Plant Capacity for Completion of Proposed Masterplan*

Campus Totals	Clg Load (Tons)
Buildings to Remain	528
Buildings to be Demolished	-171
Buildings to be Renovated	393
Buildings to be Added to Campus	807
Sub-Totals	1,557
Safety Factor	110%
Sub-Totals	1,713
Diversity	90%
Final Totals	1,542

Boiler Plant Capacity for Completion of Proposed Masterplan*

Campus Totals	Htg Load (MBH)
Buildings to Remain	5,113
Buildings to be Demolished	-1,530
Buildings to be Renovated	3,692
Buildings to be Added to Campus	7,578
Sub-Totals	14,852
Safety Factor	110%
Sub-Totals	16,337
Diversity	100%
Final Totals	16,337

** These calculations are based on guessestimates for the sizing of projects based on a previous draft version of the Facilities Master Plan. Once the District determines actual sizing/programming of the proposed facilities, we recommend they update this analysis*

Chilled Water System Recommendations

The existing chiller plant is comprised of three chillers: two at 750 tons and one at 350 tons. One of the 750 ton chillers is redundant and is desired to remain redundant.

The chilled water central plant will require an upgrade in capacity to support the final masterplan of 1,542 tons*. It is recommended that the added capacity be added through either **thermal storage systems** (water or ice) or **a second central plant** be developed that can support a looped piping system so that the central hydronic loop can remain as is, since it is relatively new. This will split the load on two opposite sides of campus.

It is recommended that a detailed Central Plant study be undertaken to determine the type of chilled water plant desired, energy savings/ cost, energy conservation measures, redundancy desires, and most ideal location.

We anticipate the second chilled water central plant to consist of two (2) chillers, two (2) cooling towers (if geoexchange is not an option), and have a capacity of approximately 500 Tons. We would expect the plant to be a single story building, approximately 2,500 square feet, fifteen to eighteen feet tall, and have a cooling tower yard of approximately 400 square feet. Walls for the cooling tower yard should be estimated to be approximately 18-20 feet tall to hide the towers and provide noise mitigation. Additional space will be required if the Campus decides to use technologies such as cogeneration, chilled water or ice storage, etc.

Hot Water System Recommendations

The existing heating hot water system has a capacity of 33,600 MBH split equally between two forced draft boilers (16,800 MBH each). One boiler is currently redundant and is desired to remain redundant. Based on this capacity and the estimated loads*, the campus does not need any additional heating capacity to accommodate the proposed master plan. However, it is recommended that the boiler plant be reviewed over time to determine modifications and/or equipment replacement that may be required in the years to come as there are changes to Air Quality District requirements.

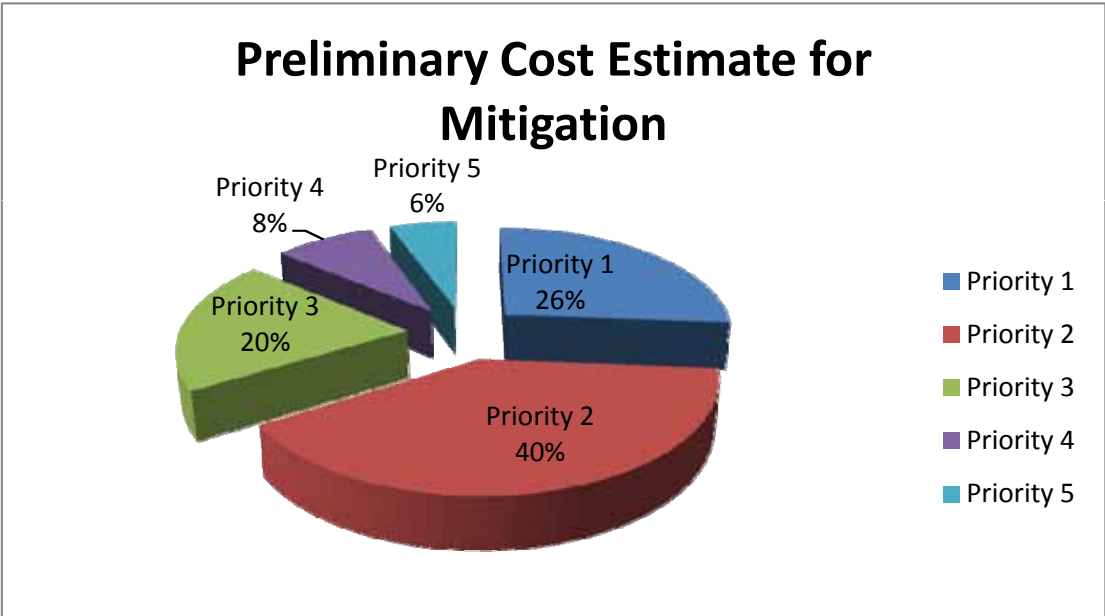
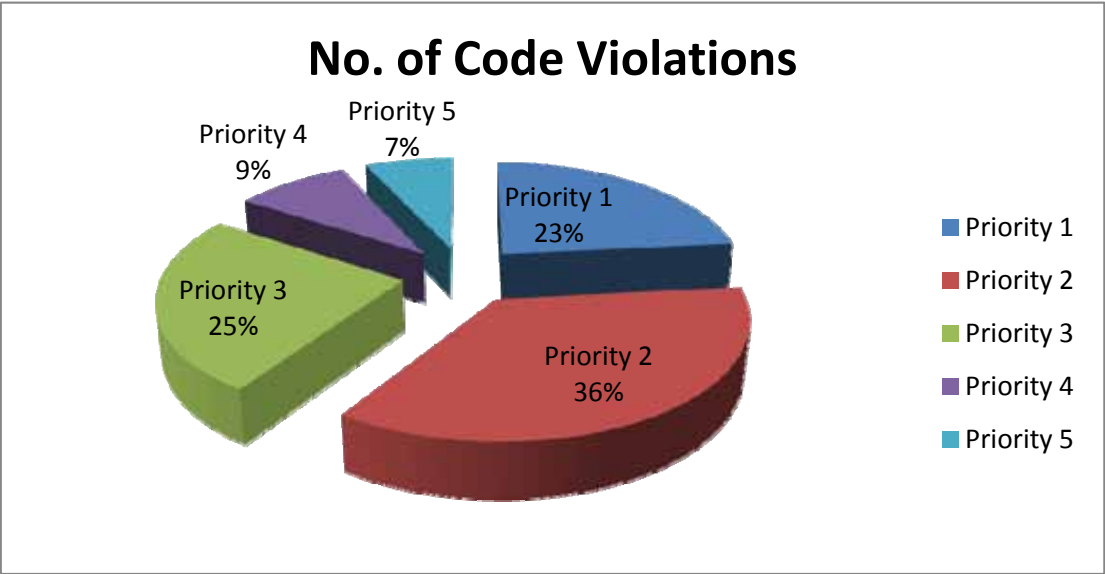
Fairfield Accessibility

ADA Title II and Section 11135 of the Government Code require programs and services to be accessible to the public. To meet these code requirements existing facilities may require modifications in order to be accessible and usable by individuals with disabilities. This Facilities Master Plan includes an Accessibility Transition Plan that does the following for each of the District properties:

- Identifies physical obstacles (Program Barriers) that limit the accessibility of programs or activities
- Prioritizes Program Barriers
- Describes detailed Methods of Mitigation
- Provides *preliminary estimated* costs for each Mitigation
- Specifies a Mitigation Schedule to achieve compliance with §35.150 Existing facilities & Indicates the Official Responsible

Working with the District’s Accessibility Committee the Program Barriers were prioritized and the exhibit to the left provides a breakdown of the Fairfield Program Barriers by priority. On the opposite page is an overview of the Accessibility Transition Plan findings as they apply to specific buildings on the Fairfield Campus. For findings regarding Fairfield campus exterior spaces, more detail on each Program Barrier and the Priority Criteria please see the full Accessibility Transition Plan provided in Part IV of this document.

	No. of Code	Preliminary
Fairfield	Violations	Cost Estimate
Priority 1	541	\$ 732,703.50
Priority 2	832	\$ 1,121,149.00
Priority 3	576	\$ 558,415.00
Priority 4	207	\$ 234,029.00
Priority 5	160	\$ 155,195.00
TOTAL	2,316	\$ 2,801,491.50





FAIRFIELD ACCESS PROGRAM BARRIERS SUMMARY

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SCCD
leading the
way to a
better future



VACAVILLE MASTER PLAN

Overview

Please refer to the Facilities Master Plan Chapter for the Master Plan Vision and Goals, as well as the Signage Master Plan and Fixtures, Furniture and Equipment Master Plan Chapters, that apply to the Vacaville Campus. On the following pages you will find the following additional information specific to the Vacaville Campus:

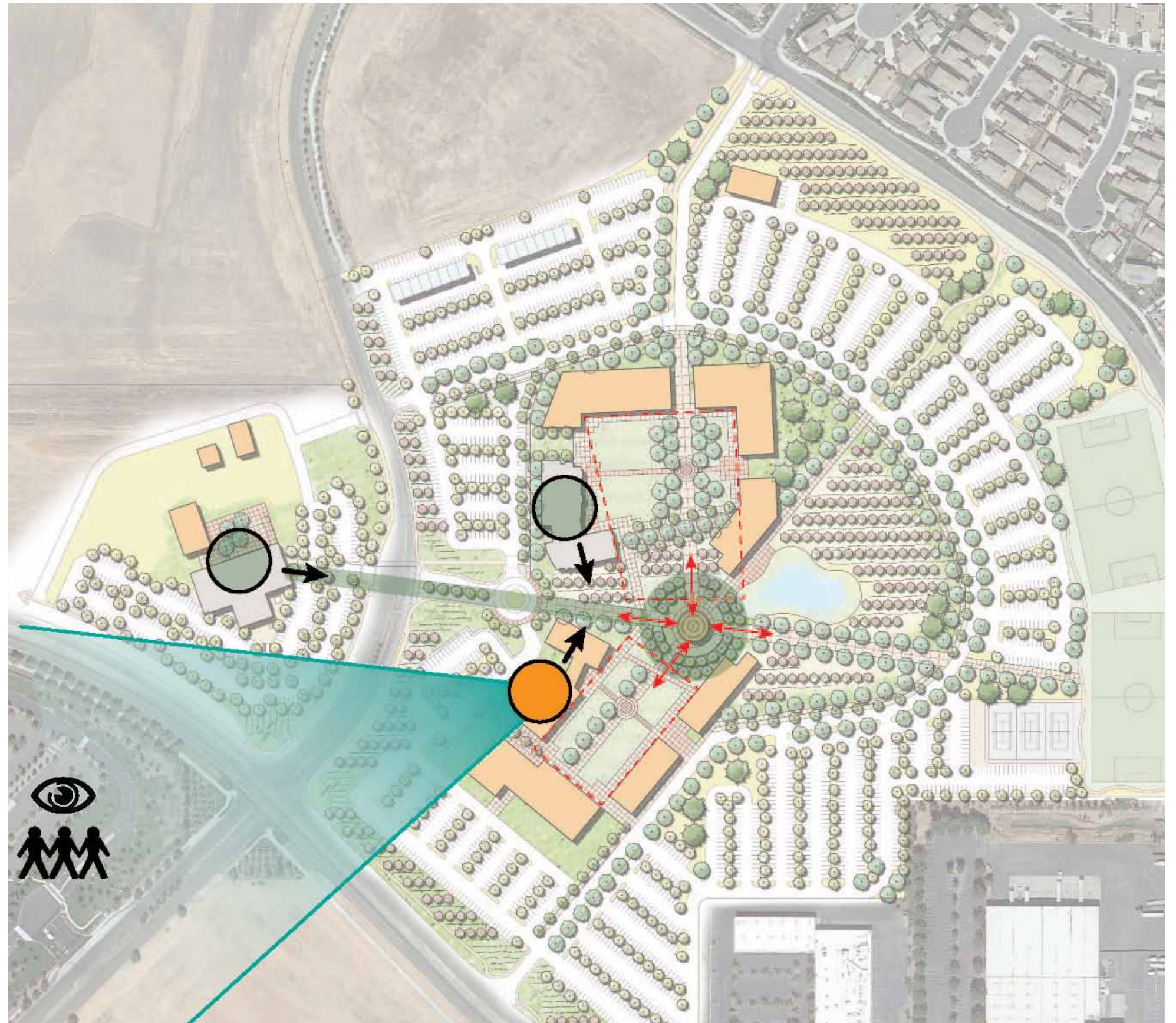
- Vacaville Key Master Plan Concepts
- Site Master Plan and 3D View
- Landscape Master Plan
- Traffic and Parking Master Plan
- Infrastructure Master Plan
- Accessibility Master Plan



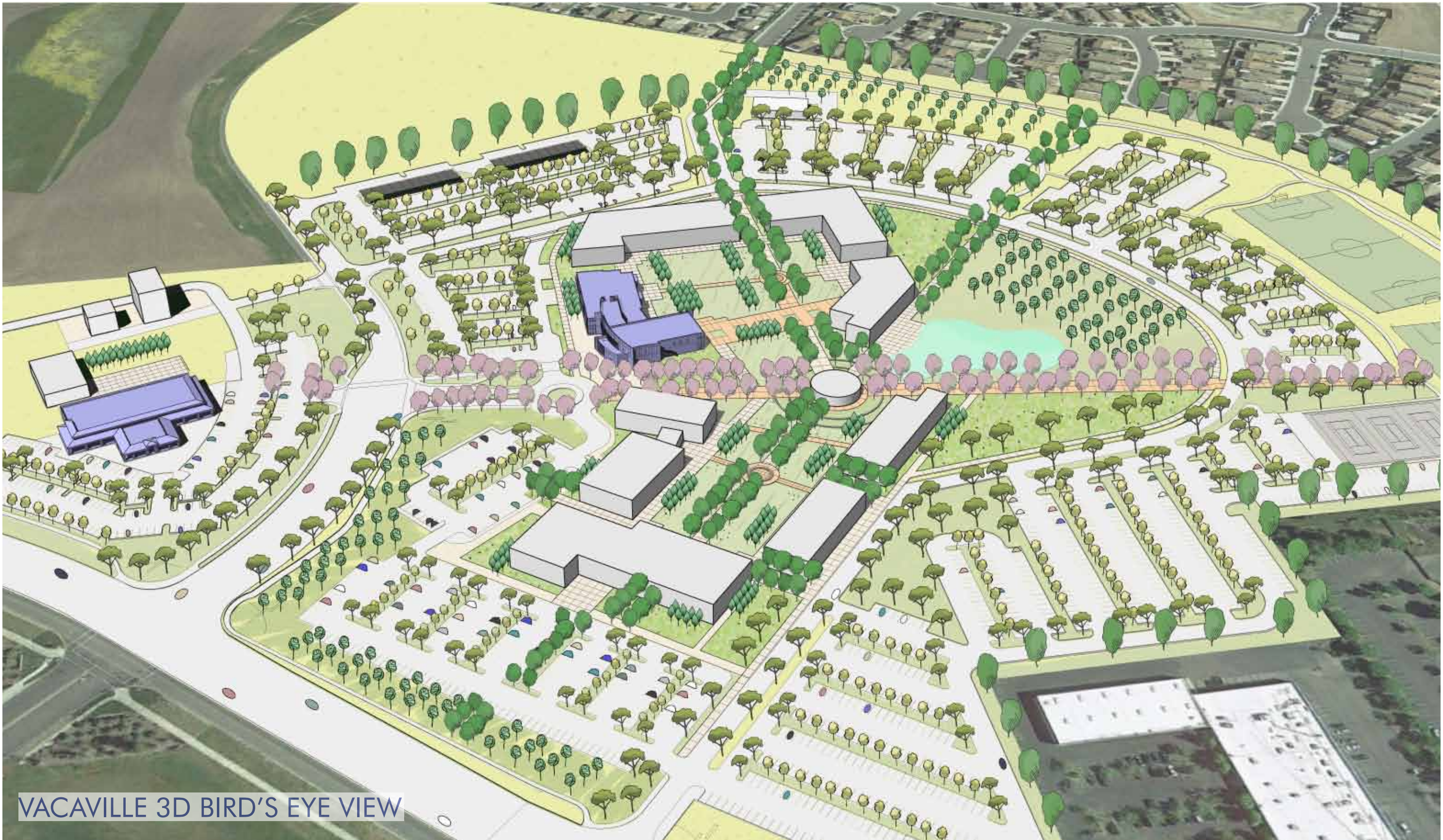
Vacaville Key Concepts

To accomplish the District Vision and Goals for the Master Plan, and to make considerations for initial campus development, the Vacaville Campus* was organized as follows:

- The Biotechnology/Multi-Science/Student Services building is located to establish a connection to Genentech across the way (a future community partner), and to create a sense of campus with the existing Vacaville Center to its north and the Vacaville Annex across the street.
- A landscaped pedestrian connection connects the West Campus with the Main Campus, and leads to the campus core.
- The arrangement of these three buildings, the connector and the campus core create the sense of campus for the immediate future, before the campus expands to its full capacity.
- Future Main Campus expansion is arranged around two quads that spring off the campus core. The existing Vacaville Center anchors the future north quad, and the New Biotechnology/Multi-Science/Student Services building anchors the future south quad.
- Athletic and green spaces ring the outer edges of the Main Campus to provide a buffer and community asset to the adjacent residential community.
- Campus Design and Sustainability Guidelines (see Part II) help accomplish the sustainability and aesthetic goals established by the District.



* The Vacaville "Campus" refers to the full extent of the properties upon which the Vacaville Center is located, and throughout this document it is used to describe the collegiate development of these properties, and not the status of the site by State Definitions. At this moment in time the Vacaville site remains a Center by State Definitions.



VACAVILLE 3D BIRD'S EYE VIEW

Vacaville Landscape

The Landscape Master Plan articulates the main outdoor components of each Solano Community College site and offers suggestions for future design and development of exterior spaces that promote educational and social interaction.

LANDSCAPE GOALS

- Create a strong identity on campus
- Create visibility along major streets
- Create opportunities for educational, recreational, and social interaction among students
- Placemaking through a variety of spaces and uses
- Sustainable water and construction practices
- Keep all stormwater on site
- Use drought tolerant plantings
- Enhance vehicular and pedestrian connectivity
- Provide structure to the campus through a hierarchy of paths
- Allow for easier wayfinding and landscape legibility

VACAVILLE LANDSCAPE VISION

The Vacaville Campus radiates from its central core with attention to connectivity, sustainability and programming. The landscape design treatments include orchard style planting, bosques and hedgerows of trees, oak woodland and native grasses typically seen in rural areas. These landscape elements along with the entries, connections and destinations create a unified sense of place.



0' 125' 250' 500'
SCALE: 1" = 250'-0"



VACAVILLE VEHICULAR ENTRIES AND ARRIVAL

The Vacaville Campus is primarily surrounded by residential areas, corporate businesses, and open space. Since most students will arrive by car from the Vaca Valley Parkway and the North Village Parkway, the campus needs to be visible and identifiable from those streets.

Main Entrances

The *North Village Parkway* Entry is the main ceremonial entrance that leads directly to the heart of campus. There is an opportunity for campus branding, signage, and accent planting. It also connects to the Vacaville Annex across the North Village Parkway.

The *Vaca Valley Parkway* Entry and *Crescent Drive* feed directly into the loop that surrounds the campus and provides access to all parking lots.

Other Arrival Points

Drop Offs

- Allow circulation to efficiently access campus core
- Create a vocabulary for the rest of the campus and create a sense of arrival
- Allows for safe pedestrian access

Service Roads

- Accommodate routine maintenance and service of buildings without impacting the flow of pedestrian and vehicular traffic
- Shall be distinct, when possible, from non-service access

Pedestrian Crossings

- Create a connection between the greater campus and the Annex Campus
- Allow for safe access to sports fields, recreation pathways and other neighboring features
- Emphasize circulation opportunities through gateways
- Should be designed with raised crosswalks with special pavers to create safe interactions between pedestrians and vehicles

Other Considerations

View Corridors

- Create a verdant edge to the campus
- Maintain a visual connection to the neighboring Genentech Campus



VACAVILLE PEDESTRIAN ENTRIES & ARRIVAL

Entries should seek to enhance the sense of arrival on campus through clearly articulated paving and planting patterns that frame the entry and establish a pedestrian network that spans the campus.

Entrances

Main Entrances

- Located near drop-offs, parking lot access-points and main pedestrian pathways that encourages campus access
- Aligned with main spine and lead directly to campus core
- Should be embellished to offer first impressions to visitors

Secondary Entrances

- Create a smaller scale arrival point for access from northern and southern parking lots
- Draw visitors from perimeter circulation towards the campus central area to promote orientation

Pathways

Primary Pathways

- Are the major pedestrian thoroughfares of the campus
- Provide direct routes between opposite ends of campus
- Have wider walkways for heavier traffic volumes
- Lead to the campus core
- Are lined with trees to create promenades
- Interact with the trees in an orchard grid which create the agrarian style background

Secondary Pathways

- Allow pedestrian access from all parking areas
- Serve as the outer loop of the campus
- Allow sub-axis connections throughout the campus

Tertiary Pathways

- Are intimate and narrower pathways weaved throughout the campus
- Are more likely to be utilized by those more familiar with the campus layout



0' 150' 300' 600'
SCALE: 1" = 300'-0"



VACAVILLE OPEN/GREEN SPACE

Programmed lawn spaces as well as natural open space provide opportunities on a campus for active and passive recreation. This can accommodate studying, socializing and even educational aspects.

Campus Green Space

The Central Green gathering spaces serves as a ‘campus green’ with open lawn and shade trees evoking the central green of many institutes of higher learning.

- Connects major destinations on campus
- Allows visitors to orient themselves
- Has space for larger activities and events

Detention Basin

In order to achieve true water balance on campus the site must store some of its own water. This storage space becomes a valuable and beautiful amenity in the form of a detention basin. The basin includes an overlook, trail lined edge and naturalized edges.

- Provides opportunity for interpretive signage
- Can be used as an educational tool for topics about habitat and sustainability
- Features beautiful and seasonal California native and drought-tolerant plants
- Offers passive recreational opportunities with benches and seating

Agriculture Fields and Orchards

- Integrated into campus for easy educational access
- Provides aesthetic appeal

Athletic Fields

- Provide opportunity for collegiate sports as well as community use
- Does not have to interfere with regularly scheduled campus and classroom activities

Low water using lawn shall be used whenever possible. All open spaces, aside from select lawn area, will be planted with low water-using, noninvasive and preferably California native plants. Please see Design Standard for Planting in Part III.



0' 150' 300' 600'
SCALE: 1" = 300'-0"



VACAVILLE OUTDOOR SPACES

Interfaces between buildings and landscape provide opportunity for outdoor gathering spaces, intimate courtyards and even grand plazas. The landscape of the Vacaville campus creates many nooks and spaces for outdoor use beyond the green lawn.

Campus Core

- Academic and social agora
- Serves as the culmination of the primary entry
- Is visually connected to the campus
- Creates a destination

Outdoor Classrooms

Classroom activities can extend beyond the classroom walls into:

- Outdoor lecture amphitheaters
- Art and class work display spaces
- Study tables

Social Nodes

Path intersections provide opportunities for seating or small plazas where students can gather in small groups.

Vacaville Traffic/Parking

The Master Plan maintains the main entry/drop-off from North Village Parkway for both the Existing Center and the Vacaville Annex across the way. As the Main campus expands there will be a loop road ringing the campus, from which several parking lots will be accessed. Parking lot entries/exits are located to avoid vehicular congestion and confusion in turning on and off the loop road. A secondary entry/exit is provided off Vaca Valley Parkway for people arriving from the east. This entry/exit was located to clear Akerly Drive to the south. Another secondary entry/exit is proposed off Crescent Drive to the North.

The West Campus maintains the entry opposite the Main Campus entry and provides a new secondary exit to the north by extending the existing parking loop. No new parking is proposed for this side of the campus, given that most of the area is being reserved for future Fire Training Towers that are part of the Public Safety Training Center.

Thus the future parking needs for the Vacaville Campus will be accommodated on the Main campus site. A total of approximately 1700 parking stalls can be added without parking structures. Please note that the exhibit to the right identifies *existing* disabled parking stalls and does not identify future ones that will be provided as parking is expanded. The number and location of disabled parking stalls will need to be determined by each parking project, and should either meet code requirements at the minimum, or exceed them *if* the District determines they need more than code minimum.



Vacaville Infrastructure

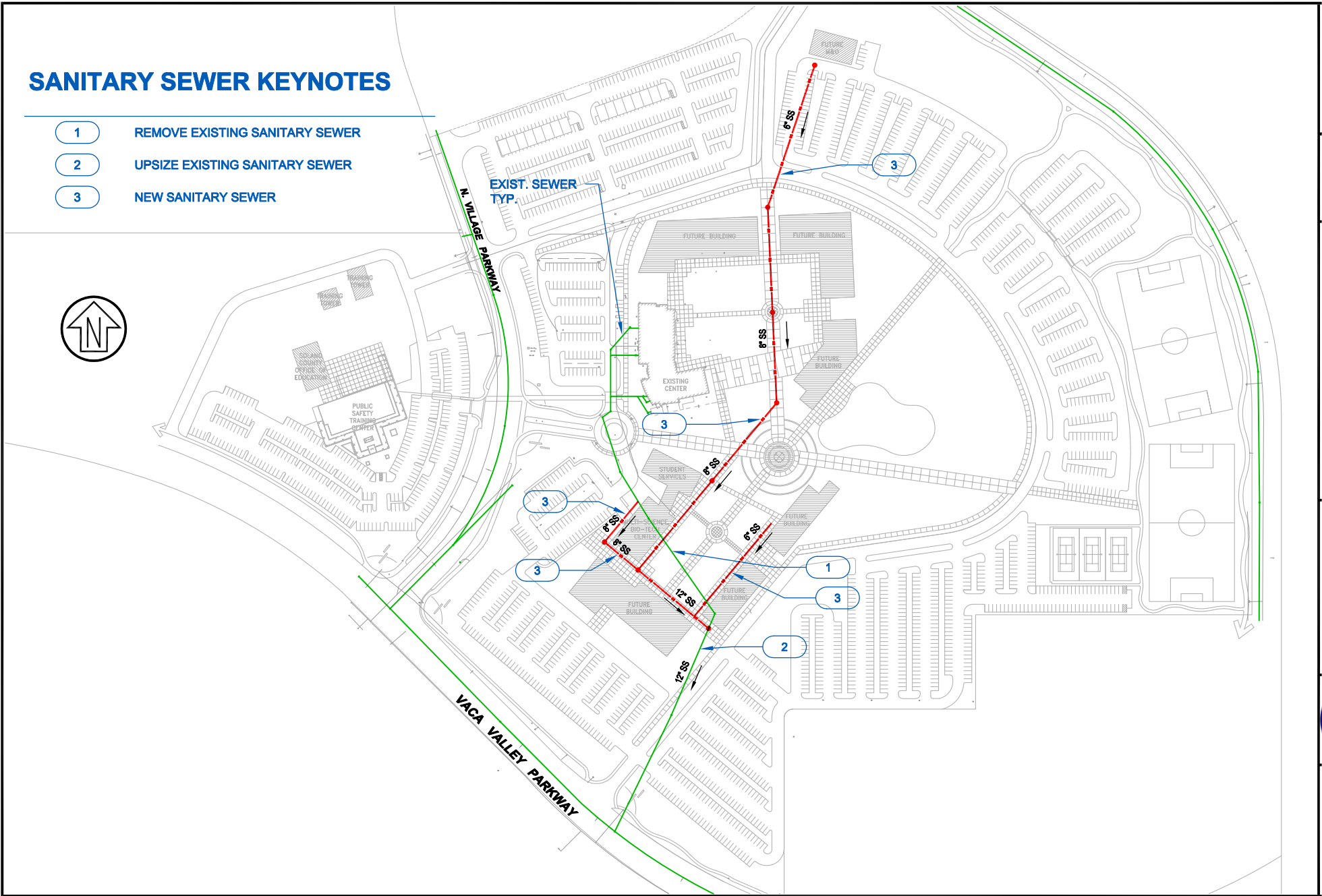
The purpose of the Infrastructure Master Plan is to show future utility improvements that are required due to the existing condition of those utilities, and to support future buildings and renovations proposed in this Master Plan. Details on the existing capacity/condition analysis, the assumptions made for future buildings and renovations, and the opinion of probable construction costs for identified improvements can be found in the Chapter on Infrastructure Assessments, found in Book 3 of the Facilities Master Plan.

Sewer System

The new buildings will require re-routing a portion of the existing sanitary sewer to avoid the building footprints. Additionally, new sewer mains will be added to serve the new buildings. The sizes will range from 6 inches to 12 inches.

Based on our Capacity analysis, a segment of existing 8 inch sewer will need to be upsized to a 12 inch sewer to meet the additional sewer demands.

Exhibit to left identifies future sewer layout and sizes.



Potable Water

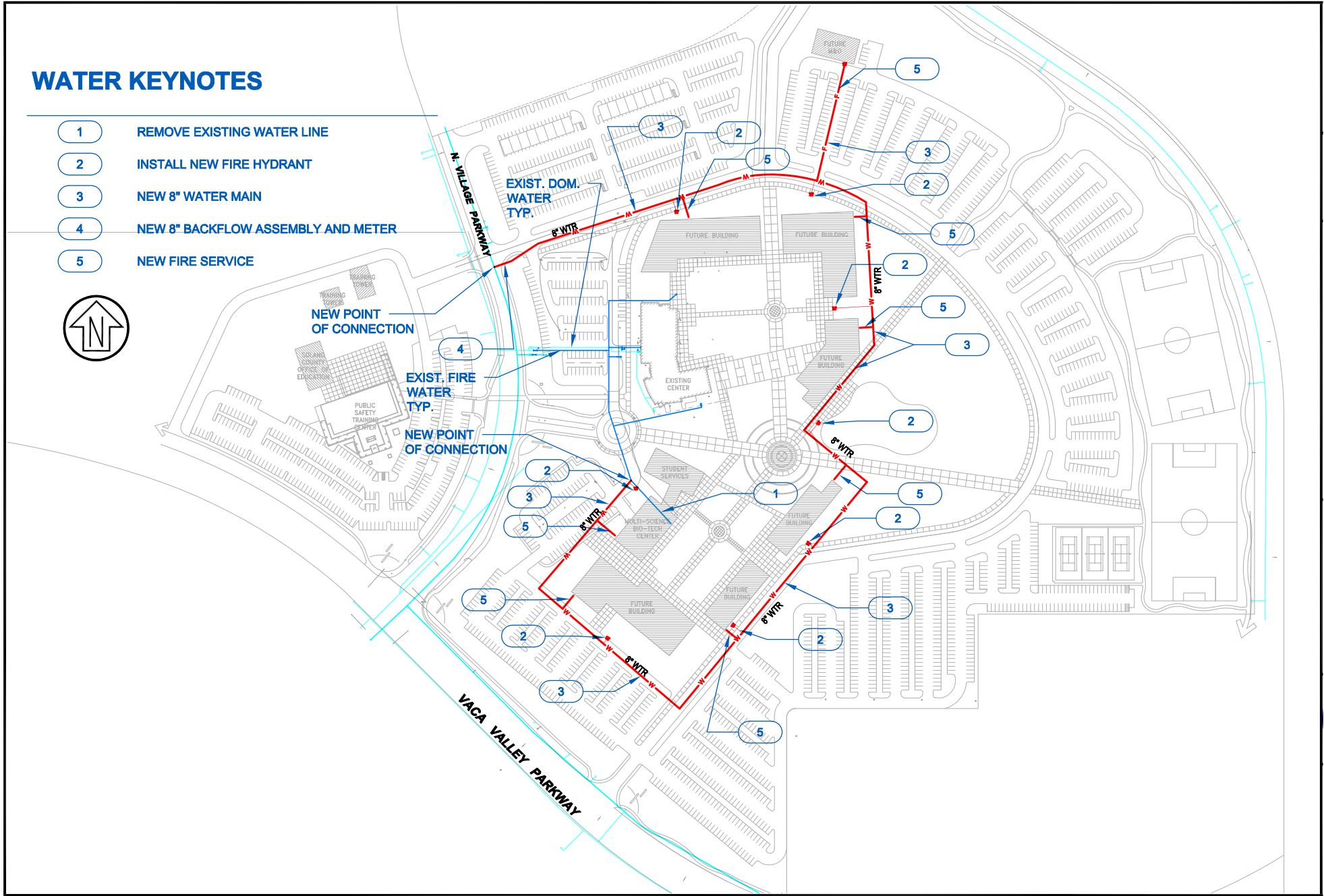
The existing 3 inch domestic water system is insufficient to convey the future water demands for the new buildings. A combined private domestic and fire water supply system is recommended for the campus expansion. A 3,400 linear foot 8 inch water main, which ties into the existing 8 inch fire main, installed in a loop is recommended to provide the necessary capacity to convey the water demand for the future expansion of the Vacaville Campus. Domestic service laterals for the new buildings will come off the new 8 inch looped water main.

Fire Water

As mentioned in the Potable Water section, a combined 8 inch private domestic and fire water supply system is recommended for the campus expansion. Fire hydrants and fire service connections for each new building will be served off the new 8 inch looped water main. Also per current fire code, each new building will be required to have fire sprinklers.

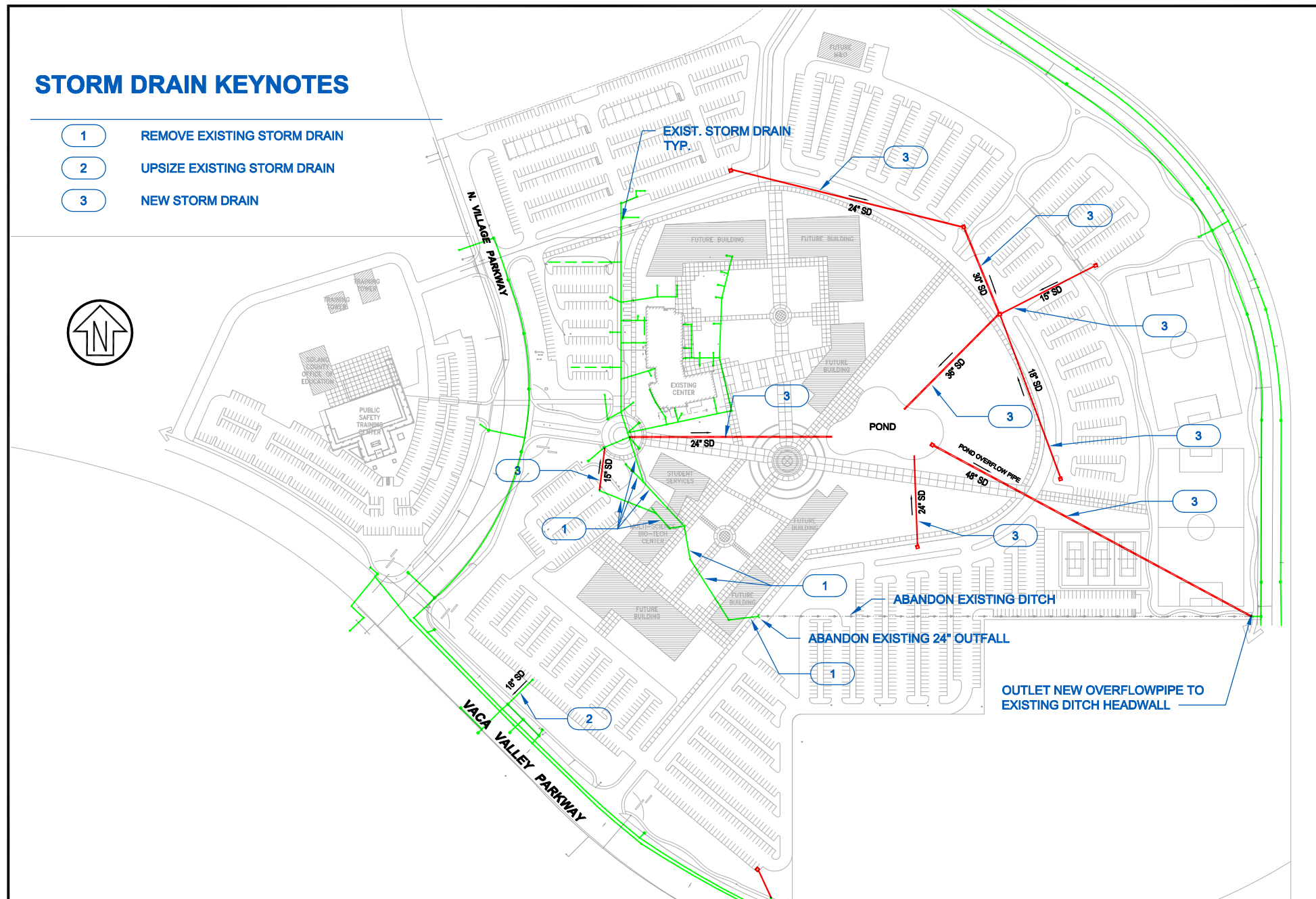
Based on the Capacity Analysis report, the new 8 inch water main has capacity to serve the new hydrants.

Exhibit to right identifies future water layout and sizes.



STORM DRAIN KEYNOTES

- 1 REMOVE EXISTING STORM DRAIN
- 2 UPSIZE EXISTING STORM DRAIN
- 3 NEW STORM DRAIN



Storm Drain System

The Master Plan expansion will require re-routing the existing 24 inch diameter outfall to be conveyed to a proposed on-site pond instead of the existing on-campus drainage ditch. Portions of the existing storm drain system will be removed to avoid conflicts with the new building footprints. The remaining existing system will continue to drain the existing portion of the campus and will be conveyed to the new on-site pond for treatment and storage. The Master Plan improvements will have its own separate storm drain facilities that will be sized to convey the 10-year rain event to the proposed on-site pond. The on-site pond will have an overflow structure and outlet pipe that will convey excess runoff to the southeast corner of the site where the existing drainage had been historically directed.

Exhibit to left identifies future storm drain layout and sizes.

Chilled Water and Hot Water System

Due to the expansion of this campus, we believe that a chilled water and a heating hot water central plant would be justified. Although the efficiencies of local plants may be slightly better, the central plant allows for less maintenance over time and opens up opportunities for cogeneration, heat recovery, etc.

It is recommended that a detailed Central Plant study be undertaken to determine the type of chilled water plant desired, energy savings/cost, energy conservation measures, redundancy desires, and most ideal location.

We anticipate the chilled water central plant to consist of two (2) chillers, two (2) cooling towers (if geoexchange is not an option), and have a capacity of approximately 900 Tons. We would expect the plant to be a single story building, approximately 2,500 square feet, fifteen to eighteen feet tall, and have a cooling tower yard of approximately 400 square feet. Walls for the cooling tower yard should be estimated to be approximately 18-20 feet tall to hide the towers and provide noise mitigation. Additional space will be required if the Campus decides to use technologies such as cogeneration, chilled water or ice storage, etc.

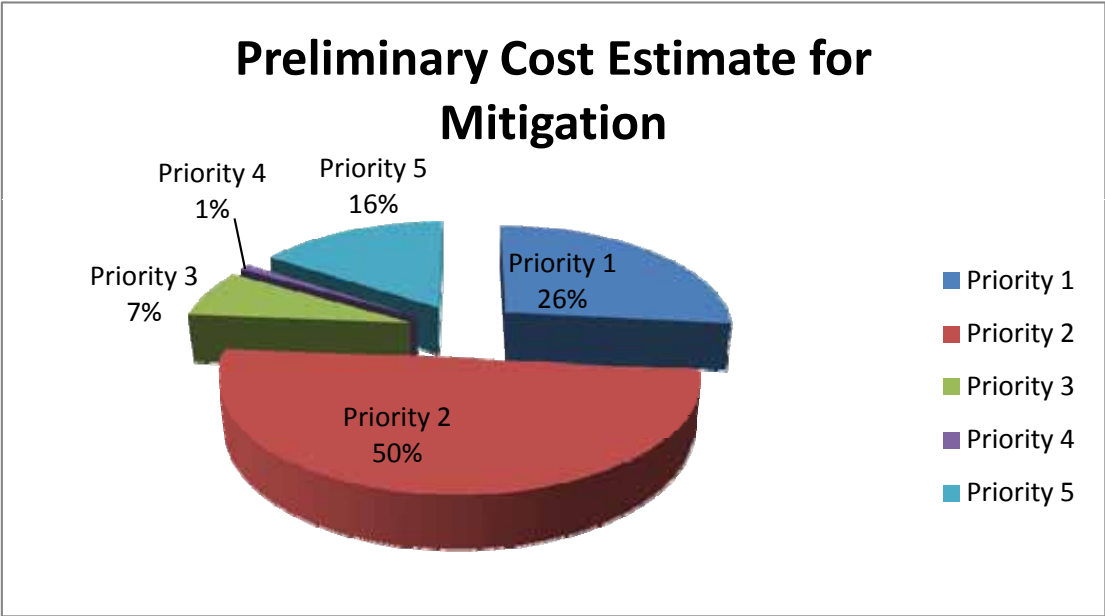
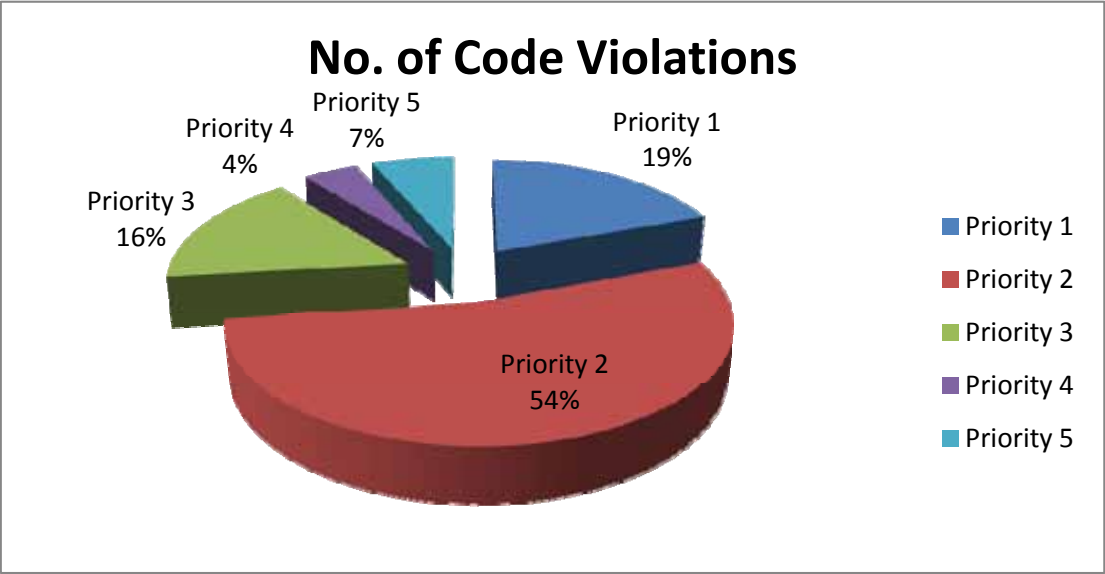
Vacaville Accessibility

ADA Title II and Section 11135 of the Government Code require programs and services to be accessible to the public. To meet these code requirements existing facilities may require modifications in order to be accessible and usable by individuals with disabilities. This Facilities Master Plan includes an Accessibility Transition Plan that does the following for each of the District properties:

- Identifies physical obstacles (Program Barriers) that limit the accessibility of programs or activities
- Prioritizes Program Barriers
- Describes detailed Methods of Mitigation
- Provides *preliminary estimated* costs for each Mitigation
- Specifies a Mitigation Schedule to achieve compliance with §35.150 Existing facilities & Indicates the Official Responsible

Working with the District’s Accessibility Committee the Program Barriers were prioritized and the exhibit to the left provides a breakdown of the Vacaville Center Program Barriers by priority. On the opposite page is an overview of the Accessibility Transition Plan findings as they apply to the Vacaville Center. Note the Vacaville Annex was not included in the Transition Plan given that this property was leased after the Access Surveys were complete. For findings regarding Vacaville campus exterior spaces, more detail on each Program Barrier and the Priority Criteria please see the full Accessibility Transition Plan provided in Part IV of this document.

Vacaville	No. of Code Violations	Preliminary Cost Estimate for Mitigation
Priority 1	18	\$ 22,260.00
Priority 2	50	\$ 41,555.00
Priority 3	15	\$ 6,040.00
Priority 4	4	\$ 750.00
Priority 5	6	\$ 13,150.00
TOTAL	93	\$ 83,755.00



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Building Community Partnerships



VALLEJO MASTER PLAN

Overview

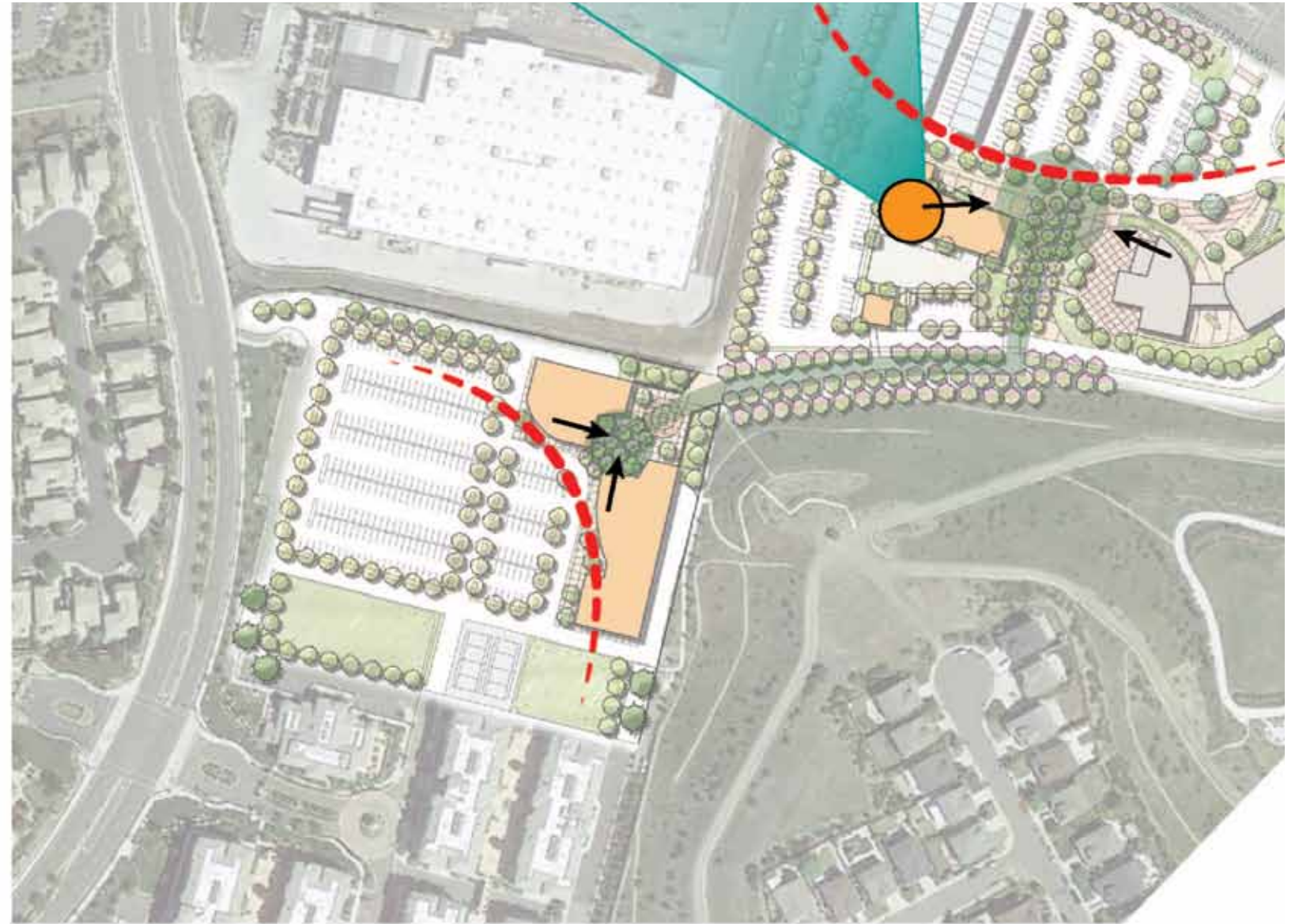
Please refer to the Facilities Master Plan Chapter for the Master Plan Vision and Goals, as well as the Signage Master Plan and Fixtures, Furniture and Equipment Master Plan Chapters, that apply to the Vallejo Campus. On the following pages you will find the following additional information specific to the Vallejo Campus:

- Vallejo Key Master Plan Concepts
- Site Master Plan and 3D View
- Landscape Master Plan
- Traffic and Parking Master Plan
- Infrastructure Master Plan
- Accessibility Master Plan

Vallejo Key Concepts

To accomplish the District Vision and Goals for the Master Plan the Vallejo Campus* was organized as follows:

- The Autotechnology/Education/Student Services Center is located at the west side of the original campus for Campus identity and visibility from Columbus Parkway.
- Programs that are community oriented are located close to parking, to strengthen community connections and community comfort.
- The arrangement of buildings (both on the original site and the upper site) creates a welcoming embrace that funnels pedestrian circulation into the campus core.
- The ramp connection to the upper campus site (which will accommodate parking needs for the original campus expansion as well as future buildings) is enhanced through materials and landscaping to connect the campus core on the original campus with the exterior social node on the upper campus.
- Tennis courts and green spaces are proposed on the upper site adjacent to the residential community to the south.
- The additional property under consideration for acquisition located at N. Ascot Parkway & Turner Parkway is reserved for athletic fields.
- Campus Design and Sustainability Guidelines (see Part II) help accomplish the sustainability and aesthetic goals established by the District.



** The Vallejo "Campus" refers to the full extent of the properties upon which the Vallejo Center is located, and throughout this document it is used to describe the collegiate development of these properties, and not the status of the site by State Definitions. At this moment in time the Vallejo site remains a Center by State Definitions.*



VALLEJO LONG RANGE SITE PLAN

Note: forms shown here are conceptual placeholders for the proposed facilities identified. Final form, size and programming for each project will be determined once those projects are funded.



VALLEJO 3D BIRD'S EYE VIEW FROM NORTH



VALLEJO 3D VIEW FROM NORTHEAST

Vallejo Landscape

The Landscape Master Plan articulates the main outdoor components of each Solano Community College campus and offers suggestions for future design and development of exterior spaces that promote educational and social interaction.

LANDSCAPE GOALS

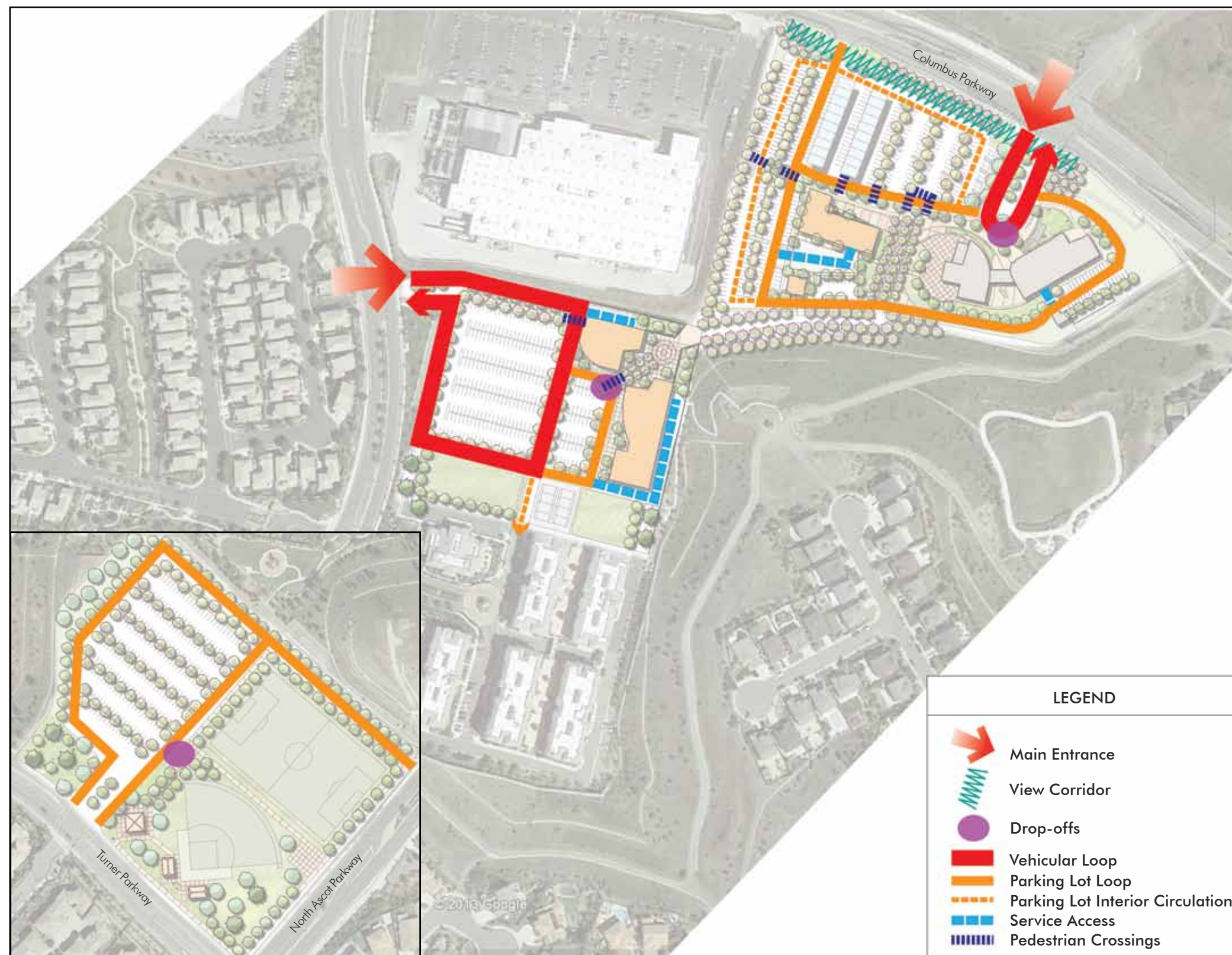
- Create a strong identity on campus
- Create visibility along major streets
- Create opportunities for educational, recreational, and social interaction among students
- Placemaking through a variety of spaces and uses
- Sustainable water and construction practices
- Keep all stormwater on site
- Use drought tolerant plantings
- Enhance vehicular and pedestrian connectivity
- Provide structure to the campus through a hierarchy of paths
- Allow for easier wayfinding and landscape legibility

VALLEJO LANDSCAPE VISION

The Vallejo campus creates a unique opportunity within its central core to blend the students of the upper campus, auto yard and lower classrooms into one large open social space. The campus lends itself well to outdoor activities with its usable green space between classrooms.



0' 125' 250' 500'
SCALE: 1" = 250'-0"



0' 150' 300' 600'
SCALE: 1" = 300'-0"

VALLEJO VEHICULAR ENTRIES AND ARRIVAL

The Vallejo Campus is primarily surrounded by residential areas, businesses, and open space. Since most students will be arriving via car from Columbus Parkway or North Ascot Parkway, the campus needs to be visible and identifiable from those streets.

Main Entrances

The *Columbus Parkway* entrance leads to the main plaza and provides access to the buildings on the north side of campus. The entryway is an opportunity for campus branding, signage, and accent planting.

The *North Ascot Parkway* entrance provides access to the southern buildings and parking lot and offers a view to the future buildings and parking structure that can serve as identifying landmarks for the campus.

Other Arrival Points

Drop Offs

- Provides direct access to main paths and buildings
- Offers view corridors into campus
- Allows for safe pedestrian access

Service Roads

- Allows for maintenance and service to all campus buildings without interruption of regular student, faculty and visitor traffic
- Should be designed as "back of house" so as not to conflict with entrances and walkways

Pedestrian Crossings

- Provides entry into campus by foot
- Should be designed with raised crosswalks with special pavers to create safe interactions between pedestrians and vehicles

Other Considerations

View Corridors

- Are prime opportunities to showcase campus architecture
- Landscape should be low to allow views into campus

VALLEJO PEDESTRIAN ENTRIES & ARRIVAL

Pedestrian entries provide a first impression and sense of arrival. They should be incorporated throughout the campus and especially by parking entrances, street crossings, and bus stops.

A hierarchy of paths give the campus structure and circulation, while also providing opportunities for seating and gathering.

Entrances

Main Entrances

- Main entrances are placed by parking lots and other high-volume areas
- Are aligned with main spines and lead directly to campus core
- Are connected to drop-offs
- Offer first impressions to visitors

Secondary Entrances

- More commonly used by those familiar with campus
- Are connected to secondary pathways

Pathways

Primary Pathways

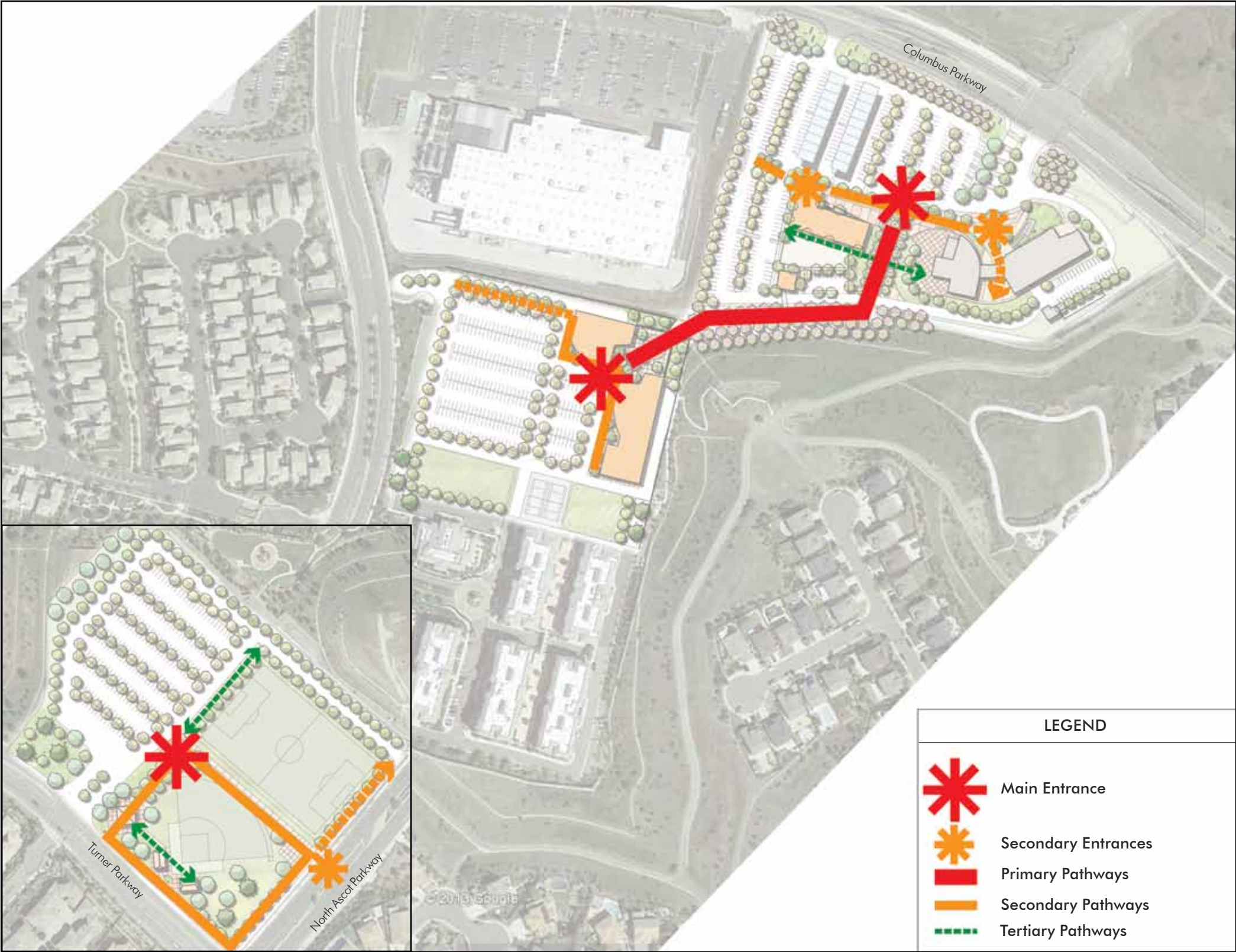
- Are major organizing spines within the campus
- Provide direct routes between opposite ends of campus
- Have wider walkways allow for heavier traffic volumes
- Lined with trees to create promenade

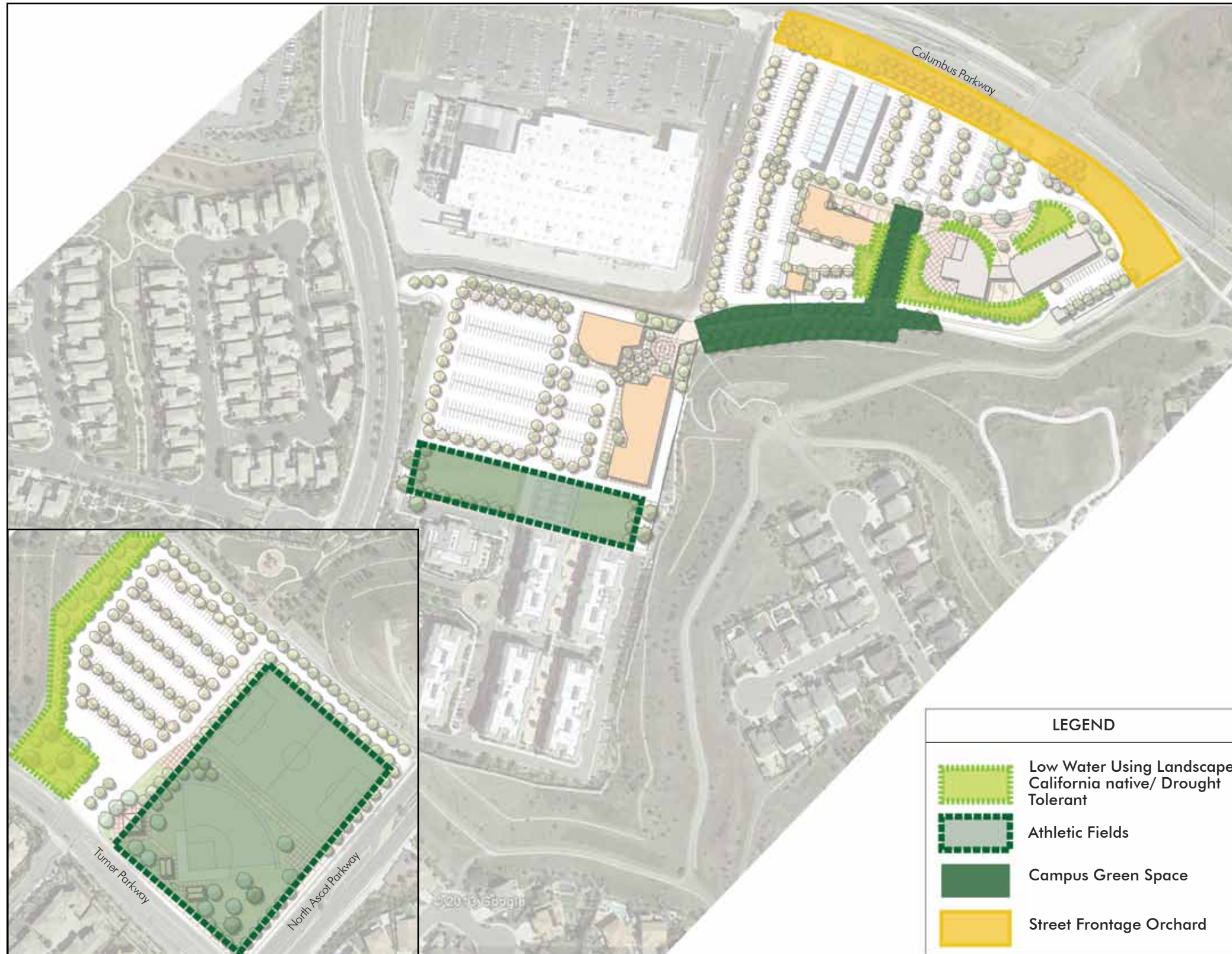
Secondary Pathways

- Feeds into primary pathways
- Offer direct routes to other main parts of campus

Tertiary Pathways

- Are intimate and narrower pathways that lead directly to specific buildings or other campus features





VALLEJO OPEN/GREEN SPACE

Open space on campus is an educational, recreational, and social asset to students. A variety of spaces allows for a multitude of programs to take place on site.

Campus Green Space

- Offers both passive and active recreation space
- Connects major destinations on campus
- Allows visitors to orient themselves
- Has space for larger activities and events such as graduation ceremonies

Athletic Zones

- Offers usable open space for students and adjacent neighbors
- Provides a buffer between campus and residential areas

Except for select lawn areas, the open space should be planted with drought tolerant native California plants. Using drought-tolerant plants is less maintenance and helps reduce the overall water budget. Please see Design Standard for Planting in Part III.

0' 150' 300' 600'
SCALE: 1" = 300'-0"

VALLEJO OUTDOOR SPACES

The plazas, courtyards, picnic areas and study corners are some of the outdoor spaces created within the campus design that help to emphasize the indoor/outdoor relationship to a greater degree.

Ramp/Connector/Bridge

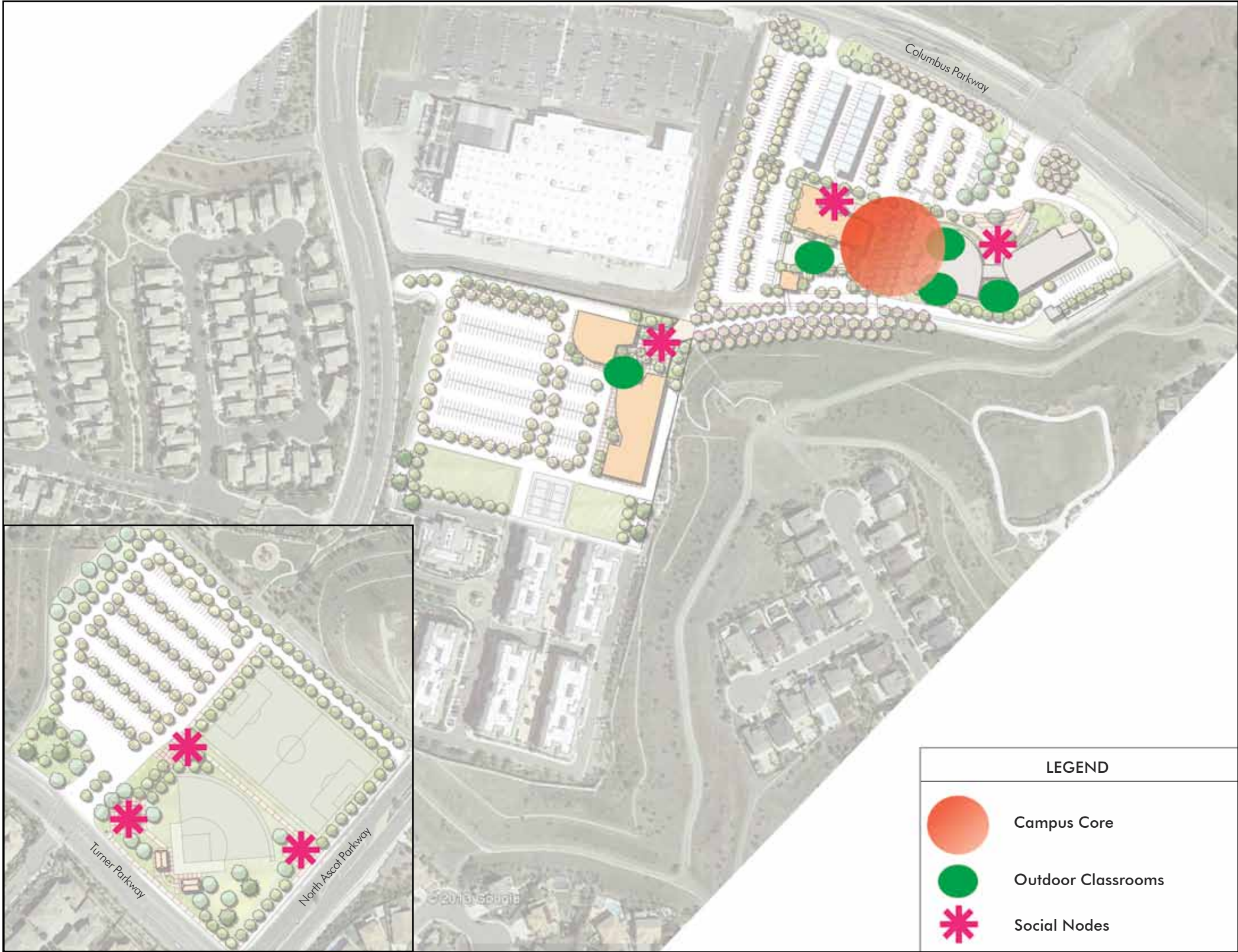
- The ramp provides a physical and visual linkage between two different parts of campus. It can be an experiential path that highlights the school or area’s history, showcases student work, or provides views of the surrounding areas.

Outdoor Classrooms

- Extend curriculum to the outdoors
- Showcase class work outside the building

Social Nodes

- Create outdoor seating areas that encourage small collaborative gatherings or quiet study spots
- Incorporate outdoor dining areas



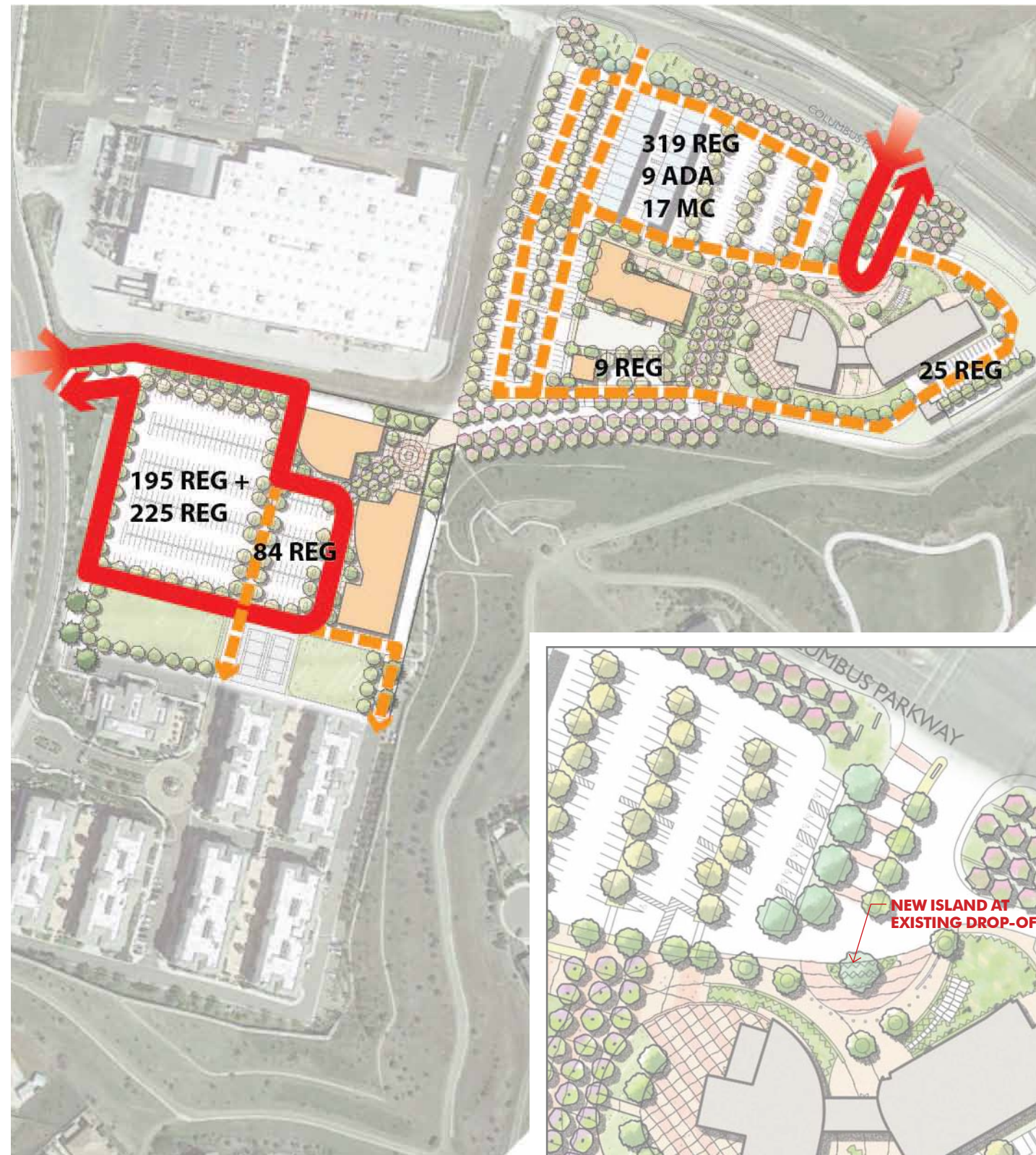
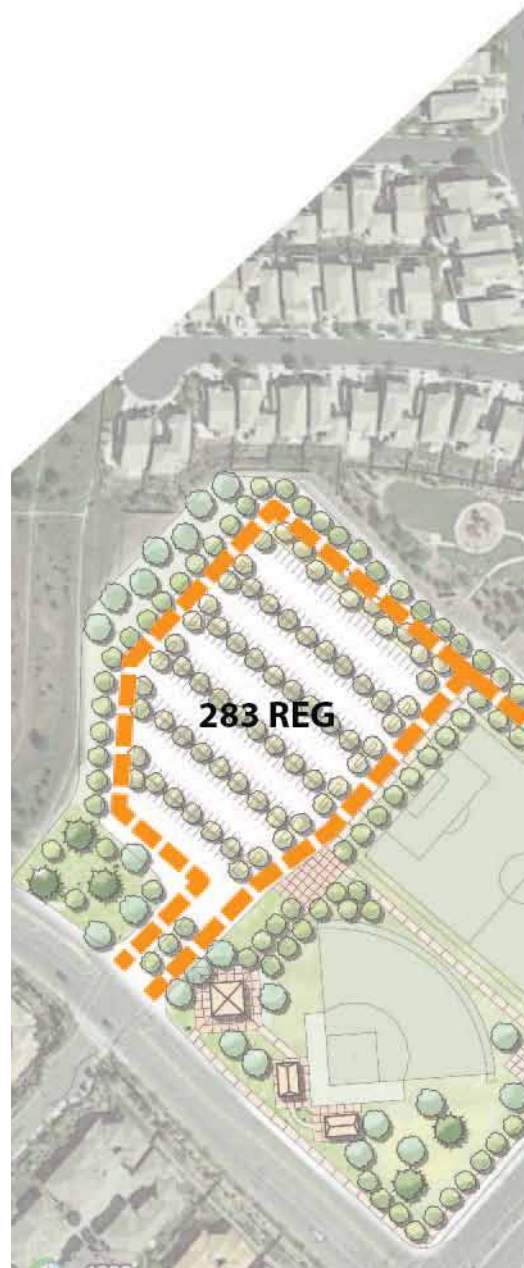
Vallejo Traffic/Parking

For the original campus, the Master Plan proposes to maintain the existing entry/drop-off, the parking loop through the existing parking and the loop road around the back of the existing building. To help address the confusion created by a large drop-off zone, the Master Plan proposes to add a new island in the existing drop-off zone, which will help direct cars to the actual drop-off area in front of the existing Center.

For the upper campus the Master Plan proposes to utilize the existing entry/exit off North Ascot Parkway, creating a loop road that leads to the drop-off between the two new future buildings. Secondary exits are provided to the south.

With the addition of the Autotechnology building and yard, the original campus can not add significant amount of parking (just another 9 stalls). Therefore future parking needs will be accommodated on the upper campus site. Given the existing topography on the upper site it is feasible to do a one-story parking deck on the western portion of the site along with a surface parking lot on the east side. The top story of the parking deck should be flush with the surface parking in front of the future buildings, if possible. This parking combination adds approximately 500 parking stalls to the campus, taking into consideration areas reserved for future buildings on this site. The addition of this parking can be phased: the surface parking lot could be built first and the parking deck later as future buildings are added.

Please note that the exhibit to the right identifies *existing* disabled parking stalls and does not identify future ones that will be provided as parking is expanded. The number and location of disabled parking stalls will need to be determined by each parking project, and should either meet code requirements at the minimum, or exceed them *if* the District determines they need more than code minimum.



Vallejo Infrastructure

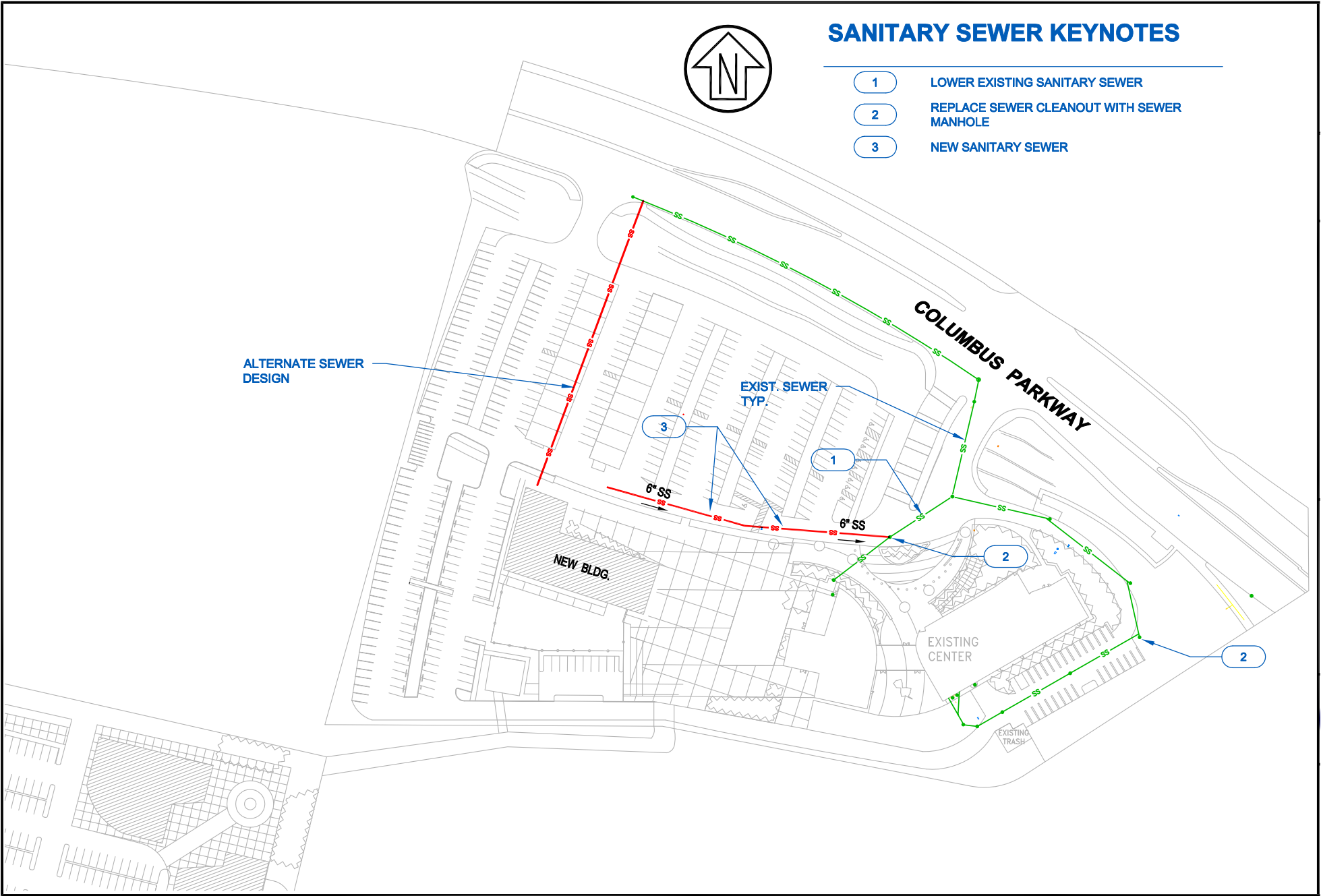
The purpose of the Infrastructure Master Plan is to show future utility improvements that are required due to the existing condition of those utilities, and to support future buildings and renovations proposed in this Master Plan. Details on the existing capacity/condition analysis, the assumptions made for future buildings and renovations, and the opinion of probable construction costs for identified improvements can be found in the Chapter on Infrastructure Assessments, found in Book 3 of the Facilities Master Plan.

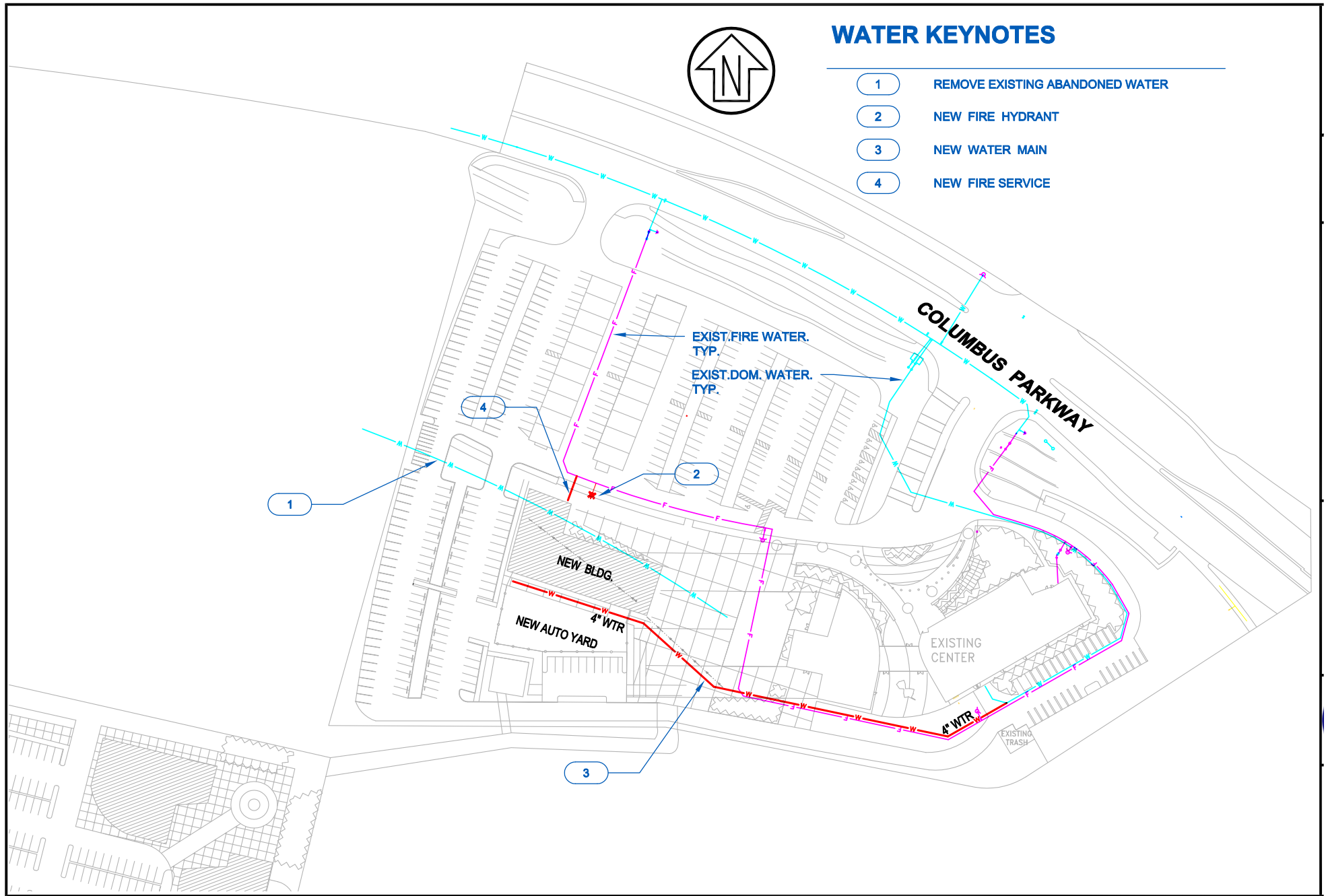
Sewer System

The new building on campus will require extending the existing sewer system to the east with a new 6 inch sewer lateral to serve the new building. In addition to the new pipe, a 85 foot section of existing 6 inch sewer will need to be lowered in order for the new 6 inch pipe to have positive slope and connect to the existing system. The new 6 inch pipe will have minimal cover, so an alternative design would be to leave the existing sanitary sewer system in place and provide a new 6 inch service lateral directly to Columbus Parkway.

We would also recommend replacing two of the existing sewer cleanouts with sewer manholes for better maintenance access to the existing system.

Exhibit to right identifies future sewer layout and sizes.





Potable Water

The new building on campus will require extending the existing 4 inch domestic water line from the back of the existing building with a new 4 inch water line that continues along the south side of the existing building to the south side of the new building.

There is an existing abandoned water line on site that should be removed to avoid any potential conflicts with the new building foundation.

Based on our Capacity analysis, the existing 4 inch domestic water line has the capacity to serve the demands of the new building.

Fire Water

The new building on campus will require a new fire hydrant and fire service connection off the existing 10 inch fire line.

Exhibit to left identifies future water layout and sizes.

Storm Drain System

The new building on campus will require new storm drain facilities to convey storm water runoff from the new building roof and Auto yard area to the existing parking lot bioswales for treatment.

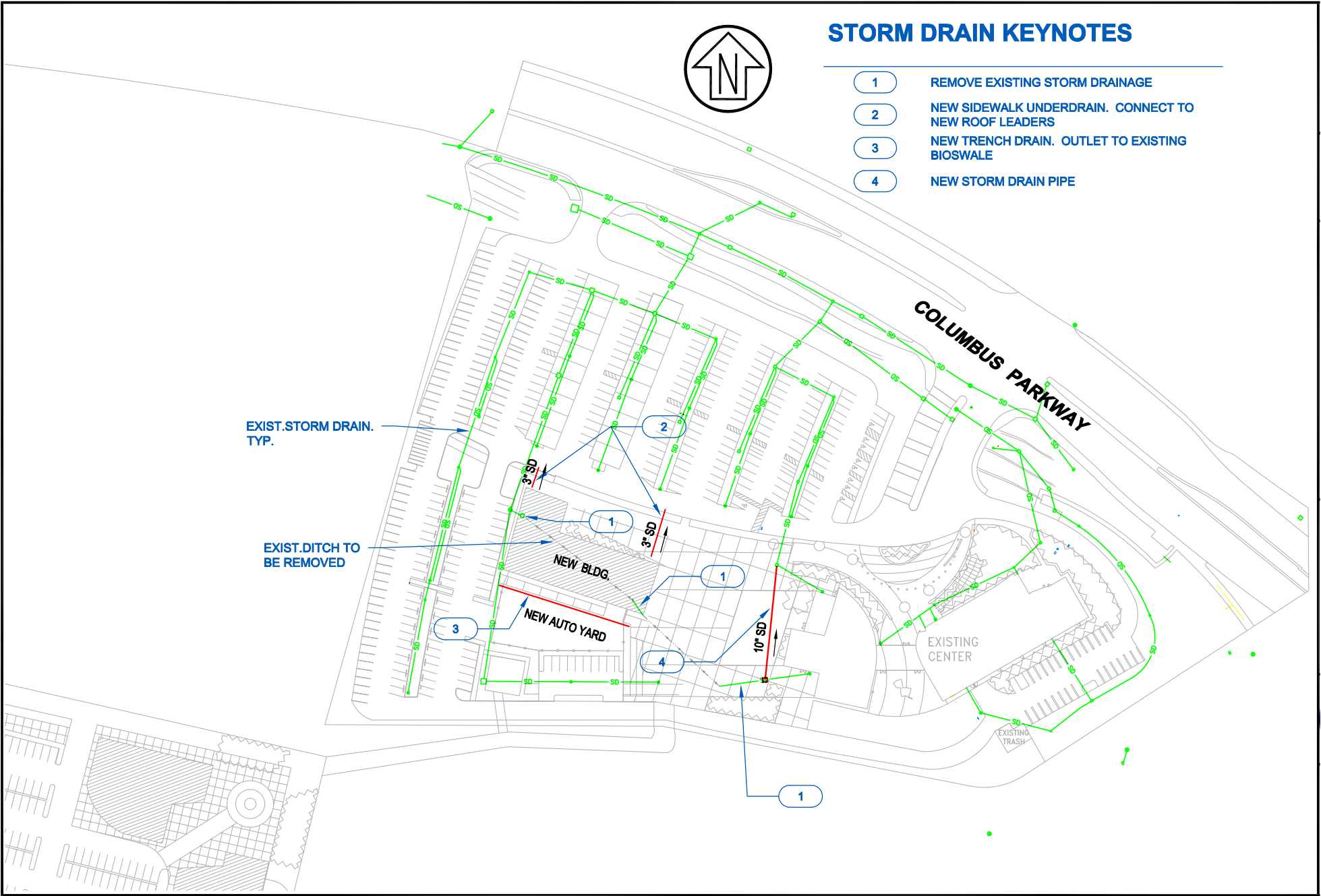
The roof downspouts can connect to 3 inch diameter sidewalk underdrains which will outlet through the face of curb and sheet flow to the existing bioswales. The Auto Yard can drain to a slotted trench drain which can also outlet through the face of curb and sheet flow to an existing bioswale.

The new building is also located over an existing ditch which conveys runoff from a portion of the existing building. The ditch will be abandoned and the existing building runoff will be re-routed to a new 10 inch storm drain pipe and connected to an existing 15 inch storm drain pipe.

Exhibit to right identifies future storm drain layout and sizes.

Chilled Water and Hot Water System

Due to the minimal expansion of this campus, we do not believe that neither a chilled water nor heating hot water central plant would be justified. It is expected that more energy efficient approaches can be provided for each of the smaller buildings as they are designed/ constructed.



Vallejo Accessibility

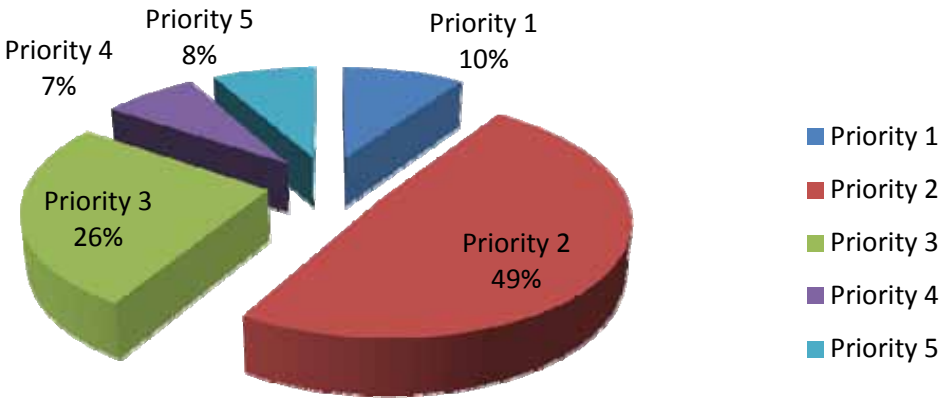
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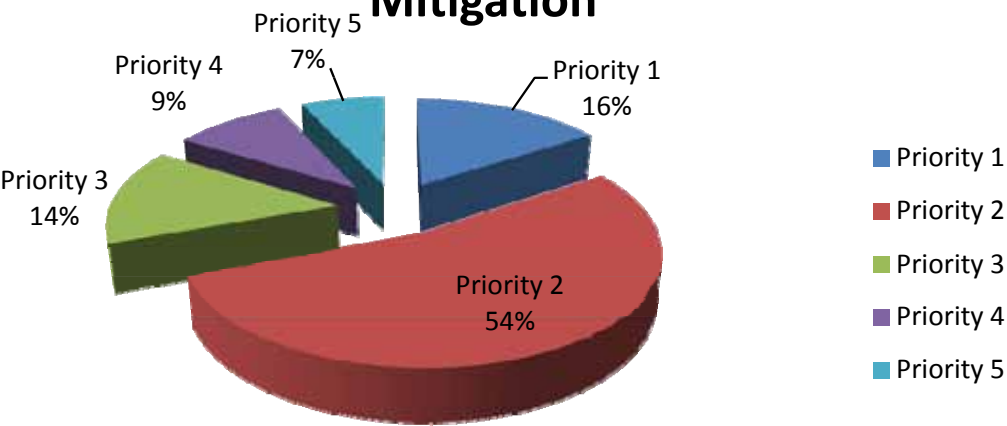
Working with the District’s Accessibility Committee the Program Barriers were prioritized and the exhibit to the left provides a breakdown of the Vallejo Center Program Barriers by priority. On the next page is an overview of the Accessibility Transition Plan findings as they apply to the Vallejo Center. For findings regarding Vallejo campus exterior spaces, more detail on each Program Barrier and the Priority Criteria please see the full Accessibility Transition Plan provided in Part IV of this document.

Vallejo	No. of Code Violations	Preliminary Cost Estimate for Mitigation
Priority 1	13	\$ 11,180.00
Priority 2	66	\$ 37,815.00
Priority 3	35	\$ 10,130.00
Priority 4	10	\$ 6,573.00
Priority 5	11	\$ 4,899.00
TOTAL	135	\$ 70,597.00

No. of Code Violations



Preliminary Cost Estimate for Mitigation





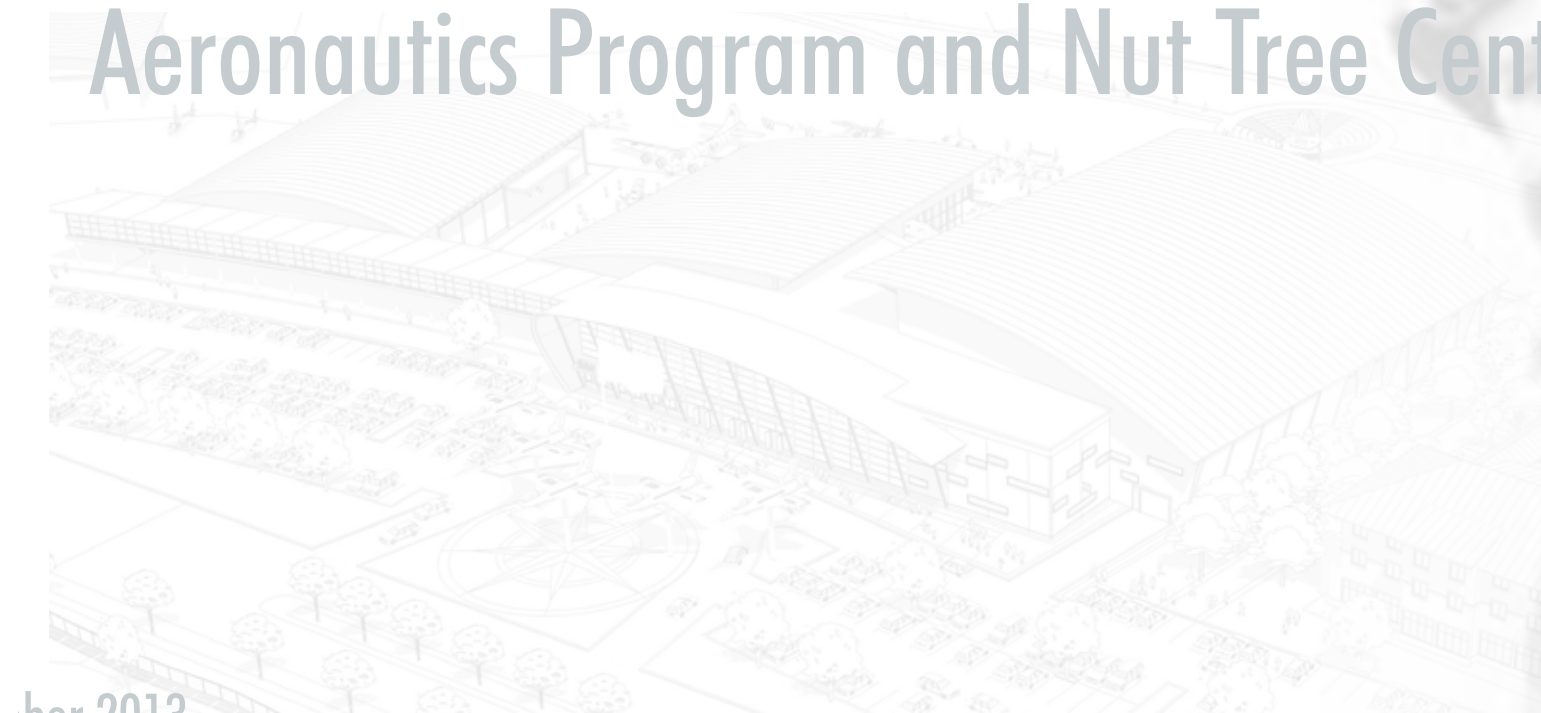
VALLEJO ACCESS PROGRAM BARRIERS SUMMARY

JIMMY DOOLITTLE Center

Solano Community College
Aeronautics Program and Nut Tree Center



SCCD
Fostering
Partnerships



May 2012

NUT TREE MASTER PLAN

Overview

The District is exploring a partnership with the Jimmy Doolittle Center to expand its successful Aeronautics Program at Nut Tree Airport and offer additional programs. The following exhibits created by JRDV Urban International describes the conceptual idea behind a joint-use Jimmy Doolittle Center and Solano Community College Nut Tree Campus.



The JDC / SCC Nut Tree Campus will create

A Self-Sustaining Education Center that will become a National and Regional Destination.



JIMMY DOOLITTLE Center

• October 2013

2

The Master Plan will become an economic catalyst for: the County Airport, Retail and Tourism, Technology Companies and Employment, Hotel Tax Base and Regional Identity.



JIMMY DOOLITTLE Center

• October 2013

4

The JDC / SCC Nut Tree Campus will create

It will become a National Center for: Education, Leadership, Patriotism, Innovation and Technology



JIMMY DOOLITTLE Center

• October 2013

3

It will create a shared resource for the County:
Providing Meeting and Conference Facilities that can be used by businesses, institutions and the community.



JIMMY DOOLITTLE Center

• October 2013

5

Parcel Plan



JIMMY DOOLITTLE Center

• October 2013

6

Development Program

Jimmy Doolittle Center – approx. 140,000 sf

- Education Center
- Multi-purpose Meeting and Conference Center
- Café and Retail
- Historic Airplane Collection
- Access to Nut Tree Runway for visiting and permanent airplane use

SCC Nut Tree Center – approx. 40,000 sf

- Aeronautics Program
- Restoration Center
- Corporate Training Center

Hotel

- 150-200 rooms
- Restaurant with overlook to aviation apron area

Parking

- 300-400 JDC/SCC shared parking spaces
- 150-200 hotel parking spaces

Park and Open Space

- 4.5 acres of dedicated public access open space
- Creek restoration

Site Plan



JIMMY DOOLITTLE Center

• October 2013

8

Development Program

Jimmy Doolittle Center – approx. 140,000 sf

- Education Center
- Multi-purpose Meeting and Conference Center
- Café and Retail
- Historic Airplane Collection
- Access to Nut Tree Runway for visiting and permanent airplane use

SCC Nut Tree Center – approx. 40,000 sf

- Aeronautics Program
- Restoration Center
- Corporate Training Center

Hotel

- 150-200 rooms
- Restaurant with overlook to aviation apron area

Parking

- 300-400 JDC/SCC shared parking spaces
- 150-200 hotel parking spaces

Park and Open Space

- 4.5 acres of dedicated public access open space
- Creek restoration

Site Plan



JIMMY DOOLITTLE Center

• October 2013

7

Programs and Activities include:

'Hands-on' learning Programs

Innovative new approaches that excite, engage, and transform our next generation!



JIMMY DOOLITTLE Center

• October 2013

9

Programs and Activities include:

'Living' Exhibits

Providing Real experiences with the History,
Technology, and Wonder of our Aviation Legacy
- Take a flight in Tondelayo



JIMMY DOOLITTLE Center

• October 2013 10

Programs and Activities include:

Community Conference Center

Providing a critical resource for the
Community and Businesses in Solano County



JIMMY DOOLITTLE Center

• October 2013 12

Programs and Activities include:

Visiting Scholars, Entrepreneurs, and Leaders program

Inspiring the next generation of Innovation,
Patriotism and Leadership for America



JIMMY DOOLITTLE Center

• October 2013 11

Programs and Activities include:

Revived hub for private Aviation Activity

Building a Hotel, Restaurant, and Regional
Destination that the Nut Tree once had!



JIMMY DOOLITTLE Center

• October 2013 13

The Partnership with Solano Community College is already under way.



Next Steps



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Fairfield, Vacaville and Vallejo Campuses



SITE SIGNAGE MASTER PLAN

Purpose and Process of the Signage Master Plan

The Site Signage Master Plan analyzes the wayfinding challenges and identifies future opportunities for improvements at Solano Community College as it embarks on major improvements over the years to come. The purpose of this report is to establish a comprehensive wayfinding philosophy and design approach for all campuses. This Master Plan includes site observations, analysis, sign location plans for all three campuses, sign family, sign content and design. The documentation includes two sign location plans for each campus (one for vehicular wayfinding and one for pedestrian wayfinding), and the approved schematic design concept of major sign elements. Refinement of the sign locations, messages and design will continue as the development of the sign program progresses.

Process

THE SIGNAGE COMMITTEE

The input and guidance from the Solano Community College Signage Committee was essential in the development of this Site Signage Master Plan. Kate Keating and Associates (KKA) conducted three meetings and presentations to the group. The first meeting was to familiarize KKA with: typical first time visitor circulation and destinations; other campus-specific wayfinding issues, as well as the College's overall branding and image goals. The later presentations involved the development of the programming (sign locations and content) and design of the site signs.

DISTRICT GOVERNING BOARD

One meeting was held for the Solano Community College District Governing Board. As a part of the regular Board Study Session, KKA presented an overview of the Signage Masterplan.

MEASURE Q COMMITTEE

The Measure Q committee, a combination of the the Board of Trustees, Deans, Vice Presidents, Student Affairs and other interested faculty, was the final decision making group in the refinement and

finalization of the Sign Family design. The Committee's input is a valuable component of the development of the Site Signage Master Plan. Each member brings a unique voice to the process and depth of history with the College. Their input was central in developing a sign program that addresses needs specific to the Solano Community College.

ADDITIONAL INPUT

KKA conducted site walks and a photographic survey of existing conditions at all three locations, assessed the circulation of existing signage and building numbering system and researched the city sign ordinances in Fairfiled, Vacaville and Vallejo.



South Gate



Existing Library



Existing Monument



Existing Vehicular Directional



Campus Interior Views



Main Entrance

Vehicular Wayfinding Analysis

MONUMENT SIGN

It is important to have a Monumental Gateway sign at the entry points to identify the campus. This is the college's front door and it needs to reflect the college's values and commitment to the community. The current Fairfield gateway signs include readerboards and do not create that welcoming front door experience. Additionally, the size of the current readerboards are not sufficient for vehicles traveling on Suisun Valley Road at the speed limit of 35 mph. In discussions with the committee members, separating the monument from the readerboard and integrating the reader board into the campus buildings would be a more successful approach.

VEHICULAR DIRECTIONALS

Vehicular signage needs to safely direct visitors to the most appropriate parking lot. The existing vehicular directional signage is located upon entry at the North Gate. It includes a large number of destinations in alphabetical order. In wayfinding, it is important to direct the visitor without overwhelming them with too much information and to list destinations in the order in which they will arrive. A well-developed hierarchy of information that lists messages that address major destinations is therefore critical for successful wayfinding.

Pedestrian Wayfinding Analysis

PEDESTRIAN DIRECTIONALS

There are currently two very large maps on campus that are inappropriately scaled for pedestrians and do not comply to accessibility standards. One is located on the edge of campus near the bus stop, and the other is in front of the library.

Overall, the campus currently lacks a consistent system of wayfinding components that assist pedestrian wayfinding.



North Gate





Pedestrian Wayfinding Analysis

BUILDING IDENTIFICATION

The Fairfield campus identifies buildings with an address consisting of four digit numerals that are placed vertically on the building exterior for visibility from a distance. The placement of the address varies from building to building. In some locations the address is challenging to see because landscaping obstructs the view.

As a secondary location, the address and building name are placed near or on the entry doors. This is typically vinyl on glass.

Generally, the signs are not consistently placed or aesthetically pleasing.



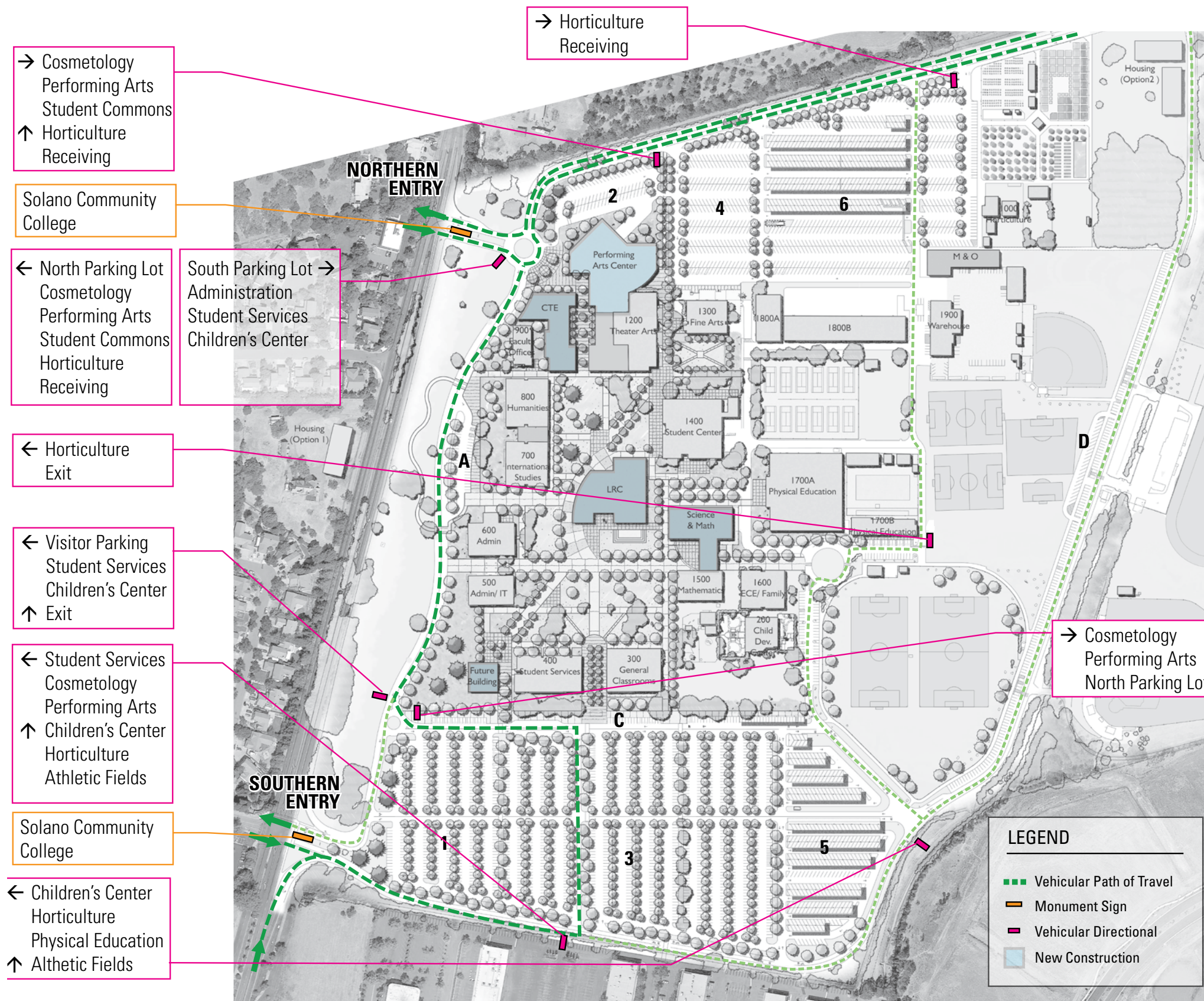
Fairfield Campus Signage

The Fairfield campus is the largest campus for Solano Community College and will set the example for all other campuses. It is situated in an area consisting of residential neighborhoods, office businesses and natural open landscape. The campus building architecture currently has a mission influence with arches, warm tones, and terra cotta colored roofing.

The arterial road is Lincoln Highway/Suisun Valley Road which is a major exit off the the freeway. The primary flow of traffic is northbound on this road, therefore the main entry point of the campus is identified as the southern entry. The secondary entrance, northern entry, takes you directly to north side of the campus.



FAIRFIELD MASTER PLAN VIEW



FAIRFIELD: Vehicular Sign Locations

This diagram shows the vehicular path of travel and identifies the main entrances to campus, the Southern Entry being the primary entry. At each entry a monument sign (shown in orange) is located with the College Name/Logo and Campus name.

At each intersection where there is a decision point, a vehicular directional sign is located (shown in magenta). These signs list destinations in a sequential manner, which helps guide the driver to his final destination. The destinations listed are oriented for first time visitors.

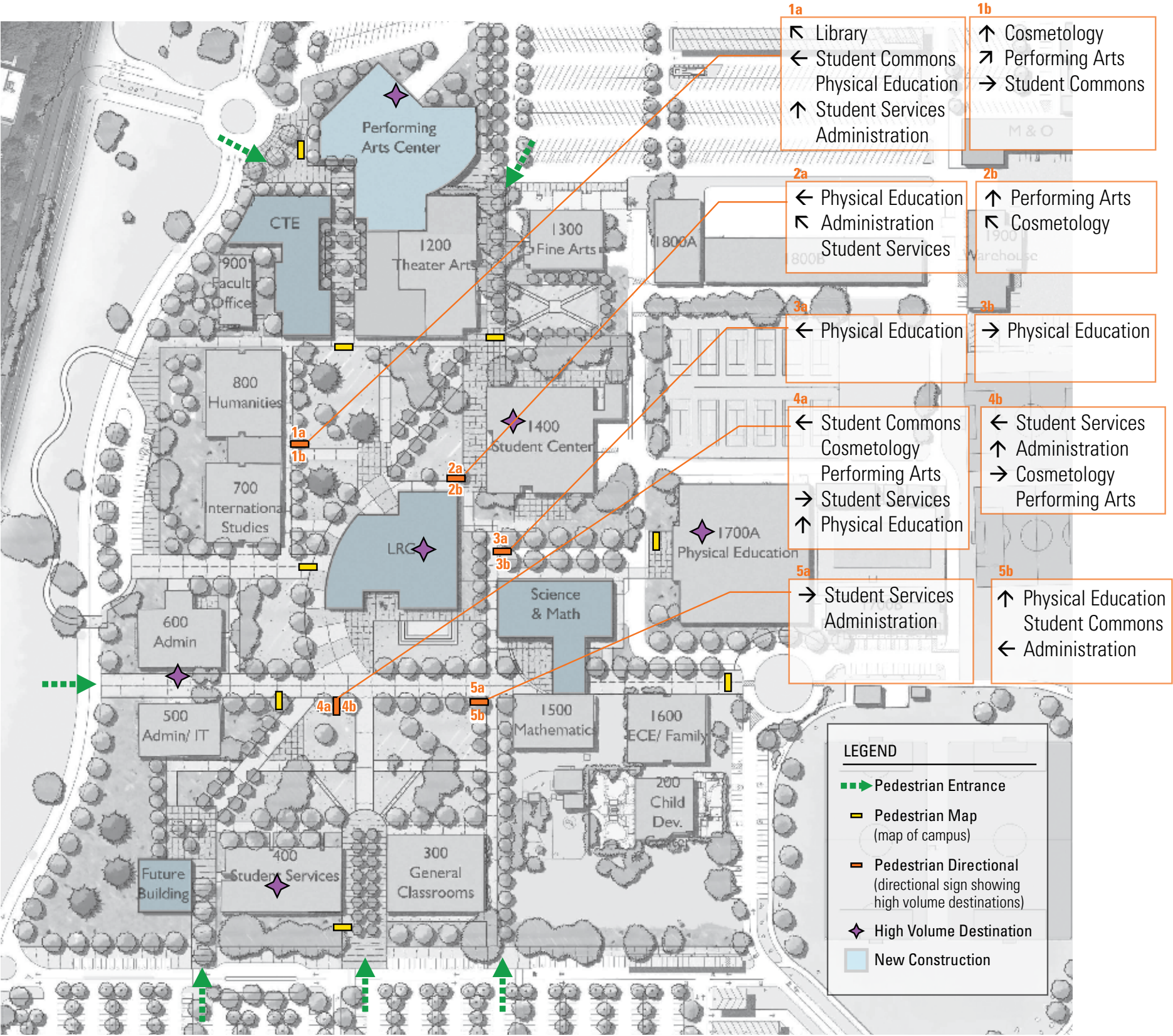
Parking lot identification signs are used to display parking restrictions, permitting, etc. These signs are to be clearly visible, and typically located at parking lot entries.

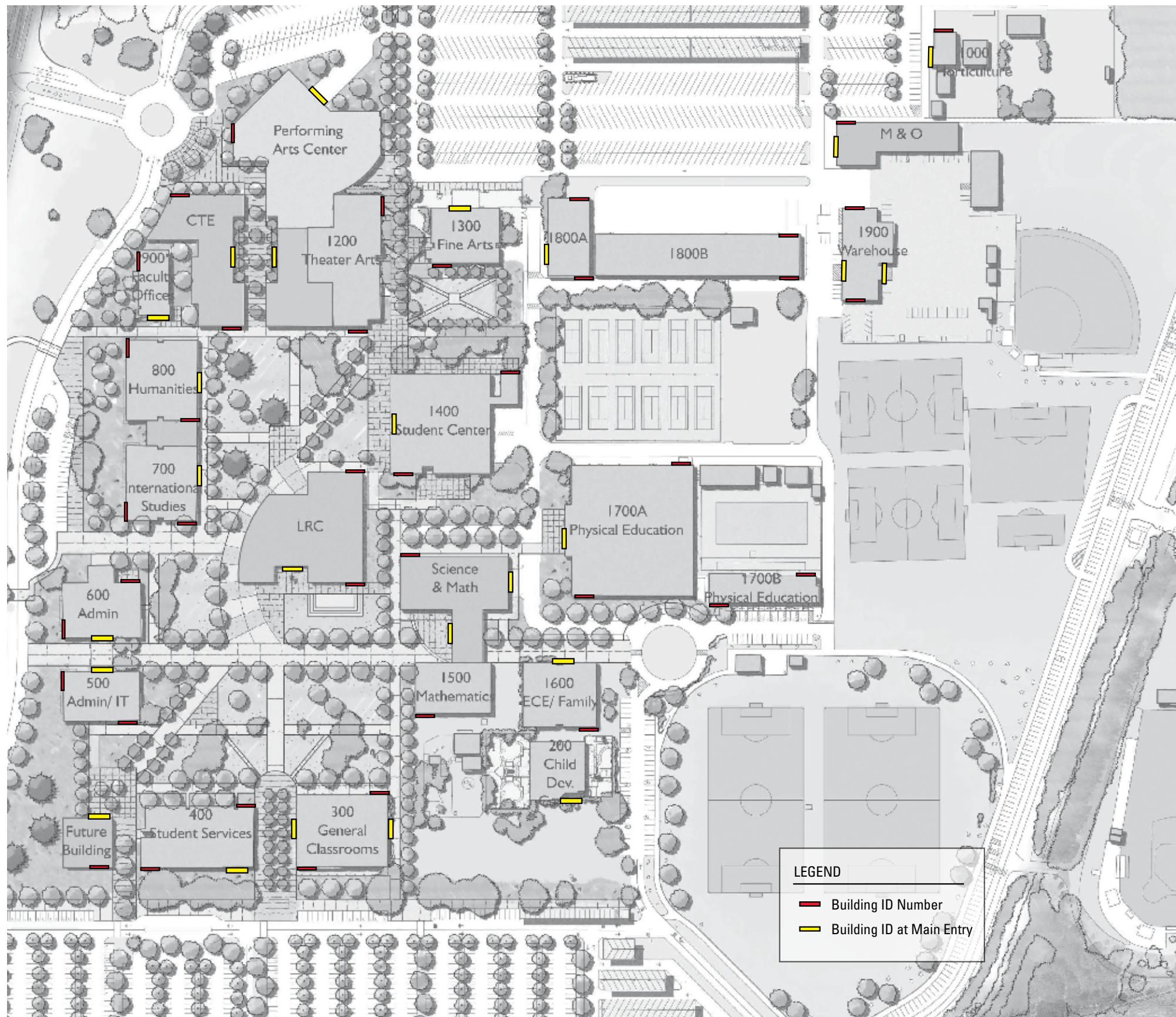
FAIRFIELD: Pedestrian Sign Locations

The goal of the pedestrian sign program is to provide necessary wayfinding information for the first time or infrequent visitor. However, the project must balance that goal with the overall campus aesthetic. Many students, staff and faculty “live” on campus and for them, the landscape should be beautifully integrated.

This diagram shows the major pedestrian entrances onto campus and indicates the high volume destinations. Campus maps are located at the primary campus entry points. It is important that pedestrians are greeted with maps because they offer an overview of all campus destinations and are the best tool to orient a visitor to the whole campus.

Further along the pathways leading into the heart of the campus, pedestrians are supported by directional signs that list destinations with a high volume of first time visitors, ensuring they reach their destination. These signs are double-sided, making them functional for people walking in both directions.





Building Identification

This diagram shows possible locations for building identification signs. It is proposed that there be numbers on the buildings supplemented by a building identification at the main entry doors to reaffirm the student/visitor has arrived to the correct building. Effective building identification also assists in an overall campus orientation tool.

Vacaville Signage

The Vacaville Campus is primarily surrounded by residential areas, corporate business and open space. The North Village Parkway entry is the main ceremonial entrance which is located at a very large intersection off of two major freeway exits. Most visitors arrive by car from the Vaca Valley Parkway and the North Village Parkway.





VACAVILLE: Vehicular Sign Locations

The location where Vaca Valley Parkway and North Village Parkway intersect is an excellent opportunity to create a highly visible and ceremonial gateway for the College (Gateway signs are shown in purple).

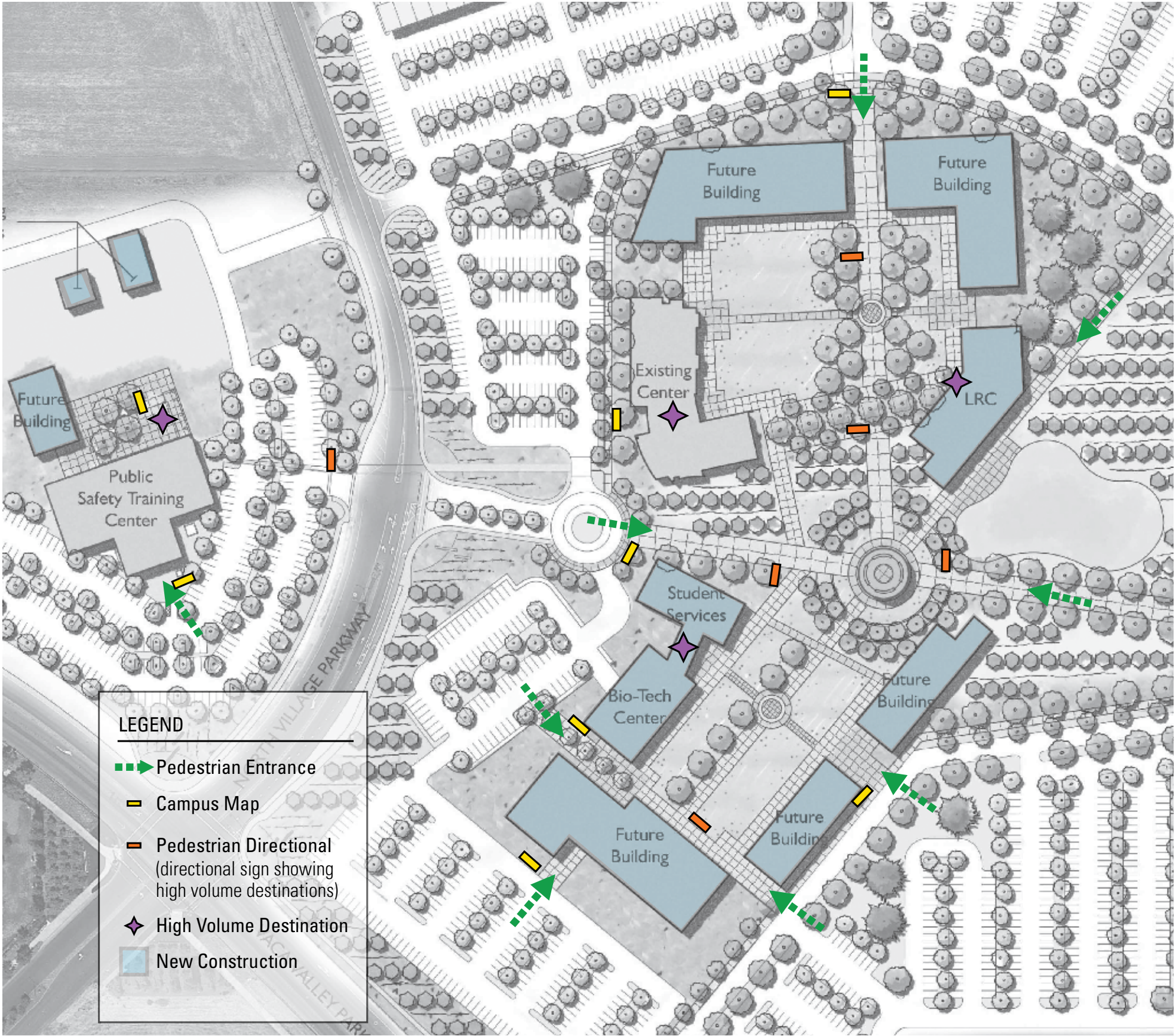
North Village Parkway is a public road that bisects the campus. Banners along this artery are an opportunity to further brand and “stitch” the two sides of the campus together.

Vehicular directionals and pedestrian directionals at the center direct visitors and students to the appropriate destinations, and also make an additional visual and brand connection with the annex across the North Village Parkway.

Pedestrian Sign Locations

The pedestrian sign locations will be integrated with the paving and landscaping patterns that frame the pedestrian pathways and views. This campus has primary, secondary and tertiary pathways. The primary are the major pedestrian thoroughfares of the campus that accomodates high traffic volumes. This pathway is where signage will be located.

The signage will be located along the primary path where first time visitors are most likely to circulate. This approach will reinforce landscape masterplan concepts and leave quieter more contemplative areas of campus more open.





Vallejo Signage

The Vallejo center consists of the original campus at Columbus Parkway, and upper campus expansion connected by a ramp, and athletic fields at the corner of North Ascot Parkway and Turner Parkway.

The campus is primarily surrounded by residential areas, retail business, and open space. Most visitors will be arriving by car from Columbus Parkway for North Ascot Parkway.

Vehicular Sign Locations

Gateway signs will be located the the main entrances to the campus: Columbus Parkway entrance leading into the main plaza, North Ascot Parkway where the southern buildings will be located, and the entry to the Recreational Fields.

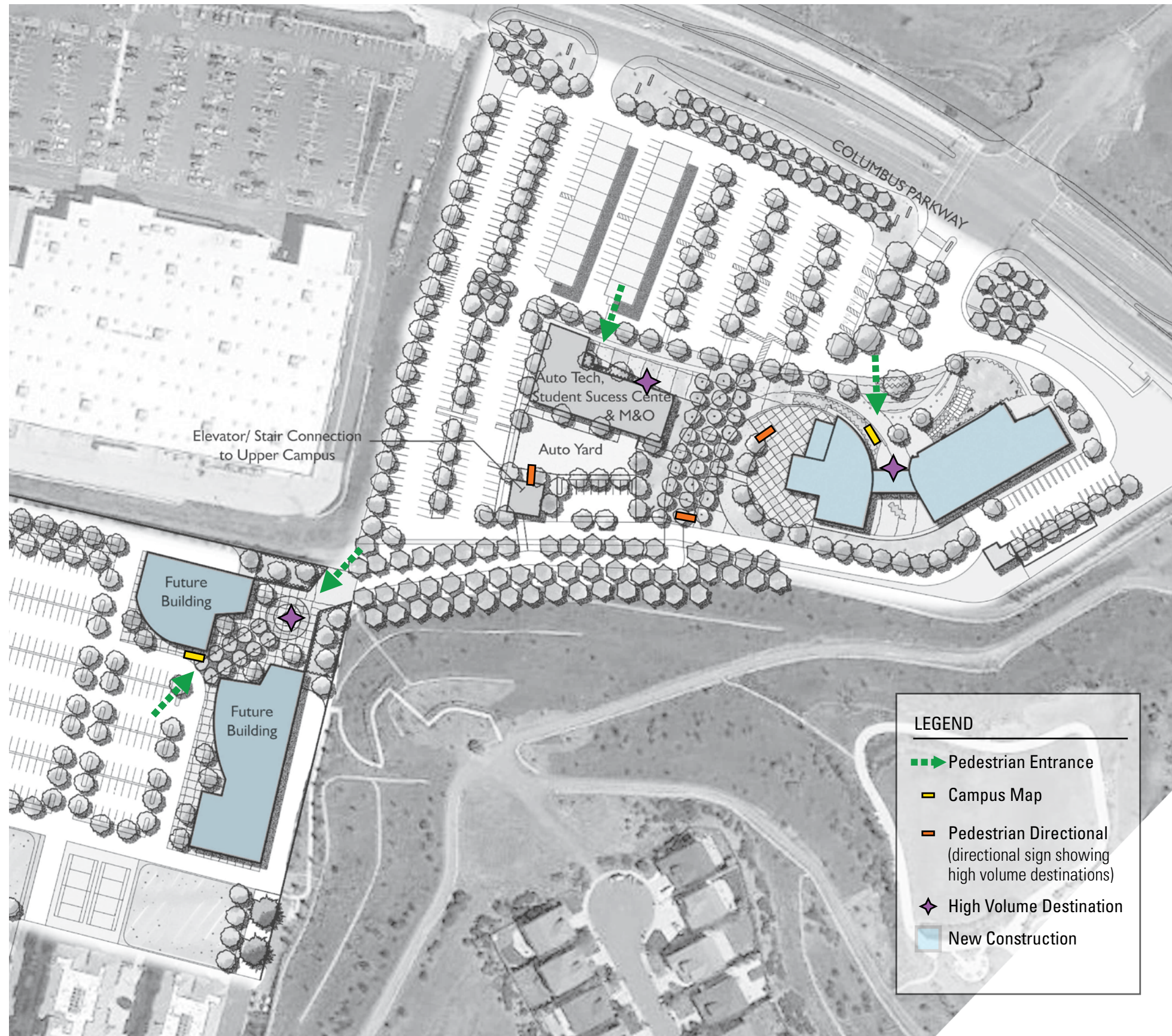
In the future, as the Facilities Master Plan is built, this campus would benefit with the addition of banner signs that would unite the three parts of the campus.



- LEGEND**
- Vehicular Path of Travel
 - Gateway Sign
 - Vehicular Directional
 - Parking Lot ID
 - Banner
 - New Construction

Pedestrian Sign Locations

Pedestrian directionals are essential at this campus to unite the lower level at Columbus Parkway to the upper level at North Ascot Parkway. Locations of these signs will be on the primary pathways.



Sign Family

SIGN FORMS

The design of the sign family is influenced by the land formations and native plants species of Solano County and presents a clean contemporary image for the College. The signs have pre-cast concrete pedestals with imbedded impressions of a local native plants on the surface. The sign panels have a curved asymmetrical top that echoes the forms of the rolling hills of Solano County. These sign forms will be used at all of the Colleges facilities to aesthetically unify all three locations.

COLOR

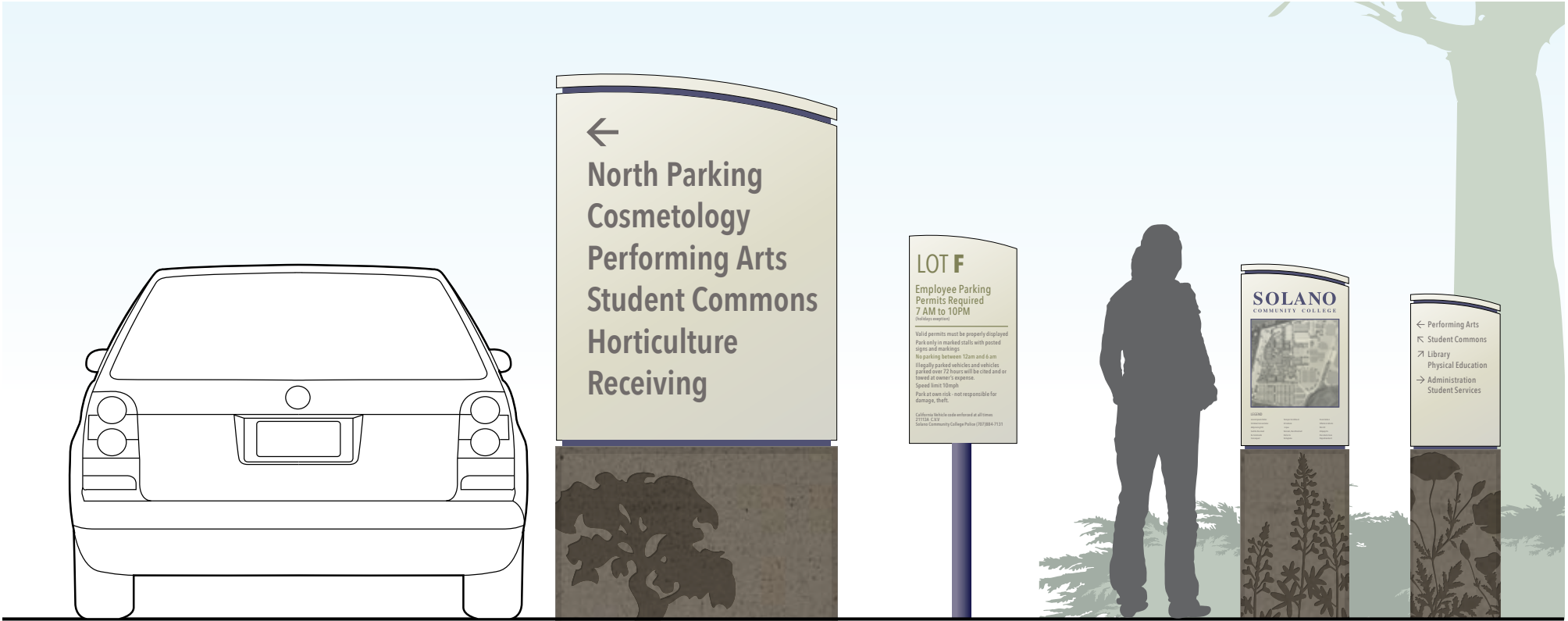
The cast base is a dark natural tone that will anchor the sign. The aluminum sign faces will be a warm metallic champagne tone that will be a neutral addition to each campus as they begin to develop new buildings with a variety of colors and finishes. The color for typography and smaller sign details will be a blue, inspired by the Solano Community College brand. As the development of the signage program continues, specific colors and mock-ups will be studied prior to selecting the final palette.

BRAND AND TYPEFACE

The original Oak tree from the Solano Community College logo and Fairfield campus is interpreted and imbedded into the entry monument and vehicular directional signs. The typeface chosen for the signage is Avenir Next. It is a highly legible font that functions well for vehicular signage. It will enable smaller sign sizes with greater legibility and is compatible with the Solano Community College typeface.

LIGHTING

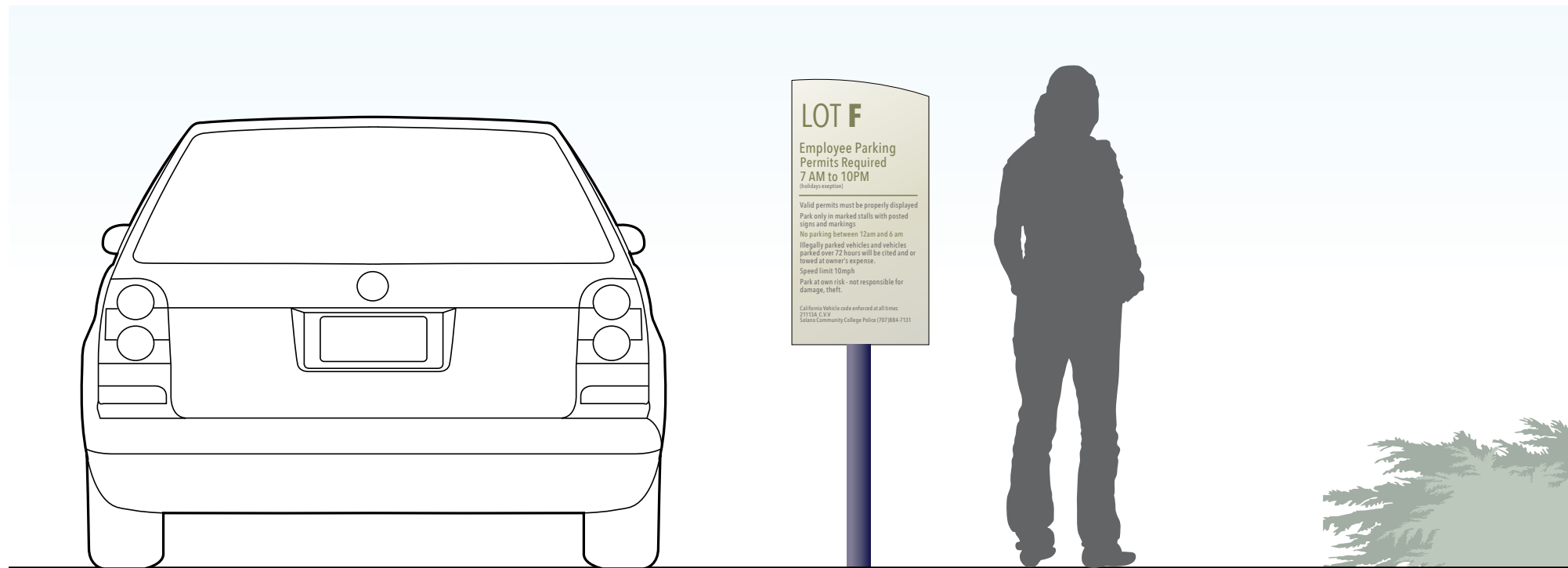
The monument signs will utilize a combination of internal illumination techniques. All other sign types will be ambiantly lighted by campus light standards.





Vehicular Directional

Vehicular Wayfinding



Parking Lot ID

Pedestrian Wayfinding



Campus Map

Pedestrian Directional



Pedestrian Wayfinding

BUILDING IDENTIFICATION

Building Identification is an important part of wayfinding for students and visitors to reach their destinations. The building identification should be clearly visible.

It is proposed to pin mount numerals to the building painted in a contrasting color to the wall. The placement of the numbers would be consistent to the best ability.



Fairfield Monument Sign





Vacaville Gateway Sign

GATEWAY

This sign will be integrated into an existing wall. It would be beneficial to replicate this wall on the opposite side of the street to create a symmetrical experience that unifies the two sides of campus.

Easements and property lines need to be further researched.



Vallejo & Vacaville Monument Sign

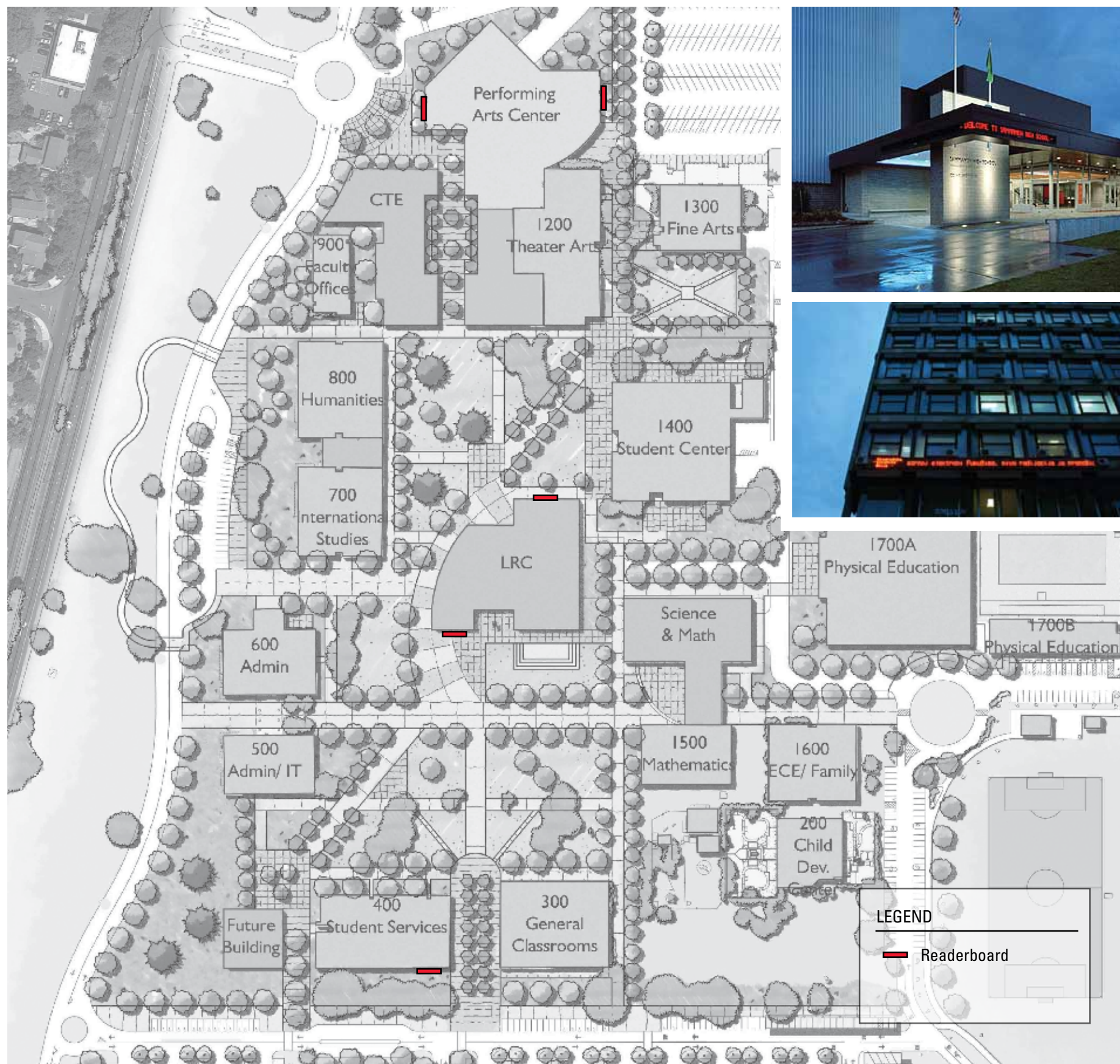
These monuments are repurposing existing concrete bases, but create a much more prominent statement



Vallejo Rendering



Vacaville Rendering



Reader Boards

It was determined that the reader board would be most successful if it were integrated into the campus space rather than on the main monument signs. This diagram shows possible locations of the reader board on the Fairfield campus. The new reader board locations will be architecturally integrated on buildings that relate most to the need for public messages such as: Theater and Admissions.

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Foster
Excellence in
Learning



FF&E MASTERPLAN

Overview of Fixtures, Furniture and Equipment Master Plan

Fixtures, Furniture, and Equipment, also known as “FF&E”, is a critical aspect of the college environment. This asset supports all aspects of the user’s activities, from teaching to learning, and ranges from desks and chairs to lab equipment. The following chapter provides an analysis of how FF&E has been addressed within the District, and defines best practices to achieve more effective outcomes over the coming decade. A committee of District-wide representatives participated in the creation of this information, bringing a broad perspective to the discussion and enabling a strategic approach to be applied to these vital tools.

FF&E Guidelines

The following constitute the Fixtures, Furniture and Equipment (FF&E) Master Plan and Guidelines.

EXECUTIVE SUMMARY

Over the past decade, Solano Community College District has undertaken a major effort to transform its physical environment through the construction of new facilities and the renovation of others, initially funded by Measure G, a local general obligation bond passed by the voters in 2002. The scope of those projects have addressed many of the College's physical needs identified through previous assessments. With the successful passing of the Measure Q bond in November, 2012, the District recognized that certain aspects of **effective planning** were lacking. A significant aspect has been FF&E. This important component of the environment has created resource challenges due to ineffective planning at the proper time in a project, replacement requirements due to poor product quality, increased labor requirements to maintain and support the items, and field change orders to accommodate FF&E into the physical space.

In 2013, the District developed a new Educational Master Plan, and subsequent Facilities Master Plan, in order to guide the further development of the facilities to support the goals of the community. As a part of that process, this Fixtures, Furniture & Equipment (FF&E) Master Plan was created as a component of the Facilities Master Plan in order to assure congruence with the goals and objectives defined by the District. The 2014 FF&E Master Plan process has analyzed and integrated the opportunities for improvement regarding FF&E planning as it has been executed over the previous decade. Through in-depth interviews with key administrators and college staff, the committee has identified many gaps in process, decision making and funding adequacy relative to FF&E investment. Based upon these issues, the

committee has developed a series of recommendations that will result in a comprehensive approach to identification and fulfillment of FF&E requirements. Issues highlighted include the need for **educational adequacy** of FF&E items and related support requirements, **appropriateness of investment** in FF&E for the diverse requirements of the college, and the need for **minimum benchmarks for consideration** in order to assure the outcomes demanded by the community as a whole.

The strategies laid out in this master plan insure that effective FF&E planning will support the goals of all involved entities within the organization, assuring effective implementation based on total cost of ownership over the life of the purchases. It provides a framework for making decisions that support wise investments, while highlighting the District's commitment to sustainability in the community. It also identifies a clear picture of how FF&E will be integrated into the daily fabric of the college's environment, from day to day purchases to capital project development and implementation. Aspects of Need Identification, Performance Expectations, Building Interface, and User Engagement have been outlined to create best practices relative to this aspect of the District, and to assure the various stakeholders that the investment in these tools will appropriately address the needs of those with whom they come in contact. This includes the specific users, District and College Support Staff, students and funders.

Each course of action outlined in this document is intended to guide **effective decision making**, using specific metrics to ensure success of the program. They will also allow participants to concentrate on their own core responsibilities, knowing that overall requirements and business objectives have been addressed. The plan does not delve into the specific items that may be required for a project or program need, but provides the framework necessary to assure a successful outcome. The intention is to allow Solano CCD to become a "gold standard" for this aspect of their program. The application of specific recommendations regarding project engagement at each location within the District has been provided at the end of this document.



INTRODUCTION

A. PURPOSE

The recent economic realities that faced California and the nation hit publicly funded agencies especially hard. The situation has also been exacerbated by a public that is questioning college capital and operating expenditures on an increasingly frequent basis. During this period of addressing facilities issues, public agencies have the unique opportunity to leverage their buying power, reduce life-cycle operating costs, and provide maximum flexibility for their environments like never before.

California Education Code, as well as the Community College’s accreditation body (ACCJC) require the institution to document the utilization of the participatory governance process for all critical initiatives, including Educational, Facilities and related planning processes. The college’s Facilities Master Plan, which is grounded in the Educational Master Plan, is the foundation of long range planning for the built environment, providing a clear and executable roadmap to support the institution’s physical needs.

Fixtures, Furniture and Equipment (FF&E) can be the linchpin to a program’s success. These items are the tools which support a faculty member, staff member or student’s work towards achieving successful outcomes both operationally and financially. This plan outlines both the historical impact of FF&E within the District and the best practices of peers within the Community College environment. It recommends a specific process and protocol for addressing all future aspects of FF&E requirements to meet the goals of all related entities within the organization, from effective planning through lifetime ownership. It also provides a framework for making efficient and appropriate FF&E decisions that are based upon clearly defined desired outcomes. This master plan codifies an approach to FF&E based upon identification of specific driving principles to assure purchases provide maximum functionality and procurement methods leverage buying power, creating best value for the community as a whole.

B. PROCESS

The development of this document is a result of an intentional and structured process, organized around engaging the various appropriate stakeholder groups to identify both the challenges and goals related to FF&E and its ability to serve the mission of the District. The college retained Dovetail Decision Consultants, Inc., a strategic planning and consulting firm focused on FF&E within community colleges, to facilitate the college engagement, review current practices, identify broad based goals specific to implementing FF&E, and recommend strategies to address the long range objectives of the District. SCCD assembled a committee of District wide participants that included all constituencies. The processes occurred over a period of four (4) months, with monthly meetings to track progress and obtain input. A communication protocol was established early on, to assure effective information sharing and data gathered throughout the process.

- **Strategic Review**
 - Assessment of FF&E historical information
 - Departmental interviews
 - Collaborative key objectives discussions
- **Development of District Options**
 - Peer assessment and comparisons
 - Key issue validation
 - Development of preferred options
- **Collaborative Solution Development**
 - Development of District-wide plan & recommendations
 - Development of guidelines for each level of engagement
- **Documentation and Approvals**
 - Committee review and approval
 - Development of final master plan
 - Board presentation and acceptance (pending)

C. DEFINITION OF TERMS

Within the context of this document, various terms are used to define or qualify the information. The following definitions reflect the intentions of these expressions:

Existing Conditions: The condition, replacement value, and appropriate level of re-utilization of District-owned Fixtures, Furniture and Equipment, with the exception of Technology assets and Specialty Equipment.

Guiding Principles: Foundational principles utilized to develop process and standards recommendations, established by the District to assure effective use of resources.

Process Recommendations: Best practices and key factors of consideration for future FF&E procurement and implementation situations.

College Processes: Specific process recommendations for the implementation of FF&E in the support of the college’s mission, vision and values. These recommendations incorporate how to effectively address all aspects of FF&E, including atypical and specialty application requirements.

Project Recommendations: Detailed analysis and recommendations that guide the application of FF&E as the on-going Facilities Master Plan is being implemented throughout the college via specific projects.

KEY FINDINGS AND OBSERVATIONS

A. SUMMARY OF DISTRICT EMP AND FMP REVIEWS

As identified in the Educational Master Plan, the demographics of Solano College are in close approximation to that of the service area, and enrollment projections for the next generation are strong. The current population in the service area is expected to realize modest growth over the coming decades. Far more relevant is the high percentage of students whose educational goals are transfer to a four year institution (47% in 2010) and to obtain a degree or certificate (13%). Yet additional funding streams for many aspects of higher education continue to be put at risk by a myriad of factors, heightening the importance of spending every dollar today as

effectively and wisely as possible. The focus on sustainability as defined by true total cost of ownership demands a clearer pathway to justifying expenditures over a longer period of time, thus supporting more strategic decision making.

The District is in the process of finalizing the Facilities Master Plan (FMP) to insure all facilities are aligned with the vision for instructional and student services programs at each of the college locations. Throughout these two documents, several key issues have been highlighted.

- The District expects that it will be increasingly accountable to a variety of external stakeholders including local taxpayers, college constituencies, accreditation commissions, the State Chancellor's Office, local K-12 schools, and the public at large, among others.
- Changes in demographics and student expectations will drive environmental changes at a faster pace than in the past.
- The State Chancellor's Office has called on the system to refocus its mission toward strengthening basic skills, transfer opportunities, and career and technical education.
- Increased competition for students and market differentiation will directly impact decision-making regarding the physical environment over the coming decade.
- The fields of health and education services, information services, and life science industries are expected to drive much of the employment opportunities in the service area, directly impacting the need for competitive and effective programs in these areas.
- Growth of the individual schools over the next five (5) years will be largely determined by the ability of the college to develop alternative funding sources.
- Facilities within the District will most likely realize an increased demand for utilization as the issue of access is addressed, and should focus on optimizing existing campus and center locations.
- All decisions made regarding classroom environments are expected to be focused on supporting both current and future pedagogies.

- All physical environments are to be focused on supporting the goal of student success.

As stated in the EMP, Solano College is extremely mindful of the increasingly diverse ethnic population that it serves, and is committed to provide an environment that supports the needs and learning styles of such a community, across the campuses and District Facilities. The focus on students is a principle of the both master plans, which served as one of the foundational recommendations described in this FF&E Master Plan.

B. FF&E HISTORY WITHIN THE DISTRICT

The experience of the District relative to Fixtures, Furniture and Equipment (FF&E) over the past 68 years has been limited by the funding sources available, ranging from State Capital Improvement funds, local Bond measures, Instructional Equipment resources, and grants. The District evolved over decades, with the main campus in Fairfield being constructed under a local bond in the late '60s.

Since the completion of the Fairfield campus, additional projects of various sizes were funded in one of three ways: State Capital Outlay funds, Instructional Equipment funds, or Grant resources. While the State funded projects follow a prescriptive definition of "Group 2" which drove the timing and resource allocation of FF&E, projects funded through local bonds, Instructional Equipment and Grant funds come with no such restrictions. User groups were given either a great deal of latitude by the District to select FF&E, or were directed by Facilities to use a specific vendor. Decisions regarding which items to procure were made utilizing a loose structure of rules and/or limited selection criteria, often overlooking the ramifications of the decision to other impacted entities, such as Facilities, IT, M&O or future users. The range of outcomes from this approach have varied from well selected items that effectively lower operational expenses over time, to products that have not lasted even a few years, demanding replacement well ahead of anticipated timing.

In addition, the college has been without the benefit of effective strategies related to FF&E project planning, project integration, product selection, and benchmarking for desired outcomes. During the design of a building, as part of their standard scope of work, an architectural team would lead the building programming efforts,

with only a passing reference to the FF&E requirements. Placement of electrical and data locations, thermostats and other key building infrastructure was done without the benefit of looking at how the space might be used (from a realistic perspective) over the forty (40) plus years of utilization. User groups communicated desires and objectives for the space, including their ideas about FF&E (although this was typically focused on furniture and specialty equipment requirements, depending upon the project type), yet no one entity had responsibility and accountability for making certain that the FF&E was being fully addressed for the college.

Specific appropriate FF&E plans have not typically been developed by the design team, and the Business Services team would be brought into the equation at the 50% Construction point, following the state model. This approach created significant challenges for both the user group and the District. Lack of coordination meant that field change orders were required to adapt the building to the actual needs of the FF&E within a space. Relocation of power and data infrastructure, thermostats, and the like, to accommodate placement of FF&E led to significant cost and schedule impacts for the projects. Lack of furniture standards led to lowered buying power, lack of accountability for product viability, and a jumbled-looking environment. The lack of trained assessors to determine the disposition of existing FF&E assets resulted in inefficient use of current assets, and at times inappropriate





re-use of equipment, which caused operational issues within the modern buildings, and financial concerns for the District. Overall, the general lack of planning and effective integration became a focal point for the District.

C. PEER COMPARISONS

Community Colleges around the State have taken a wide range of approaches to FF&E planning and acquisition practices. The following list reflects peer comparisons from similar institutions in California, reflecting a variety of approaches. This information is intended to provide the results of analogous circumstances, and to provide context relative to the recommendations made by the committee.

Over a decade ago, following many instances of FF&E-driven field issues, Contra Costa Community College District (CCCCD) undertook a directed process of establishing District and then College Standards for both academic and administrative furniture and fixtures

applications. It has been the District's practice to provide a structured selection protocol for the building user groups, giving the users an appropriate level of choice while maintaining the performance requirement necessary to avoid premature replacement of their FF&E. The College Standards document included product finishes which were unique to the various colleges, in order to support their individual identities. Until recently, they almost exclusively used direct manufacturer contracts made available by the CollegeBuys program through FCCC for their typical furniture requirements, with occasional "one-off" approvals for specific needs. They utilize a performance-based process in order to develop the selection criteria necessary to evaluate product options, as well as to justify "Sole Source" requirements for specialty furniture and equipment needs. They have developed Building Design Guidelines for their project design teams to incorporate building interface requirements that support the user's needs for FF&E integration for the life of the facility. Currently CCCCDD tasks their architects and contractors with the FF&E responsibilities as a way to focus accountability for the integration of FF&E within the buildings.

In 2008, Yuba Community College District (YCCD), at the onset of their capital improvement program and at the recommendation of their Bond Program Management Team, sought a consulting partner to facilitate the development of Interior Space Design Guidelines in order to inform the project teams of how FF&E should be integrated into design from the beginning. College Furniture Standards (but not District Standards) were developed through a shared-governance process, and utilize a variety of procurement vehicles to obtain their FF&E requirements. YCCD's leadership chose to engage a FF&E Coordination Consultant for the first four years of their bond program, but due to the lack of funding for their bond program, these and all construction management services have been brought in house.

At the beginning of the modernization program, Alan Hancock College District (AHC) utilized the project architects to address FF&E planning. Following a series of mishaps and coordination challenges, the District chose to go through a coordinated process of evaluating and selecting a single manufacturer to address over 95% of their furniture needs. This began with the establishment of guiding principles intended to relieve some of the costly issues that they had previously encountered. A decision was made to only engage vendors

who hold a comprehensive, piggybackable contract to reduce potential issues of accountability. Multiple pre-vetted vendors provided typical product in two "furniture fairs", allowing the community to select from the options and establishing an appropriate baseline to address future projects. These standards were applied to two fast-track projects, and then were re-evaluated to confirm applicability and effectiveness. AHC also established finishes standards for academic and administrative furnishings, which are applied on a project by project basis. AHC utilizes a FF&E Coordination Consultant for their on-going modernization program, who is involved from Design Development through Occupancy of the spaces.

The College of Marin (COM) has not established a formal FF&E Standards, but does avail themselves of a few specific vendors who focus on Higher Education environments for their furniture needs. No decision making protocol is in place for this aspect of the modernization program, and no standards exist for Fixtures and non-Technology equipment. They have not engaged a FF&E Coordination Consultant in the design stage of their projects, but have recently engaged a project management firm to facilitate the procurement and implementation of the requirements as they approach occupancy. FF&E (both new and existing) continues to present logistical and financial challenges to the College, impacting building occupancy and user satisfaction.

Cerritos College came face to face with the logistical and practical challenges that arose regarding FF&E while in the construction phase of a Science Building. They had contracted with an interior designer who was selecting furniture, yet faced extensive coordination issues around built-in casework, product viability and user dissatisfaction with levels of choice. This caused extensive expense and field related change orders for the project. They have since developed Furniture Standards for a wide range of typical applications within their environment, using a shared governance approach and addressing long-term expectations of the products. In addition, they have revised their pre-existing Academic Standards and created Public Space Standards to take full advantage of buying power, and to decrease maintenance expenses over the life of the products. The College uses a coordination firm as part of their Bond Implementation Team to integrate their FF&E requirements into the planning process for all CIP projects.

Southwestern Community College District has faced several challenges with the approach and execution of their Capital Improvement Program over the past few years. Recently they have developed an in-house team of seasoned program-level professionals to form the basis of their Prop R program. The college leadership has defined their objectives for the completed program, which include many of the same desires of many other Districts within the system – make certain that every dollar spent can provide a definitive return on investment, lower operational expenditures and risks, support the local business community, and provide a professional and appropriate environment. They have just completed a Strategic Sourcing Program, Interior Space Design Guidelines, and a Furniture Standards Program. They have also established a definitive structure for engaging FF&E planning and implementation into the project design process, which will be facilitated by a Program Team consultant with accountability for this aspect of the bond program.

While San Mateo County Community College District is significantly larger than Solano, with a different demographic population to serve, the FF&E Committee felt it was important to include this leading institution in the peer comparisons. SMCCCD has facilitated over \$1 Billion in modernization of their three campuses since 2002. Very early in the process, the Capital Improvement Program team recognized the decisive nature of FF&E to the success of their initiative. They identified several mission-critical objectives to address, and incorporated a program-level strategy in 2003. Their approach included facilitating a District-wide, participatory governance Furniture Standards program that addressed the majority of furniture requirements within the program. From the list of performance requirements developed, the project teams were allowed to select non-standard items, such as equipment and fixtures, all with the knowledge that the items will address the total cost of ownership goals of the District. With key program level provisions in place, their Program FF&E Coordination consultant applied the project protocol across all campuses, assuring the District that the overarching objectives of an effective FF&E program, regardless of location, was being created. This approach has been applied to both Capital Improvement Program projects, as well as those funded by other means.

D. DISTANCE LEARNING OBJECTIVES & IMPACT ON FF&E

As the directive for making more robust the “online” or “distance learning” initiatives throughout the system, the direct impact on the physical environment has yet to be identified. The range of effect could be a reduction in the need for physical classrooms over time, or an increase in the utilization of the spaces as faculty implement a hybrid approach. Regardless, either requires spaces on campus that are technologically robust for recording and transmitting lectures and assignments, as well as specific, available lo-cations for those times when the hybrid courses meet. This aspect of providing educational services via technologies that support Distance Learning requires the District to plan for the adjustment of resources to support this expansion, i.e. Faculty, technologically appropriate class space, and funding to support anticipated changes in technology requirements.

E. FF&E COMMITTEE INPUT

The diverse committee of District staff, Administrators and Faculty members brought a broad yet consistent perspective to the issues of FF&E planning, implementation, maintenance and replacement to the discussion. To a person, the group articulated concerns about the lack of strategic planning for this crucial aspect of the working environment. Their key concerns were as follows:

- FF&E has been given “short shrift” in the past, discounting its impact on the morale, productivity and effectiveness of the employees
- By addressing FF&E in a haphazard and narrowly focused manner, the college has had to deal with the results of this approach by living in less than optimal environments, with products that do not serve the needs of both students and staff
- The physical environment is quite disconnected across the District, looking “hodgepodge”, and therefore negatively impacting the reputation of the college and discouraging students
- Decision making has been “ad hoc” and hierarchical, with no pre-determined expectations for quality, performance or functionality, lessening the effectiveness of the products in this environment
- Many safety issues have arisen due to the poor quality of product, further reducing resources for the college

- Field change orders due to ineffective planning have diminished resources allocated for FF&E, further lessening the quality of product available to support the mission of the college

F. STUDENT SERVICES DEPARTMENT INPUT

The Student Service department has recognized several challenges relative to FF&E that directly impact the success of the students. When queried, Shirley Lewis, Chief Student Services Officer, provided the following input:

- Planning for occupancy within a classroom has not always been effective, creating issues of class sizes, and functionality of the spaces
- ADA focused furniture is not universally distributed, causing faculty to move items around to address needs as they arise through the college
- Due to product quality, replacement needs arise quite often, without a funding mechanism in place. This causes issues when students cannot be safely and comfortably accommodated, and can create a loss of FTES revenue for the college



- Integrating FF&E into the planning stages of a project has not occurred, creating a “rush” for the faculty and staff related to the project. This has been very disruptive in the past
- There is a great disparity between what different programs get as far as FF&E, which creates inconsistencies and perception difficulties
- Mobility of product has been a serious concern for the faculty, students and staff

G. PROCUREMENT DEPARTMENT INPUT

The level of engagement of the procurement team for FF&E related activities has varied over the past decade, depending upon the funding source and project timeline. During the development process of this plan, VP Ligioso was interviewed to ascertain his professional perspective of the process and outcomes relative to FF&E. He identified the following key concerns:

- User groups are not aware of post-procurement aspects and related costs, leading to a lack of awareness of total cost of ownership (TCO), a critical aspect of any investment



- Benchmarks for product quality and long term functionality have not been established for FF&E, created a wide range of outcomes, many costly for the college over time
- Resource allocation for the purchase of appropriate FF&E has not been strategically developed, resulting in low quality, and therefore more expensive items, being procured. This has created a significant resource issue over time
- The District has not created and utilized well-vetted Furniture Standards in a consistent manner
- Products have been ordered without the required services to make the item functional, causing operational issues for many departments
- Funding sources for the replacement of inappropriate or ineffective FF&E has not been identified as a need in the past, causing difficulties for the different programs to deliver their services to the students
- The Procurement Team typically would become engaged in a project well after design, limiting the possible solutions available to accommodate the program’s requirements
- FF&E can have a major impact on certain programs, especially when the products do not support the long range objectives or realities of the college. This impacts the college’s ability to attract and retain faculty, staff and students

H. FACILITIES/MAINTENANCE & OPERATIONS (M&O)INPUT

In the past bond measure, the previous Director of Facilities drove whatever planning there was relative to FF&E. Typically this was done by contacting a local furniture vendor, who would specify products that would meet a budget and timelines objective. The M&O side of the department was not involved in influencing performance specifications nor in confirming product viability within the college environment from the perspective of building maintenance and product durability. Issues relative to operational difficulties or building interface were not considered as part of the FF&E selection process, creating budget challenges for the Colleges over the life of many items. As staffing was reduced over time, due to funding reductions,

the effect of FF&E within the College facilities began to have greater impact on the College budgets, and heightened its importance.

The current Director of Maintenance and Operation, Dwight Calloway was interviewed for this process, and provided the following key concerns:

- Previous selections of FF&E have created operational difficulties and expenditures for the college, reducing resources that could be used for more mission-critical requirements
- Lack of involvement in product selection by the M&O team have created requirements for a wide range of cleaning materials and supplies, reducing effectiveness of the staff (changing materials or equipment to address specific needs) and increasing costs
- Some products have not held up well under the rigors of the college environment, creating safety issues, loss of product in a space, and unnecessary disruption to the users
- Lack of input from M&O has resulted in buildings without custodial closets, lack of cleaning equipment for new buildings and inadequate power to support the realities of cleaning a space

I. TECHNOLOGY DEPARTMENT INPUT

As a rule, funding for, and planning of, the integration of IT and AV into the building spaces has not been standard procedure at Solano College, creating issues both for the project construction process and the implementation process. Recently the District brought on to the team a seasoned Chief Information Officer to guide the effective integration of technology throughout the District. In an interview with Mr. Clague, he noted the following concerns:

- While his focus is on the technology side, integration with other FF&E items has been difficult at times, slowing down their ability to resolve issues and get spaces up and running
- His department is now involved to a greater degree in the planning process, which is helping to mitigate field related challenges on new projects
- Ergonomics have been an issue for users engaging with technology, adding to the resource drain on the college

J. HUMAN RESOURCES DEPARTMENT INPUT

Although quite new to the District, the new Associate Vice President, Bruce Peterson has extensive experience with how FF&E can create financial, operational and productivity related issues for a college. From his perspective, the concerns regarding the issues of inappropriate FF&E creating safety hazards and related worker's compensation claims, low morale/loss of productivity, and leaves of absence which must be addressed by the college are paramount to address.

KEY STAKEHOLDER GROUP GUIDING PRINCIPLES

A. DISTRICT LEADERSHIP GUIDING PRINCIPLES (GOALS)

The most effective plan will provide for the improvement of the campus environment while positioning the college to better address the demands of the future. The following principles were derived from the overarching expectations of the District as fiscal manager of the funds.

Goal 1: Maintain fiscal responsibility throughout the process of selection, implementation and utilization of all FF&E procured for the college, regardless of funding source. Create a solid awareness and understanding of total cost of ownership at all levels of engagement.

Goal 2: Focus on student success through all FF&E selections. Identify product solutions that serve the needs of the diverse population of students, and which address their expectations.

Goal 3: Align FF&E specification process with the long range goals of the District as defined in the Mission, Vision, Values and Goals and Objectives statements. All FF&E should be specified with the least impact to the environment, in as many ways as possible. This is to include the "cradle to grave" and Zero Waste philosophy whenever feasible

Goal 4: Provide an appropriate level of choice at the college and user level. Create finish standards based upon the guidelines of the overarching District Facilities Standards. The District will create a "timeless" aesthetic approach when making FF&E selections regarding style and finishes.

B. GENERAL COMMUNITY GUIDING PRINCIPLES

The committee articulated the overarching principles of the following general communities:

Students: Provide current, effective, high quality tools to support the desired learning outcomes, which will reduce long term expenditures and retain resources for students, in order to support the wide diversity of student needs.

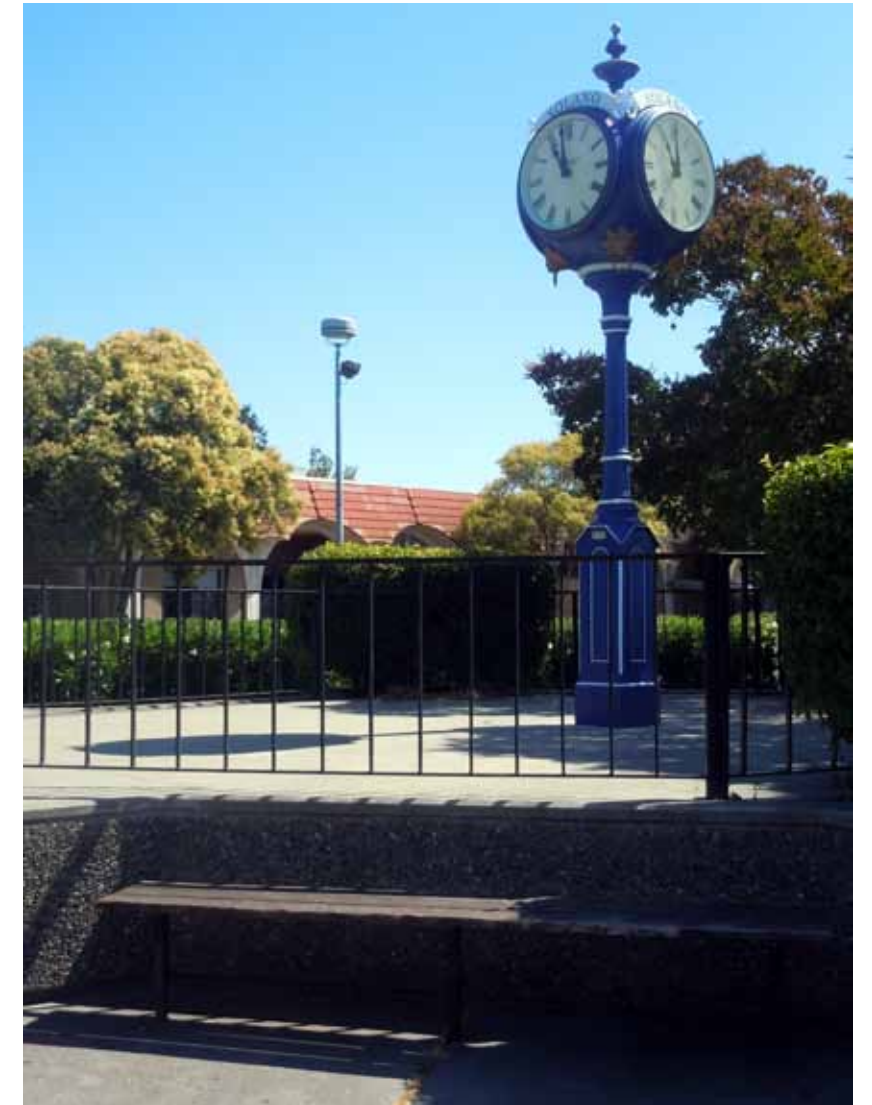
Faculty & Staff: Provide professional and long-functioning environments to both deliver on the mission of the college and train students to compete in the workplace.

Community: Demonstrate effective and responsible stewardship of taxpayer's resources, while providing an environment of which they can be proud.

Facilities/M&O Department: Provide equipment and tools that accommodate existing and future college enrollment while reducing operational expenditures and requirements.

In addition to the above, the following overarching principles identified through interviews, and the Educational and Facilities Master Plans are also to be integrated into the FF&E implementation strategy:

- Accessibility/ADA Requirements
- Flexibility
- Effective Ergonomics
- Safety
- Security
- Code Compliance
- Workforce Appropriateness
- Process Improvement
- Lifecycle Costs



FF&E COMMITTEE RECOMMENDATIONS

A. PROGRAM LEVEL STRATEGIES

1. Develop Performance Specifications

Objective: To identify overarching Performance Specifications which will define in the college's own words what any FF&E item must address. This will clarify the terms of expectations for the providers, regardless of the campus application. The Performance Specifications must take into consideration all matters of relevance from the perspective of the users, support staff, and lifecycle of an item. These should be prioritized to reflect the goals of the District, and reduce the potential for being ignored by project teams in order to individualize a project's outcome.

Process: Convene a representative group of stakeholders who will commit to bringing to the discussion the perspectives of their constituencies (rather than an individual perspective). Facilitate a structured discussion to create awareness of the major issues identified through the FF&E Master Plan process. Define performance in such a manner as to address and overcome the major concerns, without specifically defining "solutions". Prioritize the criteria to achieve the specific objectives. Prepare product application specific Performance Specifications that can be utilized to evaluate and select a wide range of FF&E items.

2. Create a Strategic Sourcing Protocol for all FF&E

Objective: To clearly define the strategy needed to procure, maintain and replace, when needed, all significant investments in FF&E. The value of this analysis is to clearly identify operational issues that may be created by the current approach, and to define a justifiable and effective plan to mitigate such issues. The analysis should include Board Policy, State Procurement Code, community expectations regarding expenditures of local resources, and operational realities of the Purchasing and Facilities departments. The protocol should include clear decision making protocols, guiding principles and processes for product selection, vendor expectations, procurement vehicles and strategies by product type, and overarching goals for return on investment for the college.

Process: Interview key District Support personnel to identify most costly challenges in the sourcing and implementation process for FF&E. Review current board policies, state and local codes to confirm parameters. Develop primary objectives that will address all concerns, and a list of options for resolving the concerns. Vet all options against the criteria, and finalize documentation of protocol. Enlist District leadership support of strategy, and track compliance and results.

3. Construct an Effective FF&E Project Implementation Processes

Objective: To outline a complete approach to integrating appropriate FF&E into the design and planning of a building or college facility. The benefit of this strategy is to provide a framework for project designers and user groups to have realistic and pragmatic discussions regarding the integration of FF&E into each space at an early enough point where cost savings can be realized.

Process: Outline major project milestones of overall project design process. Identify mission-critical requirements of FF&E integration into the space, inclusive of code compliance, MEPD interface, DSA review, and resource budgeting to achieve long-range goals for program. Prepare FF&E budgeting tools which incorporate the desired level of quality and performance, and apply to projects prior to finalize of project budgets. Establish internal protocols of managing integration process with building user groups and key District support teams to assure milestones are achieved. Monitor decision making at appropriate points in project to reduce "rogue" requests that are contrary to enterprise-wide requirements.

4. Evaluate and Select FF&E for District Standards

Objective: By standardizing the major product types which are to be used across the District, many benefits can be realized. Taking a higher level perspective, the standards should address the following: economy of scale, efficiencies in purchasing, quality of experienced manufacturers and their service providers, assurance that higher level business issues are addressed, level of appropriate choice, streamlining of future selections and purchases, and provide consistency across all college location to reflect the District's vision. These standards should demand vendor responsibility for specifying the appropriate products with a proven track record in

'like' applications, and to include everything necessary to achieve a functional installation. This vendor accountability would assure the project teams that the best solution for their requirements has been identified. The standard must provide FF&E solutions that will accommodate the physical requirements of 90% of constituents (sized appropriately for adult learners, ADA compliant, and ergonomically correct).

Process: Create a complete list of product types needed within the college to address the wide range of application found. Utilizing Performance Specifications created earlier, engage manufacturers who provide the types of products required to address these needs, offer services that are realistic for the low internal staffing support available from the college, and purchasing approaches defined in Strategic Sourcing program. Evaluate product recommendations based upon how each product and service effectively address the performance expectations, minimizing the influence of initial purchase price, availability and aesthetics in the process. Select specific product types, providing enough detail to minimize variations that may limit future utilization or that may cause damage to the sites. Create finish standards that apply to the wide range of product applications and physical locations. Determine the scope of services necessary to make each product type functional for the college upon installation, and note this within the documentation of each selection. Include documentation that defines the process taken, method for addressing vendor or product changes over time, and evaluating the efficacy of the program on a consistent basis.

5. Prepare Effective Strategies for Non-Standard Requirements

Objective: To provide effective guidance to project teams who have requirements that go beyond the scope of the FF&E Standards Program. This will reduce the potential for purchases that add to the operational costs of the District, or for the possibility of decisions being made by non-program staff for reasons other than what is most critical in the performance of these items.

Process: In order to effectively address requirements that would be deemed 'non-standard' (furniture items such certain tables and seating, and general furniture that is found in specific areas only) and 'specialty application fixtures or equipment' (items that are unique to one or

two applications within the college, such as Science Equipment, Art Fixtures, etc.), the committee recommends the following process:

Non-Standardized Furniture Requirements: Within projects with areas dedicated to a specific purpose such as Libraries, Science Labs, or Student Lounges, there arises the need for FF&E items that are not ‘standard’ in the sense that they do not apply across the entire campus. However, they do need to fit with the ‘standards’ in terms of performance and finishes, and may be applied to future purchases if similar needs arise elsewhere. In order to fully leverage the vendors utilized in the FF&E Standards Program, the District should first approach manufacturers of the standardized items to take full advantage of volume discounts, warranties, and to streamline the purchasing process. These vendors will be held contractually responsible for recommending only those items which meet the overall performance requirements, and to provide the same warranty assurances that support the total cost of ownership calculation. For items that cannot be effectively obtained from the current manufacturers, a Performance Specification Questionnaire is provided to the project stakeholders, so that all functional business issues can be efficiently communicated with other potential vendors. Products are evaluated against the performance requirements, which include the District’s guiding principles of flexibility, total cost of ownership, and asset protection. Final selection for these items is made with the understanding that the item(s) must address all business concerns of the College and the District so as to assure the taxpayers of San Mateo County that their resources are being appropriately managed.

Specialty Fixture and Equipment Requirements: There are several programs within the colleges that require specific items to support their mission. Products such as binocular microscopes with a special focal range, exercise equipment for adaptive use, cosmetology equipment or nursing training manikins are considered ‘Specialty’ fixtures and equipment, as they fit only the one specific application. In order to assure both the program and the District that the best value is being created, the users are engaged in completing the Performance Specification Questionnaire to lead to the optimal product selection. Staff has the opportunity to make a specific product recommendation, and these items are vetted against the program’s requirements as well as the District’s guiding principles

noted above. Final selection of the specialty items is made with the intention of selecting products with the widest possible application, allowing products to potentially be utilized at one of the other locations, should the need arise (occasionally a program may be discontinued at one site, and continue at another).

6. Plan and Fund Appropriate Replacement Cycles for FF&E

Objective: To anticipate and plan appropriate resources to keep the physical environment current and appropriate to the mission of the college. This will help all programs strategize around issues as they arise, and to plan for replacement cycles that are not driven by emergencies.

Process: Utilize the information provided in the Functional Inventory as well as the benchmark expenditures for each FF&E standard item to develop a schedule of replacement on an annual basis. Include all costs associated with ongoing maintenance, calibration or adjustment requirements, labor to remove original item from the location, and services necessary to make the item functional upon installation. Timing should begin at the end of the product’s warranty coverage, at a minimum.

DISTRICT SUPPORT SERVICES RECOMMENDATIONS

The key support services departments involved in FF&E related activities will have crucial roles in achieving the goals enumerated above:

Facilities (inclusive of Bond Management and M&O):

- Participate in the selection process to ensure that the TCO issues associated with operations and maintenance are being effectively considered and addressed.
- Recommend most effective solution based upon both functional and operational requirements.
- Determine building interface requirements to provide infrastructure support, if possible.
- Manage Standards Program application to reduce potential for inappropriate items entering facilities.

Business Services:

- Maintain and uphold District standards by requiring a structured format for individual requests.
- Monitor the processes to assure the District that the philosophy of Total Cost of Ownership and Best Value are being achieved in every procurement.
- Assist the program/project team in the development of project-specific Performance Specifications for Non-Standard and Specialty FF&E Items.
- Participate in the evaluation of product options based upon performance requirements.
- Enlist vendor representatives to support long term objectives for all FF&E items.

Technology Services and Support (IT)

- Participate in the selection process to ensure that the TCO issues associated with effective technological solutions and safety are being considered and addressed.
- Create and maintain performance standards for classroom AV controls, technology in all labs and for all office applications.





COLLEGE PROCESS DAY-TO-DAY RECOMMENDATIONS

1. GENERAL APPROACH

In order to achieve the desired long-term objectives of the college community, it is critical to follow a structured and efficient mechanism to guide the process. It is the committee's recommendation that the utilization of this program extends to any and all procurement of Fixtures, Furniture and Equipment, regardless of funding source and volume of purchase.

A. Augmenting Existing FF&E: When there is a need to purchase FF&E to supplement an existing installation, the established standards are to be applied wherever possible. If there are needs that are not addressed within the Standards, then the decision criteria that was defined during the creation of the Standards Program is to be applied to the selection of available options.

A Performance Specification Questionnaire (PSQ) is to be utilized by the college administrator and the end user to determine the functional requirements of a non-standard or specialty item.

Any finish selections required are to follow the established College Finish Standards. In the event that standard finishes are in conflict with the existing palate in that room, then a complimentary neutral finish is selected. Final product and finish selections must be confirmed by College administration.

B. Changes to Standards: Occasionally a need will arise to update or change the Standard Program offering, due to manufacturer changes, discontinuation of an item or an overwhelming response from the college to change an item due to product or vendor performance. In these instances, a multi-disciplinary group should be convened to apply the original Performance Specification requirements in guiding the evaluation of a replacement standard. Vendors should be required to submit their recommendations in a manner that speaks directly to the performance expectations, and submit these to the group prior to product evaluation or cost proposals. Final selections must be confirmed by administration and District constituents to confirm that no business issues are being inadvertently created with the new product.

C. Specialty Items: In situation where a unique or atypical need arises, the requestor should utilize a Performance Specification Questionnaire, to specify the requirements of the item. The decision criteria that were defined in the creation of the Standards program should to be applied to the selection of available product.

For all finish selections required, it is recommended that the project team follow the pre-established Finish Standards. In the event that the Standard finishes are in conflict with the existing palate in that room, then a complimentary neutral finish should be selected. Facilities Support Services should to be engaged in order to confirm building interface and code requirements. Final selections must be confirmed by administration.

2. COLLEGE SELECTION AND PROCUREMENT PROCESS

A. Roles and Responsibilities: Each participant in the process should have a distinct responsibility to assure the long term success of these purchases.

- **Vice President:** Confirm overall protocol is followed to reduce future expenditures, and to confirm all FF&E capability to support the mission.
- **Dean or Director:** Confirm funding source; provide additional level of perspective on future product costs.
- **Facilities Department:** Confirm building interface requirements; confirm maintenance requirements; confirm code compliance.
- **End User:** Identify key functional requirements of the item using PSQ; identify current products used for Specialty products; evaluate performance of the product options to confirm current and future functionality.

B. Decision Making Protocols: In order to make product selections that can withstand the rigors of the environment, it is imperative that all decisions regarding the application of FF&E be benchmarked against the overarching guiding principles of the District. Whenever possible, the guiding principles are to be utilized as the initial assessment protocol for FF&E items. Associated costs relative to ownership (TCO), training, End of Life and replacement should be incorporated into all decisions using a decision model that supports long-term viability of these decisions.

C. Changes: Making changes in a product or vendor can have significant impact on financial resources of the college. If the selection process has been made with intention and purpose, there should be few occasions when changes will be made at a point that can trigger additional costs or impact to the installation date. At the beginning of each selection process, a schedule of key dates is to be set. Should a change in the product selection, vendor or timing be desired, the request for such a change must be presented to the administrator in charge, with all associated costs defined, including costs related to addressing infrastructure requirements, order change or cancellation fees, future operational expenses, and staffing time to implement changes. These costs should to be weighed against the potential impact to the college of staying with the originally specified product, service or vendor. Final approvals are to be confirmed by administration.

COLLEGE PROCESS—CAPITAL IMPROVEMENT
PROJECT RECOMMENDATIONS

1. GENERAL APPROACH

The college user groups have a tremendous responsibility when planning new projects for the college. While the primary responsibility for the successful outcome of these projects rests with the Facilities team and their supporting entities, the college plays a crucial role. The following outlines the level of engagement for the various participants. This process reflects several of the recommended strategies noted in section 5.A.3.

2. ADMINISTRATION PROCESSES

A. Key Roles and Responsibilities:

- **President:** Assigns project leadership responsibilities to appropriate Vice President; assists in project user group identification; approves final project decisions.
- **Vice President:** Provides management oversight; confirms overall protocol is followed to reduce future expenditures; confirms that all FF&E are capable of supporting the mission; approves final FF&E Budget Document and Space Plan; approves final Vendor information.
- **Executive Bonds Manager:** Provides structure of project staffing; confirms budget allocations; confirms alignment with Facilities Master Plan.
- **Dean or Director:** Assists in assigning user group participants to represent program requirements; approves placement of personnel within administrative locations; completes Individual Selection Form (ISF) for unassigned areas; manages development of FF&E Budget details with project FF&E project manager; participates in Vendor information development process; acts as liaison between individual users and FF&E project manager.

- **Project Management Team:** Confirms overall process adherence for design team integration; confirms building interface requirements for FF&E are completed; confirms maintenance requirements; confirms code compliance.
- **IT Department:** Confirms program requirements for IT, AV and Media equipment; manages specification of all IT, AV and Media equipment; coordinates furniture and support equipment requirements with project design team; addresses safety issues relative to AV & IT equipment.

3. PROJECT USER GROUP RESPONSIBILITIES

A. Levels of Decision Making:

The Project User Group participates in several key decisions relative to FF&E throughout the process, including:

- Establishment of program-specific requirements to achieve student success
- Selection of Building Finishes to enhance the aesthetic environment of the College
- Selection of applicable products from the Standards Program to support the work requirements of the spaces
- Selection of finishes for all Standard, Non-Standard and Specialty FF&E

B. Expectations of Participation:

It is expected that all participants in the project design process remain engaged and committed to a successful out-come. It is understood that each participant has many other responsibilities, and it is a commitment of the Administration to effectively manage the project design and implementation process so as to reduce time needed to participate.

C. Approvals:

As noted above, approval for the final FF&E details rests with the associated Vice President assigned to the specific projects, and the administration. Any deviations from Standards, process or procedure should require written documentation supporting the decision in order to avoid unintended consequences or expenditures for which the college may become liable in the future.

4. INDIVIDUAL USER RESPONSIBILITIES

A. Levels of Decision Making:

Individual occupants of the project have specific opportunities to participate in the FF&E aspects of a project. These include:

- Providing Dean/Director with specific requirements for FF&E for environments in which the user has job responsibilities
- Selection of FF&E within assigned spaces, such as workstations or offices, from the Standards Program using ISF
- Providing, through Dean/Director, Performance Specifications (using PSQ) for specialty items applicable to their discipline, if required by the project

B. Expectations of Participation:

Users will be asked to participate at specific junctures in the project development process in order to minimize the time requirements necessary to achieve the project goals. All information related to FF&E requirements and expectations shall be directed to the user’s manager. Users are asked to refrain from vendor communication in order to reduce confusion.

FF&E IMPLEMENTATION RECOMMENDATIONS

FAIRFIELD CAMPUS

Building 1200 Theater

As part of Phase I recommendations in the Facilities Master Plan, the modernization and addition to the existing Theater facility is slated to be addressed. This project will include the relocation of three (3) programs into the addition. Based upon the Functional Inventory of these current locations which indicates an expected need to substantially replace current FF&E, it is recommended to use this project to develop and implement the processes and procedures that are required to address the evaluation and selection of “specialized equipment and furnishings” for non-standard applications.

Building 1500 & New Science and Mathematics Building

Phase 2 includes the modernization of the Mathematics building, and the creation of a new Science facility. These projects can be highly complex from the perspective of FF&E, especially given the age of the current science equipment being used for instruction. It is recommended that a detailed assessment of science equipment be prepared prior to building design, so that a re-utilization plan can be developed, and proper FF&E budgeting established so that the program’s needs for the next several decades are incorporated into the District budgeting. It is further recommended to use this project to establish the standards for faculty and staff offices, as well as student public spaces.

Buildings 300 & 400

An additional scope of Phase 2 of the Facilities Master Plan includes the renovation of the General Assignment Classrooms in Building 300, as well as the student support areas in Building 400. It is recommended that the furniture standards be developed around these projects, so that they can be used to establish the baseline expectations for function, capability and quality for the rest of the District’s General Assignment Classrooms. As for the areas within Building 400, these should also be folded into the evaluation process, as they will provide an excellent opportunity to re-evaluate the current products against the District’s guidelines for product.



New Career Technical Education Building

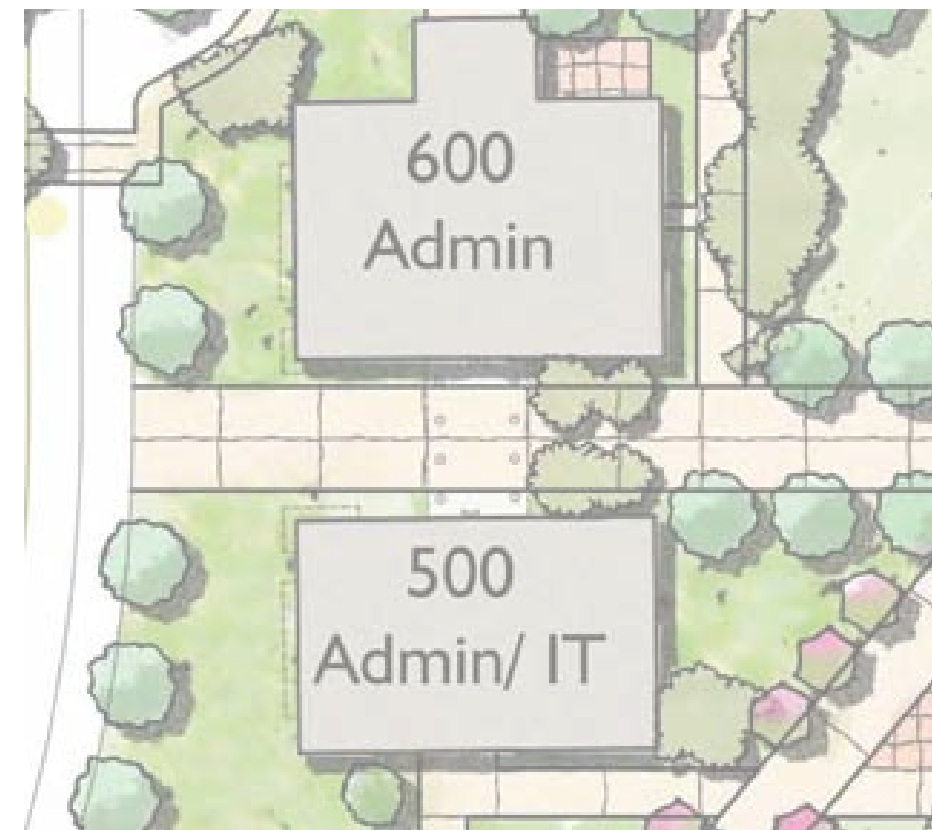
Phase 3 includes the creation of a new CTE facility. As with the Sciences facility, the CTE programs require a thorough analysis of the existing equipment being utilized against the benchmarks of the program's goals. The Business Education programs within Building 500 involve many spaces utilizing technology. The assessment of the IT related items will be addressed through the Technology Plan managed by the CIO, but all furniture items should be evaluated to set the baseline standards for this type of application for the rest of the District. The relocation of several programs into this new facility offers the District the opportunity to bring several programs up to the desired quality level, and to establish the appropriate funding mechanism to maintain these items over time.

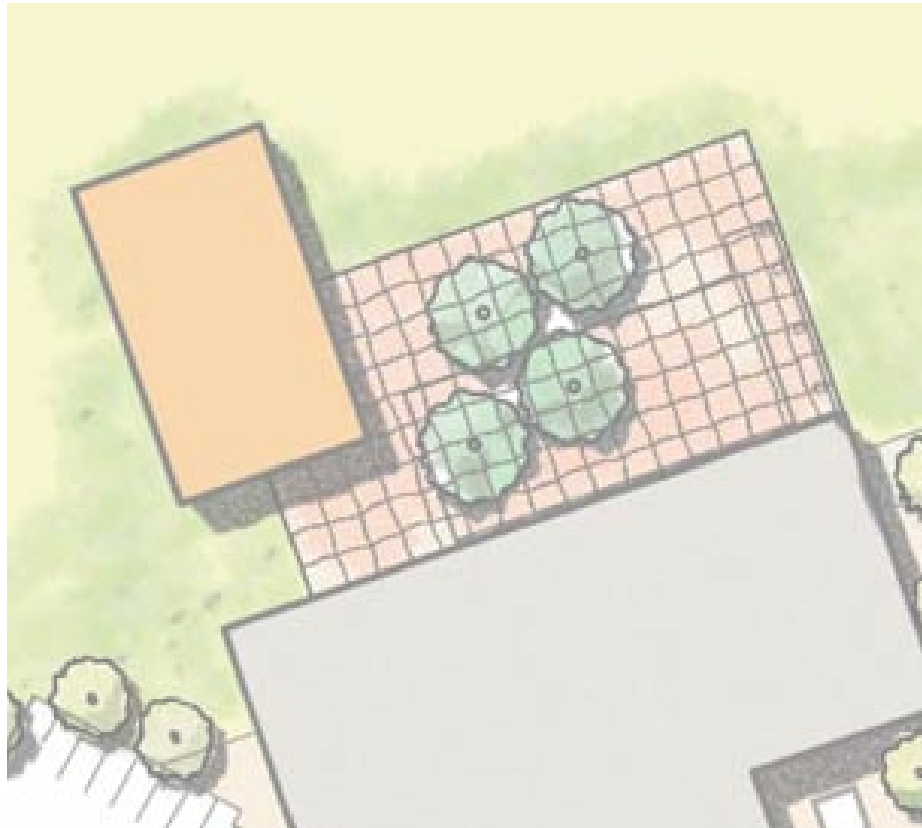
Buildings 500 & 1600

For areas of IT and Administration that will be relocated into this space, standards established for office and staff workspaces through the process in the Science and Mathematics project should be applied. The ECE/Family Studies and Child Development Center programs involves a great deal of specialty FF&E, most of which should be evaluated to determine reuse and funding sources for non-capital items, such as children's toys, and so on. Classroom standards established in the previous renovation projects should be applied here as well.

New Learning Resource Center

As part of Phase 4, the LRC project will be partially state funded. These projects have a tendency to be underfunded with regard to FF&E. It is recommended that the actual project FF&E requirements be established well in advance of the project funding, so that an appropriate augmentation can be included in the Bond Spending Plan. This will assure the District that the project will be appropriately outfitted.





VACAVILLE CAMPUS

New County Education Center

Phase 1 for Vacaville includes the creation of a new Solano County Education Center. Given that this Center is fairly new to the District, it is recommended that all current FF&E, including equipment be re-evaluated against the District's benchmarks to ensure that all items will achieve the goals put forth in the plan, namely to reduce operational costs and the need for replacement before an appropriate period of time.

New Biotech/Student Services Building

Phase 2 includes the creation of a new Biotechnology program space in conjunction with a Student Services facility. The requirements for Biotechnology may be new, depending upon the timing of the facility and development of the program. If existing equipment is available, these items should be benchmarked against workplace requirements, and the FF&E budget augmented to support a robust and contemporary set of tools. All common and typical spaces should utilize the District Standards, with specific emphasis on the brand of the Center.

VALLEJO CAMPUS

New Autotechnology And Education Center

Phase 1 for this Center includes the creation of a new Autotechnology and Education Center, which will also house the Student Success and M&O services. As with the CTE programs at Fairfield, these programs require a thorough analysis of the existing equipment being utilized against the benchmarks of the program's goals. Much of the FF&E for this center is fairly new, but should be evaluated against the District's benchmarks to ensure that all items will achieve the goals put forth in the plan, namely to reduce operational costs and the need for replacement before an appropriate period of time. Attention should be paid to the specific brand of the center.

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Education
Community
Sustainable
Health &
Happiness



PART II GUIDELINES

Purpose of Guidelines

The purpose of the Design and Sustainability Guidelines is to provide a framework for future campus development that helps achieve the District's Design and Sustainability vision and goals. These goals include improvement of the aesthetic quality of the campus, environmentally responsive design, unity and equity between the multiple sites, and cohesive campus environments.

These guidelines apply to both modernization of existing buildings and new construction. If certain guidelines apply only to one or the other, or they apply only to a particular campus, these have been notated as such, however, most of the Guidelines are geared towards unifying the District's image across its multiple sites.

Design Guidelines

Campuses are communities with a special emphasis on learning and socialization. These Design Guidelines provide criteria to create livable, stimulating campus environments that promote learning, creative thinking and social interaction, all essential components of the higher education experience and overall well-being.

CAMPUS VISION

Create a sustainable campus that keeps students, faculty, staff and community members engaged in district activities, education and environmental awareness.

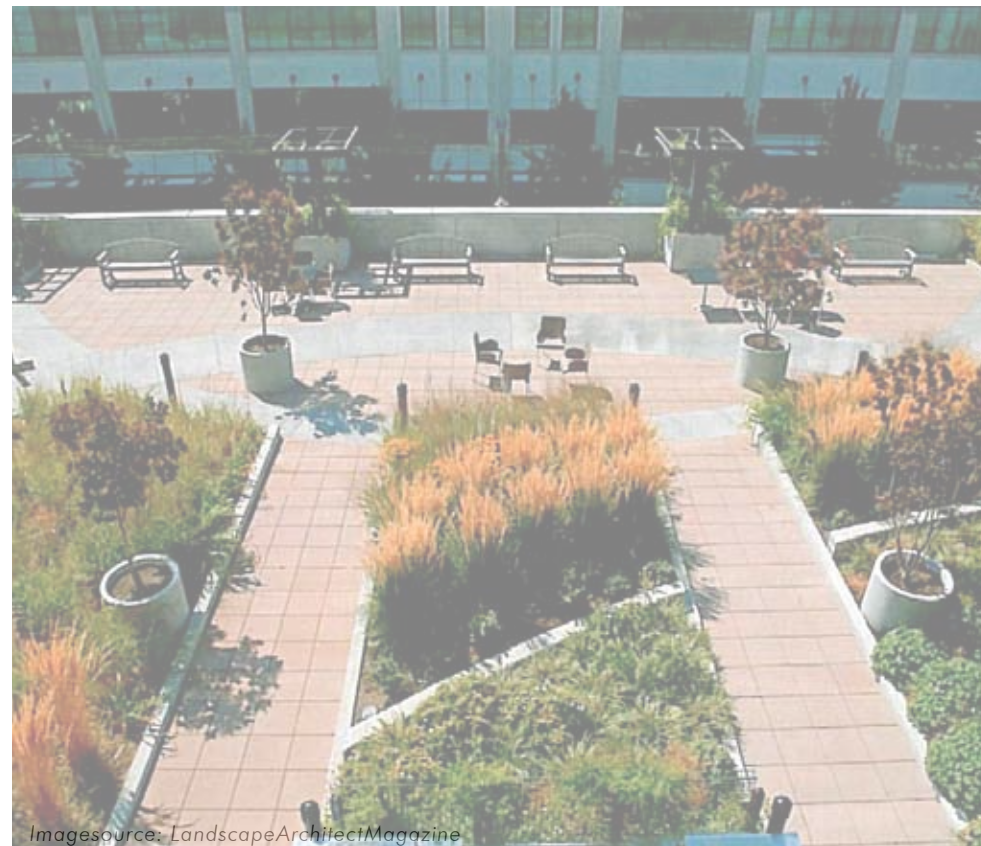
CAMPUS GOALS

- Keep students, faculty, staff and visitors on the campus
- Create a campus that models social, economic and environmental sustainability
- Cultivate an atmosphere of academic excellence



Imagesource: flickr.com/sparrowsmama

A “complete campus” promotes educational, economic and environmental sustainability.



Site Layout

The physical layout of the campus should enhance the students' educational experience by providing clear and logical connections and a variety of spaces for movement and interaction. Key factors considered in the development of the campus structure include:

Elements of Smart Growth:

- Capitalizing on existing infrastructure
- Cluster development within the campus core and outer loop road
- Preserve perimeter lands for future potential growth

Elements of Education:

- Addition of social nodes to increase commingling between educational subject matter
- Opportunities to bring the classroom and the study outdoors

Elements of Walkability:

- "Human-scale" design elements
- Destinations of varying scales
- Pedestrian connections to adjacent properties

Elements of Comfort:

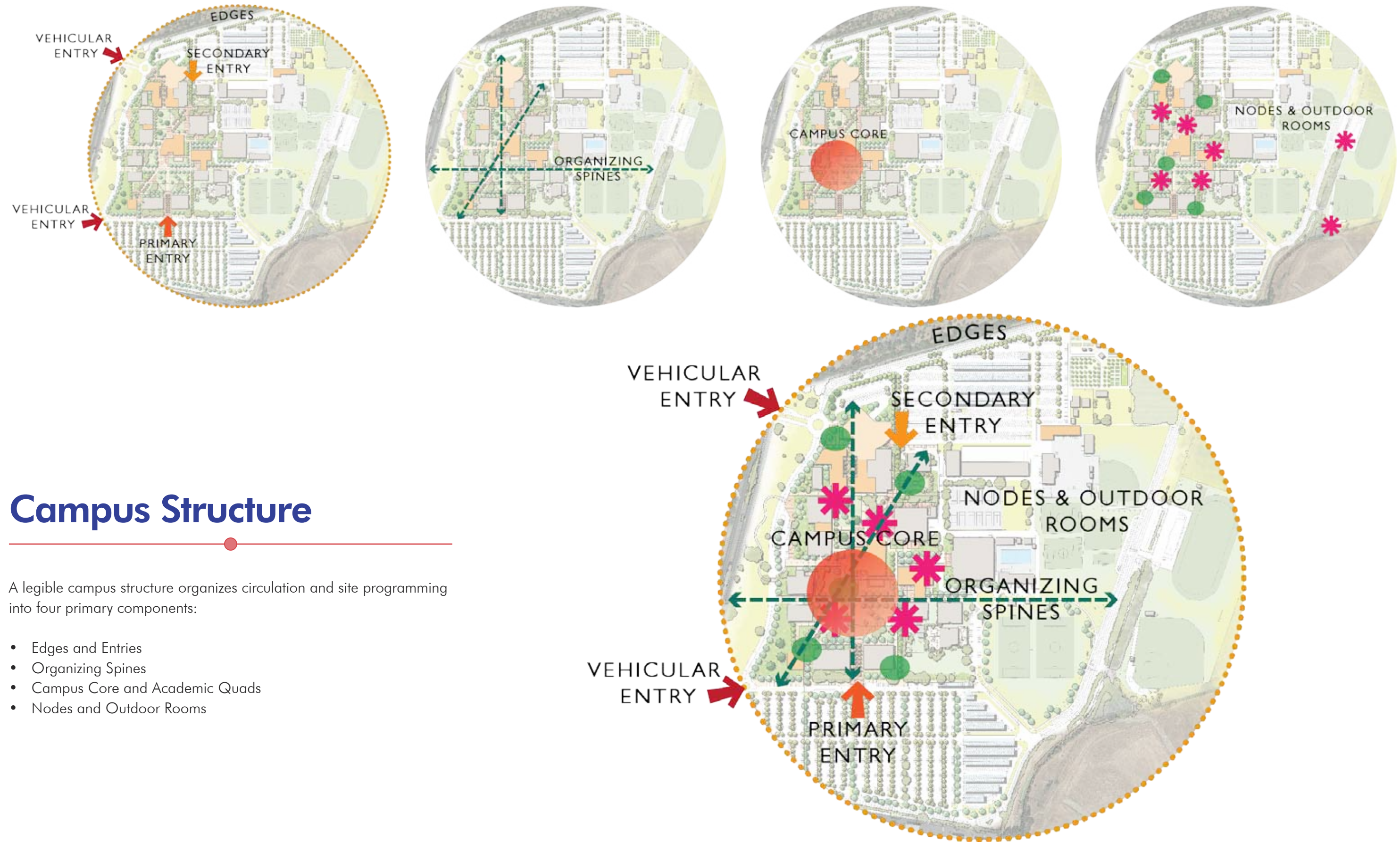
- Shade trees on pathways and streets
- Screening of utilities and maintenance entries with vegetation
- Buildings oriented to maximize passive solar energy

Walkability,
safety and
comfort are key
elements of the
Master Plan.

Campus Structure

A legible campus structure organizes circulation and site programming into four primary components:

- Edges and Entries
- Organizing Spines
- Campus Core and Academic Quads
- Nodes and Outdoor Rooms





Edges and Entries

The edges and entries of campus are designed to clearly demarcate boundaries of the campus while providing a hierarchy of entries for both pedestrians and motorists.

Campus entries should:

- Be welcoming
- Be decorated with gateways, portals, arcades, and trellises
- Have views into the campus core
- Have a hierarchy of vehicular and pedestrian entries

CAMPUS GATEWAYS

Gateways are an important element of campus and help create a sense of place and identity for students, faculty, staff, and visitors.

Vehicular Entries/ Gateways should:

- Provide orienting views into the campus
- Reinforce campus identity
- Reflect sustainable and educational values
- Demonstrate a prestigious first impression
- Have a welcoming and auto-scale design
- Have special paving, planting, signage and lighting

Pedestrian Entries/ Gateways should:

- Be welcoming and create a sense of arrival
- Provide direction and hierarchy of circulation corridors
- Have special paving, planting, signage and lighting
- Have appropriately scaled elements; vertical elements should not exceed adjacent building heights
- Reflect sustainable and educational values



Imagesource: IndianaStateUniversityISUNewsroomArticle



Imagesource: flickr.com/riparia

“Every doorway,
every intersection
has a story.”

- Katharine Dunn





EDGES

Edges can both define the campus boundaries and provide a friendly interface with the surrounding communities. The perimeter edge should be visually distinct while providing amenities such as pathways, trees, and benches which can be enjoyed by the community.

Edges should:

- Distinctly identify the perimeter of campus
- Create a quality first impression
- Create a boundary without creating a barrier
- Use landscape to create “soft” transition
- Create physical connections to neighbors and community



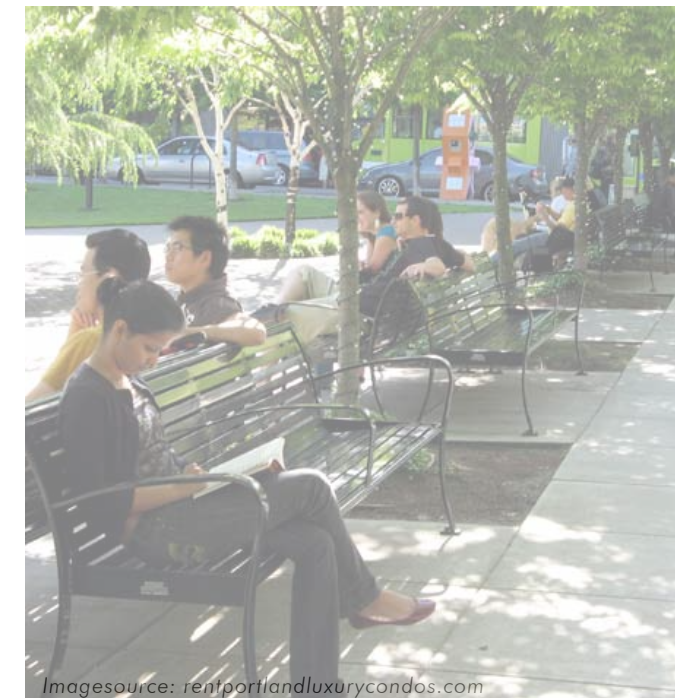
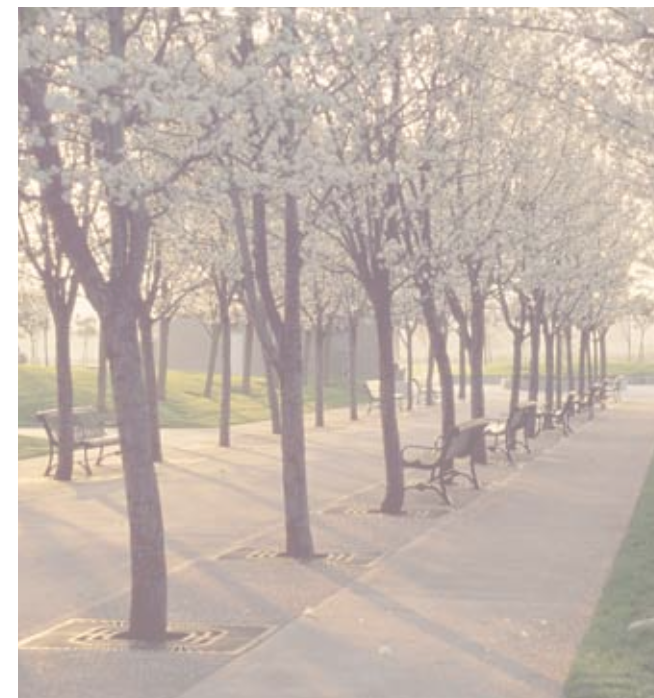


Organizing Spines

Spines are major pedestrian pathways that visually and organizationally unify the campus into a cohesive whole.

Spines should:

- Create a logical and direct path of travel through the campus
- Link pedestrian gateways and outdoor nodes to campus core
- Connect a network of buildings and spaces
- Influence the future campus layout



Imagesource: rentportlandluxurycondos.com



Imagesource: LandscapeArchitectMagazine



PATHWAYS

Pathways are the links between buildings, gateways, and spaces. There are a hierarchy of paths used depending on function and accessibility.

Guidelines for Primary Spine:

- Should be a minimum width of 20 feet
- Should be main spines or formal promenades
- Should have special paving
- Should be lined with an allee of trees
- Should initiate at parking lots with gateways and landscaping and lead to the campus core
- Should be ADA compliant and barrier free
- Intersections among primary paths should be emphasized with seating, special planting, and wayfinding elements
- Should incorporate Pathway Lighting which is laid out to respond to alignment of walkways and spaced regularly and consistently to provide uniform light levels

Guidelines for Secondary Paths:

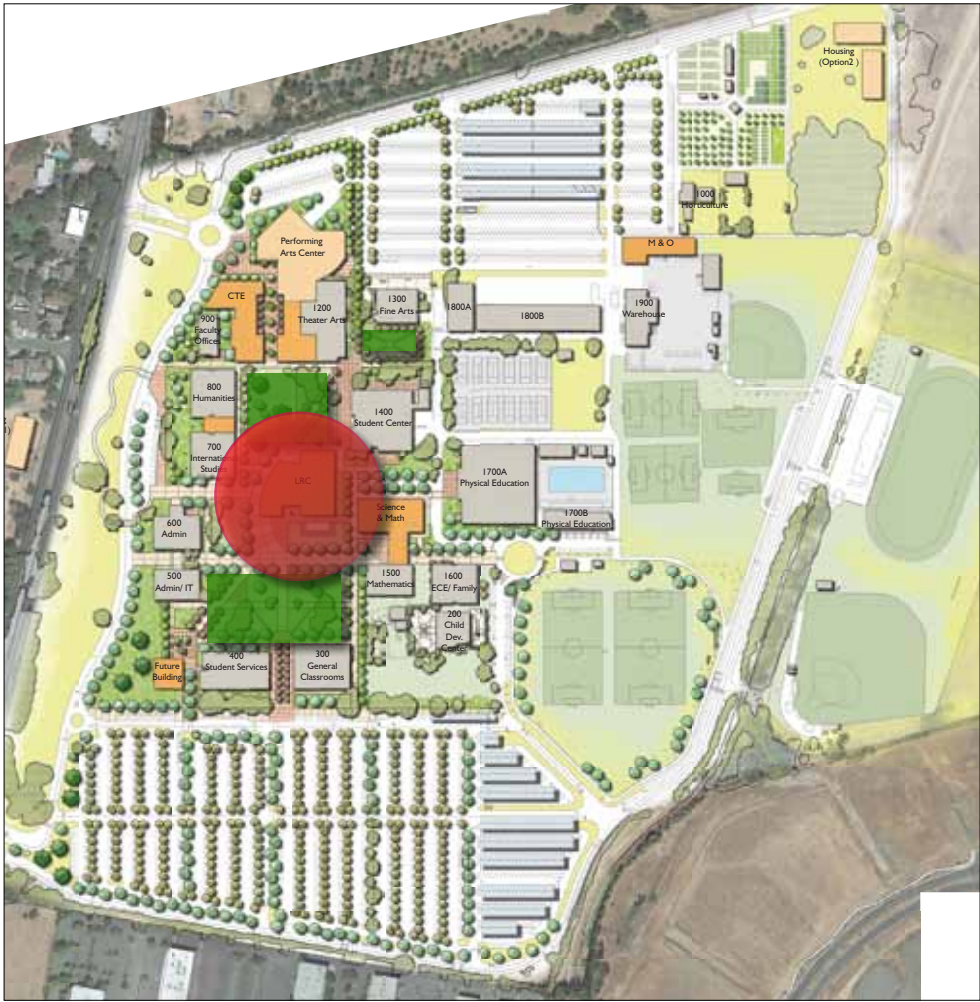
- Should be a minimum width of 10-15 feet
- Should be used as interior circulation paths
- Should lead to primary spine
- Should incorporate Pathway Lighting or Pedestrian Lighting which is laid out to respond to alignment of walkways and spaced regularly and consistently to provide uniform light levels

Guidelines for Tertiary Paths:

- Should be a minimum width of 6 feet
- Should be used to connect internal campus areas and buildings
- Should incorporate Pedestrian Lighting which is laid out to respond to alignment of walkways and spaced regularly and consistently to provide uniform light levels

General Guidelines for all Paths:

- Paths less than 5% slope are encouraged wherever possible
- Should have a minimum 2% cross slope
- Informal paths shall meander and be coupled with informal plantings
- Materials should respond to building architecture
- Material palette should match existing materials
- When possible allow for visual termini of pathways
- Should have trash and recycling at key points
- Should be drivable for maintenance and service purposes



Campus Core

The campus core is centrally located and is the gathering space for informal, impromptu, or ceremonial events.

The campus core should:

- Be the focus of the primary pedestrian circulation system
- Accommodate passive and active uses
- Be activated by architecture
- Be highly visible
- Serve as the campus academic agora
- Be visually unique and recognizable

LEGEND

Campus Core

Quad



Imagesource: BenSchumin/wikimedia.org



ACADEMIC QUADRANGLES / "QUADS"

The academic quadrangles are strong central activity hubs for mid-size communities of people to gather. They promote interaction among students, faculty, staff, and community, and are the philosophical 'heart' of campus.

Academic quadrangles should:

- Have spaces for passive and active recreation
- Have educational elements and themes relevant to adjacent buildings
- Have a recognizable, central organizing element
- Have sufficient space for graduation ceremonies and other events
- Be a point of reference for orientation
- Be a destination for many paths
- Be designed to invite and engage
- Be along primary spines that lead to the campus core
- Can serve as the primary open space on campus.





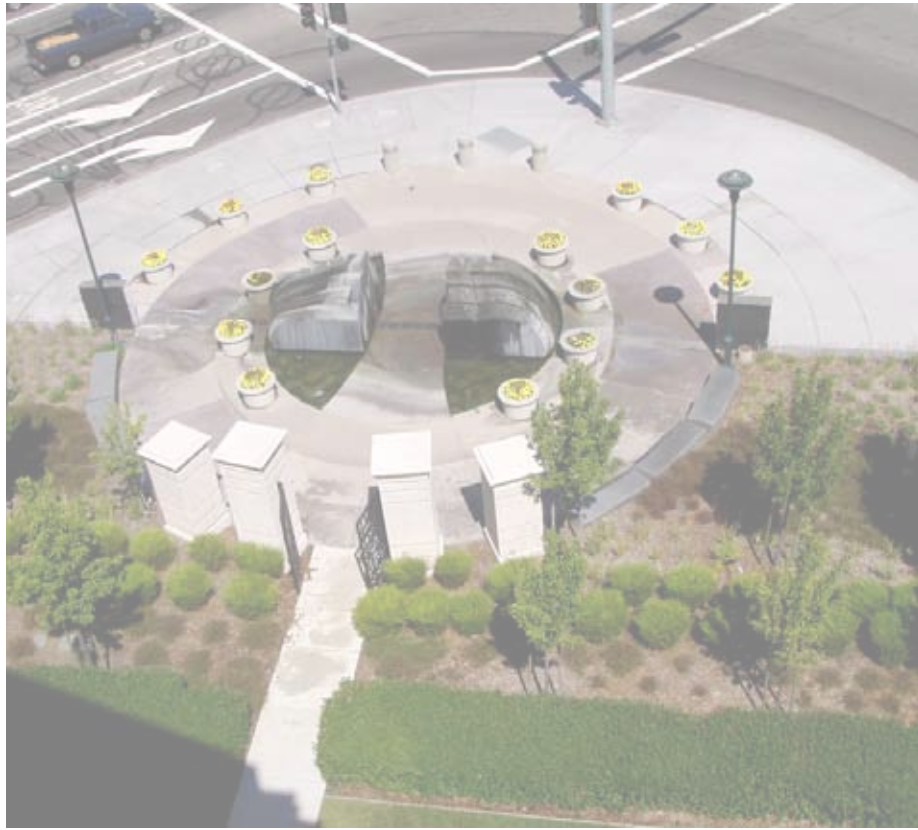
The campus core will serve as the visual, social and civic center of the campus.



Throughout the campus there are numerous opportunities to provide secondary gathering spaces which enhance campus life. These spaces can be created at the nodes which are generated when pathways intersect or at building entries and between structures. These spaces are ideal locations for outdoor plazas, courtyards and classrooms, where students can engage in educational or social activities.



-  Social Node
-  Outdoor Room



PLAZAS

Plazas are primarily paved spaces at entrances to buildings and campus crossroads. Plaza spaces can promote the uses of adjacent buildings and spaces and weave together the diverse elements of the campus.

Plazas can:

- Accommodate higher levels of traffic and activity
- Serve as event spaces
- Be used as outdoor living rooms
- Have enriched features such as special paving, water elements and art installations
- Have seating arrangements that promote social interaction as well as quiet studying and people watching



COURTYARDS

Courtyards are small and intimate outdoor spaces partially enclosed by buildings that can vary in design and in use, depending on their location.

Courtyards can:

- Emphasize outdoor/indoor relationships
- Be enhanced with special paving, color planting, overhead structures and accents related to adjacent buildings
- Have an outdoor performance space
- Have a central visual focal element
- Be located between buildings
- Be a mix of hardscape and softscape
- Be intimate and comfortable



"To the mind
that is still, the
whole universe
surrenders."

-Lao Tzu



OUTDOOR CLASSROOMS

Outdoor classrooms are built into the landscape with enough space for a group of students. The classes may even incorporate landscape features into the learning curriculum.

Outdoor classrooms should:

- Have informal and formal seating arrangements
- Be protected from the elements with good acoustics and overhead features such as shade sails, trellis or canopy
- Have opportunities to showcase classwork and projects
- Be separated from through circulation pathways



Imagesource: wildernesscollege.com



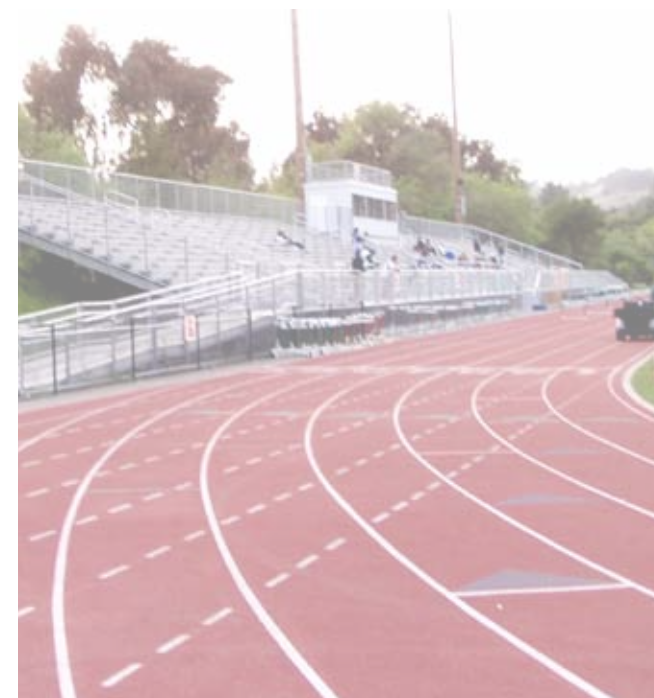


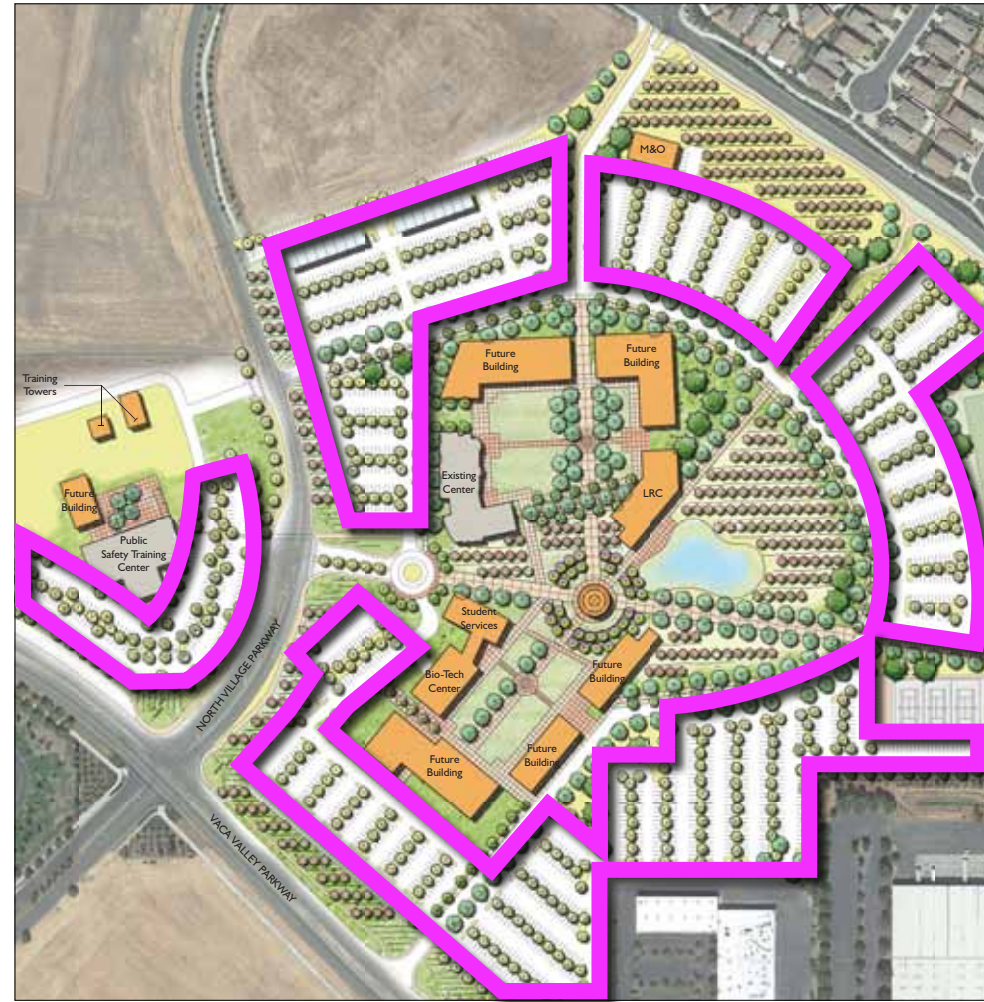
Athletic Zone

Having a separate athletic zone on campus is important for isolating noise and large crowds.

Athletic zones:

- Should serve as an activity hub for the campus
- Should accommodate visitor use
- Should be an amenity to the neighborhood community
- Can be anchored by a sports pavilion
- Can be connected to nearby parks





Parking Areas

Parking is an essential element that allows for safe, quick, and convenient access to campus.

Parking areas should:

- Have canopy trees for shade
- Have safe and clear pedestrian circulation
- Have evergreen screen plantings
- Separate walkways from vehicular travel
- Incorporate stormwater management features
- Be well-lit for safety
- Incorporate Vehicular Lighting which is laid out to respond to alignment of drive aisles and walkways. Lights should be spaced regularly and consistently to provide uniform light levels



Building Design

The objectives of the Building Design Guidelines is to provide an overall sense of architectural cohesiveness on campus, and across District sites, while still allowing for diversity in design. The primary components that help accomplish this are:

- Campus Aesthetic
- Building Form & Massing
- Building Entries
- Facade Articulation
- Visible Permeability
- Arcades & Trellises
- Roofs and Rooftop Elements
- Color and Finish Palette
- Interiors
- Bird Room Collaboration Cluster



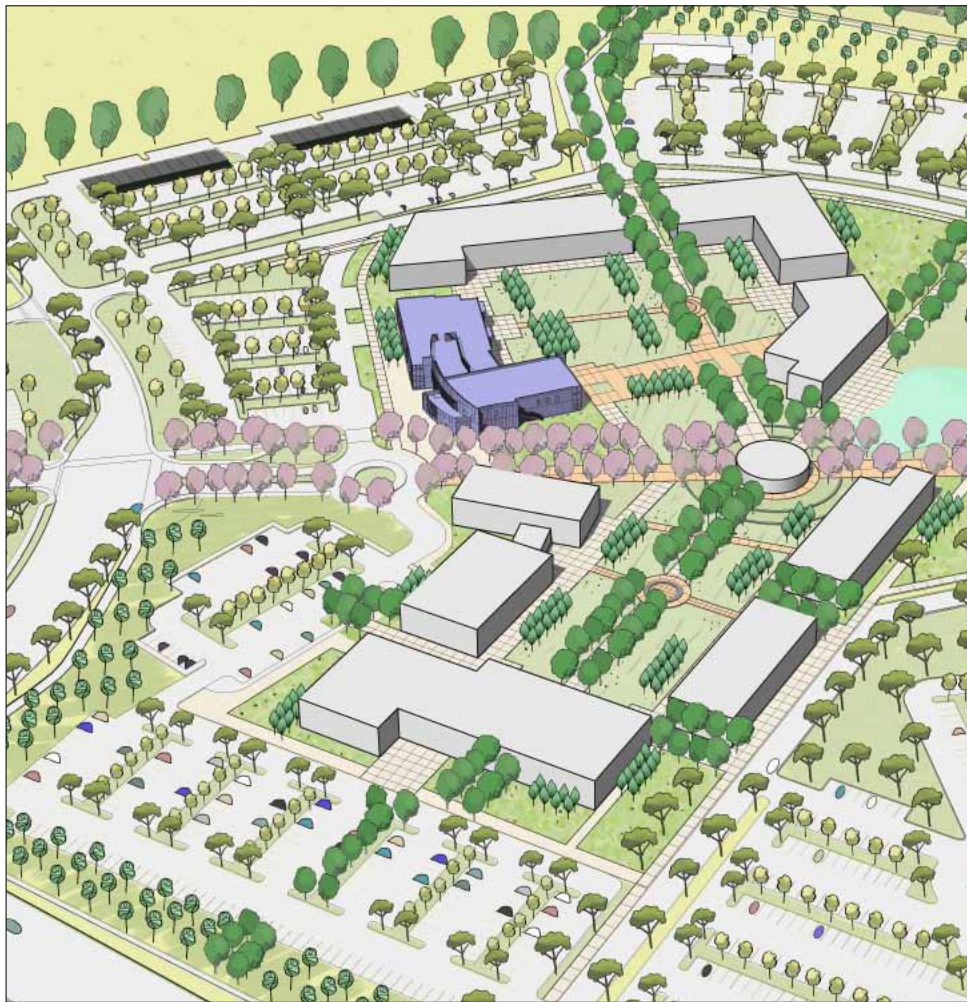


Campus Aesthetic

Modernization projects and new building projects should reflect current materials and technologies, especially green and sustainable ones, and should be culturally relevant. However, they should also appeal to a broad range of students and be enduring in their design.

Stakeholder feedback identified the existing Fairfield campus as outdated and boring, whereas the Vallejo and Vacaville Centers were identified as contemporary, inviting and vibrant. The existing Fairfield architecture was not to be repeated and the selected aesthetic vision for all three campuses was a tie between the “California Contemporary” aesthetic and the “California Modern” aesthetic.

The following Guidelines are not advocating a *particular* design style, but rather they capture the essence of the District selected aesthetic approaches.

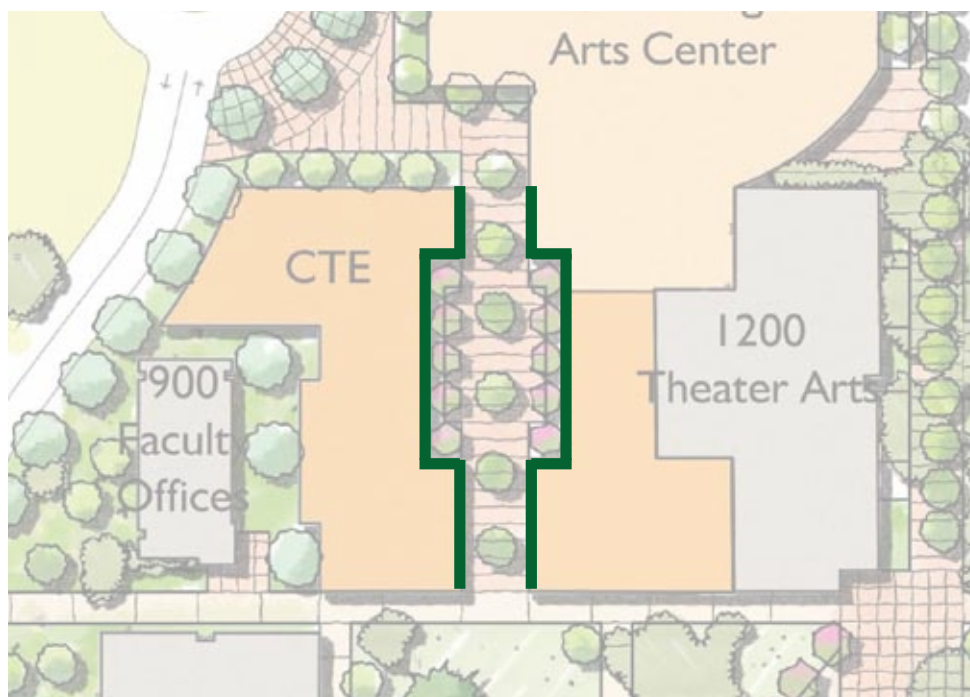


Building Form & Massing

All future buildings, on all District sites, should be at least two-story and not exceed three stories in height. This density and scale helps preserve land for green spaces (and potential future development), enhances the visibility from roads leading into campus, and fosters a stronger sense of campus.

In addition, Building Forms should:

- Support the District selected aesthetic
- Help create and reinforce exterior spaces
- Should be articulated to provide interest and variety of scales
- Provide building integrated overhangs and shade for exterior seating and circulation





Imagesource: HA+A Architects / TLCD

HARMONY

A campus is harmonious when the existing buildings and the new buildings mutually enhance the existing character of the campus. For the Vallejo and Vacaville campuses this is easily accomplished given that these Centers are contemporary and already incorporate many of these Guidelines. For Fairfield, however, the desire to move away from the existing architectural character of the campus requires a strategy for the modernization of the existing buildings that will help bridge the gap between the existing architecture and the new architecture desired.

FAIRFIELD MODERNIZATIONS

Fairfield Buildings being substantially modernized should:

- Remove all the existing tile roof mansards and replace with satin aluminum coping at building edges, and white or neutral grey metal at mechanical screen locations, as shown on Fairfield Color Palette (page 125)
- Remove existing metal roof mansards and replace with neutral grey metal screens if satin aluminum coping is not feasible
- Sandblast existing concrete arches and columns to clean and restore finish. If doing so is not feasible, paint existing concrete arches and columns a white color as shown on Color Palette
- The pinkish-beige tones for existing buildings should be replaced with one of the (3) more neutral colors, as shown on Color Palette. Note, the existing arches and infill should *not* be painted in contrasting colors
- Replace or paint door and window frames to one color, as shown on Color Palette
- Replace Glazing to High Performance Low E Clear Glazing with Greenish Look, as called out in Glazing District Standard (Book 2, page 77)
- Provide Accent Colors per direction set out in Color Palette

To the right is an example of these Guidelines as applied to the Building 600 Renovation currently underway. Images courtesy of HA+A Architects/TLCD. The top image shows a partial elevation of Building 600 and Arcade to Building 500 before the Renovation, and the bottom shows this same partial elevation *after* the Renovation.



Building Entries

Clear Wayfinding requires Building Entries to be easily identifiable.

Building Entries Should:

- Be located per the major path of travel
- Be welcoming
- Incorporate social/waiting spaces inside and outside
- Be well signed (see Signage Master Plan for Building Signage)
- Be located in a portion of the building that is articulated uniquely from the rest of the building be it through form, material or color
- Have entry canopies (whether attached or created via an arcade)
- Automatic Sliding Doors are highly desired (see District Standards)
- If building has more than one predominant approach (for example entry from adjacent parking lot and entry from interior campus quad) provide multiple entries with similar characteristics based on these guidelines



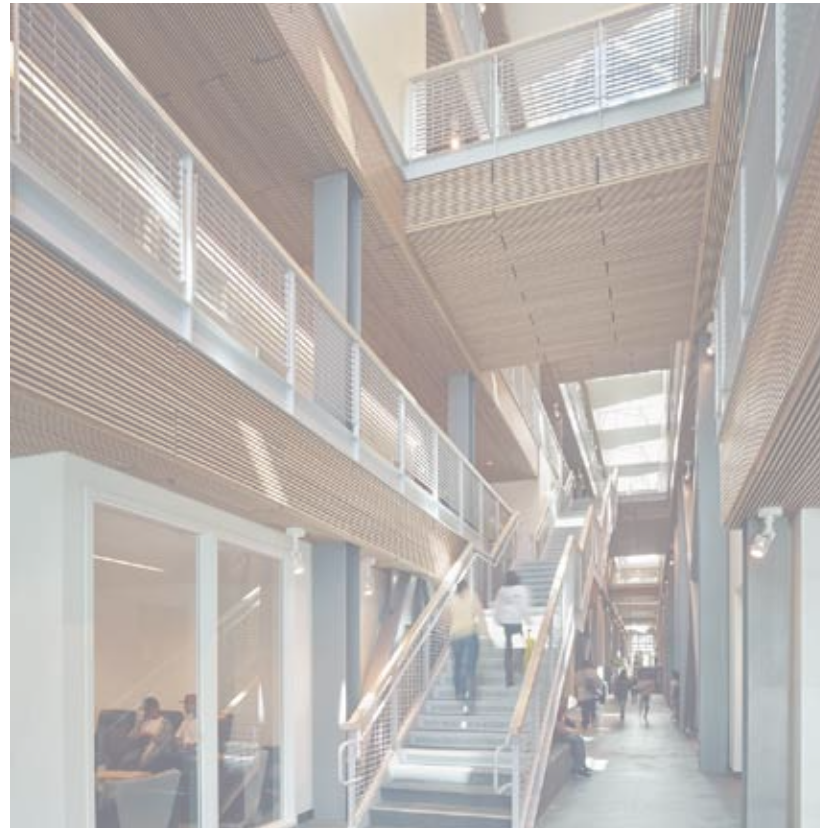


Facade Articulation

Both modernizations and new building projects should articulate facades to provide interest and a variety of scales.

Facade Articulation can be accomplished in a variety of ways:

- Locating facade elements at different depths in the facade such as protruding sunshades or mullions; recessed glazing with respect to window jambs; different materials/textures that have different thicknesses at different building heights and/or locations
- Arcades on some portions of the building
- Other recesses/protrusions created by the building massing
- External Screens/Trellises/Green Walls located in close proximity to portions of the Building Facades



Visible Permeability

Both modernizations and new building projects should provide more visible permeability to showcase the activities inside and for sustainability reasons, including daylighting, quality views and visual connections to the outdoors. This should be done with careful consideration for the glazing type (see District Standard), natural ventilation objectives, and other recommendations made in the Sustainability Guidelines that follow.

Visible Permeability can be accomplished in a variety of ways:

- Clear glazing (see District Standard) as opposed to dark glazing
- Discrete door and window openings
- Large expanses of glazing (for example storefronts & curtainwalls)
- Skylight glazing
- Clerestory & roof monitor glazing
- Folding glazed walls

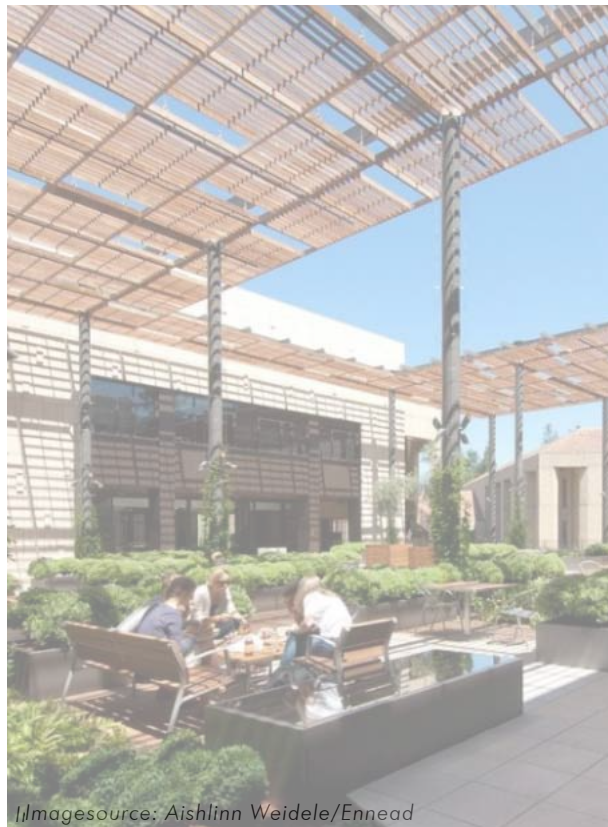




Imagesource: Bruce Damonte/WRNS Studio



Imagesource: David Wakely/Anshen+Allen



Imagesource: Aishlinn Weidele/Ennead



Imagesource: coarchitects.com



Imagesource: bmasf.com/Mark Cavagnero

Arcades and Trellises

The original Fairfield campus plan called for arcades to connect the buildings together, unfortunately these never got built. Apart from providing much needed shade, these arcades would have strengthened the sense of campus and provided places for students to congregate, socialize and study. While the Facilities Master Plan does not specifically call for arcades or trellises to be connected all the way around the campus, the use of arcades and trellis structures is highly desired for all campus sites.

These can be integrated into the building envelope or freestanding next to the building. They should occur in locations that promote circulation connections to adjacent buildings, or in locations that provide some useful purpose, such as waiting areas, terraces etc. Given the preferred campus aesthetic, it is preferable to have modern interpretations of the arcade.



Roofs and Roof Elements

The existing precedent on all campuses are flat roofs, and new projects should also have flat roofs. The existing mansards on the Fairfield campus should NOT be replicated, these will be removed as renovations on existing buildings take place.

Building façades should be terminated in one of these ways:

- Satin aluminum coping in line with Building Facade
- Projecting metal paneling caps
- Projecting eave elements
- Bird protection elements and/or sunshade elements

Equipment on the roof should be screened with metal paneling (perforated, solid or louvered) in colors as specified in the color palette, unless it is located aligned with building edges, in which case it can be articulated in a manner consistent with the building facades.



Fairfield Color Palette

The Fairfield Color Palette aims to create uniformity for the exterior colors on campus while allowing for some diversity on campus, as well as harmony with the existing buildings colors. To the left are the existing building colors, and below it are the future buildings/ renovations color palette. The hope is that existing buildings would also move to the new color palette when they undergo major renovations. Note all color swatch details can be found in the [Design Standard for Exterior Paint](#) (found in Book 2, page 70).

Exposed Structural Elements should be:

- Either Exposed Concrete or White.

The Mandatory Accent Element can be:

- Trim around Door/Window Openings
- Underside of Projecting Eaves / Canopy Soffits
- Sunscreens / Trellises
- Stair Tower Elements

The Framing / Glazing Elements should be:

- See Design Standard for Door and Door Frames (Book 2, page 62)
- See Design Standard for Glazing (Book 2, page 77)

The Roof Coping Color should be either:

- Satin Anodized Aluminum
- Match Metal Panelling Color for Metal Panels
- White (at arcades, Bird Protection, Sunshades etc.)

The Roof Screen Color should be either:

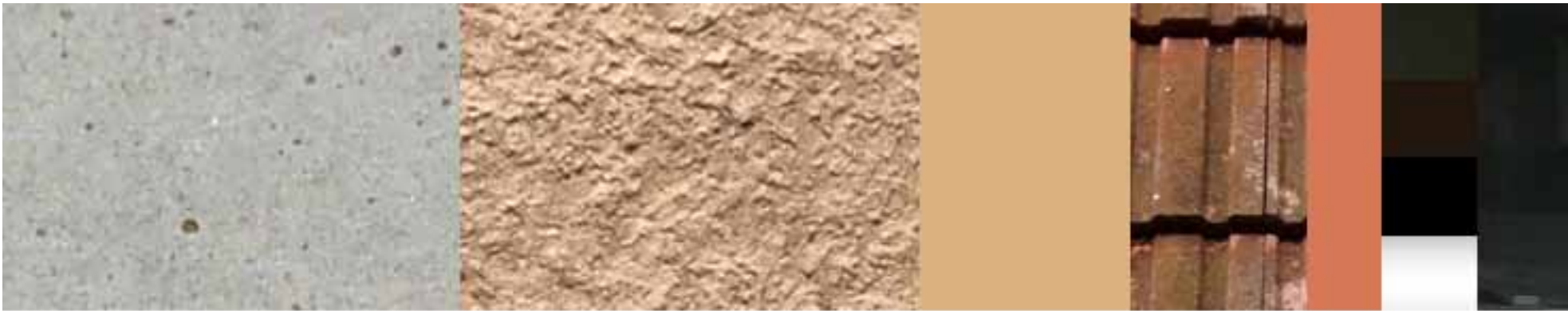
- White
- Light Grey to match Satin Anodized Aluminum

In addition to the Mandatory Accent Color:

- Buildings can have ONE of the additional Accent Colors (bottom two rows) for portions of the Main Body or other Elements.

Non Public Buildings should be:

- Per Design Standard for Exterior Paint (Book 2, page 70)



Existing Arches and Columns

Existing Stucco

Building 400 Stucco

Existing Roofing

Existing Frames & Glazing

The Structural Elements should be:

- Existing Concrete Columns should be sandblasted and cleaned
- New Columns should be exposed Concrete or White
- Arcades should be White

The Main Building Color should be:

- One of the top three colors below
- In addition they can have ONE color accent (see bottom two rows)

Mandatory Accent Element Color:

- One of the top four colors below
- Existing Buildings can opt to match Birch Wood Color in lieu of the above

New Columns & Arcades

New Main Building Color

One Building Element to have one of these (4) tones

New Frames & Glazing



In addition to above Buildings can have ONE of these colors

Non Public Building



Vallejo Color Palette

The Vallejo Color Palette aims to create uniformity for the exterior colors on campus while allowing for some diversity on campus, as well as harmony with the existing buildings colors. To the right are the existing building colors, and below it are the future buildings/ renovations color palette. Note all color swatch details can be found in the [Design Standard for Exterior Paint](#) (found in Book 2, page 70).

Exposed Structural Elements should be:

- Either Exposed Concrete or White.

The Mandatory Accent Element can be:

- Trim around Door/Window Openings
- Underside of Projecting Eaves / Canopy Soffits
- Sunscreens / Trellises
- Stair Tower Elements

The Framing / Glazing Elements should be:

- See Design Standard for Door and Door Frames (Book 2, page 62)
- See Design Standard for Glazing (Book 2, page 77)

The Roof Coping Color should be either:

- Satin Anodized Aluminum
- Match Metal Panelling Color for Metal Panels
- White (at arcades, Bird Protection, Sunshades etc.)

The Roof Screen Color should be either:

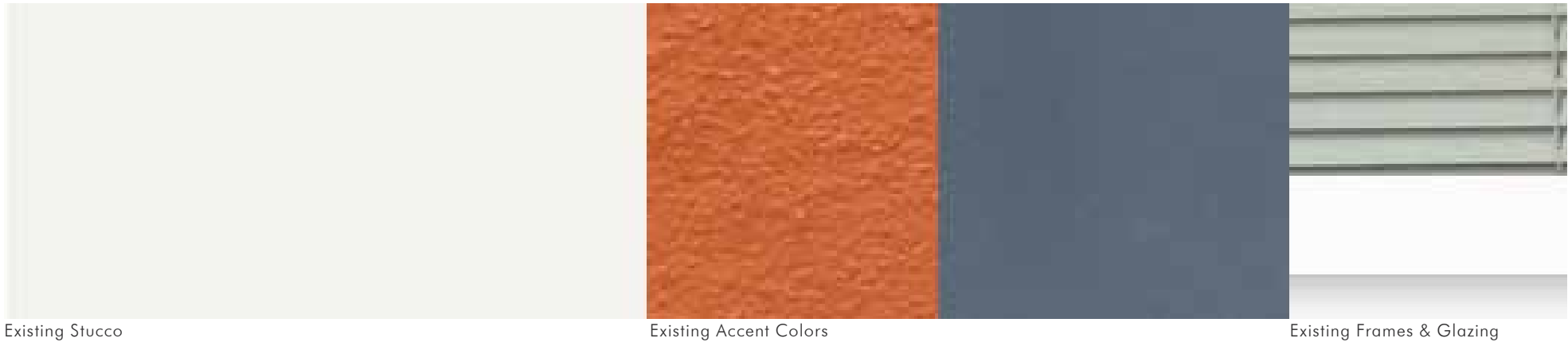
- White
- Light Grey to match Satin Anodized Aluminum

In addition to the Mandatory Accent Color:

- Buildings can have ONE of the additional Accent Colors (bottom two rows) for portions of the Main Body or other Elements.

Non Public Buildings should be:

- Per Design Standard for Exterior Paint (Book 2, page 70)



The Main Building Color should be:

- One of the top three colors below
- In addition they can have ONE color accent (see bottom two rows)

Mandatory Accent Element Color:

- One of the top four colors below





The Structural Elements should be:

- New Columns should be exposed Concrete or White
- Arcades should be White

The Main Building Color should be:

- One of the top three colors below
- In addition they can have ONE color accent (see bottom two rows)

Mandatory Accent Element Color:

- One of the top four colors below

Vacaville Color Palette

The Vacaville Color Palette aims to create uniformity for the exterior colors on campus while allowing for some diversity on campus, as well as harmony with the existing buildings colors. To the left are the existing building colors, and below it are the future buildings/ renovations color palette. Note all color swatch details can be found in the [Design Standard for Exterior Paint](#) (found in Book 2, page 70).

Exposed Structural Elements should be:

- Either Exposed Concrete or White.

The Mandatory Accent Element can be:

- Trim around Door/Window Openings
- Underside of Projecting Eaves / Canopy Soffits
- Sunscreens / Trellises
- Stair Tower Elements

The Framing / Glazing Elements should be:

- See Design Standard for Door and Door Frames (Book 2, page 62)
- See Design Standard for Glazing (Book 2, page 77)

The Roof Coping Color should be either:

- Satin Anodized Aluminum
- Match Metal Panelling Color for Metal Panels
- White (at arcades, Bird Protection, Sunshades etc.)

The Roof Screen Color should be either:

- White
- Light Grey to match Satin Anodized Aluminum

In addition to the Mandatory Accent Color:

- Buildings can have ONE of the additional Accent Colors (bottom two rows) for portions of the Main Body or other Elements.

Non Public Buildings should be:

- Per Design Standard for Exterior Paint (Book 2, page 70)

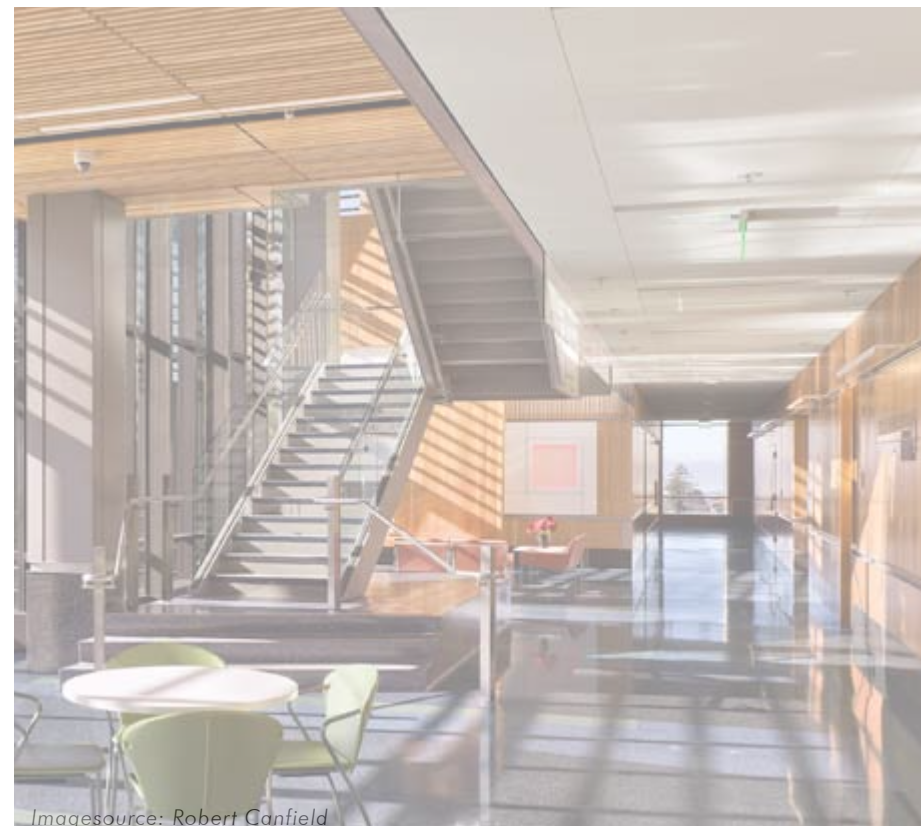


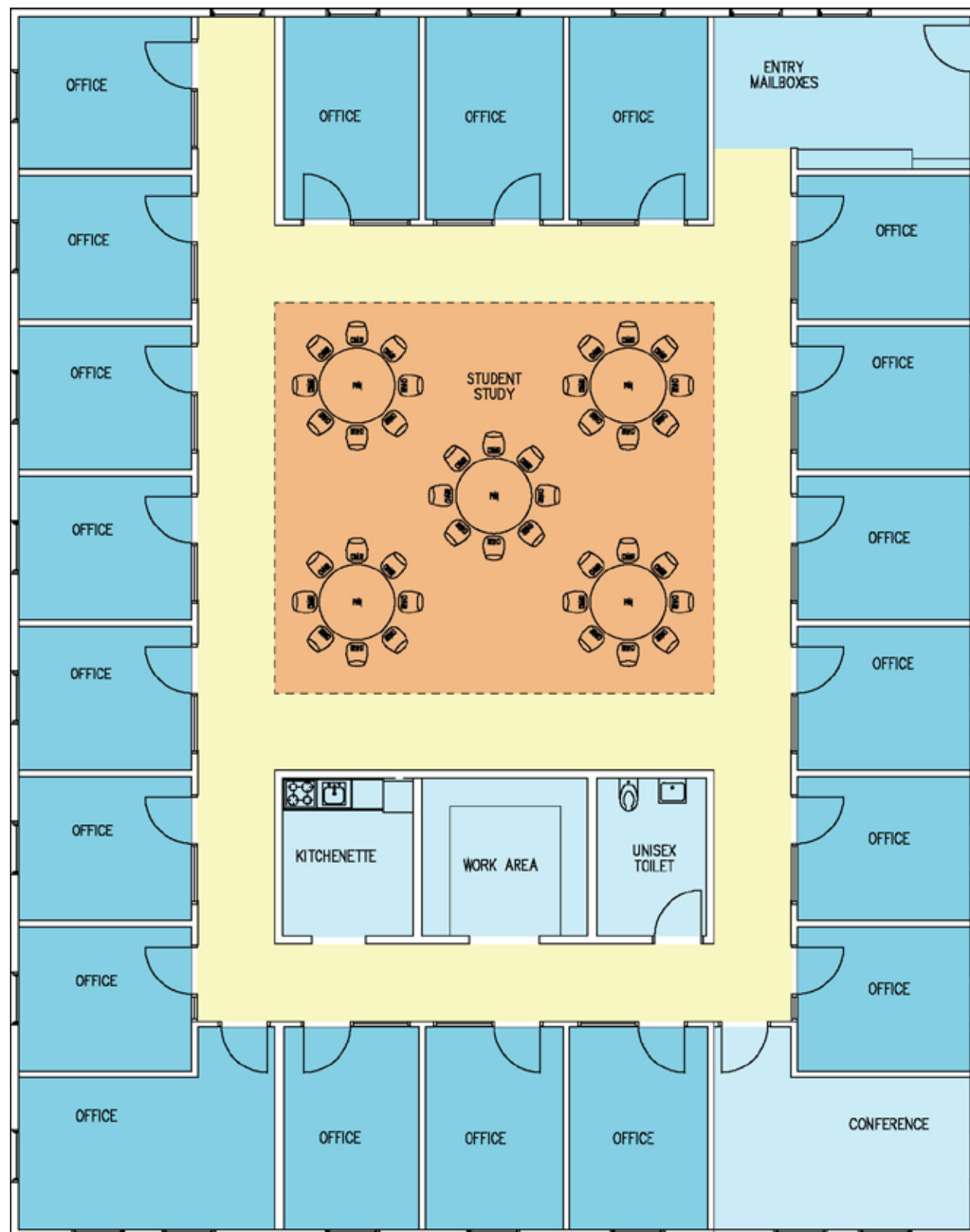
Interiors

Building interiors should be light, warm, and welcoming. Naturally daylight the interiors to the best extent possible. Materials should be selected based on the following criteria:

- Durability
- Environmentally Friendly
- Ease of Maintenance
- Visual Interest, Warmth and Comfort

Refer to District Standards, Part III, for more information on acceptable and preferred materials.





“BIRD ROOM” COLLABORATION CLUSTER

The “Bird Room” is Room 309 in Building 300. It is a room which happens to house bird models, but the reason why it is considered special is because it is where Science students come to study at tables located within earshot of Science faculty offices. The proximity to the faculty offices means that not only is faculty easily accessible to students, but that faculty is also able to provide assistance to students on an impromptu basis based on what faculty members overhear. Both students and faculty have pointed to this space as an example of what works for student success on the Fairfield Campus. In fact, many Universities and Colleges across the United States have noticed that locating student study spaces within earshot of faculty offices result in better student learning outcomes and it is quickly becoming the model for these educational institutions. As such, Solano Community College wishes to develop future faculty offices and student study spaces based on the Bird Room concept.

Respecting the fact that both student and faculty needs are diverse, the “Bird Room” collaboration cluster has been developed to provide faculty with options for offices that overlook the student study space and offices that do not. See diagram to the left. This diagram is for a second story application where a rooftop monitor or clerestory would bring in natural daylight to the student study space. This diagram should be adapted for number of offices and location in the building - a ground floor application might require removal of some offices to allow natural daylight to the student study space.



SUSTAINABILITY CRITERIA

Buildings consume the majority of the energy resources provided to the campus and generate the majority of the waste made on campus, as such they should be designed to minimize waste, water use and energy use to meet the District Sustainability goals. The Sustainability Guidelines that follow outline a number of strategies to achieve these goals, and they include building orientation, passive solar design, visible connections to the exterior, daylighting, natural ventilation, efficient building systems, recycled & locally sourced materials, and environmentally friendly materials.

Sustainability Guidelines

These guidelines were developed through conversations with Solano Stakeholders (through the Sustainability Committee) and with the collaboration of maintenance and operations staff at the District.

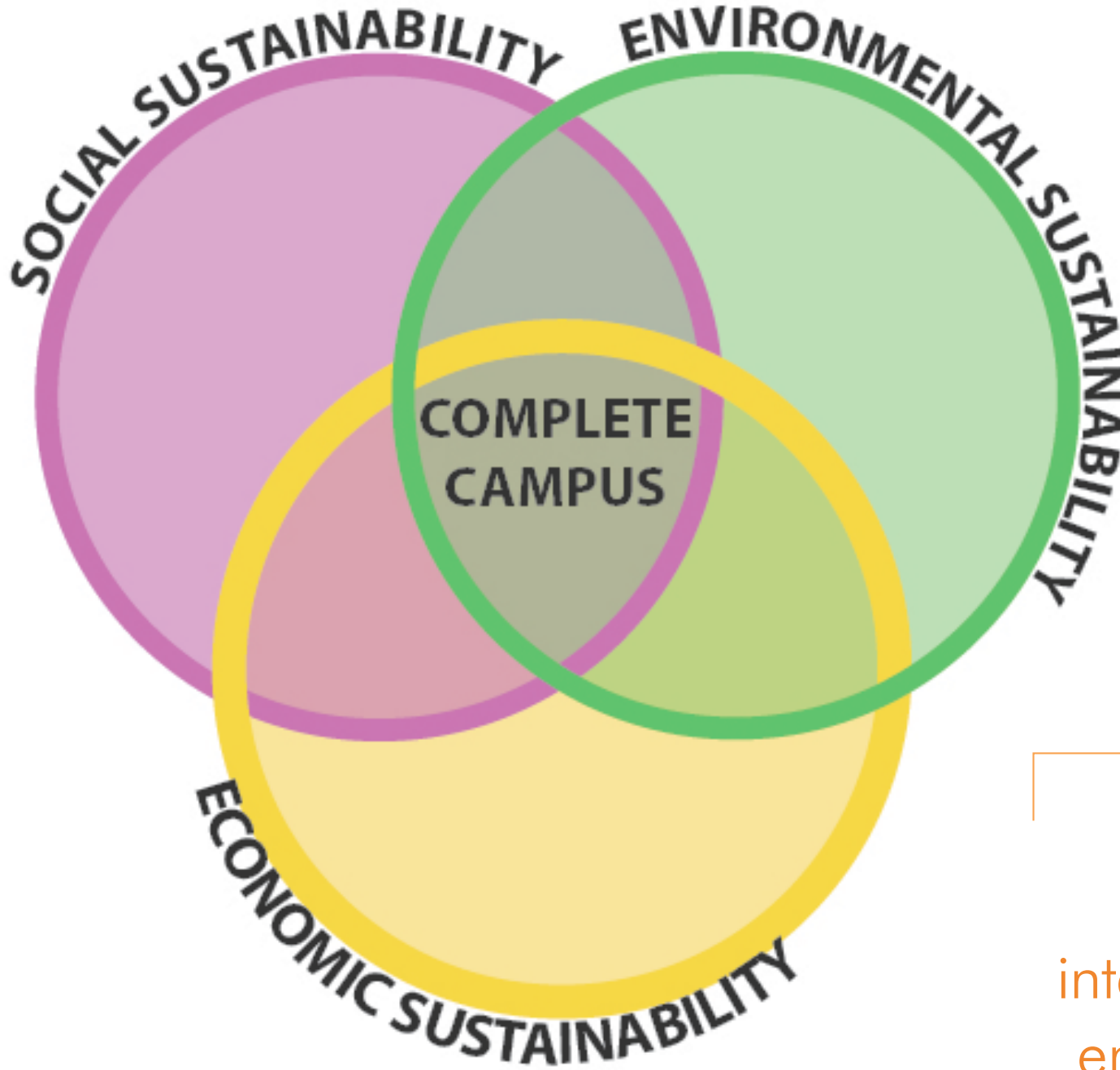
SUSTAINABILITY VISION

“Solano Community College will be a leader in sustainable practices that balance the best interests of the environment, our community and fiscal responsibility. In particular, it will reduce its ecological footprint through energy, water and waste reduction, curriculum development and community engagement.”

SUSTAINABILITY GOALS

The District will aspire to meet the following goals and target dates:

- Reduce energy consumption from the 2001-2002 baseline by 15% by the end of 2014-2015.
- Reduce the energy cost from the 2001-2002 baseline by 20% by the end of 2014-2015.
- Procure 40% of electricity from renewable sources by 2014.
- The District will endeavor to meet and exceed the following LEED standards: all major new capital projects to be designed to LEED Silver criteria and all major renovation projects to be designed to LEED Certified criteria.
- Reduce water use per student by 20% from 2011 levels by 2020.
- Eliminate the use of potable water for irrigation by 2020.
- Divert 75% of solid waste from landfills by 2015 and aim for zero waste by 2020.
- District will commit to working with local transportation agencies to improve service and routes to the benefit of our students with the aim of reducing Vehicle Miles Traveled (VMT).
- Integrate sustainability into the curriculum through multi-disciplinary approaches, to increase the number of courses offering a sustainable component.
- Reduce annual GHG emissions to 1990 levels by 2020 and achieve climate neutrality by 2050.



balance
the best
interests of the
environment,
our community
and fiscal
responsibility

Innovation & Design



Location & Linkages

Sustainable Sites

Water Efficiency

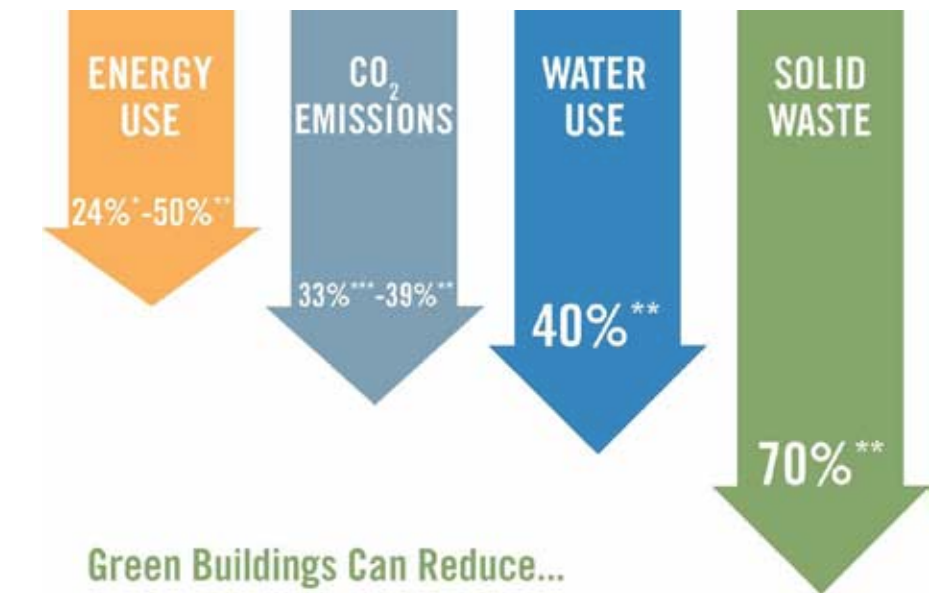
Energy & Atmosphere

Awareness & Education

Indoor Environmental Quality

Materials & Resources

The Facilities Master Plan includes Sustainability Guidelines that aim to help the District achieve these goals as applicable to site, infrastructure and facilities development. These Guidelines are arranged per *selective* credit categories identified in the LEED v4 for Building Design and Construction (BD+C) checklist, however they do not replace the LEED checklist and should be evaluated in conjunction with the most current applicable LEED checklist as well as the “Programs and Projects for Implementation” found in the California Community College Chancellor’s Office [CCCCO Sustainability Plan Guidebook](#).



* Turner, C. & Frankel, M. (2006). Energy performance of LEED for New Construction buildings. Final report.
 ** Kats, G. (2003). The Costs and Financial Benefits of Green Building: A Report to California's Sustainable Building Task Force.
 *** USA Pacific Building Service (2005). Assessing green building performance: A post-occupancy evaluation of 12 GSA buildings.

LOCATION AND TRANSPORTATION

The Facilities Master Plan is based on sustainable planning principles that should be reinforced with each Capital Improvement Project. The following apply to the Location and Transportation credits:

LEED for Neighborhood Development Location

- At Fairfield, most existing buildings have been repurposed rather than demolished and new buildings are proposed in areas with existing infrastructure.
- Buildings are proposed to be in close proximity to one another to encourage walkability and reduce vehicle distance traveled.
- New buildings should be a **minimum of 2-stories**.

Sensitive Land Protection

- On the Fairfield Campus the land east of the campus loop road is being maintained as its natural riparian habitat, and the area fronting Suisun Valley Road is being maintained as open land.

Access to Quality Transit

- District is committed to working with local transportation agencies to improve service and routes for the benefit of its students and at this time it is expected that the existing bus stops on each campus will accommodate these improvements.
- Existing Public Transit access has been maintained on all campus sites and the Fairfield Campus bus stop is proposed to be relocated south of Building 400 with better waiting facilities.
- At the Fairfield Campus a pathway to the proposed Regional Bus Station (off-site) has been reinforced.
- At the Vacaville Campus a pathway should be provided once the Regional Bus Station location has been identified.

Bicycle Facilities

- District is interested in trying out a **Bicycle Share program** and specific projects should look at opportunities to incorporate bicycle storage and shower rooms.



Reduced Parking Footprint

- The Facilities Master Plan proposes to reduce Parking at the Fairfield campus (current supply exceeds current and projected demand), and at Vallejo is proposing to have a one-story parking deck on the additional property to reduce future parking footprint in favor of more green space.

Green Vehicles

- Fairfield already has some **Electric Vehicle Charging Stations** and the District is interested in promoting Green Vehicle usage on all Campus sites thus future projects affecting parking lots should include the addition of charging stations per LEED criteria.



ImageSource: campuslifeservices.ucsf.edu



ImageSource: sfbike.org



SUSTAINABLE SITES

The Facilities Master Plan is based on sustainable planning principles that should be reinforced with each Capital Improvement Project. The following apply to the Sustainable Sites credits:

Site Development - protect or restore habitat

For the Fairfield Campus the buildings proposed are replacing demolished buildings and existing parking, which results in green space *added* to the campus. This is not the case with the other two campuses, where greenfields are being replaced with buildings and parking, so these credits will apply only to Fairfield.

Furthermore, on the Fairfield Campus the land east of the campus loop road is being maintained as its natural riparian habitat. In addition, by allowing habitats to flourish the natural ecology of the land will thrive. To better the soils and habitat one should:

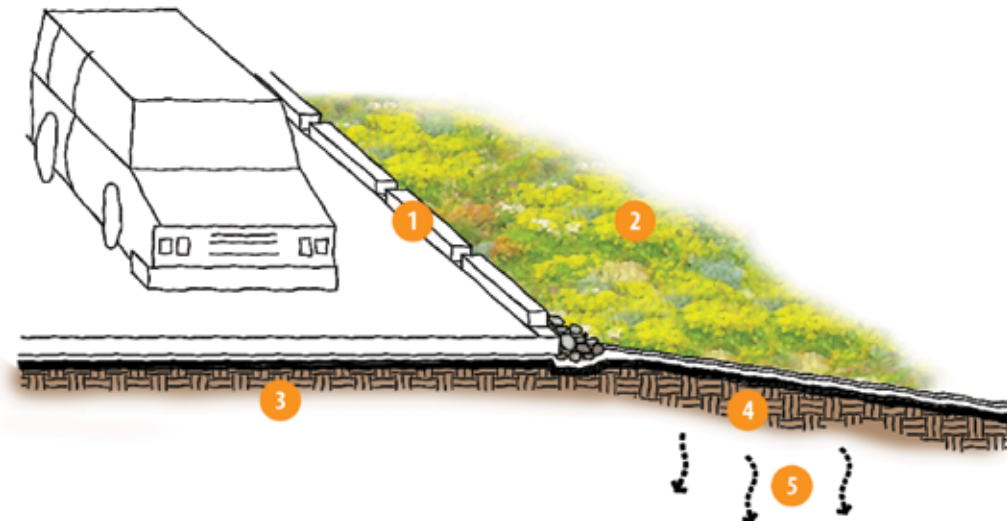
- Mulch regularly and sheet mulch where appropriate
- Avoid synthetic and quick release fertilizers
- Limit use of chemical pesticide
- Plant California Natives when suitable for microclimate

Rainwater (Stormwater) Management

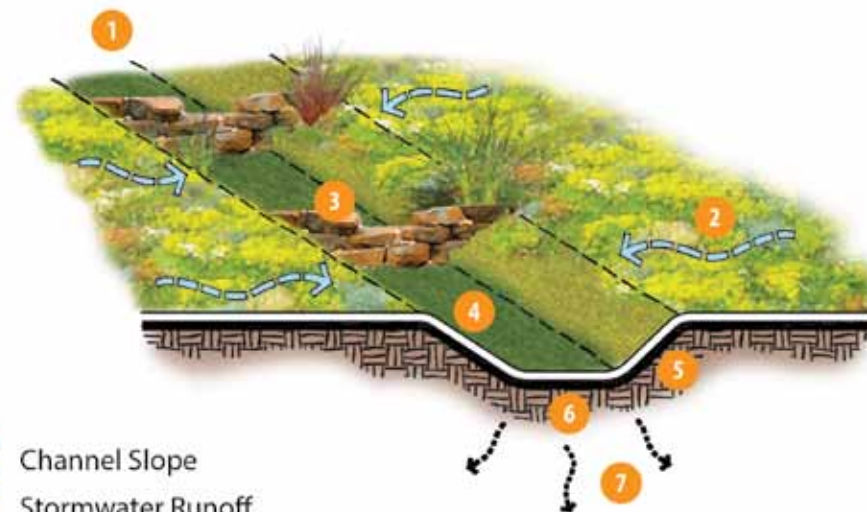
Rainwater management consists of systems that retain rainfall on sites instead of allowing it to leave via gutters and storm drains. Retaining stormwater allows for reduced irrigation water demand, an increase in groundwater recharge and an opportunity for removal of sediments and pollutants. Refer to the [Stormwater Management Plan](#) that follows for complete details. The following are some systems that help retain rainfall on sites:

- **Vegetated Buffers** are sloped planting strips designed to capture and treat sheet flow from adjacent paved areas. Vegetated Buffers are attractive landscape features that can improve water quality, attenuate peak flows and facilitate groundwater recharge.
- **Vegetated Swales** are shallow planted channels that convey storm water runoff. The advantages of vegetated swales is that they remove particulates from the storm water flow, thereby improving the water quality. They also reduce the rate of runoff and helps facilitate groundwater recharge.

- 1 Optional curb cuts evenly disperse run-off inflow
- 2 Thick vegetation and 10% maximum slope
- 3 60-foot maximum road width
- 4 15-foot minimum buffer strip width (in direction of flow)
- 5 Infiltration where feasible



Vegetated Buffer

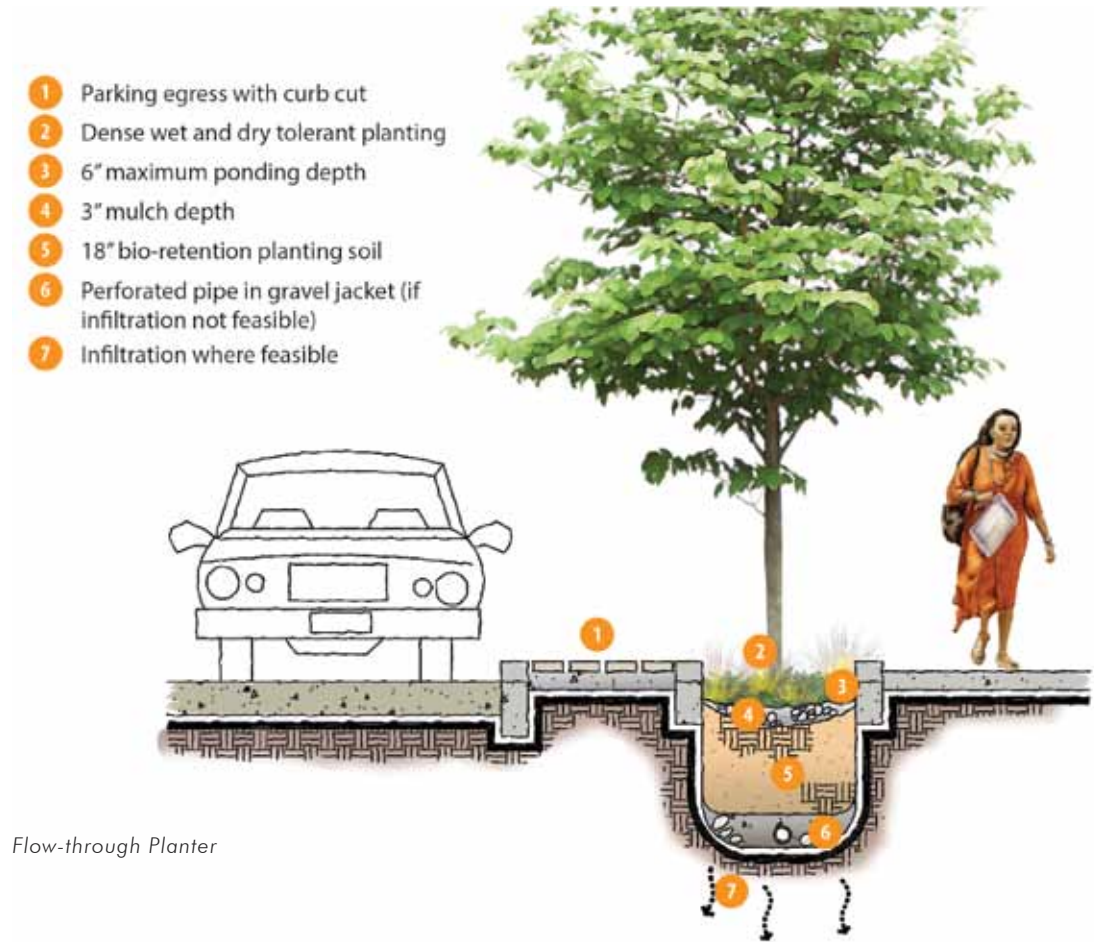


- 1 Channel Slope
- 2 Stormwater Runoff
- 3 Check Dam (Slope greater than 5%)
- 4 6-inch grass height recommended
- 5 3:1 maximum slope bank
- 6 Channel bottom
- 7 Infiltration

Vegetated Swale



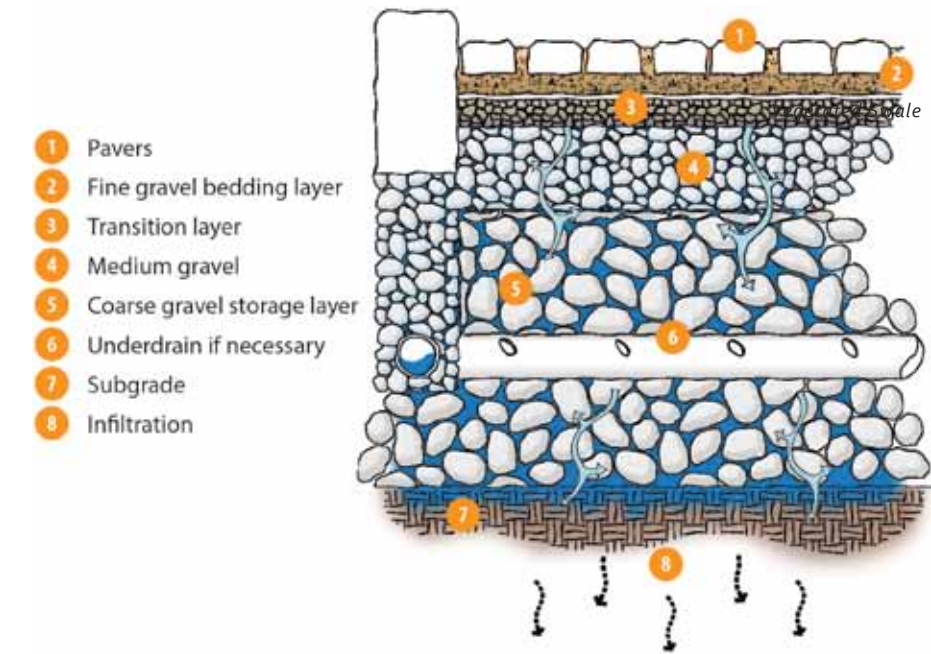
- Flow-Through Planters** allow water to percolate through vegetation and soils to help remove pollutants and sediment. Apart from providing an aesthetic amenity, the benefits of flow-through planters include creation of habitat, reduction in runoff volumes, improvement of water quality, facilitation of groundwater recharge and facilitation of evapotranspiration.



Flow-through Planter

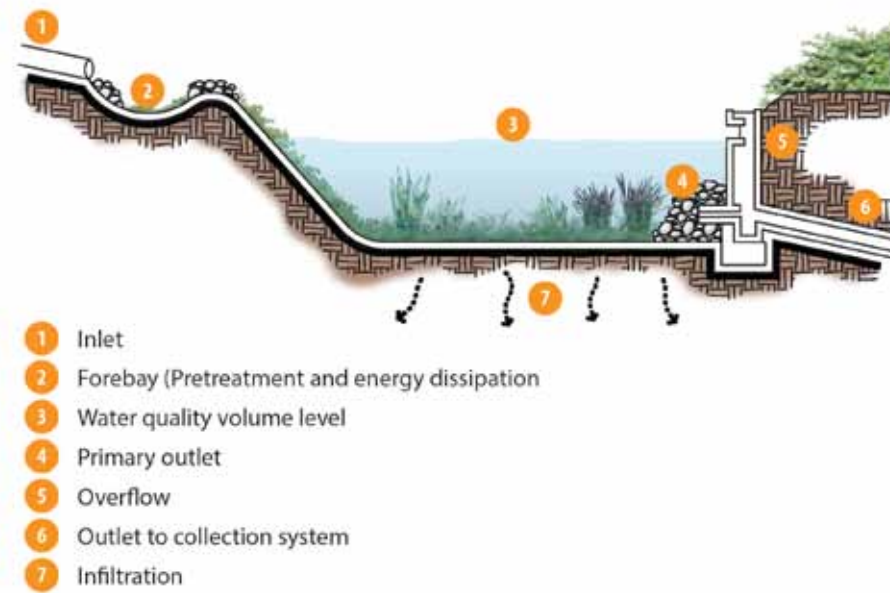


- Permeable Pavements** are porous, load-bearing surfaces that can temporarily store rainwater before infiltration to the stormwater system or groundwater table. Permeable pavement can reduce runoff, improve water quality, facilitate groundwater recharge, reduce surface ponding and reduce heat island effect.



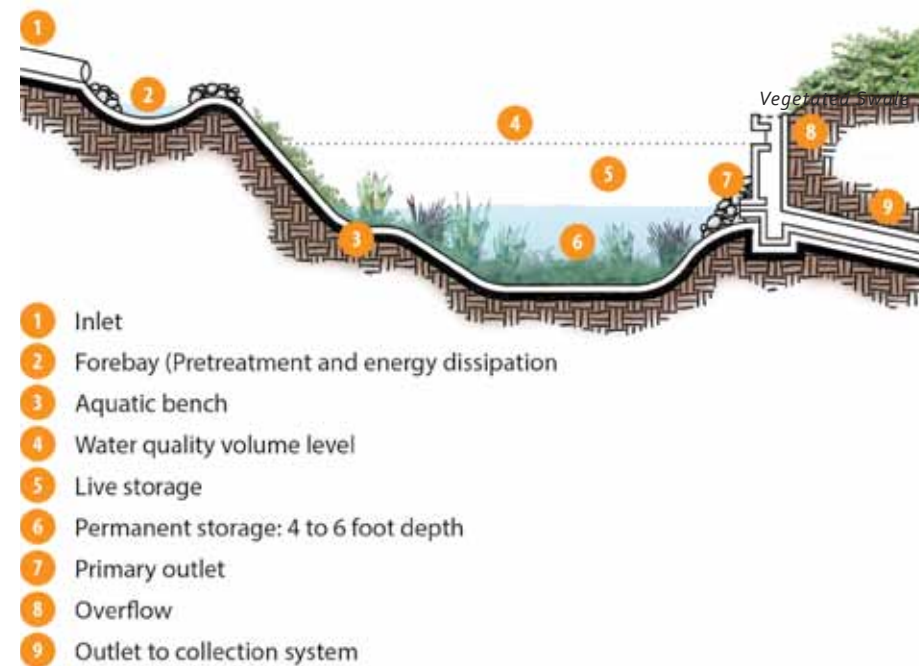
Permeable Pavers





Detention Pond

- **Detention Ponds** are designed to temporarily hold water from peak storm events. The water can be released from them slowly, reducing the demand on infrastructure during storms. They are intended to dry out within 48 hours of a rain event. Detention ponds can be designed with vegetation and in turn provide habitat and improve air quality. Detention ponds can reduce runoff, improve water quality, reduce flooding, create habitat and create open space.



Wet Pond

- **Wet Ponds** are basins that permanently hold water throughout the wet season and potentially year-round. Wet ponds can reduce stormwater volumes, remove stormwater pollutants and create an amenity and habitat.

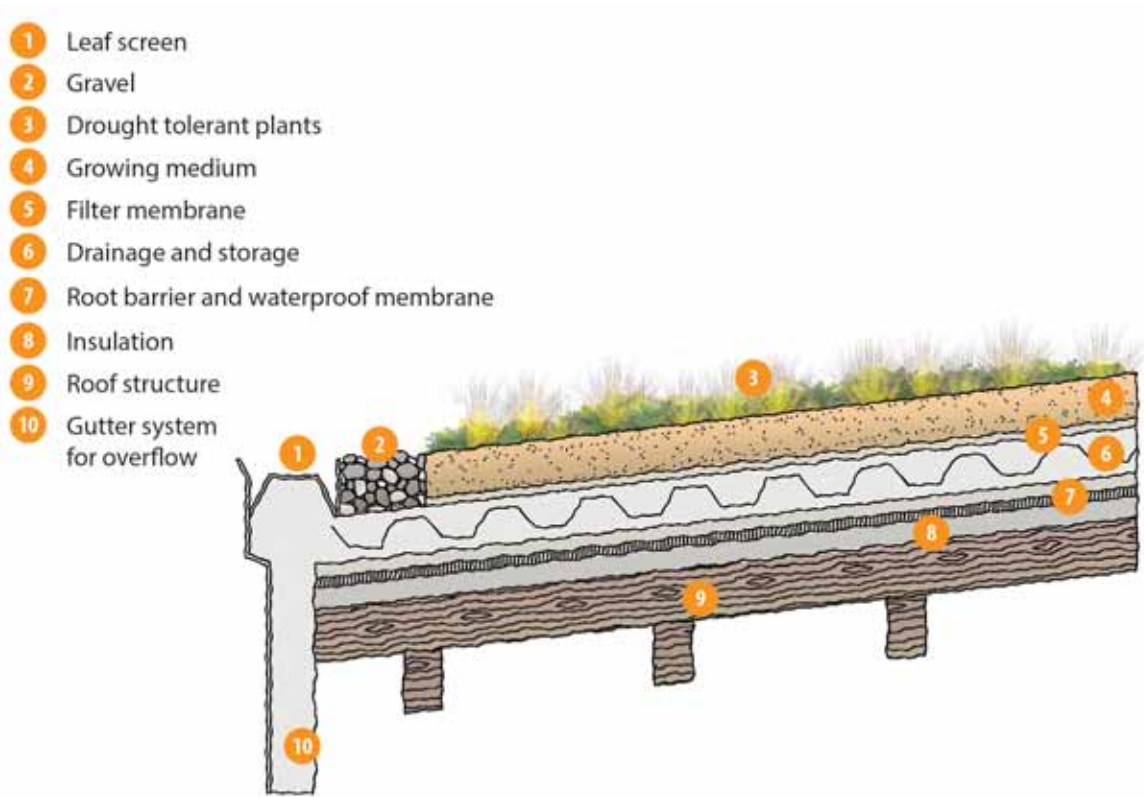
- **Vegetated Roofs** are roofs that are completely or partially covered with soil or vegetation. These roofs can decrease stormwater runoff, provide insulation that helps to lower heating and cooling costs, extend the life span of the roof, create habitat and serve as an amenity for the building and the campus.

Heat Island Reduction

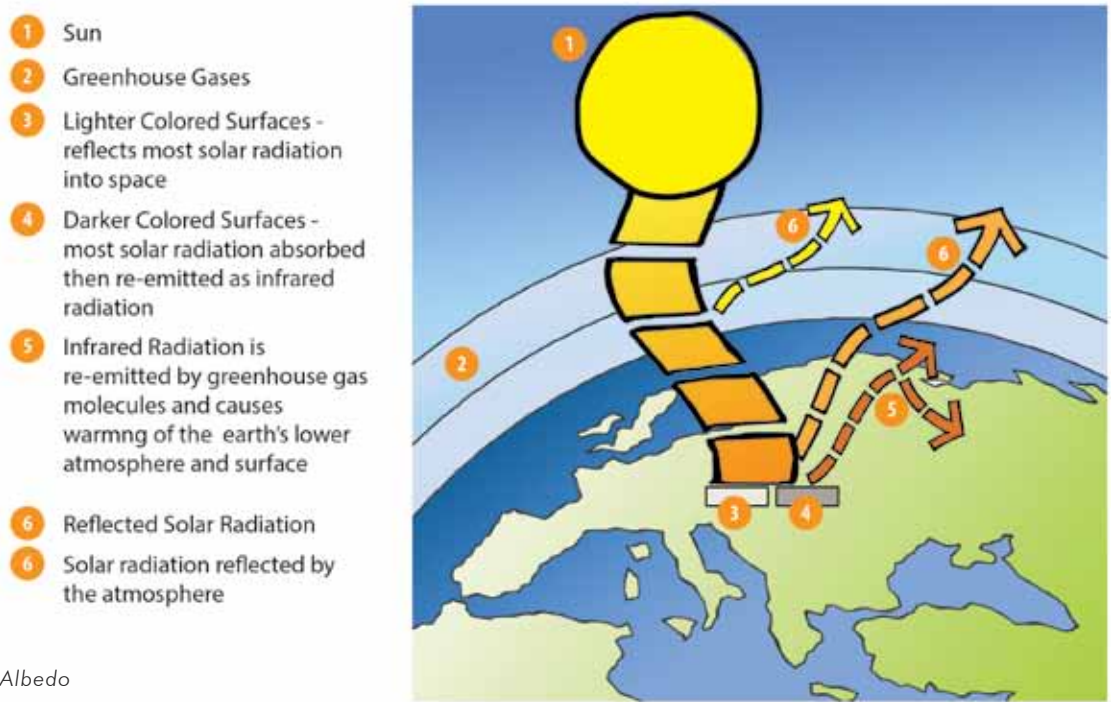
- Parking Areas should be designed to have **more trees** to reduce the heat island effect. See Page 115 for Parking Areas Guidelines.
- Several District Standards (e.g. Landscaping Paving and Roofing) reduce the heat island effect by specifying colors with **high albedo**. A surface with high albedo is a lighter and whiter surface that reflects the majority of the radiation that shines on it from the sun. The reflected radiation is then sent back into the atmosphere instead of being absorbed into the ground, which would in turn, increase heat island effect.
- **Vegetated Roofs** should be considered where appropriate to reduce heat island effect and increase open space. See above for more information on Vegetated Roofs.

Lighting Pollution Reduction

- All exterior lighting must **meet uplift and trespass requirements** per one of the LEED methods to increase night sky access and visibility.
- LED fixtures should be considered for all site lighting for LED lighting is more efficient than other types of lighting for this type of application and it requires less bulb changes resulting in less maintenance hours.

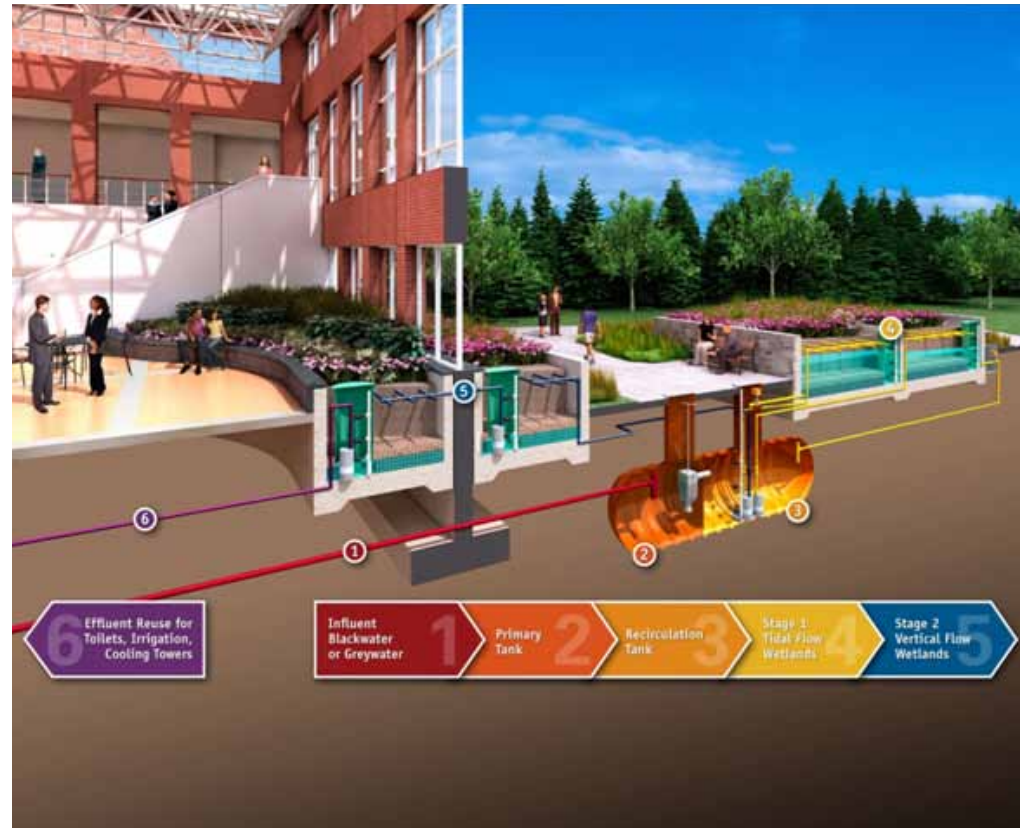


Vegetated Roof



Albedo





Group plants of similar water needs



Plant California Natives when appropriate



WATER EFFICIENCY

Replacing aged plumbing equipment/systems with more efficient equipment/systems will reduce both overall water use and overall energy use. See Facilities Assessments in Book 3 for existing plumbing equipment that was beyond its service life and recommended to be replaced. In addition the following were identified as severely aged by the District: Domestic hot water generation equipment (aged equipment and inadequate capacity); Domestic hot water piping distribution systems and Sewer and drainage piping systems throughout the campus.

Outdoor Water Use Reduction

The following will help reduce outdoor water use:

- Hydrozoning: clustering of plants with similar water requirements so that irrigation scheduling can be more effective.
- Planting California Natives when appropriate.
- Design and installation of high efficiency irrigation systems (see District Standards, Book 2, page 13).
- Use of recycled or greywater where appropriate. Systems include **Detention and Wet Ponds** (see previous pages) and Living Machine Systems. **Living Machine Systems** are natural and designed to recover all the water used on the campus. When centrally installed, the system will take all waste in the sanitary sewer system and recover it to be used for grey water (toilets and urinals), make-up water (cooling towers, IDEC units, etc.), and irrigation. This recovery system proves to be much more economical than rainwater harvesting systems and could yield a 7-10 year payback through reduction of water bills and reduction of sewer bills. To take full advantage of the system, the District would have to double pipe the greywater systems with a separate purple pipe water distribution piping.
- Sustainable landscaping practices including the use of mulch and compost to increase soils ability to retain moisture.

Indoor Water Use Reduction

Reduce Water Demand through low water use Water Closets, Lavatories and Urinals.

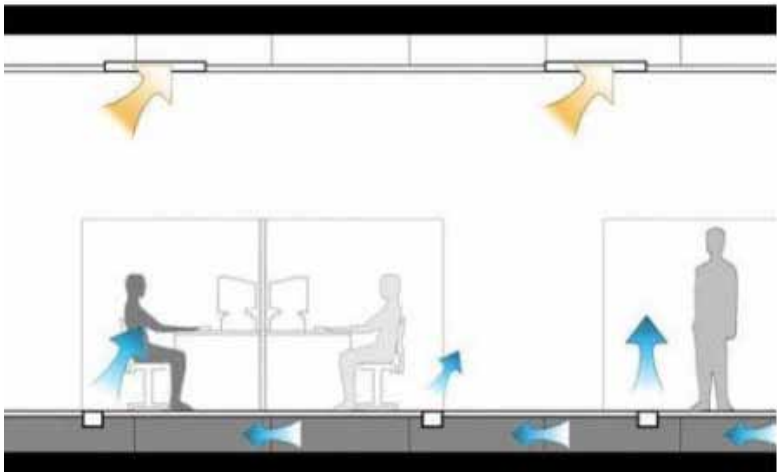
ENERGY AND ATMOSPHERE

There are an array of strategies for reducing energy use which include building integrated opportunities, HVAC system opportunities, plumbing systems opportunities and electrical systems opportunities.

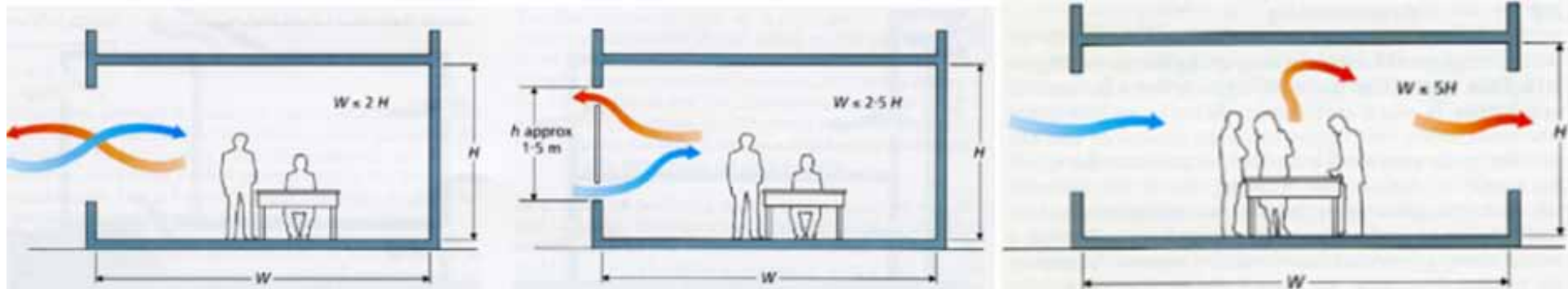
Optimize energy performance - Building Envelope

Whether the District is retrofitting existing buildings or building new ones the most cost effective solution in optimizing energy efficiency occurs within the building envelope. The following are building integrated opportunities that should be considered for each project:

- **Enhanced glazing (inclusive of its framing):** can provide valuable energy, thermal, and lighting benefits with no added maintenance and can last for decades. The Glazing District Standard should be applied to all New Buildings and glazing on Existing Buildings should be replaced with this Standard to the best extent possible.
- **Thermal Insulation Systems:** prevent energy used to heat or cool the buildings to escape the building envelope. Adding insulation where it is non-existent or minimal will enhance both the energy utilization of the building as well as the thermal comfort of the building. Thermal insulation systems should be placed to take advantage of the thermal mass of each building as much as possible.
- **Natural Ventilation:** projects should maximize opportunities for natural ventilation by creating high and low window openings (typically approximately 5% of the floor area) to create the deepest penetration possible. If possible, consideration should be provided to ventilate through central areas to create not only cross ventilation (from both sides of the building), but also stack ventilation by creating high points of relief within the buildings.
- **Shading:** projects should include shading devices within the building envelope. Choices include Horizontal External Shades, Vertical Fins, Electrochromatic Glazing and Interior Shading. Electrochromatic glazing is special glazing that “darkens” the glass at certain solar angles and temperatures which limits the amount of heat buildup in the building. Interior shading devices still allow the heat into the occupied spaces but can transition when the heat load actually affects the space. They also help to reduce glare.
- **Phase Change Materials:** “absorb” heat and release it at a later time when cooling is not at its’ peak. This system can be especially beneficial in buildings without cooling where natural ventilation is desired to maximum space thermal comfort.



Displacement Ventilation



Natural Ventilation

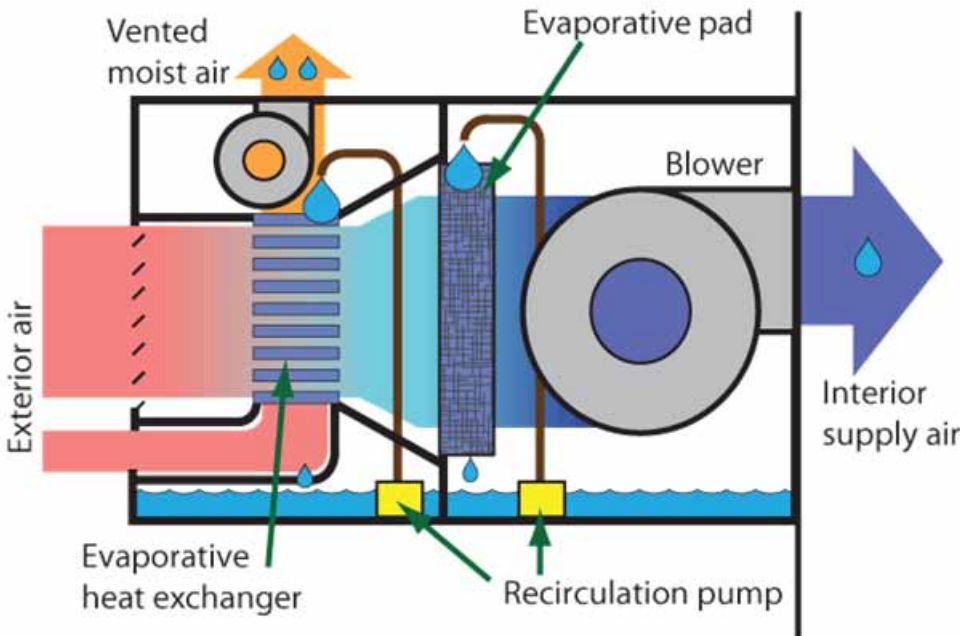
Table 1: Building Integrated Opportunities Priority Matrix

Measure Name	Priority Level	Only for New Building
Replace existing glazing on existing buildings	High	-
Integrate additional thermal insulation into existing buildings	Medium	-
External building shading devices or electrochromatic glazing	-	Yes
Phase Change Materials	Low	-
Internal shading	Low	-

Table 2: HVAC Systems Priority Matrix

Measure Name	Priority Level	Only for New Building
Replacement of aged equipment	High	-
Retrofitting to VAV	High	-
Demand Based Ventilation Retrofits	High	-
VAV Fine Tuning	High	-
Direct Drive Fans	High if fans will be changed out anyway for maintenance replacement	-
Replace existing pneumatic controls	High	-
Create system optimized adaptive start and stop schedules	High	-
Create trimming sequences	High	-
Indirect Evaporative Cooling	Medium	-
Bypass Dampers	Low	-
Replace dual filters with designed single filters	Low	-
UV Lamps	Low	-
Displacement Ventilation	-	Yes
Underfloor Air Distribution	-	Yes
Incorporate radiant/hydronic systems	-	Yes

Indirect Evaporative Cooling (IDEC)



Optimize energy performance - Mechanical

There are many opportunities for optimizing energy performance with the existing HVAC systems, and these should be coordinated with the Energy Capital Improvement Project underway:

- **Replace aged equipment:** with more efficient equipment/systems which will reduce energy use. See Facilities Assessments in Book 3 for existing equipment that was beyond its service life and recommended to be replaced. In addition the following were identified as severely aged by the District: HVAC fan systems throughout the campus; HVAC coils and air handler internals, and Duct Distribution Systems.
- **Retrofit to Variable Volume Systems (VAV):** replace constant volume air distribution air handlers with variable volume equipment that uses variable frequency drives at fans and variable volume terminal units with reheat coils in lieu of the constant volume reheat coils.
- **Demand Based Ventilation Retrofits:** in spaces with variable high occupancy, the use of carbon dioxide sensors will allow the variable volume system to reduce its airflow below the minimum Title 24 airflows when the spaces are unoccupied.
- **Fine Tuning Controls on Variable Volume Terminal Boxes** by incorporating new control sequences to existing or new terminal boxes (dual setpoint controls), the VAV terminal boxes can reduce their minimum setpoints during low load conditions.
- **Replace all Pneumatic Control Systems** for these systems do not possess the ability to conduct sophisticated control sequences that can save significant amounts of energy. It is highly recommended that all spaces be upgraded with DDC control systems.
- **Create System Optimized Start and Stop schedules** that will turn on building systems in time to reach the desired space temperatures before they are occupied, and turn them off in a similar manner.
- **Create Trimming Sequences** minimize fan energy by trimming the fan speed and the respective fan energy by “polling” zones to determine if the fan needs to maintain a certain pressure setpoint.
- **Indirect Evaporative Cooling (IDEC):** with Solano’s mild weather, mechanical cooling can be avoided year around by using indirect evaporative cooling (IDEC). Since the differential between dry bulb and wet bulb temperatures is most dramatic when it is warm outside and dewpoint stays low, the IDEC system can typically cool very close to the wet bulb temperature. This approach is as energy efficient as using a central cooling plant but without the chillers and cost of hydronic distribution (underground chilled water piping).

- **Incorporating Bypass Dampers:** with Solano’s mild weather (which results in high number of hours in economizer mode without additional cooling required) fan energy can be reduced by locating the final filters downstream of the air handling systems & providing bypass dampers downstream of the cooling and heating coils.
- **Displacement Ventilation:** this approach calls for air to fill or distribute at the bottom of the room rather than mix from the top. This allows the chiller to operate at a more efficient temperature and has added benefits with respect to acoustics (air is delivered at a very low velocity) and the removal of contaminants since air is returned or exhausted at the ceiling.
- **Underfloor Air Distribution:** utilizes the same concept of the displacement system but is delivered through a 14-16 inch raised floor. The advantages are the same with the added benefit of using the raised floor for distribution of electrical systems and technology. The major drawback is the poor construction practices by some contractors leading to air gap/leaks within the raised floor system allowing the air to bypass through walls and devices. This type of system should be considered for large auditorium spaces.
- **Increased Economizer Hours:** with Solano’s mild weather, even when it is hot, it is typically very cool at night. Economizer hours can be expanded by utilizing the displacement ventilation options above in conjunction with night cooling/night flushing of buildings.

Reduction in Maintenance

Saving time on maintenance is economically sustainable and here are some suggestions regarding Mechanical Equipment that has the potential to save many hours of maintenance per year:

- **Filters:** for typical applications, two set of filters are usually not required. Good Merv-13 filters can be utilized without Merv-8 filters upstream. This can save the cost of filters and time required to replace filters.
- **UV Lamps:** UV lamps have now been used widely in the cooling coils of air handling units to get rid of fouling of the air handling coils. This leads to a longer life of the coil, reduced pressure drop of the coil, increased heat transfer of the coil, and reduced maintenance required for cleaning of coils.
- **Direct Drive Fans:** in lieu of using belt driven fans, variable speed direct drive fans will reduce the need for belt replacement, belt dust within duct systems and filter systems, and reduced maintenance.

Optimize energy performance - Mechanical Central Plant

The existing Fairfield campus has a relatively new and efficient water-cooled chilled water system. The District wants to maintain the current chiller redundancy, therefore **additional chilling capacity at Fairfield** will need to be added to support the new buildings. We recommend that the added capacity be added through either thermal storage systems (water or ice) or a second central plant be developed that can support a looped piping system so that the central hydronic loop can remain as is, since it is relatively new. The existing boiler plant is adequately sized for the Fairfield campus expansion, however, the District may want to consider cogeneration and solar thermal (see next page for both of these) to reduce the energy used by the existing boiler plant.

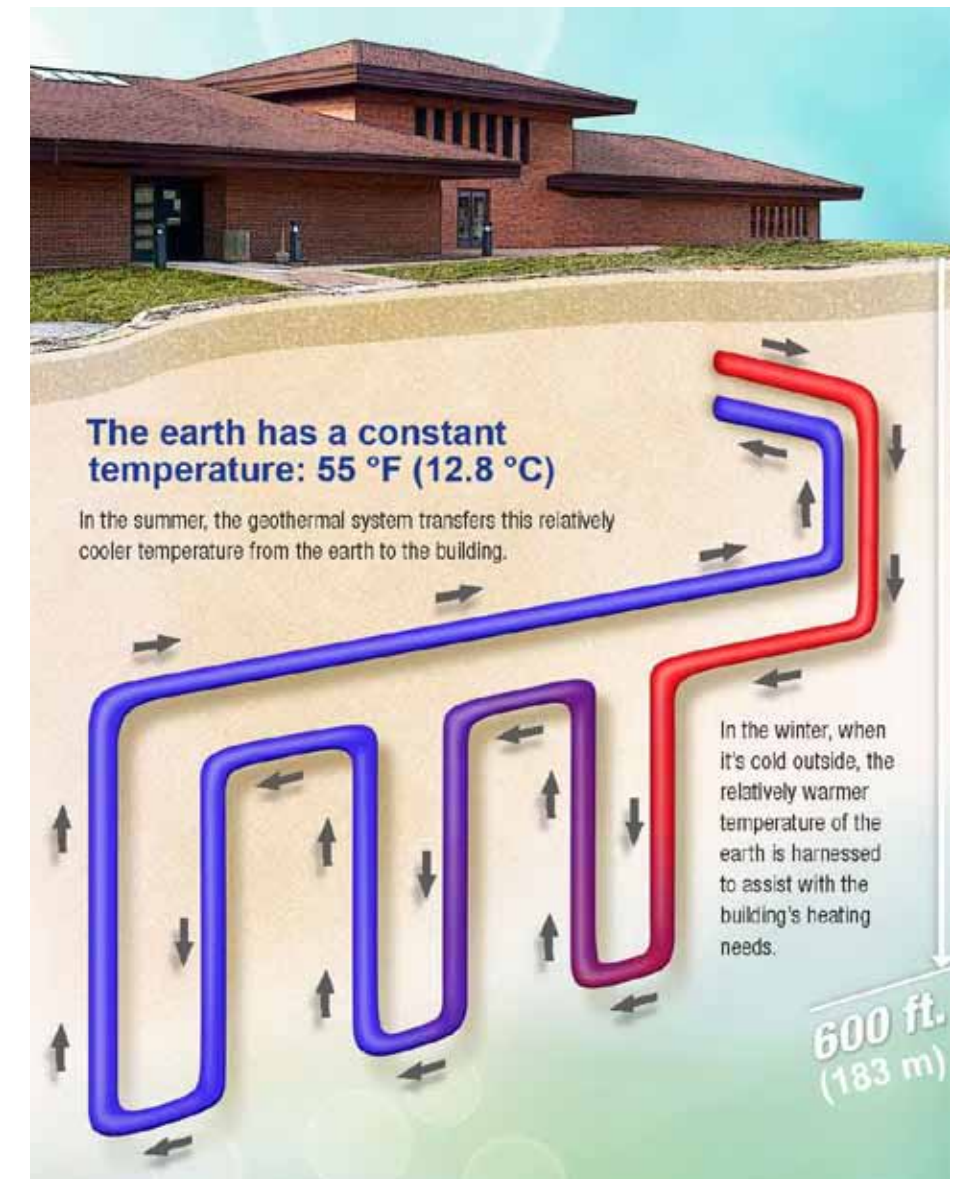
A Central Utility Plant (CUP) for both Cooling and Heating is warranted for the Vacaville campus given its future growth. The District should consider a central geexchange system that would handle both heating and cooling (see below) as the most optimum solution. The alternative is a central boiler plant with condensing boilers and primary variable pumping. De-centralized plants may be more or equally efficient, however they add maintenance costs, so they are not recommended.

The Vallejo campus on the other hand has a growth that is potentially spread out over three different properties, so a Central Utility Plant is probably not warranted. Simple system installations such as small condensing boilers and/or condensing furnace systems with high efficiencies and high turn down ratios should be considered. Should the District want to pursue Net Zero Energy on this campus then heat pump heating should be considered.

The following are some sustainability considerations for the Vacaville CUP and the expansion of the Fairfield CUP:

- **Gas Absorption Chillers:** since gas costs have declined over the cost of electricity, gas cooling is now an attractive alternative. Absorption chillers used to require a lot of maintenance, however today's absorption chillers (such as Broad) can be very maintenance friendly. An absorption chiller can also be tied into the cogeneration system to maximize the utilization of the cogeneration.

- **Absorption Chillers:** if consideration is paid to the installation of a cogeneration system, it would be most beneficial to create a higher base demand of the rejected hot water/steam of the cogeneration system. This can be accomplished by installing an absorption chiller to accept the base load of hot water from the cogeneration system. Coupled with a thermal storage plant, the base load could be made relatively consistent throughout the year.
- **Thermal Storage:** to reduce peak demand (both power and energy cost). Three types of thermal storage are appropriate for community colleges: ice storage, chilled water storage tanks, and phase change material storage tanks.
- **Standard variable speed driven water cooled chillers:** this would represent the most traditional chilled water generation.
- **Condenser water economizer free cooling system** to provide the campus with "free" cold water generation should certain buildings decide to utilize radiant or water based cooling solutions where air side economizers are not available.
- **Geexchange:** A geexchange system should be considered for the Vacaville Campus where there is a large amount of land mass, potential future growth of the campus, and no existing central gas-based heating plant. The geexchange system uses the earth's constant temperature as a heat exchange medium, deleting the need for cooling towers (and their associated water consumption) and increasing the energy efficiency of the cooling systems. Since the geexchange system can produce relatively consistent heat rejection/absorption water temperatures, it is typically used in a heat pump type of central plant (providing heating and cooling). The heat pump technology with high coefficient of performance heating and efficient cooling is a great way to address the opportunities for Net Zero energy goals on a campus. In addition, the heat pump system does not use any natural gas, and therefore eliminates the need for combustion on site
- **Incorporate Radiant/Hydronic Systems:** if cooling is utilized in the buildings and a free cooling heat exchanger is employed in the Central Utility Plan, radiant systems can save significant amounts of energy. As air is much harder to "push" than water, the systems require less fan energy. Examples of radiant or hydronic systems are radiant slabs, chilled beams, radiant ceiling panels, radiant sails, etc.



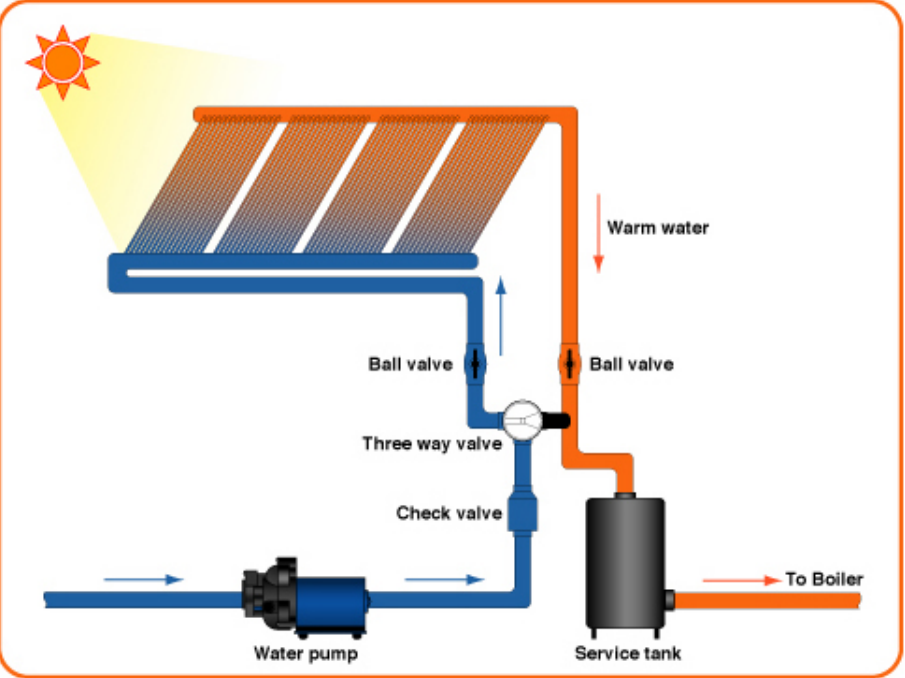
ImageSource: Agronne's Visitor Center as shon on interestingenergyfacts.blogspot.com

Table 3: Plumbing Systems Priority Matrix

Measure Name	Priority Level	Only for New Building
Replacement of aged equipment	High	-
Reduce water demand	High	-
Integration of domestic hot water into Boiler Plants	High	-
Solar thermal systems	Medium	-
Recover all black water	Low	-

Table 4: Electrical Systems Priority Matrix

Measure Name	Priority Level	Only for New Building
Replacement of aged equipment	High	-
Cogeneration Systems	Medium/High dependent on timing of boiler and pool heating plants	-
Lighting retrofits	High	-
Photovoltaics	Low (program for installation is already under way)	-



Optimize energy performance - Plumbing & Electrical

Energy performance can also be optimized through reductions in plug loads like plumbing and electrical equipment:

- **Replace aged plumbing and electrical equipment/systems** with more efficient equipment/systems which will reduce energy use. See Facilities Assessments in Book 3 for existing equipment that was beyond its service life and recommended to be replaced. In addition the following were identified as severely aged by the District: main electrical distribution equipment; electrical panels and disconnects; and for plumbing equipment see page 143.
- **Use of Solar Powered Faucets:** these faucets allow the lighting in the restrooms to charge the faucets reducing demand on the battery, making the batteries last many years. Although the solar powered faucets do cost more, they eliminate the need for electrical power to each faucet and reduce maintenance for the replacement of batteries. There are also technologies that use the flow of the water to charge the batteries having the same effect and benefits as the solar powered faucets.
- **Efficient Lighting Fixtures:** new lighting systems have very high light output to energy input ratios and should be utilized on all projects. On new buildings, a goal of 0.6-0.7 watts per square foot should be easily attainable prior to credits for occupancy sensors and daylighting. In existing buildings, retrofitting lighting will have the fastest payback of any energy efficiency measure.
- **LED Lighting Fixtures:** although thought of as the most efficient lighting, the reality is that LED lighting is really most efficient in downlight type applications. However, LED lights do enhance maintenance by requiring less bulb changes than traditional lighting systems, and LED fixtures should be considered for all site lighting.
- **Occupancy Sensors:** incorporating occupancy sensors in all locations (existing and new) will dramatically reduce the energy input required for lighting spaces that are not occupied. The systems are simple and require little to no maintenance. The sensors can also be tied into the HVAC systems.
- **Daylighting Controls:** although daylighting controls can greatly reduce energy by turning off lights when natural light is adequate, it is important to employ them in locations where the payoff will be high. The best type of daylighting control is a continuously dimming type of system where it is not obvious that the lighting is changing within the spaces.

Renewable Energy Production

The following are some Renewable Energy Options that should be considered for the Solano campuses:

- **Photovoltaic Systems:** beyond current parking lot installations, the District could opt to install them on rooftops or integrate them into the building façade systems, where they act as shading devices and energy generation devices.
- **Solar Thermal Systems:** currently the California Solar Initiative has the highest incentives for solar thermal heating. Due to the high levels of solar income in both summer and winter at the Solano campuses, solar thermal can be utilized on both existing and new building rooftops to reduce both heating demand and domestic hot water demand.
- **Cogeneration Systems:** create hot water as a by-product of creating energy. Due to the high amount of hot water used on the campus, a properly sized system can have a fast payback, provide energy more efficiently than the grid, provide the campus with a portion of its hot water, and potentially be used to operate absorption chillers.
- **Fuel Cells:** use solid oxide technology that converts natural gas to electricity through a clean electrochemical process rather than combustion. They are designed to produce AC electricity for use with standard grid powered equipment on a 24/7 basis. Typically the technology would be used on larger campuses such as Fairfield campus or the expanded Vacaville campus.

MATERIALS AND RESOURCES

The following measures relate to the Materials and Resources credits:

Storage and Collection of Recyclables

All New and Renovation Projects should provide dedicated areas for the collection and storage of recyclable materials. Materials collected must include mixed paper, corrugated cardboard, glass, plastics, and metals. The District also plans on extending its composting collection to all buildings, and will continue to take appropriate measures for the safe collection, storage, and disposal of batteries, mercury-containing lamps, and electronic waste.

Construction and Demolition Waste Management

Project contractors should develop and implement a construction and demolition waste management plan per LEED requirements (both Planning and Execution credits).

Building Life-Cycle Impact Reduction

Existing building renovations should look to reuse materials per LEED Option 3 (building and material re-use) and New Projects are encouraged to pursue Option 4 (whole-building life-cycle assessment).

Building Product - Multiple Categories

Project teams should specify as many products and materials as possible that meet at least one of the following LEED criteria:

- Products and Materials from manufacturers who have verified improved environmental life-cycle impacts
- Products and Materials locally sourced (within 100 miles from Project Site)
- Products and Materials verified to have been extracted and sourced in a responsible manner from cradle to gate
- Products and Materials verified to minimize the use and generation of harmful substances
- Products and Materials for which the chemical ingredients within it are inventoried using an accepted methodology

Note, materials and products selected should be coordinated with District Standards (Book 2) where applicable.



ImageSource: sfcitizen.com

LifeCycle Analysis (LCA)

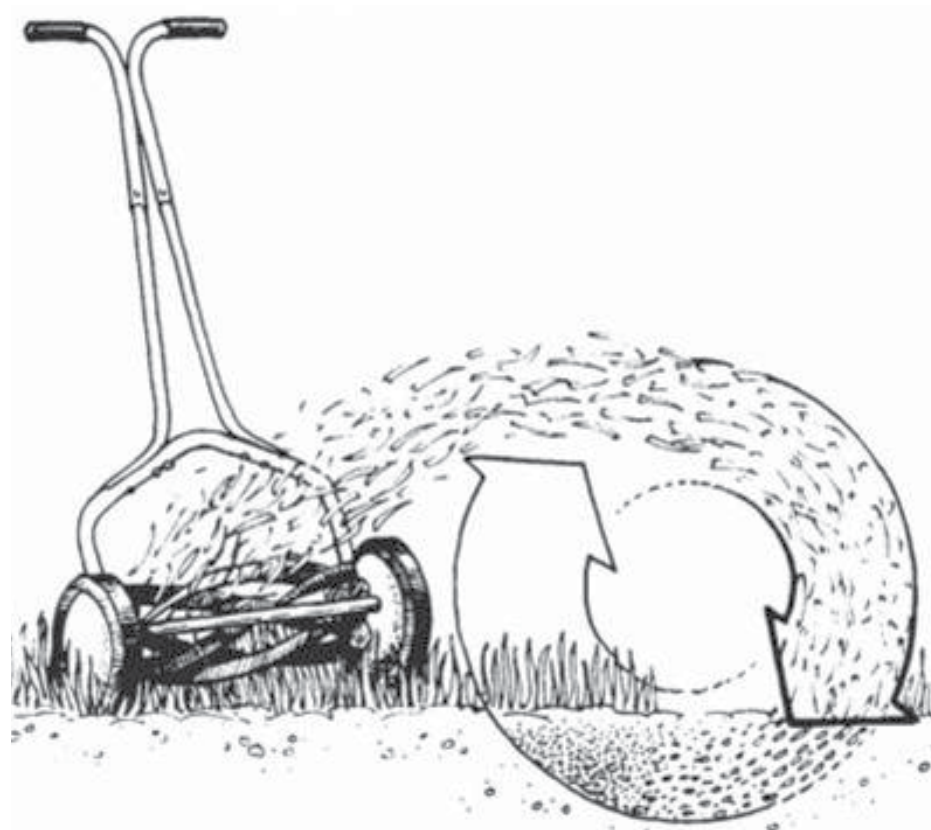


ImageSource: scienceinthebox.com



Imagesource: hgtvgardens.com/ HorticoptiaInc.

Select plants that don't require shearing



Reduce Landscape Maintenance Waste

The best practice to reducing waste is to not create it in the first place. Ideas to limit landscape maintenance, labor and waste are:

- Plant Selection: choose plants that are appropriate for the microclimate. They should meet site requirements for size, water use, sun/shade tolerance and aesthetic value.
- Plant noninvasive species.
- Grasscycle: leave grass clippings on the lawn so they can decompose and release their nutrients back into the soil.
- Create mulch and compost from plant debris collected from the site.



INDOOR ENVIRONMENTAL QUALITY

The following measures relate to the Indoor Environmental Quality:

Minimum & Enhanced Indoor Air Quality Performance

Improve the indoor air quality by meeting the ventilation and monitoring requirements per LEED requirements (Minimum Performance) and include as many of the Enhanced Strategies as feasible.

Low-Emitting Materials

To reduce concentrations of chemical contaminants that can damage human health, productivity and the environment, specify products with low volatile organic compound (VOC) content in materials and low VOC emissions into the air. Meet LEED thresholds for compliance and coordinate selected products and materials with District Standards (Book 2) where applicable.

Construction Indoor Air Quality Management Plan

Develop and implement an indoor air quality (IAQ) management plan for the construction and preoccupancy phases of the building per LEED criteria.

Indoor Air Quality Assessment

Before occupancy install new filtration media and perform a building flush-out per LEED suggested options.

Thermal Comfort

Design heating/ventilating systems and the building envelope to meet the ASHRAE Standard 55-2010, Thermal Comfort Conditions for Human Occupancy. Coordinate with Title 24 requirements.

Interior Lighting

Provide lighting controls and lighting quality per LEED criteria.



ImageSource: Shermin Williams and Kelly Moore Paints

Daylighting

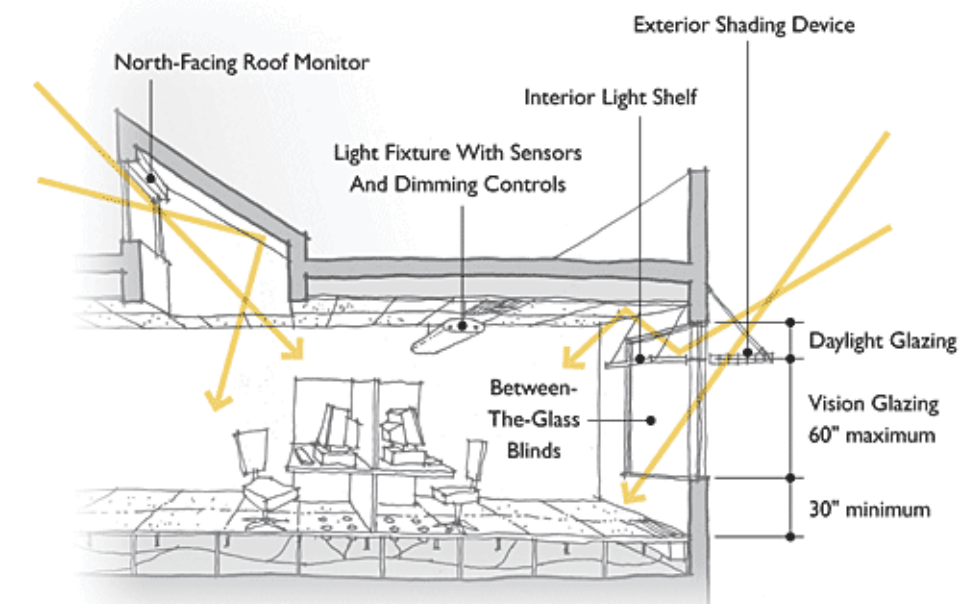
Maximize daylight penetration within buildings as much as possible, while balancing glare concerns through design or devices designed to reduce glare.

Quality Views

Maximize views to the outdoors from 75% of all regularly occupied spaces per LEED criteria.

Acoustic Performance

To provide effective acoustic design, meet the composite sound transmission class (STC) ratings for various types of spaces, as listed in the LEED credit. Also provide HVAC noise levels per LEED listed criteria, and sound reinforcement and masking systems as needed.



Storm Water Management

Solano Community College District
Facilities Planning, Maintenance & Operations



Storm Water Management Program

Solano Community College District
Solano County, California
February 14, 2014

DRAFT

Prepared By:

CSW | ST 2



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PURPOSE OF THE SWMP

This document has been developed to highlight Solano Community College District’s intent to align with the U.S. EPA Phase II NPDES requirements promulgated under the Clean Water Act, and specifically to align with the Phase II Small Municipal Separate Storm Sewer System (MS4) Program’s Phase II Small MS4 Permit (Order No. 2013-0001 DWQ) (Permit) which was adopted on February 5, 2013 and became effective on July 1, 2013. A non-traditional MS4 is defined by the Permit as an entity that is operated similarly to a traditional MS4, but is operated at a separate campus or facility. Examples of non-traditional MS4s include, but are not limited to, universities, state hospitals, state prisons, military installations, school districts, and other special districts.

SCCD proactively develops and implements this SWMP to cover all of the facilities on the District’s three campuses.

The purpose of the SWMP is to:

- Identify the various sources (pollutant and constructed facilities) that could potentially affect the quality and quantity of storm water discharges
- Provide Best Management Practices (BMPs) for municipal and construction activities and campus community education to reduce contamination in storm water
- Provide measurable goals to assess the effectiveness of BMPs that are designated to reduce discharge of pollutants into the storm drain system and associated waterways

ACKNOWLEDGEMENT

As an exempted non-traditional MS4 I hereby acknowledge that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

SOLANO COMMUNITY COLLEGE DISTRICT

Name

Date

Title

1.0 INTRODUCTION

1.1 Regulatory Background

1.1.1 Phase I

In 1990, in accordance with the Federal Clean Water Act, the United States Environmental Protection Agency (U.S. EPA) promulgated rules establishing Phase I of the National Pollutant Discharge Elimination System (NPDES) storm water program. The Phase I Program for Municipal Separate Storm Sewer Systems (MS4s) requires operators of “medium” and “large” MS4s (i.e., those that generally serve populations of 100,000 or greater) to implement a storm water management program as a means to control polluted discharges from those MS4s.

In response to the Phase I Program, the nine Regional Water Quality Control Boards (RWQCB) in the State of California adopted NPDES storm water permits for medium and large municipalities in their regions. These permits are reviewed, revised and reissued as their terms expire.

1.1.2 Phase II

In 1999, the U.S. EPA Storm Water Phase II Regulations became effective, which required permit coverage under the NPDES storm water program for Small MS4s. A Small MS4 is an MS4 which is not permitted under Phase I of the NPDES storm water program.

In 2003, the California State Water Resources Control Board (SWRCB) adopted a Statewide Phase II Small MS4 General Permit in response to the 1999 Phase II Regulations. The SWRCB adopted the statewide permit to efficiently regulate discharges from numerous, qualifying, small MS4’s under a single permit. Small MS4’s were categorized as either “Traditional” or “Non-Traditional”. “Traditional MS4’s” operate throughout a community. “Non-Traditional MS4’s” are MS4’s which are similar to a Traditional MS4, but operate at a separate campus or facility. Most Non-Traditional MS4’s throughout California were not designated as having to comply with the statewide Phase II Small MS4 General Permit, although the SWRCB reserved the right to allow the Regional Water Quality Control Boards to designate, at any time following due process, any single Non-Traditional MS4, if it deemed necessary.

On February 5, 2013, the SWRCB adopted an updated Phase II Small MS4 General Permit in accordance with U.S. EPA Storm Water Phase II Regulations. As with the 2003 Statewide Phase II Permit, most Non-Traditional MS4’s remained undesignated while the RWQCB’s were retained the right to designate them to comply with the permit at any time, following due process. Additionally, the 2013 Phase II Permit included prescriptive requirements for “Designated” Non-Traditional MS4’s.



1.1.3 Solano Community College District

Polluted storm water runoff is often transported to MS4s and ultimately discharged into local waterways (rivers, streams, lakes, and bays) without treatment. Common storm water pollutants include oil and grease from roadways and parking lots, pesticides from lawns, sediment from construction sites, and trash. These pollutants are deposited into nearby waterways, impacting beneficial uses of the resource and interfering with the habitat for fish, other aquatic organisms, and wildlife.

Solano Community College District (SCCD or District) recognizes the environmental and societal benefits of preparing a Storm Water Management Program (SWMP). This SWMP identifies the District’s existing management strategies related to storm water. Additionally this SWMP identifies strategies to adopt and administer for environmental management and education related to storm water in order to reduce the discharge of pollutants to the “maximum extent practicable” and protect water quality.

1.2 Comparison of SCCD SWMP to Phase II Permit

This SWMP aligns with Section F of the Phase II Small Municipal Separate Storm Sewer System (MS4) Program’s Phase II Small MS4 Permit (Order No. 2013-0001 DWQ) as follows:

Comparison of SCCD SWMP with Phase II Permit – Status as of Fiscal Year July 1, 2013-June 30, 2014

SCCD SWMP Section	SCCD Action	Phase II Small MS4 Permit Section F.5. Item & Heading	Phase II Small MS4 Permit Section F.5. Task
5.4	SCCD will have a storm water program developed within 5 years.	a. Program Management Element	Legal Authority
5.1	SCCD is developing an education and outreach program for the campus community.	b. Education and Outreach Program	Compliance Participation Options / Public Education and Outreach / Staff and Site Operator Training and Education specific to Illicit Discharge / Staff Pollution Prevention and Good Housekeeping
5.2	SCCD is developing a program of activities to involve the campus community (staff, faculty and students) in development and implementation of activities related to the program.	c. Campus community Involvement and Participation Program	Involve the public in the development and implementation of activities related to the program.
5.3	SCCD is mapping outfalls and developing a program for Illicit Discharge Detection and Elimination.	d. Illicit Discharge Detection and Elimination	Outfall Mapping / Field Sampling to Detect Illicit Discharges / Illicit Discharge Detection and Elimination Source Investigations and Corrective Actions
5.4	SCCD is developing contract language ensuring contractors comply with CGP and implement appropriate BMP’s.	e. Construction Site Runoff Program	Develop and implement contract language ensuring all outside contractors comply with the CGP and implement appropriate BMP’s.
5.6	SCCD is mapping facilities and developing a Pollution Prevention/Good Housekeeping Program.	f. Pollution Prevention / Good Housekeeping	Inventory of Permittee-Owned or Operated Facilities / Map of Permittee-Owned or Operated Facilities / Facility Assessment / Storm Water Pollution Prevention Plans / Inspections, Visual Monitoring and Remedial Action / Storm Drain System Assessment and Prioritization / Maintenance of Storm Drain /

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SCCD SWMP Section	SCCD Action	Phase II Small MS4 Permit Section F.5. Item & Heading	Phase II Small MS4 Permit Section F.5. Task
5.4	SCCD will have a storm water program developed within 5 years.	a. Program Management Element	Legal Authority
5.1	SCCD is developing an education and outreach program for the campus community.	b. Education and Outreach Program	Compliance Participation Options / Public Education and Outreach / Staff and Site Operator Training and Education specific to Illicit Discharge / Staff Pollution Prevention and Good Housekeeping
5.2	SCCD is developing a program of activities to involve the campus community (staff, faculty and students) in development and implementation of activities related to the program.	c. Campus community Involvement and Participation Program	Involve the public in the development and implementation of activities related to the program.
5.3	SCCD is mapping outfalls and developing a program for Illicit Discharge Detection and Elimination.	d. Illicit Discharge Detection and Elimination	Outfall Mapping / Field Sampling to Detect Illicit Discharges / Illicit Discharge Detection and Elimination Source Investigations and Corrective Actions
5.4	SCCD is developing contract language ensuring contractors comply with CGP and implement appropriate BMP’s.	e. Construction Site Runoff Program	Develop and implement contract language ensuring all outside contractors comply with the CGP and implement appropriate BMP’s.
5.6	SCCD is mapping facilities and developing a Pollution Prevention/Good Housekeeping Program.	f. Pollution Prevention / Good Housekeeping	Inventory of Permittee-Owned or Operated Facilities / Map of Permittee-Owned or Operated Facilities / Facility Assessment / Storm Water Pollution Prevention Plans / Inspections, Visual Monitoring and Remedial Action / Storm Drain System Assessment and Prioritization / Maintenance of Storm Drain /



SCCD SWMP Section	SCCD Action	Phase II Small MS4 Permit Section F.5. Item & Heading	Phase II Small MS4 Permit Section F.5. Task
			Permittee-Operations and Maintenance Activities (O&M) / Pesticide, Herbicide and Fertilizer Application and New Landscape Design and Maintenance Management
5.5	SCCD is continuously improving upon a Post-Construction Storm Water Management Program.	g. Post-Construction Storm Water Management Program	Site Design Measures / Low Impact Development Standards / Alternative Post-Construction Storm Water Management Program / O&M of Post-Construction Storm Water Management Measures
7.0	SCCD will continue to assess effectiveness of the SWMP and make adjustments, augmentations and additions where appropriate.	h. Program Effectiveness Assessment and Improvement	Program Effectiveness Assessment and Improvement Plan / Storm Water Program Modifications
2.2	SCCD will be knowledgeable about downstream pollutants of concern and tailor the SWMP to implement BMP's addressing potential contributions from the SCCD campuses.	i. Total Maximum Daily Loads Compliance Requirements	Comply with Applicable TMDL's / Waste Load Allocations, Load Allocations and Effluent Limitations / Regional Board to review TMDL-specific requirements / Permittee to report status of TMDL implementation requirements / Permittee to comply with implementation requirements in Category 4b demonstrations for 303d.
6.0	SCCD will retain records as indicated in the SWMP; however, Annual Reporting is not required.	j. Record Keeping	Relates to Non-Traditional who don't have to submit online (e.g. San Quentin). Use of SMARTS. Retain all Annual Report Supporting Info through the next Fiscal Year and have available for review by RWQCB. Permittee to submit detailed online or presentation to Board of the Annual report when requested. Permittees involved in regional programs deciding who submits what annual reporting information.

1.3 Storm Water Management Process

The holistic approach to storm water management is built upon the foundation of Responsibility and integrates the crucial elements of Monitoring, Protection, Planning, Education and Involvement as well as System Maintenance and Repair. Comprehensive storm water management programs and implementation policies may enter this framework at any point as it is a cyclical and evolving process over time. A storm water management program is effective when a community becomes stewards for their environment. In this SWMP, roles are designated, programs are outlined and interrelationships are developed for the following 6 elements:



1.4 Storm Water Working Group

A Storm Water Working Group (SWWG) will be defined as representatives of various SCCD campuses and departments who can provide input into development and implementation of the SWMP. SCCD's Facilities Planning, Maintenance and Operations (FPO) Office is the approving authority and will administer this SWMP. The Energy Management Coordinator will be the head of the SWWG. The SWWG will include a representative from the following campuses and offices:



- _____
- _____
- _____
- _____
- _____
- _____
- _____

Representatives will be drawn from the following constituencies – Facilities Planning, Maintenance & Operations, Public Relations, Public Safety, Faculty, Sustainability Committee Members, as well as other Staff and Students.

1.5 Sustainability Committee

The Solano Community College District Sustainability Committee is comprised of a diverse group of administrators, staff and students. The purpose of the Committee is to plan and implement sustainability projects and programs throughout the individual campuses and the District as a whole. These projects and programs are focused on providing multiple benefits across economic, ecologic and social equity. The Solano Community College District Storm Water Management Program is one component of a multi-faceted, continuously improving Sustainability Plan.

1.6 Key Personnel

Key personnel within the SCCD have provided input into development and implementation of the SWMP. Their contact information is listed below:

- Name, title
- Name, title
- Name, title
- Name, title
- Name, title
- Name, title
- Name, title

2.0 SITE INFORMATION

2.1 SCCD Overview

2.1.1 District Geographic Location and Area Climate

SCCD is located in Solano County, in California and comprises three campuses located in the northern, central and southern portions of the county. Each campus is accessed from main arterial roadways, and in close proximity to Interstate 80 which traverses Solano County from north to south.

Over the geographic extent of Solano County, the area is hot during the summer months, when temperatures tend to be in the mid-90s, and cooler during winter, when temperatures tend to be in the 50s and 60s. The warmest months of the year are from May through October, with an average maximum temperature of 90 degrees Fahrenheit (°F) in July in Fairfield, while the coldest months of the year are December and January, with an average minimum temperature of 39°F in Fairfield.¹

The mean annual precipitation in Solano County ranges from 14.0 inches in the south to 45.0 inches in the hills in northwest corner of the County. The campuses receive mean annual precipitations between 23.0 inches to 27.5 inches. Winter months tend to be wetter than summer months. The wettest month of the year is December with an average rainfall of 5.08 inches in Fairfield.¹

2.1.2 Site Drainage

Storm water runoff throughout SCCD is conveyed through College-owned storm sewer, open channels and drainage swales located on all three campuses. The College-owned storm sewers discharge into creeks, drainage ditches and City-owned storm sewer which eventually discharge into San Francisco Bay to the south.

Site drainage and storm water facilities are described in greater detail for each campus in Section 2.2.1. Maps showing the general drainage patterns and storm water conveyance systems for the three campuses are presented in Appendices D and E.

2.1.3 Facility Operation

SCCD’s college campuses have been undergoing numerous renovations and growth as a result of Capital Improvement projects. Most of this work is being performed by outside contractors and sub-contractors. SCCD Facilities staff provides building systems maintenance, completion of campus work requests, daily cleaning of common buildings, grounds maintenance, small construction jobs, and various repair and maintenance activities. Both SCCD Facilities staff and outside contractors perform electrical work, plumbing, utility tasks, roofing, painting, and repairs to asphalt and concrete surfaces.

The three campuses include many of the following activities/operations and facilities:

- Parking lots, recreation fields and gardens, food preparation/service facilities, grease traps, loading and unloading areas, trash compactors, horticulture areas, science laboratories, swimming pool, auto shop, maintenance yards for vehicles, corporation yard/trash recycle. athletic stadium and athletic fields

¹ The Weather Channel - <http://www.weather.com /weather/wxclimatology/monthly/graph/USCA0364>



The District’s three campuses also engage in the following practices, not only for the prevention of pollution, but also with regard to resource conservation and health preservation, which mirror those promoted in the surrounding communities:

- In the planning and construction of new and redeveloped facilities, the District incorporates low impact development technologies and practices which promote watershed protection in addition to resource conservation. These technologies and practices include the incorporation of pervious surfaces, storm water treatment areas, drought-tolerant landscaping, water efficient irrigation and improved waste stream management technologies for the reduction of litter, energy cogeneration and re-use (i.e. composting and used-oil recycling).
- Areas within the campuses are designated non-smoking. At designated smoking areas at the perimeter of the campuses, enclosed receptacles are provided to collect cigarette butts. The combination of both these practices, in conjunction with regular trash pick-up reduces the number of cigarette butts entering storm water runoff discharged from the campus.

2.2 Campus-Specific Descriptions

SCCD has three campuses located in the cities of Fairfield, Vacaville, and Vallejo in the County of Solano, California. A vicinity map indicating the locations for the three campuses is presented in Appendix C.

2.2.1 Fairfield Campus

FAIRFIELD CAMPUS
4000 Suisun Valley Road
Fairfield, CA 94534
(707) 864-7000

Facility Location and Operations

To be determined

Site Drainage and Description of Storm Water Infrastructure

The Fairfield Campus is located in Fairfield, California along Suisun Valley Road approximately 1 mile to the north of Highway 80. The campus property encompasses 188.4 acres and is relatively flat. It is surrounded by residential developments, light commercial facilities, and small agricultural operations. The eastern property boundary approximately aligns with Suisun Creek, a channelized stream surrounded by riparian vegetation which flows from north to south. The western boundary is adjacent to and parallel with Suisun Valley Road.

All onsite storm drain systems for developed campus areas flow toward Dan Wilson Creek which flows from north to south through the property parallel and adjacent to Solano College Road. Immediately adjacent to the western property boundary is a drainage ditch parallel to Suisun Valley Road which intercepts runoff from the road before it enters the campus. A wide variety of vegetation and land types exist due to the overall size and diversity of amenities throughout the lot. Structures with interspersed landscaped grass lawns, playing fields, and paths are prevalent throughout the developed portions of the campus. Trees are interspersed in the landscaping throughout the campus. Tree growth is dense within the riparian area surrounding Suisun Creek. Trees also grow more densely at the southern end of the drainage ditch which is parallel to Solano College Road. Approximately 42.8 acres of the eastern side of the property is undeveloped field covered by grass which dries out during summer months.

There are eight distinct storm drain systems within the campus. The areas which are tributary to these systems are designated 1-8 (See Hydrology Maps, Index Sheet). Area “1” mainly includes parking lots and access drives along the southern border of the property. One main line connecting the drainage inlets runs from west to east flowing into the southern end of the ditch which drains the developed portion of the campus. Area “2” is the largest tributary area and contains the majority of onsite structures. In addition to structures, this area includes tennis courts, a pool facility, a portion of the northerly parking lots, and a large grass recreational field to the South. Area “3” is comprised of a football field, surrounding track, small stadium structure, and an adjacent practice field. Area “4” is mainly comprised of a large recreational field with parking stalls along its eastern border. Area “5” is made up of a baseball field, small parking lot, and a maintenance structure. Area “6” contains a portion of the parking lots on the northern edge of the property along with an area of undeveloped land along the

northern edge of the property. Lastly areas “7” and “8” drain a baseball field and small surrounding small stadium structure on the southern side of the property.

The large undeveloped field along the eastern side of the property was assumed to discharge runoff over banks directly into adjacent drainage ditches and Suisun Creek without entering the campus’s storm drain systems.

Anecdotal evidence provided by campus staff has been that the storm drain systems have appeared to have adequate capacity to intercept and convey flows in recent years.

Downstream Pollutants of Concern

Downstream pollutants and concerns include mercury, nutrients, organic enrichment, low dissolved oxygen, salinity, TDS and chlorides.²

2.2.2 Vacaville Center

VACAVILLE CENTER
2001 North Village Parkway
Vacaville, CA 95688
(707) 864-7171

Facility Location and Operations

To be determined

Site Drainage and Description of Storm Water Infrastructure

The Vacaville Campus is located in Vacaville, California along North Village Parkway between Interstate 505 and Interstate 80. The site is a flat 58 acre lot with development on the westerly portion of the property. The campus property is surrounded by residential, commercial, and light industrial facilities. A subdivision exists adjacent to the eastern boundary of the property. The lot currently contains one main building structure on the western side of the lot along with access drives and parking areas. This building consists of a central entryway with corridors running north and south. All onsite parking is located along the western border of the property. Vegetation consists of landscaped grasses and trees on the developed portions of the lot. Concrete patios with planters surround much of the main structure. The storm drain system consists of grassy swales, parking lot bioretention swales, bioretention areas, drainage inlets, manholes and underground pipe system including perforated pipe (in the bioretention areas) and non-perforated pipe to convey captured runoff to the drainage ditch running to Crescent Drive.

In addition to the recently improved areas, the lot contains two streets from past development attempts by others, which have fallen into disrepair and are not in use, along with associated abandoned storm drain facilities. One of these streets runs south for approximately 120 feet from the southern parking area to a turnaround while the other runs east from the main development to the edge of the property stopping before intersecting with Crescent Drive. Approximately 45 acres of the property are currently undeveloped. These areas consist of seasonal grass fields which dry out during the summer. Three swales run from east to west in the center of the property spanning the undeveloped portions. No evidence was found that these swales connect to an operating storm drain system.

There is one main tributary area which encompasses the entire developed portion of the lot and outlets into the large drainage ditch which discharges the east of the property through a culvert.

Downstream Pollutants of Concern

Downstream pollutants and concerns include chlorpyrifos, DDT, diazinon, electrical conductivity, group A pesticides, invasive species, mercury and unknown toxicity.³

² State Water Resources Control Board - http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml (Suisun Marsh Wetlands)

³ State Water Resources Control Board - http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml (Delta Waterways, northwestern portion)



2.2.3 Vallejo Center

VALLEJO CENTER
545 Columbus Parkway
Vallejo, CA 94591
(707) 864-7171

Facility Location and Operations

To be determined

Site Drainage and Description of Storm Water Infrastructure

The Vallejo Campus is located in Vallejo, California along Columbus Parkway approximately 1 mile east of Interstate 80. The campus is situated in a valley and is bounded by Columbus Parkway and rural properties to the north, a home improvement store to the west and residential development to the east and south. A band of vegetated, steep-sloped open space separates the campus from the residential development. The campus falls in elevation from, generally, southeast to northwest.

Improvements within the campus property include two buildings connected with a lobby, an asphalt parking lot, asphalt access road, a grassy field to the west of the buildings and landscape areas consisting of decorative grass and shrubs, mulch and trees. In addition to typical utility services (i.e. potable water, sewer, etc.) there are overhead solar panels, installed in a carport-fashion, over a portion of the stalls in the parking lot. The storm drain system consists of concrete v-ditches, grassy swales, parking lot bioretention swales, drainage inlets, manholes and underground pipe system including perforated pipe (in the bioretention areas) and non-perforated pipe to convey captured runoff to the storm drain system in Columbus Parkway. Runoff from the offsite areas to the south is intercepted in concrete ditches and underground pipes and conveyed to the storm drain system in Columbus Parkway without entering the campus storm drain system.

Within the property, the campus is drained by storm drain systems which discharge into the storm drain in Columbus Parkway at three different locations. The three regions of the campus which are tributary to these systems are designated as "1", "2", and "3" (See Hydrology Map, Sheets 1 through 3). Area 1 is drained by System 1 and includes the majority of onsite parking surfaces along with the relatively large centrally located grass field. Area 2 is drained by System 2 and is primarily composed of driveway and parking surfaces while the Area 3, which is drained by System 3 includes the majority of the two buildings and a parking lot toward the southeast corner of the property.

Downstream Pollutants of Concern

Downstream pollutants and concerns include trash, nutrients, pathogens, sedimentation and siltation.⁴

⁴ State Water Resources Control Board - http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml (Kindler Creek, Napa River)

3.0 POTENTIAL SOURCES OF POLLUTION



To aid in the identification of activities and sources of potential pollutants of concern, the key personnel assisting in development of this SWMP utilized information on historic storm water issues as well as knowledge of day-to-day operations to identify activities and sources of potential pollutants of concern.

The BMPs to address the pollutant sources and activities described on Table 3-1 will be developed and implemented as described in Section 5.0.

Table 3-1: Pollutants of Concern and Related Activities and Sources

No.	Activity/Source	Pollutants of Concern
1	Building maintenance (floor washing, stripping, and waxing; graffiti removal; asbestos and lead abatement)	Wash water, paint chips, asbestos, cleaning products, dirt and sediment
2	Carpet cleaning waste water	Cleaning products, soap
3	Chemical spills	Various cleaning compounds, paint, vehicle fluid, diesel, hazardous materials
4	Construction activities	Asphalt, concrete, de-greasing agents, diesel, drywall, fertilizers, grease, galvanized metal, herbicides, metal fragments, oil, paint, pesticides, sediment, septic fluids, tar, trash, vehicle fluids
5	Food service operations	Wash water, food residue, oil and grease
6	Ground maintenance	Green waste, fuel, oil, pesticides, herbicides, fertilizers
7	Impervious areas	Increased flows, pollutant loading
8	Irrigation runoff	Chloramines, fertilizers, pesticides
9	Litter, debris	Litter, debris
10	Loading and unloading areas	Fertilizers, pesticides, herbicides, cleaning solutions, paint, petroleum products, litter, food residue
11	Painting (indoor)	Paint or rinse water (oil- and water-based), paint thinner
12	Pet feces	E. Coli from bacteria
13	Roof runoff	Particulate matter and associated pollutants
14	Rooftop Chiller Discharge	Particulate matter and associated pollutants
15	Sewer line blockages and seepage	Raw sewage
16	Trash storage areas	Organic material, hazardous materials
17	Utility line maintenance and repairs (water/irrigation/sewer)	Chloramines, chlorine, sediment, adhesive cements, primers



No.	Activity/Source	Pollutants of Concern
18	Wood chips (ground cover)	Organic material
19	Erosion	Sediment, organic matter
20	Outdoor storage of raw materials	Sand, asphalt, organic material,
21	Parking lot runoff	Oil/grease, litter, heavy metals
22	Vehicle maintenance	Vehicle fluids, oil, hazardous materials
23	Science laboratories	Chemicals, hazardous waste
24	Pool facilities	Acid, calcium chloride, sodium bicarbonate, soda ash, chlorinated water
25	Miscellaneous non-campus unknown debris (illegal dumping)	Refrigerators, tires, unidentified liquid containers, furniture, electronics, and miscellaneous other trash
26	Career Education and Training (CET) including art classes (photography, pottery), Theater, fire, auto and other courses that may dispose chemicals or pollutants of concern	Paints, adhesive cements, clay (fine sediment), monoammonium phosphate (fire extinguishers), chlorinated water, ash slurry, copper, metal filings, primers, petroleum chemicals, biohazard, prescription medications and medical equipment (sharps).

4.0 MINIMUM CONTROL MEASURES AND BEST MANAGEMENT PRACTICES

“Minimum Control Measures” (MCMs) is the term used by the U.S. EPA for the six MS4 program elements aimed at achieving improved water quality. This SWMP includes Best Management Practices to address the following six Minimum Control Measures which align with those MCM’s identified in the EPA’s Final Rule and California’s Phase II Permit:

Six MCMs:

1. Education and Outreach on Storm Water Impacts
2. Campus-wide Involvement and Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Storm Water Runoff Control
5. Post-construction Storm Water Management in New Development and Redevelopment
6. Pollution Prevention and Good Housekeeping for Facilities Operation and Maintenance

The goal of the SWMP is to reduce the discharge of pollutants and to identify activities or structural improvements that help reduce the quantity and improve the quality of the storm water runoff. BMPs have been developed for the SWMP to reduce the discharge of pollutants to the storm drain system. BMPs include treatment controls, operating procedures, and practices to control site runoff, spills and leaks, sludge or waste disposal, and/or drainage from raw material storage. BMPs will be updated as appropriate to conform to general changes in the industry for improvement of practices.

4.1 How to Use BMPs to Meet SWMP Goals

While the initial start dates vary, the BMPs described in Section 5.0 have been implemented by SCCD staff and outside contractors. Whenever SCCD staff or contractors perform work at the campuses, procedures outlined for each relevant BMP, or another proven technique that reaches the same goal, must be used for compliance with the SWMP. In some cases, the measure has not been formally documented as a written plan or program. The SWMP will document existing BMPs and outline implementation of additional BMPs. Full development and implementation of BMPs will be completed through the 5-year implementation plan, as presented in the following sections.

5.0 DEVELOPMENT AND IMPLEMENTATION OF BMPS

The Vice Chancellor for Facilities Planning, Maintenance and Operations, will oversee the implementation of this SWMP. SCCD students, faculty, staff, and consultants will implement the BMPs. Each BMP is associated with one or more of the campus departments and divisions. Implementation will be the responsibility of specific campus departments and divisions associated with each BMP. The following list of acronyms identifies each department and division that is referenced in the following sections:

- Facilities Planning, Maintenance and Operations (FPO)
- Sustainability Committee
- Storm Water Working Group (SWWG)

Each of the six MCMs contains a BMP table which includes implementation year, description, measurable goal, and the responsible party for each BMP. Following each BMP implementation table is an Implementation Details and Measurable Goals section, which explains how each BMP will be implemented. BMPs will be implemented with the ultimate goal of improving storm water quality entering SCCD’s MS4s.

5.1 MCM 1: Education and Outreach on Storm Water Issues

5.1.1 Program Goal

The goal of this MCM is to promote greater awareness and compliance throughout the District’s campuses for the storm water management program. Specifically, this minimum measure is intended to teach the District community (students, faculty, staff and visitors) and the District’s contractors and consultants the importance of protecting storm water quality, for the benefit of both the environment and human health.

Table 5-1 presents selected BMPs for this minimum measure. The table identifies the current status of each BMP as well as the implementation details, the implementation year, measurable goals, and SCCD campus division or departments that will be responsible for the implementation.

5.1.2 BMP Implementation Details and Measurable Goals

5.1.2.1 Education and Outreach Program for Faculty, Staff, Students and Visitors

Implementation Details: First, SCCD will coordinate and integrate storm water awareness in the staff development meetings, sustainability committee meetings and site council meetings. Second, publications incorporating storm water education slogans, graphics, and issues (i.e., spills, illegal dumping, cigarette butt litter and other public awareness issues) will be developed and distributed by SCCD. Publications

may include posters, calendars, stickers, fact sheets, and brochures. Distribution of these publications will be through the coordination meetings, school-specific campaigns, and special events. The District will develop and post storm water-related articles annually in newsletters, New Employee Orientation, and other internal information media.

Measurable Goal: Document all coordination meetings that include storm water awareness issues. SCCD will distribute all publications to faculty and staff semiannually. Storm water awareness articles will be posted annually in the newsletter. Metrics may include number of audience members in attendance at presentations as well as number of type of collateral developed and distributed.

5.1.2.2 Education and Outreach for District-Wide Contractors

Implementation Details: SCCD will develop a mechanism to refer all contractors to local, state, and federal storm water education/training. The referral mechanism will include brochures and fact sheets. Distribution of these materials will be through contact packages and safety meetings.

Measurable Goal: SCCD will refer contractors, where appropriate, to storm water-specific training as applicable to their field.

Table 5-1. BMP Implementation: Education and Outreach on Storm Water Issues

Section	BMP	Current Status	Implementation Details	Measurable Goals	Responsible Party	Year
5.1.2.1	Employee Awareness & Training	Currently the District administers new employee orientations and ongoing training for Faculty and Operations and Maintenance staff.	Enhance new employee and faculty orientations and ongoing training programs to provide awareness of storm water issues and the District's storm water practices and upcoming Storm Water Program. Prepare standard orientation training for Operations and Maintenance staff on the topic of storm water best management practices.	Create storm water orientation training module for Operations and Maintenance staff. Record attendance with sign off sheets at each training session. FPO to retain records of trainings for future review with regard to SWMP.	_____	—
5.1.2.1	Education for Faculty, Staff and Students during Routine Meetings.	Currently the District holds staff development, safety, sustainability and college council meetings.	The District will coordinate staff development, safety, sustainability & college council meetings that will include storm water issues. Either existing publications or information distributed by local storm water programs will be shared or campus storm water related topics will be discussed and/or publications will be developed by the District to address storm water specific issues.	In addition to existing meeting documentation practices, all coordination meetings within which the agenda includes discussion of storm water-related issues will be documented and information retained by FPO for future review with regard to SWMP. Record the distribution of applicable publications during the meetings.	_____	—
5.1.2.1	Student Education	Ongoing	Provide knowledge of District waste stream practices and storm water practices through Campus newspapers, flyers and/or educational signs and billboards at existing or future constructed storm water treatment areas and related devices (e.g. bioretention ponds, pervious pavement areas and capture devices for storm water reuse). Broaden knowledge of campus Environmental Clubs within the realm of storm water related issues via share of publications, flyers, guest speakers and lecture series.	Attendance at classes, lectures. Count number of articles, number of hits on website. Note changes to recycling habits or changes to waste stream from District activities.	_____	—
5.1.2.1	On-Line Storm Water Education Materials	Ongoing	Share links to Solano County and other applicable Programs. Insider articles, website postings, lectures series, and interviews. Disseminate information and	Year 1 Minimum of 1 "share" every other month on a single on-line media platform.	_____ _____	—

Section	BMP	Current Status	Implementation Details	Measurable Goals	Responsible Party	Year
			links to online reference materials utilizing a variety of social media outlets. (District/Campus Websites, Newsletters, Blogs, Twitter, Facebook, etc).	Years 2 through 5 Maintain Year 1 strategy or increase to amount reasonably feasible with available resources.		
5.1.2.1	Distribute Storm Water Awareness Brochures	Ongoing	First, in Year 1 review <i>local Water Pollution Prevention Program</i> informational brochures for storm water protection practices for community, small businesses and municipalities. As applicable to District facilities operation and maintenance and educational programs, distribute the brochures for review to compare existing District practices with those promoted for the surrounding community. If variance exists between practices promoted in the surrounding community and within the District, prepare a list of changes which may be desired to be implemented within years 2 through 5 and/or beyond. Cost analysis and additional discussion regarding feasibility may be required to determine implementation. Second, choose existing brochures for distribution at various campus events.	Preparation of a list of desired changes. Analysis of feasibility of implementing desired changes. Record the type of brochure distributed at various campus events.	_____	—
5.1.2.2	Education / Outreach for District-Wide Contractors	Currently the District has storm water-specific training for on-site contractors.	The District will develop a referral mechanism for contractors to obtain storm water education through local, state or federal training. Referral mechanism may include brochures that include upcoming training dates and locations.	Checklist marked for routine set of materials distributed with contact packages. Record occurrence of discussion of storm water issues during project safety meetings.	_____	—

5.2 MCM 2: Campus Community Involvement and Participation

5.2.1 Program Goal

The goal of this MCM is to foster active support for the SWMP and provide direction as to its implementation. Participation by the students, parents, faculty, and staff will assist in developing a SWMP which reflects community goals and priorities and thus has the highest potential for success.

Table 5-2 presents selected BMPs for this minimum measure. The table identifies the current status of each BMP as well as the implementation details, the implementation year, measurable goals, and SCCD’s campus divisions or departments that will be responsible for the implementation.

5.2.2 Implementation Details and Measurable Goals

5.2.2.1 Storm Drain Labeling

Implementation Details: SCCD will continue its program to label all of the District’s storm drains with the slogan “No Dumping, Drains to Bay.” Labels and/or painted warnings have already been designed and placed on most drain inlets on all campuses.

Measurable Goals: SCCD will identify labeled and unlabeled inlets by the end of implementation year 1. The District will have 100 percent of all storm drains inlets labeled by the end of implementation year 1.



5.2.2.2 Adopt-a-Drain-Inlet Program

Implementation Details: SCCD may develop an “adopt-a-drain-inlet” program through campus-specific programs. The “adopt-a-drain-inlet” program will involve students, faculty, and campus staff coordinating in an effort to maintain school storm drains at their inlets while providing a hands-on approach to storm water education.

Measurable Goal: Adopt one storm drain inlet on the main campus by the end of implementation year 2 (pilot program). Subsequent additional inlet adoption will be contingent on activity and interest generated during the pilot program.

5.2.2.3 Engage Faculty to Create, Incorporate or Enhance Curriculum Offered within the District

Implementation Detail: Create, incorporate or enhance the curriculum of the District in the areas of environmental stewardship and fostering sustainable behavior. Investigate producing classes for general education fulfillment or continuing education in the area of Community-Based Social Marketing. Engage math, statistical, behavioral studies and other departments to prepare surveys and programs, whether

implemented or not, which are related to environmental health and human or other animal response or behavior changes.

Measurable Goal: By implementation year 2, determine feasibility. This may require assessments for potential faculty and student interest and cost analysis among other factors. If feasible, by year 4, implement 1 or 2 strategies (courses or assignments) within offered curriculum per quarter/semester. Subsequent years: Evaluate potential for growth regarding sustainability curriculum.

5.2.2.4 Storm Water Coordination Meetings

Implementation Detail: SCCD will coordinate and participate with the following meetings: (1) staff development meeting, (2) safety meeting, (3) college council meeting, (4) city/district liaison meetings, and (5) management team meetings. Each of these meetings will incorporate a discussion of storm water issues and practices to impede or prevent illegal dumping, and methods to promote pollution prevention practices and general storm water awareness.

The potential exists for the formation of various groups dedicated to promoting environmental awareness. The District will engage students, environmental clubs or District sustainability Committees in review and revision of this SWMP.

Measurable Goal: SCCD will incorporate storm water aspects into any of the above listed meetings at least two times a quarter. Coordination meetings will have, at minimum, one storm water impression annually. Discussion results from meetings shall be used in consideration of enhancement and/or revision of the District’s SWMP and Storm Water Program.

5.2.2.5 Storm Water Pollution Prevention and Mitigation Awareness Surveys

Implementation Detail: SCCD will develop survey sheets that will target different audiences in the District. These surveys will be distributed at special school day events, environmental events and coordination meetings. The surveys will include questions on general storm water awareness; for example, the difference between storm drains and sanitary sewer drains. The surveys will also include questions on recognition of storm water low impact development (LID) practices throughout the campuses and how those surveyed became aware of their existence and purpose. The survey results will be compiled by the Facilities Planning, Maintenance & Operations Department.

Measurable Goal: SCCD will complete at least 200 individual surveys by implementation year 5. The surveys will be compared in groups by year to measure whether increases in awareness of storm water issues are occurring over time.

5.2.2.6 Storm Water Hotline

Implementation Detail: SCCD will provide the campus Facilities Maintenance phone number to track and refer storm water quality-related questions and concerns. The phone number will be posted on the web site, newsletters, and at the school front offices. SCCD Facilities Operations staff will be provided with a referral form to track phone calls. The referral form will include brief questions in order to refer the storm water issue to proper District and campus staff and maintain a formal tracking mechanism for phone calls.

Measurable Goal: SCCD will document the number of storm water-related calls per year through the referral forms and its computerized maintenance management work request system (WOLFE).

5.2.2.7 Campus-Specific Special Events, Campaigns and Activities

Implementation Detail: SCCD will develop storm water-related aspects into future and existing campus special events and campaigns. Special events that incorporate storm water related aspects have the ultimate goal of gaining support for reducing pollutants of concern is storm water runoff while promoting campus community involvement and participation. Surveys such as those highlighted in section 5.2.2.4 may be distributed and collected at these and other events as necessary or appropriate. Examples of existing and future campus special events campaigns and activities may include the following:

- April – Keep America Beautiful Month
- Earth Day
- Arbor Day
- Campus Clean-up Days
- Recycling Drives
- Community Open Houses

- Wellness Fairs

- Great American Smokeout

- Great California Shake Out

- Campus Riparian Habitat Creation or Restoration

- Native or other Plant Demonstration Garden incorporating Integrated Pest Management

- Construct a portable, interactive storm water issue-related diorama to share with the Solano County community

See Appendix H for a list of potential sources from which storm water education materials may be acquired.

Measurable Goal: At least 2 events, campaigns or activities will be implemented by year 2. SCCD will document the events, campaigns or activities where storm water awareness was promoted to the community. Based on anticipated resources and community interest available, and response to the previous year’s events, the District community will decide how often, where and how to encourage community involvement in promoting the awareness of storm water issues.

Table 5-2. BMP Implementation: Campus Community Involvement and Participation

Section	BMP	Current Status	Implementation Details	Measurable Goals	Responsible Party	Year
5.2.2.1	Storm Drain Labeling	Most of the drains have been labeled with stenciling or pre-made labels.	Identify all inlets and drains, using GIS coordinates. Identify all drains that are missing labels. Label storm drains. Will begin during year one; will complete all labeling in year 1.	Digital file with GIS coordinates for all inlets and indicator for existence of labeling. FPO to retain record of fraction of drains labeled and record of inlets still required to be labeled	_____	—
5.2.2.2	Adopt-a-Drain Inlet Program	Currently there are no storm drain adoption programs.	Led by Facilities and implemented by members of the campus community.	Keep 100% of adopted drain inlets free of debris. Assist crews and District community in identifying and maintaining 100% of adopted storm drain inlets by Year 2.	_____	—
5.2.2.3	Engage Faculty to Create, Incorporate or Enhance Curriculum Offered within District.		Create, incorporate or enhance the curriculum of the District in the areas of environmental stewardship and fostering sustainable behavior. Investigate producing classes for general education fulfillment or continuing education in the area of Community-Based Social Marketing. Engage math, statistical, behavioral studies and other departments to prepare surveys and programs, whether implemented or not, which are related to environmental health and human or other animal response or behavior changes.	By implementation year 2, determine feasibility. This may require assessments for potential faculty and student interest and cost analysis among other factors. If feasible, by year 4, implement 1 or 2 strategies (courses or assignments) within offered curriculum per quarter/semester. Subsequent years: Evaluate potential for growth regarding sustainability curriculum.	_____	—
5.2.2.4	Storm Water Coordination Meetings	Currently the District holds various meetings with staff, faculty, students, and the County of Solano.	Coordinate & participate in the following meetings: (1) staff development meetings, (2) safety meetings, (3) site council meetings, (4) city/district liaison meetings, (5) management team meetings	Incorporate storm water aspects into meetings at least twice annually.	_____	—
5.2.2.4	SWMP: Campus Community	Component of the District and College	Online review and response. Campus feedback and revisions.	Campus review, District approval. Biannual comment period and	_____	—



Section	BMP	Current Status	Implementation Details	Measurable Goals	Responsible Party	Year
	Review	Sustainability Committees		revision.		
5.2.2.4	Student/Staff Sustainability Committee	Currently there are a limited number of people and resources committed to working on the SWMP.	Strengthen involvement within District faculty, staff and student representatives. Provide an education review process.	Increased growth and involvement in the sustainability community measured at the biannual review of the SWMP.	_____	—
5.2.2.5	District Awareness Survey	Currently there are no surveys being conducted to address storm water issues.	Develop survey sheet that will target different audiences in the District. These surveys will be distributed at special events.	Complete at least 200 individual surveys by end of implementation year 5. (minimum 40 per year)	_____	—
5.2.2.6	Water Hotline	Currently there are no storm water specific phone numbers.	Provide the campus front desk phone number to field & refer water quality related questions. The number will be posted on the web site, newsletters, & at the campus front office. Campus front office staff will be provided a referral form to fill out while fielding phone calls.	Document the number of water-related calls annually through referral forms.	_____	—
5.2.2.7	Campus-Specific Special Events	Currently each campus implements its own special events and campaigns. Special events include cleanup days, environmental days, & other environmental awareness activities.	Include storm water aspects into future & existing campus-specific special events & campaigns. The District will track campus-specific special event activities.	Document that storm water aspects are incorporated into campus special events and campaigns semiannually. FPO to retain record with SWMP for future review of measurable goals.	_____	—

5.3 MCM 3: Illicit Discharge Detection and Elimination

5.3.1 Program Goal

The goal of this MCM is to reduce pollutants in storm water runoff to receiving waters. It required the development and implementation of a program to identify and eliminate sources of illicit discharge and illegal dumping.

Table 5-3 presents selected BMPs for this minimum measure. The table identifies the current status of each BMP as well as the implementation details, the implementation year, measurable goals, and SCCD campus division or departments that will be responsible for the implementation.

5.3.2 Implementation Details and Measurable Goals

5.3.2.1 Separate Storm Sewer System Mapping

Implementation Details: SCCD will have digital mapping prepared to identify storm drain locations, outfall locations and constructed storm water BMPs. A paper copy of the mapping will be augmented to include locations of discharge to adjacent MS4’s, and flow direction for each of the campuses.

Measurable Goal: The storm water conveyance maps will be created by implementation year one and will be updated as necessary with major construction and changes in the storm water management program.

5.3.2.2 Storm Drain and Outfall Inspections

Implementation Detail: SCCD will augment the Grounds yard inspection checklists to include visual observations of the condition storm drains and outfalls. Visual observations will be conducted by identifying disrepair, excessive debris, spills or illicit discharges. The checklists are submitted to the FPO on an as-needed basis. At a minimum, inspections will occur every August in preparation for the first significant storm of the winter season.

Measurable Goal: Document at least 90 percent of all storm drain and 100 percent of outfall inspections annually. Tracking will occur through submittals of the checklists and occur at minimum annually by implementation year 2.

5.3.2.3 Hotspot -Visual Inspection Tracking for Maintenance and Corporation Yards

Implementation Details: SCCD will retain the inspection checklists in a binder or database. The database and/or binder will be maintained by the campus Facilities Maintenance Center. The District will track these inspections on an annual basis.

Measurable Goal: Document at least 100 percent of all yard inspections for potential hotspots are tracked annually by implementation year 2.

5.3.2.4 Non-Storm Water Discharge Program

Implementation Details: SCCD Grounds staff will conduct the regular inspections of the campuses and report to their campus Facilities Maintenance Center. The inspections will be augmented to incorporate the identification of the non-storm water discharges such as seeps, breakages for utility pipes associated with water (e.g. irrigation, sanitary sewer, chillers and steam), irrigation overspray and groundwater seepage. The checklist will also include the identification of the illegal discharges, debris, and potential pollutants of concern. Tracking of the checklists will be conducted by the District.

Measurable Goals: Document that at least 90 percent of all campus areas are inspected for non-storm water discharges annually.

5.3.2.5 Storm Water Training for Facilities Operations Staff

Implementation Details: SCCD will augment the existing training procedures and materials to include storm water pollution prevention information. The District will track the existing training meetings through agendas and sign-in sheets. Agendas and/or sign in sheets will be retained at the District FPO Office.

Measurable Goals: 25 percent of all Grounds staff will be trained annually. 100 percent of all facilities staff will be trained by implementation year 5. New hires will be made aware of the training program upon orientation. FPO will retain documentation of training attendance with SWMP for future review and discussion of measurable goals. Facility Managers and other relevant staff will be certified by the agencies and/or certification programs deemed appropriate by the District

5.3.2.6 Signage for Public Use Areas

Implementation Details: SCCD will develop signage to address illegal dumping, litter, and storm water protection. The signs will include the appropriate notification and reporting hotline phone number. Enforcement will be the responsibility of the FPO fielding the hotline calls. Issues will be referred to City Code Enforcement Officers at the discretion of the FPO. Public use areas may include athletic fields.

Measurable Goal: 100 percent of all public use campus areas will have signage addressing storm water protection and illegal dumping and will develop a method to address historically problematic areas by end of implementation year 2.

5.3.2.7 Storm Water Program

Implementation Details: SCCD will develop and maintain a storm water program. The program will address illegal discharges, illegal dumping, and identified unauthorized non-storm water discharge. The program will also identify an enforcement escalation mechanism to address situations of non-compliance. For example, the mechanism may include verbal warnings, written warnings, and referrals to City Code Enforcement.

Measurable Goal: SCCD will develop a comprehensive program by implementation year five.

5.3.2.8 Trash Reduction and Recycling

Implementation Details: The District currently has a full AB75 plan implemented to address trash reduction and recycling.

Measurable Goal: See annual AB75 report to the state.

5.3.2.9 Review of Pollutant Sources

Implementation Details: Currently the District conducts a review of pollutants to fulfill AB75 requirements. The pollutant sources are further addressed in the District's Hazardous Materials Business Plan. The District will continue to conduct reviews in accordance with AB75 requirements.

Measurable Goal: See annual AB75 report.

Table 5-3. BMP Implementation: Illicit Discharge Detection and Elimination

Section	BMP	Current Status	Implementation Details	Measurable Goals	Responsible Party	Year
5.3.2.1	Separate Storm Sewer System Mapping	The current site maps need to be updated to identify storm drains, outfall locations, water of the United States locations, and flow direction.	Complete digital mapping of District MS4s. Augment mapping to identify flow directions for each campus and adjacent, offsite MS4's.	Complete mapping by implementation year 1. Update as necessary with constructed campus alterations.	_____	—
5.3.2.2	Storm Drain and Outfall Inspections	Currently Facilities staff conducts daily yard inspections to identify litter, broken glass, and other safety issues.	Augment Yard inspection checklists to include inspection lists for storm drain condition and illicit discharge inspection.	Inspect 90% of storm drain annually and 100% of outfalls annually by implementation year 2.	_____	—
5.3.2.3	Hotspot Visual Inspections Tracking for Maintenance and Corporation Yards	Currently the Facilities staffs have formalized checklist to track area inspections.	The District will augment checklists to include inspections for potential hotspots.	Document at least 100 percent of all yard inspections for potential hotspots are conducted annually by implementation year 2.	_____	—
5.3.2.4	Non-Storm Water Discharge Program	Currently the Facilities staffs have formalized checklist to track area inspections.	The area inspection checklists will be modified to include visual observations of non-storm water discharges.	Document that at least 90 percent of all campus areas are inspected for non-storm water discharges annually.	_____	—
5.3.2.5	Storm Water Training for Facilities Operations Staff	Currently campus Food Service, Engineers, Grounds, and Custodial maintenance staffs are required to attend safety meetings. Each safety meeting is tailored per target audience and is scheduled at various times throughout the year.	Augment existing training program for illicit discharge prevention and detection.	25percent of staff trained annually. 100 percent of existing staff trained by year 5. New hires trained upon orientation.	_____	—
5.3.2.6	Posting Signage in Public Use Areas	Currently, there is no signage for addressing illegal dumping in public use areas.	Develop signage to address illegal dumping, litter and storm water concerns.	100 percent of public use campus areas will have signage and a method will be developed to address historically problematic areas.	_____	—
5.3.2.6	Storm Water Hotline – Phone	Currently the District does not have a Storm Water Hotline.	Implement a Hotline at each campus.	The Hotline will be developed and implemented by year 1.	_____	—

Section	BMP	Current Status	Implementation Details	Measurable Goals	Responsible Party	Year
	and Email					
5.3.2.7	Storm Water Program	In Progress	District will develop and maintain a Storm Water Program.	Storm Water Program to be developed by year 5.	_____	—
5.3.2.8	Trash Reduction and Recycling	Full AB75 plan implemented	AB75 full requirement implementation	Annual AB75 report to the state	_____	—
5.3.2.9	Review of pollutant sources to assess for potential BMPs to reduce the source	Currently the District conducts a review of pollutants. Hazardous Materials Business Plan	Conduct review	Annual Report	_____	—

5.4 MCM 4: Construction Site Storm Water Runoff Control

5.4.1 Program Goal

The goal of this MCM is to prevent sediment and construction waste at construction sites from entering the storm water conveyance system.

Table 5-4 presents selected BMPs for this minimum measure. The table identifies the current status of each BMP as well as the implementation details, the implementation year, measurable goals and SCCD offices that will be responsible for implementation.

5.4.2 Implementation Details and Measurable Goals

5.4.2.1 Construction Site Inspections

Implementation Details: SCCD will track construction site inspections conducted by the District’s Construction Management Team. The program may consist of a database to track information such as the following:

- site name
- site owner, contract information
- site acreage
- Risk Level if site acreage exceeds 1 acre and is not exempt from submitting a SWPPP to the SWRCB
- Qualified SWPPP Developer (QSD) and Qualified SWPPP Practitioner (QSP) if site acreage exceeds 1 acre and is not exempt from submitting a SWPPP to the SWRCB
- Notice of Intent(NOI) filing date and WDID#
- inspection log
 - by Construction Management Team if less than an acre
 - by QSP and within SWPPP if greater than 1 acre and not exempt.
- Change of Information (COI) submittals
- Notice of Termination (NOT) filing date
- comments

Measurable Goal: Construction sites less than 1 acre or greater than 1 acre and exempt from Construction General Permit requirements are inspected weekly.

Construction sites, greater than 1 acre, which are not exempt from Construction General Permit requirements, will maintain compliance with the Construction General Permit requirements.

5.4.2.2 Receipt of Comments for Construction Activities

Implementation Details: SCCD will provide the campus Facilities Maintenance Center front office phone number as the hotline. Front office personnel will be included in storm water awareness training and will be knowledgeable in dealing with storm water calls. Front desk staff will also be equipped with referral forms indicating various issues such as illegal spills, construction waste, and issues of noncompliance. The hotline number will be posted at the construction site as well as on the web site.

Measurable Goal: SCCD will document the number of storm water-related calls through referral forms. The District will document 100 percent of all calls related to construction.

5.4.2.3 Construction Contract Specifications through Bid Package

Implementation Details: SCCD distributes storm water-specific contract language for all hired construction contractors and maintains strict design standards for new construction and major remodel/additions that requires contractors to subscribe to green buildings and sustainable design standards like those set forth in the LEED certification process. Contracts will continue to include language regarding waste materials, non-storm water discharges, illegal dumping, spill containment, erosion and sediment controls, and BMP maintenance. Contract language will also continue to include enforcement actions for occurrences of non-compliance. Contracts will be updated annually.



Measurable Goal: Contracts provided to construction contractors will contain storm water-specific language as applicable. Storm Water Pollution Prevention and Mitigation language will be augmented with construction and design standards to meet the SWMP where necessary.

5.4.2.4 Internal Inspector Training

Implementation Details: SCCD Construction Managers will undergo appropriate training and attain applicable certifications in order to properly identify and manage storm water construction controls, waste, spills, and other issues. Tracking will be included in the construction inspections tracking database.

Measurable Goal: SCCD will provide internal construction managers all inspectors’ storm water training.

5.4.2.5 Construction Plan Review

Implementation Details: SCCD will develop a mechanism to review storm water controls and design from architect submittal prior to submittal to approving agency for final approval. The District will implement a plan review and pre-design meeting with the architect to discuss storm water issues. Plans will be reviewed for post-construction considerations, erosion and sediment control feasibility, and other storm water considerations.

Measurable Goals: SCCD will document 100 percent of all plans submitted and reviewed.

5.4.2.6 Storm Water Program

Implementation Detail: SCCD will develop a District-wide storm water program. The program will address erosion and sediment controls, waste management, spills, and unauthorized non-storm water discharges. The storm water program will also address occurrences of noncompliance, associated enforcement actions, and referral to City Code Enforcements.

Measurable Goals: The program will be developed by implementation year 5.

Table 5-4. BMP Implementation: Construction Site Storm Water Runoff Control

Section	BMP	Current Status	BMP Description	Measurable Goal	Responsible Party	Year
5.4.2.1	Construction Project Managers	Currently SCCD inspectors are contracted to conduct inspections for structural, erosion, and sediment controls.	Track construction site inspections conducted by the FO. The District will track the inspection checklists on a database identifying the dates inspected, ESC controls found onsite, NOI #, and contact information.	Perform weekly inspections during the dry season and weekly inspections during the rainy season.	_____	—
5.4.2.2	Comment Receipt for Construction Activities	Currently the District has a construction comment mechanism in place consisting of: Email notification Web Posting of construction details, expected interruptions and project contact information.	Modify the phone number to contact the Campus FPO office. Front office personnel will be trained to deal with storm water calls and will be equipped with referral forms. The hotline number will be posted at the construction site as well as on the web site.	Document the number of storm water related calls through referral forms. 100% of all calls related to construction will be documented.	_____	—
5.4.2.3	Contract Specifications through Bid Package (see Appendix G)	Currently contract language is in place. Contract language discusses ESC controls for all school construction projects.	Contract language will be in place for all contracts between the District and construction contractor. Contracts will be updated annually. Contracts will include language regarding waste materials, non-storm water discharges, illegal dumping, spill containment, erosion and sediment controls, and BMP maintenance. Contract language will include enforcement actions for occurrences of non-compliance. Bid packages will require contractor training for storm water issues as applicable for the project and the contractor.	All contracts given to construction contractors will contain, at minimum, boilerplate language regarding construction practices and enforcement actions.	_____	—

Section	BMP	Current Status	BMP Description	Measurable Goal	Responsible Party	Year
5.4.2.4	Internal Inspector Training	SCCD Construction Managers have varying levels of knowledge regarding the management of storm water during construction.	SCCD Construction Managers will undergo appropriate training and attain applicable certifications in order to properly identify and manage storm water construction controls, waste, spills, and other issues. Tracking will be included in the construction inspections tracking database.	SCCD will provide internal construction managers all inspectors' storm water training.	_____	—
5.4.2.5	Construction Plan Review	Occurs at the District level.	Develop a mechanism to review storm water controls and designs from architect submittal prior to submittal to the District for approval.	Document 100% of all plans submitted are reviewed by the District.	_____	—
5.4.2.6	Storm Water Program	In Progress	The District will develop a storm water program. The program will address erosion and sediment controls, waste management, spills, and unauthorized non-storm water discharges.	The program will be developed by implementation year 5.	_____	—

5.5 MCM 5: Post Construction Storm Water Management in New Development and Redevelopment



5.5.1 Program Goal

The goal for this MCM is to reduce non-point source pollution from urban runoff through planning and design, prior to development or redevelopment. Post construction runoff control focuses consideration on the site, design and ultimate project use, which are most effective when addressed in the planning and design stages of project development. Effective long-term management and maintenance are critical, so the best design opportunities are those needing the least amount of maintenance. The goal of the program is to integrate basic and practical storm water management techniques into new development to protect water quality.

Post-construction storm water management controls include permanent structural and non-structural BMPs (e.g., conservation of natural and permeable areas, permeable pavers, rooftop runoff infiltration galleries, and mechanical storm drain filters) that remain in place after the project is completed. Post-construction storm water management controls also include consideration in landscape design and accommodations for end-user practice in pollution prevention.

Table 5-5 presents selected BMPs for this minimum measure. The table identifies the current status of each BMP as well as the implementation detail, the implementation year, measurable goals, and SCCD offices that will be responsible for implementation.



5.5.2 BMP Implementation Details and Measurable Goals

5.5.2.1 Design Contract Specifications for Long-term Management and Maintenance

Implementation Details: SCCD has developed design standard language in contracts for construction sites. Until adoption of a District Storm Water Program, the language of proposed contracts will be augmented, on a case-by-case basis to include conditions requiring runoff controls and BMP’s for the long term management and maintenance of storm water facilities. The District will look to the *local Water Pollution Prevention Program*, LEED or the Statewide Phase II MS4 Permit (Section F) for the applicable avenue to which long-term storm water protection shall be incorporated.

Measurable Goal: Within implementation year 1 and until the Districts Storm Water Program is executed, SCCD will include storm water language in applicable contracts for the reference of planning, design and construction professionals.

5.5.2.2 Storm Water Program

Implementation Details: SCCD will develop a storm water program. The program will address pollution mitigation and prevention for storm water runoff, long-term maintenance of the District’s MS4s, including both the traditional conveyance components and post-construction BMPs. The program will also be structured to address campus community activities and behaviors in awareness and practice of pollution prevention. Additionally, the program will include an enforcement mechanism to address occurrences of non-compliance. Enforcement actions may include referral to the City Code Enforcements.

Measurable Goals: The District will develop the storm water program by implementation year 5.

5.5.2.3 Continuously Improve Design Review Process

Implementation Details: SCCD will continuously improve the SWMP and related processes. The FPO is the authorized authority for reviewing all applicable new development and redevelopment projects for impact to water quality. Where necessary, SCCD conditions projects with a combination of structural and non-structural BMPs intended to prevent or minimize storm water pollution. District review and conditioning of architectural and construction site plans will be documented prior to submittal with the California Department of General Services, Division of the State Architect.

Measurable Goal: Applicable projects shall be designed appropriately to prevent or minimize water quality impacts to the maximum extent practicable and at a minimum to the least restrictive of the following: the Statewide Construction General Permit (CGP) requirements for Post Construction, the Statewide Municipal Phase II MS4 Permit or the C3 requirements for Solano County. Note that projects which disturb more than one acre will be subject to the Post Construction requirements of the Construction General Permit. Where possible and appropriate, natural control systems (i.e.: bio swales) will be implemented.

5.5.2.4 Enhance the Design Review Cycle to Include Other SCCD Departments

Implementation Details: Enhance the design review cycle to include other SCCD departments. By including other departments in the Design Review cycle, projects can be evaluated and planning can be accommodated for future BMP implementation. Through a multi-department review structure, protective

measures for water quality can be incorporated and be inherent in proposed project to address post-construction activities and behaviors which promote storm water protection.

Measurable Goal: By implementation year 2, for applicable projects, acquire sign off by all Departments included in the review process.

5.5.2.5 Maintenance Employee Training for Post-Construction Storm Water Management.

Implementation Details: Provide training for maintenance employees for the recognition and relevance of post-construction structural and non-structural BMPs for storm water quality and quantity management. Provide training on applicable maintenance strategies for post-construction BMP’s.

Measurable Goal: 50% of maintenance employees to have training by implementation year 2. 100% of maintenance employees to have training by implementation year 4. New hires are to undergo training, as part of the District's orientation program, beginning in implementation year 5.

5.5.2.6 Track Impervious Surfaces



Implementation Details: SCCD will review, update and maintain a record of square footage of impervious surfaces in the construction database. SCCD will track the existing square footage of impervious surfaces upon alteration of the campus upon completion of applicable construction projects.

Measurable Goal: SCCD will update the tally of impervious surfaces upon completion of projects which alter impervious surface coverage.

Table 5-5. BMP Implementation: Post-Construction Storm Water

Section	BMP	Current Status	Implementation Details	Measurable Goals	Responsible Party	Year
5.5.2.1	Review Storm Water-Specific Contract Specifications for Low Impact Development and Long-Term Maintenance	Contract language is in place for the District-hired architect. Recent District projects have included LID strategies with regard to storm water management.	Continue to review existing language for the architect and other consultants as applicable. The language should be modified to address LID, long-term BMP's, applicable maintenance programs and projected activities and campus community behavior. Until the Storm Water Program is adopted, the contract language will include provisions for LID and maintenance as applicable and agreed feasible between the District and consultant. Criteria shall reference the <i>local Water Pollution Prevention Program</i> , the Statewide Construction General Permit, LEED or the Statewide Phase II MS4 Permit, Section F, in terms of long-term pollution prevention and hydromodification management.	Contract documents will include language to the effect of incorporating storm water protection in terms of Low Impact Development to architects and other consultants as applicable.	_____	—
5.5.2.2	Storm Water Program	In development.	SCCD will develop a storm water program. The program will address storm water pollution prevention, long-term maintenance of post-construction BMPs, hydromodification management and anticipated public activity and behavior. Criteria shall reference the <i>local Water Pollution Prevention Program</i> , LEED or the Statewide Phase II MS4 Permit as applicable to the type of project or activity proposed.	The program will be developed by implementation year 5.	_____	—
5.5.2.1 and 5.5.2.2	Design Contract Specifications to refer to District's Storm Water Program	Contract language is in place for the District-hired architect, other consultants and contractors.	Review existing language for the architect, other consultants and contractors as applicable. The language should be modified to refer to adopted Storm Water Policies affecting development, routine maintenance, operations and activities.	Boilerplate contract documents will include language referring to the adherence to the District's Storm Water Program.	_____	—
5.5.2.3	Develop a review and scoping process for the application of water quality and hydromodification	SCCD reviews all plans for adherence to federal, state, and local building and	Develop and implement a process for review of architectural and construction site plans that will evaluate the potential impact to water quality and quantity by implementation year 2. Condition projects with hydromodification and	Projects designed at a minimum to the requirements of the Statewide Municipal Phase II MS4 Permit or Solano County C3 criteria to prevent or	_____	—

Section	BMP	Current Status	Implementation Details	Measurable Goals	Responsible Party	Year
	management to development projects.	health codes.	water quality management BMPs where necessary. Anticipate review in accordance with District Storm Water Program by implementation year 5.	minimize water quality and quantity impacts to the maximum extent practicable.		
5.5.2.4	Enhance the design review cycle to include other SCCD departments associated with storm water quality in evaluating and planning for the implementation of the District, the architect's or consultant's project vision.	Not all departments are always in the review process currently.	Include additional groups in the review process. Will work with all departments in program review process.	Sign off by all Departments of review process, incorporate new measures for water quality in planning and design.	_____	—
5.5.2.5	Training of maintenance employees regarding Post-Construction Storm Water Management.	In development.	Create training for maintenance employees for the recognition and relevance of post-construction structural and non-structural BMPs for storm water quality and quantity management. Provide training on applicable maintenance strategies for post-construction BMP's.	50% of maintenance employees to have training by implementation year 2. 100% of maintenance employees to have training by implementation year 4. New hires to undergo training as part of orientation beginning implementation year 5.	_____	—
5.5.2.6	Track Impervious Surfaces.	District currently tracks square footage of jurisdictional campus areas.	Include the review of impervious surfaces in the construction database. Track impervious surface by square foot.	SCCD will update the tally of impervious surfaces upon completion of projects which alter impervious surface coverage.	_____	—

5.6 MCM 6: Pollution Prevention and Good Housekeeping for Facilities Maintenance and Operation



5.6.1 Program Goal

The goal of this MCM is to assure that SCCD Facilities Maintenance and Operations activities occur in a manner protective of storm water quality. SCCD will develop and implement a maintenance and operations program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from SCCD operations. SCCD will use training materials that are available from the U.S. EPA, State, or other organizations, include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet building maintenance, new construction and land disturbances, and storm water system maintenance.



Table 5-6 presents selected BMPs for this minimum measure. The table identifies the current status of each BMP as well as the implementation details, the implementation year, measurable goals and SCCD offices that will be responsible for BMP implementation.

5.6.2 Implementation Detail and Measurable Goals

5.6.2.1 Centralized District Automobile Maintenance and Vehicle Washing and Program Regarding Car Wash Fundraising

Implementation Details: SCCD will continue to educate District staff to wash district-owned vehicles at the designated campus Facilities Maintenance Center (FMC) locations. The designated FMC locations are equipped to prevent wash water from entering the storm drain. Additionally, the District will implement, as part of the storm water program, the practice of using soaps, cleaners and detergents that are labeled phosphate-free or biodegradable. The District will also address, as part of the storm water program, restrictions or guidelines thereof, for practices related to car washing fundraisers. The District will forward information prepared by the *local Water Pollution Prevention Program* regarding appropriate car-wash practices to prevent contamination of storm water runoff whether at home or at work. In preparation for any guidelines related to car-wash fundraisers, the District will review the practices of programs such as the “River-Friendly Fundraiser Carwash Program” promoted by the Sacramento Stormwater Quality Partnership. The message will be disseminated through staff newsletters, safety meetings, and mass e-mails (as appropriate).

Measurable Goal: Document 100 percent of district-owned vehicles maintenance and washing. Tracking will occur through maintenance logs.

5.6.2.2 Custodial, Operations and Maintenance Staff Training

Implementation Detail: SCCD will augment the existing mandatory training bulletins to address storm water controls, oil/water separators, grease trap inspections, trash bin exposure issues, trash compacting procedures, spill containment and cleanup, wash water disposal (i.e., mop water, floor cleaning water), as well as other operations and maintenance activities.

Measurable Goal: SCCD will include, at a minimum, storm water issues in one training meeting annually. Where possible and appropriate, maintenance staff will use non-toxic cleaning materials.

5.6.2.3 Landscape Maintenance and Integrated Pest Management Program

Implementation Detail: SCCD will compare its existing landscape management program to the practices promoted by *local Water Pollution Prevention Program’s* and other Bay-Friendly recommended landscape and maintenance practices. Additionally, SCCD will compare the practices of its pest management program to Integrated Pest Management strategies promoted by Solano County and other San Francisco Bay Area programs.

Measurable Goal: Comparison of strategies against locally promoted practices will occur by implementation year 2. If not already in practice, SCCD will determine Bay-Friendly and IPM techniques to adopt. SCCD will prepare a plan for implementation to enhance the existing landscape management program with the chosen techniques. By implementation year 4 the new strategies will be adopted.

5.6.2.4 Campus Spill Kit Campaign

Implementation Detail: SCCD will augment the Grounds daily yard inspection to include visual observations of storm drains and outfalls. Inspections will include identification of debris, obstructions, illegal spills or signs of illegal discharges. The daily logs will also include actions taken to clean storm drains. The daily checklists will be submitted to the FM monthly and maintained at the respective campus FMCs.

Measurable Goals: Document that at least 90 percent of all storm drains and outfalls are inspected annually. Development of a Storm Drain Inspection checklist will be completed by implementation year 4.

5.6.2.5 Storm Drain Inspections/Cleanout

Implementation Detail: SCCD will augment the Grounds daily yard inspection to include visual observations of storm drains and outfalls. Inspections will include identification of debris, obstructions, illegal spills or signs of illegal discharges. The daily logs will also include actions taken to clean storm drains. The daily checklists will be submitted to the FM monthly and maintained at the respective campus FMCs.

Measurable Goals: Document that at least 90 percent of all storm drains and outfalls are inspected annually. Development of a Storm Drain Inspection checklist will be completed by implementation year 4.

5.6.2.6 Compliance with the Industrial General Permit

Implementation Details: SCCD will update the Industrial Facility Storm Water Pollution Prevention Plan (SWPPP) annually, submit annual reports, conduct annual facility inspections, and collect two storm water

samples per wet season. Although these tasks are required under the Industrial General Permit (CAS000001), SCCD will implement under current BMPs.

Measurable Goal: SCCD shall update the SWPPP as required, submit annual updates, conduct regular facility inspections, and collect two storm water samples per wet season.

5.6.2.7 Used Oil Recycling Program

Implementation Details: SCCD will use the existing program to track the amount of used oil recycled annually. Although the used oil program is regulated under a different program, the District will account for the indirect improvement to water quality by ensuring that the used oil is stored, hauled, and documented in the proper manner.

Measurable Goal: SCCD will document the total volume of oil recycled annually.

5.6.2.8 Regular SSO Inventory

Implementation Details: SCCD will develop and inventory all grease traps and oil/water separators located within the jurisdiction of SCCD. The inventory may account for inspections with county health to assess the status of the grease traps and oil/water separators.

Measurable Goal: SCCD will inventory 100 percent of all possible SSO (Sanitary Sewer Overflow) devices (i.e., grease traps, oil/water separators).

5.6.2.9 Campus Road/Parking Lot Sweeping

Implementation Details: SCCD continue with the current sweeping program. By implementation year 4, the District will have all campus roads and parking lots swept, at minimum, within the month before October 15 in preparation for the rainy season. Then again, as needed after the first wind or rain storm which produces a significant accumulation of trash and debris which could pollute runoff or impact storm drain infrastructure.

Measurable Goal: 100% of campus streets and parking lots swept yearly within the month before October 15 and as additionally needed after the first significant storm (wind or rain) which produces a large quantity of fallen leaves and debris.



Table 5-6. BMP Implementation: Pollution Prevention/Good Housekeeping

Section	BMP	Current Status	BMP Descriptions	Measurable Goal	Responsible Party	Year
5.6.2.1	Automobile Maintenance and Car Washing and Car Wash Fundraising Program	Currently District vehicles and equipment are washed and stored at the FMC facility. Car Wash Fundraising...	The District will continue to educate District staff to wash District owned vehicles at the designated FMC locations. The District will compare its car wash methods and program to those promoted by Solano County.	Document 100% of District owned vehicles maintenance and washing. Prepare list of acceptable products to be used to wash vehicles. Determine program on Car Wash Fundraising.	_____	—
5.6.2.2	Maintenance Staff Training	Currently the District holds mandatory training meetings for Custodial, Food Service, and Grounds maintenance staff.	The District will augment the existing mandatory training bulletins to address storm water controls, oil/water separators; grease traps inspections, trash bin exposure, trash compacting procedures, spill containment and cleanup, wash water disposal, as well as other operations and maintenance activities.	Include storm water issues in a minimum of one safety meetings annually.	_____	—
5.6.2.3	Landscape Maintenance and Integrated Pest Management Program	The District performs landscape maintenance and some pest management activities.	SCCD will compare its existing landscape management program to the practices promoted by local Pollution Prevention Program's. Additionally, SCCD will compare the practices of its pest management program to Integrated Pest Management strategies promoted by local programs.	Comparison of strategies against locally promoted practices by year 2. SCCD will determine Bay-Friendly and IPM techniques to adopt. By implementation year 4 the new strategies will be adopted.	_____	—
5.6.2.4	Campus Spill Kit Campaign	Currently the campus does not have any controls to address potential spills.	SCCD will procure small spill kit packages for each school to be used by custodial staff in spill occurrences.	Document that 100% of SCCD has spill kits by end of implementation year 1.	_____	—

Section	BMP	Current Status	BMP Descriptions	Measurable Goal	Responsible Party	Year
5.6.2.5	Storm Drain Inspections/Clean Out	Currently, Grounds staffs conduct daily yard inspections. Yard inspections to identify litter, broken glass, and other safety issues.	Modify the Grounds daily yard inspection checklists to include visual observations of storm drains and outfalls. The daily checklists are submitted to the FOM monthly.	Document at least 90% of all storm drains and outfalls will be inspected annually.	_____	—
5.6.2.6	Compliance with Industrial General Permit	A portion of the District's activities are covered under the Industrial General Permit.	SCCD will continue to update the Industrial Facility SWPPP annually, submit annual reports, conduct annual facility inspections, and collect two storm water samples per wet season.	SCCD shall update the SWPPP as required, submit annual updates, conduct regular facility inspections, and collect two storm water samples per wet season.	_____	—
5.6.2.7	Used Oil Recycling Program	Currently the recycling programs are conducted at the Auto Dept and FPO	The District will use the existing program to track the amount of used oil recycled.	Document the total volume of oil recycled annually.	_____	—
5.6.2.8	Sanitary Sewer Overflow (SSO) Inventory	Currently there is an inventory for the grease traps, oil water separators, and other devices with the potential for a SSO.	Develop and inventory of all the grease traps and oil/water separators. The inventory may account for inspections with county health to assess the status of the grease traps and oil/water separators.	Inventory 100% of all possible SSO devices.	_____	—
5.6.2.9	Campus Road/Parking Lot Sweeping	The District cleans campus roads and parking lots on a regular basis through a combination of sweeping, blowing and scraping.	SCCD will continue with the current parking lot and street cleaning program. By implementation year 1, the District will have all campus roads and parking lots cleaned of debris, at minimum, within 30 days of the rainy season (Which begins 10/15/13). Then again, as needed after the first wind or rain storm which produces a significant accumulation of trash and debris which could pollute runoff or impact storm drain infrastructure.	100% of campus streets and parking lots cleaner yearly within the month before October 15 and as additionally needed after the first significant storm (wind or rain) which produces a large quantity of fallen leaves and debris.	_____	—

6.0 RECORD KEEPING

6.1 SWMP Updating

The SWMP will be reviewed annually and be updated as needed by the Vice Chancellor for Facilities Planning, Maintenance & Operations, or their designee, whenever changes in activates or operations occur. SCCD will update the SWMP whenever there are changes in activities or operations that may significantly affect the discharge of storm water pollutants.

Annually, the SWMP will be reviewed and examined for the following:

- an assessment of the appropriateness and effectiveness of the identified BMPs
- the status of the identified measurable goals
- results of information (including monitoring data, if any) collected and analyzed during the reporting period
- a summary of the storm water activities SCCD plans to undertake during the next reporting cycle
- any proposed changes to the SWMP, along with justification of why the changes are necessary
- any change in the person or persons implementing and coordinating the SWMP

6.2 SWMP Public Access

This SWMP is a public document and is intended for use by SCCD students, faculty, and staff. Requests for copies of the SWMP can be obtained by calling the District office at (707) 864-7000.

District Website Link: <http://www.solano.edu/>

6.3 SWMP Record Keeping

A copy of the SWMP will be kept on file at the District upon initial implementation. Upon annual review and update as described in Section 6.1, the SWMP will be from the previous year will be discarded from the District files and replaced with the most current version.

7.0 PROGRAM EVALUATION AND MONITORING

7.1 Program Evaluation

The intent of the Program Evaluation and Monitoring Section is to evaluate the measurable goals, minimum control measures, and overall program for effectiveness. The measurable goals described in the Minimum Control Measure (MCM) section of the Storm Water Management Program (SWMP) will be used to help establish a baseline against which future progress at reducing pollutants to the Maximum Extent Practicable (MEP) can be measured.

7.2 Water Quality Monitoring Activities

Currently SCCD (is/is not) proposing to conduct any monitoring programs at this time. “Describe monitoring”

