2013 FACILITIES MASTER PLAN

NORCO COLLEGE

Riverside Community College District

OCTOBER 2013

NORCO COLLEGE

2013 FACILITIES MASTER PLAN

RIVERSIDE COMMUNITY COLLEGE DISTRICT

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Civil Works Engineers, Drainage + Storm Water Planning

DOCUMENT

The *Norco College 2013 Facilities Master Plan (FMP)* is designed to inform the reader of the planning work that was done throughout 2012 and 2013. The document is prefaced with a letter from the president and a description of the guiding framework, purpose, process, participants, references, and glossary.

The FMP is organized into three chapters:

1. Planning Data
2. Analysis
3. Recommendations

The *Planning Data* chapter establishes the master plan horizons for enrollment growth, which form the development framework for the FMP.

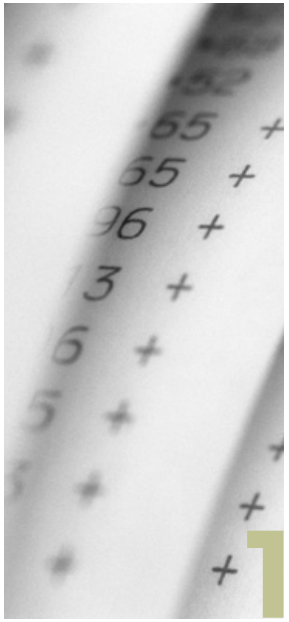
The *Analysis* chapter documents the investigation of and discussions about existing conditions that took place in the Business + Facilities Planning Council (BFPC) meetings.

The *Recommendations* chapter documents solutions that were refined through discussions in the BFPC meetings. The recommendations are preceded by a description of the guiding facilities planning principles and illustration of the development concepts and their application to the campus. Specific campus recommendations are categorized under new facilities, renovation of existing facilities, repurposing of existing facilities, and site improvements.

ORGANIZATION

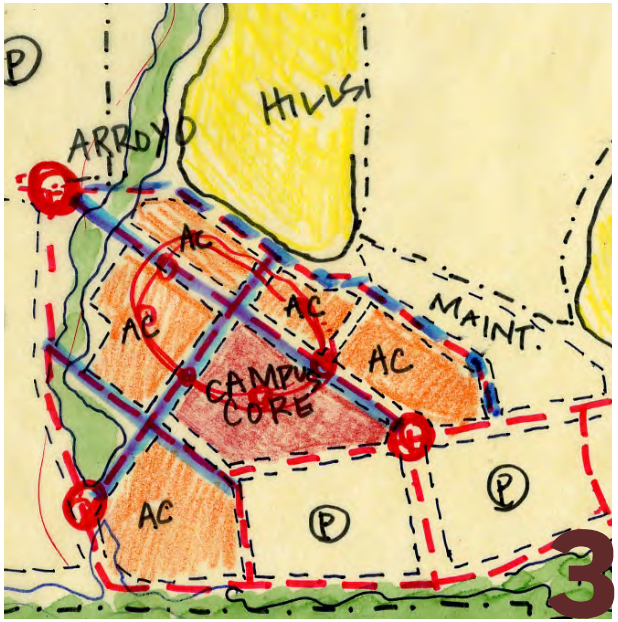
OVERVIEW

PLANNING DATA



ANALYSIS

RECOMMENDATIONS



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ANALYSIS

RECOMMENDATIONS

LETTER FROM

The following *Norco College 2013 Facilities Master Plan (FMP)* was created by faculty, staff, students, administrators, and the community, and facilitated by HMC Architects who were very sensitive and attentive to Norco College's input. Its foundation is data-driven evidence from the *2008 Norco Campus Educational Master Plan*, the *Riverside Community College District - External Environmental Scan* - September 2012, the *Riverside Community College District Centennial Strategic Plan 2012–16*, as well as *Norco College's Strategic Plan and Process 2013–2018*.

The contribution of significant collective brain power from all constituents formed the FMP into a viable and living document. It gives us the visionary guidance to fulfill our mission:

Norco College serves our students, our community, and its workforce by providing educational opportunities, celebrating diversity, and promoting collaboration. We encourage an inclusive, innovative approach to learning and the creative application of emerging technologies. We provide foundational skills and pathways to transfer, career and technical education, certificates, and degrees.

THE PRESIDENT

In our *2013 Facilities Master Plan* you will see how we fulfill our mission by honoring our traditions and embracing the future opportunities with innovation and optimism. The FMP is flexible and can change as the world around us changes. Ultimately, it will enable us to continuously deliver an education of excellence for our community, its workforce, and our students.

You can see in the future buildings, roads, parking structures, and infrastructure plans the fulfillment of our vision to meet students and community educational needs.

It is incumbent on each of us to follow the FMP and update it as often as needed so it remains relevant.

Good job, Norco College. Let's follow the FMP and celebrate what we create.

PAUL PARNELL, PH.D.
PRESIDENT

GUIDING

VISION

Creating opportunities to transform our students and community for the dynamic challenges of tomorrow.

MISSION

Norco College serves our students, our community, and its workforce by providing educational opportunities, celebrating diversity, and promoting collaboration. We encourage an inclusive, innovative approach to learning and the creative application of emerging technologies. We provide foundational skills and pathways to transfer, career and technical education, certificates, and degrees.

FRAMEWORK

CORE COMMITMENTS

Norco College is dedicated to following a set of enduring Core Commitments that guide it through changing times and give rise to our Vision, Mission, and Strategic Goals.

MUTUAL RESPECT. Belief in the personal dignity and full potential of every individual and in fostering positive human values in the classroom and in all interactions.

COLLEGIALITY. Being a supportive community that is distinctive in its civility, where the views of each individual are respected, humor and enjoyment of work are encouraged, and success is celebrated.

INCLUSIVENESS. Embracing diversity in all its forms — global as well as local — and creating a supportive climate that encourages a variety of perspectives and opinions.

INTEGRITY. Maintaining an open, honest, and ethical environment.

INNOVATION. Valuing creative solutions and continuing to seek inventive ways to improve instruction and service to students and to the community.

QUALITY. Achieving excellence in the broad range of academic programs and services provided to students and to the community, fostering an environment of inquiry, learning, and culture, and providing professional development opportunities for faculty and staff.

ACCESS. Providing open admissions and comprehensive educational opportunities for all students.

STUDENT SUCCESS. Being an institution that places high value on the academic and personal success of students in and outside of the classroom and where meeting student needs drives all decisions regarding educational programs and services.

CIVIC ENGAGEMENT. Being fully engaged with the local community by listening to needs; establishing programs and partnerships to meet regional needs; forming alliances with other educational institutions to create a continuum of educational opportunities; and communicating information about Norco programs and services to the external community

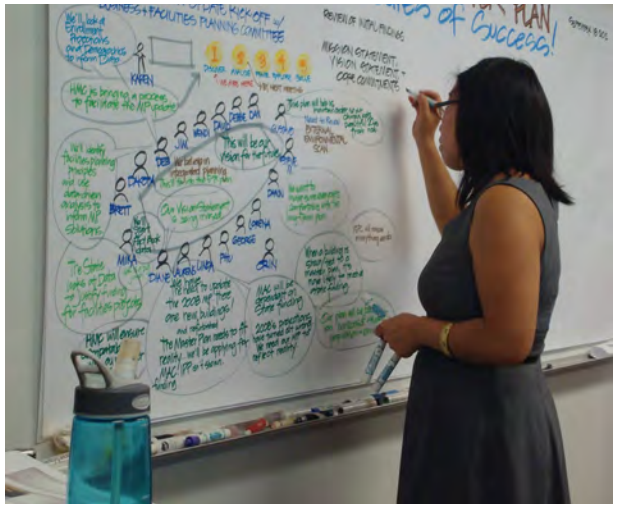
ENVIRONMENTAL STEWARDSHIP. Being mindful of the impact we have on the environment, as individuals and as a community, and fostering environmental responsibility among students.

PURPOSE

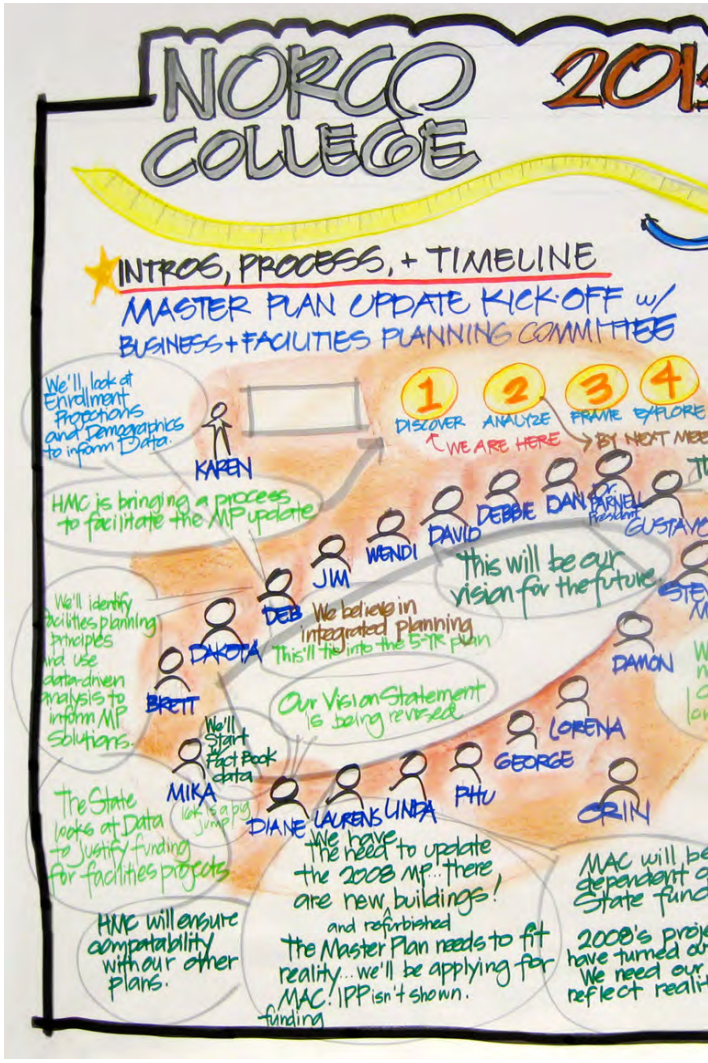
The *Norco College 2013 Facilities Master Plan (FMP)* has been developed to serve as a guide for future campus development. It provides a quantitative and qualitative description of the College's strategy to support the educational program needs, address the long-range forecast for enrollment, and maximize funding opportunities. It is guided by the *2008 Norco College Educational Master Plan (EMP)*, which serves as the foundation for recommendations regarding facilities. The plan provides a framework for future development, including the construction of new facilities, the renovation and repurposing of existing facilities, and the implementation of a number of campus-wide site improvements.

The planning process began with a visioning session to discover the culture, values, philosophy, and potential of the Norco College campus. This workshop was graphically recorded to visually capture the interactive discussion. The adjacent images illustrate the process and final group graphics.

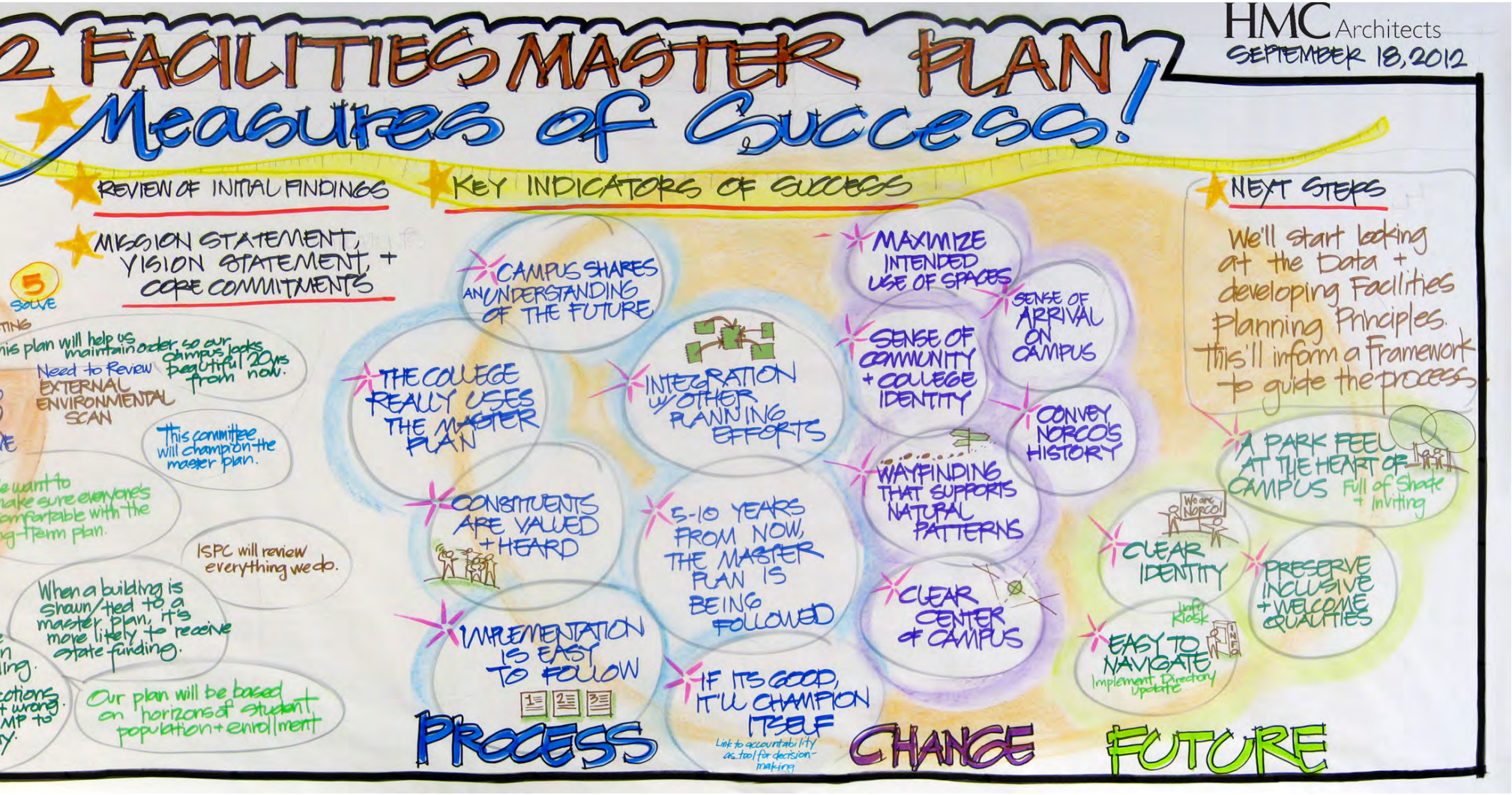
Business + Facilities Planning Council (BFPC) meeting: 9-18-2012



Graphic Recorder: 9-18-2012



Final Graphic Recording: 9-18-2012


2 FACILITIES MASTER PLAN
Measures of Success!
HMC Architects
SEPTEMBER 18, 2012
REVIEW OF INITIAL FINDINGS
MISSION STATEMENT, VISION STATEMENT, + CORE COMMITMENTS
Need to Review EXTERNAL ENVIRONMENTAL SCAN
This committee will champion the master plan.
ISPC will review everything we do.
When a building is shown tied to a master plan, it's more likely to receive state funding.
Our plan will be based on horizons of student population + enrollment
KEY INDICATORS OF SUCCESS
CAMPUS SHARES AN UNDERSTANDING OF THE FUTURE
THE COLLEGE REALLY USES THE MASTER PLAN
INTEGRATION W/ OTHER PLANNING EFFORTS
CONSTITUENTS ARE VALUED + HEARD
5-10 YEARS FROM NOW, THE MASTER PLAN IS BEING FOLLOWED
IMPLEMENTATION IS EASY TO FOLLOW
IF ITS GOOD, IT'LL CHAMPION ITSELF
Link to accountability as tool for decision-making
PROCESS
MAXIMIZE INTENDED USE OF SPACES
SENSE OF ARRIVAL ON CAMPUS
SENSE OF COMMUNITY + COLLEGE IDENTITY
CONVEY NORCO'S HISTORY
WAYFINDING THAT SUPPORTS NATURAL PATTERNS
CLEAR CENTER OF CAMPUS
CHANGE
NEXT STEPS
We'll start looking at the Data + developing Facilities Planning Principles. This'll inform a Framework to guide the process
A PARK FEEL AT THE HEART OF CAMPUS Full of Shade + Inviting
We are NORCO!
CLEAR IDENTITY
PRESERVE INCLUSIVE + WELCOME QUALITIES
Info Kiosk
EASY TO NAVIGATE
Implement Directory Update
FUTURE

PROCESS

The planning process was a participatory one involving many individuals from Norco College. First, the planning team held a series of interviews with all of the college stakeholders. Next, the planning team worked closely with the Business + Facilities Planning Council (BFPC) to define planning goals, review the analysis of existing conditions, review planning data, evaluate a series of development options, and make decisions that led to the development of the master plan recommendations.

The planning process included a series of BFPC meetings, Institutional Strategic Planning Council (ISPC) presentations, Committee of the Whole (COTW) presentations, as well as presentations and discussions with district leadership and the Board of Trustees (BOT) to broaden the *Norco College 2013 Facilities Master Plan (FMP)*'s perspective and to enhance the acceptance of proposed developments.

The diagram on the opposing page illustrates the planning process utilized to develop the FMP and how it directly followed the integrated strategic planning process established by Norco College and included the participation of regional community partners.

The planning team—including planners, architects, landscape architects, and engineers—followed a six-step process:

1. Analysis of Existing Conditions
2. Quantification of Planning Data
3. Framing the Development Concept
4. Development of Options
5. Development of Solutions
6. Documentation of Recommendations

Business + Facilities Planning Council (BFPC) Meeting: 2-12-2013

Institutional Strategic Planning Council (ISPC) Meeting: 3-07-2013

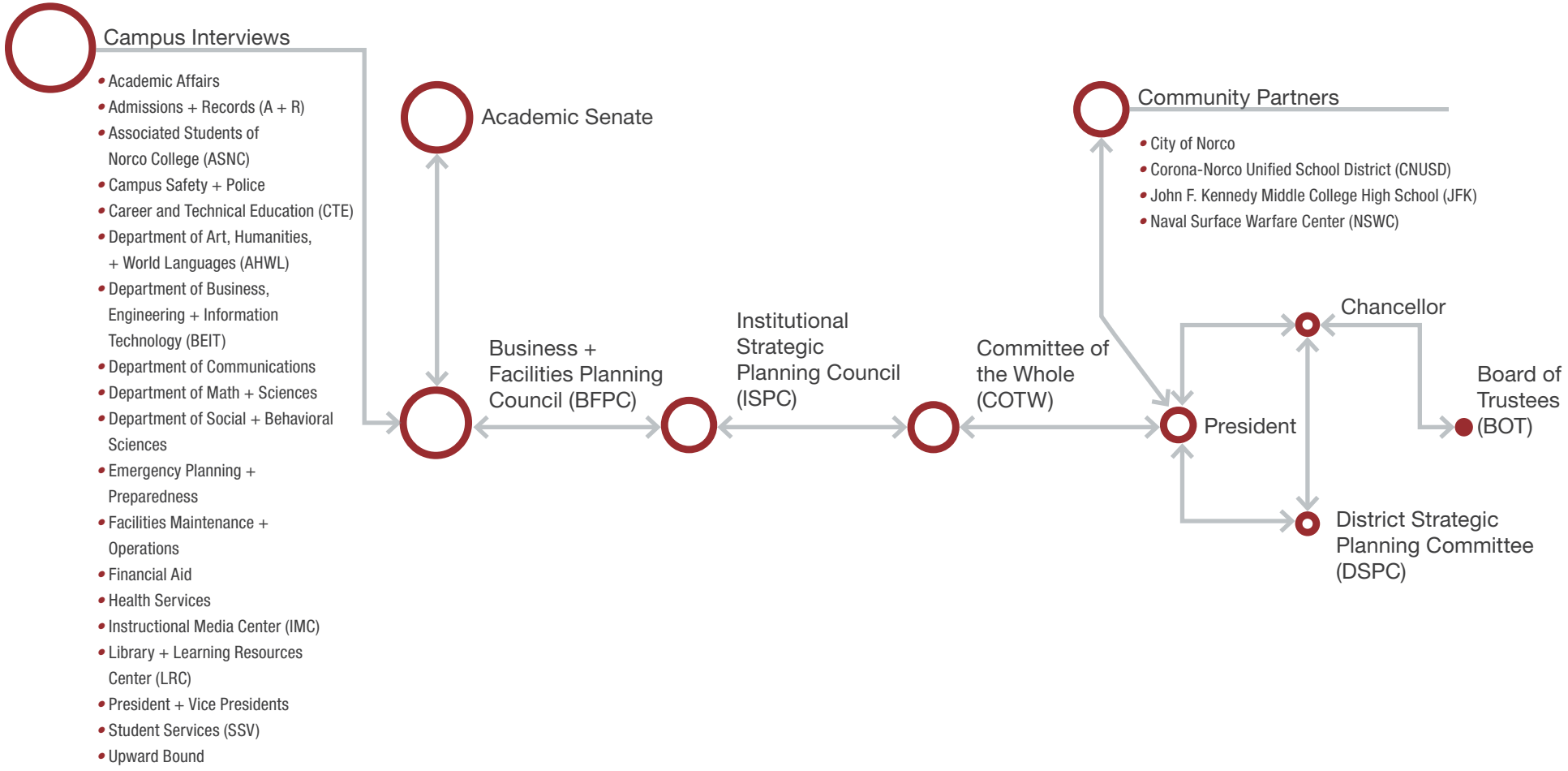
Planning Team Design Charette: 11-20-2012

Planning Team Document Mock-up: 4-08-2013

Committee of the Whole (COTW) Meeting: 11-27-2012

SHARED GOVERNANCE + PLANNING PROCESS

Norco College has established a robust planning and decision-making process that incorporates not only faculty, classified staff, and administration, but also allows for input from students and members of the community. The development of the *Norco College 2013 Facilities Master Plan (FMP)* represents the collaboration of all Norco College stakeholders.



PARTICIPANTS

BUSINESS + FACILITIES PLANNING COUNCIL (BFPC)

The Business + Facilities Planning Council exists to provide additional leadership and support to the Norco College planning committees. This council provides direction to address long-term planning and operational needs and to implement special initiatives in its specific areas of concern.

Beth Gomez (Co-Chair), Vice President, Business Services
David Bobbitt (Co-Chair), Former Interim Vice President, Business Services
Phu Tran (Co-Chair), Associate Professor, Physics
Wendi Alcazar, Instructional Department Specialist/
California School Employees Association (CSEA) Representative
Diane Dieckmeyer, Vice President, Academic Affairs
Debbie DiThomas, Vice President, Student Services
Lyn Greene, Assistant Professor, Political Science
Dakota Hendy, Senator of Relations, Associated Students of Norco College (ASNC)
Steve Monsanto, Director, Facilities
Damon Nance, Dean, Technology and Learning Resources
Gustavo Oceguera, Associate Dean, Grants and College Support Programs
George Salas, Maintenance Mechanic (HVAC), Maintenance and Operations
Jim Thomas, Professor, Construction Technology
George Walters, Project Director, National Center for Supply Chain Technology Education
Linda Wright, Administrative Assistant IV, Vice President of Business Services (VPBS) Office

GUESTS

Paul Parnell, President
Robert Klevano, Sergeant, Norco College Campus Safety + Police
Daniel Lambros, Instructional Media/Broadcast Technician
Lorena Patton, Director Title III Science Technology Engineering + Mathematics (STEM) Grant
Marissa Edelman, Associated Student of Norco College (ASNC).

Committee of the Whole (COTW) Meeting: 11-27-2012

DISTRICT REPRESENTATIVES

Chris Carlson, Chief of Staff + Facilities Development
Laurens Thurman, Consultant for Campus Construction + Energy Projects
Orin Williams, Former Associate Vice Chancellor, RCCD Facilities Planning + Development

INSTITUTIONAL STRATEGIC PLANNING COUNCIL (ISPC)

The ISPC is the main coordinating body for all strategic planning at Norco College. The ISPC's purpose is to ensure that all phases of planning and resource allocation at Norco College emanate from program review, have improvement of student learning as the highest priority, and are driven by the College's mission and Educational Master Plan (EMP).

Diane Dieckmeyer (Co-Chair), Vice President, Academic Affairs
Gail Zwart (Co-Chair), Associate Professor, Business Administration
Andy Aldasoro, Maintenance Helper
Greg Aycock, Dean of Student Success
Melissa Bader, Associate Professor, English
David Bobbitt, Former Interim Vice President, Business Services
Celia Brockenbrough, Professor of Library Services
Sharon Crasnow, Professor, Philosophy
Leona Crawford, Support Services Specialist, Disability Resource Center
Mark DeAsis, Director of Enrollment Services
Debbie DiThomas, Vice President, Student Services
Joe Eckstein, Associate Professor, Geography
Beth Gomez (Co-Chair), Vice President, Business Services Ruth Jones, College Receptionist, Student Activities
Ruth Leal, Instructional Production Specialist
Mark Lewis, Associate Professor, Communications
Jason Rey, Associate Professor, Mathematics
Jim Thomas, Associate Professor, Construction Technology
Deborah Tompsett-Makin, Professor of Political Science
Shaunna Winn, President, Associated Students of Norco College

COMMITTEE OF THE WHOLE (COTW)

The Norco College COTW provides all college stakeholders with the opportunity to have input, dialogue, and a voting presence to approve/disapprove matters affecting the entire College.

Diane Dieckmeyer (Co-Chair), Vice President, Academic Affairs
Gail Zwart (Co-Chair), Associate Professor, Business Administration

All faculty, staff, and administrative personnel are members of the COTW, along with officially designated representatives of Norco College's student governing body (ASNC). In addition, Norco College students are encouraged and welcome to attend meetings.

MASTER PLANNING TEAM

HMC Architects, Facilities Planning
AHBE Landscape Architects, Landscape Planning
Civil Works Engineers, Drainage + Storm Water Planning

REFERENCES

The following documents were referenced during the planning process:

ENVIRONMENTAL IMPACT REPORTS (EIRs):

- *Limited Environmental Site Investigation of 1.6-Acre Lot at Industrial Technology Center* - October 23, 2007
- *Third Street Area Plan: Environmental Impact Report for City of Norco and Riverside Community College District and Deane Homes* - March 1987

GEOTECHNICAL REPORTS:

- *Geotechnical Investigation, Proposed Facilities Operation Center, Norco Campus of Riverside Community College, 2001 Third Street, City of Norco, California* - December 23, 2009
- *Geotechnical Investigation, Proposed Student Services Center, Riverside Community College, Norco Campus, Norco, California, Prepared for Riverside Community College* - December 27, 2007

GUIDELINES, STANDARDS + INFRASTRUCTURE:

- *Norco Campus Infrastructure Upgrade Project: Utility Program* - January 14, 2010
- *RCCD District Standards + Campus Guidelines Handbook* - Final Draft February 2013

INSTITUTIONAL RESEARCH + PLANNING:

- *Norco College Fact Book* - 2012
- *Riverside Community College District Centennial Strategic Plan 2012–16*
- *Riverside Community College District - External Environmental Scan* - September 2012

LEASE + JOINT USE AGREEMENTS:

- *First Amendment to Lease Agreement* - June 21, 2006
- *Ground Lease Agreement between Riverside Community College District and Corona-Norco Unified School District* - June 17, 2003
- *Joint Use Agreement by and between Corona-Norco Unified School District and Riverside Community College District* - August 29, 2006

MEMORANDUMS OF UNDERSTANDING:

- *Letter of Intent to Support Evacuation of College Personnel through Naval Weapons Station (NAVWPNSYA) Seal Beach Detachment Norco*
- *RCC Norco Campus | John F. Kennedy High School Memorandum of Understanding* - 2002

PREVIOUS MASTER PLANS:

- *Norco Campus Educational Master Plan* - January 2008
- *Norco Campus Long Range Facilities Master Plan* - Final Report January 2008
- *Norco Center Master Plan* - February 1, 1990

PROPERTY ACQUISITION:

- *Application for Federal Surplus Real Property at Public Benefit Allowance* - January 25, 1984

RESOLUTIONS:

- *Secondary Entrance Resolution | Associated Students of Norco College* - Adopted June 1, 2011

SURVEYS:

- *Riverside Community College - Norco Campus | Corona-Norco Unified School District | Kennedy High School: Phase 1 and II, Exhibits A + B* - August 21, 2002

TRAFFIC STUDIES:

- *Riverside Community College (RCC), Norco Campus Circulation Alternatives* - August 1, 2007
- *Traffic Study for the Kennedy High School in the City of Norco* - December 5, 2002

WIND STUDIES:

- *Preliminary Annual Energy Production Estimate* - November 3, 2011

CALIFORNIA POSTSECONDARY EDUCATION COMMISSION (CPEC):

- *Guidelines for Review of Proposed University Campuses, Community Colleges, and Educational Centers*

CITY OF EASTVALE:

- *General Plan* - June 13, 2012
- *Land Use Map* - 2012
- *Planning Area Map* - 2012
- *Zoning Map* - September 5, 2012

CITY OF JURUPA VALLEY

- *Boundary Map* - July 1, 2011
- *Existing Zoning* - July 1, 2011
- *General Plan Land Use* - July 1, 2011
- *Jurupa Area Plan Policy Areas* - October 7, 2003

CITY OF NORCO:

- *Certificate of Acceptance of Deed of Easement* - February 7, 1990
- *Engineering Standards* - Revised July 2011
- *Fire Hazard Severity Zone Map* - Revised January 12, 2012
- *General Plan*:
  - / *Circulation Element* - Updated March 15, 2000
  - / *Conservation Element* - Updated February 6, 2002
  - / *Housing Element* - Updated February 29, 2010
  - / *Land Use Element* - Updated June 6, 2001
  - / *Noise Element* - Updated March 5, 2003
  - / *Open-Space Element* - Updated June 1989
  - / *Safety Element* - November 15, 1976
- *Land Use Map* - Updated May 25, 2012
- *Norco Municipal Code* - October 3, 2012
- *Silverlakes Master Plan* - June 16, 2008
- *Specific Plans*:
  - / *Gateway Specific Plan* - May 1991
  - / *Norco Auto Mall Specific Plan*
- *Zoning Map* - Updated May 21, 2012

GENERAL SERVICES ADMINISTRATION:

- *Quitclaim Deed* - June 4, 1985

KEVIN BASH + BRIGITTE JOUXTEL:

- *The Navy in Norco* - 2011
- *The Norconian Resort* - 2007

RIVERSIDE TRANSIT AGENCY (RTA):

- *Short Range Transit Plan (SRTP)* - FY 2012–2014

U. S. DEPARTMENT OF TRANSPORTATION (DOT):

- *Roundabouts: An Informational Guide* - March 2000

GLOSSARY

The glossary that follows includes the definition of most of the key words or terms used throughout the *Norco College 2013 Facilities Master Plan (FMP)*.

ASF
Assignable square feet, the measure of "usable" square footage in a given facility.

Average hours room/week
Number of hours out of a 70-hour week, 8am to 10pm, a classroom or class laboratory, on the average, should be used.

BFPC
Business + Facilities Planning Council

Cap
An enrollment limit beyond which districts do not receive funds for additional students.

Cap/Load
"Capacity" is the capability a facility has to generate contact hours and "load" equates to the current or projected enrollment levels. Short for capacity to load ratio; this ratio quantifies the need for space at the college in particular space categories (lecture, laboratory, office, etc.) In the simplest terms, the cap/load ratio is what the college has divided by what Title 5 says the college needs.

The numerator is simply the total ASF existing on campus in that space category. The denominator is determined by using formulae specified in Title 5 of the California Code. For academic spaces (Lecture and Laboratory), the space "need" is determined by multiplying the number of weekly student hours by various multipliers. For office, library and instructional media spaces, Title 5 specifies other formulae for determining the "need."

CCCCO
California Community Colleges Chancellor's Office

Classified Staff
Employees of a district not in academic positions, including secretarial staff, computer and program technicians, instructional aides, accountants and maintenance.

COTW
Committee of the Whole

Data Mart
A database program maintained on the California Community College Chancellor's Office (CCCCO) website (http://datamart.cccco.edu/datamart.aspx) that enables external users to query student and staff Management Information System (MIS) data and generate aggregated reports by college, district, or statewide.

DGE
Day–graded enrollment

DGS
Day graded student

District
Riverside Community College District (RCCD)

Educational Master Plan (EMP)
Shall mean, unless otherwise referred to in a generic or titled reference, the *January 2008 Norco Campus Educational Master Plan*.

FMP
Facilities Master Plan

Full-Time Equivalent Faculty (FTEF)
The total number of full- and part-time faculty counted in terms of full teaching loads, not headcount.

Full-Time Equivalent Students (FTES)
The community college workload measure for instruction and instructional services. A "full-time student" is defined as one who is enrolled in 12 or more units. FTES is determined by dividing 12 into the total number of units in which all students are enrolled.

Five-Year Construction Plan
The Five-Year Construction Plan is an annual summary of current and proposed capital outlay projects. A "Five Year" Construction Plan, in reality, covers seven years; the past year, current year, and five future years.

It gives the California Community College Chancellor's Office (CCCCO) a complete picture of the capital improvement needs and projects at the college, enabling the Chancellor's Office to make informed decisions regarding projects priorities for the state funding. The Five-Year Construction Plan may be the only document that the Chancellor's Office sees pertaining to the capital outlay needs of the district. As such, the document must convey the master planning context, decisions, and outcomes along with current capital outlay needs and objectives and the list of proposed projects.

The Five-Year Construction Plan also presents a summary of existing capacity of on–campus facilities. These amounts should be identical to the most recently submitted space inventory.

Facilities Utilization, Space Inventory Options Net (FUSION)
A database of all the California community college facilities that tracks the condition assessments and develops cost modeling for maintenance projects, enabling colleges to plan budgets and help facilitate the passing of much-needed bond measures.

HC
Headcount enrollment is the actual number of students enrolled.

ISPC
Institutional Strategic Planning Council

Land Use
The type of activity that takes place on property, such as residential, office, retail, commercial, industrial, open space, and institutional.

Middle College High School
Collaborative high school/community college programs that enable high potential, "at risk" students to complete their high school education while concurrently receiving direct access to college courses and services.

Part-Time Faculty
Faculty who teach less than 60 percent (60%) of a full workload.

Shared Governance
The practice of involving faculty, staff, administrators, and students in policy discussions at the local and state levels.

Space Inventory
The space inventory provides basic information regarding state funding for capital outlay projects and maintenance and operations. In addition, the space inventory provides verification of current and anticipated facilities gross square footage in both the college and the district. The annual report provides a statistical legal record of gross and assignable square feet used for evaluating, planning, and administering all community college facilities under district ownership and/or control. Furthermore, an accurate space inventory report provides an indispensable database for considering planning problems. The database is made available to other state agencies associated with the funding of capital outlay needs under legislative jurisdiction.

Station Utilization Rate (occupancy)
The percentage of expected student station occupancy when rooms are in use.

Station use/week
The number of hours per week (out of the 70-hour week for classrooms and class laboratories) which a student station, on average, should be used.

Title 5
The portion of the California Code of Regulations (CCR) containing regulations adopted by the Board of Governors which are applicable to community college districts.

TOP CODE
The Taxonomy of Program (TOP) is a system of numerical codes used at the state level to collect and report information on programs and courses, in different colleges throughout the state, that have similar outcomes.

The TOP was designed to aggregate information about programs. However, a TOP code must also be assigned to every course in our system.

TOP codes and titles serve a variety of purposes at the state level. For example, they are used:

- In the Management Information System (MIS) database, to collect and report information on enrollment and Full Time Equivalent Students (FTES) in courses within particular curriculum categories.
- In Vocational Education accountability reports on program completions and course success in particular types of vocational programs.

There are also some state purposes for which only the first two digits of the taxonomy, the most general level of classification, are used. For example:

- In facilities planning, assignable square feet (ASF) for laboratories varies according to TOP discipline.

Unduplicated Annual Headcount Enrollment
Represents the number of distinct individuals who have enrolled in any community college course or program during a specified twelve-month period. A student who was enrolled full-time in the fall and spring terms and a student who took a single .5 unit course are each counted once.

WSCH
Weekly student contact hours, a weekly average of all credit and non-credit hours including daily student contact hours (DSCH), positive attendance, and independent studies.

Planning Data

OVERVIEW

The *Norco College 2013 Facilities Master Plan (FMP)* is based on a review and assessment of the following current planning documents associated with the academic and support service programs:

- *Norco Campus Educational Master Plan*—January 2008
- *Norco College Fact Book 2012*
- *Riverside Community College District Centennial Strategic Plan 2012–2016*
- *Riverside Community College District External Environmental Scan*—September 2012

This chapter includes a summary of the methodology used to establish the amount and type of space necessary to support the programs of instruction and student support services for a master plan horizon 1 student headcount of 12,000 students and a master plan horizon 2 student headcount of 15,000 students.

/ Service Area
/ Student Origins
/ Master Plan Horizons
/ Calculating Space Needs
/ Space Utilization + Planning
/ Space Inventory Analysis
/ Baseline Curriculum
/ Master Plan Space Program

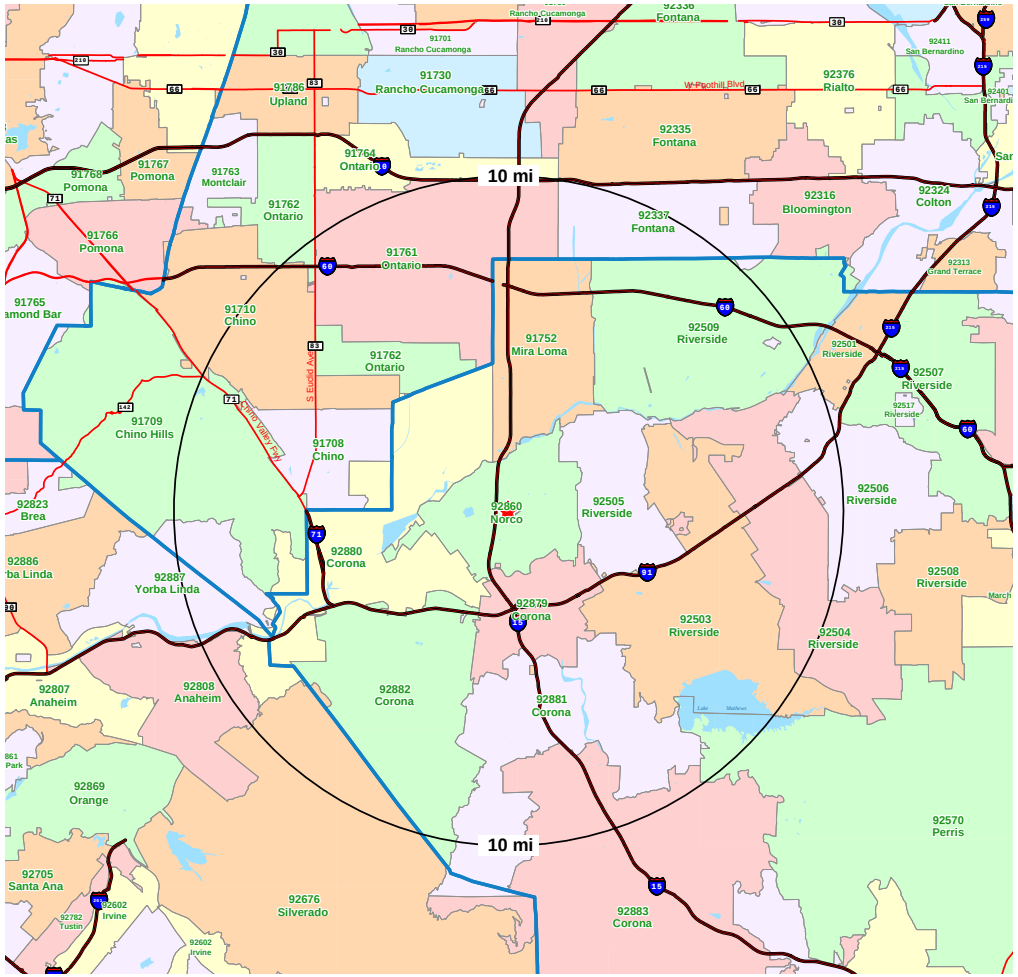
PLANNING DATA

SERVICE AREA

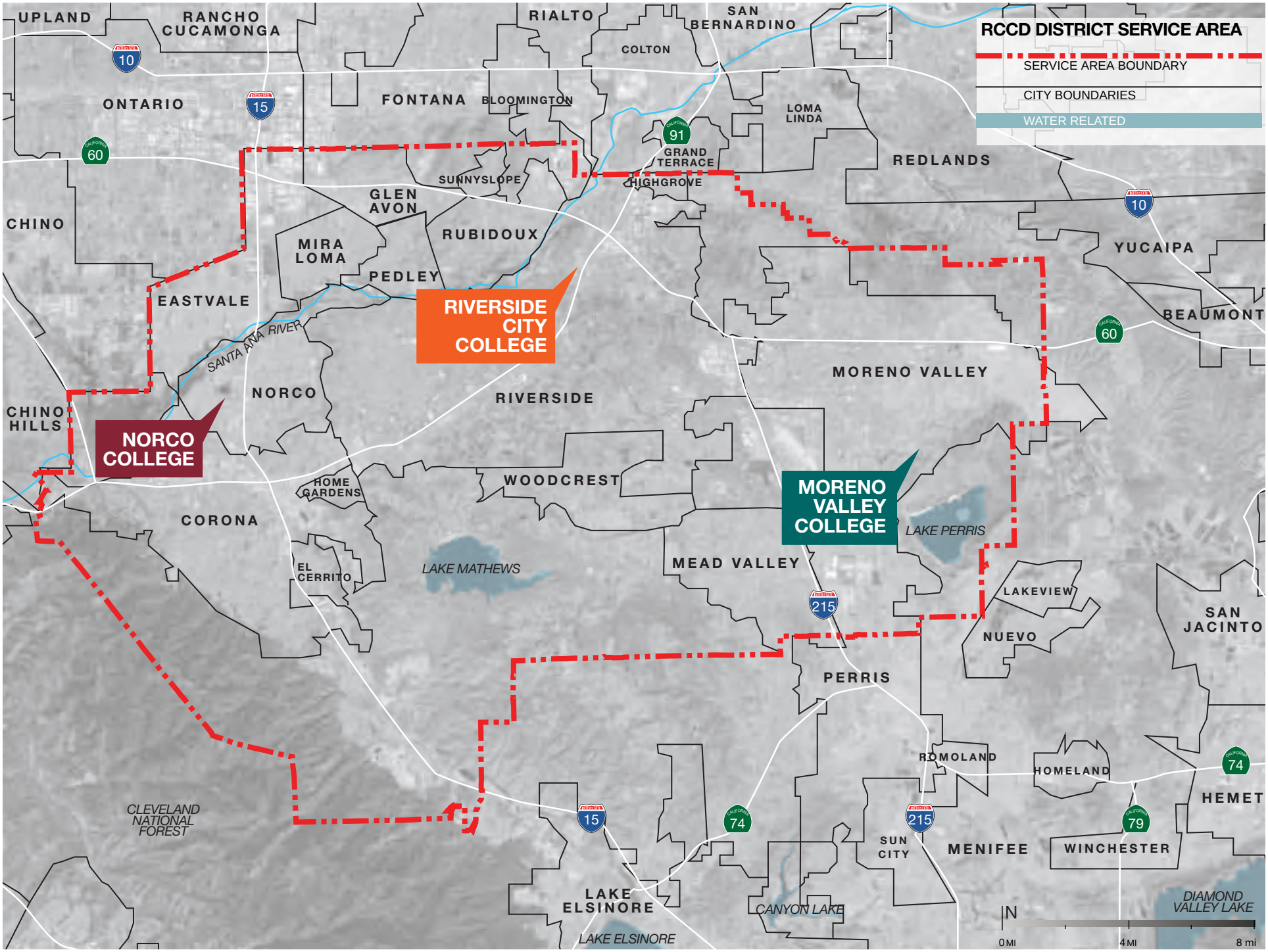
Norco College lies at the far west end of the Riverside Community College District and primarily serves the communities of Norco, Corona, and unincorporated areas of the west side of Riverside County as illustrated on the graphic on the opposing page.

The adjacent graphic illustrates a 10-mile ring from the center point of the City of Norco. This graphic further indicates the zip codes for the various cities surrounding Norco College.

DATA SET 1: CORE SERVICE AREA OF NORCO COLLEGE



Source: www.zip-codes.com


RCCD DISTRICT SERVICE AREA
SERVICE AREA BOUNDARY
CITY BOUNDARIES
WATER RELATED
UPLAND
RANCHO CUCAMONGA
RIALTO
SAN BERNARDINO
COLTON
ONTARIO
FONTANA
BLOOMINGTON
LOMA LINDA
REDLANDS
GRAND TERRACE
HIGHGROVE
SUNNYSLOPE
GLEN AVON
RUBIDOUX
CHINO
MIRA LOMA
PEDLEY
YUCAIPA
EASTVALE
RIVERSIDE CITY COLLEGE
SANTA ANA RIVER
BEAUMONT
MORENO VALLEY
NORCO
RIVERSIDE
CHINO HILLS
NORCO COLLEGE
HOME GARDENS
WOODCREST
MORENO VALLEY COLLEGE
CORONA
LAKE PERRIS
EL CERRITO
LAKE MATHEWS
MEAD VALLEY
LAKEVIEW
NUEVO
SAN JACINTO
PERRIS
ROMOLAND
HOMELAND
HEMET
CLEVELAND NATIONAL FOREST
SUN CITY
MENIFEE
WINCHESTER
LAKE ELSINORE
CANYON LAKE
DIAMOND VALLEY LAKE
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PLANNING DATA

STUDENT ORIGINS

As illustrated in *Data Sets 2 through 6* on the following pages, the majority of students who attended Norco College in 2011–2012 resided in Corona, Riverside, Norco, Mira Loma/Eastvale, Moreno Valley, and Lake Elsinore.

Interestingly, a significant percentage of students (24%) who attend Norco College drive from the City of Riverside (home of RCCD's Riverside City College).

DATA SET 2: 2011–2012 ORIGIN OF STUDENT POPULATION BY ZIP CODE

Zip Code of Origin	No. of Students	Percent of Total	City
92882	1,632	12.25%	Corona
92880	1,349	10.13%	Corona
92879	1,159	8.70%	Corona
92503	937	7.03%	Riverside
92881	800	6.01%	Corona
92860	760	5.70%	Norco
92505	740	5.55%	Riverside
92883	611	4.59%	Corona
92509	539	4.05%	Riverside
91752	515	3.87%	Mira Loma/Eastvale
92530	305	2.29%	Lake Elsinore
92504	301	2.26%	Riverside
92508	219	1.64%	Riverside
91761	209	1.57%	Ontario
92506	204	1.53%	Riverside
92507	159	1.19%	Riverside
92570	156	1.17%	Perris
92553	154	1.16%	Moreno Valley
92336	139	1.04%	Fontana
92557	128	0.96%	Moreno Valley
92337	127	0.95%	Fontana
92555	110	0.83%	Moreno Valley
92571	100	0.75%	Perris
92532	100	0.75%	Lake Elsinore

Zip Code of Origin	No. of Students	Percent of Total	City
92335	95	0.71%	Fontana
92551	79	0.59%	Moreno Valley
91710	77	0.58%	Chino
92501	73	0.55%	Riverside
91709	73	0.55%	Chino Hills
91762	63	0.47%	Ontario
92376	56	0.42%	Rialto
92595	50	0.38%	Wildomar
92316	50	0.38%	Bloomington
91764	47	0.35%	Ontario
92562	46	0.35%	Murrieta
91730	45	0.34%	Rancho Cucamonga
91739	43	0.32%	Rancho Cucamonga
92324	43	0.32%	Colton
92584	32	0.24%	Menifee
91786	30	0.23%	Upland
92877	26	0.20%	Corona
92587	25	0.19%	Sun City
92563	25	0.19%	Murrieta
92878	25	0.19%	Corona
92377	24	0.18%	Rialto
92373	24	0.18%	Redlands
92407	23	0.17%	San Bernardino
92346	23	0.17%	Highland

Zip Code of Origin	No. of Students	Percent of Total	City
92223	23	0.17%	Beaumont
91701	21	0.16%	Rancho Cucamonga
92592	19	0.14%	Temecula
Missing	17	0.13%	
92591	16	0.12%	Temecula
92586	16	0.12%	Sun City
92513	16	0.12%	Riverside
92374	16	0.12%	Redlands
92545	16	0.12%	Hemet
92399	15	0.11%	Yucaipa
92585	15	0.11%	Sun City
92354	15	0.11%	Loma Linda
92582	14	0.11%	San Jacinto
91766	14	0.11%	Pomona
92544	14	0.11%	Hemet
92313	14	0.11%	Grand Terrace
91708	14	0.11%	Chino
92404	13	0.10%	San Bernardino
92410	12	0.09%	San Bernardino
91737	11	0.08%	Rancho Cucamonga
92870	10	0.08%	Placentia
92408	9	0.07%	San Bernardino
92567	9	0.07%	Nuevo
91763	9	0.07%	Montclair

Zip Code of Origin	No. of Students	Percent of Total	City
92345	9	0.07%	Hesperia
92220	9	0.07%	Banning
92596	8	0.06%	Winchester
92887	7	0.05%	Yorba Linda
92392	7	0.05%	Victorville
92583	7	0.05%	San Jacinto
92411	7	0.05%	San Bernardino
92552	7	0.05%	Moreno Valley
92543	7	0.05%	Hemet
92886	6	0.05%	Yorba Linda
91767	6	0.05%	Pomona
91784	5	0.04%	Upland
91773	5	0.04%	San Dimas
92344	5	0.04%	Hesperia
92801	5	0.04%	Anaheim
92805	5	0.04%	Anaheim
92807	5	0.04%	Anaheim
92301	5	0.04%	Adelanto
92405	4	0.03%	San Bernardino
92502	4	0.03%	Riverside
92516	4	0.03%	Riverside
92531	4	0.03%	Lake Elsinore
91765	4	0.03%	Diamond Bar
92325	4	0.03%	Crestline

STUDENT ORIGINS (CONT'D)

DATA SET 2: 2011–2012 ORIGIN OF STUDENT POPULATION BY ZIP CODE *(cont'd)*

Zip Code of Origin	No. of Students	Percent of Total	City
92317	4	0.03%	Blue Jay
92308	4	0.03%	Apple Valley
92683	3	0.02%	Westminster
91792	3	0.02%	West Covina
91789	3	0.02%	Walnut
92394	3	0.02%	Victorville
92704	3	0.02%	Santa Ana
92517	3	0.02%	Riverside
92371	3	0.02%	Phelan
92572	3	0.02%	Perris
92260	3	0.02%	Palm Desert
92865	3	0.02%	Orange
90003	3	0.02%	Los Angeles
92630	3	0.02%	Lake Forest
92253	3	0.02%	La Quinta
91744	3	0.02%	La Puente
92201	3	0.02%	Indio
92832	3	0.02%	Fullerton
92708	3	0.02%	Fountain Valley
92028	3	0.02%	Fallbrook
91711	3	0.02%	Claremont
92234	3	0.02%	Cathedral City
92311	3	0.02%	Barstow
91702	3	0.02%	Azusa
92307	3	0.02%	Apple Valley
92397	2	0.02%	Wrightwood
91791	2	0.02%	West Covina
92395	2	0.02%	Victorville
92391	2	0.02%	Twin Peaks
90280	2	0.02%	South Gate
92701	2	0.02%	Santa Ana
92706	2	0.02%	Santa Ana
92707	2	0.02%	Santa Ana
92423	2	0.02%	San Bernardino
91748	2	0.02%	Rowland Heights
92519	2	0.02%	Riverside
90277	2	0.02%	Redondo Beach
91768	2	0.02%	Pomona
91769	2	0.02%	Pomona
95667	2	0.02%	Placerville
90723	2	0.02%	Paramount
92211	2	0.02%	Palm Desert
92255	2	0.02%	Palm Desert
92867	2	0.02%	Orange
92556	2	0.02%	Moreno Valley
90042	2	0.02%	Los Angeles
90807	2	0.02%	Long Beach
90712	2	0.02%	Lakewood
92352	2	0.02%	Lake Arrowhead
92653	2	0.02%	Laguna Hills
92647	2	0.02%	Huntington Beach
91740	2	0.02%	Glendora
92840	2	0.02%	Garden Grove
92836	2	0.02%	Fullerton
91732	2	0.02%	El Monte
92241	2	0.02%	Desert Hot Springs
92320	2	0.02%	Calimesa
90620	2	0.02%	Buena Park
92314	2	0.02%	Big Bear City
91007	2	0.02%	Arcadia
92802	2	0.02%	Anaheim
92808	2	0.02%	Anaheim
92809	2	0.02%	Anaheim
91001	2	0.02%	Altadena
91306	1	0.01%	Winnetka
97070	1	0.01%	Wilsonville OR
90604	1	0.01%	Whittier
90605	1	0.01%	Whittier
93003	1	0.01%	Ventura
91405	1	0.01%	Van Nuys
92780	1	0.01%	Tustin
92276	1	0.01%	Thousand Palms

Zip Code of Origin	No. of Students	Percent of Total	City
91780	1	0.01%	Temple City
92590	1	0.01%	Temecula
98408	1	0.01%	Tacoma WA
91342	1	0.01%	Sylmar
90680	1	0.01%	Stanton
92676	1	0.01%	Silverado
90403	1	0.01%	Santa Monica
91390	1	0.01%	Santa Clarita
92711	1	0.01%	Santa Ana
92173	1	0.01%	San Ysidro
90731	1	0.01%	San Pedro
94402	1	0.01%	San Mateo
95117	1	0.01%	San Jose
91776	1	0.01%	San Gabriel
92103	1	0.01%	San Diego
92104	1	0.01%	San Diego
92109	1	0.01%	San Diego
92114	1	0.01%	San Diego
92115	1	0.01%	San Diego
92673	1	0.01%	San Clemente
92402	1	0.01%	San Bernardino
92427	1	0.01%	San Bernardino
95860	1	0.01%	Sacramento
92514	1	0.01%	Riverside

Zip Code of Origin	No. of Students	Percent of Total	City
92515	1	0.01%	Riverside
92378	1	0.01%	Rimforest
93555	1	0.01%	Ridgecrest
91729	1	0.01%	Rancho Cucamonga
92064	1	0.01%	Poway
92372	1	0.01%	Pinon Hills
91104	1	0.01%	Pasadena
91107	1	0.01%	Pasadena
93591	1	0.01%	Palmdale
92262	1	0.01%	Palm Springs
92863	1	0.01%	Orange
92868	1	0.01%	Orange
92869	1	0.01%	Orange
92054	1	0.01%	Oceanside
92056	1	0.01%	Oceanside
91325	1	0.01%	Northridge
92660	1	0.01%	Newport Beach
92663	1	0.01%	Newport Beach
95356	1	0.01%	Modesto
53209	1	0.01%	Milwaukee WI
01529	1	0.01%	Millville MA
33183	1	0.01%	Miami FL
85210	1	0.01%	Mesa AZ
92359	1	0.01%	Mentone

Zip Code of Origin	No. of Students	Percent of Total	City
92518	1	0.01%	March Air Force Base
90262	1	0.01%	Lynwood
90004	1	0.01%	Los Angeles
90007	1	0.01%	Los Angeles
90008	1	0.01%	Los Angeles
90009	1	0.01%	Los Angeles
90018	1	0.01%	Los Angeles
90032	1	0.01%	Los Angeles
90034	1	0.01%	Los Angeles
90038	1	0.01%	Los Angeles
90041	1	0.01%	Los Angeles
90043	1	0.01%	Los Angeles
90045	1	0.01%	Los Angeles
90046	1	0.01%	Los Angeles
90047	1	0.01%	Los Angeles
90048	1	0.01%	Los Angeles
90059	1	0.01%	Los Angeles
90063	1	0.01%	Los Angeles
90801	1	0.01%	Long Beach
90804	1	0.01%	Long Beach
90805	1	0.01%	Long Beach
90806	1	0.01%	Long Beach
90810	1	0.01%	Long Beach
95953	1	0.01%	Live Oak

STUDENT ORIGINS (CONT'D)

DATA SET 2: 2011–2012 ORIGIN OF STUDENT POPULATION BY ZIP CODE *(cont'd)*

Zip Code of Origin	No. of Students	Percent of Total	City
92677	1	0.01%	Laguna Niguel
92248	1	0.01%	La Quinta
91746	1	0.01%	La Puente
90638	1	0.01%	La Mirada
90632	1	0.01%	La Habra
96734	1	0.01%	Kailua HI
92603	1	0.01%	Irvine
92604	1	0.01%	Irvine
92620	1	0.01%	Irvine
92648	1	0.01%	Huntington Beach
92548	1	0.01%	Homeland
92546	1	0.01%	Hemet
92342	1	0.01%	Helendale
90250	1	0.01%	Hawthorne
90716	1	0.01%	Hawaiian Gardens
93230	1	0.01%	Hanford
91743	1	0.01%	Guasti
59405	1	0.01%	Great Falls MT
85303	1	0.01%	Glendale AZ
90249	1	0.01%	Gardena
92843	1	0.01%	Garden Grove
92844	1	0.01%	Garden Grove
92831	1	0.01%	Fullerton
92833	1	0.01%	Fullerton

Zip Code of Origin	No. of Students	Percent of Total	City
92834	1	0.01%	Fullerton
92728	1	0.01%	Fountain Valley
92240	1	0.01%	Desert Hot Springs
95531	1	0.01%	Crescent City
92626	1	0.01%	Costa Mesa
90220	1	0.01%	Compton
45239	1	0.01%	Cincinnati OH
91910	1	0.01%	Chula Vista
90703	1	0.01%	Cerritos
92321	1	0.01%	Cedar Glen
90746	1	0.01%	Carson
93012	1	0.01%	Camarillo
92230	1	0.01%	Cabazon
90621	1	0.01%	Buena Park
92821	1	0.01%	Brea
92822	1	0.01%	Brea
92225	1	0.01%	Blythe
92315	1	0.01%	Big Bear Lake
90211	1	0.01%	Beverly Hills
90706	1	0.01%	Bellflower
98604	1	0.01%	Battle Ground WA
91706	1	0.01%	Baldwin Park
92305	1	0.01%	Angelus Oaks
92806	1	0.01%	Anaheim

Zip Code of Origin	No. of Students	Percent of Total	City
92656	1	0.01%	Aliso Viejo
Missing	1	0.01%	
Total	**13,322**	**100%**	

Source: Norco College Office of Institutional Effectiveness

STUDENT ORIGINS (CONT'D)

DATA SET 3: 2011–2012 ORIGIN OF STUDENT POPULATION BY CITY

City of Origin	No. of Students	Percent of Total	Geographic Region
Corona	5,602	42.05%	South
Riverside	3,203	24.04%	East
Norco	760	5.70%	Norco
Mira Loma/ Eastvale	515	3.87%	North
Moreno Valley	480	3.60%	East
Lake Elsinore	409	3.07%	South
Fontana	361	2.71%	North
Ontario	319	2.39%	North
Perris	259	1.94%	East
Rancho Cucamonga	121	0.91%	North
Chino	91	0.68%	West
Rialto	80	0.60%	North
Chino Hills	73	0.55%	West
San Bernardino	72	0.54%	North
Murrieta	71	0.53%	South
Sun City	56	0.42%	East
Bloomington	50	0.38%	North
Wildomar	50	0.38%	South
Colton	43	0.32%	East
Redlands	40	0.30%	East

City of Origin	No. of Students	Percent of Total	Geographic Region
Hemet	38	0.29%	East
Temecula	36	0.27%	South
Upland	35	0.26%	North
Menifee	32	0.24%	East
Pomona	24	0.18%	West
Beaumont	23	0.17%	East
Highland	23	0.17%	East
Anaheim	22	0.17%	West
Los Angeles	21	0.16%	West
San Jacinto	21	0.16%	East
Unknown	18	0.14%	
Loma Linda	15	0.11%	East
Yucaipa	15	0.11%	East
Grand Terrace	14	0.11%	East
Hesperia	14	0.11%	North
Yorba Linda	13	0.10%	West
Victorville	12	0.09%	North
Placentia	10	0.08%	West
Santa Ana	10	0.08%	West
Banning	9	0.07%	East
Montclair	9	0.07%	North
Nuevo	9	0.07%	East

City of Origin	No. of Students	Percent of Total	Geographic Region
Fullerton	8	0.06%	West
Orange	8	0.06%	West
Winchester	8	0.06%	East
Apple Valley	7	0.05%	North
Long Beach	7	0.05%	West
Palm Desert	7	0.05%	East
Adelanto	5	0.04%	North
San Diego	5	0.04%	South
San Dimas	5	0.04%	West
West Covina	5	0.04%	West
Blue Jay	4	0.03%	North
Crestline	4	0.03%	North
Diamond Bar	4	0.03%	West
Fountain Valley	4	0.03%	West
Garden Grove	4	0.03%	West
La Puente	4	0.03%	West
La Quinta	4	0.03%	East
Azusa	3	0.02%	North
Barstow	3	0.02%	North
Buena Park	3	0.02%	West
Cathedral City	3	0.02%	East
Claremont	3	0.02%	North

City of Origin	No. of Students	Percent of Total	Geographic Region
Desert Hot Springs	3	0.02%	East
Fallbrook	3	0.02%	South
Huntington Beach	3	0.02%	West
Indio	3	0.02%	East
Irvine	3	0.02%	South
Lake Forest	3	0.02%	South
Phelan	3	0.02%	North
Walnut	3	0.02%	West
Westminster	3	0.02%	West
Altadena	2	0.02%	West
Arcadia	2	0.02%	West
Big Bear City	2	0.02%	East
Brea	2	0.02%	West
Calimesa	2	0.02%	East
El Monte	2	0.02%	West
Glendora	2	0.02%	West
Laguna Hills	2	0.02%	South
Lake Arrowhead	2	0.02%	North
Lakewood	2	0.02%	West
Newport Beach	2	0.02%	South
Oceanside	2	0.02%	South

City of Origin	No. of Students	Percent of Total	Geographic Region
Paramount	2	0.02%	West
Pasadena	2	0.02%	West
Placerville	2	0.02%	North
Redondo Beach	2	0.02%	West
Rowland Heights	2	0.02%	West
South Gate	2	0.02%	West
Twin Peaks	2	0.02%	North
Whittier	2	0.02%	West
Wrightwood	2	0.02%	North
Aliso Viejo	1	0.01%	South
Angelus Oaks	1	0.01%	East
Baldwin Park	1	0.01%	West
Battle Ground WA	1	0.01%	Out-of-State
Bellflower	1	0.01%	West
Beverly Hills	1	0.01%	West
Big Bear Lake	1	0.01%	East
Blythe	1	0.01%	East
Cabazon	1	0.01%	East
Camarillo	1	0.01%	West
Carson	1	0.01%	West
Cedar Glen	1	0.01%	East
Cerritos	1	0.01%	West

City of Origin	No. of Students	Percent of Total	Geographic Region
Chula Vista	1	0.01%	South
Cincinnati OH	1	0.01%	Out-of-State
Compton	1	0.01%	West
Costa Mesa	1	0.01%	West
Crescent City	1	0.01%	North
Gardena	1	0.01%	West
Glendale AZ	1	0.01%	Out-of-State
Great Falls MT	1	0.01%	Out-of-State
Guasti	1	0.01%	North
Hanford	1	0.01%	North
Hawaiian Gardens	1	0.01%	West
Hawthorne	1	0.01%	West
Helendale	1	0.01%	North
Homeland	1	0.01%	East
Kailua HI	1	0.01%	Out-of-State
La Habra	1	0.01%	West
La Mirada	1	0.01%	West
Laguna Niguel	1	0.01%	South
Live Oak	1	0.01%	North
Lynwood	1	0.01%	West
March Air Reserve Base	1	0.01%	East

STUDENT ORIGINS (CONT'D)

DATA SET 3: 2011–2012 ORIGIN OF STUDENT POPULATION BY CITY *(cont'd)*

City of Origin	No. of Students	Percent of Total	Geographic Region
Mentone	1	0.01%	East
Mesa AZ	1	0.01%	Out-of-State
Miami FL	1	0.01%	Out-of-State
Millville MA	1	0.01%	Out-of-State
Milwaukee WI	1	0.01%	Out-of-State
Modesto	1	0.01%	North
Northridge	1	0.01%	West
Palm Springs	1	0.01%	East
Palmdale	1	0.01%	North
Pinon Hills	1	0.01%	North
Poway	1	0.01%	South
Ridgecrest	1	0.01%	North
Rimforest	1	0.01%	North
Sacramento	1	0.01%	North
San Clemente	1	0.01%	South
San Gabriel	1	0.01%	West
San Jose	1	0.01%	North
San Mateo	1	0.01%	North
San Pedro	1	0.01%	West
San Ysidro	1	0.01%	South
Santa Clarita	1	0.01%	West
Santa Monica	1	0.01%	West
Silverado	1	0.01%	South
Stanton	1	0.01%	West
Sylmar	1	0.01%	West
Tacoma WA	1	0.01%	Out-of-State
Temple City	1	0.01%	West
Thousand Palms	1	0.01%	East
Tustin	1	0.01%	West
Van Nuys	1	0.01%	West
Ventura	1	0.01%	West
Wilsonville OR	1	0.01%	Out-of-State
Winnetka	1	0.01%	West
Total	**13,322**	**100%**	

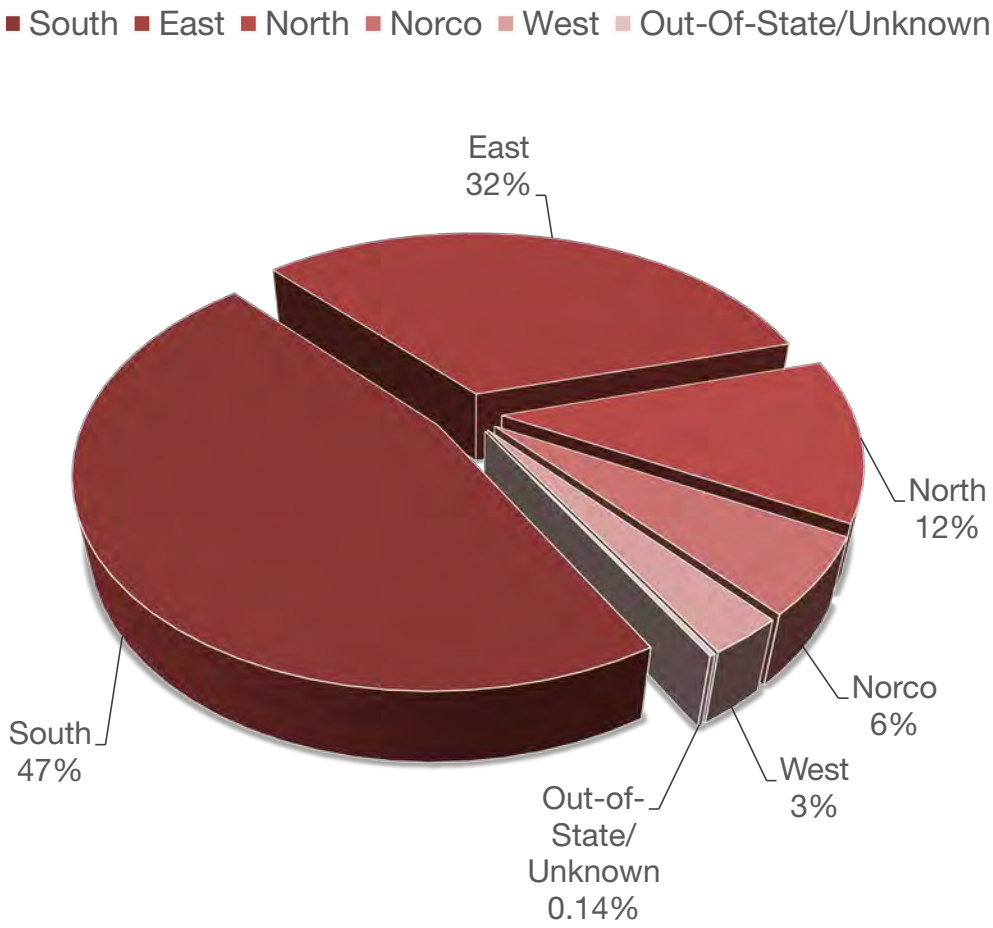
Source: Norco College, Office of Institutional Effectiveness

Data Sets 2 +3 indicate the breakdown of fall 2011 student origins by city, zip code, and geographic region.

Data Set 4 on the opposing page converts the information in *Data Sets 2 + 3* into a pie chart that indicates student origin percentages by geographic region (north, east, south, and west).

Approximately 79% of students travel to Norco College from the south and the east; 6% live in Norco; and 12% travel from the north.

DATA SET 4: 2011–2012 ORIGIN OF STUDENT POPULATION BY GEOGRAPHIC REGION



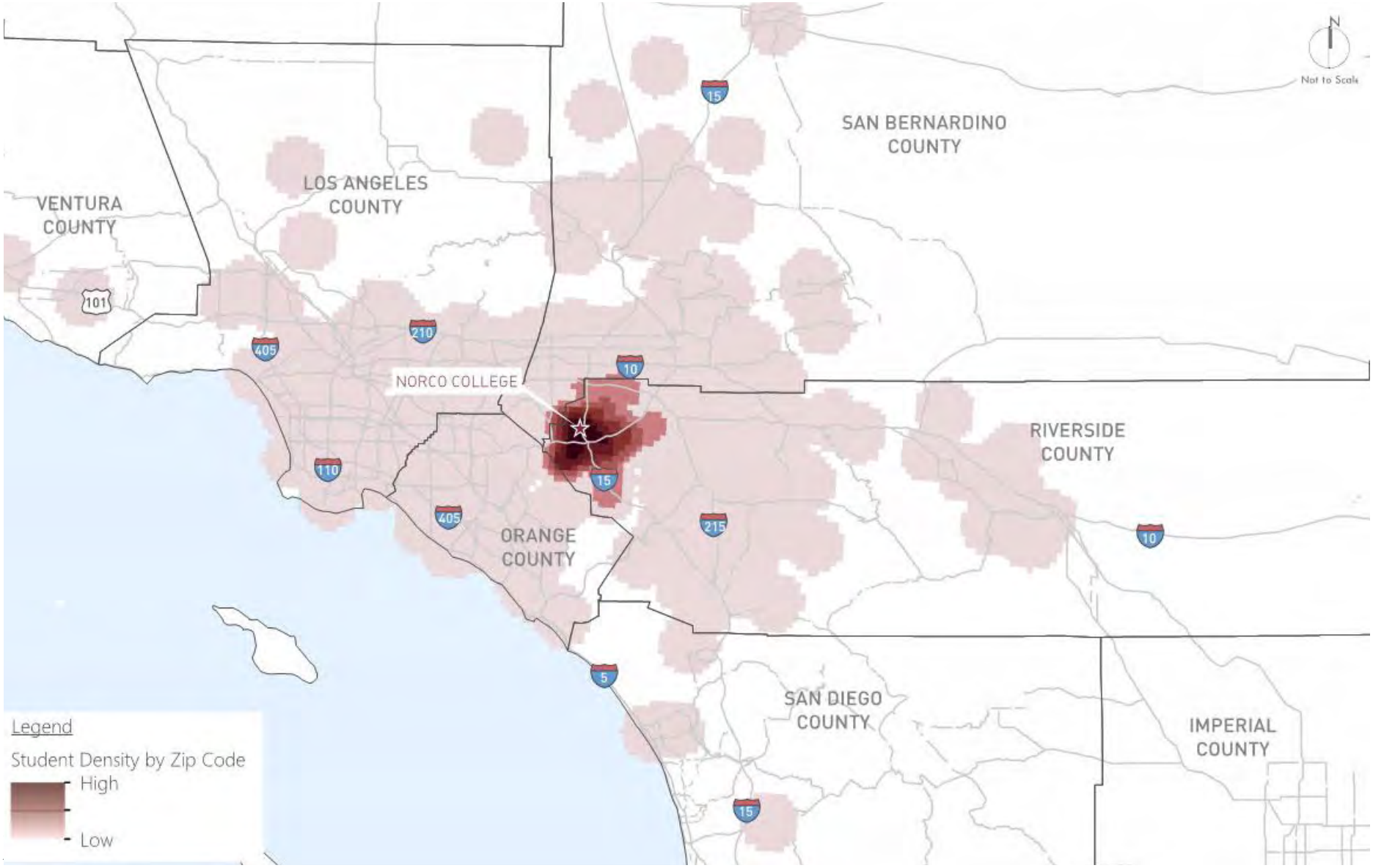
Source: Norco College, Office of Institutional Effectiveness

Data Sets 5 +6 on the following pages convert the information in *Data Sets 2 + 3* into maps that illustrate the relative density (mapping) of student origins per zip code.

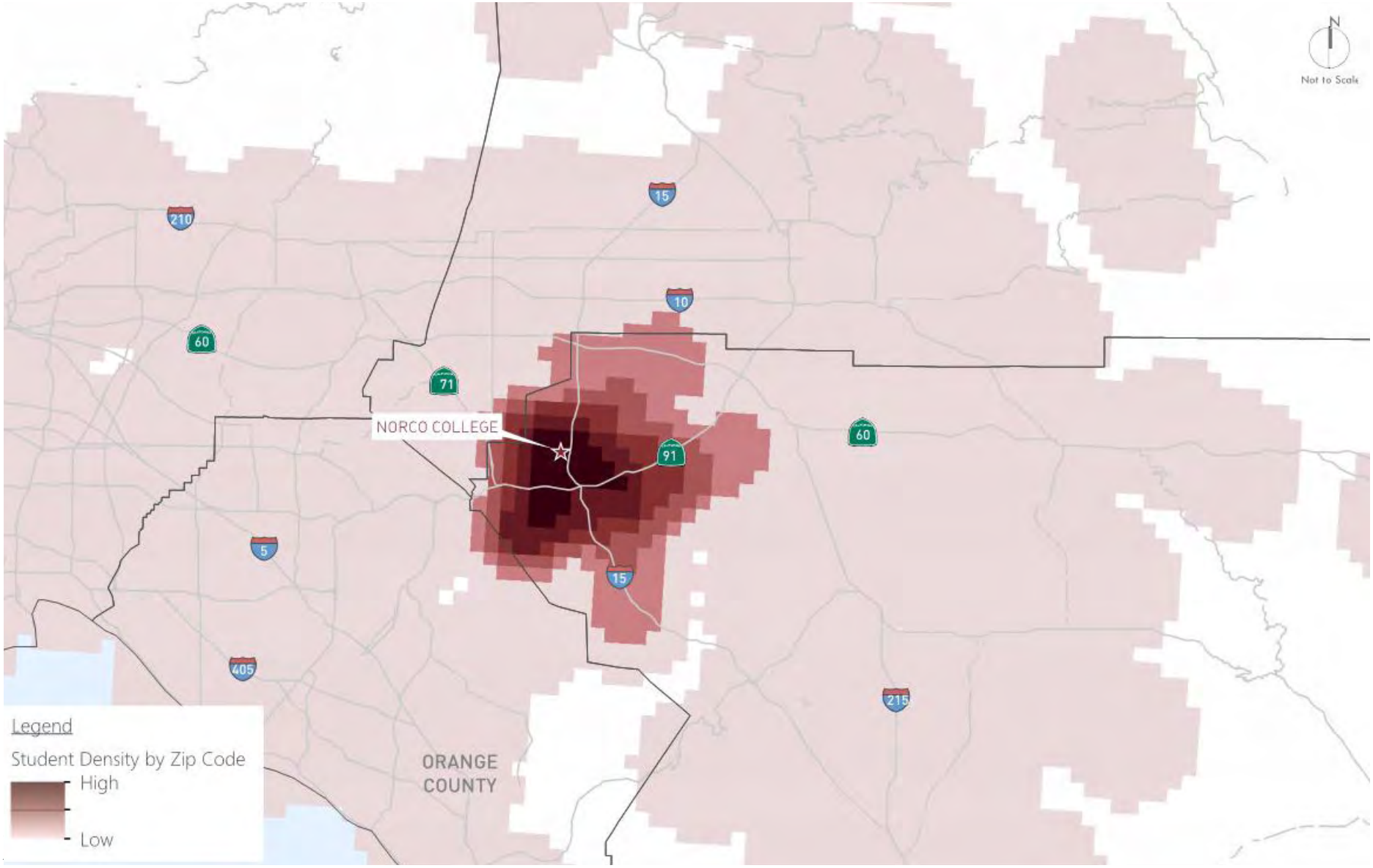
Of the 13,222 students that attended Norco College in fall 2011, 18 did not provide a zip code and 126 students provided a postal code rather than a zip code. Therefore, 144 records were not matched to a zip code (<1%), so it is not statistically significant.

STUDENT ORIGINS (CONT'D)

DATA SET 5: REGIONAL DENSITY MAP: 2011–2012 ORIGIN OF STUDENT POPULATION BY ZIP CODE



DATA SET 6: LOCAL DENSITY MAP: 2011–2012 ORIGIN OF STUDENT POPULATION BY ZIP CODE



PLANNING DATA

MASTER PLAN HORIZONS

The *Norco College 2013 Facilities Master Plan (FMP)* addresses two master plan horizons for enrollment growth as opposed to identifying growth on an annual basis. This was determined at the start of the planning process due to the uncertainty of short- and long-term economic conditions. The student headcount horizons are listed in *Data Set 7* on the opposing page.

Linking the *2008 Norco Campus Educational Master Plan*'s goals, objectives, and strategies to space quantification completes the process and balances the current and future curriculum, instructional delivery modes, learning environment, and necessary support structures. This linkage provides a comprehensive program of campus development.

While the current and immediate future economic indicators are somewhat uncertain and the district will need to address declining financial support, it is anticipated that Norco College will return to positive growth in the foreseeable future. Therefore, planning must involve long-term vision as well as addressing short-term goals.

Forecasting the future program of instruction is based on the analysis of weekly student contact hours (WSCH). While curricular content cannot be accurately predicted for the future, certain assumptions can be made that are pertinent to a long-range forecasting process. It is assumed that the educational mission and range of course offerings will remain consistent with past practice. With an estimate of projected WSCH and enrollments, the number of sections that support the WSCH can be forecasted proportionately. This process forms the basis for the forecasting efforts that follow.

DATA SET 7: HEADCOUNT + WSCH

Year	Headcount (Fall)	WSCH (Fall)	Recommended Parking @ 5:1	Notes
Baseline (Fall 2011)	9,636	91,132	1,927	
Horizon 1	12,000	113,489	2,400	Secondary vehicular access to campus required
Horizon 2	15,000	141,861	3,000	Secondary vehicular access to campus required

Source: California Community Colleges Chancellor's Office (CCCCO) Management Information Systems (MIS) Data Mart

PLANNING DATA

CALCULATING SPACE NEEDS

The inventory of facilities is an important tool in planning and managing college campuses. FUSION (Facilities Utilization, Space Inventory Options Net) is a database of all the California community college facilities that includes descriptive data on buildings and rooms for each college and district within the state. This information is essential for developing the annual five-year construction plans, planning for capital outlay construction projects, projecting future facility needs, and analyzing space utilization.

The California Community Colleges Chancellor's Office (CCCCO) mandates annual updates of the inventory of all facilities in the district. By combining existing and future enrollment and program forecasts with appropriate space standards, space requirements for current and future needs are developed. Space cap/load is the direct relationship between the amount of space available, by type, which may be used to serve students, and the number of students participating in campus programs.

Space capacity/load analysis enables an institution to identify the types of space it needs and the types of space it holds in excess. The analysis of space forms the core of this *Norco College 2013 Facilities Master Plan (FMP)*.

While the state provides standards for utilization for more than 60% of space types on campus, the capacity estimates for non-state standard spaces are based on a combination of factors, including the size of the institution, student enrollment headcounts, and/or a flat institutional rate.

Space capacity/load analysis typically includes the categories of space listed in *Data Set 8* on the opposing page. In the majority of cases, these categories represent a percentage of student enrollments, such as Assembly/Exhibition, Food Facilities, and Merchandising/Bookstore, a percentage of the total campus ASF (Physical Plant/Facilities), or they may reflect flat allowance totals (see Physical Education, Health Services, and Data Processing).

The line item in adjacent *Data Set 8* for space type "other" includes a number of spaces on campus that are considered to be in non-capacity load categories. These are spaces that are not analyzed by the CCCCO in relation to utilization and efficiency, but are important as part of the college's inventory related to maintenance and operations. Types of spaces included in "other" include the following:

- Physical Education (Teaching Gym)
- Clinic/Demonstration
- Assembly/Exhibition
- Food Facilities
- Lounge
- Merchandise Facilities (Bookstore)
- Recreation
- Meeting Rooms
- Locker Rooms
- Data Processing
- Physical Plant/Facilities
- Health Services

DATA SET 8: ROOM USE CATEGORIES

Space Type	Room Use Numbers	Description
Lecture	100s	Classrooms + support spaces
Lab	200s	Teaching Labs + support spaces
Offices/ Conference Room	300s	Offices + support spaces; all offices, including administrative and student services
Library/LRC Study/Tutorial	400s	Library + Learning Resources Center; including study, tutorial + support spaces
Instructional Media AV/TV	530s	AV/TV + Radio; Technology + support spaces
Other	520, 540 to 800s	Non-capacity load categories

Source: California Community Colleges Chancellor's Office (CCCCO) Space Inventory Handbook

PLANNING DATA

SPACE UTILIZATION + PLANNING

To determine the amount of space required to support the programmatic needs for a college, the enrollment and program forecasts are applied to a set of standards for each type of space.

The required utilization and space standards for classroom, laboratory, office, library, and audio-visual are contained in the *California Code of Regulations* (CCR), Title 5, Chapter 8, Section 57020–57032. These standards refer to the *Board of Governors of the California Community Colleges Policy on Utilization and Space Standards* dated September 2010.

These space standards, when applied to the total weekly student contact hours (WSCH), produce total capacity requirements that are expressed in assignable square feet (allocated on a per student or per faculty member basis). The space standards and formulas used to determine both existing and future capacity requirements are summarized in *Data Sets 9A + 9B* on the following pages.

Data Set 9A, on a following page, is applied to a campus with **less than** 140,000 WSCH, which is applicable when Norco College reaches master plan horizon 1 (12,000 headcount) and master plan horizon 2 (15,000 headcount).

The standards for teaching laboratories are measured in both ASF per student station and in ASF per 100 WSCH generated. *Data Set 10*, on a following page, summarizes these standards.

Each component of these standards is applied to projected enrollment to produce a total assignable square foot (ASF) capacity requirement for each category of space. The sum of these areas represents the total building area requirement for Norco College.

The space standards are based on the following assumptions:

- Utilization standards refer to the amount of time rooms and "stations" (such as a desk, laboratory bench, or computer terminal) should be in use. "Utilization" is the amount of time rooms and stations are actually in use. Utilization standards used address utilization on an "hours-per-week" basis.
- Classrooms are available 48 hours per 70-hour week for a campus with **less than** 140,000 WSCH and 53 hours per 70-hour week for a campus with 140,000, **or more**, WSCH and will be occupied—on average—two-thirds of the time. (That occupancy percentage might be achieved by having full classrooms two-thirds of the time and empty classrooms the remaining time.) Thus, the classroom utilization standard is either 32 or 35 weekly hours of station use depending on amount of WSCH. The utilization standards for laboratories are lower than the classroom utilization standards.
- Office space includes academic offices, administrative offices, clerical offices, office service rooms, and conference rooms.
- Library space includes stack, staff, and reader station space.
- Areas such as the main lobby (excluding card catalog area), elevators, stairs, walled corridors, restrooms, and areas accommodating building maintenance services are not deemed usable/assignable.

PLANNING DATA

SPACE UTILIZATION + PLANNING (CONT'D)

DATA SET 9A: PRESCRIBED SPACE STANDARDS FOR A CAMPUS WITH **LESS THAN** 140,000 WSCH

Category	Formula	Rates/Allowances
Lecture (Classroom)	ASF/Student Station	15
	Station Utilization Rate (occupancy)	66%
	Average hours room/week	**48**
	Station use/week (hours)	**31.68**
Laboratory (Teaching Labs)	ASF/Student Station	*see Data Set 10*
	Station Utilization Rate (occupancy)	85%
	Average hours room/week	27.5
	Station use/work (hours)	23.375
Offices/Conference Room	ASF per FTE instructional staff member	140
Library/LRC/Study	Base ASF Allowance	3,795
	ASF/1st 3,000 DGE	3.83
	ASF/3001–9,000 DGE	3.39
	ASF/DGE>9,000 DGE	2.94
Instructional Media AV/TV + Radio	Base ASF Allowance	3,500
	ASF/1st 3,000 DGE	1.50
	ASF/3001–9,000 DGE	0.75
	ASF/DGE>9,000 DGE	0.25

Source: Board of Governors of the California Community Colleges, Policy on Utilization and Space Standards, September 2010.

DATA SET 9B: PRESCRIBED SPACE STANDARDS FOR A CAMPUS WITH 140,000, **OR MORE**, WSCH

Category	Formula	Rates/Allowances
Lecture (Classroom)	ASF/Student Station	15
	Station Utilization Rate (occupancy)	66%
	Average hours room/week	**53**
	Station use/week (hours)	**34.98**
Laboratory (Teaching Labs)	ASF/Student Station	*see Data Set 10*
	Station Utilization Rate (occupancy)	85%
	Average hours room/week	27.5
	Station use/work (hours)	23.375
Offices/Conference Room	ASF per FTE instructional staff member	140
Library/LRC/Study	Base ASF Allowance	3,795
	ASF/1st 3,000 DGE	3.83
	ASF/3001–9,000 DGE	3.39
	ASF/DGE>9,000 DGE	2.94
Instructional Media AV/TV + Radio	Base ASF Allowance	3,500
	ASF/1st 3,000 DGE	1.50
	ASF/3001–9,000 DGE	0.75
	ASF/DGE>9,000 DGE	0.25

Source: Board of Governors of the California Community Colleges, Policy on Utilization and Space Standards, September 2010.

The following definitions pertain to the formulas listed in adjacent *Data Sets 9A + 9B:*

- ASF/Student Station: assignable square feet per student station.
- Average hours room/week: Number of hours out of a 70-hour week, 8am to 10pm, a classroom or class laboratory, on the average, should be in use.
- Station Utilization Rate (occupancy): The percentage of expected student station occupancy when rooms are in use.
- Station use/week: The number of hours per week (out of the 70-hour week for classrooms and class laboratories) which a student station, on average, should be in use.
- FTE: Full-time equivalent.
- DGE: Day-graded enrollment.
- DGS: Day-graded student.

PLANNING DATA

SPACE UTILIZATION + PLANNING (CONT'D)

DATA SET 10: ASSIGNABLE SQUARE FEET (ASF) FOR LABORATORY SPACE

Top Code	Top Code Division	ASF per 100 WSCH	ASF per Station
0100	Agriculture and Natural Resources	492	115
0115	Agricultural & Forestry Power/Machinery	856	200
0200	Architecture and Environmental Design	257	60
0400	Biological Sciences	235	55
0500	Business and Management	128	30
0600	Communications	214	50
0700	Computer and Information Science	171	40
0800	Education	321	75
0936	Printing and Lithography	342	80
0937	Tool and Machine	385	90
0945	Mechanical Technology	556	130
0947	Diesel Technology	856	200
0948	Automotive Technology	856	200
0950	Aeronautical and Aviation Technology	749	175
0952	Construction Crafts/Trades Technology	749	175
0954	Chemical Technology	556	130
0956	Industrial Technology	385	90
All other 900s	(Engineering)	321	75
1000	Foreign Language	150	35
1200	Health Services	214	50
1300	Consumer Education/Home Economics	257	60
1400	Law	150	35
1500	Humanities	150	35
1600	Library Science	150	35
1700	Mathematics	150	35
1800	Military Studies	214	50
1900	Physical Sciences	257	60
2000	Psychology	150	35
2100	Public Affairs and Service	214	50
2200	Social Sciences	150	35
3000	Commercial Services	214	50
4900	Interdisciplinary	257	60

Source: Board of Governors of the California Community Colleges, Policy on Utilization and Space Standards, September 2010.

PLANNING DATA

SPACE INVENTORY ANALYSIS

The *2010 Norco College Space Inventory Report* was used as the basis for the analysis of space. The adjacent *Data Set 11* includes a summary of the capacity load categories of space at Norco College and their respective totals.

It is important to note that the *Space Inventory Report* includes all facilities on campus that are in use, including temporary facilities. As described in the analysis of existing facilities, there are several facilities that are recommended as part of this *Norco College 2013 Facilities Master Plan (FMP)* to be removed. *Data Set 11* further includes an "adjusted inventory" in which the removal of temporary facilities and the addition of facilities under construction and in design are accounted for.

DATA SET 11: SPACE INVENTORY: CURRENT + ADJUSTED

Space Type	Current Inventory (ASF)	Adjusted Inventory (ASF)
Lecture + Lab	65,939	113,422
Office/Conference	25,878	30,848
Library/LRC/ Study	11,017	15,821
Instructional Media	1,642	4,256
Other	42,896	92,488
TOTALS	147,372	256,835

Source: California Community Colleges Chancellor's Office (CCCCO) FUSION database + HMC Architects

*** ADJUSTMENTS INCLUDE THE FOLLOWING:*

Temporary buildings have been removed from the space inventory [Portables A + B, West End Quad (WEQ) (including the Fitness Center and Multi-Purpose Building), CACT, M1, M2, and Bookstore].

Space has been added for the following projects: Operations Center (OC), Multimedia + Arts Center (MAC), and Center for Human Performance + Kinesiology (CHPK).

Following construction of the MAC, existing spaces vacated by occupants of the new MAC will be re-allocated (secondary effects) and are reflected in the "adjusted inventory."

BUILDING KEY

ATEC	Applied Technology
BK	Bookstore
CACT	Center for Applied + Competitive Technologies
CHPK	Center for Human Performance + Kinesiology
CRC	College Safety + Police/ College Resource Center
CSS	Center for Student Success/ The Corral (Cafeteria and Dining Room)
EB	East Bunker
F1+F2	Central Plants
HS	Head Start
HUM	Humanities
IT	Industrial Technology
JFK	John F. Kennedy Middle College High School
LIBR	Wilfred J. Airey Library
MAC	Multimedia + Arts Center
M1+M2	Facilities
OC	Operations Center
PA+PB	Portables A + B
SFC	Soccer Field Complex
SSV	Student Services
ST	Science + Technology
STEM	Science Technology Engineering + Mathematics Center
THTR	Theater
WB	West Bunker
WEQ	West End Quad

SPACE INVENTORY ADJUSTMENTS

- EXISTING FACILITIES
- VACATED/REUSED FACILITIES
- REMOVED FACILITIES
- UNDER CONSTRUCTION
- IN DESIGN
- PROPERTY LINE

PLANNING DATA

BASELINE CURRICULUM

To address the capacities for future institutional programs, a planning model was created using the fall 2011 (period 3) semester as its basis. This planning model, or "baseline," provided the foundation from which a future program of instruction could be projected.

This baseline is captured in summary form on the opposing page in *Data Set 12*. The key elements include the discipline, resident full-time equivalent students (FTES), and weekly student contact hours (WSCH).

Data Set 13 on a following page captures the total lecture and laboratory hours per discipline.

DATA SET 12: FALL 2011 BASELINE PROGRAM OF INSTRUCTION:
SUMMARY OF DISCIPLINE + FTES

Discipline		Res FTES	NonRes FTES	Computed	WSCH
ACCOUNTING	ACC	45.85733	0.1987	45.85733	1,470.60
ADMINISTRATION OF JUSTICE	ADJ	14.46198		14.46198	465.80
ANATOMY + PHYSIOLOGY	AMY	51.76259	0.21112	51.97371	1,667.20
ANTHROPOLOGY	ANT	97.5392	0.31669	97.85589	3,141.60
ARCHITECTURE	ARE	19.20388	0.09314	19.29703	618.53
ART	ART	72.39529	0.10556	72.50085	2,331.75
BIOLOGY	BIO	67.07341	0.95565	68.02906	2,160.34
BUSINESS ADMINISTRATION	BUS	81.7328	0.7824	82.5152	2,632.50
COMPUTER APPLICATIONS + OFFICE TECHNOLOGY	CAT	12.47605	0.09314	12.5692	401.84
CHEMISTRY	CHE	84.97733	0.31669	85.29402	2,737.00
COMPUTER INFORMATION SYSTEMS	CIS	79.03696	0.63958	79.67654	2,545.67
COMMUNICATION STUDIES	COM	59.38408	0.10556	59.48964	1,912.68
CONSTRUCTION TECHNOLOGY	CON	22.69581	0.31669	23.0125	731.00
COMPUTER SCIENCE	CSC	3.41058	0.10556	3.51614	109.85
DANCE	DAN	8.33939	0.10556	8.44495	268.60
EARLY CHILDHOOD EDUCATION	EAR	41.69695		41.69695	1,343.00
ECONOMICS	ECO	36.20773	0.73893	36.94667	1,166.20
ELECTRONICS	ELE	20.17474	0.42225	20.59699	649.80
ENGINEERING	ENE	78.33478	0.39839	78.73317	2,523.05
ENGLISH	ENG	335.1788	1.16625	336.34505	10,795.64
ENGLISH AS A SECOND LANGUAGE	ESL	20.88139	1.59274	22.47413	672.56
SIMULATION + GAME DEVELOPMENT	GAM	18.90179		18.90179	608.80
GEOGRAPHY	GEG	33.252	0.31669	33.56869	1,071.00
GUIDANCE	GUI	31.56309	0.12419	31.68728	1,016.60
HEALTH SCIENCE	HES	100.28381	0.95006	101.23387	3,230.00
HISTORY	HIS	88.672	1.79455	90.46655	2,856.00
HUMANITIES	HUM	34.57463	0.21112	34.78575	1,113.60
SUPERVISED TUTORING	ILA	2.66629	0.0301	2.69638	85.88
JOURNALISM	JOU	5.22376	0.20895	5.43271	168.25
JAPANESE	JPN	19.43519	0.59487	20.03006	625.98
KINESIOLOGY	KIN	90.52783	1.10796	91.63579	2,915.77
LIBRARY	LIB	1.70762		1.70762	55.00
MACHINE SHOP TECHNOLOGY	MAC	3.89523		3.89523	125.46
MANAGEMENT	MAG	17.13829		17.13829	552.00
MANUFACTURING TECHNOLOGY	MAN	15.28723		15.28723	492.38
MATHEMATICS	MAT	564.02999	4.47365	568.50364	18,166.61
MARKETING	MKT	6.7125		6.7125	216.20
COMMERCIAL MUSIC	MUC	26.56738	0.09524	26.66261	855.70
MUSIC	MUS	36.491	0.30116	36.79216	1,175.32
PHILOSOPHY	PHI	41.81493	0.50297	42.3179	1,346.80
PHYSICAL SCIENCE	PHS	8.33939		8.33939	268.60
PHYSICS	PHY	12.66743		12.66743	408.00
POLITICAL SCIENCE	POL	76.84286	0.7141	77.55695	2,475.00
PSYCHOLOGY	PSY	114.76442	0.50297	115.26739	3,696.40
READING	REA	36.69953	0.33407	37.0336	1,182.04
REAL ESTATE	RLE	27.01143	0.09314	27.10457	870.00
SUPPLY CHAIN TECHNOLOGY	SCT				
SOCIOLOGY	SOC	68.08743	0.63337	68,7208	2,193.00
SPANISH	SPA	56.36757		56,36757	1,815.52
THEATER ARTS	THE	37.27329	0.37816	37.65145	1,200.52
		2,829.42026	**22.03193**	**2,851.45219**	**91,131.63**

Source: Riverside Community College District (RCCD) Office of Institutional Reporting and Academic Services

DATA SET 13: FALL 2011 BASELINE PROGRAM OF INSTRUCTION: SUMMARY OF LECTURE + LAB HOURS

Discipline		Sum of Lecture	Sum of Lab	Total Hours	% Lecture	% Lab
ACCOUNTING	ACC	702		702	100.00%	0.00%
ADMINISTRATION OF JUSTICE	ADJ	162		162	100.00%	0.00%
ANATOMY + PHYSIOLOGY	AMY	252	432	684	36.84%	63.16%
ANTHROPOLOGY	ANT	594		594	100.00%	0.00%
ARCHITECTURE	ARE	135	270	405	33.33%	66.67%
ART	ART	612	576	1,188	51.52%	48.48%
BIOLOGY	BIO	504	378	882	57.14%	42.86%
BUSINESS ADMINISTRATION	BUS	1,134		1,134	100.00%	0.00%
CHEMISTRY	CHE	594	756	1,350	44.00%	56.00%
COMPUTER APPLICATIONS/ OFFICE	CAT	432	144	576	75.00%	25.00%
COMPUTER INFORMATION SYSTEMS	CIS	1,458	630	2,088	69.83%	30.17%
COMMUNICATION STUDIES	COM	1,026		1,026	100.00%	0.00%
CONSTRUCTION TECHNOLOGY	CON	540		540	100.00%	0.00%
COMPUTER SCIENCE	CSC	324	108	432	75.00%	25.00%
DANCE	DAN	108		108	100.00%	0.00%
EARLY CHILDHOOD EDUCATION	EAR	486		486	100.00%	0.00%
ECONOMICS	ECO	378		378	100.00%	0.00%
ELECTRONICS	ELE	198	216	414	47.83%	52.17%
ENGINEERING	ENE	369	981	1,350	27.33%	72.67%
ENGLISH	ENG	5,067	1,206	6,273	80.77%	19.23%
ENGLISH AS A SECOND LANGUAGE	ESL	396	90	486	81.48%	18.52%
SIMULATION + GAME DEVELOPMENT	GAM	414	234	648	63.89%	36.11%
GEOGRAPHY	GEG	486		486	100.00%	0.00%
GUIDANCE	GUI	450		450	100.00%	0.00%
HEALTH SCIENCE	HES	486		486	100.00%	0.00%
HISTORY	HIS	918		918	100.00%	0.00%
HUMANITIES	HUM	486		486	100.00%	0.00%
SUPERVISED TUTORING	ILA	216		216	100.00%	0.00%
JOURNALISM	JOU	18	90	108	16.67%	83.33%
JAPANESE	JPN	270	54	324	83.33%	16.67%
KINESIOLOGY	KIN	1,197	81	1278	93.66%	6.34%
LIBRARY	LIB	36		36	100.00%	0.00%
MACHINE SHOP TECHNOLOGY	MAC	54	64	118	45.76%	54.24%
MANAGEMENT	MAG	270		270	100.00%	0.00%
MANUFACTURING TECHNOLOGY	MAN	180	226	406	44.33%	55.67%
MATHEMATICS	MAT	5,724	72	5796	98.76%	1.24%
MARKETING	MKT	108		108	100.00%	0.00%
COMMERCIAL MUSIC	MUC	413	140	553	74.68%	25.32%
MUSIC	MUS	392	182	574	68.29%	31.71%
PHILOSOPHY	PHI	540		540	100.00%	0.00%
PHYSICAL SCIENCE	PHS	108		108	100.00%	0.00%
PHYSICS	PHY	216	108	324	66.67%	33.33%
POLITICAL SCIENCE	POL	810		810	100.00%	0.00%
PSYCHOLOGY	PSY	972		972	100.00%	0.00%
READING	REA	432	216	648	66.67%	33.33%
REAL ESTATE	RLE	486		486	100.00%	0.00%
SUPPLY CHAIN TECHNOLOGY	SCT	54	54	108	50.00%	50.00%
SOCIOLOGY	SOC	594		594	100.00%	0.00%
SPANISH	SPA	810	162	972	83.33%	16.67%
THEATER ARTS	THE	252	54	306	82.35%	17.65%
TOTALS		**32,863**	**7,524**	**40,387**	**81.37%**	**18.63%**

Source: Riverside Community College District (RCCD) Office of Institutional Reporting and Academic Services


TUTOR
NORCO

PLANNING DATA

MASTER PLAN SPACE PROGRAM

The master plan space program forms the basis for developing recommendations for facilities. The space inventory analysis combined with the space needs forecast is summarized on the opposing page in *Data Sets 14A + 14B* and indicates the total amount of additional assignable space needed to accommodate a master plan horizon 1 student headcount of 12,000 and a master plan horizon 2 student headcount of 15,000.

The methodology for projecting future space needs is summarized as follows:

- Master plan horizons 1 + 2 and WSCH projections were applied in combination with appropriate space planning standards to result in a total space requirement in ASF by type of space.
- The 2012 space inventory was adjusted to reflect the proposed removal of temporary facilities and the addition of projects currently under construction or in capital outlay planning. This is referred to as the "adjusted inventory."
- The "adjusted inventory" was subtracted from the total space requirements described above to result in the net ASF overage or need by type of space for each master plan horizon.
- The result, net assignable square footage by type of space, served as the basis for developing facilities options for Norco College.

MASTER PLAN HORIZON 1

DATA SET 14A: PROJECTED FUTURE SPACE NEEDS (12,000 HEADCOUNT)

Space Type	Adjusted Inventory (ASF)	Master Plan Space Program (12,000 HC)	Difference (ASF)
Lecture + Lab	113,422	94,398	19,024
Office/Conference	30,848	30,264	584
Library/LRC/Study	15,821	23,069	(7,248)
Instructional Media	4,256	9,722	(5,466)
Other	92,488	79,755	12,733)
TOTALS	256,835	237,208	19,627

Source: HMC Architects

The construction of the Multimedia + Arts Center (MAC) and the Center for Human Performance + Kinesiology (CHPK) provides additional instructional space and prepares the campus well for a 12,000 headcount, if slightly overbuilt.

MASTER PLAN HORIZON 2

DATA SET 14B: PROJECTED FUTURE SPACE NEEDS (15,000 HEADCOUNT)

Space Type	Adjusted Inventory (ASF)	Master Plan Space Program (15,000 HC)	Difference (ASF)
Lecture + Lab	113,422	117,998	(4,576)
Office/Conference	30,848	37,830	(6,982)
Library/LRC/Study	15,821	27,557	(11,736)
Instructional Media	4,256	10,715	(6,459)
Other	92,488	96,607	(4,119)
TOTALS	256,835	290,708	(33,873)

Source: HMC Architects

Growth to a 15,000 headcount requires additional space in all space categories.


EXIT
ROUTE

Analysis

OVERVIEW

The planning process began with information and data collection; campus tours; and meetings, interviews, and discussions with groups representing all the constituencies on campus. The planning team listened to the insights of multiple stakeholders regarding the condition and functionality of the existing campus and overlaid this with their own research and observations.

The resulting site and facilities analysis of the existing conditions that shape the use of Norco College was presented to the Business + Facilities Planning Council (BFPC) and key issues to be addressed by the Facilities Master Plan (FMP) were identified.

The findings are summarized in a series of graphic plates that illustrate patterns and characteristics to be considered in the planning of future development.

ANALYSIS

- / Regional Context
- / Local Context + Community
- / Views + Trails
- / Campus Land Use
- / Campus Plan
- / Campus Development History
- / Current Planning
- / Regional Vehicular Circulation
- / Vehicular Circulation
- / Parking
- / Emergency Access
- / Pedestrian Circulation
- / Campus Zoning
- / Landscape Typology
- / Slope Analysis + Underlying Geology
- / Storm Water Infrastructure

ENVIRONMENTAL ANALYSIS

- / Summary
- / Wind Patterns
- / Comfort Zone
- / Sky Cover Range
- / Solar Access

SUMMARY OF ANALYSIS

RECOMMENDED DEMOLITION/ REMOVALS

BUILDING KEY:

ATEC	Applied Technology
BK	Bookstore
CACT	Center for Applied + Competitive Technologies
CHPK	Center for Human Performance + Kinesiology
CRC	College Safety + Police/ College Resource Center
CSS	Center for Student Success/ The Corral (Cafeteria + Dining Room)
EB	East Bunker
F1 + F2	Central Plants
HS1 + HS2	Head Start
HUM	Humanities
IT	Industrial Technology
JFK	John F. Kennedy Middle College High School
LIBR	Wilfred J. Airey Library
MAC	Multimedia + Arts Center
M1 + M2	Facilities
OC	Operations Center
PA + PB	Portables A + B
SFC	Soccer Field Complex
SSV	Student Services
ST	Science + Technology
STEM	Science Technology Engineering + Mathematics Center
THTR	Theater
WB	West Bunker
WEQ	West End Quad

ANALYSIS

REGIONAL CONTEXT

The City of Norco is located in the extreme northwestern portion of Riverside County, near a tri-county meeting point with Los Angeles and San Bernardino counties. Norco is near the junction of the 91 Freeway and Interstate 15, about 50 miles south and east of Los Angeles. Nearby communities include: Corona (4 miles), Home Gardens (4.7 miles), Mira Loma (5.1 miles), El Cerrito (6.9 miles), Pedley (7.2 miles), Glen Avon (7.9 miles), Ontario (9.8 miles), Chino (10.8 miles) and Riverside (11.4 miles). The newly incorporated City of Eastvale is located to the north.

Norco College is a gateway to the engineering, manufacturing, and warehousing companies serving the counties of Riverside, Orange, and San Bernardino. This location supports the campus focus on the theme of technology in the 21st century. Norco College is best known for its cutting edge programs in technology and manufacturing, reflecting partnerships with industry and community groups.

The geography for Norco is a valley with hills along its eastern border (the "Norco Hills"). The Santa Ana River follows along its northern border.

In 1846, the area that is now Norco was part of a land grant from the government of Mexico to Vicenta Sepulveda, which was called the Little La Sierra Rancho. The area passed through several owners including the San Jacinto Land Company. James W. Long purchased the Norco area land around 1908. He organized the Orange Heights Water Company. Development began and in 1910 the area became a subdivision of the Corona Land Company for citrus growing. In 1921, the property was purchased by the North Corona Land Company. It is believed that the name of Norco came from the North Corona portion of the company name.

The graphic on the opposing page shows the Norco College site within its regional context.

OBSERVATIONS

City of Eastvale:

- Eastvale officially became a city on October 1, 2010.
- The city boasts that it ranks as the 5th fastest growing city in the state of California.
- As with Corona and Norco, Eastvale is served by the Corona-Norco Unified School District (CNUSD).
- Many residents attend Norco College and therefore there are a number of students travelling to the campus from the north.

City of Jurupa Valley:

- Jurupa Valley officially became a city on July 1, 2011.

Ingalls Park:

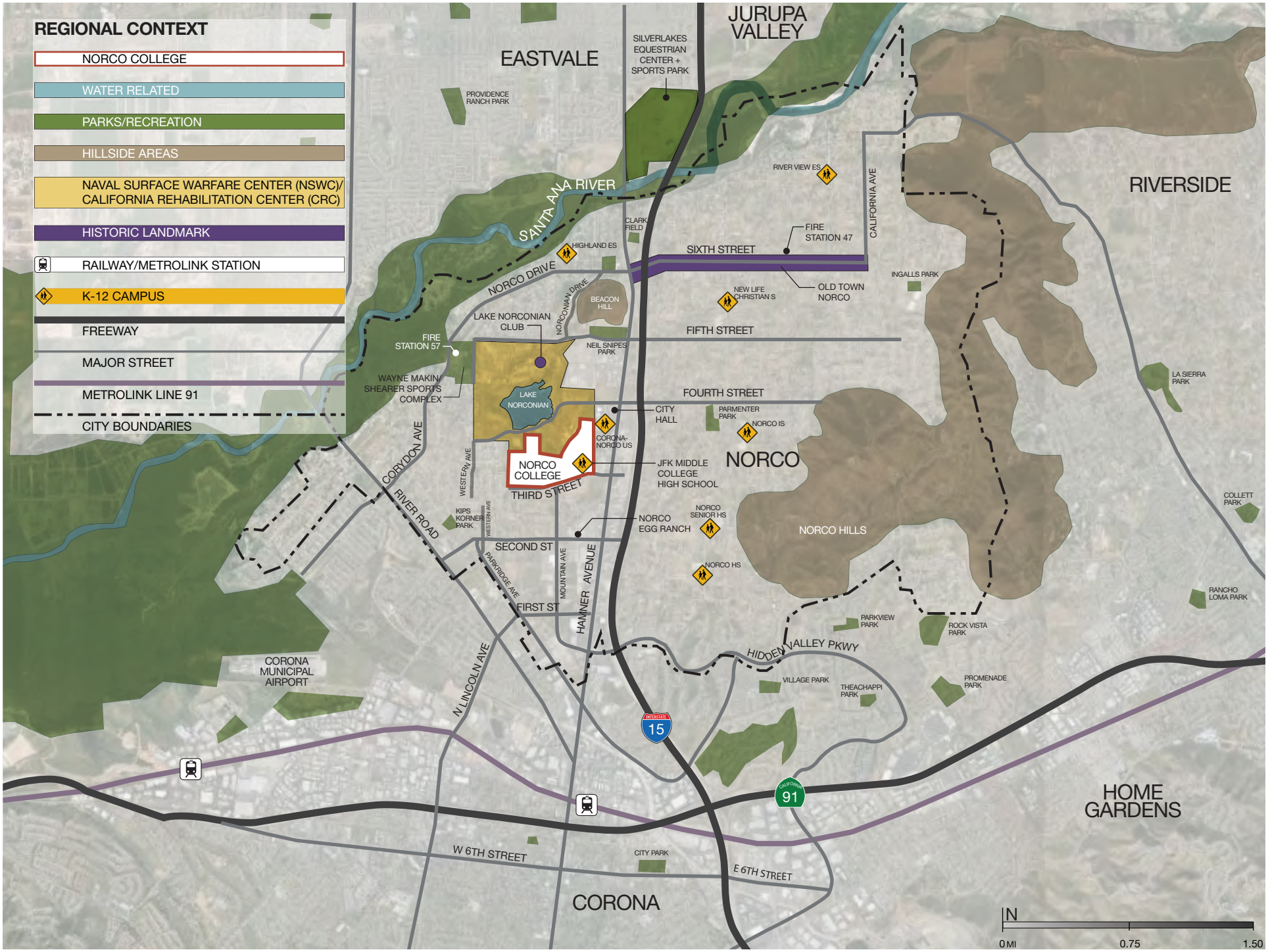
- This primary equestrian facility is nestled at the base of the Norco Hills east of the campus.

Public Transit:

- Neither Amtrak nor Metrolink directly serve the City of Norco.
- The closest public mass transit rail station is located in the City of Corona.

Silverlakes Equestrian Sports Park:

- This park is anticipated to be the largest and most complete equestrian and soccer facility in the nation and therefore solidifies Norco as an equestrian destination.
- The site is located at 5555 Hamner Avenue in the City of Norco, in Riverside County. The site is adjacent to the I-15 freeway and borders the community of Eastvale. It is currently under construction and is due to open in 2013.
- This is a recreational facility that would be used for equestrian events, soccer, football, field hockey, lacrosse, etc.


REGIONAL CONTEXT
NORCO COLLEGE
WATER RELATED
PARKS/RECREATION
HILLSIDE AREAS
NAVAL SURFACE WARFARE CENTER (NSWC)/ CALIFORNIA REHABILITATION CENTER (CRC)
HISTORIC LANDMARK
RAILWAY/METROLINK STATION
K-12 CAMPUS
FREEWAY
MAJOR STREET
METROLINK LINE 91
CITY BOUNDARIES
EASTVALE
JURUPA VALLEY
RIVERSIDE
NORCO
CORONA
HOME GARDENS
SILVERLAKES EQUESTRIAN CENTER + SPORTS PARK
PROVIDENCE RANCH PARK
SANTA ANA RIVER
RIVER VIEW ES
CALIFORNIA AVE
CLARK FIELD
HIGHLAND ES
SIXTH STREET
FIRE STATION 47
OLD TOWN NORCO
INGALLS PARK
NEW LIFE CHRISTIAN S
NORCO DRIVE
NORCONIAN DRIVE
BEACON HILL
LAKE NORCONIAN CLUB
FIFTH STREET
NEIL SNIPES PARK
FIRE STATION 57
WAYNE MAKIN/ SHEARER SPORTS COMPLEX
LAKE NORCONIAN
FOURTH STREET
CITY HALL
PARMENTER PARK
NORCO IS
CORONA-NORCO US
JFK MIDDLE COLLEGE HIGH SCHOOL
NORCO COLLEGE
THIRD STREET
CORYDON AVE
WESTERN AVE
RIVER ROAD
KIPS KORNER PARK
NORCO EGG RANCH
NORCO SENIOR HS
NORCO HILLS
SECOND ST
PARKRIDGE AVE
MOUNTAIN AVE
HAMNER AVENUE
NORCO HS
FIRST ST
LA SIERRA PARK
COLLETT PARK
RANCHO LOMA PARK
PARKVIEW PARK
ROCK VISTA PARK
HIDDEN VALLEY PKWY
VILLAGE PARK
THEACHAPPI PARK
PROMENADE PARK
CORONA MUNICIPAL AIRPORT
N LINCOLN AVE
INTERSTATE 15
CALIFORNIA 91
W 6TH STREET
CITY PARK
E 6TH STREET
N
0 MI
0.75
1.50

ANALYSIS

LOCAL CONTEXT + COMMUNITY

Norco College is located approximately three (3) miles north of the City of Corona in the City of Norco, Riverside County, California. As a horse community, Norco promotes itself as “Horsetown USA.”

The motto of the City of Norco is “City Living in a Rural Atmosphere.” For 25 years, the majority of the city’s land has been maintained as animal-keeping properties on one-half acre or more.

Decomposed granite pedestrian/equestrian trails are preferred over standard suburban sidewalks. There is an elaborate system of over 80 miles of well-maintained trails that are regarded as a major asset and amenity to the community. The city therefore provides a unique rural/urban framework.

According to the *City of Norco General Plan*, “in the year 2010, the population of the City of Norco is projected to be approximately 30,000. This represents only a small increase over the 1990 census population of 23,302. However, substantial commercial and industrial growth is expected to occur over the next 20 years.“

OBSERVATIONS

Site Character:

- The site of Norco College features variable landforms — prominent knolls, rolling terrain, drainage courses, and flat land.

The Lake Norconian Club:

- The site of the NSWC was once a playground for the rich and famous. A 700-acre luxury resort once operated here, built by Rex Clark in 1928. Frequented by silent-screen stars, the complex sported a gambling casino, golf course, 55-acre lake, a hot sulfur spring spa, an airport, and a magnificent, 5-story hotel.
- Sitting atop a knoll, the hotel had a commanding view of Lake Norconian and the surrounding countryside.
- With the stock market crash of 1929, the resort plunged into a 12-year decline culminating in Clark agreeing to sell the complex to the Navy.
- Today the property is controlled by the California Rehabilitation Center (CRC), but it currently stands vacant. There is an ongoing effort to find ways to preserve and eventually restore the hotel and resort properties when they become available.

Naval Surface Warfare Center (NSWC):

- The Norco College property was formerly owned by the federal government (Navy).
- The northern boundary of the campus abuts the Naval Surface Warfare Center (NSWC), Corona Division. This is the home of three premier national laboratory and assessment centers: the Joint Warfare Assessment Lab; the Measurement Science + Technology Lab; and the Daugherty Memorial Assessment Center.

Residential Neighborhoods:

- Modest residential neighborhoods border the campus on the western and southern borders.

ANALYSIS

LOCAL CONTEXT + COMMUNITY (CONT'D)

California Rehabilitation Center (CRC):

- The building now housing a portion of the California Rehabilitation Center (CRC) correctional facility opened in 1928 as the Lake Norconian Club, a luxury hotel.
- In December 1941, President F. D. Roosevelt turned the resort into a Naval hospital.
- The hospital first closed in November 1949, reopened in 1950 during the Korean War, then closed again in June 1957.
- In March 1962, the federal government donated the facility to the state to use as a narcotics rehabilitation center.
- To help ease prison overcrowding in the 1980s, the CRC began treating incarcerated felons as well as voluntarily housed narcotic addicts.

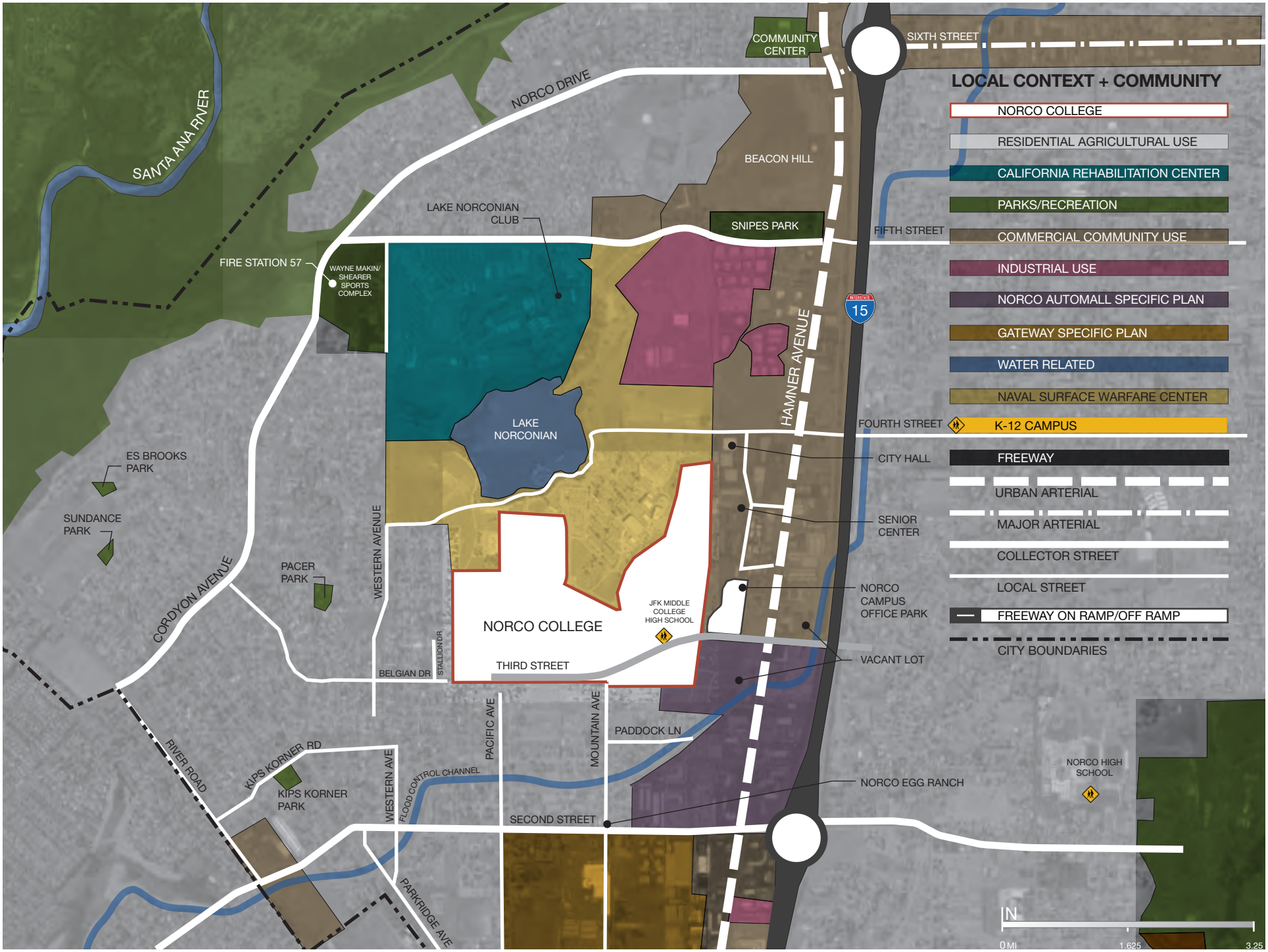
Lake Norconian:

- Many are often surprised to learn there is a lake nestled just north of Norco College. This man-made lake was created in the 1920s for recreational purposes associated with the Lake Norconian Club.
- The lake is located on property owned by the federal government and used by the Naval Surface Warfare Center (NSWC). It has become an important habitat for birds and has historically been a depository for stocked fish. Although primarily closed to the public, it has great potential to be a community and college amenity.
- The *2002 City of Norco General Plan Conservation Element* indicates that "the city shall explore the possibility of acquiring Lake Norconian."

Commercial Properties:

- The eastern boundary of the campus abuts commercial properties and vacant land designated for commercial use.

The graphic on the opposing page shows the Norco College site within its local context.


LOCAL CONTEXT + COMMUNITY
NORCO COLLEGE
RESIDENTIAL AGRICULTURAL USE
CALIFORNIA REHABILITATION CENTER
PARKS/RECREATION
COMMERCIAL COMMUNITY USE
INDUSTRIAL USE
NORCO AUTOMALL SPECIFIC PLAN
GATEWAY SPECIFIC PLAN
WATER RELATED
NAVAL SURFACE WARFARE CENTER
K-12 CAMPUS
FREEWAY
URBAN ARTERIAL
MAJOR ARTERIAL
COLLECTOR STREET
LOCAL STREET
FREEWAY ON RAMP/OFF RAMP
CITY BOUNDARIES
SANTA ANA RIVER
NORCO DRIVE
COMMUNITY CENTER
SIXTH STREET
BEACON HILL
LAKE NORCONIAN CLUB
SNIPES PARK
FIFTH STREET
FIRE STATION 57
WAYNE MAKIN/ SHEARER SPORTS COMPLEX
HAMNER AVENUE
INTERSTATE 15
LAKE NORCONIAN
FOURTH STREET
CITY HALL
SENIOR CENTER
ES BROOKS PARK
SUNDANCE PARK
PACER PARK
WESTERN AVENUE
CORDYON AVENUE
NORCO CAMPUS OFFICE PARK
JFK MIDDLE COLLEGE HIGH SCHOOL
NORCO COLLEGE
VACANT LOT
THIRD STREET
BELGIAN DR
STALLION DR
PACIFIC AVE
MOUNTAIN AVE
PADDOCK LN
RIVER ROAD
KIPS KORNER RD
KIPS KORNER PARK
WESTERN AVE
FLOOD CONTROL CHANNEL
NORCO EGG RANCH
NORCO HIGH SCHOOL
SECOND STREET
PARKRIDGE AVE
N
0 MI
1.625
3.25

ANALYSIS

VIEWS + TRAILS

The principal contextual views and local community circulation patterns are illustrated on the graphic on the opposing page.

OBSERVATIONS

General:

/ Norco College is characterized by some spectacular views.

Important Views:

- The major view is from the core of the campus out to the west and the east.
- Another spectacular, but little known, view is from the northwestern point of the campus boundary looking out towards Lake Norconian and the historic Lake Norconian Club to the north.

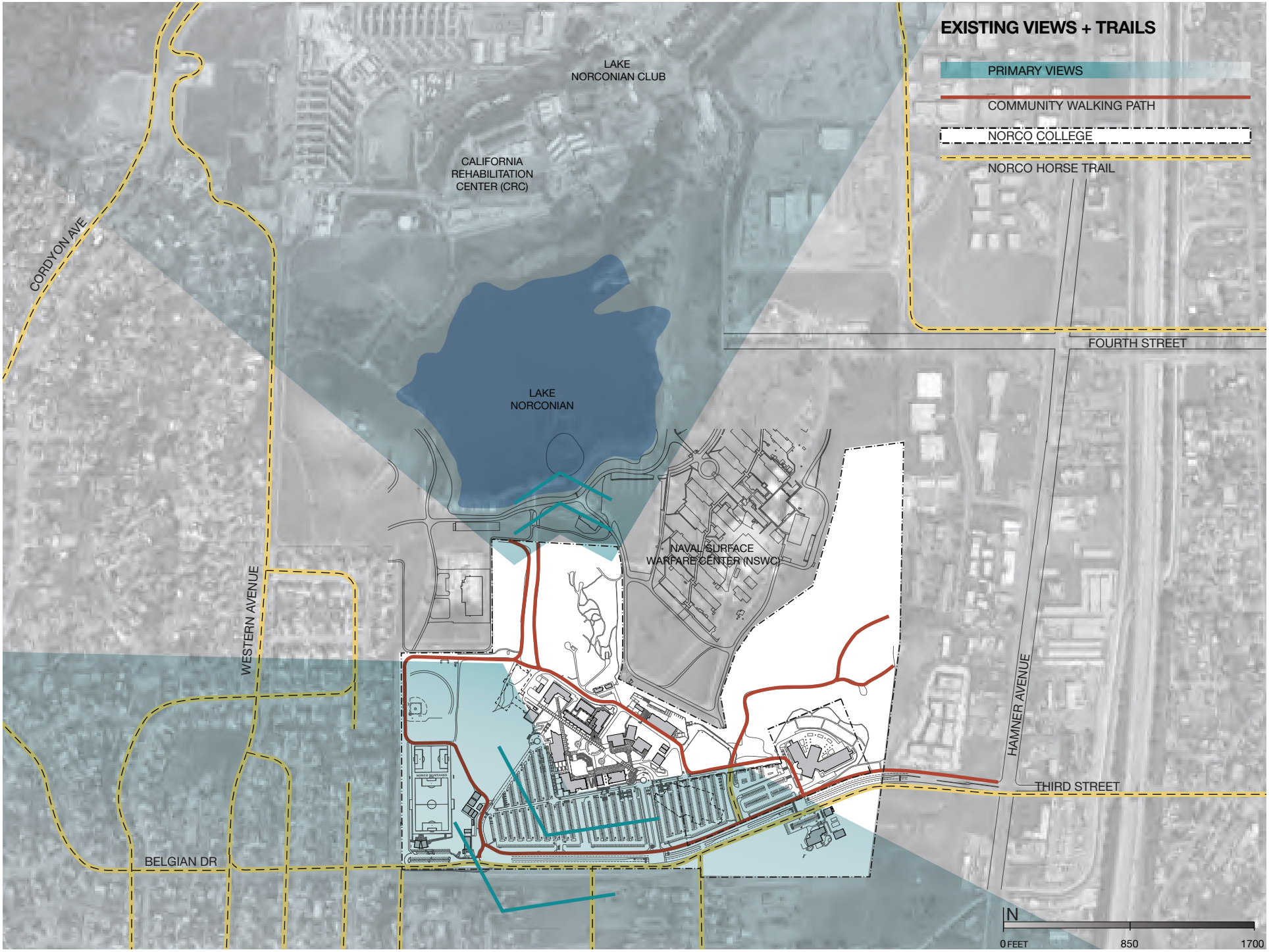
/ This view should be taken advantage of.

Equestrian Trail System:

- The City of Norco is committed to providing safe and convenient equestrian/pedestrian access between residential neighborhoods and parks, open space, and schools.

Third Street:

- The sidewalks and horse trails along this street are used as a walking path by the local community.


EXISTING VIEWS + TRAILS
PRIMARY VIEWS
COMMUNITY WALKING PATH
NORCO COLLEGE
NORCO HORSE TRAIL
LAKE NORCONIAN CLUB
CALIFORNIA REHABILITATION CENTER (CRC)
LAKE NORCONIAN
CORDY'ON AVE
WESTERN AVENUE
NAVAL SURFACE WARFARE CENTER (NSWC)
FOURTH STREET
HAMNER AVENUE
THIRD STREET
BELGIAN DR
N
0 FEET
850
1700

ANALYSIS

CAMPUS LAND USE

The graphic plan on the opposing page illustrates the existing campus land uses.

OBSERVATIONS

General:

- Most of the core campus lies to the north of Third Street

Soil Quality:

- There was concern that the soil in the developed area is still contaminated from federal government (Navy) use.
  - / According to the Environmental Data Resources report (EDR), site clean-up of the Norco College property was competed in 1990.

Future Property Acquisition:

- The Navy owns the northwest corner of the site and this is the location of recreational vehicles (RV), and campers owned by military/civilian personnel.
  - / Norco College would like to acquire this property for future development.

Triangular Core of Campus:

- This triangular area is located at the center of the campus.
- There is a desire to remove the hardscape (concrete) and define this area as the true center of campus using landscape design.
- It has the potential to "connect the dots" and make the campus feel more expansive.

John F. Kennedy Middle College High School (JFK):

- The Corona-Norco Unified School District (CNUSD) leases approximately 12.63 acres of land located on the Norco College campus:
  - / The lease commenced on June 18, 2003 and continues through September 5, 2046.
  - / RCCD has the right to purchase the building(s).
  - / CNUSD has the right to purchase the land after 2020.
  - / A high school parcel was created by survey to define the separation and responsibility of Norco College and the high school. It is recorded in the *Riverside Community College - Norco Campus | Corona-Norco Unified School District | Kennedy High School: Phase 1 and II, Exhibits A + B* - August 21, 2002.
  - / Norco College and the high school may pursue a joint venture agreement for the development of common facilities, i.e., auditorium/performing arts complex.
- Per the *Ground Lease Agreement between Riverside Community College District and Corona-Norco Unified School District* - June 17, 2003:
  - / The high school shall be physically separate from Norco College and shall not interrupt the view of Norco College.
- Per the *Joint Use Agreement by and between Corona-Norco Unified School District and Riverside Community College District* - August 29, 2006:
  - / Norco College and the district shall not demolish, remove, alter, modify, replace, or add improvements to the high school property.
  - / Norco College has access to 12 classrooms and designated restrooms at the high school property (primarily for evening instruction).


EXISTING CAMPUS LAND USE
STUDENT + COMMUNITY SERVICES
INSTRUCTIONAL
ATHLETICS/KINESIOLOGY
SERVICE
LEASED
UNDEVELOPED LAND
IN DESIGN
PROPERTY LINE
LAKE NORCONIAN
NAVAL SURFACE WARFARE CENTER
HAMNER AVENUE
STORAGE
WB
EB
CHPK
ATEC
IT
CACT
OC
ST
THTA
HUM
CSS
BK
ADM
LIBR
SSV
AMPHITHEATER
JFK
MAC
HS1
HS2
STEM
SFC
ICE HOUSE
BASEBALL FIELD
VOLLEYBALL
PRACTICE FIELD
NORCO MUSTANGS
SOCCER FIELD
WEC
W1
W2
W3
W4
W5
W6
W7
WC
RR
WEST MAIN DRIVE
SOUTH MAIN DRIVE
COLLEGE WAY
MUSTANG CIRCLE
JFK DRIVE
MCKINLEY WAY
THIRD STREET
BELGIAN DRIVE
PACIFIC AVENUE
MCKINLEY AVENUE
N
0 FEET
450
900

ANALYSIS

CAMPUS PLAN

The graphic plan on the opposing page illustrates the existing campus and it includes the locations of projects currently in capital construction planning.

The Norco Campus had its beginnings in the 1980s when the Riverside Community College District (RCCD) recognized its obligation to meet the needs of Norco and Corona, rapidly growing communities located in the southwestern portion of RCCD's service area.

On June 4, 1985, 141.86 acres were transferred from the federal government to Riverside Community College District. After securing appropriate funds, a building plan was approved, and construction began on the new campus.

With a ribbon-cutting ceremony held on March 13, 1991, the Norco Campus opened its doors in April 1991 with an enrollment of 3,088 students.

Norco began as a satellite campus with district-wide academic departments centralized at the Riverside City College campus. In fall 1999, three academic departments housing the entire faculty were established, and Norco Campus assumed responsibility for its own schedule development.

In fall 2004, the three-department structure expanded to four (4) departments. Today academic disciplines are divided among five (5) departments as established in fall 2005: Arts, Humanities + World Languages; Business, Engineering + Information Technology; Math + Sciences; Communications; and Social + Behavioral Sciences.

OBSERVATIONS

General:

- The campus lacks a strong identity.

John F. Kennedy Middle College High School (JFK):

- Pedestrian connections may be provided to facilitate high school students attending certain elective classes at Norco College.

Signage + Wayfinding:

- The campus would benefit from a signage + wayfinding program.

The "Mesa":

- The "mesa" is an artificially graded plateau on which the majority of the existing campus sits. It has been constructed through a combination of cut into the existing hillside to the northeast and a more or less equal amount of fill over the hillside to the southwest. The amphitheater negotiates the change in elevation from the ground plane of the mesa to that of the parking lots that slope gently toward Third Street at the southern boundary of the campus property.

EXISTING CAMPUS PLAN
EXISTING FACILITIES
RECENTLY RENOVATED
TEMPORARY FACILITIES
PARTIALLY RENOVATED
IN DESIGN
PROPERTY LINE
LAKE NORCONIAN
NAVAL SURFACE WARFARE CENTER
HAMNER AVENUE
BASEBALL FIELD
PRACTICE FIELD
NORCO MUSTANGS
SOCCER FIELD
WEQ
RR
SFC
ICE HOUSE
LOT S
BELGIAN DRIVE
PACIFIC AVENUE
MOUNTAIN AVENUE
THIRD STREET
CHPK
WB
EB
STORAGE
ATEC
IT
OC
RODEO ROAD
ST
THTR
HUM
BK
CAC
CSS
AMPHITHEATER
LIBR
CR
SSV
WEST END DRIVE
STUDENT CENTER DRIVE
COLLEGE WAY
LOT D
LOT C
LOT A
MUSTANG CIRCLE
MAC
LOT B
WINDY WAY
JFK DRIVE
LOT K
KENNEDY LANE
JFK
LOT STEM
STEM
PLAY AREA
HS1
HS2
N
0 FEET
450
900

ANALYSIS

CAMPUS DEVELOPMENT HISTORY

1916
Riverside City College opens

1923
Founded by Rex B. Clark, the town of Norco is dedicated

1929
The Lake Norconian Club "resort supreme" opens

1941
The federal government purchases the resort and expands it into a premiere World War II-era hospital

1952
The Navy's NBS Corona Laboratory is designated

1964
Riverside Community College District is created

RCCD
RIVERSIDE COMMUNITY COLLEGE DISTRICT

1920 1930 1940 1950 1960

1985
RCCD purchases land in Norco

1991
The Norco Campus opens with six new buildings:

Central Plant (F1)
Humanities (HUM)
College Safety + Police/
College Resource Center (CRC)
Science + Technology (ST)
Student Services (SSV)
Theater (THTR)

1993
Wilfred J. Airey Library (LIBR), Amphitheater, and the Applied Technology (ATEC) building start construction.

2000
The Lake Norconian Club is listed on the National Register of Historic Places

2006
John F. Kennedy Middle College High School opens

2009
The Industrial Technology (IT) buildings open

2010
Norco Campus is officially recognized as Norco College

2010
The Center for Student Success (CSS) opens

2013
The Operations Center (OC) opens

2016
25th Anniversary

1970 1980 1990 2000 2010

CAMPUS DEVELOPMENT HISTORY (CONT'D)

Riverside City College became the seventh community college in California when it opened in September 1916.

In 1964, voters approved the creation of the Riverside Community College District (RCCD) encompassing the cities of Riverside, Moreno Valley, Corona, and Norco and the election of a five-member Board of Trustees.

In the mid-1980s, RCCD purchased a 141-acre parcel of surplus land in Norco from the federal government for $1. After securing appropriate funds, a building plan was approved, and construction began on the Norco Campus.

The Norco Campus opened its doors in April 1991. Two years later, construction began on the Wilfred J. Airey Library and the Applied Technology building, which were completed in 1995.

The campus continued to expand with the opening of the Industrial Technology Building in time for fall 2009. The Center for Student Success (CSS), which included the Corral cafeteria, opened the following year.

In March of 2010, Norco College was accredited by the Accreditation Commission for Community and Junior Colleges and the Board of Governors of the California Community Colleges officially recognized Norco College as the 112th community college in the state.

Most recently, the Soccer Field Complex (SFC) was completed along with the renovation of many of the original campus buildings.

In 2013, the Operations Center (OC) opened and currently the Multimedia + Arts Center (MAC) and the Center for Human Performance + Kinesiology (CHPK) are in the early stages of planning and design.

The graphic plan on the opposing page illustrates the development of the campus with buildings color-coded based on the decade/phase of original construction.

PRE-NORCO CAMPUS CONSTRUCTION

- East Bunker (EB)
- Facilities (M1 + M2)
- West Bunker (WB)

EARLY 1990S - PHASE 1

- Central Plant (F1)
- College Safety + Police/College Resource Center (CRC)
- Humanities (HUM)
- Science + Technology (ST)
- Student Services (SSV)
- Theater (THTR)

LATE 1990S - PHASE 2

- Applied Technology (ATEC)
- Bookstore (BK)
- Center for Applied + Competitive Technologies (CACT)
- Central Plant (F2)
- Head Start (H1)
- John F. Kennedy Middle College High School (JFK)
- Wilfred A. Airey Library (LIBR)

2000–2009 - PHASE 3

- Head Start (H2)
- Industrial Technology (IT)
- Science Technology Engineering + Mathematics Center (STEM)
- Portables A + B (PA + PB)
- West End Quad (WEQ)

2010–PRESENT - PHASE 4

- Center for Student Success (CSS)
- Operations Center (OC)
- Soccer Field Complex (SFC)


CAMPUS DEVELOPMENT HISTORY
PRE-NORCO CAMPUS CONSTRUCTION
EARLY 1990s (PHASE 1)
LATE 1990s (PHASE 2)
2000-2009 (PHASE 3)
2010-PRESENT (PHASE 4)
RENOVATED 2010s
PR PARTIALLY RENOVATED
TEMPORARY FACILITIES
IN DESIGN
PROPERTY LINE
WB
EB
STORAGE
CHPK
ATEC
M2
M1
IT
IT
IT
CACT
THTR
ST
HUM
OC
RODEO ROAD
CSS
STUDENT CENTER DRIVE
AMPHITHEATER
LIBR
ACRC
SSV
BK
TPA
PB
JFK
KENNEDY LANE
JFK DRIVE
LOT K
WEST END DRIVE
LOT D
PR
COLLEGE WAY
LOT C
LOT A
MUSTANG CIRCLE
MAC
WINDY WAY
LOT B
HS1
LOT STEM
PLAY AREA
STEM
HS2
PLAY AREA
BASEBALL FIELD
VOLLEYBALL
PRACTICE FIELD
NORCO MUSTANGS
SOCCER FIELD
W6
W7
W8
W5
W4
W9
WEQ
RR
W3
W2
W1
SFC
ICE HOUSE
LOT S
BELGIAN DRIVE
THIRD STREET
PACIFIC AVENUE
MOUNTAIN AVENUE
N
0 FEET
350
700

ANALYSIS

CURRENT PLANNING

The graphic plan on the opposing page illustrates the current five-year capital construction planning for the campus; planned facilities are highlighted.

OBSERVATIONS

General:

- The site locations as designed work well with the overall campus zoning and topography.

Operations Center (OC):

- This project opened in 2013.
- A number of items were removed from the scope of work of this project and should be reviewed for inclusion in the future master plan:
  - / Shop Building
  - / Solar panels adjacent to M1 and M2 buildings
  - / Wind turbines
  - / Covered and centralized (for security) golf cart storage adjacent to M1 and M2 buildings (connected to solar panels for cart charging)

Multimedia + Arts Center (MAC):

- The construction of this project removes most of the existing surface parking spaces in Lot A.
  - / Options for replacement parking need to be explored.
- This project addressed the desire to cultivate a “culture for the arts.”
- This project addresses the acoustics, safety, circulation, and capacity issues relating to the office, theater, and music functions located in the existing Theater building.
  - / Once this project is complete, the existing theater building will need to be repurposed and renovated or perhaps replaced.

Center for Human Performance + Kinesiology (CHPK):

- The scope of this project includes a 400-meter track and field.
  - / The construction and location of the new Soccer Field Complex prohibits construction of the track and field as conceived in the design of this project and needs to be revisited.


CURRENT PLANNING
EXISTING FACILITIES
IN DESIGN - FINAL PROJECT PROPOSAL (FPP)
IN PLANNING - INITIAL PROJECT PROPOSAL (IPP)
IN PLANNING
PROPERTY LINE
WB
EB
STORAGE
CHPK
ATEC
M2
M1
IT
IT
IT
CACT
OC
RODEO ROAD
THTR
ST
HUM
PA
PB
BKST
CSS
STUDENT CENTER DRIVE
WEST END DRIVE
LOT D
LIBR
SSV
COLLEGE WAY
LOT A
LOT C
MUSTANG CIRCLE
MAC
LOT B
WINDY WAY
JFK
KENNEDY LANE
JFK DRIVE
LOT K
HS1
LOT STEM
PLAY AREA
STEM
HS2
PLAY AREA
BORCO MUSTANGS
SOCCER FIELD
W5 W7 W8
W9
W6
W4
WEQ
RR
W3
W2
W1
SFC
ICE HOUSE
LOT S
BELGIAN DRIVE
THIRD STREET
PACIFIC AVENUE
MOUNTAIN AVENUE
N
0 FEET
350
700

ANALYSIS

REGIONAL VEHICULAR CIRCULATION

The graphic plan on the opposing page illustrates the location of Norco College in relation to its regional vehicular circulation context.

Interstate 15 Freeway:

The Interstate 15 (I-15) is the nearest freeway located one mile to the east of Norco College. It provides regional northeast/southwest circulation throughout the state. Both Second Street and Sixth Street provide a full interchange with this freeway.

Hamner Avenue:

Hamner Avenue is the major north-south roadway (classified as an "Urban Arterial") through the City of Norco that links the City of Corona to the south and Riverside County to the north. At build-out, it will have six lanes of travel (three in each direction) and is designed to accommodate regional through traffic with a limited number of accesses and driveways. Hamner Avenue is the only road in Norco with this classification.

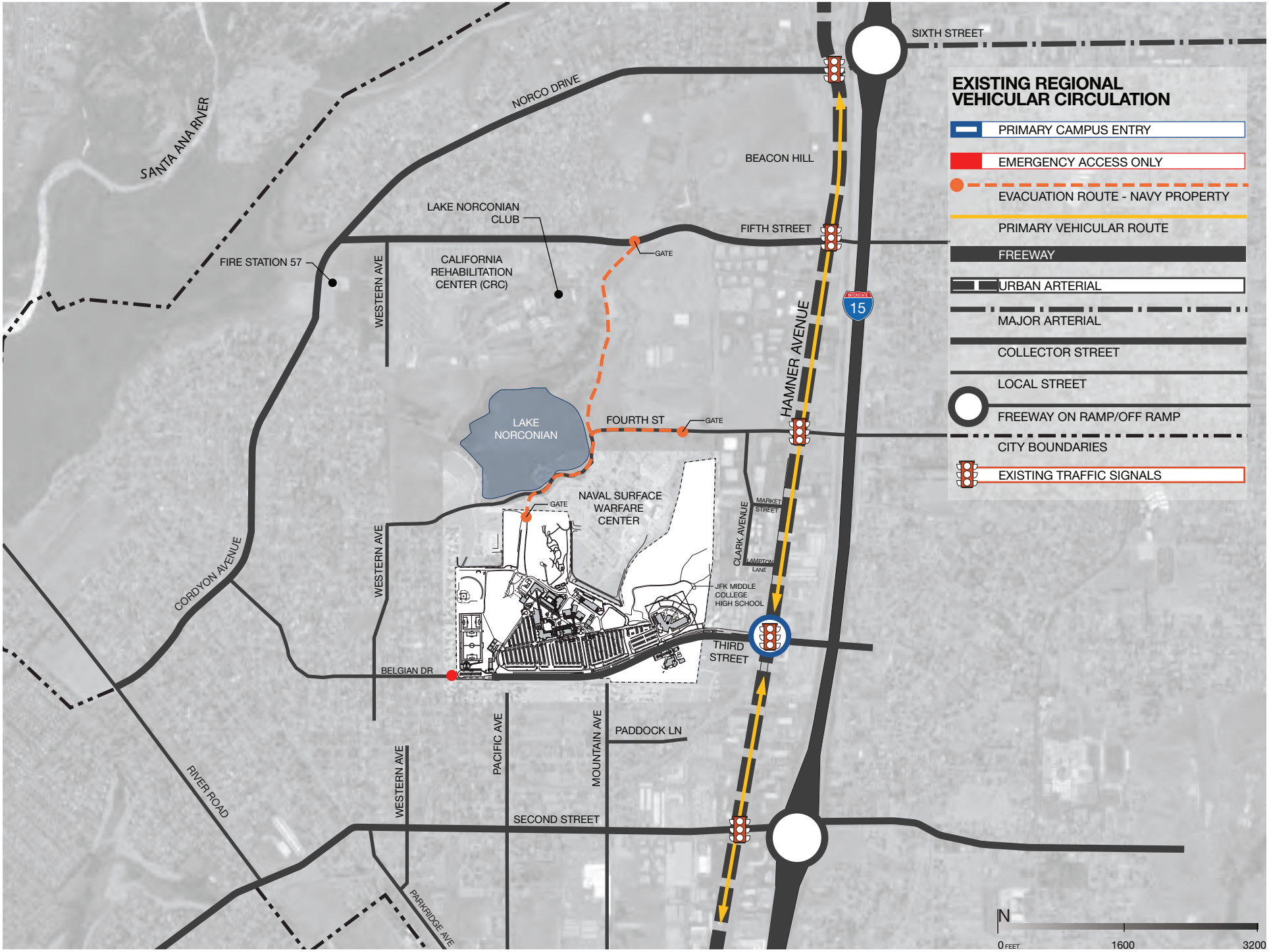
Riverside Freeway (SR-91):

State Route 91 is located approximately three miles south of Norco College. It provides regional east/west circulation within Orange County and the Riverside County areas. Hamner Avenue provides access to this freeway.

OBSERVATIONS

Traffic Signals:

- Currently, the only campus-related traffic signal is at Hamner and Third.
- There is a desire for additional traffic signals along Third Street to help mitigate traffic.


EXISTING REGIONAL VEHICULAR CIRCULATION
PRIMARY CAMPUS ENTRY
EMERGENCY ACCESS ONLY
EVACUATION ROUTE - NAVY PROPERTY
PRIMARY VEHICULAR ROUTE
FREEWAY
URBAN ARTERIAL
MAJOR ARTERIAL
COLLECTOR STREET
LOCAL STREET
FREEWAY ON RAMP/OFF RAMP
CITY BOUNDARIES
EXISTING TRAFFIC SIGNALS
SIXTH STREET
NORCO DRIVE
SANTA ANA RIVER
BEACON HILL
LAKE NORCONIAN CLUB
FIFTH STREET
GATE
FIRE STATION 57
WESTERN AVE
CALIFORNIA REHABILITATION CENTER (CRC)
HAMNER AVENUE
INTERSTATE 15
LAKE NORCONIAN
FOURTH ST
GATE
NAVAL SURFACE WARFARE CENTER
GATE
MARKET STREET
CLARK AVENUE
LAMSTON LANE
JFK MIDDLE COLLEGE HIGH SCHOOL
CORDYON AVENUE
WESTERN AVE
THIRD STREET
BELGIAN DR
PACIFIC AVE
MOUNTAIN AVE
PADDOCK LN
WESTERN AVE
RIVER ROAD
SECOND STREET
PARKRIDGE AVE
N
0 FEET
1600
3200

ANALYSIS

VEHICULAR CIRCULATION

Third Street:

Third Street is designated as a “collector” and currently provides the only means of accessing Norco College. It is a fully dedicated and improved street with four lanes of travel (two in each direction) within a right-of-way width of 88-foot and a curb to curb width of 64-foot and has a raised landscaped median island throughout most of its length and an equestrian/pedestrian trail on the south side.

It was originally planned to continue westerly through the adjoining residential zones and link with Cordyon Avenue. As described in the *Third Street Area Plan Environmental Impact Report* - March 1987, it would have transitioned to a 66-foot right-of-way through the neighborhood. However, the constructed right-of-way is not large enough to handle the volume of traffic and that resulted in terminating the street in a cul-de-sac with emergency access only at the westerly boundary of the campus property.

The district owns the full length of Third Street into the campus. In February 1990, the City of Norco approved a *Certificate of Acceptance of a Deed of Easement*. The referenced deed provides an “easement and right-of-way for: (1) ingress and egress; (2) equestrian and pedestrian access; and (3) the construction, reconstruction, maintenance, operation, inspection, repair, replacement, relocation, renewal, and removal of public utilities, wires, cables, conduits, storm sewers, sanitary sewers, and water pipe lines.”

Campus Drive:

The original plan, as documented in the *Third Street Area Plan Environmental Impact Report* - March 1987, included a 40-foot wide alternate access road from Fourth Street into the campus. It was assumed that this road would be constructed by 1995 when [Norco] College was expected to reach an enrollment of 12,000 students. This road was referred to as “Campus Drive.”

- However, the sensitive nature of testing currently being done at the Naval Surface Warfare Center precluded the construction of this route.

OBSERVATIONS

Signage + Wayfinding:

- The sign on Third Street near the Hamner intersection is too small and ineffective.
- There is a desire to purchase one or both corners on the west side of Hamner Avenue at Third Street for future Norco College monument signage

John F. Kennedy Middle College High School (JFK):

- Per *The RCC Norco Campus and John F. Kennedy High School Memorandum of Understanding* Agreement Points:
  - / The high school shall avoid mixing traffic with college students, although there is shared parking.
  - / As needed, the high school will acquire and grant to Norco College off-site easements or rights-of-way (including Campus Drive through Navy property) necessary for construction and operation of the campus.
  - / Norco College maintains the "joint use" roads.

Vehicular Congestion:

- At peak hours, traffic backs-up along Hamner Avenue in both directions.
- Traffic backs-up along Third Street, especially the right lane heading west which serves the high school during peak hours.
  - / Unfortunately, Third Street cannot be widened or the median removed to provide an additional lane that moves in either direction as needed.

Secondary Vehicular Access:

- A second entry to the site is critical.
- The original master plan indicated the creation of "Campus Drive" connecting from Fifth Street to Windy Way.
  - / Institutional memory recalls that this road was blocked because vibrations would interrupt instrumentation at the NSWC.

ANALYSIS

VEHICULAR CIRCULATION (CONT'D)

The graphic plan on the opposing page illustrates campus vehicular circulation patterns. Campus entry points and major vehicular circulation routes are shown along with areas allocated for parking, passenger loading, public transit stops, and designated high school vehicular circulation.

OBSERVATIONS (CONT'D)

Windy Way:

- This road is very congested.
- It functions as a primary vehicular entry and a primary service vehicle entry for Norco College and a primary entry to the high school.

College Way:

- Traffic backs up here between Mustang Circle and Kennedy Lane.
- Pedestrians cross here (between Mustang Circle and Windy Way) and this creates a number of safety concerns.
- Many people traverse across College Way from parking lot A.
- More curb cuts in this location were requested to support the use of wheeled carts and briefcases.

Service:

- Electric carts are the primary service vehicles and there is no designated cart parking.
- This is especially problematic along the sidewalk on the western edge of the CSS. The carts parked here block pedestrian and wheelchair circulation.

Public Transportation:

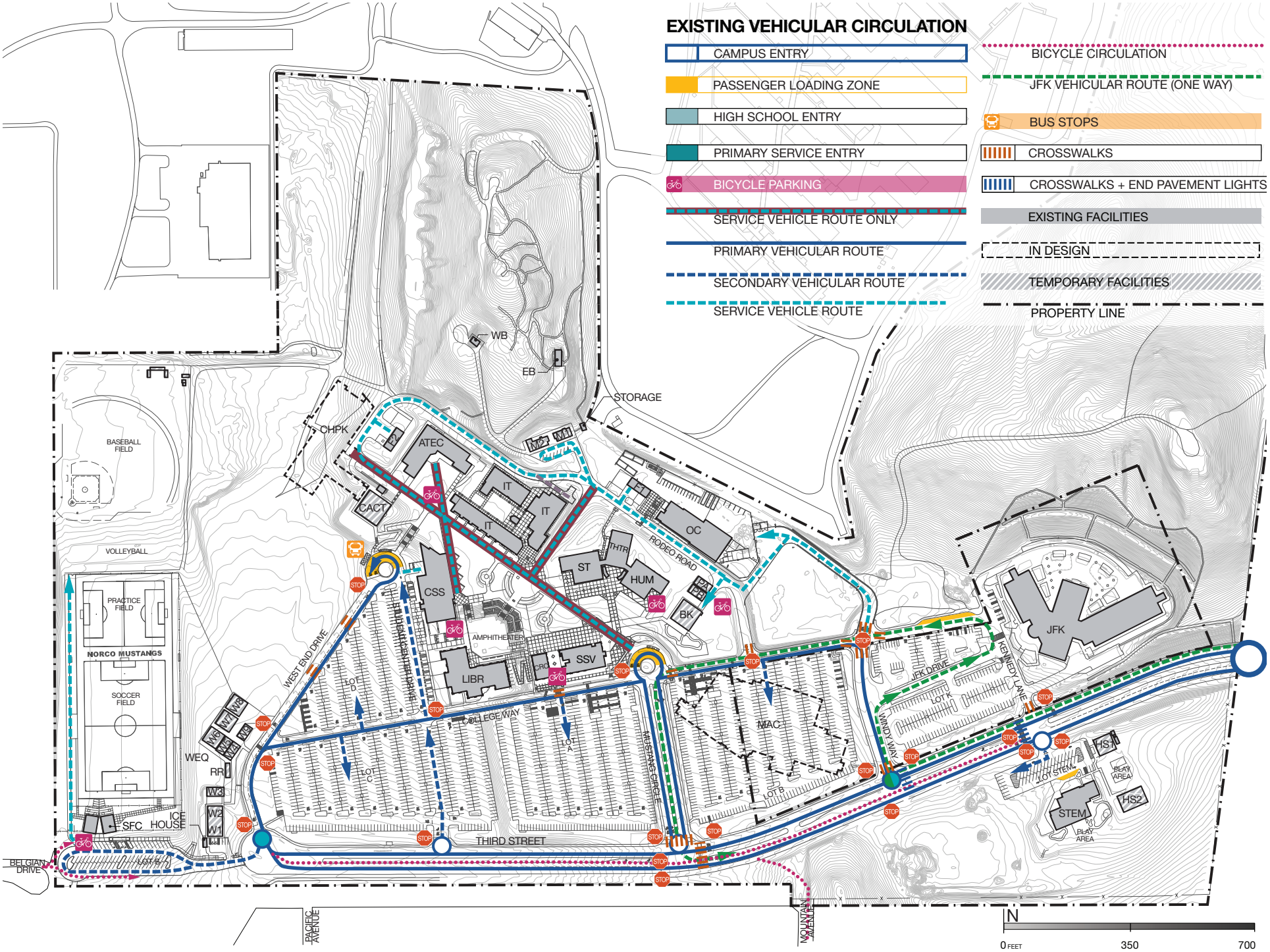
- The Riverside Transit Agency (RTA) provides fixed bus routes (Route 3) and dial-a-ride service within the City of Norco and other portions of Western Riverside County.
  - / Route 3 currently serves the entirety of the Norco College campus.

Bicycles:

- The City of Norco is considering the development of a separate bicycle transportation plan.
- Bicycles are allowed on horse trails.
- Bikes enter campus from the adjacent residential neighborhoods.
  - / Belgian Drive (special provisions were made to permit bicycle access throughout this subdivision due to its proximity to the campus).
  - / Mountain Avenue
- Additional bike parking is needed.

Passenger Loading Zones:

- The primary passenger loading zone is at Mustang Circle.
- Passenger loading/unloading occurs everywhere along College Way and in parking lot B.
  - / Vehicles waiting to pick up students are the larger problem.
  - / More, better configured, and dedicated passenger loading zones are needed.
  - / Loading/unloading lanes are preferred over circles.


EXISTING VEHICULAR CIRCULATION
CAMPUS ENTRY
PASSENGER LOADING ZONE
HIGH SCHOOL ENTRY
PRIMARY SERVICE ENTRY
BICYCLE PARKING
SERVICE VEHICLE ROUTE ONLY
PRIMARY VEHICULAR ROUTE
SECONDARY VEHICULAR ROUTE
SERVICE VEHICLE ROUTE
BICYCLE CIRCULATION
JFK VEHICULAR ROUTE (ONE WAY)
BUS STOPS
CROSSWALKS
CROSSWALKS + END PAVEMENT LIGHTS
EXISTING FACILITIES
IN DESIGN
TEMPORARY FACILITIES
PROPERTY LINE
WB
EB
STORAGE
CHPK
ATEC
M2
M1
IT
IT
IT
CACT
OC
RODEO ROAD
THTR
ST
HUM
CSS
BK
AMPHITHEATER
SSV
LIBR
BASEBALL FIELD
VOLLEYBALL
PRACTICE FIELD
NORCO MUSTANGS
SOCCER FIELD
SFC
ICE HOUSE
WEQ
RR
W1
W2
W3
W4
W5
W6
W7
W8
W9
WEST END DRIVE
LOT D
LOT C
LOT A
COLLEGE WAY
MUSTANG CIRCLE
THIRD STREET
MAC
LOT B
JFK
JFK DRIVE
KENNEDY LANE
WINDY WAY
LOT K
LOT STEM
HS1
HS2
PLAY AREA
STEM
PLAY AREA
BELGIAN DRIVE
LOT A
PACIFIC AVENUE
MOUNTAIN AVENUE
STOP
N
0 FEET
350
700

ANALYSIS

PARKING

The graphic plan on the opposing page highlights the existing parking areas on campus and lists the total number of parking spaces.

Additionally, the graphic illustrates that parking lot B is shared between Norco College and the high school.

The current total of 2,004 spaces relates to Norco College's current enrollment of 10,000 students and reflects a ratio of 1:5 (number of spaces to student enrollment). This ratio is within the typical standards for community colleges located in a suburban environment.

While the parking lots are filled during the first few weeks of each semester, the majority of the semester there is a sufficient amount of parking to support campus activity.

The projected enrollment growth identified in the *Planning Data* chapter will require additional spaces to be added in order to maintain or improve the current ratio.

OBSERVATIONS

General:

- All the parking lots are located on the south side of the campus = one-sided.
- Parking lot A fills up first, parking lot B second, parking lot D third, and parking lot C last.

Parking Pay Stations:

- There are four parking pay stations.
- Students block vehicular traffic in order to stop and buy a ticket from the stations in parking lots A and C.
  - / The problem is especially bad at parking lot A where traffic back-up into Mustang Circle.
  - / It was suggested that these stations be moved to the southern edge of the parking lots to alleviate the problem.
- There is no station in parking lot D.
- The location of the station in parking lot B works well.

Visitor Parking:

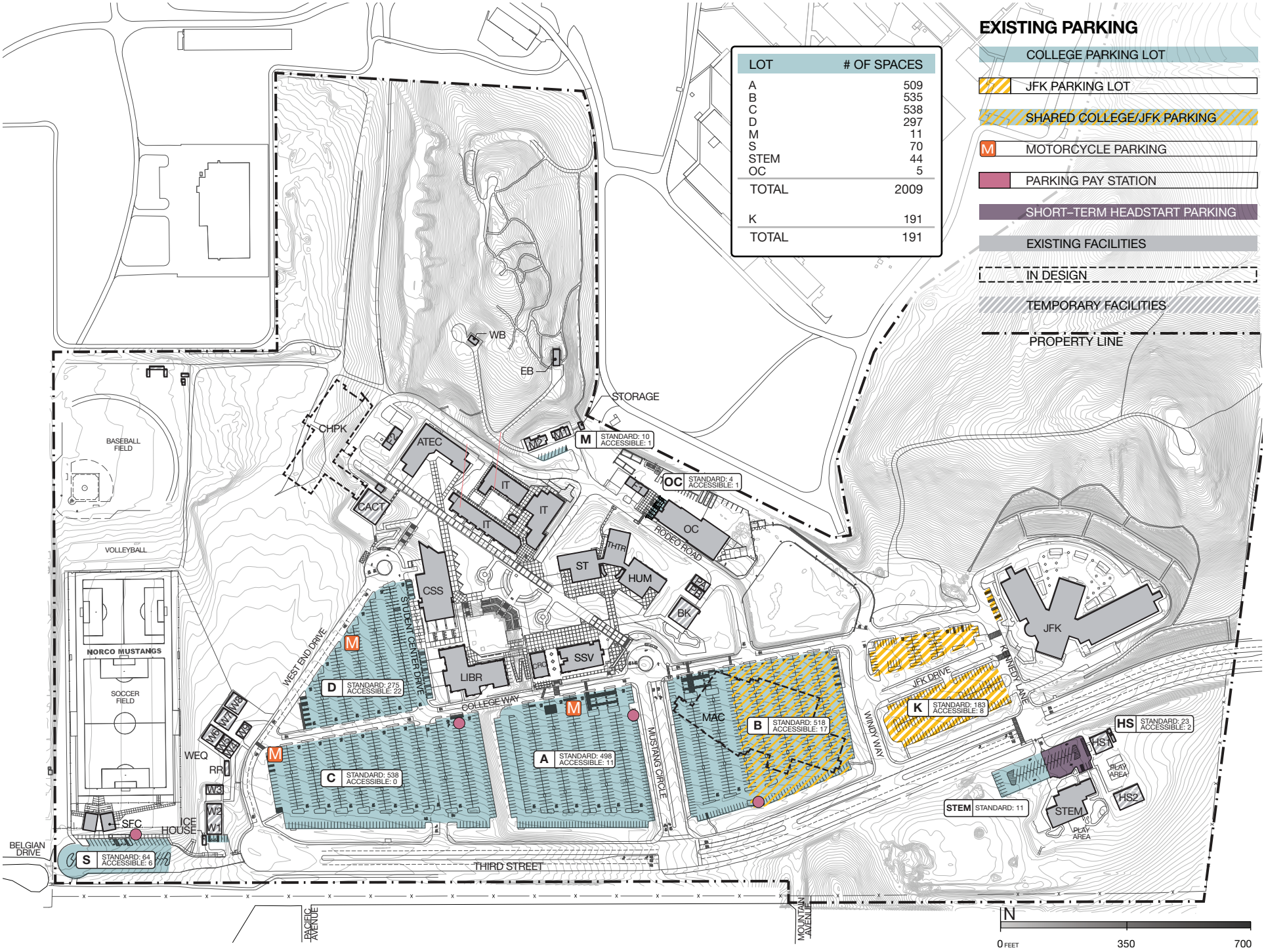
- There is no designated short-term visitor parking adjacent to the Student Services (SSV) building.
  - / This is especially a problem for first-time visitors.

Motorcycle Parking:

- There is not enough dedicated motorcycle parking.

John F. Kennedy Middle College High School (JFK):

- Per the *RCC Norco Campus and John F. Kennedy High School Memorandum of Understanding* Agreement Points:
  - / "Joint use" parking lots were constructed by the high school.
  - / Norco College maintains the joint use parking lots and shares the cost with the high school.


EXISTING PARKING
COLLEGE PARKING LOT
JFK PARKING LOT
SHARED COLLEGE/JFK PARKING
MOTORCYCLE PARKING
PARKING PAY STATION
SHORT–TERM HEADSTART PARKING
EXISTING FACILITIES
IN DESIGN
TEMPORARY FACILITIES
PROPERTY LINE
LOT # OF SPACES
A 509
B 535
C 538
D 297
M 11
S 70
STEM 44
OC 5
TOTAL 2009
K 191
TOTAL 191
WB
EB
STORAGE
CHPK
BASEBALL FIELD
VOLLEYBALL
NORCO MUSTANGS
SOCCER FIELD
ATEC
CACT
IT
IT
IT
M STANDARD: 10 ACCESSIBLE: 1
OC STANDARD: 4 ACCESSIBLE: 1
OC
RODEO ROAD
THTR
ST
HUM
CSS
BK
PA
JFK
KENNEDY LANE
JFK DRIVE
K STANDARD: 183 ACCESSIBLE: 8
WEST END DRIVE
STUDENT CENTER DRIVE
D STANDARD: 275 ACCESSIBLE: 22
LIBR
CRC
SSV
COLLEGE WAY
C STANDARD: 538 ACCESSIBLE: 0
A STANDARD: 498 ACCESSIBLE: 11
MUSTANG CIRCLE
MAC
B STANDARD: 518 ACCESSIBLE: 17
WINDY WAY
HS STANDARD: 23 ACCESSIBLE: 2
HS1
HS2
PLAY AREA
STEM STANDARD: 11
STEM
PLAY AREA
WEQ
RR
W1
W2
W3
W4
W5
W6
W7
W8
W9
SFC
ICE HOUSE
S STANDARD: 64 ACCESSIBLE: 6
BELGIAN DRIVE
THIRD STREET
PACIFIC AVENUE
MOUNTAIN AVENUE
N
0 FEET
350
700

ANALYSIS

EMERGENCY ACCESS

The graphic plan on the opposing page illustrates the emergency access options available to Norco College.

OBSERVATIONS

General:

- Fire trucks must have access to within 150 feet of all areas of all buildings on campus from two directions.
- Individual building projects have addressed emergency access independently.
- Currently, there is no consolidated emergency access plan for the campus.

Area of Safe Refuge:

- An area of safe refuge is ideally located a distance of two building heights from the adjacent building(s).
  - / The campus core is used for first phase refuge; however, it does not meet the requirements.
- The following areas are designated for safe refuge:
  - / Lawn area adjacent to main promenade.
  - / A portion of parking lot A.
  - / Landscape median between parking lot A and parking lot C.
  - / Parking lot D.
  - / Athletic Fields.
  - / Area adjacent to Rodeo Road.
- The campus currently faces issues with a safe area of refuge that is wheelchair accessible because of the campus topography.
  - / It was noted that outdoor basketball courts work well as an accessible area of safe refuge.

Local Jurisdiction:

- Currently the City of Norco Fire Department is transitioning fire and emergency services from its city department to contractual based services with the Riverside County Fire Department.
- There are two fire stations in the City of Norco.

Vehicular Entry:

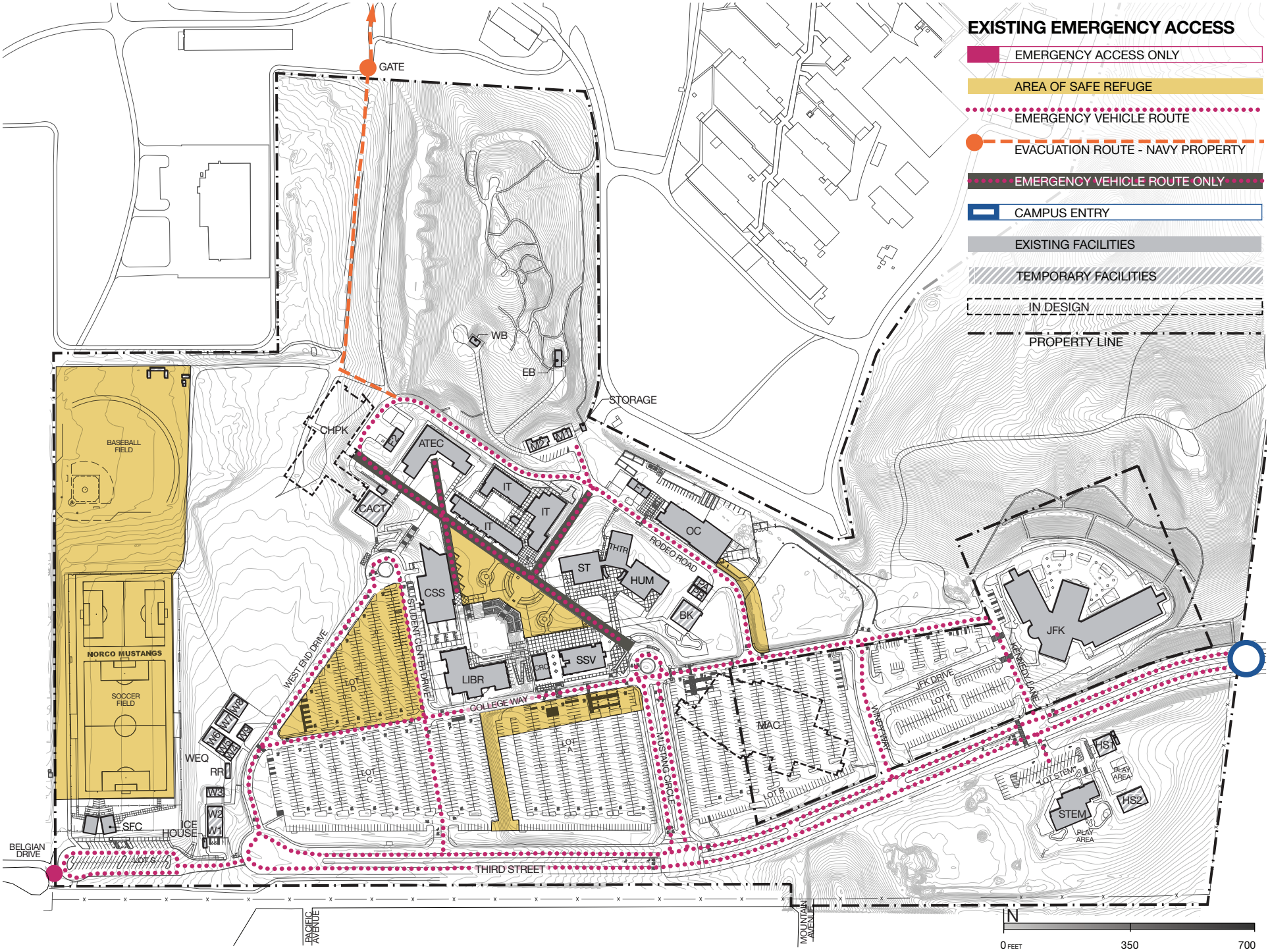
- An emergency vehicle access only gate has recently been installed at the far west end of campus at the junction between Third Street and Belgian Drive.

Emergency Preparedness:

- The Safety Committee is currently working on an updated emergency action plan for the campus.

Emergency Response Time:

- Currently, the traffic jams along Mustang Circle and Third Street negatively impact emergency response times.


EXISTING EMERGENCY ACCESS
EMERGENCY ACCESS ONLY
AREA OF SAFE REFUGE
EMERGENCY VEHICLE ROUTE
EVACUATION ROUTE - NAVY PROPERTY
EMERGENCY VEHICLE ROUTE ONLY
CAMPUS ENTRY
EXISTING FACILITIES
TEMPORARY FACILITIES
IN DESIGN
PROPERTY LINE
GATE
WB
EB
STORAGE
CHPK
BASEBALL FIELD
NORCO MUSTANGS
SOCCER FIELD
ATEC
CACT
IT
IT
IT
OC
THTR
ST
HUM
RODEO ROAD
CSS
STUDENT CENTER DRIVE
WEST END DRIVE
BK
LIBR
CRC
SSV
COLLEGE WAY
LOT D
LOT C
LOT A
MUSTANG CIRCLE
MAC
LOT B
JFK
KENNEDY LANE
JFK DRIVE
LOT K
INNER LOOP
LOT STEM
HS1
HS2
PLAY AREA
STEM
PLAY AREA
WEQ
RR
W3
W2
W1
SFC
ICE HOUSE
LOT S
BELGIAN DRIVE
THIRD STREET
PACIFIC AVENUE
MOUNTAIN AVENUE
N
0 FEET
350
700

ANALYSIS

PEDESTRIAN CIRCULATION

The graphic plan on the opposing page illustrates the pedestrian circulation patterns and student gathering areas.

OBSERVATIONS

General:

- There are limited spaces for students to gather.

Connection from main campus to STEM:

- Pedestrians and wheelchair users traverse along the sidewalks.
- A traffic signal at either Mustang Circle or Windy Way is greatly desired for safety, especially for the visually impaired.

Student Gathering Areas:

- The primary areas are:
  - / The rose garden "circle."
  - / The central half circle.
  - / The area adjacent to the Mustang Circle passenger loading zone and Student Services building.
  - / The outdoor plaza adjacent to the Center for Student Success (CSS) because it is both shaded and quiet.
- Shaded, comfortable outdoor seating is limited.

Bamboo Jungle:

- There is some concern over safety and security in this area due to the height of the bamboo.

Amphitheater:

- Originally built to seat 700.
- This area is hardly ever used because it is subject to intense solar exposure and winds.
- It is used for the Harvest Festival which is the largest event that the Associated Students Norco College (ASNC) host on campus and this event supports the entire community.

Smoking Areas:

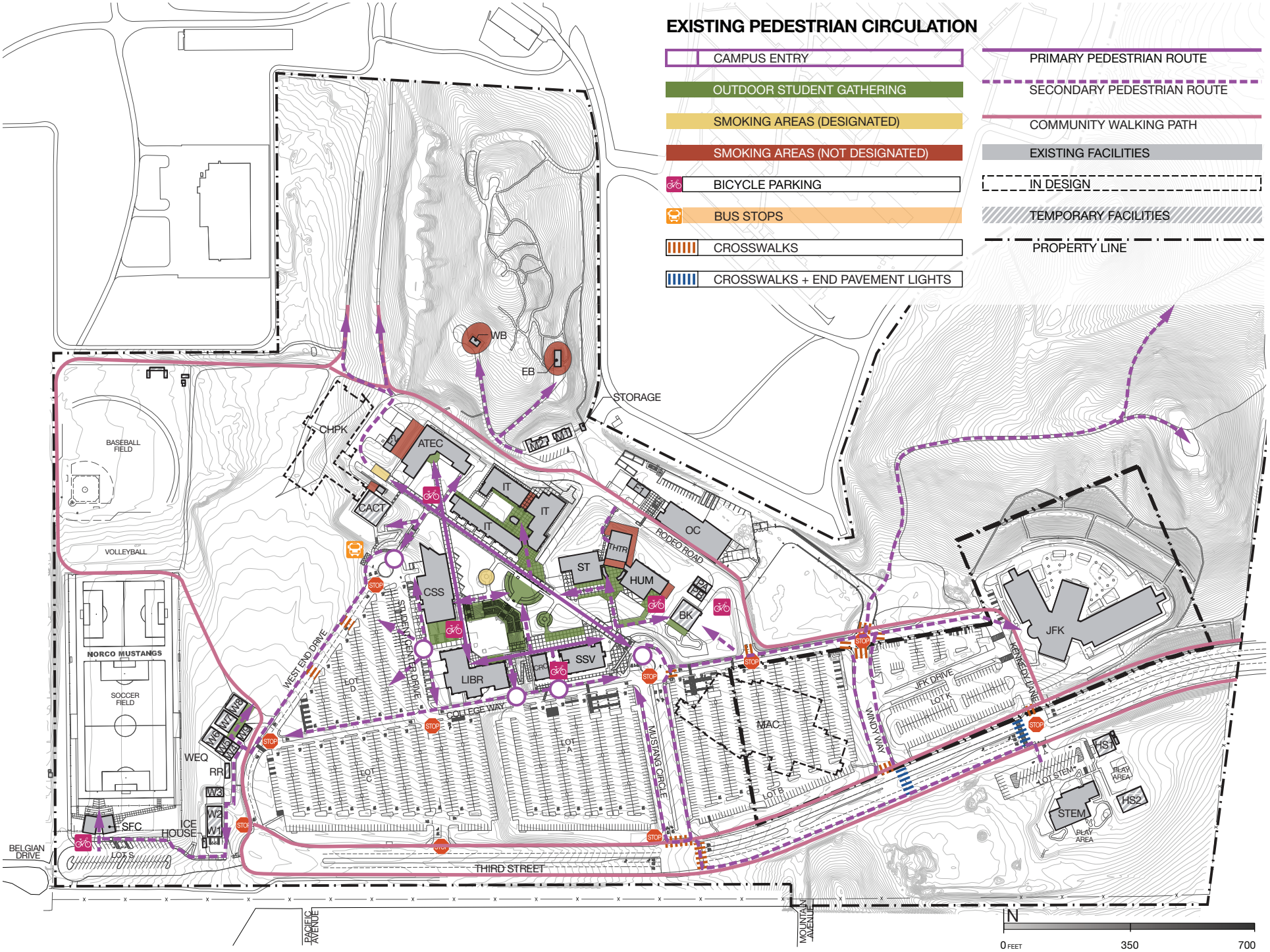
- The western "circle" that is a designated smoking area was once on the edge of the campus, now it is located in the central core of the campus.
- The westernmost smoking area adjacent to the Central Plant will be adjacent to the future Center for Human Performance + Kinesiology (CHPK) building.
- As the campus grows, either the smoking areas need to be relocated to the edges of the campus or eliminated.

Covered Walkways:

- Students congregate under the covered walkways at the Industrial Technology (IT) building and Library (LIBR) building.
  - / At the IT building the walkways are narrow and the groups of students block circulation.

Informal Circulation:

- Students often walk across grass areas where there are no sidewalks.
  - / It was suggested that these informal (diagonal) paths be paved.


EXISTING PEDESTRIAN CIRCULATION
CAMPUS ENTRY
OUTDOOR STUDENT GATHERING
SMOKING AREAS (DESIGNATED)
SMOKING AREAS (NOT DESIGNATED)
BICYCLE PARKING
BUS STOPS
CROSSWALKS
CROSSWALKS + END PAVEMENT LIGHTS
PRIMARY PEDESTRIAN ROUTE
SECONDARY PEDESTRIAN ROUTE
COMMUNITY WALKING PATH
EXISTING FACILITIES
IN DESIGN
TEMPORARY FACILITIES
PROPERTY LINE
WB
EB
STORAGE
CHPK
ATEC
CACT
IT
IT
IT
OC
RODEO ROAD
THTR
ST
HUM
BK
CSS
SSV
LIBR
JFK
JFK DRIVE
KENNEDY LANE
WINDY WAY
MAC
LOT K
LOT B
LOT A
LOT C
LOT D
LOT S
LOT STEM
HS1
HS2
STEM
PLAY AREA
PLAY AREA
BASEBALL FIELD
VOLLEYBALL
NORCO MUSTANGS
SOCCER FIELD
SFC
ICE HOUSE
WEQ
RR
W1
W2
W3
W4
W5
W6
W7
W8
W9
M1
M2
STUDENT CENTER DRIVE
WEST END DRIVE
COLLEGE WAY
MUSTANG CIRCLE
BELGIAN DRIVE
THIRD STREET
PACIFIC AVENUE
MOUNTAIN AVENUE
N
0 FEET
350
700

ANALYSIS

CAMPUS ZONING

OBSERVATIONS

General:

- Overall, the campus zoning is well-organized.

Student Services:

- Currently these services are dispersed in multiple buildings.
  - / There is a desire to consolidate all services in one location.
  - / Current space is not large enough to support a growth in student enrollment.
- The Financial Aid (FA) and Admissions + Records (A + R) Lobby is congested.
  - / A + R students line-up and FA students sit.
- Counseling has already outgrown their designated area.
- The newly remodeled Student Health Center is a significant improvement; however, the space is not large enough to support a growth in student enrollment and emergency access is not ideal.

Administration:

- It was noted that administrators and administrative functions need to be collocated.
  - / The Dean of Instruction is located separately in the Industrial Technology (IT) building.

Student Activities:

- Currently the amount of space is limited.

Science Technology Engineering + Mathematics (STEM) Center + Head Start (HS):

- Currently plans are underway to remodel the existing Early Childhood Education Center (ECEC) for use as a Science Technology Engineering + Mathematics (STEM) Center.
- The contract with Head Start is about to expire and the current plan is that HS1 will be removed and HS2 will be retained for use with STEM Center.

Library:

- There are many concerns about the size, functionality, and configuration of the Library:
  - / The space is congested and the aisles/corridors are too tight.
  - / A frequent concern/issue is that this space is too loud because sound leaks from the Learning Resource Center (LRC) below and the printers are out in the open.
  - / Another frequent complaint is that there are not enough computer stations.
    - This is the only campus location with unrestricted (open) computer access.
  - / There is not enough lounge seating.
  - / There are no group study rooms because the Instructional Media Center (IMC) is temporarily housed here.
  - / The lighting levels are too low and power and data connections are too few.

Learning Resource Center (LRC):

- Currently these functions are commingled with instructional classrooms.
  - / Ideally these classrooms would be located in the instructional zone of the campus.
- Some feel that the LRC functions are too noisy and should be collocated with student activity functions in the Center for Student Success.

Instructional Support:

- The newly renovated College Resource Center (CRC) houses a Mailroom/Workroom and a Faculty Lounge, which adjunct faculty use as a touch-down space.
  - / There are concerns with the configuration and restroom privacy.

Science:

- Science instruction is mostly consolidated.
- There is a desire that the physics labs be relocated to a future building that adequately addresses vibration control.

ANALYSIS

CAMPUS ZONING (CONT'D)

The graphic plan on the opposing page illustrates the functional zoning of the existing site and facilities. Colors indicate the current assigned functions and general zoning of uses.

OBSERVATIONS

John F. Kennedy Middle College High School (JFK):

- Norco College uses some of these facilities for overflow and night courses (Business, English, and Math).

West End Quad (WEQ):

- These portables are too remote and are disconnected from the core instructional zone of the campus.

Outdoor Classrooms:

- The archaeology classes use the open area north of the ATEC building. This same area is used for mock crime scenes.
- The new Water Demonstration Garden will be used for ecology and botany classes.
- The grass courtyard in the IT building has the potential to be used for ecology and botany classes.

Soccer Field Complex:

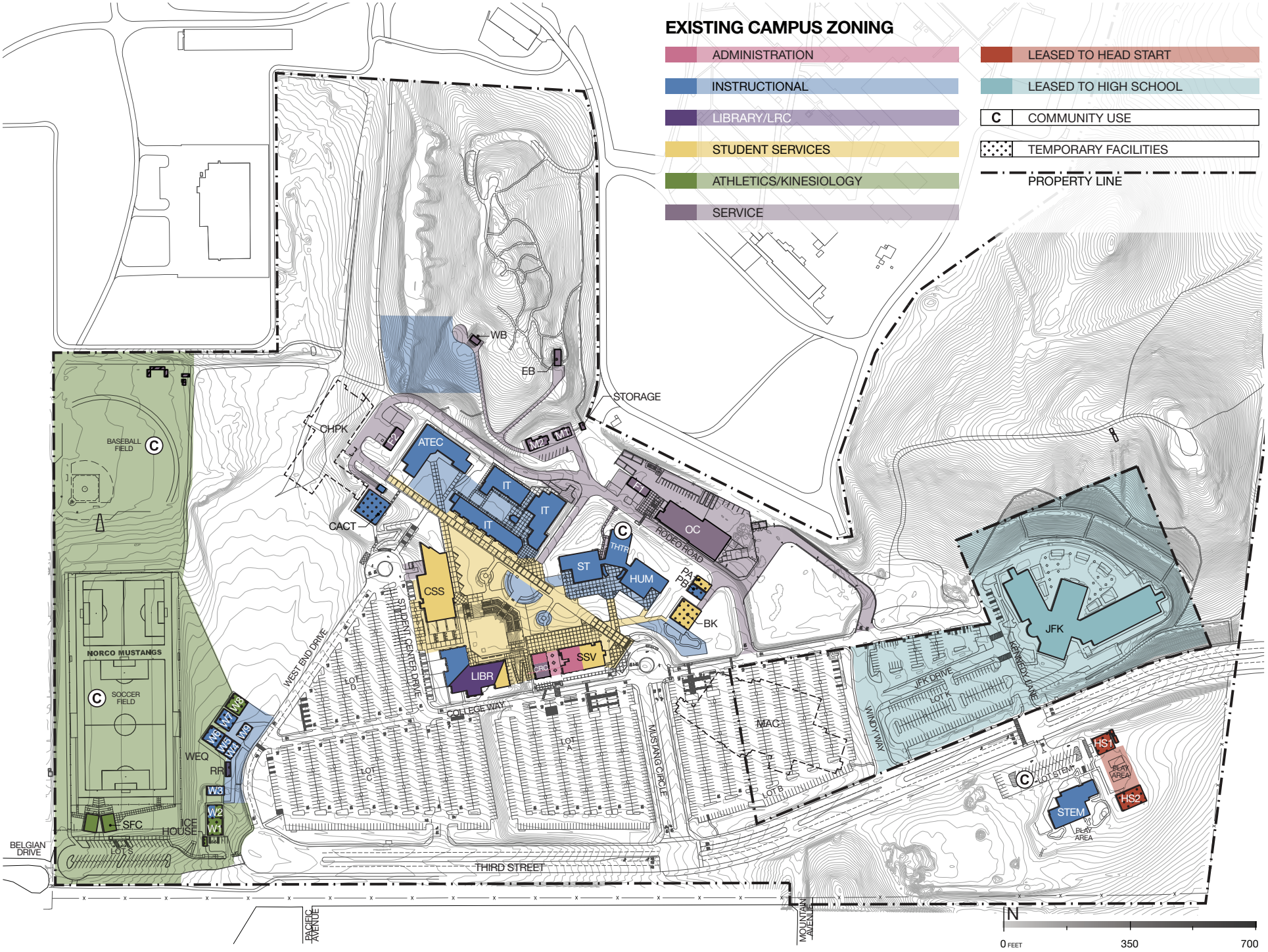
- This field is used by many:
  - / This field is rented out to the community.
  - / It is also used in the summer by Upward Bound, but they have no access to the locker rooms in the West End Quad.

Volleyball:

- The area north of the soccer fields once housed three sand volleyball courts.
  - / The standards remain; however, the rest of area has not been maintained.

Basketball:

- The Associated Students Norco College (ASNC) plans to fund a new outdoor basketball court(s).
  - / It was previously located on the east end of the Science + Technology building.
  - / A new location as the east edge of the amphitheater has been proposed.
  - / A long-term, permanent location adjacent to other sports facilities should be explored.


EXISTING CAMPUS ZONING
ADMINISTRATION
INSTRUCTIONAL
LIBRARY/LRC
STUDENT SERVICES
ATHLETICS/KINESIOLOGY
SERVICE
LEASED TO HEAD START
LEASED TO HIGH SCHOOL
C COMMUNITY USE
TEMPORARY FACILITIES
PROPERTY LINE
WB
EB
STORAGE
CHPK
ATEC
IT
IT
IT
CACT
OC
THTR
ST
HUM
CSS
PA
PB
BK
LIBR
SSV
GRC
BASEBALL FIELD
NORCO MUSTANGS
SOCCER FIELD
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SFC
ICE HOUSE
LOT S
BELGIAN DRIVE
WEST END DRIVE
STUDENT CENTER DRIVE
COLLEGE WAY
LOT D
LOT C
LOT A
MUSTANG CIRCLE
MAC
LOT B
RODEO ROAD
JFK
JFK DRIVE
LOT K
KENNEDY LANE
WINDY WAY
LOT STEM
HS1
HS2
PLAY AREA
STEM
PLAY AREA
THIRD STREET
PACIFIC AVENUE
MOUNTAIN AVENUE
N
0 FEET
350
700

ANALYSIS

LANDSCAPE TYPOLOGY

The graphic plan on the opposing page illustrates the existing landscape typology and zoning.

The existing campus landscape has a variety of planting typologies resulting from project-specific design plans that have not been coordinated on a campus-wide level. The resulting impact is an inconsistent landscape aesthetic throughout the campus and a "hodge-podge" of planting palettes and species. Recent projects appear to be developing a plant palette that takes into consideration the climate demands of the area and specifying species with medium to low water needs and maintenance requirements.

The campus can be categorized into two broad categories: developed and undeveloped areas. The developed areas are the spaces currently in use by Norco College and the high school and include the parking lots, the streetscapes, the campus core, the high school, and the sports fields. The remaining undeveloped areas include the previously graded vacant land, the community open space and trail to the south of Third Street, the two hill areas to the north of the site, and the remaining unoccupied areas.

OBSERVATIONS

The two areas can be further catalogued under the following landscape typologies:

Developed Areas:

- **Lawn Areas**: Much of the existing core of campus can be defined as lawn areas with some ornamental planters. These areas host most of the outdoor student activity and require ongoing maintenance and medium-high water demands.
- **Mixed Perimeter**: Much of the developed campus is a "hodge-podge" of trees, shrubs, and groundcovers tucked around the perimeter and backsides of the campus buildings. These areas require ongoing maintenance and lack a consistent design aesthetic.
- **Desert/Drought Tolerant**: Much of the landscape areas around the southern edge of campus, the parking lots, and the sport facilities are planted with desert/drought tolerant material with decomposed granite mulch and cobble areas. These areas demonstrate the use of excellent water saving species, but lack a consistent design aesthetic and include some inappropriate (water loving) species.
- **Demonstration Gardens**: Two gardens can be found on campus: the water demonstration garden adjacent to the Bookstore (BK) and a desertscape garden between the Applied Technology (ATEC) and Industrial Technology (IT) facilities. Both gardens demonstrate water saving techniques by using drought tolerant and/or native species.

Undeveloped Areas:

- **Vacant Ruderal**: These areas appear to be previously graded or disturbed land where ruderal species are present and create a wild bramble-like appearance.
- **Hillside Naturalized**: The hills are endemic to the area and can be characterized by round granite boulders and naturalized species of grasses. The hills are a dominant feature of the campus landscape and should be considered a valuable amenity.
- **Community Open Space**: A small area south of Third Street has been developed as a community open space. Native and drought tolerant species have been used in this area.
- **Erosion Control**: A small area above the high school has been planted to provide slope stabilization.

EXISTING LANDSCAPE TYPOLOGY

- EXISTING FACILITIES
- RECENTLY RENOVATED
- UNDER CONSTRUCTION
- TEMPORARY FACILITIES
- PARTIALLY RENOVATED
- IN DESIGN
- PROPERTY LINE
- VACANT RUDERAL
- HILLSIDE/NATURALIZED
- COMMUNITY OPEN SPACE
- EROSION CONTROL
- DESERT/ DROUGHT TOLERANT
- MIXED PERIMETER
- LAWN AREAS
- DEMONSTRATION GARDEN

N

0 FEET 450 900

ANALYSIS

SLOPE ANALYSIS + UNDERLYING GEOLOGY

The graphic plan on the opposing page illustrates the topographic profile of the existing campus.

SITE TOPOGRAPHY

Little of the campus is flat. Only the central core area and the playing fields are relatively flat; the rest of the site slopes either relatively steeply (greater than 25%) or in most areas, such as the existing parking lots, around 5%. Much of the property is relatively unavailable for development due to its extreme topographic profile

The site is defined by the two hillsides ("spurs") found at the north and northeast boundaries. The eastern high point sits above the high school campus and reaches a plateau with an elevation of approximately +754.00 feet above sea level. The east side of the property butts up against the west side of Norco's City Hall. Although a good portion of this area of the property is relatively flat, it is also relatively inaccessible due to the steeply sloping hillside, higher elevation, and significant distance from the core campus. The northern high point reaches an elevation of approximately +721.00 feet above sea level and creates an excellent vista over the campus and the adjacent landscape. The two hillsides slope steeply to moderately down to Norco College's core campus, which sits at approximately +638.00 feet above sea level, and toward the Naval Surface Warfare Center property to the north.

The existing core campus slopes slightly to the northwest with a significant grade change (approximately 17 feet) being retained by the current concrete amphitheater.

The existing parking lots slope south to southwest at approximately 5%—the steepest feasible grade for reasonable pedestrian use—to the sites low point (+600.10 feet above sea level) at the intersection of West End Drive and Third Street.

SITE GEOLOGY

According to the *Geotechnical Investigation, Proposed Student Services Center, Riverside Community College, Norco Campus, Norco, California, Prepared for Riverside Community College* - December 27, 2007, the site is located in an area of unnamed granitic hills adjacent to the southeastern portion of the Chino Valley. The Chino Valley and nearby hills form a portion of the Peninsular Ranges Geomorphic Province. The Province is characterized by northwest-trending mountains dissected by northwest-trending faults and is largely underlain by rocks of the Peninsular Ranges batholith and associated metasedimentary rocks. The batholith consists of granitic bedrock of variable composition that intruded and uplifted the former country rock. Most of the country rock was either assimilated into the granitic intrusions or was shouldered away and eroded during emplacement of the batholithic rocks.

As mapped by Morton and Gray (2002), the area of the site is underlain by (Qof) older alluvial fan deposits; however, the native materials are mantled by fill to depths up to 25 feet below the ground surface (bgs). The fill consists primarily of silty sand in dense to medium-dense states. The fill is underlain by native materials at depths between 12 and 25 feet bgs consisting of reddish brown silt and sandy clay in very stiff to hard states. The reddish brown color and lithology suggest that these native materials formed as a soil mantle on the underlying granitic bedrock at a at a depth of approximately 29 feet.

The *City of Norco Municipal Code Section 17.14.06* formula for dedication of land indicates that a typical acre of buildable land shall have a slope less than 10% and land graded within one tenth of a foot of finish graded pad.

EXISTING SLOPE ANALYSIS

- EXISTING FACILITIES
- IN DESIGN
- PROPERTY LINE
- SLOPE

720' OR ABOVE
715' OR ABOVE
710' OR ABOVE
705' OR ABOVE
700' OR ABOVE
695' OR ABOVE
690' OR ABOVE
685' OR ABOVE
680' OR ABOVE
675' OR ABOVE
670' OR ABOVE
665' OR ABOVE
660' OR ABOVE
655' OR ABOVE
650' OR ABOVE
645' OR ABOVE
640' OR ABOVE
635' OR ABOVE
630' OR ABOVE
625' OR ABOVE
620' OR ABOVE
615' OR ABOVE
610' OR ABOVE
605' OR ABOVE
600' OR ABOVE
595' OR ABOVE

ANALYSIS

STORM WATER INFRASTRUCTURE

The graphic plan on the opposing page illustrates the drainage direction and existing storm water infrastructure.

The regulation and management of storm and urban runoff water has changed dramatically over the last quarter century. Previously, the prevailing approach for most construction projects was to grade, construct impermeable surfaces, and provide drainage conveyances to remove rain and runoff from the development site, as rapidly as possible, to prevent water damage or flooding. The impacts from the resulting increased runoff flow volume and rate include: decreased infiltration and groundwater recharge; eroded stream beds; and polluted receiving waters, resulting in a loss of beneficial uses for those waters. As a result, the national regulatory policy has shifted towards reducing runoff pollution and encouraging storm water infiltration — particularly in Southern California where groundwater is often in scarce supply.

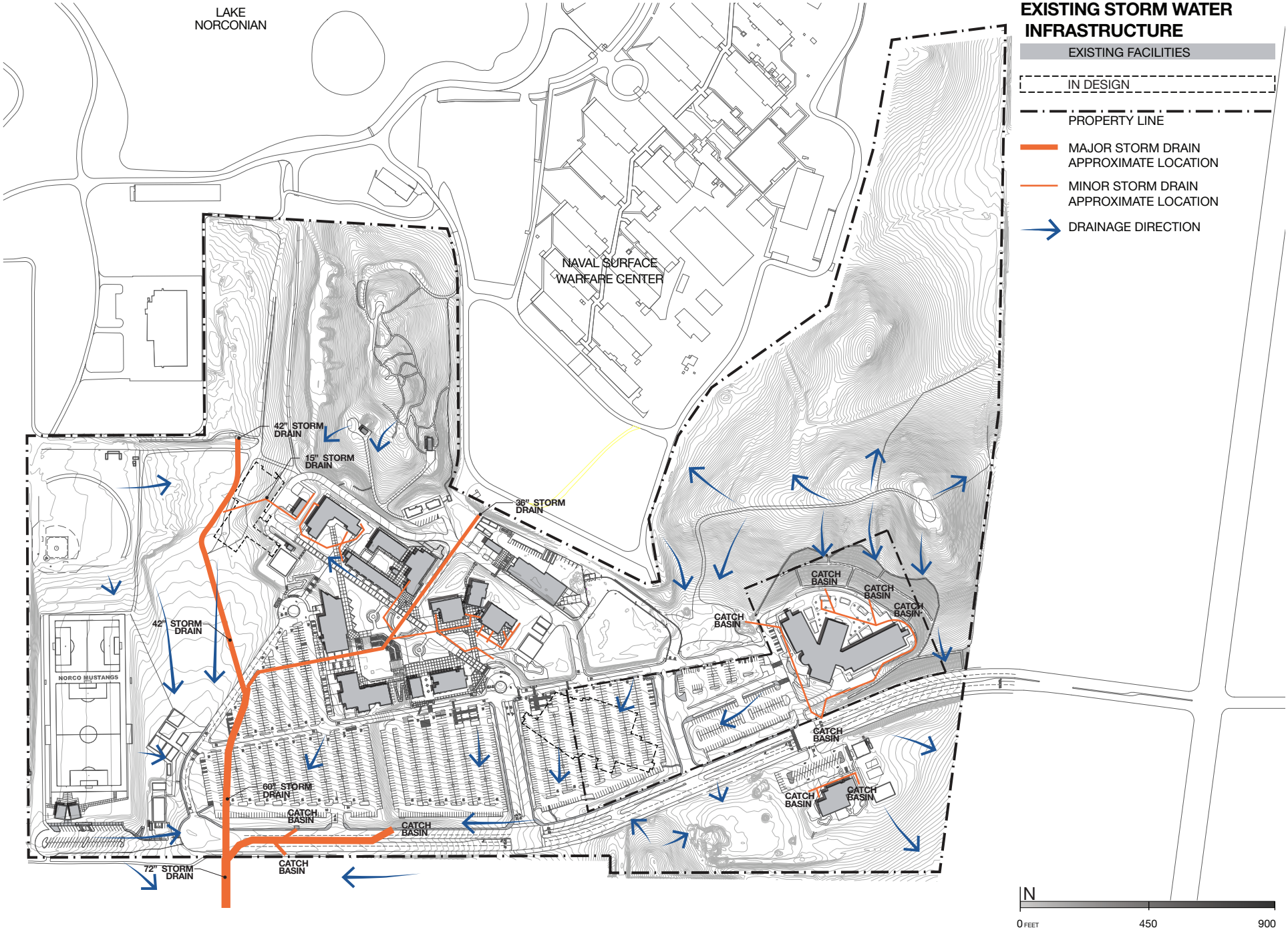
The recommended *Norco College 2013 Facilities Master Plan* construction projects would require a Construction General Permit for discharges of storm water associated with construction activity, which generally requires the inclusion of post-construction structural Best Management Practices (BMPs). Additionally, the City of Norco and Riverside County Flood Control and Water Conservation District are permittees under a 2010 Phase I MS4 Permit which mandates that new and redevelopment projects retain, infiltrate, or reuse the runoff from common (85th percentile) storm events, preferably on-site.

As outlined in the *2010 Norco Campus Infrastructure Upgrade Project: Utility Program*, the existing campus storm drain mainline system consists of a Riverside County Flood Control District mainline made of reinforced concrete pipe (RCP) that varies from 36-inch to 72-inch.

Historically, as outlined in the *1987 Third Street Area Plan: Environmental Impact Report for City of Norco and Riverside Community College District and Deane Homes*, the Norco site is a tributary to the North Norco Channel and the West Norco Channel. Flows at the time of the report were transmitted through the project area in natural streams to existing low points located at the south edge of the property. The report also highlights that Lake Norconian, a man-made lake found north of the site, would likely overtop the existing dams in a 100-year, 24-hour storm event and cause potential flooding.

OBSERVATIONS

- The current campus drainage is primarily a southwest surface flow towards Third Street.
- Off-site storm water from the north is captured upstream in a 42-inch County of Riverside maintained mainline, flows through the campus to a 72-inch outlet pipe, and continues in a pipe into the adjacent downstream residential neighborhood.
- Off-site storm water from the northeast is captured upstream in a 36-inch County of Riverside maintained mainline, flows through the campus to a 72-inch outlet pipe, and continues in a pipe into the adjacent downstream residential neighborhood.
- The campus building roofs and landscape areas are drained though a system of small (6”, 10”, and 12”) pipes and area drains that connect to one of the mainlines described above.
- A series of low-flow, water quality swales are provided in landscaped areas between buildings to provide water quality opportunities.
- The existing parking lots sheet flow to catch basins and then into the Third Street storm drain mainline.
- While no large storm water detention basins are provided on-site, small on-site detention is provided in the swale areas between buildings to treat roof drainage and storm water runoff. Treated storm water is recollected by areas drains and discharged into the County of Riverside mainline system.
- Large off-site detention basins exist upstream of the campus in two locations.
- Every effort should be made to maintain as much permeable area on campus and to create an adequate on-campus storm water management system that is both self reliant and integrated with the existing Norco Area Flood Control District’s storm water system.


LAKE
NORCONIAN
NAVAL SURFACE
WARFARE CENTER
42" STORM
DRAIN
15" STORM
DRAIN
36" STORM
DRAIN
42" STORM
DRAIN
NORCO MUSTANGS
60" STORM
DRAIN
CATCH
BASIN
CATCH
BASIN
72" STORM
DRAIN
CATCH
BASIN
CATCH
BASIN
CATCH
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BASIN
CATCH
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CATCH
BASIN
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CATCH
BASIN
EXISTING STORM WATER
INFRASTRUCTURE
EXISTING FACILITIES
IN DESIGN
PROPERTY LINE
MAJOR STORM DRAIN
APPROXIMATE LOCATION
MINOR STORM DRAIN
APPROXIMATE LOCATION
DRAINAGE DIRECTION
N
0 FEET
450
900


Husker
Pride

SUMMARY
ENVIRONMENTAL ANALYSIS

The environmental analysis for Norco College focused on existing climate data that relates to campus sustainability and for which information was available.

It is highly recommended that a more detailed study that explores water use, energy use, carbon footprint, waste, transportation, habitat, etc be performed as part of a subsequent implementation plan.

The following environmental analysis section includes the following:

- / Wind Patterns
- / Comfort Zone
- / Sky Cover Range
- / Solar Access

ENVIRONMENTAL ANALYSIS

WIND PATTERNS

The wind rose diagram on the opposing page depicts a depth of wind information, including wind direction, velocity, frequency, temperature and humidity. The wind rose is organized much like a compass. North, east, west, and south cardinal points are indicated along the circumference of the circle. These indicate wind direction. Frequency of wind is indicated in dark yellow; wind speed is indicated in orange; relative humidity of the wind is indicated in green; wind temperature is indicated in blue.

At Norco College, wind patterns shift along the seasons and across the course of the day.

WINTER

During the winter mornings, winds primarily come from the northeast direction, as indicated by the dark yellow bars of the wind rose. The wind direction then shifts during the winter noon hour, when winds tend to come from the north and west directions. These winds range from 15–20 miles per hour, with gusts as high as 35 miles per hour (as indicated by the orange cones in the center of the wind rose). These cool winds tend to have a relative humidity of 50%–70% and an average temperature that ranges between 30–70 degrees Fahrenheit. The winds tend to be significantly colder after 5 pm, with the temperatures getting as low as 30 degrees Fahrenheit.

SPRING

During the spring morning hours, winds tend to come from the east and west directions, and range between 5–15 miles per hour, with anomalous north wind gusts as high as 30 miles per hour. During the noon and evening hours, these winds shift directions, and tend to come from the west. These cool winds tend to have a relative humidity of 50% and an average temperature that ranges between 30–70 degrees Fahrenheit. This data also supports the use of natural ventilation during the spring, as these winds are not too cold, too warm, or too damp, but rather ideal for providing building occupants with a reliable source of cool comfortable air.

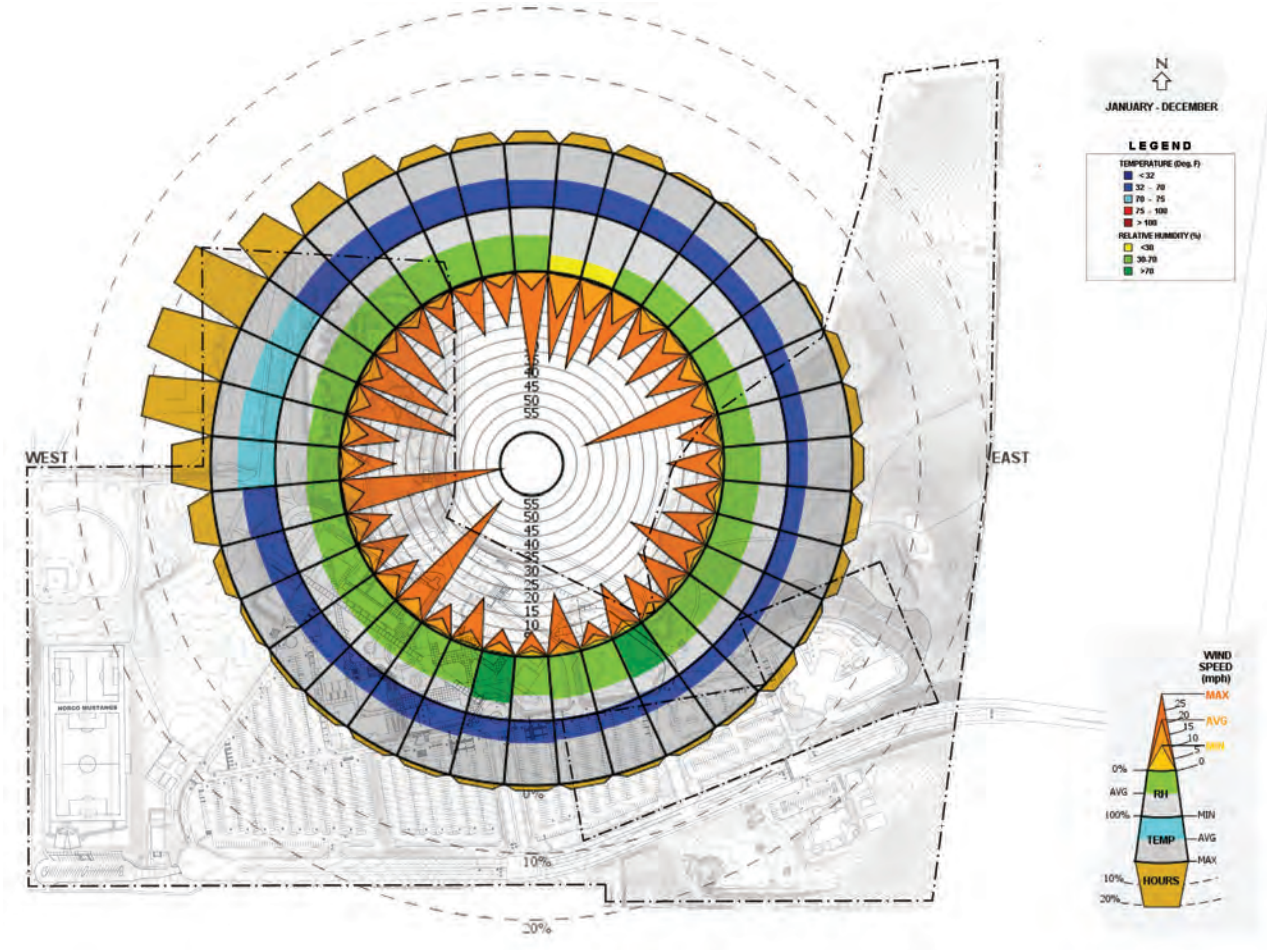
SUMMER + FALL

During the summer and fall seasons winds tend to come in from the west and range between 5–15 miles per hour, with anomalous wind gusts from the north as high as 35 miles per hour. However, these winds are significantly drier and warmer than in previous seasons, with a relative humidity of 30% and temperatures which range between 70–100 degrees Fahrenheit. These warm winds are fairly consistent throughout the summer and fall, and would work well in conjunction with water elements to provide evaporative cooling. Alternatively, these winds could also be used in conjunction with an indirect-direct evaporative cooling system, as the humidity levels are so low.

The consistency and velocity of the wind in this area warrants the consideration of wind turbine technology in order to provide a renewable source of energy for the campus.

It is recommended that all new building projects include a comprehensive wind study.

WIND ROSE DIAGRAM



ENVIRONMENTAL ANALYSIS

COMFORT ZONE

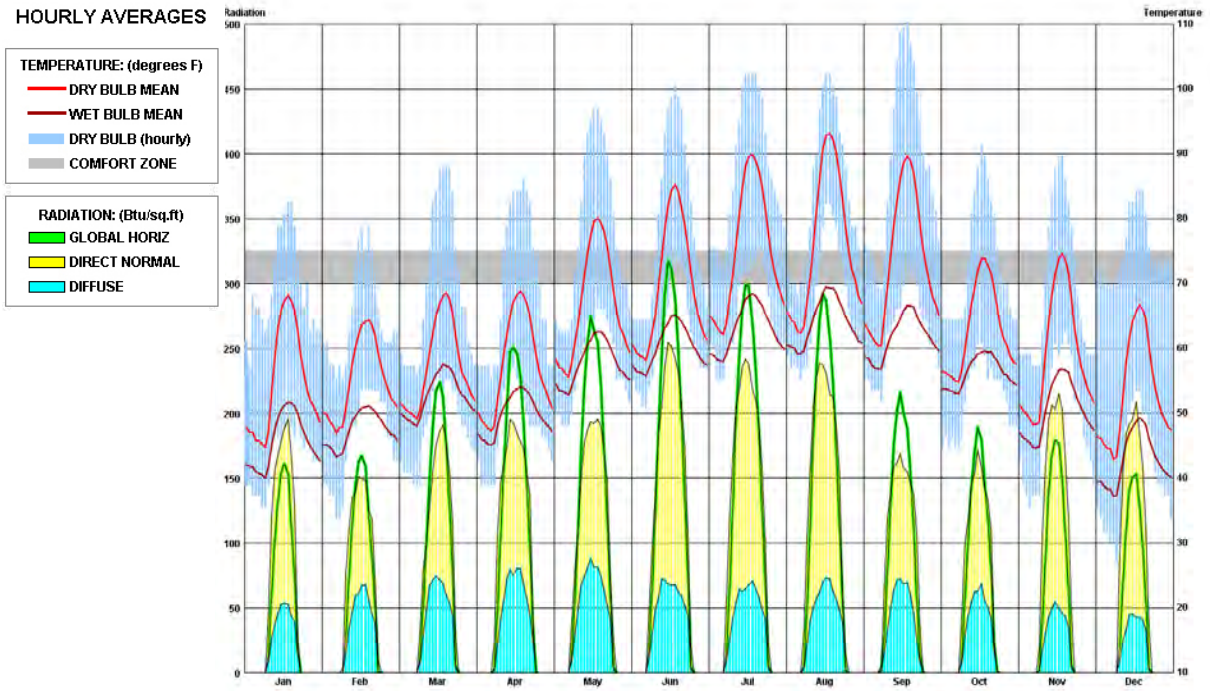
Norco's dry bulb temperature (indicated by the red line undulating up and down on the adjacent comfort zone diagram) varies throughout the course of the year relative to the comfort zone (indicated by the gray bar which moves across the grid and which marks a temperature range of 70–75 degrees Fahrenheit).

During the fall and winter seasons (November-February), temperatures tend to stay below the comfort zone, and range between 50–70 degrees Fahrenheit; however, they can dip as low as 40 degrees and can spike as high as 80 degrees.

During the spring and summer months (May-September), temperatures tend to stay well above the comfort zone, and range between 70–100 degrees, but can dip as low as 60 degrees and can spike as high as 110 degrees.

This temperature range is characteristic of the Norco-Riverside area and provides ideal conditions for solar passive design strategies such as night cooling and thermal mass. These strategies work with the latent heat properties of building materials such as concrete and masonry, solar orientation optimization (south facing buildings), and the surrounding earth mass to regulate building temperatures.

COMFORT ZONE DIAGRAM



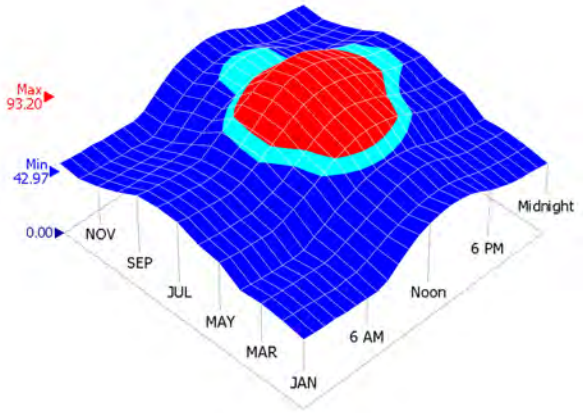
DRY BULB TEMPERATURE

75% of the year the temperature ranges between 32–70 degrees. The warmest time of year is between July-September. (75–100 degrees Fahrenheit). The warmest times of day are between 12 pm–2 pm, while the coldest times of day occur between 10 pm–6 am. These fluctuations in dry bulb temperature support the use of solar passive design strategies discussed in the previous section.

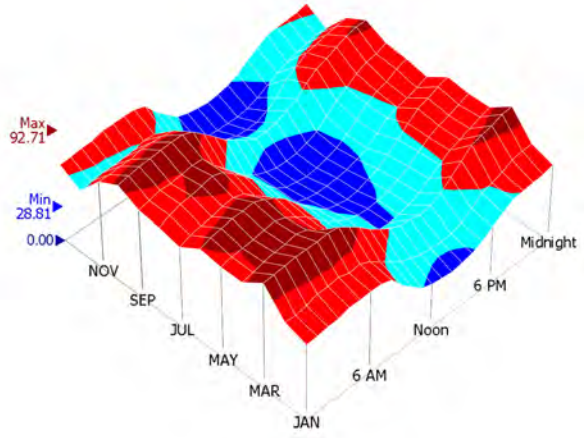
RELATIVE HUMIDITY

52% of the year relative humidity is 60% or greater; however, this occurs during the evening and early morning hours. For the majority of the day, the relative humidity is less than 50%. This humidity level again suggests that natural ventilation combined with water elements would be effective for natural, passive cooling. This data also suggests that a mechanical system such as an indirect-direct evaporative cooler would work effectively.

DRY BULB TEMPERATURE CHART



RELATIVE HUMIDITY CHART



ENVIRONMENTAL ANALYSIS

SKY COVER RANGE

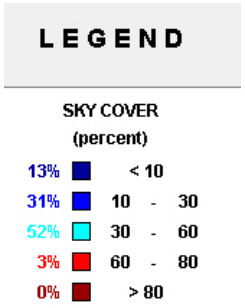
Norco receives plentiful solar exposure throughout the year, with an average of only 31% cloud cover. As illustrated in the graphic on the opposing page, from May-September cloud cover is consistently below 30%. In February, March and October, cloud cover increases to over 50% for part of the day.

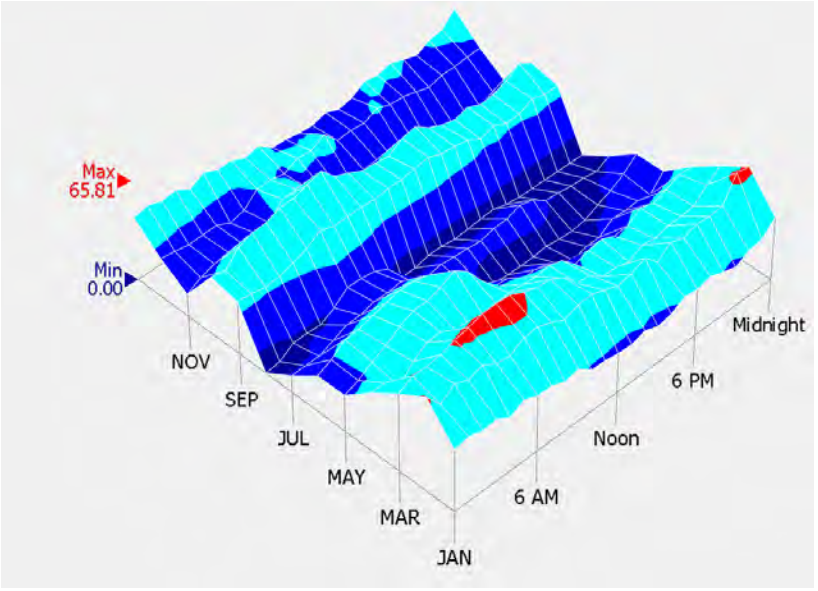
This data suggests that solar passive strategies such as sun shading design should be considered in order to invite sun into spaces when heating is required, and in order to deflect sun away from interior spaces when solar heat gains are not desired.

This data further suggests that solar passive strategies such as sun shading and light shelves will be critical to reduce direct sunlight and redirect direct sunlight. Finally, this data suggests that the solar based renewable energy systems may be a great choice since, most of the time, Norco has a clear sky. Further investigation about solar radiation intensity will determine the suitable location and orientation for this type of system.

It is recommended that all new building projects include a comprehensive solar study that analyzes sun shadows cast by new buildings and the amount of solar radiation on façades.

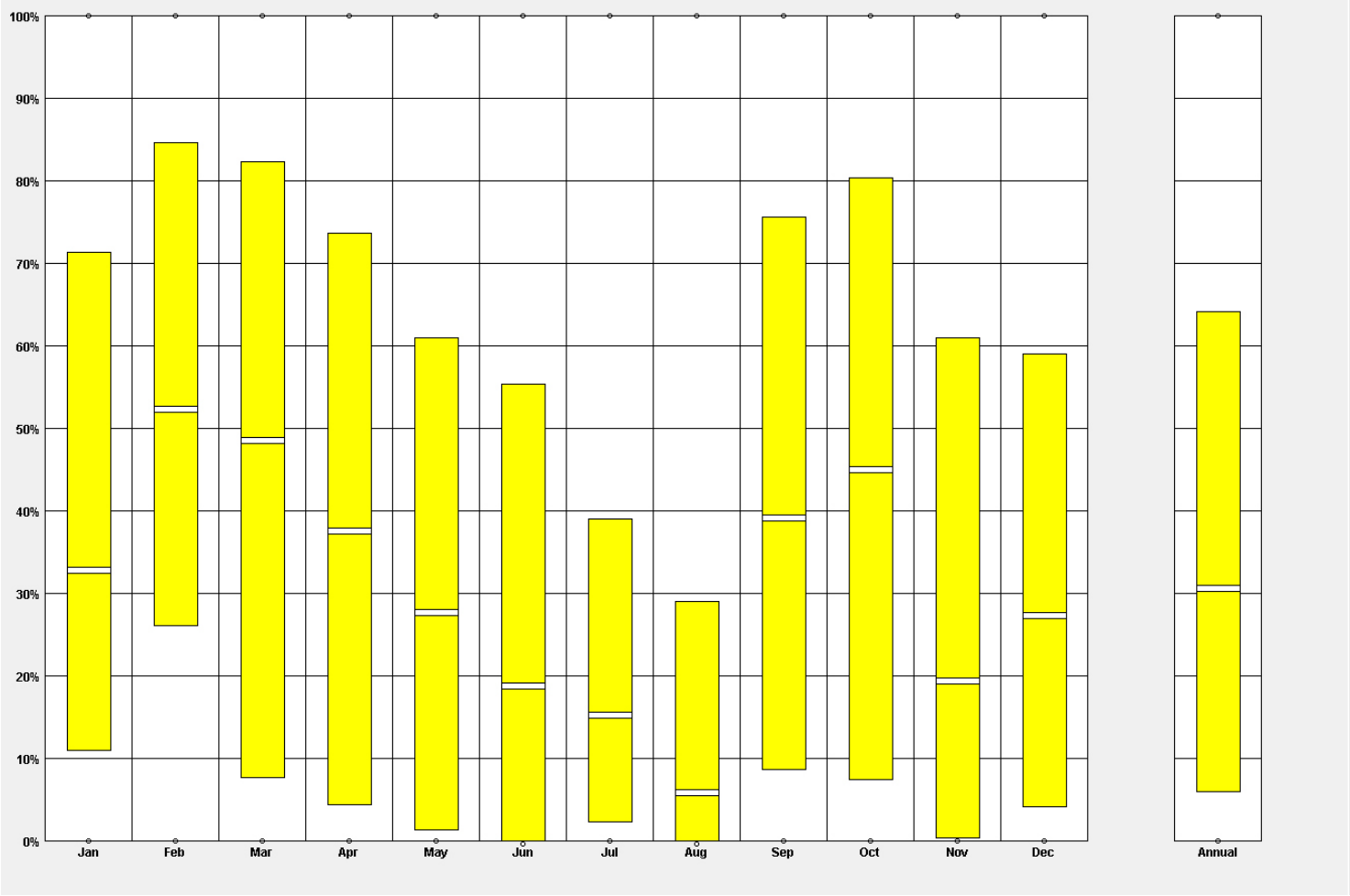
SKY COVER CHART





SKY COVER DIAGRAM

Total Cloud Cover	100%
RECORDED HIGH -	○
AVERAGE HIGH -	
MEAN -	
AVERAGE LOW -	
RECORDED LOW -	○
Clear Skies	0



ENVIRONMENTAL ANALYSIS

SOLAR ACCESS

SOLAR PASSIVE STRATEGIES FOR WARM MONTHS OF THE YEAR

The psychrometric chart on the opposing page graphically depicts potential passive strategies.

Norco's temperature profile, wind patterns, and solar exposure provide a unique opportunity to explore the implementation of solar passive strategies. According to climatic data imported into *Climate Consultant version 5.2 software,* strategies such as thermal mass, natural ventilation for cooling, and sun shading design would prove to be the most effective means of providing comfort. Combined, these strategies would provide comfort approximately 93.6% of the year.

Thermal Mass

Thermal mass is a passive solar strategy that uses the mass of the building to provide a consistent building temperature. For example, when outside temperatures are fluctuating throughout the day, a large thermal mass within the insulated envelope of a building can serve to regulate the daily temperature fluctuations. The thermal mass of the building will absorb the thermal energy of the external environment when the surroundings are higher in temperature than the mass. The thermal energy will then be radiated back to the environment when the surroundings are cooler. Building materials with significant thermal mass properties include concrete, masonry, insulated concrete forms (ICF) and structurally insulated metal panels (SIPS).

Natural Ventilation

By locating building openings and courtyards along natural wind paths, natural ventilation can provide building occupants with access to cooling breezes. By combining natural ventilation with a water feature such as a fountain or water misting fixtures, the effective cooling of the wind will increase significantly. This will result in less reliance on mechanical cooling, thus reducing the energy consumption of the campus as a whole.

Sun Shading of Windows + Insulated Glazing Units

Effective sun shading of windows that are specifically selected and designed for each façade orientation can significantly reduce the intensity of solar gains within a building. By implementing deep overhangs along the south façades of buildings and vertical fins along the east and west facades of buildings which are angled specifically to block out glare, natural daylighting can be achieved while deflecting direct solar exposure. Sun shading design combined with efficient insulated glazing units can substantially increase occupant comfort and building efficiency. Glazing units with a solar heat gain coefficient of 0.27 (low) and a visual transmittance of 63% (nearly clear) can provide occupants with access to views and daylight, while blocking out much of the solar radiation from the sun.

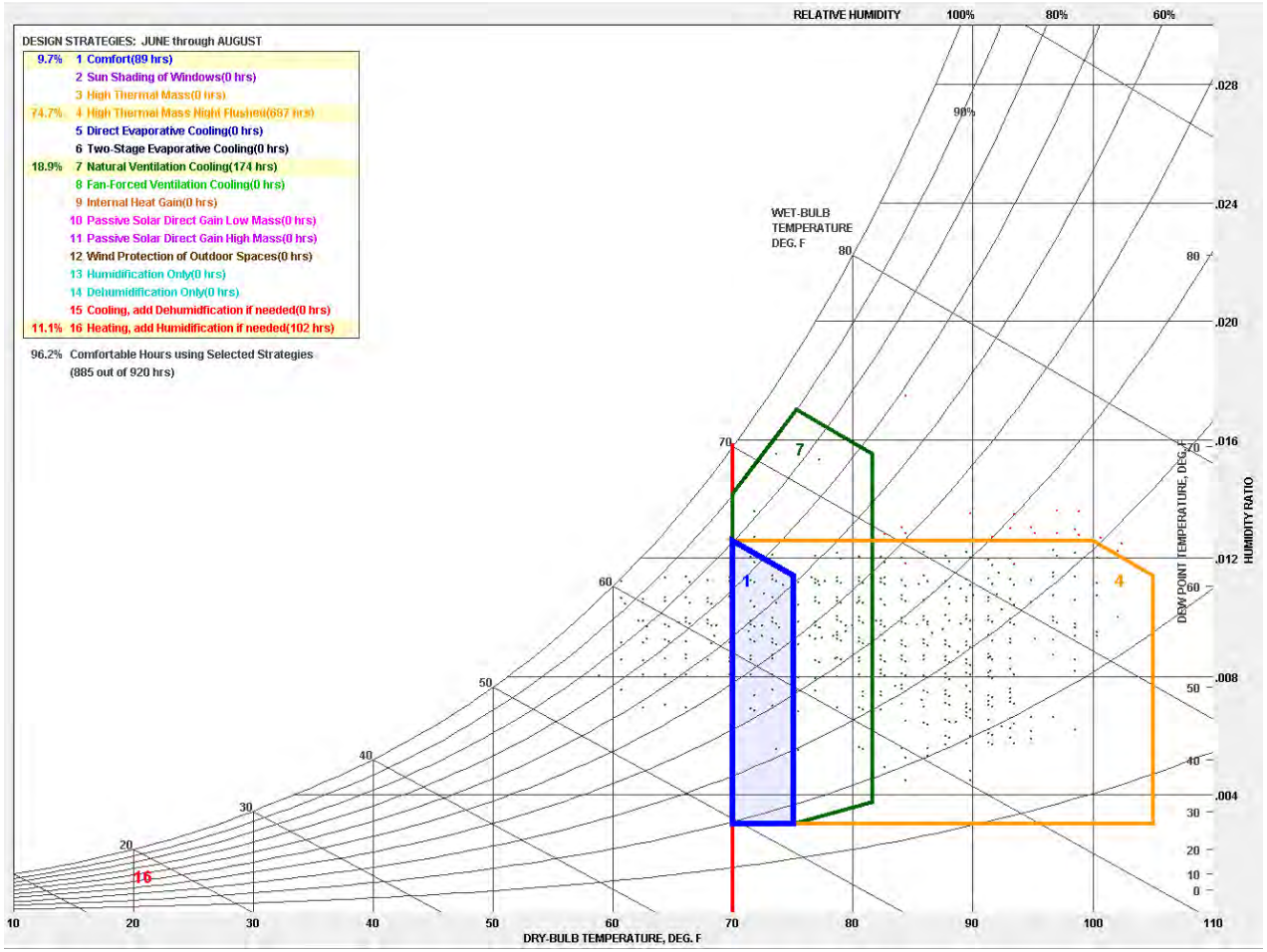
Building Insulation Optimization

Building efficiency can be optimized by designing tight building envelopes with R21 insulation in the walls, R30 insulation in the roof, high performance insulated glazing units with responsive sun shading devices, and cool roofs.

Mechanical Cooling

In order to maintain occupant comfort, some mechanical cooling will be necessary during the warmer months. As described in previous sections, an indirect-direct mechanical cooling system is recommended for consideration, due to the campus' low humidity levels. This system would provide effective and efficient evaporative cooling. However, by implementing the solar passive strategies described above, reliance upon any mechanical cooling system that is implemented will be decreased, and thus building energy performance will be optimized.

PSYCHROMETRIC CHART - SOLAR PASSIVE STRATEGIES FOR WARM MONTHS OF THE YEAR



ENVIRONMENTAL ANALYSIS

SOLAR ACCESS (CONT'D)

SOLAR PASSIVE STRATEGIES FOR COOL MONTHS OF THE YEAR

The psychrometric chart on the opposing page graphically depicts potential passive strategies.

According to climatic data imported into *Climate Consultant version 5.2 software,* solar passive strategies for cooler times of the year include thermal mass and building insulation optimization.

Thermal Mass

In winter, thermal mass in the floor or walls absorbs radiant heat from the sun through north, east and west-facing windows. The sun penetrates these windows and hits exposed thermal mass such as concrete floors. During the night, the heat is gradually released back into the room as the air temperature drops. This maintains a comfortable temperature for some time, reducing the need for supplementary heating during the early evening. Building materials with significant thermal mass properties include concrete, masonry, insulated concrete forms (ICF) and structurally insulated metal panels (SIPS).

Building Insulation Optimization

By designing tight building envelopes with R21 insulation in the walls, R30 insulation in the roof, high performance insulated glazing units, and responsive sun shading devices which allow the sun to penetrate interior spaces, building efficiency will be enhanced and reliance upon mechanical heating will be reduced.

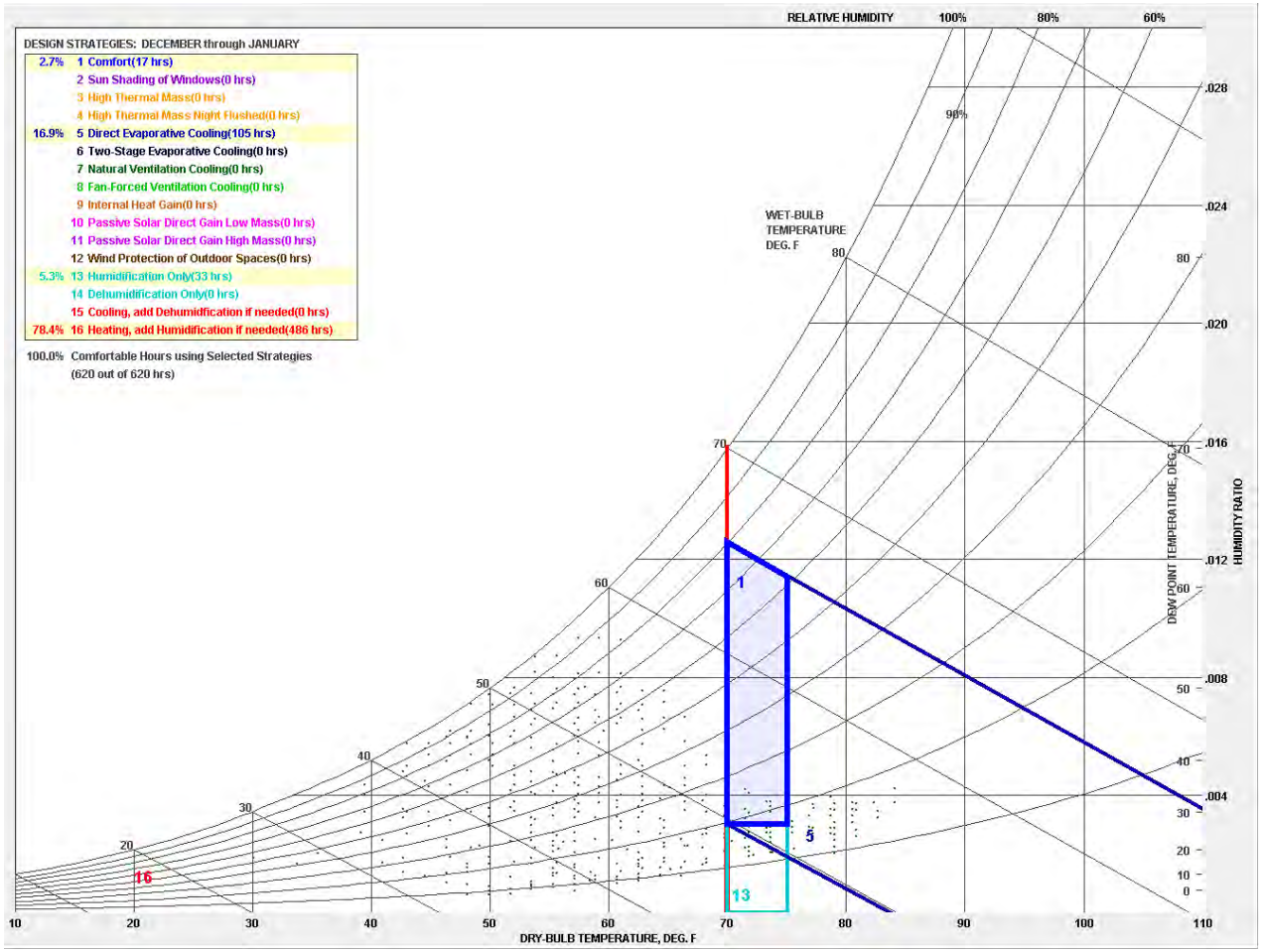
Mechanical Heating

In order to maintain occupant comfort, some mechanical heating will be necessary during the cooler months. However, by implementing the solar passive strategies described above, reliance upon mechanical heating will be decreased, and thus building energy performance will be optimized.

Summary

Exploration and implementation of the strategies outlined in this section supports Norco College's commitment to "environmental stewardship."

PSYCHROMETRIC CHART - SOLAR PASSIVE STRATEGIES FOR COOL MONTHS OF THE YEAR



SUMMARY OF

The Norco College campus presents advantages, opportunities, and challenges as noted on the previous pages. Many of these items were identified in the *2008 Long Range Facilities Master Plan*, are still true today, and were reiterated both during campus interviews and site tours.

To plan for the future, the *Norco College 2013 Facilities Master Plan (FMP)* must address the challenge to maximize its functional space and eliminate its non-functional space — focusing on the renovation of aging facilities that are not supporting effective learning environments and are costly to maintain and operate.

The FMP must address the needs of the projected student population by providing effective space for instruction, support services, parking, and public transportation access. Integrated with these challenges is the opportunity to enhance and complete the campus environment and knit its unique parts into a cohesive whole.

KEY CAMPUS PLANNING CHALLENGES

01 **Restricted Vehicular Access:** The single entry via Third Street limits campus growth and creates significant vehicular congestion and pedestrian conflicts. The originally planned Campus Drive has been delayed due to impacts on adjacent Naval Surface Warfare Center (NSWC) laboratory equipment.

02 **Wayfinding + Lack of Visual Identity:** Norco College currently lacks a strong collegiate identity in large part due to the confusing adjacency to the high school, which is located on key campus property closest to the Third Street entry, lack of monument signage with associated landscape and lighting, street frontage defined by parking lots, and the prevalence of temporary facilities. Visitors are often confused about where the Norco College campus is located.

03 **Character of Open Space:** The campus lacks a fluid, interconnected campus open space framework that supports campus life. The promenade feel and scale is that of a roadway, rather than a pedestrian walkway.

04 **Sloping Topography:** Relatively little of the property is flat, rather the site is characterized by its sloped areas and hillsides.

05 **Storm Water:** New requirements mandate that new projects retain, infiltrate, and reuse runoff from storm events.

06 **Gusty Winds:** The velocity of the winds flowing through the campus often renders outdoor space uncomfortable or unusable.

ANALYSIS

07 **Constrained Library Space:** The second floor location is inefficient, acoustically problematic, and growth restrictive.

08 **Underused Amphitheater:** The exposed location, proximity to the Library, and lower elevation in relation to the core campus is unaccommodating.

09 **Dispersed Student Services:** These services are currently located in the Student Services building, Library, Center for Student Success, and Portables A + B.

10 **Constrained Student Activity Space:** The relatively new student spaces in the Center for Student Success (CSS) are quickly being outgrown and the open building interior is acoustically problematic for staff working in the CSS. Indoor and outdoor space supporting active student life outside of the classroom is limited.

ANALYSIS

RECOMMENDED DEMOLITION/REMOVALS

During the planning process, the existing facilities were analyzed in order to determine recommendations for future development. The analysis included review of the existing buildings, their age, their systems, and the suitability of spaces to support the programs they house today and planned for the future.

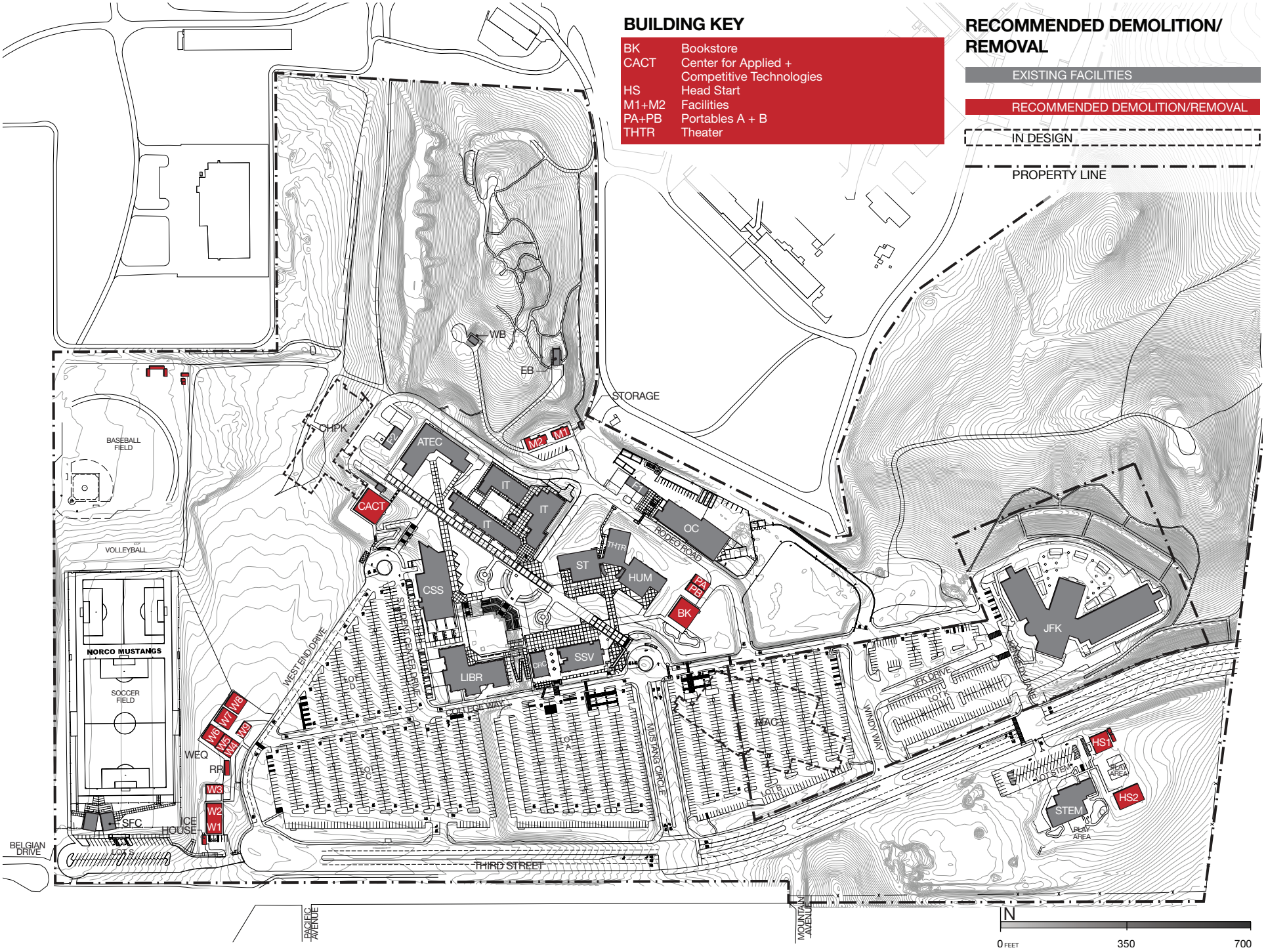
Since most of the permanent facilities date from the 1990s and later, they still have many years of useful life. At this time, only the temporary facilities are recommended for demolition/removal.

The demolition/removal of facilities clears the way to improve the use of campus land area. As programs, functions, and occupants move to new, renovated, or repurposed permanent facilities, temporary facilities will be demolished/removed.

The graphic plan on the opposing page highlights the recommendations for buildings to be demolished/ removed.

DEMOLITION/REMOVAL

- / Bookstore (BK)
- / Center for Applied + Competitive Technologies (CACT)
- / Facilities (M1 + M2)
- / Head Start (HS1 + HS2)
- / Ice House (IH)
- / Portables A + B (PA + PB)
- / West End Quad (WEQ)
- / Miscellaneous Storage Containers (Conix Boxes)


BUILDING KEY
BK Bookstore
CACT Center for Applied + Competitive Technologies
HS Head Start
M1+M2 Facilities
PA+PB Portables A + B
THTR Theater
RECOMMENDED DEMOLITION/ REMOVAL
EXISTING FACILITIES
RECOMMENDED DEMOLITION/REMOVAL
IN DESIGN
PROPERTY LINE
WB
EB
STORAGE
CHPK
BASEBALL FIELD
VOLLEYBALL
NORCO MUSTANGS
SOCCER FIELD
ATEC
IT
IT
IT
CACT
M2
M1
OC
RODEO ROAD
THTR
ST
HUM
CSS
PA
PB
BK
JFK
SSV
LIBR
SRC
STUDENT CENTER DRIVE
WEST END DRIVE
COLLEGE WAY
LOT C
LOT A
MUSTANG CIRCLE
MAC
LOT B
JFK DRIVE
LOT K
WINDY WAY
LOT L
LOT M
HS1
HS2
PLAY AREA
STEM
PLAY AREA
W6
W7
W8
W4
W5
W9
WEQ
RR
W3
W2
W1
SFC
ICE HOUSE
LOT S
BELGIAN DRIVE
THIRD STREET
PACIFIC AVENUE
MOUNTAIN AVENUE
N
0 FEET
350
700

"Today's students tomorrow's leaders."

Recommendations

OVERVIEW

Norco College takes pride in its regional context and connection to the local community. The campus culture is one of collaboration, transparency, and innovation. One of the primary aims of the *Norco College 2013 Facilities Master Plan (FMP)* was to embrace these values and create a collegiate campus environment evocative of Norco College's unique context and culture.

The recommendations build upon the character and structure of the campus while reinforcing the innovative concepts that underlie the design of recent buildings and those currently in planning. Collectively the recommendations strengthen Norco College's identity and its institutional presence within the community.

The FMP recommendations translate the educational planning needs and the identified campus issues into a series of facilities and site recommendations. The recommendations are included in this section and are described in the following subsections:

While drawings presented in this section appear specific, the forms are conceptual sketches that highlight the location and purpose of improvements. The final design of each site and facility project will take place as projects are funded and detailed programming and design occurs.

FACILITIES PLANNING PRINCIPLES

DEVELOPMENT CONCEPTS

- / Inspiration
- / Intersections
- / Connectivity

FACILITIES RECOMMENDATIONS

- / Summary
- / 2013 Facilities Master Plan
- / New Facilities
- / Renovations
- / Repurposing

SITE IMPROVEMENT RECOMMENDATIONS

- / Summary
- / Objectives
- / Recommendations
- / Landscape Guidelines
- / Site Improvement Projects

RECOMMENDED PROPERTY ACQUISITION

LOOKING AHEAD

FACILITIES PLANNING PRINCIPLES

The FMP recommendations for Norco College present a model based on the data presented in the *Planning Data* chapter and address the needs of master plan horizons 1 + 2.

The visioning discussion and "measures of success" that were established at the inception of the process were translated through dialogue with the Business + Facilities Planning Council (BFPC) into a series of facilities planning principles used to guide discussions and inspire the development of the recommendations. The following is a summary of the principles:

MAXIMIZE FUNCTIONAL SPACE

- Improve functional zoning and operational efficiencies.
- Improve instructional space to support effective learning environments.
- Provide robust technology and utility infrastructure systems.
- Address maintenance needs.

ELIMINATE NON-FUNCTIONAL SPACE

- Replace temporary facilities with permanent space.
- Replace aged and poorly functioning facilities.

IMPROVE EFFICIENCY/UTILIZATION OF SITE + FACILITIES

- Maximize land use.
- Cluster related programs and services.
- Develop flexible, multi-purpose facilities to adapt over time.

RIGHT-SIZE THE CAMPUS TO ADDRESS PROGRAM NEEDS

- Align the projected space inventory with state guidelines.
- Position Norco College to maximize federal, state, and local funding.

ENHANCE THE COLLEGIAL LEARNING ENVIRONMENT

- Provide comfortable, shaded gathering spaces for students.
- Provide outdoor and indoor zones that facilitate collegial collaboration and learning.
- Improve campus landscape, wayfinding, and identity.
- Deepen connection to the community.
- Preserve qualities of inclusivity and welcomeness.

SUPPORT STUDENT LEARNING + SUCCESS BY STRENGTHENING THE CAMPUS ENVIRONMENT

- Support learning anywhere, anytime, anyplace.
- Increase access to services.
- Align facilities with college priorities for instructional and support services.
- Design to support collaboration and active learning.

INCORPORATE DISTRICT DESIGN GUIDELINES

- Incorporate Universal Design (UD) principles.
- Consider campus climate conditions, plan for comfort, and employ sustainable design practices.
- Integrate Crime Prevention Through Environmental Design (CPTED) guidelines.
- Ensure that all future projects are compatible with requirements of the FUSION + GIS + ONUMA system.

IMPROVE CAMPUS IDENTITY, CONNECTIONS + CIRCULATION

- Develop campus edges and identity.
- Define multiple clear, inviting campus entry points.
- Promote clear and safe vehicular movement and passenger loading zones.
- Locate appropriate amount of parking in best locations.
- Develop clear, intuitive pathways.

SIMPLIFY IMPLEMENTATION

- Limit disruption to campus and programs.
- Reduce swing space costs.
- Reduce number of temporary moves.

INSPIRATION

"NORCO, THE VALE OF DREAMS COME TRUE"

This phrase greeted readers of the Los Angeles Times on April 26, 1923. Norco was developer Rex Clark's vision of a utopian settlement of independent farmers reaping the rewards of their hard work on small farms and ranches. Clark saw Norco as a refuge for city dwellers—no boss, no commute, no postage stamp-sized apartment—just fresh air and the satisfaction of making your own way in the world.

DEVELOPMENT CONCEPTS:

The planning team began the concept development process by asking a series of internal questions:

- What are the regional features that express Norco's unique identity and whose relationship can form the framework for the future development of Norco College?
- As defined in the *City of Norco General Plan: Open Space Element* – June 1989, how do the "three underlying themes that constitute the vital forces of the Norco community—Rural Town, Spirit of Place, and Equestrian Community"—apply to Norco College?
- What are the possibilities for integrating campus outdoor space and circulation areas with the larger matrix of Norco's greenspace plan?
- How can Norco College inspire the community and promote local environmental awareness?

As stated in the *City of Norco General Plan: Conservation Element* – June 1989, "the City of Norco is a mixture of small plot agriculture, commercial and industrial development, along with several natural areas containing biological habitats." Furthermore, Norco identifies itself as a place of openness and freedom, where there is a deeply felt connection to the land and its natural character, and they pride themselves on their equestrian character and awareness of, and relationship with, their surroundings. These attributes extend to Norco College and form the larger framework for campus development.

RIVER

The Santa Ana River, which is the largest river in Southern California, forms the northern boundary of the City of Norco. This five-mile stretch of the river is one of the most natural and allows the river to course in a semi-wild state.

The river has played—and plays—a major role in shaping the regional environment. The proximity of the river to the campus presents an opportunity for both an ecological and community linkage to this natural riparian environment.

HILLS

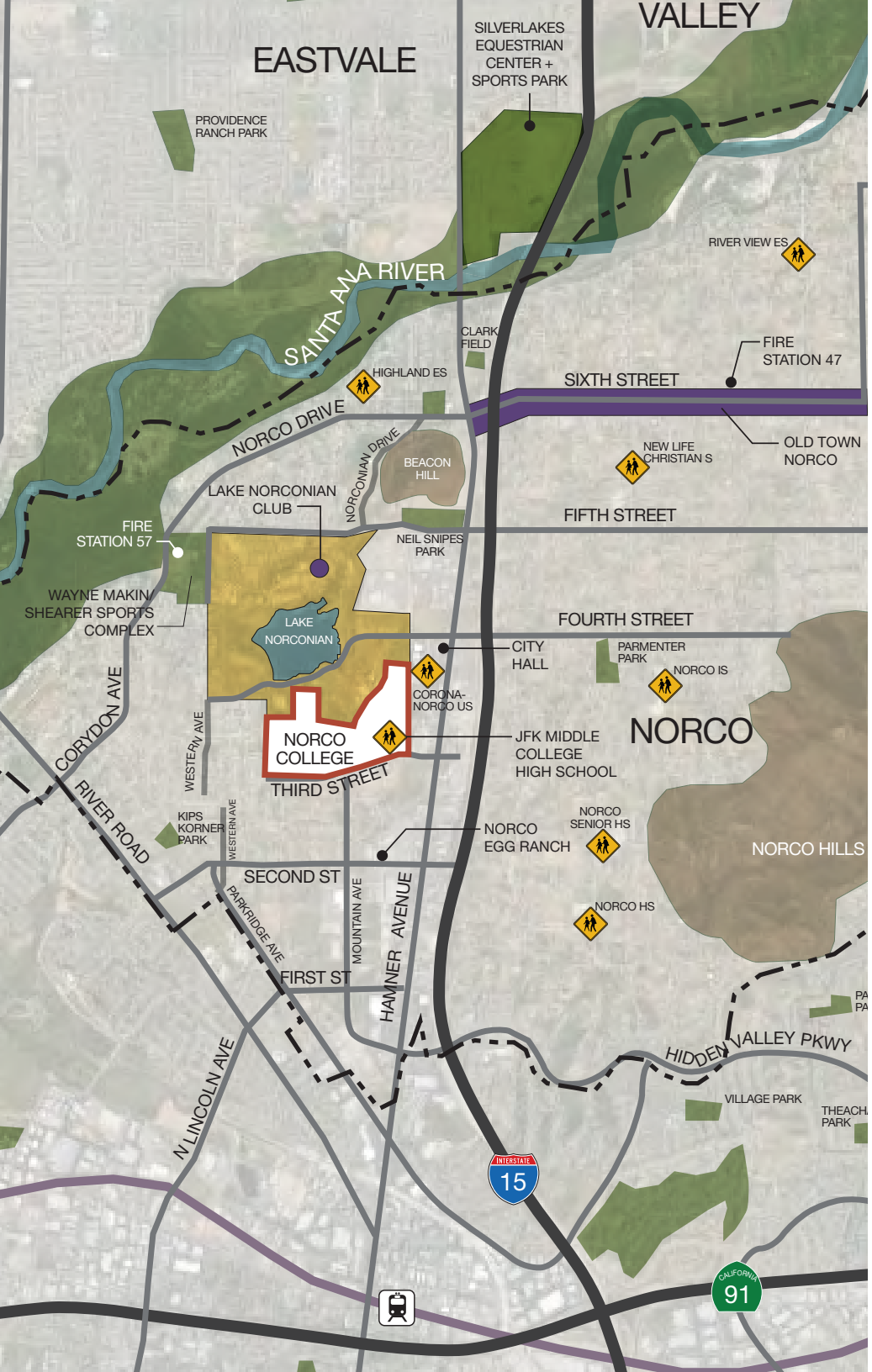
The most visually dominant landscape feature on the campus property is the rolling hillocks, highlighted by granite outcroppings, on the northwest end of the property. These hill top vantage points offer spectacular views of the "hidden gem" that is Lake Norconian and the basin below.

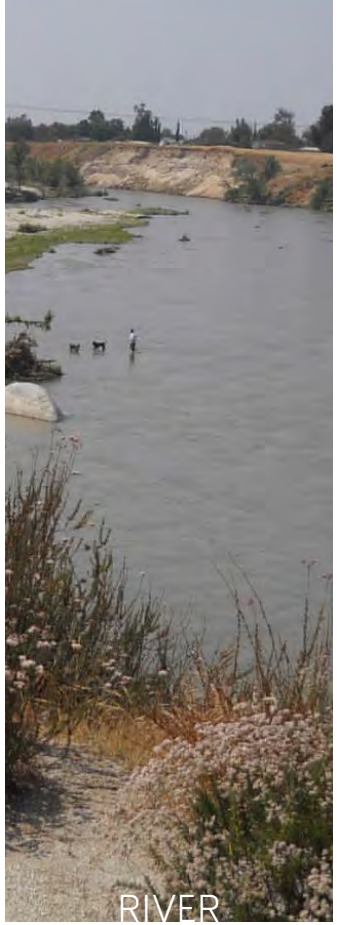
The hills form the backdrop for the campus and present opportunities for recreation, socialization, and preservation.

AGRICULTURE

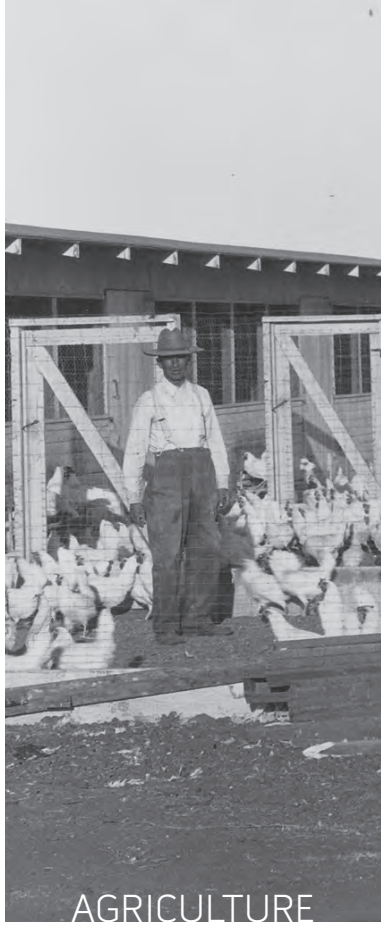
Rex B. Clark planned his new town of Norco to consist of farming subdivisions surrounding a village center. This heritage of farm and town lot parcels is evident today. The agriculture/animal keeping/equestrian lifestyle and image is paramount for planning.

The semi-rural lifestyle oriented towards equestrian pursuits combined with small-scale agriculture and land division presents opportunities for campus physical, social, cultural, environmental, and ecological structure.


EASTVALE
VALLEY
SILVERLAKES EQUESTRIAN CENTER + SPORTS PARK
PROVIDENCE RANCH PARK
RIVER VIEW ES
SANTA ANA RIVER
CLARK FIELD
FIRE STATION 47
HIGHLAND ES
SIXTH STREET
NORCO DRIVE
NORCONIAN DRIVE
BEACON HILL
NEW LIFE CHRISTIAN S
OLD TOWN NORCO
LAKE NORCONIAN CLUB
FIFTH STREET
FIRE STATION 57
NEIL SNIPES PARK
WAYNE MAKIN SHEARER SPORTS COMPLEX
LAKE NORCONIAN
FOURTH STREET
CITY HALL
PARMENTER PARK
NORCO IS
CORONA-NORCO US
CORYDON AVE
WESTERN AVE
NORCO COLLEGE
JFK MIDDLE COLLEGE HIGH SCHOOL
NORCO
THIRD STREET
RIVER ROAD
KIPS KORNER PARK
WESTERN AVE
NORCO EGG RANCH
NORCO SENIOR HS
NORCO HILLS
SECOND ST
PARKRIDGE AVE
MOUNTAIN AVE
HAMNER AVENUE
NORCO HS
FIRST ST
HIDDEN VALLEY PKWY
N LINCOLN AVE
VILLAGE PARK
INTERSTATE 15
CALIFORNIA 91


RIVER


HILLS


AGRICULTURE

INTERSECTIONS

> “The application of **pattern** on a design **site** involves the designer recognizing the **shape** and **potential** to fit these patterns or combinations of patterns **comfortably** onto the **landscape**”
>
> ~ Sampson-Kelly

Farm plots + Canyons

AGRICULTURE VERSUS NATURE

Drawing on Norco’s historic land use patterns, the merger of man-made agriculture and natural systems creates the framework for the memorable and regionally specific development of the *Norco College 2013 Facilities Master Plan*.

The controlled agricultural plots/grid land division becomes a metaphor for buildable, structured, articulated, multi-functional space on campus—buildings and production. The natural systems are highlighted by the introduction of a natural arroyo into the campus.

SPIRIT OF PLACE

The intersection of these two dominant land forms is meant to invoke an awareness of history and culture while inspiring a deep sensitivity to nature and the spirit of this place.

“Railroads across the survey landscape: Castleton, South Dakota”

Site preparation for new hillside housing development

LAKE
NORCONIAN

connect to
lake norconian

THE HILLS

THE HILLS

THE ARROYO

field

field

field

field

field

field

field

field

field

field

field

field

field

field

field

core

connect to trail

Hedgerows

"Irrigation Canal and Rose Field: Bakersfield, CA"

CONNECTIVITY

> “Creativity is the power to connect the seemingly unconnected”
>
> ~ William Plomer

CONNECTIVE ZONING

The development of the campus structure continues with the extension of the promenade and additions of significant college and community buildings at either end. The instructional zone and the student and community zone fuse together at the ends and collectively frame an invigorated campus core. The athletics zone swells and merges with the western edge of the main campus. Together the major zones create interesting overlaps and opportunity areas.

PLAYFUL SHIFTS

The strong axial structure of the promenade contrasts with playful shifts in building alignment and entry plaza connections along it.

FRAMING GATEWAYS + VIEWS

Proposed buildings are located to frame and preserve existing views and community connections.

CREATION OF A “PINWHEEL HUB”

Hub is defined as “a place or thing that forms the effective center of an activity, region, or network.

Pinwheel is defined as “a cogwheel whose teeth are formed by small pins projecting either axially or radially from the rim of the wheel.”

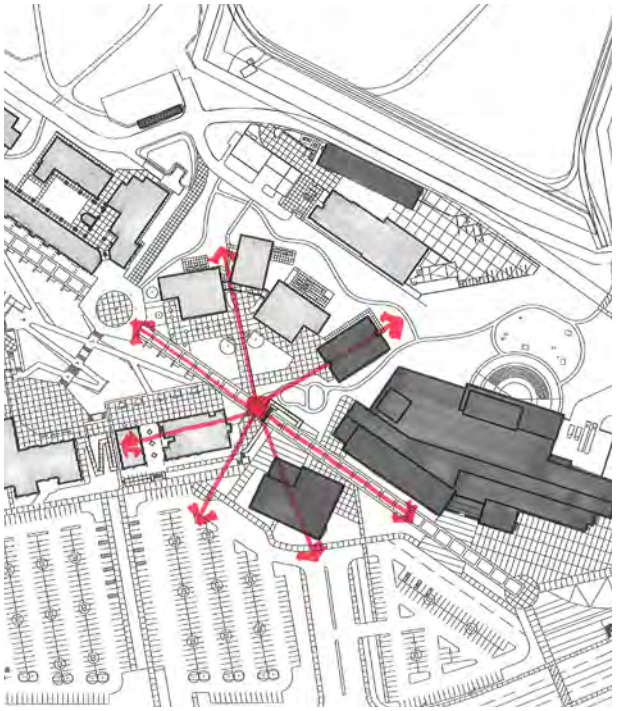
A new, welcoming, front door is created for Norco College that will function as the entry “hub” to the campus. A pinwheel structure is used to axially connect proposed and existing buildings to this new vibrant zone.

TRAILS AS TRIBUTARIES

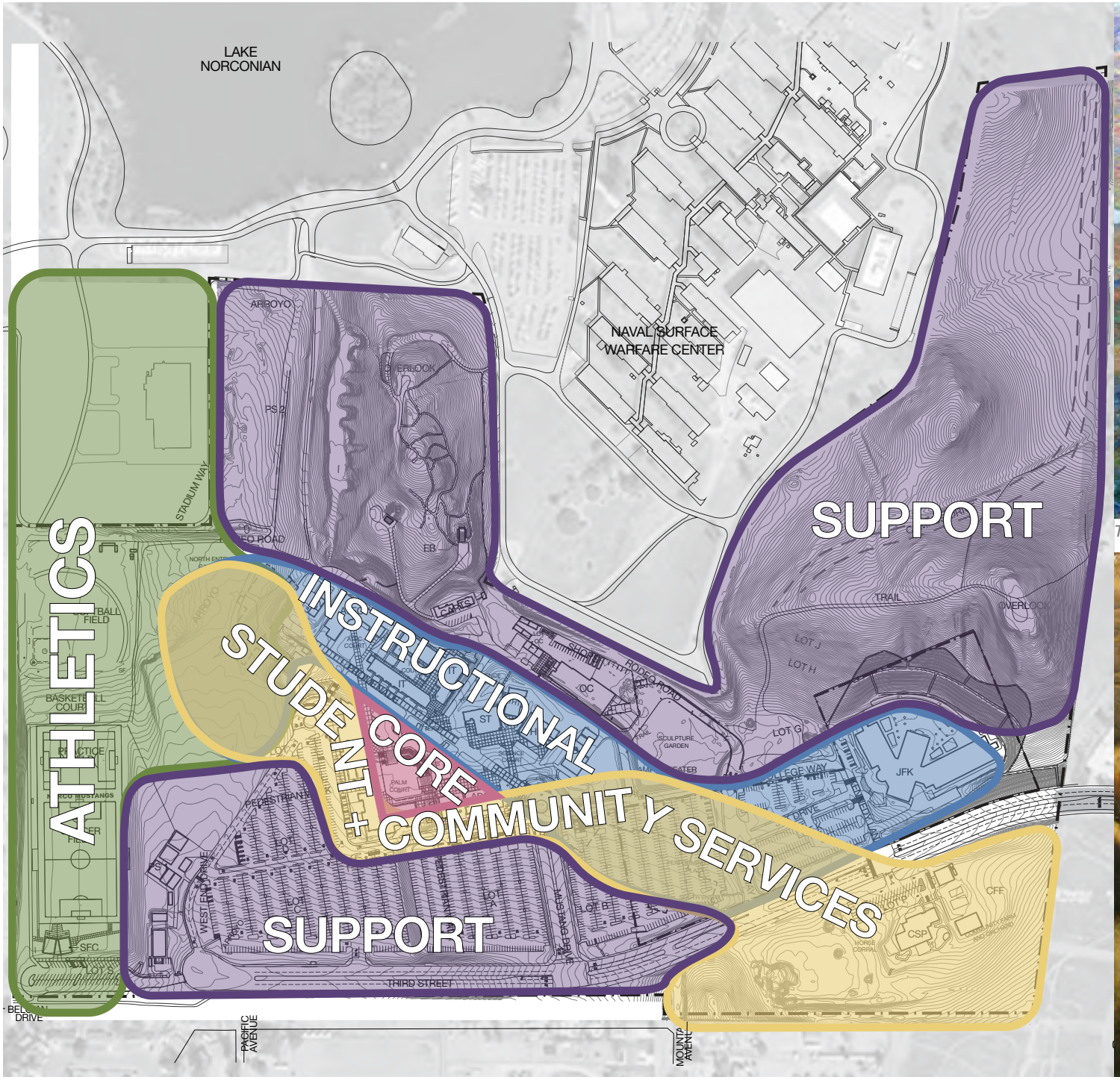
Tributary is defined as a stream that flows into a larger stream or other body of water.

The existing hillside pedestrian trail system is treated as a metaphorical tributary extending into the campus core where it ultimately flows into the main promenade.

Playful shifts



Pinwheel hub



Tributaries

Tributaries

SUMMARY

FACILITIES RECOMMENDATIONS

The facilities recommendations for the Norco College campus have been developed to support the vision, mission, and core commitments that were established in the *Norco College Strategic Plan and Process 2013–2018*. The recommendations include new construction, renovation, and repurposing of facilities and site improvement projects.

Norco College has embraced the *RCCD District Standards + Campus Design Guidelines Handbook* which "seeks to both provide boundaries ensuring cohesive campus identity while supporting creative expression and innovative design solutions unique to individual project programmatic and site characteristics."

The recommended facilities projects address issues that were identified and validated throughout the planning process. The graphic plan on the opposing page illustrates an overall picture of the future developed campus.

NEW FACILITIES

- Multimedia + Arts Center (MAC)
- Center for Human Performance + Kinesiology (CHPK)
- Sports Facility (SF)
- Library/Learning Resources Center (LLRC)
- Instructional Building (IB)
- Shops Building + Covered Secure Cart Parking
- Community Farm Facility (CFF)
- Parking Structure 1 (PS1)
- Parking Structure 2 (PS2)

RENOVATIONS

- Applied Technology (ATEC)
- Center for Student Success (CSS)
- College Resource Center (CRC)
- Industrial Technology (IT)
- Science + Technology (ST)
- Theater (THTR)
- Humanities (HUM)

REPURPOSING

- Wilfred J. Airey Library (LIBR) into Student Services (SSV)
- Student Services (SSV) into Administration (ADMIN)
- Science Engineering Technology + Mathematics Center (STEM) into College Safety + Police (CSP)

The Site Improvement Recommendations are described in a subsequent subsection and include recommendations for future parking structures.


2013 FACILITIES MASTER PLAN
EXISTING FACILITIES
NEW FACILITIES
PROPERTY LINE
LAKE NORCONIAN
NAVAL SURFACE WARFARE CENTER
HAMNER AVENUE
ARROYO
PS 2
PS 1
OVERLOOK
RODEO ROAD
SOFTBALL FIELD
PRACTICE FIELD
SOCCER FIELD
NORCO MUSTANGS
SFC
CHPK
ATEC
CARTS
IT
SHOPS
OC
ST
HUM
IB
CSS
SSV
ADMIN
MAC
LLRC
AMPHITHEATER
JFK
CSP
CFF
PEDESTRIAN WALK
GOLF DRIVE
THIRD STREET
BELGIAN DRIVE
PACIFIC AVENUE
MOUNTAIN AVENUE
N
0 FEET
450
900

FACILITIES RECOMMENDATIONS

NEW FACILITIES

The recommended new facilities will provide additional instructional space to address the current and projected growth in enrollment and create spaces that accommodate programs that promote health and wellness, support a collaborative and collegial work environment, and replace temporary facilities.

The proposed facilities are located to reinforce the campus' strong and established functional zoning concept. At this conceptual planning level, the proposed buildings are sited, massed, and oriented to enhance the existing campus pattern of development, work with environmental conditions, and strengthen circulation patterns.

Descriptions of each recommended construction project are included in the following pages. The order of the projects reflects a priority order and a recommended sequence of development. Phasing plans will developed following the completion of this FMP and will be tied to availability of funding.

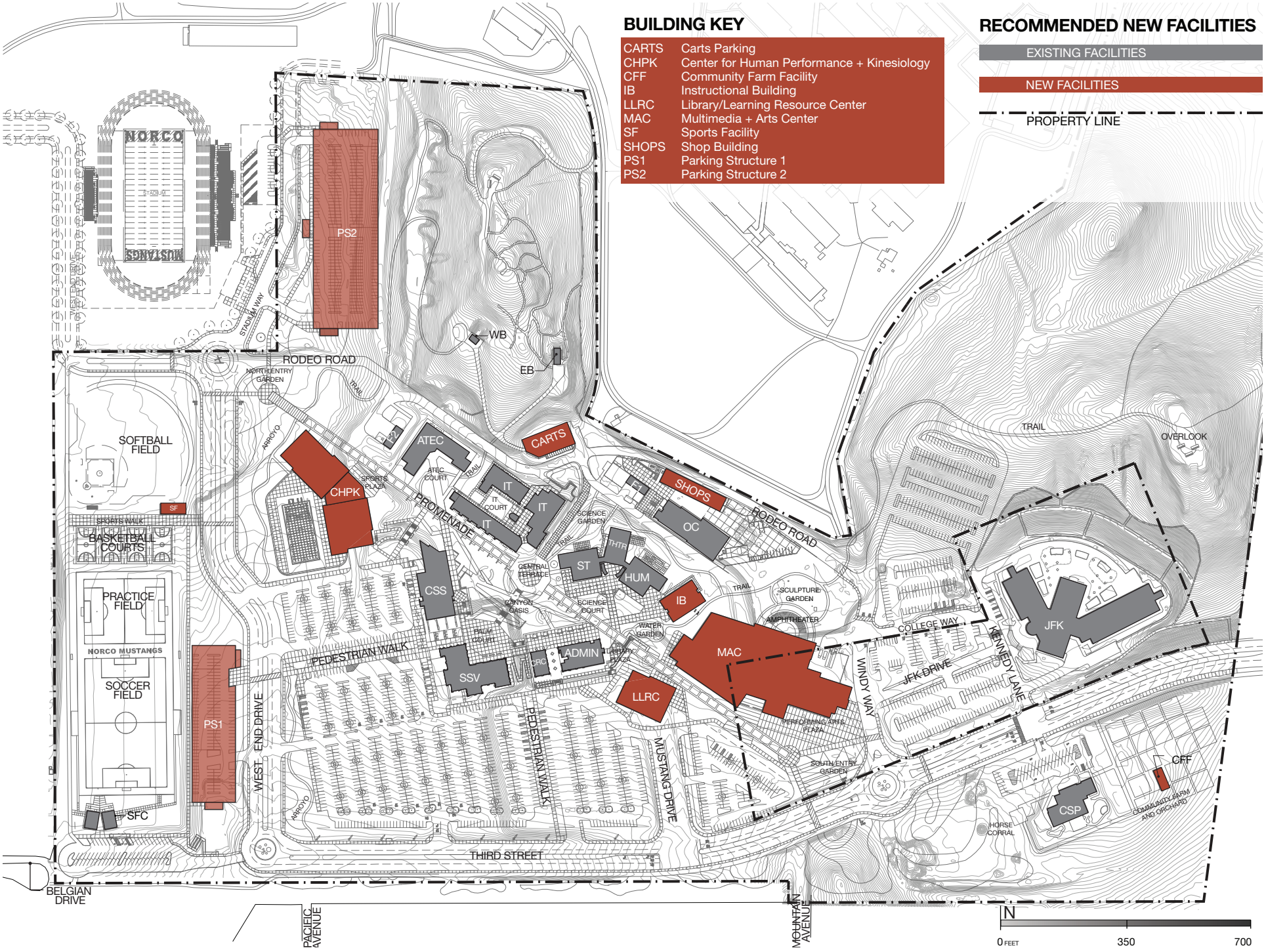
It is recommended that all future buildings are planned and programmed to provide flexible program space for ongoing pursuit of grant-funded programs. The graphic plan on the opposing page illustrates the recommended new facilities.

These projects address the following facilities planning principles:

- / Maximize functional space
- / Eliminate non-functional space
- / Improve efficiency/utilization of site + facilities
- / Right-size the campus to address program needs
- / Support student learning + success through strengthening the campus environment
- / Incorporate district design guidelines
- / Simplify implementation

NEW FACILITIES PROJECTS

- / Multimedia + Arts Center (MAC)
- / Center for Human Performance + Kinesiology (CHPK)
- / Sports Facility (SF)
- / Library/Learning Resources Center (LLRC)
- / Instructional Building (IB)
- / Shops Building + Covered Secure Cart Parking
- / Community Farm Facility (CFF)
- / Parking Structure 1 (PS1)
- / Parking Structure 2 (PS2)


BUILDING KEY
CARTS Carts Parking
CHPK Center for Human Performance + Kinesiology
CFF Community Farm Facility
IB Instructional Building
LLRC Library/Learning Resource Center
MAC Multimedia + Arts Center
SF Sports Facility
SHOPS Shop Building
PS1 Parking Structure 1
PS2 Parking Structure 2
RECOMMENDED NEW FACILITIES
EXISTING FACILITIES
NEW FACILITIES
PROPERTY LINE
NORCO
STADIUM
PS2
WB
EB
RODEO ROAD
NORTH ENTRY GARDEN
TRAIL
SOFTBALL FIELD
ARROYO
ATEC
ATEC COURT
CARTS
CHPK
SPORTS PLAZA
PROMENADE
IT
IT COURT
SHOPS
OC
SCIENCE GARDEN
SF
SPORTS WALK
BASKETBALL COURTS
THTR
ST
HUM
CENTRAL TERRACE
CSS
CANYON OASIS
SCIENCE COURT
IB
SCULPTURE GARDEN
AMPHITHEATER
PRACTICE FIELD
NORCO MUSTANGS
SOCCER FIELD
PALM COURT
WATER GARDEN
COLLEGE WAY
JFK
KENNEDY LANE
PEDESTRIAN WALK
SSV
CRC
ADMIN
LIBRARY PLAZA
MAC
WINDY WAY
JFK DRIVE
LLRC
PERFORMING ARTS PLAZA
PS1
WEST END DRIVE
PEDESTRIAN WALK
MUSTANG DRIVE
SOUTH ENTRY GARDEN
CFF
CSP
COMMUNITY FARM AND ORCHARD
HORSE CORRAL
SFC
THIRD STREET
BELGIAN DRIVE
PACIFIC AVENUE
MOUNTAIN AVENUE
OVERLOOK
N
0 FEET
350
700

NEW FACILITIES

MULTIMEDIA + ARTS CENTER (MAC)

"The arts are an essential element of education, just like reading, writing, and arithmetic… music, dance, painting, and theater are all keys that unlock profound human understanding and accomplishment."

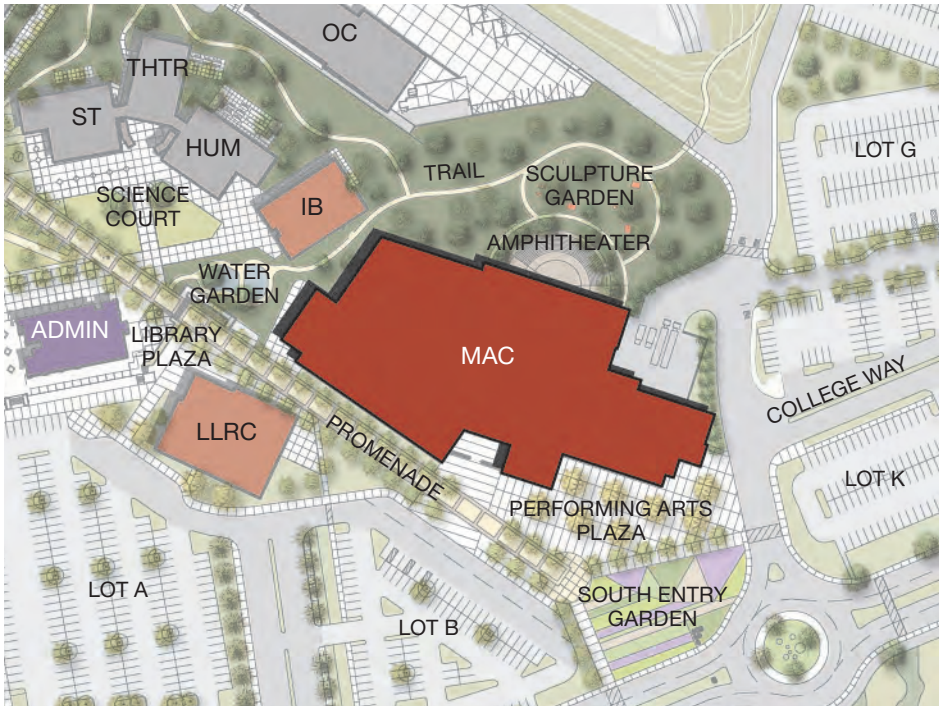
~ William Bennett
Former US Secretary of Education

The Multimedia + Arts Center (MAC) will position Norco College to become a leader in multimedia/arts education by attracting students through project-based, interdisciplinary learning supported by a single facility for Art, Commercial Music, Dance, Music, Photography, Simulation + Game Development, and Theater Arts.

Students will be exposed to all of these programs in one creative environment. The program elements are aligned on a central spine that links to the main campus promenade. The MAC is the eastern terminus of this axis. The central spine of the MAC is a two story "public space" providing visual and physical connections between floors. It is a space for display and critique, a place where students interact with the public and each other through their work.

The program spaces are hyper flexible. Practice spaces become performance—the black box, a rehearsal space during the day, becomes a performance venue at night. Performance spaces become practice—the dressing rooms, used as a back-of-house function for evening theater, become practice space for dance or movement therapy during the day. The theater loading area also supports the art gallery and art studios.

The spaces can function independently by department curriculum and/or they can function together as a singular curriculum and artistic whole. This facility will be a state-of-the art premiere environment for students that will move on to start their own businesses as entrepreneurs or develop new work with established studios.



CENTER FOR HUMAN PERFORMANCE + KINESIOLOGY (CHPK)

"Physical fitness is not only one of the most important keys to a healthy body, it is the basis of dynamic and creative intellectual activity"

~ John F. Kennedy

The recommended Center for Human Performance + Kinesiology (CHPK) is a key component of a fully developed comprehensive community college and will serve as an important link with the communities Norco College serves. Inclusion of an aquatics facility fills a need within the City of Norco—the Community Center Pool is closed indefinitely and graduating students/aquatics athletes from Norco High School are looking for local college options.

The CHPK will house spaces for instruction of kinesiology and health curriculum, sports events, recreation, equipment storage, locker rooms, and staff offices. It provides the campus with a much-needed gymnasium and wellness center along with group exercise and combative arts studios. Construction of a 50-meter competition swimming pool is to be considered to support the aquatics and adaptive kinesiology curriculum as well as competition. Together the CHPK and aquatics facility create the first permanent facility for kinesiology on the campus, which both replaces spaces currently housed in the West End Quad (WEQ) portables and provides room for the growth of the program.

The Sports Plaza links the recommended CHPK facility to the central campus Promenade. Formally, the CHPK is the western terminus to this axis while the recommended Multimedia + Arts Center (MAC) is the eastern terminus to the axis. Further, the CHPK will work within the terrain by serving as a bridging element between the main part of campus and the playfields to the west.

NEW FACILITIES

SPORT FACILITY (SF)

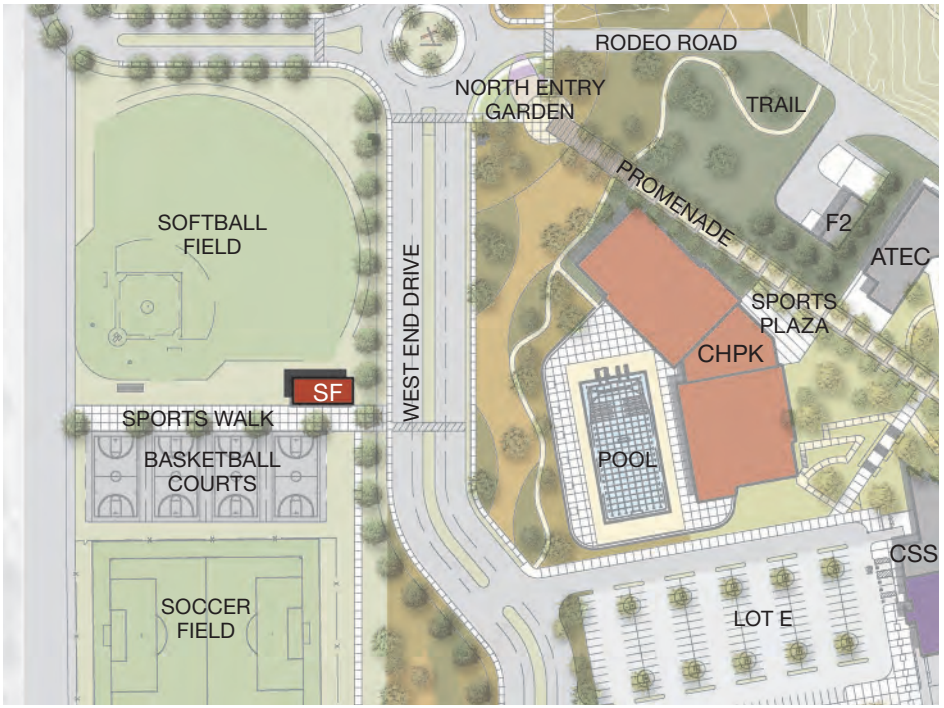
"The spirit, the will to win, and the will to excel are the things that endure. These qualities are so much more important than the events that occur."

~ Vince Lombardi

The Sports Facility (SF) is a support facility for the athletics precinct. It could include field storage, toilet rooms, ticketing, and concessions. Additionally, it might include yard space for a skip loader and bin area for storage of materials and supplies needed for maintaining the fields – brick dust, dirt, gravel, mulch, and sand. Further study and analysis is required to determine what facilities are best housed in this space.

It will be located along the northern edge of the proposed sports walk and north of the proposed outdoor basketball courts. Its centralized location supports both the softball field and the basketball courts.

The goal is that all buildings relate architecturally and clearly define a cohesive identity for the kinesiology/athletics precinct. Therefore, it is recommended that the architectural design of this facility be consistent with the existing Soccer Fields Complex (SFC) and, potentially, the recommended Center for Human Performance + Kinesiology (CHPK).



LIBRARY/LEARNING RESOURCES CENTER (LLRC)

"The reading of all good books is like conversation with the finest men of past centuries."

~ Rene Descartes

The analysis of planning data indicates that there is a need for additional library, tutorial, and instructional media space on campus. The data is supported by feedback from faculty, staff, and students. The *2008 Norco Campus Long Range Facilities Master Plan* documented the need to expand and/or relocate the existing library facilities confined to the cramped and inefficient floor plate of the second floor of its facility. This is even truer today.

The recommended Library/Learning Resources Center (LLRC) is envisioned as the new front door to the campus, strategically located at the "hub," and anchored to the central promenade by the Library Plaza. The library is always an important part of any college and, combined with a learning resources center that offers individual and group tutorial services, is uniquely positioned to support student success. Ideally, this facility will include a bookstore component (to replace the existing Bookstore portable), imagined as a "Barnes + Noble" concept that links books, resources, a café setting, and an outdoor patio to encourage students to stay on campus.

The recommended facility will collocate all the library and academic support services under one roof. It includes a permanent home for the newly grant-funded STEM (Science Technology Engineering + Mathematics) Center adjacent to the instructional buildings that house these programs.

NEW FACILITIES

INSTRUCTIONAL BUILDING (IB)

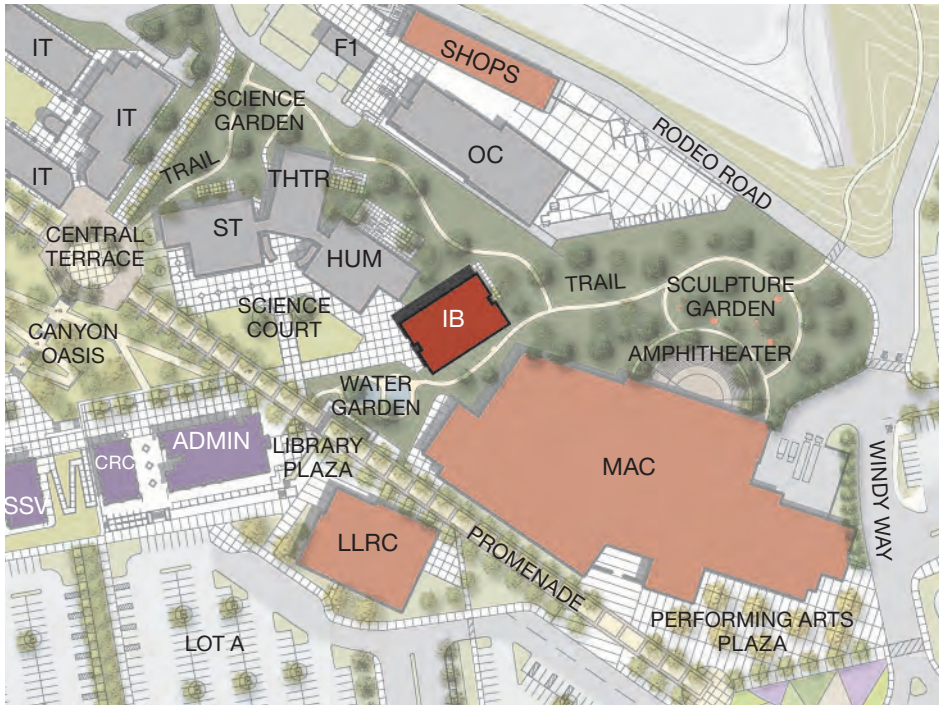
"To be able to be caught up into the world of thought —that is being educated."

~ Edith Hamilton

The planning data for master plan horizon 2 indicates the need for additional instructional facilities. The recommended Instructional Building (IB) will house both expansion of existing programs and new programs to address emerging needs. The career and technology focus of Norco College necessitates planning for new facilities that will house instruction for the innovative technologies of tomorrow and their specific equipment and pedagogical needs.

Instructional spaces with be flexible and adaptable; located indoors and outdoors; and fully outfitted with technology, utilities, and support spaces. Faculty offices, meeting rooms, and staff areas will be clustered to facilitate collaboration within and across disciplines and to provide places for students to interact with faculty.

The recommended IB is located at the front door "hub" of the campus, within the instructional zone, as a logical extension of the existing instructional facilities.



NEW FACILITIES

SHOPS BUILDING + SECURE COVERED CART STORAGE

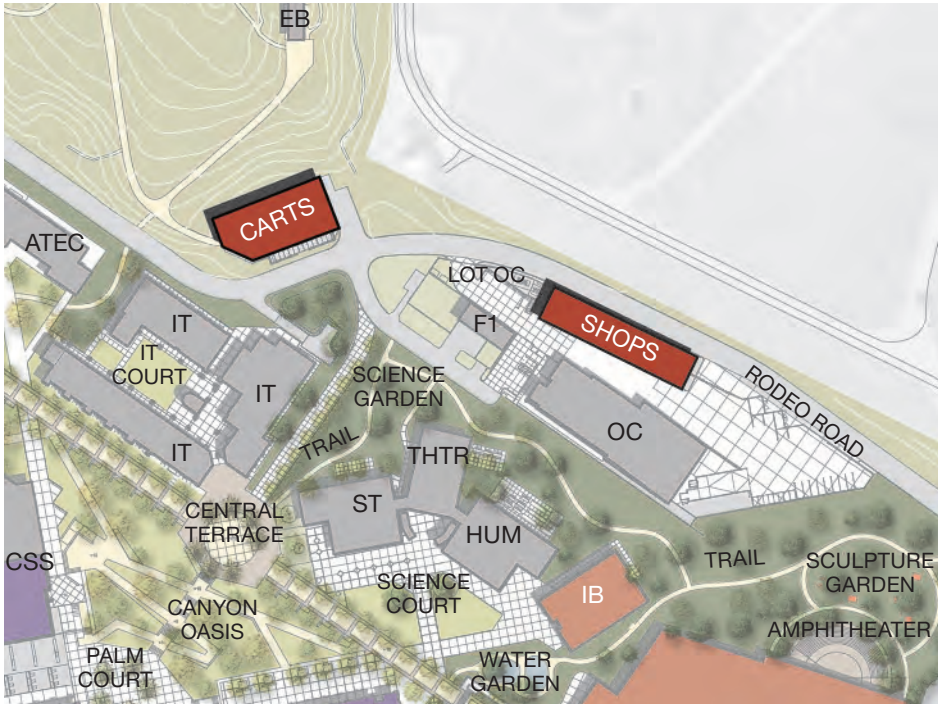
"A living cell requires energy not only for its functions, but also for the maintenance of its structure."

~ Albert Szent-Gyorgyi

Construction of the Shops building and designated, secure, and covered cart storage and parking is recommended to complete the original scope of the Operations Center (OC) project. The Shops building will be located behind the OC. The Maintenance + Operations (M + O) storage and cart parking area will be located in what is currently the parking lot for the existing facilities buildings (M1 + M2).

The Shops building will house a carpenter shop with associated tools and parts storage, a key (locksmith) shop, a mechanical/electrical/plumbing shop with associated storage, an automotive mechanics shop with a small vehicle auto-lift and associated parts storage, custodial storage, grounds equipment storage, and an air compressor room.

The goal is to provide Norco College with completely centralized support facilities designed to accommodate proper equipment, technology, and storage space that is needed to run a modern campus today and in the future.



FACILITIES RECOMMENDATIONS

RENOVATIONS

Most of the Norco College buildings were constructed in the 1990s and have many useful years remaining. Renovation is recommended for all facilities for which a significant change in use is not planned. Renovation will renew and lengthen the lifespan of facilities by replacing aging components and creating welcoming spaces to accommodate new and existing functions.

Changes in programming will be made to improve campus zoning and address the effects of new construction [especially the Multimedia + Arts Center (MAC)]. Instructional technology will be updated to support successful student learning through innovative modes of instruction. Energy and water efficiency will be improved and upgrades made to support sustainability. Facilities will be brought into compliance with current safety and accessibility standards for the benefit of the students, faculty, staff, and the community. Finishes and furniture systems will be refreshed.

The graphic plan on the opposing page illustrates the recommended renovations.

These projects address the following facilities planning principles:

- / Maximize functional space
- / Improve efficiency/utilization of site + facilities
- / Right-size the campus to address program needs
- / Support student learning + success through strengthening the campus environment
- / Incorporate district design guidelines
- / Simplify implementation

COLLEGE RESOURCE CENTER (CRC)

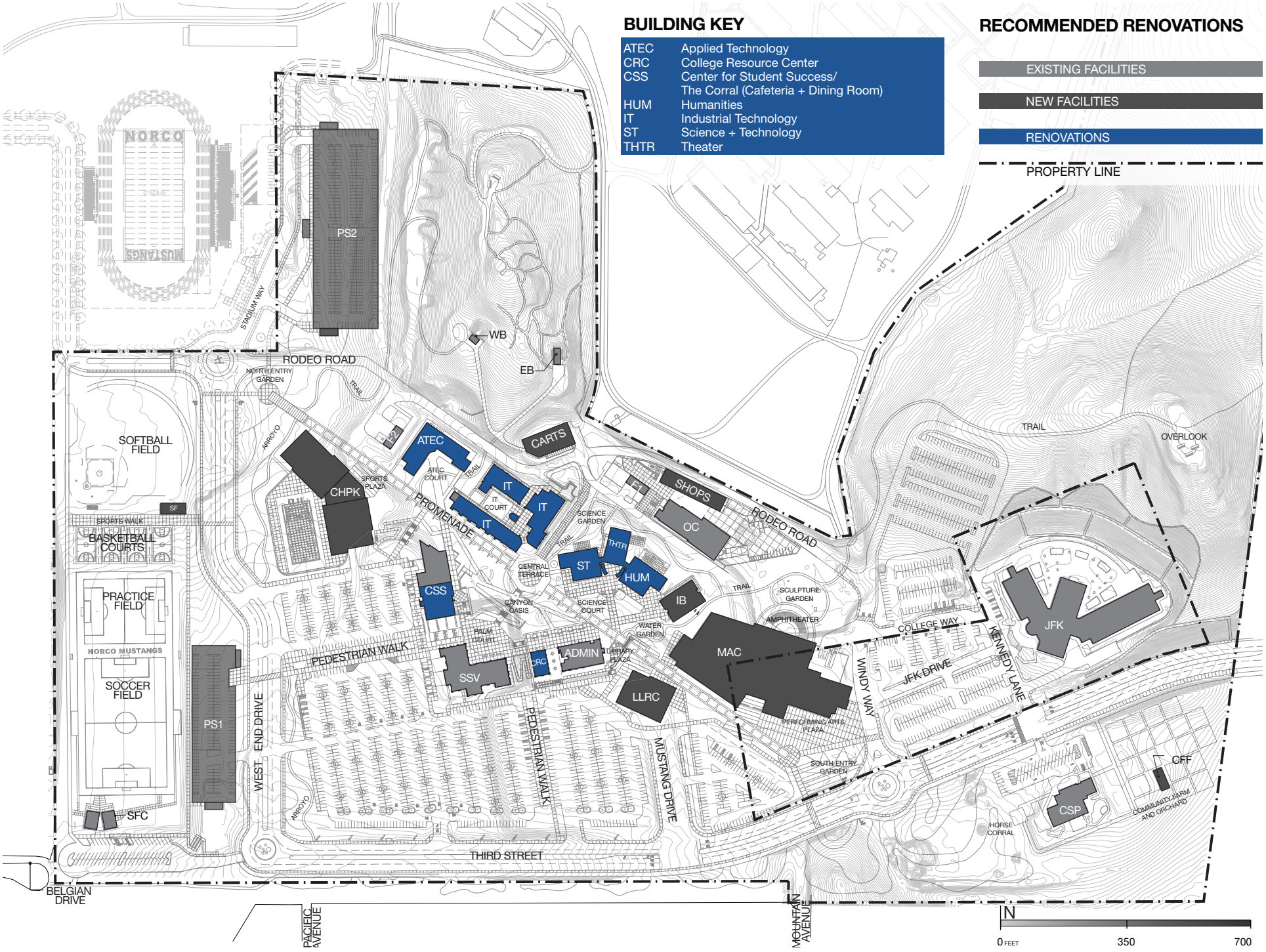
- Campus Safety + Police functions will vacate, thus allowing the faculty support functions to expand.

CENTER FOR STUDENT SUCCESS (CSS)

- The student services functions will vacate the building and those spaces will be converted into much needed student activity space.
- Furthermore, a small Campus Safety + Police substation will be established in this primarily student occupied building.

MULTIMEDIA + ARTS CENTER (MAC) SECONDARY EFFECTS

- A number of classrooms, labs, and support spaces will be vacated throughout the campus when the Multimedia + Arts Center (MAC) is constructed.
- Current capital outlay planning assumes that all classroom and lab spaces will be converted to general classroom space.
- It is recommended that some of this space be renovated to accommodate the programs currently housed in the Center for Applied + Competitive Technologies (CACT) building, which is a temporary building and slated for demolition/removal.
- The buildings affected are:
  - / Applied Technology (ATEC)
  - / Humanities (HUM)
  - / Industrial Technology (IT)
  - / Science + Technology (ST)
  - / Theater (THTR)


BUILDING KEY
ATEC Applied Technology
CRC College Resource Center
CSS Center for Student Success/
The Corral (Cafeteria + Dining Room)
HUM Humanities
IT Industrial Technology
ST Science + Technology
THTR Theater
RECOMMENDED RENOVATIONS
EXISTING FACILITIES
NEW FACILITIES
RENOVATIONS
PROPERTY LINE
NORCO
STADIUM
PS2
STADIUM WAY
WB
EB
RODEO ROAD
NORTH ENTRY GARDEN
TRAIL
ARROYO
SOFTBALL FIELD
ATEC
ATEC COURT
CARTS
CHPK
SPORTS PLAZA
IT
IT COURT
PROMENADE
SHOPS
OC
SCIENCE GARDEN
SPORTS WALK
BASKETBALL COURTS
SF
THTR
ST
HUM
CSS
CENTRAL TERRACE
IB
SCULPTURE GARDEN
AMPHITHEATER
CANYON OASIS
SCIENCE COURT
WATER GARDEN
PALM COURT
PRACTICE FIELD
NORCO MUSTANGS
SOCCER FIELD
PEDESTRIAN WALK
SSV
CRC
ADMIN
LIBRARY PLAZA
MAC
LLRC
COLLEGE WAY
JFK
KENNEDY LANE
WINDY WAY
JFK DRIVE
PS1
WEST END DRIVE
PEDESTRIAN WALK
MUSTANG DRIVE
PERFORMING ARTS PLAZA
SOUTH ENTRY GARDEN
SFC
CFF
CSP
COMMUNITY FARM AND ORCHARD
HORSE CORRAL
OVERLOOK
THIRD STREET
BELGIAN DRIVE
PACIFIC AVENUE
MOUNTAIN AVENUE
N
0 FEET
350
700

FACILITIES RECOMMENDATIONS

REPURPOSING

Repurposing, as opposed to "demolish + rebuild," is a cost effective and sustainable strategy that adapts an existing structure for a new use. It is an appropriate strategy for Norco College because the existing permanent facilities are relatively new and should last many decades more.

Like renovation, repurposing will renew and lengthen the lifespan of facilities by replacing aging components and creating welcoming spaces to accommodate new functions. Changes in programming will be made to improve campus zoning and address the effects of new construction [especially the Multimedia + Arts Center (MAC)]. Instructional technology will be updated to support successful student learning through innovative modes of instruction. Energy and water efficiency will be improved. Facilities will be brought into compliance with current safety and accessibility standards for the benefit of the students, faculty, staff, and the community.

The graphic plan on the opposing page illustrates the recommended repurposed facilities.

These projects address the following facilities planning principles:

- / Maximize functional space
- / Improve efficiency/utilization of site + facilities
- / Right-size the campus to address program needs
- / Support student learning + success through strengthening the campus environment
- / Incorporate district design guidelines
- / Simplify implementation

STEM → COLLEGE SAFETY + POLICE (CSP)

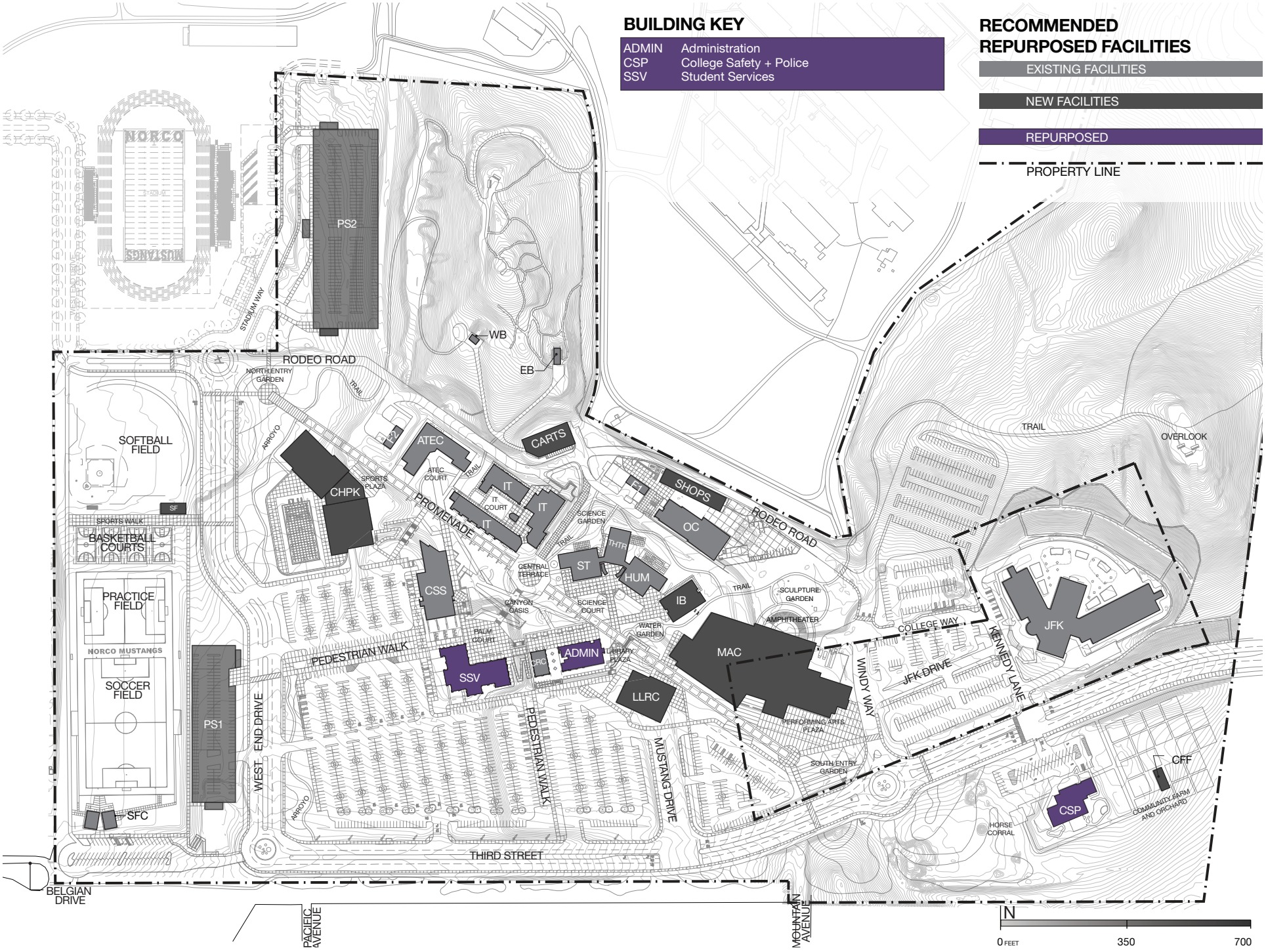
- The existing Science Technology Engineering + Mathematics Center (STEM) will be renamed and converted into the permanent station for Campus Safety + Police.
- Its location at the entry to the campus and the adjacent parking lot are visible and readily accessible to visitors.
- A horse corral is recommended adjacent to this facility—linking to the community trails and the campus tradition of police personnel on horseback.

SSV → ADMINISTRATION (ADMIN)

- The existing Student Services (SSV) building will be renamed and converted into a centralized location for all the administrative functions needed to support current and growing student population.
- The zoning and inclusion of additional functions will be developed during the early programming discussions for this project and may include provision of space for future grant-funded programs.

LIBR → STUDENT SERVICES (SSV)

- The existing Library (LIBR) building will be renamed and converted into a consolidated "one-stop shop" for all student services functions.
- The goal is to increase students' access to information and support the delivery of comprehensive student support services.
- The converted facility will provide improved, functional space to address the needs of the current and growing student population, including active duty military and veterans.
- The design will incorporate innovative service delivery models that are student-centered, seamless, and efficient.
- The prominent corner location of this building—adjacent to the Center for Student Success (CSS), the proposed Canyon Oasis, and visitor parking and passenger loading—supports the idea of collocating student services and student activities in the core of the campus.


BUILDING KEY
ADMIN Administration
CSP College Safety + Police
SSV Student Services
RECOMMENDED REPURPOSED FACILITIES
EXISTING FACILITIES
NEW FACILITIES
REPURPOSED
PROPERTY LINE
NORCO
STADIUM
MUSTANGS
PS2
STADIUM WAY
WB
EB
RODEO ROAD
NORTH ENTRY GARDEN
TRAIL
SOFTBALL FIELD
ARROYO
ATEC
ATEC COURT
CARTS
CHPK
SPORTS PLAZA
IT
IT COURT
PROMENADE
SHOPS
OC
SCIENCE GARDEN
SF
SPORTS WALK
BASKETBALL COURTS
THTR
ST
HUM
CSS
CENTRAL TERRACE
IB
SCULPTURE GARDEN
AMPHITHEATER
CANYON OASIS
SCIENCE COURT
WATER GARDEN
PRACTICE FIELD
NORCO MUSTANGS
SOCCER FIELD
PALM COURT
PEDESTRIAN WALK
ADMIN
LIBRARY PLAZA
SSV
CRC
MAC
LLRC
COLLEGE WAY
KENNEDY LANE
JFK
WINDY WAY
JFK DRIVE
PS1
WEST END DRIVE
PEDESTRIAN WALK
MUSTANG DRIVE
PERFORMING ARTS PLAZA
SOUTH ENTRY GARDEN
CFF
CSP
COMMUNITY FARM AND ORCHARD
HORSE CORRAL
OVERLOOK
SFC
THIRD STREET
BELGIAN DRIVE
PACIFIC AVENUE
MOUNTAIN AVENUE
N
0 FEET
350
700

SUMMARY

SITE IMPROVEMENT RECOMMENDATIONS

When creating a campus environment, both the architectural language and the landscape language are of equal importance. Campus landscape connects the buildings on a campus and by design is the unifying element that creates the campus as a whole.

The successful implementation of the *Norco College 2013 Facilities Master Plan (FMP)* is linked to a series of significant site improvements that support the vision, mission, and core commitments established in the *Norco College Strategic Plan and Process 2013–2018*.

Norco College has embraced the *RCCD District Standards + Campus Design Guidelines Handbook* which "seeks to both provide boundaries ensuring cohesive campus identity while supporting creative expression and innovative design solutions unique to individual project programmatic and site characteristics."

Environmental stewardship is a core commitment for Norco College and is integrated throughout the site recommendations through strategies to minimize the use of natural resources and foster respect for the natural environment.

These projects address the following facilities planning principles:

- / Maximize functional space.
- / Improve efficiency/utilization of site + facilities.
- / Enhance the collegial learning environment.
- / Support student learning + success through strengthening the campus environment.
- / Incorporate district design guidelines.
- / Improve campus identity, connections + circulation.

SITE IMPROVEMENT RECOMMENDATIONS

- / Landscape Plan
- / Campus Land Use
- / Secondary Vehicular Access
- / Vehicular Circulation
- / Parking
- / Emergency Access
- / Pedestrian Circulation
- / Storm Water Strategy
- / Landscape Guidelines

OBJECTIVES

SITE IMPROVEMENT RECOMMENDATIONS

A series of site improvement projects have been identified in the *Norco College 2013 Facilities Master Plan (FMP)* to enhance the campus environment and integrate open space within the academic, physical fitness, and social programs of Norco College.

The graphic plan on the opposing page illustrates an overall picture of the future developed campus landscape.

The proposed landscape plan builds on the existing landscape character and narratives of the area by referencing both agricultural and naturalized landscape patterns. The FMP creates an interconnected landscape network that encourages students, faculty, and staff to spend more time outdoors in both academic, recreational, and social settings. With sustainability in mind, the site improvement recommendations focus on the use of native species, the enhancement and restoration of native ecosystems and habitat, the replenishment of ground water, the reduction of landscape waste, and creation of opportunities for outdoor education and recreation.

The FMP site improvement recommendations focus on achieving three unifying goals:

IDENTITY

The campus open space should be designed to create and visually promote the overall identity of Norco College and its commitment to education, technology, and the well-being of its students, faculty, staff, and surrounding community. The FMP proposes distinct moves within the landscape that can clarify campus navigation and wayfinding while creating destinations that provide a strong sense of place throughout the campus grounds.

ENVIRONMENT

The landscape of Norco College should support and encourage a healthy, social, and studious student lifestyle. The grounds should be developed to offer a robust and diverse set of uses including educational, demonstrational, social, and recreational spaces that students, faculty, staff, and the surrounding community can enjoy.

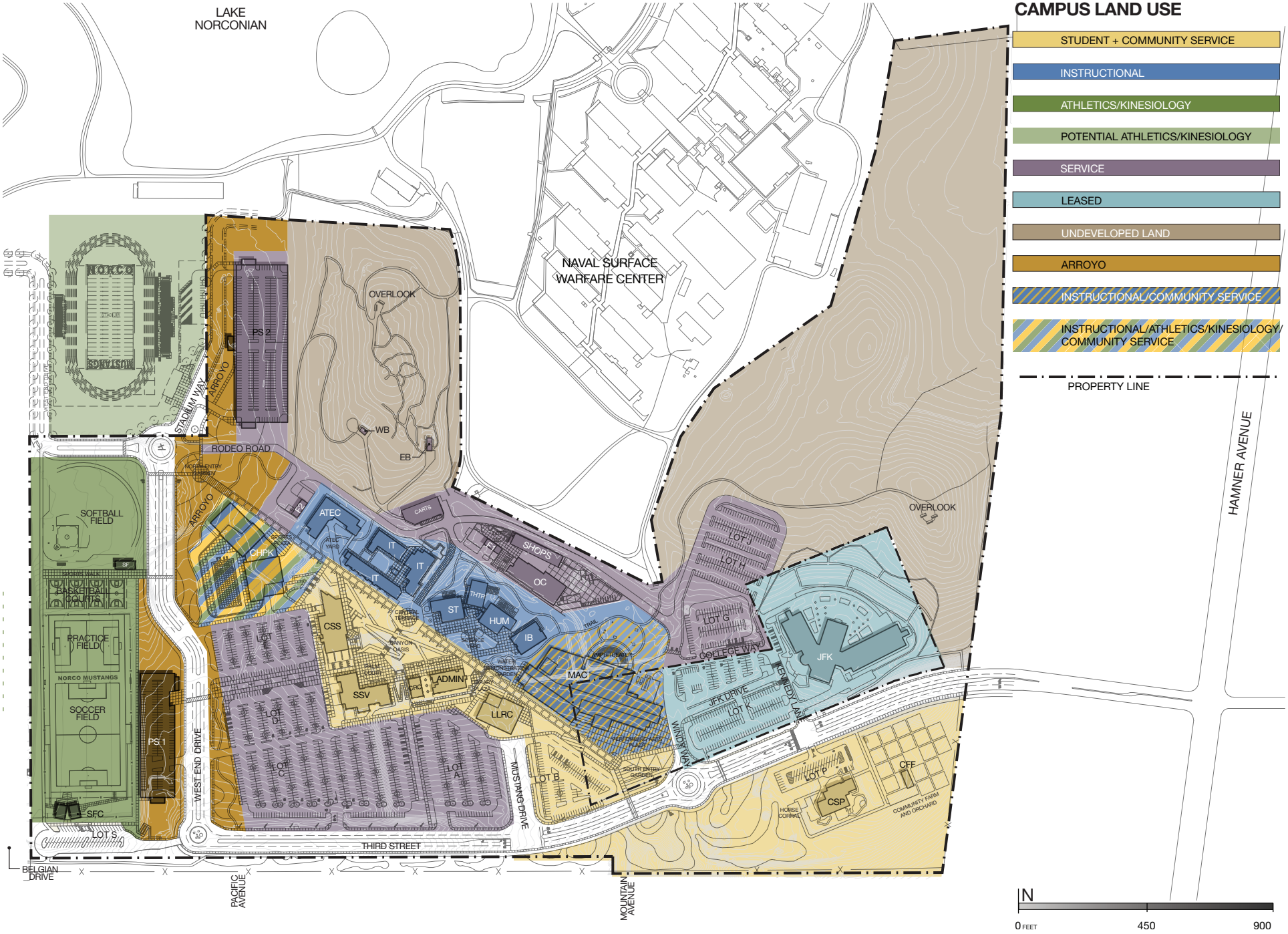
SUSTAINABILITY

The landscape approach of the FMP strives to embrace an overall commitment towards sustainability as part of the Norco College's identity. Within the campus, a visual presence can be achieved through the demonstration and use of integrated sustainable technologies. From an operations standpoint, the selection of appropriate landscape methods and materials can impact the maintenance and environmental quality of the campus and ensure its long-term survival.

The recommendations for site improvement projects are described on the following pages and are organized into groups based on campus location and/or project type. It is important to note that while drawings appear specific, the recommendations are conceptual sketches that require further study and discussion with a designated project user group.

The graphic plan on the opposing page presents an overall picture of the future developed campus landscape.

LANDSCAPE PLAN


RECOMMENDED CAMPUS LAND USE
STUDENT + COMMUNITY SERVICE
INSTRUCTIONAL
ATHLETICS/KINESIOLOGY
POTENTIAL ATHLETICS/KINESIOLOGY
SERVICE
LEASED
UNDEVELOPED LAND
ARROYO
INSTRUCTIONAL/COMMUNITY SERVICE
INSTRUCTIONAL/ATHLETICS/KINESIOLOGY/ COMMUNITY SERVICE
PROPERTY LINE
LAKE NORCONIAN
NAVAL SURFACE WARFARE CENTER
OVERLOOK
WB
EB
PS 2
STADIUM WAY
ARROYO
RODEO ROAD
SOFTBALL FIELD
BASKETBALL COURTS
PRACTICE FIELD
NORCO MUSTANGS
SOCCER FIELD
PS 1
SFC
LOT S
WEST END DRIVE
THIRD STREET
BELGIAN DRIVE
PACIFIC AVENUE
MOUNTAIN AVENUE
ATEC
IT
CHPK
CSS
SSV
LOT D
LOT C
LOT A
LOT B
ADMIN
LLRC
ST
HUM
IB
MAC
OC
SHOPS
LOT G
LOT H
LOT J
LOT K
LOT P
JFK
COLLEGE WAY
JFK DRIVE
KENNEDY LANE
WINDROW WAY
MUSTANG DRIVE
CFF
CSP
COMMUNITY FARM AND ORCHARD
HORSE CORRAL
HAMNER AVENUE
N
0 FEET
450
900

SITE IMPROVEMENT RECOMMENDATIONS

SECONDARY VEHICULAR ACCESS

BACKGROUND

An ongoing challenge facing the campus is its single primary means of ingress and egress. Many potential secondary access routes have been discussed as part of this and previous planning processes. *The Norco College 2013 Facilities Master Plan (FMP)* has been structured so that any of these routes can be implemented in the future. The subsequent graphic plan illustrates all the routes that were discussed.

Long-term Campus Growth

As stated in the, *Riverside Community College (RCC), Norco Campus Circulation Alternatives - August 1, 2007*, "without any additional access points, the campus cannot grow to even 12,000 students without significant traffic impacts" because intersections leading to the campus (Third Street entry) reach a level of service approaching gridlock. Therefore, a key constraint limiting the potential size and long-term growth of the campus is the lack of a secondary access road.

Circulation, Safety + Security

On, March 24, 2010, the Associated Students of Norco College (ASNC) passed and adopted the "Additional Entrance/Exit for Norco College" resolution, affirming the position that a secondary entrance was needed at Norco College and should become a "top priority." The ASNC's position was based on the need for improved local circulation (mitigation of traffic issues) and enhanced pedestrian and vehicular safety and security on campus and in the immediate vicinity.

Student Origins

As evidenced in the *Planning Data* chapter, the majority of students who attended Norco College in 2011–2012 resided in Corona, Riverside, Norco, Mira Loma/Eastvale, Moreno Valley, and Lake Elsinore. Approximately 79% of students travel to Norco College from the south and the east; 6% live in Norco; and 12% travel from the north.

Economic Impact

Facilitating expansion of the Norco College campus by securing a secondary access would have a significantly positive impact on the local Norco economy in general and the City of Norco budget in particular based on previous estimates of local retail sales and local sales tax revenue associated with campus capacities of 12,000 and 20,000 students, respectively (in 2008 dollars), and Norco College's status as one of the City of Norco's major employers.

1983–84 Application for Federal Surplus Property at Public Benefit Allowance

The original application to acquire the property that is now Norco College (Parcel C-2, China Lake Naval Weapons Center, Corona Annex and consisting of approximately 141.96 acres of land) noted that "at the present time, access to the property is provided by Mountain Avenue. We anticipate additional entrances at the eastern, southern, and western boundaries of the [entire] site. A road system will need to be developed cooperatively with all institutions involved."

- Unfortunately, the access from Mountain Avenue was not provided and entrances from the southern and western (continuation of Third Street to Cordyon) boundaries were not created.

City of Norco General Plan

The *City of Norco General Plan Circulation Element - March 15, 2000* uses 2010 as the build-out year for the purpose of travel demand forecast. The Circulation Element further notes that "there will need to be another assessment for the future travel demand once the program EIR for the proposed Eastvale Community Plan is made available as a public document." As this time, this assessment has not been completed.

SECONDARY VEHICULAR ACCESS (CONT'D)

Original Environmental Impact Report (EIR) Assumptions

In March 1987, JF Davidson Associates prepared the *Third Street Area Plan: Environmental Impact Report (EIR) for City of Norco and Riverside Community College District and Deane Homes*. This EIR was developed as a "coordinative planning effort to assess the land use, circulation, and environmental and public service, and facility implications relating to the development of 285 acres of land located south of Lake Norconian." The assumption was that "attendance [at Norco College] is projected to ultimately reach 12,000 students by the year 1995."

The Section II: Development Plan and associated Land Use Plan (Figure 5) recommend that:

- "Primary access to the campus will be provided from Third Street."
- "A 40-foot wide alternate access road is provided from Fourth Street into the campus."
  - / Norco College refers to this route as "Campus Drive" and it has not been implemented.
- "Third Street will serve as an important east-west link not only to provide access to [Norco] College, but to relieve increased traffic along the residentially-oriented Second Street."
- "Third Street will transition into a 66-foot right-of-way through the proposed neighborhood [west of campus] in order to encourage a desirable neighborhood atmosphere and reduce potential travel speed and noise."
  - / Third Street is currently terminated at the western edge of the campus at Belgian Drive.

Section IV: Public Facility and Service Considerations further discusses traffic and circulation and states the following:

- "Hamner Avenue and River Road will both provide the primary surface street access to the site."
- "Direct access to the site will be from Third Street west of Hamner Avenue, Corydon Avenue east of River Road, and Fourth Street west of Hamner Avenue."

Additionally, this section includes three alternative circulation scenarios that were illustrated in Figures 18 + 19:

- Alternative A – Third Street and Mountain Avenue terminating within the college campus.
  - / "This alternative does not provide for extension of Third Street as a direct link to circulate traffic from the Cordyon Avenue area to Hamner Avenue, and does not facilitate college-related traffic from areas northwest of the City of Norco."
- Alternative B – Third Street extended from Hamner Avenue through the campus and split to the north along Western Avenue [through to Sixth Street] and to the west of Cordyon Avenue.
  - / "This alternative has the potential to attract regional traffic due to oversized streets and multiple linkages."
  - / "Right-of-way from the [federal] government was also a concern [access to Western Avenue through the California Rehabilitation Center (CRC]."
- Alternative C – Third Street to Cordyon Avenue, with secondary linkages to Fourth Street and Western Avenue [through to Sixth Street]:
  - / "This alternative meets the objectives of providing the direct link to Hamner Avenue and improving the local street network."
  - / "As part of the review process, a connection to Parkridge would also be provided for southbound traffic."

The EIR further states that "Western Avenue currently terminates one-half-mile north of the site of the [California Rehabilitation Center] CRC prison facility."

- This Area Plan calls for the southern extension of Western Avenue to the site when the adjacent 62-acre parcel is developed [subsequently developed as a residential subdivision]…The extension of Western Avenue northerly to meet existing pavement will run along the rear of lots fronting Bronco Lane."
  - / Western Avenue was not extended.

The EIR favors the Alternative C (Third Street at Cordyon Avenue) intersection because it "also improves the ability of fire, police, and medical personnel and equipment to respond in emergency situations as a result of the direct linkage between the east and west halves of the City of Norco."

Since the completion of this EIR, none of the recommended or alternative access points have been implemented, except the formal entry from Third Street at Hamner Avenue.

MOUNTAIN AVENUE @ THIRD STREET

This option for secondary access would provide access from the south and the east, where the majority of Norco College students reside/travel from, and would help mitigate traffic impacts at the I-15/Second Street ramp intersections.

The opening of Mountain Avenue access to the campus at the intersection of Windy Way/Third Street connects Third Street to both Second Street and to Hidden Valley Parkway. Both of these major streets connects to Interstate Highway I-15.

Connection of Mountain Avenue to Third Street has been discussed with the City of Norco and explored in the *2007 Riverside Community College (RCC), Norco Campus Circulation Alternatives* document.

Considerations:

- The *2000 City of Norco General Plan Circulation Element* classifies roadways as follows:
  - / A "major arterial 4" at build-out will have four lanes of travel (two each direction) within a 100-foot right-of-way.
  - / A "collector" at build-out will have four lanes of travel (two each direction) within a 88-foot right-of-way.
  - / A "local street" at build-out will have two lanes of travel within a 60-foot right-of-way.
- Per the *1991 Gateway Specific Plan*, the existing four-way STOP controlled intersection at Mountain Avenue/Second Street will be improved with installation of a traffic signal.

- Per the *Circulation Element*, Mountain Avenue is currently classified as a "local street" north of Second Street and as a "collector street" south of Second Street until it connects with Hidden Valley Parkway.
- West of Hamner Avenue, Hidden Valley Parkway becomes Mountain Avenue through the *Gateway Specific Plan* area.
  - / The four lanes become two north of First Street.
- Hidden Valley Parkway is classified as a "major arterial 4."
  - / The majority of Hidden Valley Parkway east of Hamner Avenue is fully improved.
- Per the *Circulation Element*, Second Street is a "collector" and is fully dedicated and improved with ultimate street improvements east of Mountain Avenue continuing through the commercial district.
- Per the *1991 Gateway Specific Plan*, Second Street is to be widened to a 88-foot right-of way from a point just west of a new street located midway between Mountain and Pacific Avenues through to the point of completed ultimate improvements.
- Connection of Mountain Avenue to Third Street would likely require improvement and widening of the relatively short segment of Mountain Avenue (.40 miles) north of Second Street to meet "collector" classification, unless a modified right-of-way could be considered.
  - / In this scenario, Mountain Avenue becomes a continuous "collector" all the way from Norco College to Hidden Valley Parkway.
  - / The previously mentioned *Circulation Alternatives* study notes that in this scenario, with "the identified intersection improvements, the campus can approach 16,000 students without significant traffic impacts. However, Mountain Avenue would not remain viable as a residential street."
  - / The City of Norco has stated that this scenario necessitates the purchase of property along the entire length of one side of this segment of Mountain Avenue in order to achieve the *Circulation Element* right-of-way requirements.

SECONDARY VEHICULAR ACCESS (CONT'D)

PACIFIC AVENUE @ THIRD STREET

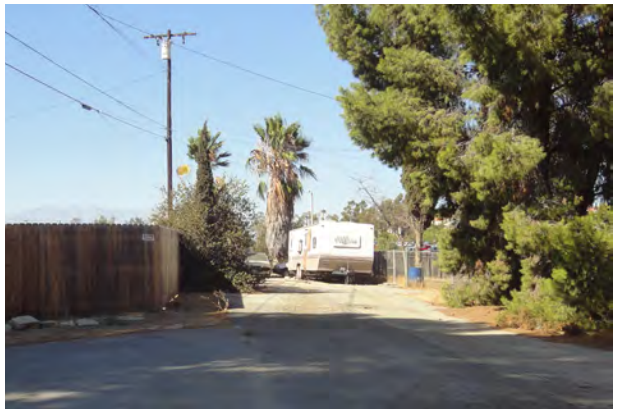
This option for secondary access would provide access from the south and the east, where the majority of Norco College students reside/travel from, and would help mitigate traffic impacts at the I-15/Second Street ramp intersections.

The opening of Pacific Avenue access to the campus at Third Street provides a connection to Second Street and an alternative route to Interstate I-15.

Connection of Pacific Avenue to Third Street has been discussed with the City of Norco and explored in the *2007 Riverside Community College (RCC), Norco Campus Circulation Alternatives* document.

Considerations:

- Per the *2000 City of Norco General Plan Circulation Element*, Pacific Avenue is currently classified as a "local street" and Second Street west of Mountain Avenue will remain a "local street" at two lanes.
- Per the *1991 Gateway Specific Plan*, the intersection of Pacific Avenue and First Street was closed by providing a cul-de-sac for Pacific Avenue just north of the previous intersection.
  - / An objective of this plan was to "minimize vehicular traffic on adjacent streets, such as Pacific Avenue."
- Connection of Pacific Avenue to Third Street would likely require improvement and widening of both Pacific Avenue north of Second Street and a portion of Second Street west of Mountain Avenue to meet "collector" classification, unless a modified right-of-way could be considered.



- Furthermore, the *2007 Riverside Community College (RCC), Norco Campus Circulation Alternatives* document prefers development of Mountain Avenue over an additional connection to the south via Pacific Avenue.
  - / This study did not examine use of Pacific Avenue as a sole source of secondary access.
  - / Specifically, the study states that "additional access via Pacific Avenue does not allow further campus growth [approaching 16,000 students] beyond that permitted by Mountain Avenue access, while having a negative impact on a second residential street."

WESTERN AVENUE @ FIFTH STREET TO WEST END DRIVE

This option for secondary access would provide access from the northwest and the City of Eastvale.

Norco College is watching and evaluating developments surrounding the potential closure of the California Rehabilitation Center (CRC) correctional facility and its latent impact on the extension of Western Avenue. The most recent actions and discussions by the state of California indicate that the facility will remain open.

Considerations:

- Per the *2000 City of Norco General Plan Circulation Element*, Western Avenue is currently classified as a "local street" and Fifth Street is classified as a "collector."
  - / "The right-of-way for Fifth Street is generally fully dedicated, but the street remains a two-lane roadway through most of its length."
  - / Where Fifth Street is bordered by the Naval Surface Warfare Center (NSWC), the California Rehabilitation Center (CRC), and Wayne Makin Park, "much remains only partially improved."
- Western Avenue is discontinuous and per the *Circulation Element*, Policy 1.13, "Western Avenue is not to be connected."
  - / The right-of-way is limited due to this street's adjacency to the NSWC, CRC, and the park.
- Extension/completion of Western Avenue from Fifth Street south to the northwestern edge of the Norco College campus (approximately 3/4 miles) requires:
  - / Right-of-way from the federal government for access through the CRC property is a large consideration.
  - / Consideration of the funding of this proposed fully developed roadway,
  - / Study and possible modification to the Western Avenue parking lot supporting the Wayne Makin/ Shearer Sports Complex.
  - / Study of the impact of this proposed route on the adjacent residential neighborhoods.
  - / Study of the traffic and environmental impacts.
  - / Revision of the *Circulation Element* since this is route is not currently included.
- Connection of West End Drive to Western Avenue requires:
  - / Right-of-way from the federal government for access through the Naval Surface Warfare Center (NSWC).

  - / The realignment and extension of West End Drive along the northwestern edge of campus.
  - / Study of the impact of Western Avenue as a "collector" street running at the rear edge of the housing tract adjacent to the west edge of campus.

SECONDARY VEHICULAR ACCESS (CONT'D)

FOURTH STREET @ CAMPUS DRIVE

The originally proposed 4-lane "collector" secondary vehicular access, referred to as "Campus Drive," has yet to be implemented.

In June 2003, Riverside Community College District (RCCD) and Corona-Norco Unified School District (CNUSD) signed a ground lease agreement for the 12.63 acres upon which the JFK High School site is located.

- The agreement states that the "established access routes [are] Third Street and Campus Drive…As mutually agreed, School District [CNUSD] will acquire and grant to [Norco] College any necessary off-site easements or rights-of-way (including Campus Drive through Navy property) for construction and operation of the college campus."
  - / At this time, no easement has been obtained.

Considerations:

This route, originating at Fourth Street near the Norco Civic Center and running along the eastern edge of the campus, continues to present serious challenges which renders this route as unpursuable by Norco College:

- Per the *2000 City of Norco General Plan Circulation Element*, Fourth Street is currently classified as a "local street" and Campus Drive is not addressed.
- Construction of Campus Drive requires an easement of approximately 400 feet from the northeastern edge of the campus property line through federal property (Naval Surface Warfare Center) to the proposed Fourth Street access/connection point.
  - / The Navy has reiterated objections regarding the impact of the proposed traffic volume and associated vibrations on the sensitive measurement/calibration instrumentation used at the Naval Surface Warfare Center (NSWC) which impacts the primary core mission of Naval Sea Systems Command (NAVSEA).
  - / Norco College will not pursue a route that jeopardizes the role and function of the NSWC.
- The proposed access road would need to navigate the extreme topography on the eastern hillside spur.
- This access point is potentially redundant given its termination at the intersection of Windy Way and Third Street, an area already served by access from Hamner Street and Third Street.

CORDYON AVENUE @ THIRD STREET/ BELGIAN DRIVE

Unfortunately, Third Street currently terminates at the western edge of the campus at Belgian Drive with an emergency access only gate. It does not transition to a "66-foot right-of-way through the neighborhood" that serves as an "important east-west link" as recommended by the original 1987 *Environmental Impact Report (EIR)*.

Considerations:

- Per the *2000 City of Norco General Plan Circulation Element*, both Cordyon Avenue and Third Street are classified as a "collectors" and Belgian Drive is classified as a "local street."
  - / Cordyon Avenue is fully dedicated and improved with ultimate street improvements.
  - / Third Street between Norco College and Hamner Avenue is fully dedicated and improved with ultimate street improvements.
- The *Circulation Element* further states that Third Street was "originally designed to continue westerly through the adjoining residential zones and link with Cordyon Avenue; [however], public concern over traffic resulted in terminating the street in a cul-de-sac at the westerly boundary of [Norco] College."
  - / Unfortunately, when the plan was changed from the 1987 EIR, an alternative secondary access was neither studied nor evaluated.
- The previously mentioned *Circulation Alternatives* study notes that as constructed, the Belgian Drive right-of-way is not large enough to handle the volume of traffic projected for campus growth.

- / The City of Norco has stated that widening of Belgian Drive to meet the right-of-way requirements for connection to Cordyon Avenue necessitates the purchase of property along the entire length of one side of the road, most likely through the use of eminent domain.
- / Fortunately, secondary emergency access has been secured in this location.

SECONDARY VEHICULAR ACCESS (CONT'D)

SUMMARY COMMENTS

The graphic plan on the opposing page illustrates all the secondary access options that were discusses as part of this planning process. The *Norco College 2013 Facilities Master Plan* has been developed with the flexibility to work with any and all of these options.

Any option being pursued for secondary access to Norco College will require both traffic and environmental impact studies, and analysis by and collaboration between all the joint stakeholders — Norco College, the City of Norco, the Navy, and Corona-Norco Unified School District and the local community.

The following is a summary of all the access options considered:

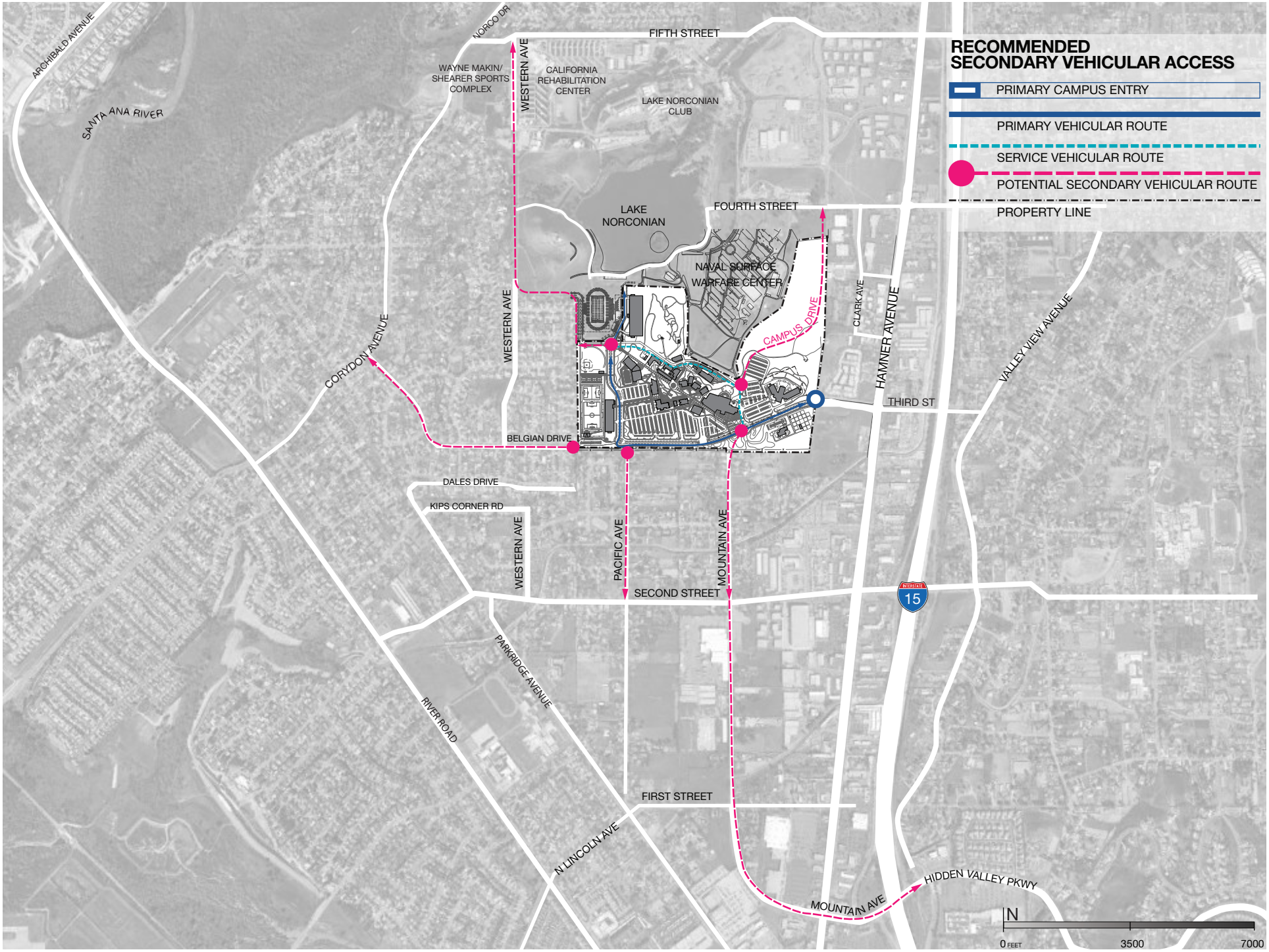
- Third Street linking with Mountain Avenue southward to Second Street and Hidden Valley Parkway (southeastern access)
- Third Street linking with Pacific Avenue southward to Second Street (southern access)
- Western Avenue linking with Fifth Street near Wayne Makin/Shearer Sports Complex (northwestern access)
- Campus Drive linking with Fourth Street near the Norco Civic Center (northeastern access)
- Third Street linking with Belgian Drive westward to Cordyon Avenue (western access)

Mountain Avenue/Second Street

Pacific Avenue/Second Street

Western Avenue/Fifth Street

Belgian Drive/Cordyon


RECOMMENDED
SECONDARY VEHICULAR ACCESS
PRIMARY CAMPUS ENTRY
PRIMARY VEHICULAR ROUTE
SERVICE VEHICULAR ROUTE
POTENTIAL SECONDARY VEHICULAR ROUTE
PROPERTY LINE
ARCHIBALD AVENUE
SANTA ANA RIVER
NORCO DR
FIFTH STREET
WESTERN AVE
WAYNE MAKIN/
SHEARER SPORTS
COMPLEX
CALIFORNIA
REHABILITATION
CENTER
LAKE NORCONIAN
CLUB
LAKE
NORCONIAN
FOURTH STREET
NAVAL SURFACE
WARFARE CENTER
CAMPUS DRIVE
CLARK AVE
HAMNER AVENUE
VALLEY VIEW AVENUE
CORYDON AVENUE
WESTERN AVE
THIRD ST
BELGIAN DRIVE
DALES DRIVE
KIPS CORNER RD
WESTERN AVE
PACIFIC AVE
MOUNTAIN AVE
SECOND STREET
15
PARKRIDGE AVENUE
RIVER ROAD
FIRST STREET
N LINCOLN AVE
MOUNTAIN AVE
HIDDEN VALLEY PKWY
N
0 FEET
3500
7000

SITE IMPROVEMENT RECOMMENDATIONS

VEHICULAR CIRCULATION

The graphic plan on the opposing page illustrates the recommended vehicular circulation.

TRAFFIC STUDY

The planning process included much discussion regarding vehicular circulation. The most recent memorandum, *Riverside Community College (RCC), Norco Campus Circulation Alternatives* - August 1, 2007, does not reflect the current circulation patterns. It is recommended that Norco College obtain a comprehensive, detailed traffic study that will address all conditions, explore options for roundabouts and signalization, and address the impact of campus and non-campus traffic on campus growth.

WEST END DRIVE

The *Norco College 2013 Facilities Master Plan (FMP)* recommends that West End Drive be realigned in a north-south orientation to accommodate additional surface parking and connection to a future secondary entry and Stadium Way. This recommended 4-lane road will be constructed according to City of Norco guidelines and include a raised median, sidewalks, and horse trail.

RODEO ROAD

The FMP recommends that Rodeo Road be removed from the core of campus and rerouted to the north side of the Operations Center (OC) as originally planned. This road then becomes a service only road and connects to the rerouted West End Drive on the west. Once Rodeo Road is rerouted and extended, the campus will have a much-needed complete perimeter loop vehicular circulation system linking all sides of the core campus.

ROUNDABOUTS

According to the US Department of Transportation, "roundabouts have been in widespread use in other countries for a number of years; it is only during the past few years that their application in the United States has received increased attention. Many international studies have found that one of the most significant benefits of a roundabout installation is the improvement in overall safety performance. Roundabouts provide higher capacity and lower delays than all-way stop control. A roundabout that operates within its capacity will generally produce lower delays than a signalized intersection." Note, the modern roundabout was developed to rectify problems associated with older traffic circles and rotaries.

The *Traffic Study for the Kennedy High School in the City of Norco* - December 5, 2002 first proposed a roundabout at the intersection of Third Street and Windy Way as an alternative to signalization; the FMP has expanded on this idea.

The FMP illustrates "urban compact" roundabouts, which are pedestrian and bicyclist-friendly, at the intersections of:

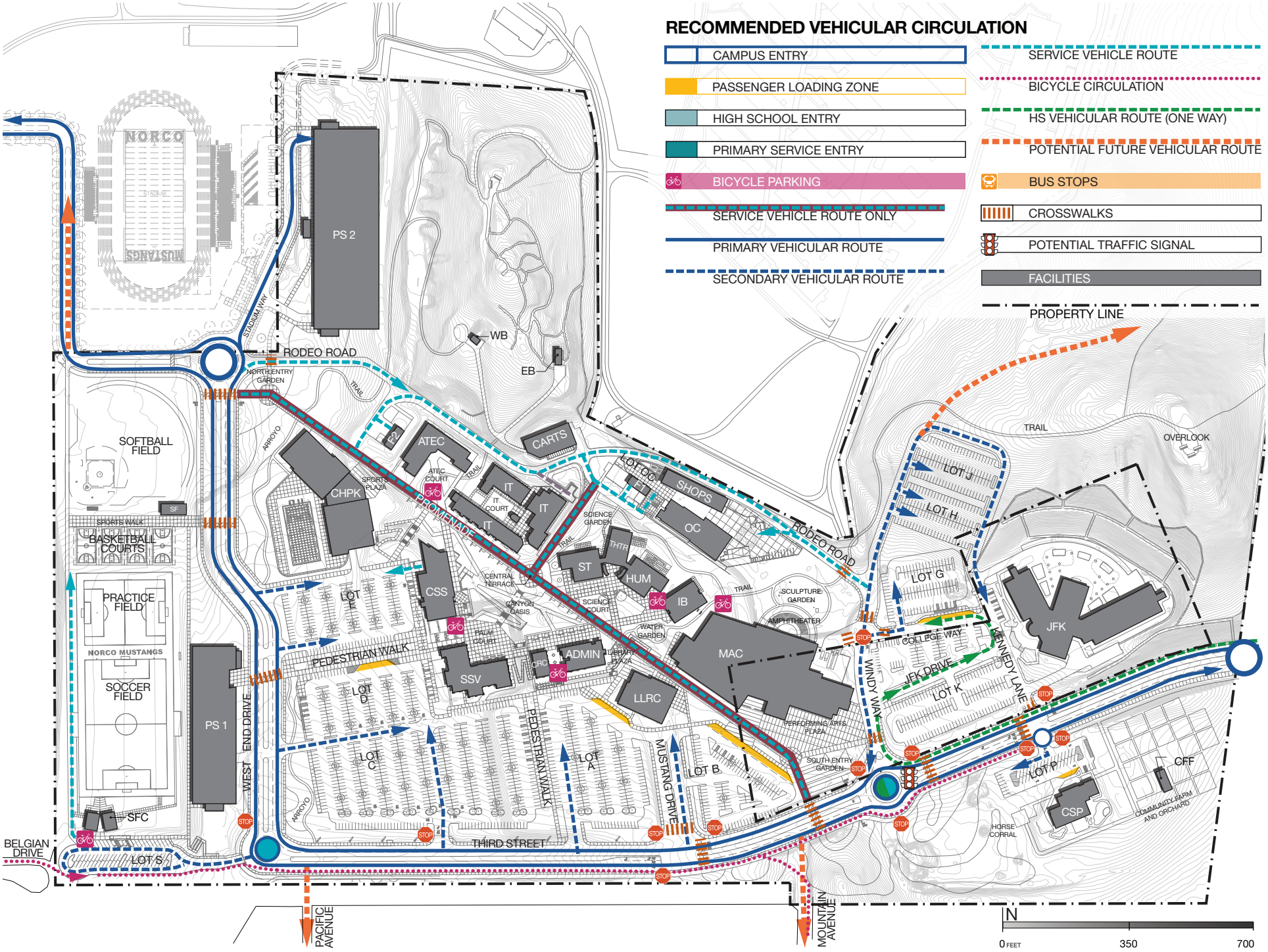
- Third Street/Windy Way
- Third Street/West End Drive
- West End Drive/Stadium Way

The campus may also consider signalization of the intersection at Third Street/Windy Way.

University of Maryland

"Ocotillo" sculpture at El Paso Texas Pebble Hills Roundabout

Roundabout Stock Photo


RECOMMENDED VEHICULAR CIRCULATION
CAMPUS ENTRY
PASSENGER LOADING ZONE
HIGH SCHOOL ENTRY
PRIMARY SERVICE ENTRY
BICYCLE PARKING
SERVICE VEHICLE ROUTE ONLY
PRIMARY VEHICULAR ROUTE
SECONDARY VEHICULAR ROUTE
SERVICE VEHICLE ROUTE
BICYCLE CIRCULATION
HS VEHICULAR ROUTE (ONE WAY)
POTENTIAL FUTURE VEHICULAR ROUTE
BUS STOPS
CROSSWALKS
POTENTIAL TRAFFIC SIGNAL
FACILITIES
PROPERTY LINE
RODEO ROAD
STADIUM WAY
NORTH ENTRY GARDEN
TRAIL
WB
EB
PS 2
SOFTBALL FIELD
ARROYO
ATEC
ATEC COURT
CARTS
LOT OC
SHOPS
OC
CHPK
SPORTS PLAZA
IT
IT COURT
PROMENADE
SCIENCE GARDEN
THTR
ST
HUM
IB
SCULPTURE GARDEN
AMPHITHEATER
SPORTS WALK
BASKETBALL COURTS
PRACTICE FIELD
NORCO MUSTANGS
SOCCER FIELD
CSS
CENTRAL TERRACE
CANYON OASIS
SCIENCE COURT
WATER GARDEN
PALM COURT
LOT E
LOT G
LOT J
LOT H
OVERLOOK
JFK
COLLEGE WAY
KENNEDY LANE
JFK DRIVE
WINDY WAY
PEDESTRIAN WALK
ADMIN
LIBRARY PLAZA
SSV
MAC
LLRC
PERFORMING ARTS PLAZA
SOUTH ENTRY GARDEN
LOT K
LOT P
CFF
CSP
COMMUNITY FARM AND ORCHARD
HORSE CORRAL
PS 1
END DRIVE WEST
LOT D
LOT C
LOT A
LOT B
PEDESTRIAN WALK
MUSTANG DRIVE
THIRD STREET
SFC
LOT S
BELGIAN DRIVE
PACIFIC AVENUE
MOUNTAIN AVENUE
N
0 FEET
350
700

PARKING

The graphic plan on the opposing page illustrates the recommended parking lot configurations and parking structure locations.

Many suburban community colleges use a 5:1 ratio (five students per parking stall). This accounts for all use of the parking including faculty, staff, administration, and maintenance/operations uses. Using the projected master plan horizon 2 enrollment of 15,000 students and the ratio of 5:1, a total of 3,000 parking spaces would be needed. This necessitates the addition of approximately 1,000 parking spaces.

The *Norco College 2013 Facilities Master Plan (FMP)* recommends both expanding and reconfiguring many of the existing parking lots to become more efficient, clearly define pedestrian and vehicular circulation, provide passenger loading zones at key locations throughout the core of the campus, incorporate sustainable principles, and ultimately provide the additional parking spaces needed for the projected enrollment growth. Additionally, there is a real opportunity to soften these large expanses of asphalt with landscape elements and create an implied "front lawn" for the buildings and reduce, if not eliminate, pedestrian and vehicular conflicts.

PHOTOVOLTAICS

Installation of photovoltaic canopy-covers is recommended in lots A, C + D to increase shade and reduce the heat island effect. This prominent location at the edge of Third Street reinforces Norco College's core commitment to environmental stewardship and its identity as the technology-focused campus within the district.

SURFACE PARKING LOTS

The FMP recommends reconfiguration of the entries, exits, and traffic flow patterns for the majority of the existing surface parking lots. Safe, separate, pedestrian walks have been defined between major lots.

Primary circulation is re-routed to the outer edge of the lots and parking ticket dispensers will be relocated at this edge in a location that minimizes vehicle congestion. The inner edge is reserved for visitor parking and designated passenger loading zones adjacent to buildings and pedestrian circulation.

Construction of recommended terraced parking lots G, H + J that follow the contours of the adjacent hillside (blending with the natural site), is recommended on the east side of campus to support the recommended Multimedia + Arts Center (MAC) and the high school. Special consideration should be given to coordinating with the high school on the configuration and timing of construction to minimize impact on the high school campus and instruction. It is likely that this construction requires a modification to the joint use agreement between RCCD and CNUSD.

Crafton Hills College - Terraced Parking

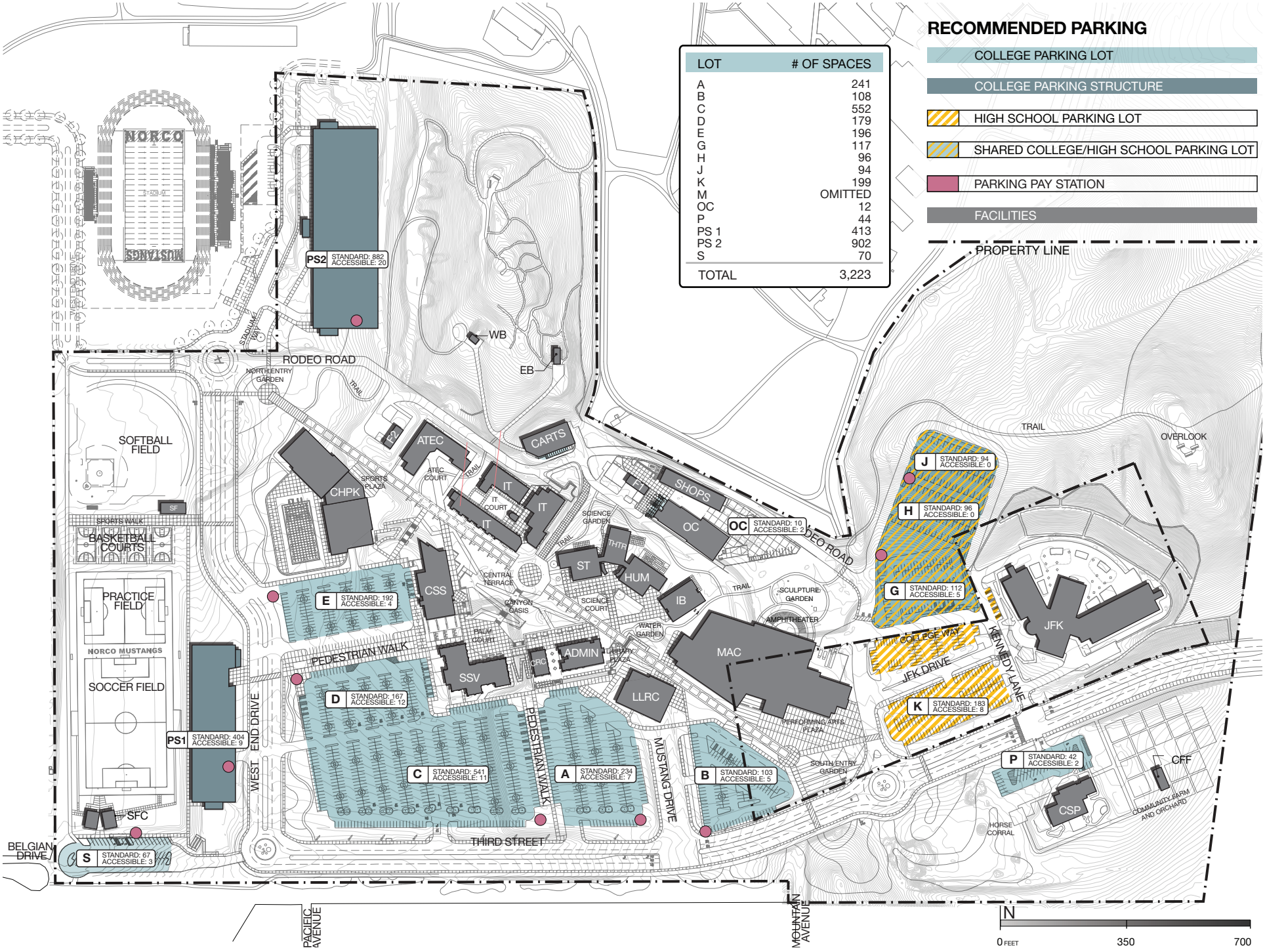
PARKING STRUCTURES

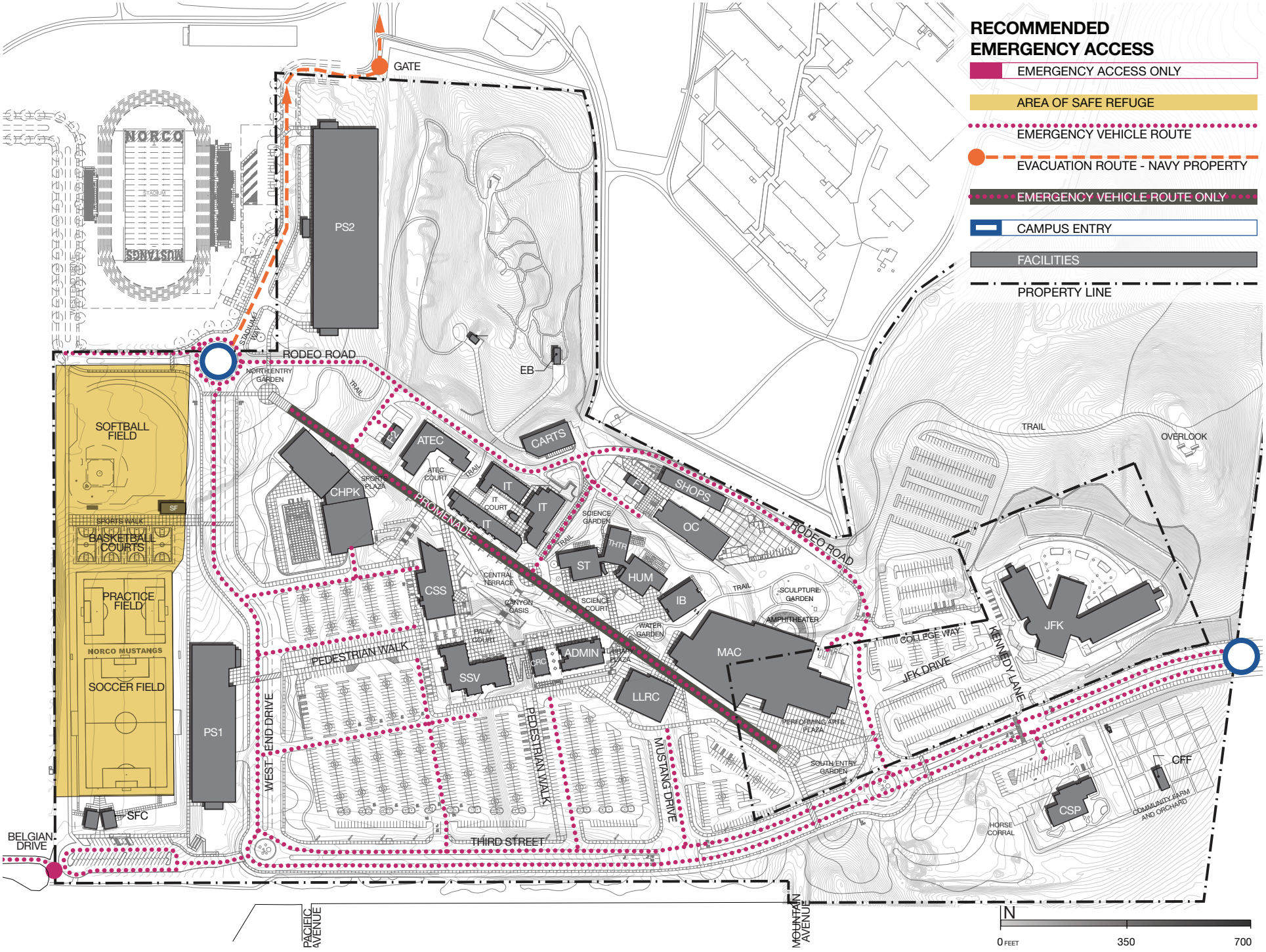
A three-story parking structure (PS1) is recommended in the south-west corner of the site adjacent to the soccer fields and West End Drive. The lower elevation of this site will minimize the impact of the facility on the neighbors to the west and the integration of elevators will address universal access to the soccer fields. This structure will be required to meet the master plan horizon 1 enrollment projection of 12,000 students.

A second three-story parking structure (PS2) is recommended in the northwest corner of the site accessed from the proposed Stadium Way. This structure will be needed to meet the master plan horizon 2 enrollment projection of 15,000 students and is envisioned as the first stop for visitors entering from the future secondary entrance. PS2 will support future expansion of the kinesiology/athletics precinct.

Both parking structures are located so that their physical presence can be minimized by integrating them into the adjacent sloping topography.

SAIT Parkade - Southern Alberta Institute of Technology


RECOMMENDED PARKING
COLLEGE PARKING LOT
COLLEGE PARKING STRUCTURE
HIGH SCHOOL PARKING LOT
SHARED COLLEGE/HIGH SCHOOL PARKING LOT
PARKING PAY STATION
FACILITIES
LOT # OF SPACES
A 241
B 108
C 552
D 179
E 196
G 117
H 96
J 94
K 199
M OMITTED
OC 12
P 44
PS 1 413
PS 2 902
S 70
TOTAL 3,223
PROPERTY LINE
RODEO ROAD
WB
EB
PS2 STANDARD: 882 ACCESSIBLE: 20
PS1 STANDARD: 404 ACCESSIBLE: 9
J STANDARD: 94 ACCESSIBLE: 0
H STANDARD: 96 ACCESSIBLE: 0
G STANDARD: 112 ACCESSIBLE: 5
OC STANDARD: 10 ACCESSIBLE: 2
E STANDARD: 192 ACCESSIBLE: 4
D STANDARD: 167 ACCESSIBLE: 12
C STANDARD: 541 ACCESSIBLE: 11
A STANDARD: 234 ACCESSIBLE: 7
B STANDARD: 103 ACCESSIBLE: 5
K STANDARD: 183 ACCESSIBLE: 8
P STANDARD: 42 ACCESSIBLE: 2
S STANDARD: 67 ACCESSIBLE: 3
NORCO
STADIUM
WESTERN DRIVE
STADIUM WAY
NORTH ENTRY GARDEN
TRAIL
SOFTBALL FIELD
ATEC
ATEC COURT
CARTS
CHPK
SPORTS PLAZA
IT
IT COURT
SHOPS
OC
SCIENCE GARDEN
SCIENCE COURT
THTR
ST
HUM
IB
CSS
CENTRAL TERRACE
CANYON OASIS
PALM COURT
SPORTS WALK
BASKETBALL COURTS
PRACTICE FIELD
NORCO MUSTANGS
SOCCER FIELD
SF
SFC
PEDESTRIAN WALK
WEST END DRIVE
SSV
ADMIN
LIBRARY PLAZA
LRC
LLRC
MAC
PERFORMING ARTS PLAZA
SOUTH ENTRY GARDEN
PEDESTRIAN WALK
MUSTANG DRIVE
THIRD STREET
BELGIAN DRIVE
PACIFIC AVENUE
MOUNTAIN AVENUE
AMPHITHEATER
SCULPTURE GARDEN
COLLEGE WAY
JFK DRIVE
KENNEDY LANE
JFK
OVERLOOK
CFF
COMMUNITY FARM AND ORCHARD
CSP
HORSE CORRAL
N
0 FEET
350
700


RECOMMENDED
EMERGENCY ACCESS
EMERGENCY ACCESS ONLY
AREA OF SAFE REFUGE
EMERGENCY VEHICLE ROUTE
EVACUATION ROUTE - NAVY PROPERTY
EMERGENCY VEHICLE ROUTE ONLY
CAMPUS ENTRY
FACILITIES
PROPERTY LINE
GATE
PS2
PS1
RODEO ROAD
EB
SOFTBALL FIELD
BASKETBALL COURTS
PRACTICE FIELD
NORCO MUSTANGS
SOCCER FIELD
SFC
ATEC
CHPK
CARTS
IT
CSS
SHOPS
OC
ST
HUM
THTR
IB
MAC
SSV
ADMIN
LLRC
LCRC
JFK
CFF
CSP
PROMENADE
PEDESTRIAN WALK
WEST END DRIVE
PEDESTRIAN WALK
MUSTANG DRIVE
THIRD STREET
BELGIAN DRIVE
COLLEGE WAY
JFK DRIVE
KENNEDY LANE
TRAIL
OVERLOOK
SCULPTURE GARDEN
AMPHITHEATER
PERFORMING ARTS PLAZA
SOUTH ENTRY GARDEN
HORSE CORRAL
COMMUNITY FARM AND ORCHARD
PACIFIC AVENUE
MOUNTAIN AVENUE
N
0 FEET
350
700


RECOMMENDED
PEDESTRIAN CIRCULATION
CAMPUS ENTRY
OUTDOOR STUDENT GATHERING
SMOKING AREAS (DESIGNATED)
BICYCLE PARKING
CROSSWALKS
CROSSWALKS + END PAVEMENT LIGHTS
FACILITIES
PRIMARY PEDESTRIAN ROUTE
SECONDARY PEDESTRIAN ROUTE
COMMUNITY WALKING PATH
PROPERTY LINE
NORCO
STADIUM
MUSTANGS
WEST END DRIVE
STADIUM WAY
PS 2
OVERLOOK
WB
EB
RODEO ROAD
NORTH ENTRY GARDEN
TRAIL
ARROYO
PROMENADE
SOFTBALL FIELD
SPORTS PLAZA
ATEC
ATEC COURT
CHPK
CARTS
IT
IT COURT
SCIENCE GARDEN
SHOPS
OC
LOT OC
LOT J
LOT H
SPORTS WALK
SF
BASKETBALL COURTS
PRACTICE FIELD
NORCO MUSTANGS
SOCCER FIELD
CSS
CENTRAL TERRACE
CANYON OASIS
PALM COURT
SCIENCE COURT
THTR
ST
HUM
IB
WATER GARDEN
SCULPTURE GARDEN
AMPHITHEATER
LOT G
JFK
LOT E
PEDESTRIAN WALK
ADMIN
LIBRARY PLAZA
LRC
SSV
MAC
LLRC
COLLEGE WAY
KENNEDY LANE
JFK DRIVE
WINDY WAY
LOT K
PS 1
WEST END DRIVE
LOT D
LOT C
LOT A
PEDESTRIAN WALK
MUSTANG DRIVE
LOT B
PERFORMING ARTS PLAZA
SOUTH ENTRY GARDEN
LOT P
CFF
COMMUNITY FARM AND ORCHARD
CSP
HORSE CORRAL
SFC
LOT S
BELGIAN DRIVE
THIRD STREET
PACIFIC AVENUE
MOUNTAIN AVENUE
STOP

STORM WATER STRATEGY

The graphic plan on the opposing page illustrates the recommended storm water strategy.

The topography and soils that underlay the Norco College campus impose constraints on the use of on-site storm water retention best management practices (BMPs). Most of the impervious surfaces are concentrated near the south side of the campus, where drainage accumulates. Due to existing site conditions there appears to be limited opportunities to construct traditional surface or below-surface infiltration systems. While not insurmountable, these limitations support the consideration of a broad range of BMP opportunities, including bioswales, that could significantly reduce the volume of runoff and improve water quality while also acting as individual retention and detention basins. Further detailed study is recommended.

Storm water management is regulated by the California State Water Resources Control Board (SWRCB) and the Environmental Protection Agency (EPA), and must be responsibly managed for each new project. All storm water must be managed on-site and filtered properly before leaving campus.

DESIGN CONSIDERATIONS INCLUDE:

- Incorporate into the Arroyo area a large scale bioswale that references the site's historic stream flows. Runoff from the proposed roads, parking areas, and buildings should be directed into this area when feasible.
- Incorporate "Green Street" concepts into the recommended roads—Stadium Way and West End Drive—and the proposed pedestrian walkways within the parking lots.

Bioswale

Rain Storage Tank/Cistern

- Incorporate rain gardens and barrels around building perimeters in the Academic Garden areas.
- Incorporate a storage tank/cistern below the proposed parking structure (PS1) at the intersection of Third Street and West End Drive. Water could be collected from the Arroyo and parking lot areas, treated, and reused for on-site irrigation.

Bioswale

- The proposed systems should act as part of a conveyance system, provide infiltration for small storm events, and provide as much pre-treatment of storm water as possible before water enters the municipal storm system at Third Street.

STORM WATER STRATEGY

LANDSCAPE GUIDELINES

While design specifications are not part of the FMP scope, the following landscape guidelines apply to the development of the recommended site improvement projects.

Arizona State University (ASU) Polytechnic Campus

SOFTSCAPE

- Species selection should favor drought-tolerant materials and the use of California native plants.
- The use of plant species listed as having high-to-moderate water needs by Water Use Classification of Landscape Species (WUCOLS) III should be restricted to limited areas. These areas include the Entry Gardens, the Academic Courts, the Sport Fields, and the Community Farm + Orchard.
- Plants should be preserved and cared for by a staff that is properly trained for the maintenance of California native landscapes.
- Plant species should be selected for their visual, educational, habitat, and maintenance qualities.
- Mulch should be provided and maintained in all planted areas.
- Plants listed as being invasive in Southern California by the California Invasive Plant Council should not be permitted on campus. Existing invasive species found on campus should be managed carefully and/or removed.
- Extensive lawn areas should be minimized, with the exception of the academic courts and the sports fields.
- Trees should be installed in a range of container sizes, with the minimum container size of 24” box..\

SOILS

- Test soils to evaluate conditions, needs, and appropriate future uses.
- Improve health of degraded soils through soil restoration, reuse, and rehabilitation to achieve conditions similar to the regional reference soil and to enhance on-site and surrounding ecosystem services.
- Reduce waste through the practice of on-site composting.
- Reuse excess vegetative materials as an amendment to maintain soil health and water, mineral, and nutrient holding capacity.
- Avoid the use of pollutants, chemicals, and soil amendments that can harm human and ecological health.

HARDSCAPE

- Design of hardscape areas and pedestrian routes should be coordinated to achieve a unified character.
- Use enhanced paving materials to identify and reinforce the character and visual interest of key plaza areas.
- Encourage the use of recycled materials where feasible.
- All hardscape materials should be selected to promote universal accessibility.
- Limit the use of dark colored paving materials in order to reduce the urban heat island effect. Select colors that are endemic to the area's natural landscape.
- Provide adequate shade in all hardscape areas.
- Promote the use of local resources, manufacturers, materials, and suppliers.

SITE FURNITURE

- A common set of landscape furniture elements should be selected for use throughout the campus open space and pedestrian circulation systems.
- Promote the use of local manufacturers and recycled materials whenever possible. Site furniture should be durable and graffiti-proof.

SUMMARY

SITE IMPROVEMENT PROJECTS

The recommended site improvement projects address issues that were identified and validated throughout the planning process. Descriptions of each recommended site improvement project are included in the following pages. The projects are organized into groups based on campus location or project type and do not reflect a priority order or a recommended sequence of development. Phasing plans will developed following the completion of this FMP and will be tied to availability of funding.

These projects address the following facilities planning principles:

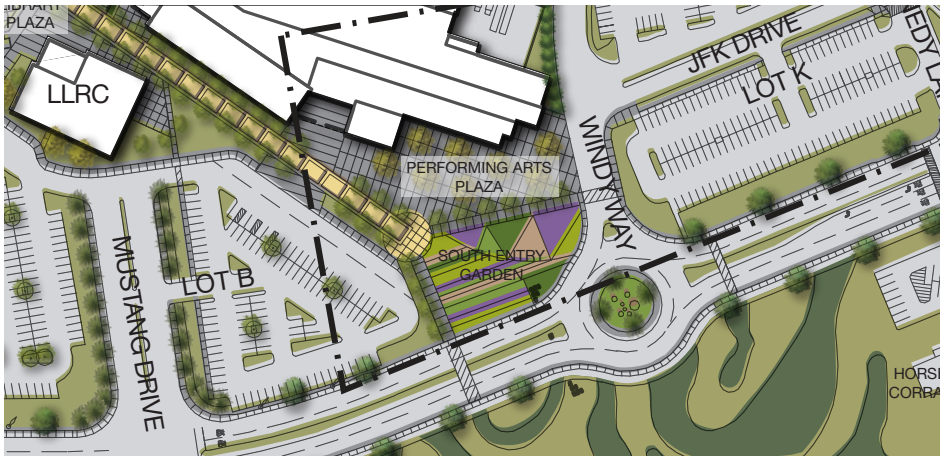
- / Maximize functional space.
- / Improve efficiency/utilization of site + facilities.
- / Enhance the collegial learning environment.
- / Support student learning + success through strengthening the campus environment.
- / Incorporate district design guidelines.
- / Improve campus identity, connections + circulation.

SITE IMPROVEMENT PROJECTS

- / Campus Arrival
- / Streetscapes
- / Parking Lots
- / Central Campus
- / Courts + Plazas
- / Academic Gardens
- / Nature on Campus
- / The Arroyo
- / The Hills
- / Community Recreation
- / Community Farm + Orchard
- / Sports + Recreation
- / Campus Wayfinding + Signage

SITE IMPROVEMENT PROJECTS

CAMPUS ARRIVAL

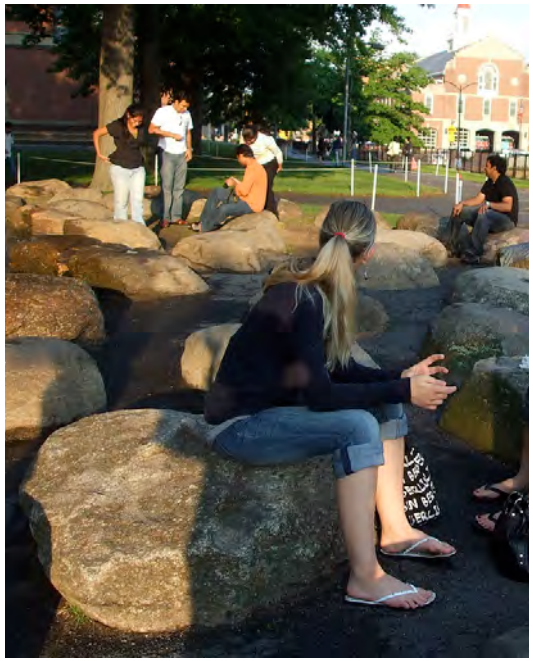


In addition to enhancing the campus streetscapes, two Entry Gardens are proposed as part of the entry sequences: the South Entry Garden at the proposed intersection of Windy Way and Third Street and the North Entry Garden at the proposed intersection of Stadium Way and West End Drive. These garden elements are intended to have a distinct design aesthetic that references the landscape history of the area. Planting in masses and in bold geometric patterns will provide a striking contrast to the more naturalized native plant aesthetic proposed for most of the campus grounds.

SPECIFIC DESIGN RECOMMENDATIONS INCLUDE:

- Select species that can be planted in masses and create bold linear and geometric patterns.
- In the North Entry Garden, use boulders found on-site and incorporate them into the garden pattern. This garden should symbolically reference the adjacent Arroyo and riparian landscape of the Santa Ana River.
- In the South Entry Garden, use species that have seasonal variation. This garden should reference the agricultural landscape of the Norco area.
- At the three proposed roundabouts, incorporate enriched pavement, signage, specialty lighting, sculpture, and plantings to mark campus entrances. Careful attention should be paid to ensure that views are unobstructed across the roundabouts.

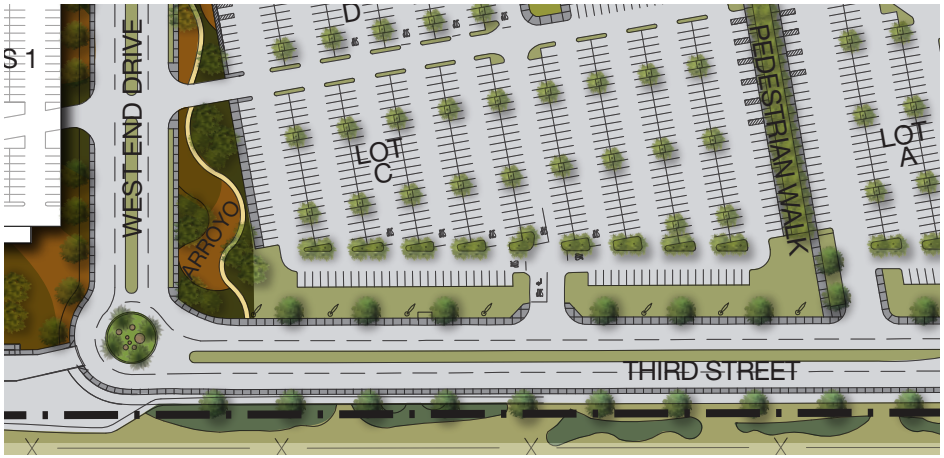
Infonet Headquarters by AHBE



Harvard University Tanner Fountain by SWA Group

SITE IMPROVEMENT PROJECTS

STREETSCAPES



The southern and western edges of campus are defined by Third Street and the proposed realignment of West End Drive. Although considered city streets, these areas should be seen as part of the campus and key components of the campus' entry sequence. They should be designed to reinforce the overall campus identity, provide shade for pedestrians, and comply with the City of Norco's design standards.

SPECIFIC DESIGN RECOMMENDATIONS INCLUDE:

- Plant canopy trees along all roadways. Space trees in a regular pattern and at a minimum of 25' on center.
- Select tree species with a uniform character and ample canopy to provide shade for pedestrians.
- Incorporate wind turbines and streetlights into the Third Street streetscape pattern.
- Plant central medians and roundabouts with shrubs and groundcovers.
- Incorporate "Green Street" storm water best management practices (BMPs) where feasible.
- Provide enhanced crosswalks at all pedestrian crossings.
- Provide a horse trail, built to City of Norco standards, along the western edge of West End Drive and Stadium Way.
- Maintain the visual connection to the proposed Arroyo area along West End Drive.

PARKING LOTS

The southern edge of the campus is dominated by surface parking lots, effectively creating a “desert of asphalt.” These barren lots detract from the aesthetic image of the campus and provide minimal pedestrian amenities. With parking in high demand, new parking structures and lot configurations/circulation are being recommended.

SPECIFIC DESIGN RECOMMENDATIONS INCLUDE:

- Alter the current lot configuration and circulation to eliminate pedestrian/vehicular conflicts. Exit and entry points should connect directly to Third Street and West End Drive.
- Incorporate clearly defined pedestrian walkways, crosswalks, and connections.
- Plant regularly spaced canopy trees to reduce heat gain and provide shade.
- Provide clear directional and wayfinding signage.
- Construct terraced lots adjacent to the high school that blend with and engage the hillside topography.
- Install solar photovoltaic (PV) panels over a portion of the parking lots to reduce heat gain and provide shade.
- Incorporate permeable and/or light colored paving to reduce storm water runoff and heat island effect.
- Promote the use of alternative fuel vehicles.

Springs Preserve Parking Lot, Las Vegas, Nevada

Kaiser Permanente, Redlands by AHBE

CAMPUS ARRIVAL

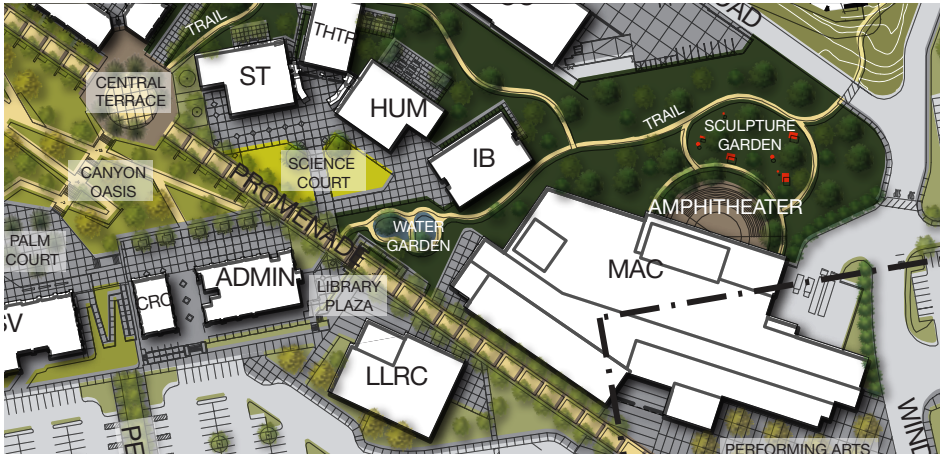
- NORTH ENTRY GARDEN
- SOUTH ENTRY GARDEN

STREETSCAPES

PARKING LOTS

SITE IMPROVEMENT PROJECTS

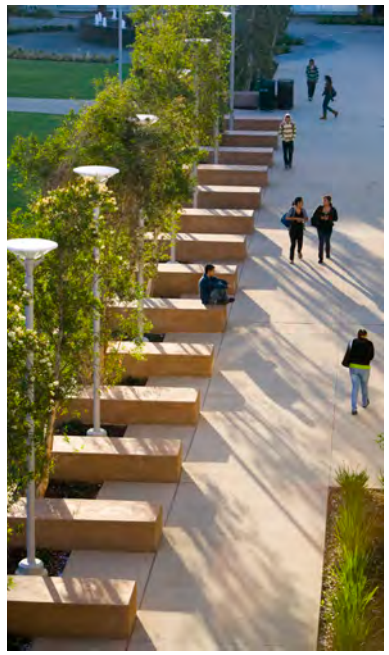
CENTRAL CAMPUS



The centrally located Promenade, a major existing corridor through the campus, is a defining feature, but it currently lacks a welcoming pedestrian scale. The FMP recommends the extension of the existing Promenade and re-envisions it as a hub of student activity. Design features that make it more pedestrian-oriented, while maintaining the required fire access, are recommended.

SPECIFIC DESIGN RECOMMENDATIONS INCLUDE:

- Extend the Promenade in each direction and connect it to each of the proposed Entry Gardens.
- Introduce canopy trees in a regular pattern between the existing palm plantings to enhance the pedestrian scale and to provide shade.
- Incorporate benches, lighting, and gathering areas along the sides of the promenade to encourage student gathering and activity.
- Create the Central Terrace, a small plaza area that connects the Promenade with the Canyon Oasis.
- Rethink the existing paving materials and pattern to enhance the pedestrian scale and lessen the current feel of a vehicular corridor. Select colors and materials that are endemic to the area and consistent with the *RCCD District Standards + Campus Design Guidelines Handbook*.

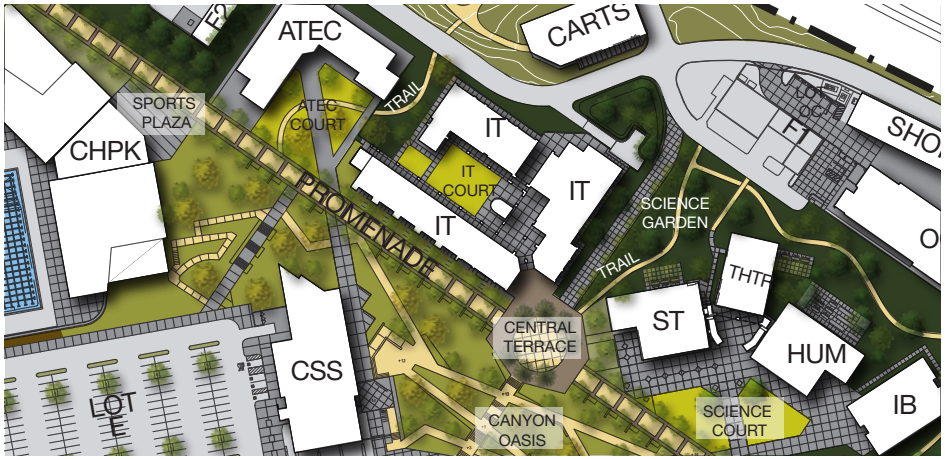


Santa Monica College by MELENDREZ

Arizona State University (ASU) Polytechnic Campus by TEN EYCK

SITE IMPROVEMENT PROJECTS

COURTS + PLAZAS



Claremont University Consortium by AHBE

M. H. de Young Museum Courtyard

Throughout the campus, a series of Courts + Plazas are proposed as part of building entry areas. Most of these areas already exist on campus; however, rethinking of the current character of each space is proposed. Each Court and/or Plaza should be considered an extension of the adjacent building and compliment its academic program. As entry points, these areas should accommodate high volumes of pedestrian traffic and provide gathering areas for students and facility to congregate between class sessions.

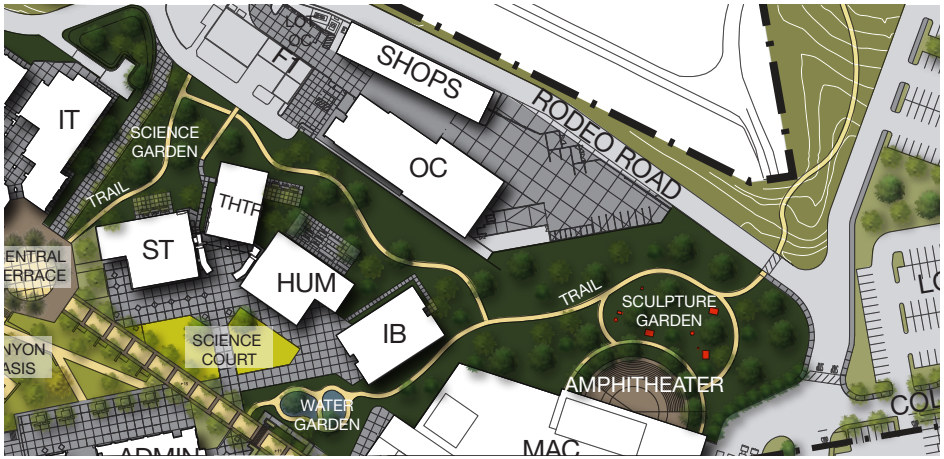
SPECIFIC DESIGN RECOMMENDATIONS INCLUDE:

- Create a large Performing Arts Plaza in front of the proposed MAC facility. This plaza should be designed as a significant public gateway into the campus and must facilitate larger community related events.
- Create a Library Plaza in front of the recommended LLRC facility. Less formal than the Performing Arts Plaza, this area should provide an outdoor area for studying. The Library Plaza should have a variety of seating areas, adequate shade, and have power and Wi-Fi access.
- Create a Sports Plaza in front of the proposed CHPK facility. This area could be a place to celebrate Norco College's and students' athletic achievements.
- Remove the existing lawn areas in front of the existing ATEC and HUM facilities and replace them with a decomposed granite surface and seating areas to create ATEC and Science Courts. Provide shade using canopy trees and/or shade structures.

California State University (CSUN) Matador Square by AHBE

SITE IMPROVEMENT PROJECTS

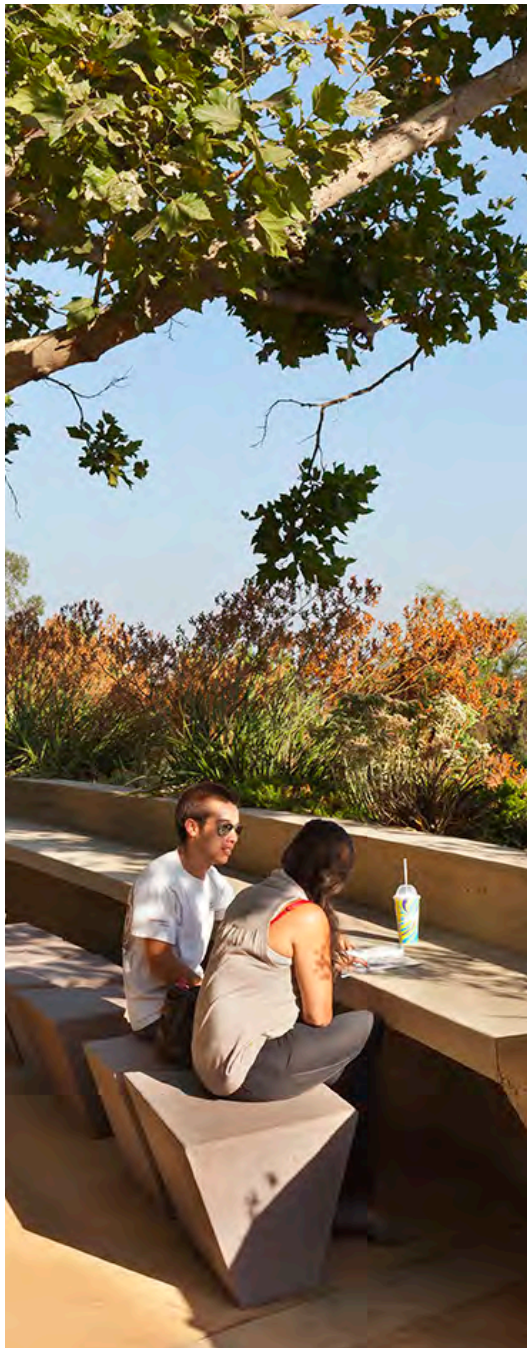
ACADEMIC GARDENS



A series of Academic Gardens are proposed at the rearward side of the northern academic buildings. These spaces are more intimate than the Courts + Plazas and are intended for individual and group gathering, outdoor classrooms, and living laboratories. The design of the gardens should directly support the curriculum and disciplines studied within the adjacent buildings.

SPECIFIC DESIGN RECOMMENDATIONS INCLUDE:

- Create garden rooms that display native California plant communities, such as chaparral, sycamore canyon, and oak woodlands.
- Incorporate raised beds and transitional garden spaces for students to plant and care for throughout the semester.
- Use a diversity of plant species and select them specifically for their educational value.
- Incorporate rain gardens to collect and provide pre-treatment of storm water.
- Provide adequate seating for a diversity of gathering scenarios for individuals and groups, using both traditional site furnishings (such as benches, chairs, and seat-walls) and non-traditional elements (such as boulders and sculpture).
- Provide adequate shade for all seating areas.
- Create an Amphitheater and Sculpture Garden behind the proposed MAC facility.
- Maintain areas for use by the anthropology and administration of justice departments.



Crafton Hills College "The Living Wall" by AHBE

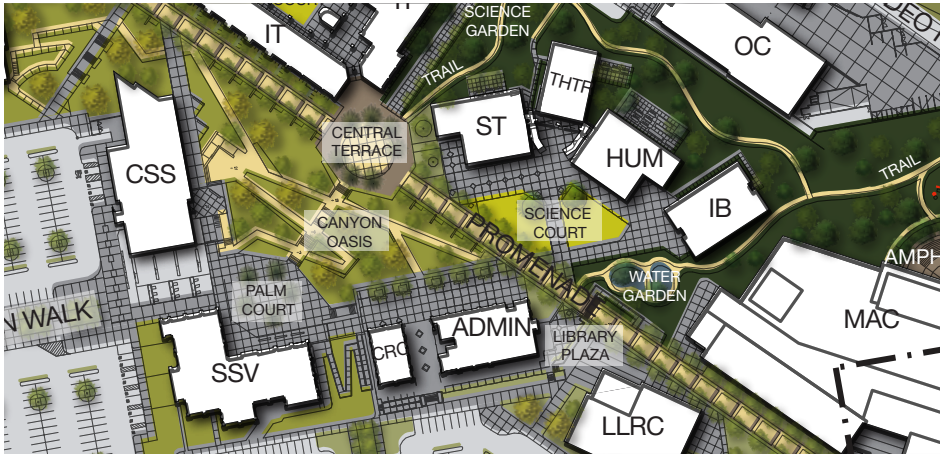
CENTRAL CAMPUS
- CENTRAL TERRACE
- PROMENADE

COURTS + PLAZAS
- ATEC COURT
- IT COURT
- LIBRARY PLAZA
- PERFORMING ARTS PLAZA
- SCIENCE COURT
- SPORTS PLAZA

ACADEMIC GARDENS
- AMPHITHEATER
- SCIENCE GARDEN
- SCULPTURE GARDEN
- WATER GARDEN

SITE IMPROVEMENT PROJECTS

NATURE ON CAMPUS



Intended to be the primary social gathering space on campus, the Canyon Oasis dramatically transforms the existing concrete amphitheater into a vibrant social area surrounded by beautiful desert gardens. To create the Canyon Oasis, the existing amphitheater is removed and the slope is gently pulled back to the edge of the Promenade, creating a hillside effect. An accessible path traverses the gentle slope and leads to a variety of seating options along its course. Some areas are intended for the single student while others are designed to accommodate small groups. The lower paved areas of the amphitheater are retained for the use of student groups and palm trees have been added to provide much needed shade in the Palm Court—the nadir of the Canyon Oasis.

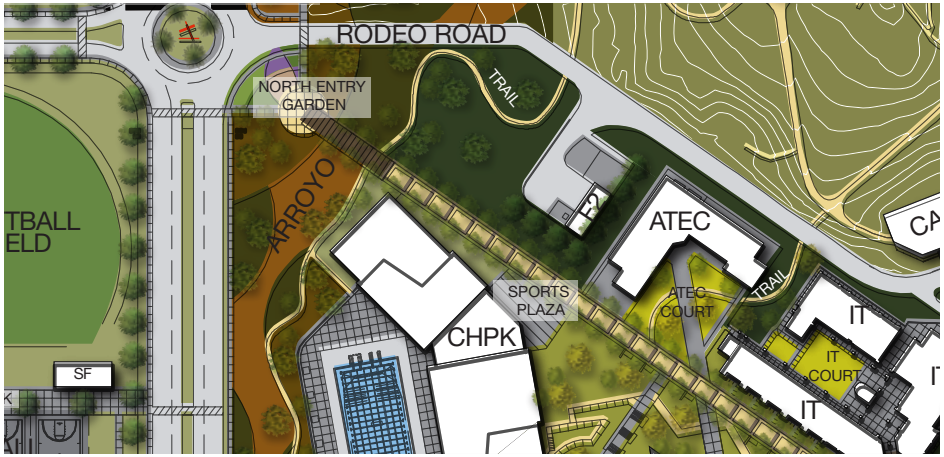
SPECIFIC DESIGN RECOMMENDATIONS INCLUDE:

- Create an accessible decomposed granite path down the slope.
- Incorporate seating areas and social nooks along the course of the path.
- Maintain a central stair for a direct path between the upper and lower areas of the central campus.
- Incorporate boulders from the adjacent hills into the Canyon Oasis design. Boulders can be both seating and design elements.
- Select materials and color palettes (for plants, paving, and site furniture) that reference and/or complement the endemic canyon landscapes of the area.

Amphitheater at Biodesign Institute of Arizona State University (ASU) by TEN EYCK

SITE IMPROVEMENT PROJECTS

THE ARROYO



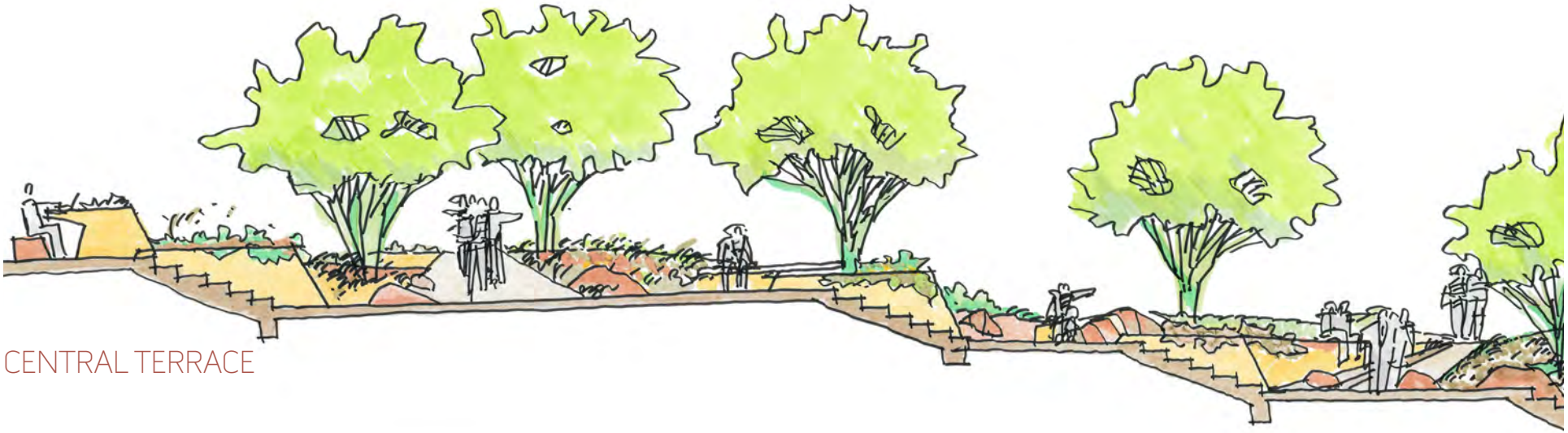
The Arroyo takes the existing vacant land between the athletic fields and the core campus and transforms it into a unique landscape amenity that references the riparian landscapes of the Santa Ana River found north of the site. The Arroyo is envisioned to resemble a wash-like landscape with riparian species and an accessible trail through it. The proposed Arroyo maintains a connective swath of open space between the community trail south of Third Street and the northern property limits. If desired and deemed feasible, this trail system could eventually connect with Lake Norconian and the city's existing open space system. In addition to providing recreational uses, the Arroyo should be designed to incorporate storm water best management practices (BMPs) such as bioswales and provide pretreatment for on-site (and potentially off-site) storm water.

SPECIFIC DESIGN RECOMMENDATIONS INCLUDE:

- The use of native species endemic to desert-washes and riparian areas. Note that these species must also be drought tolerant, as constant water flows will not likely be present.
- Paths should be a combination of decomposed granite and boardwalks and should be designed to maintain the flow of storm water.
- Areas should be maintained as an accessible recreation resource for the entire community.
- Select species for habitat value.

Arroyo landscape with pedestrian boardwalk

THE CANYON OASIS



CENTRAL TERRACE

CONCEPTUAL SECTION

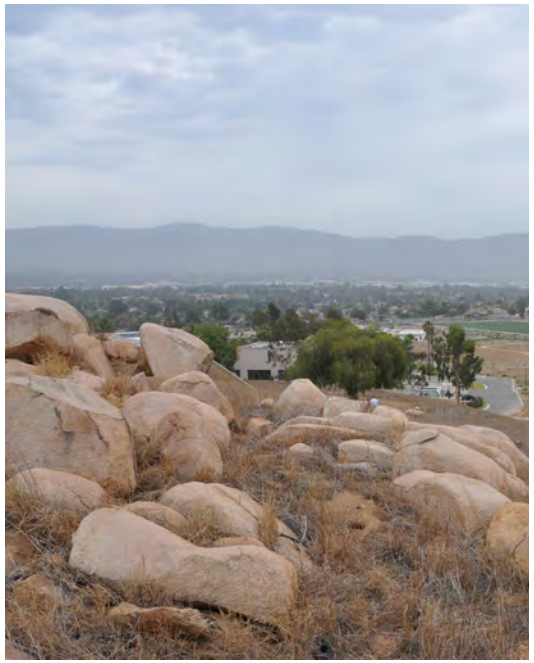

PALM COURT
EXISTING STAIRS

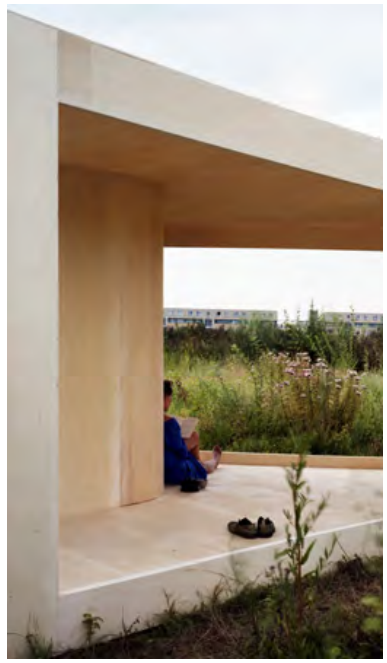
THE HILLS

The Hills are a unique landscape feature on campus and within the Norco community that should be preserved and considered as a signature element of campus identity. In addition to providing recreational opportunities—walking and jogging for students, faculty, staff, and the adjacent community—The Hills are an excellent natural resource that have an abundance of biological, archeological, cultural, and historical resources within them.

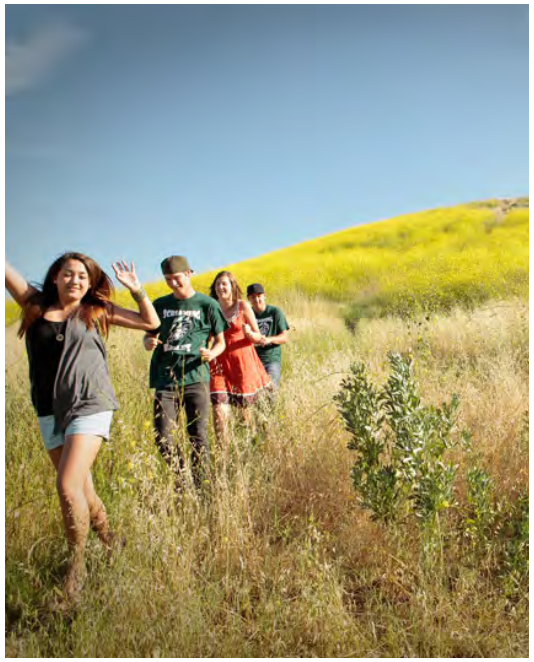
SPECIFIC DESIGN RECOMMENDATIONS INCLUDE:

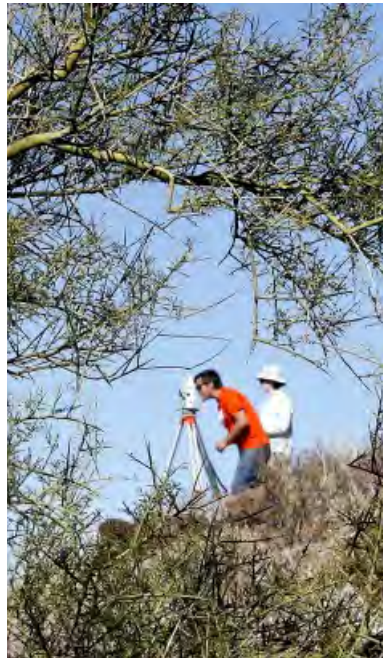
- Preserve and restore the existing hillside plant communities with endemic species.
- Provide increased access to the area with decomposed granite walking/jogging trails that lead from each campus (Norco College and the high school) to the top of each hill.
- Create overlook/rest areas at each high point—potentially using unique student built structures—that adequately provide shade, seating, and take advantage of the existing vistas over the campus and the landscapes beyond, including Lake Norconian.
- Create an educational nature walk along one of the proposed path routes that has signage highlighting the area's flora and fauna.
- Establish student work programs to manage and eliminate any invasive species found in the area.
- Continue and expand upon existing weather stations and incorporate educational lessons associated with this landscape where feasible.
- Maintain areas for use by the anthropology and administration of justice departments.





Norco College hillside





NATURE ON CAMPUS

- CANYON OASIS
- THE PALM COURT

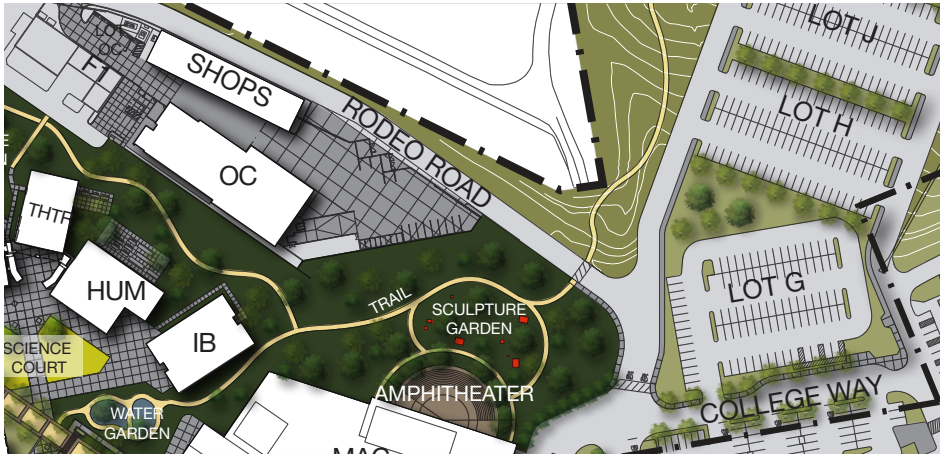
THE ARROYO

THE HILLS

- OVERLOOKS

SITE IMPROVEMENT PROJECTS

COMMUNITY RECREATION



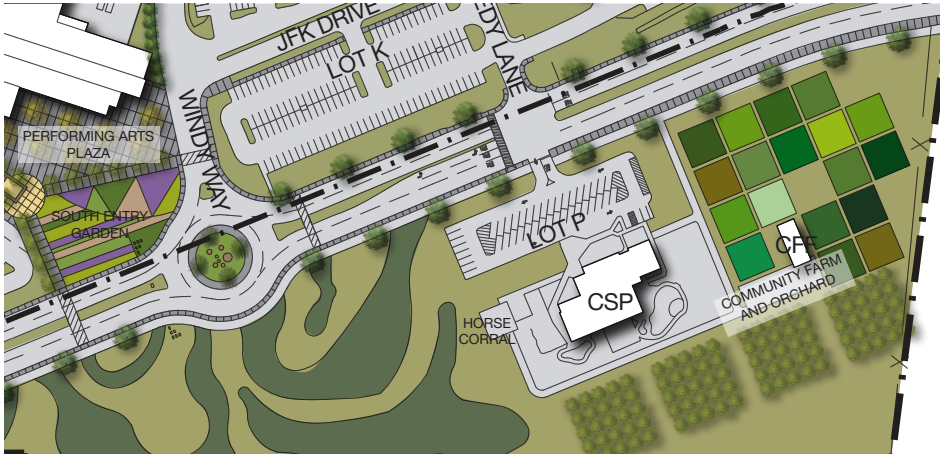
Creating a trail system that connects some of the more natural amenities on campus land with the central campus creates an excellent recreation amenity for students, staff, faculty, and the surrounding community. Key trail connections proposed by the FMP will provide linkages from the existing Community Trail south of Third Street, through the proposed Arroyo, to the proposed north parking garage (PS2) and future sports facilities; and from the campus core to the two existing hillsides and the proposed Community Farm area.

SPECIFIC DESIGN RECOMMENDATIONS INCLUDE:

- Expand and formalize the existing trail network on each hill.
- Create measured trail routes that could be used for cross country trail running routes and other fitness related routines.
- Create a north-south multi-purpose trail through the Arroyo that could be accessible by pedestrians and horses, and considered part of the citywide trail network.
- Create an educational nature walk along one of the proposed path systems that has signage about the area's flora and fauna. Excellent locations include trails within the Hill and/or Arroyo areas.
- Create a trail between the academic buildings and maintenance facilities to connect the Norco College campus with the eastern hill and the high school with the western hill.
- Plant trees periodically along the trail system to provide scattered shade for pedestrians.

SITE IMPROVEMENT PROJECTS

COMMUNITY FARM + ORCHARD

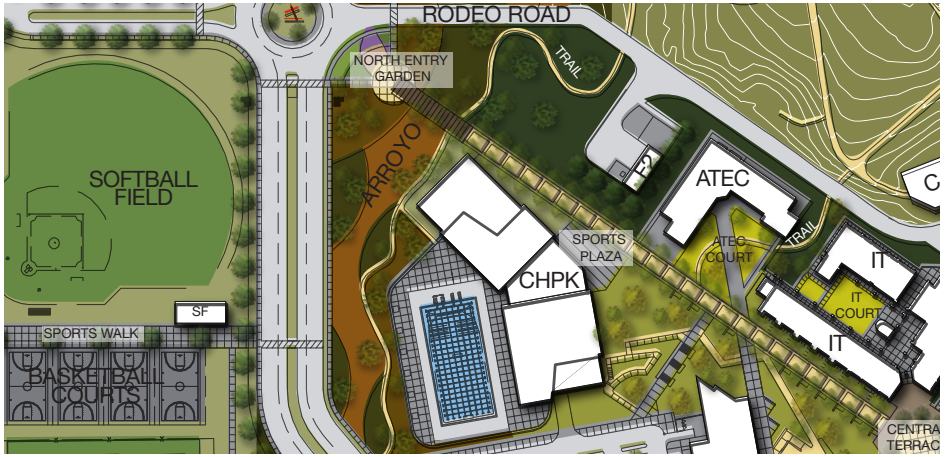


Building on the idea of providing resources for the community at large, the FMP proposes the creation of a Community Farm + Orchard on the south side of Third Street at the primary entry to the campus. The location signifies a shift from the adjacent commercial uses. Opportunities for high school student community service and connection to the Norco High School agriculture education program should be explored. Furthermore, the City of Norco has a rich history and current attitude that celebrates and supports small scale agriculture, making the city an excellent candidate for a community farm program. The Farm is envisioned to provide growing facilities for seasonal food crops, a vegetable co-op, and educational/training resources.

SPECIFIC DESIGN RECOMMENDATIONS INCLUDE:

- Create areas for community gathering and local events such as the Harvest Festival.
- Incorporate space for a local Farmer's Market.
- Create small, medium, and large growing plots for food crops.
- Incorporate a Community Farm Facility (CFF) that includes a greenhouse, a shade house, and equipment storage sheds; provide areas for large and small groups to gather within (indoors) and around the facility (outdoors).
- Plant orchard species that are appropriate for the area.
- If feasible, incorporate areas for livestock—such a chickens, sheep, and goats.
- Provide beekeeping areas and create pollinator gardens.

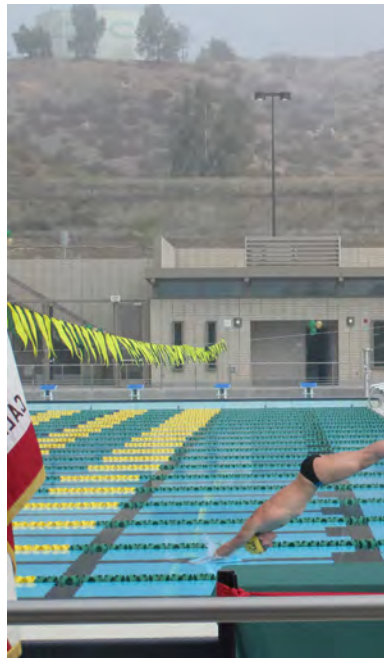
SPORTS + RECREATION

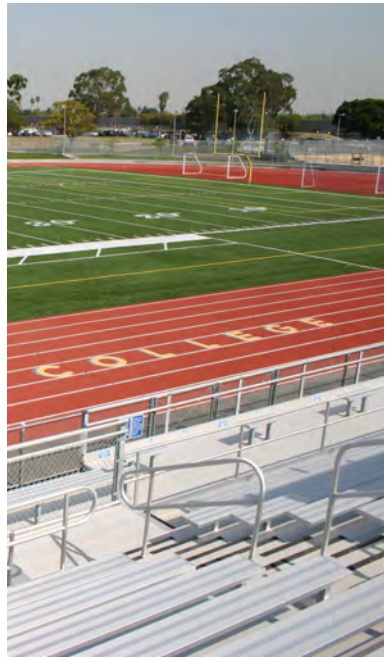


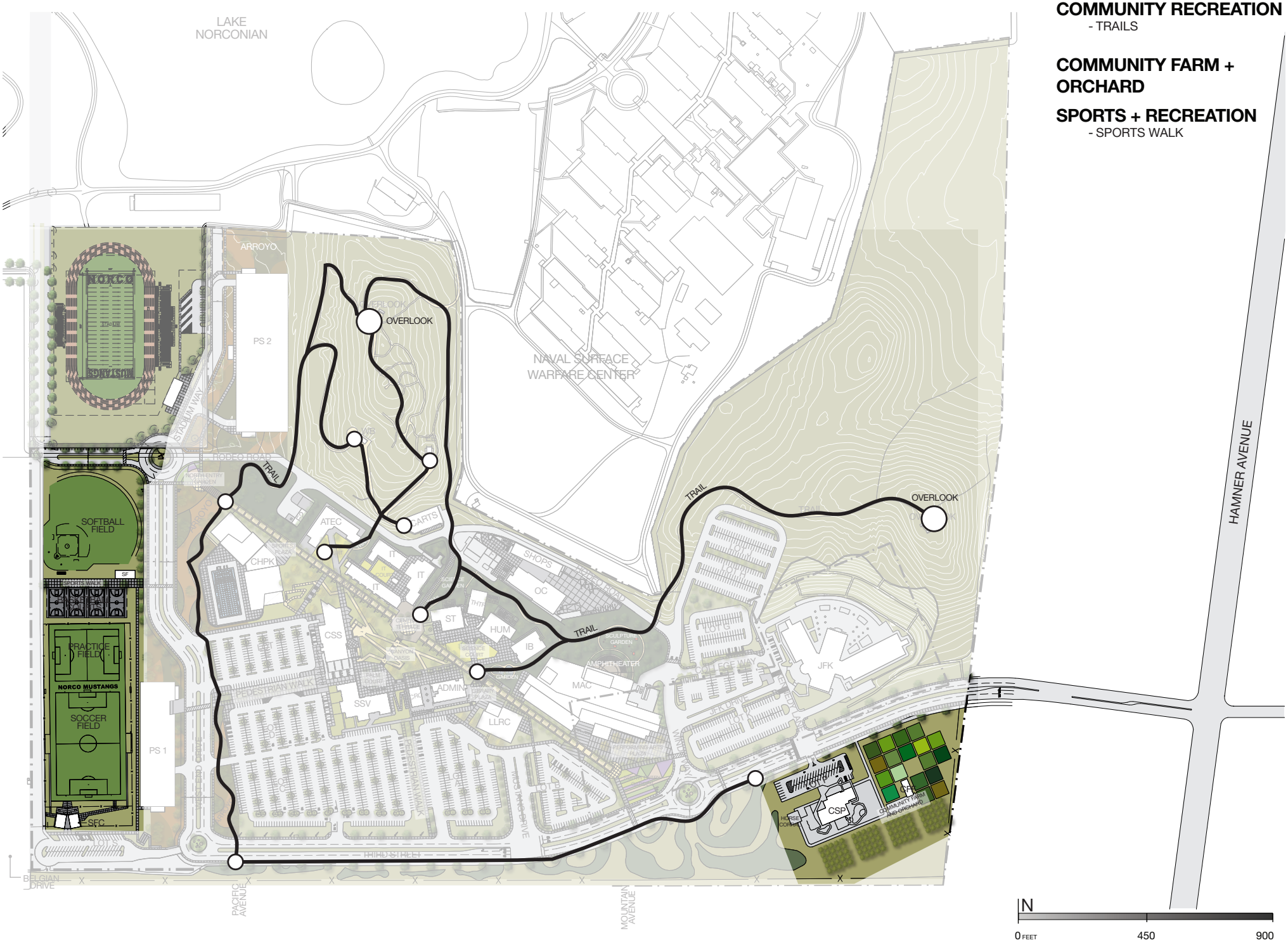
The western portion of the campus is zoned for athletics, kinesiology, and recreation use. This area will be developed for college and community use in conjunction with the construction of the recommended Center for Human Performance + Kinesiology (CHPK).

SPECIFIC DESIGN RECOMMENDATIONS INCLUDE:

- Create an outdoor fitness garden with outdoor fitness equipment on the edge of the Arroyo, near the proposed CHPK facility.
- Create quiet shaded areas for passive recreation—yoga, tai chi, pilates, and meditation. Small deck-like platforms could be integrated into the sloped areas adjacent to the Sports Plaza, or within the Arroyo areas near the proposed CHPK facility.
- Maintain a visual connection between the proposed aquatics facility and the Arroyo.
- Create a clear pedestrian path (Sports Walk) between the main campus and the proposed Sports Facility (SF).
- Construct outdoor basketball courts between the softball and soccer fields.
- Construct a regulation softball stadium (including site amenities) on the site of the existing softball field.
- Regrade and install new state-of-the-art irrigation as needed to support this precinct.







COMMUNITY RECREATION
- TRAILS

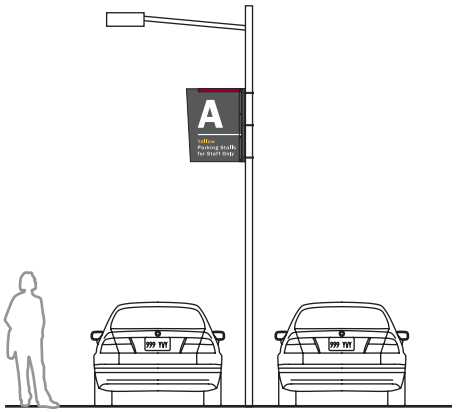
COMMUNITY FARM + ORCHARD

SPORTS + RECREATION
- SPORTS WALK

N

0 FEET 450 900

CAMPUS WAYFINDING + SIGNAGE



Wayfinding is essential in a modern campus environment as it impacts all users of the college. Functionally, wayfinding means reaching a destination within an acceptable amount of time and by expending an acceptable amount of energy. A comprehensive wayfinding program improves traffic patterns by providing essential information that people need to find the college and navigate the campus while improving accessibility and public safety. Experientially, it establishes a relationship with architectural and urban or natural landscapes. Wayfinding is more than a navigational aid, rather it is a way to market the college's resources, evoke a sense of history and character, create pride of place, and improve the streetscape.

To meet these goals, Norco College is currently developing a comprehensive wayfinding program that brings consistency, clarity, and brand identity to the campus. The signage and wayfinding guidelines will be published in the *RCCD District Standards + Campus Guidelines Handbook* and they include both wayfinding and identification signage and addresses life safety and accessibility requirements.


NORCO
COLLEGE


NORCO
COLLEGE

PROPERTY

As part of the planning process, the surrounding properties were studied and discussed with the Business + Facilities Planning Council (BFPC) in order to identify potential acquisitions for future development and to address the facilities planning principle of “improve campus identity, connections, and circulation.”

CORNERS AT HAMNER AVENUE + THIRD STREET

It is highly recommended that Norco College purchase one or both corners at the intersection of Hamner Avenue and Third Street. Acquisition of this property would enable the college to build much-needed monument (gateway) signage (as illustrated in the *RCCD District Standards + Campus Guidelines Handbook*) marking this primary entry to the campus.

ACQUISITION

FEDERAL PROPERTY NORTH OF SOFTBALL FIELD

Additionally, it is recommended that Norco College explore acquisition of the navy property just north of the softball field [currently used for recreation vehicles (RV) parking]. Acquisition of this property would allow the campus to expand the kinesiology/athletics precinct to the north and construct a future stadium for track, field, and football. The expansion also brings the college closer to both Lake Norconian and a secondary vehicular entry.

LOOKING

This is a look into the future, beyond the recommendations of the *Norco College 2013 Facilities Master Plan (FMP)*.

LONG-TERM CAMPUS GROWTH

The long-term growth and expansion of Norco College is predicated on the opening up of a second means of vehicular entry and exit into and out of the campus, as discussed here in the section entitled "*Secondary Vehicular Access*" and previously in the *2008 Norco Campus Long Range Facilities Master Plan*.

Until a secondary access is completed, Norco College and JFK Middle College High School will continue to partner to maximize opportunities to relieve traffic congestion along Third Street.

Without the provision of this second vehicular access the campus will be limited to a capacity of 12,000 students and the growth of the campus beyond this headcount will need to be redirected to an off-campus educational center.

STUDENT ORIGINS

As evidenced by the data in the *Planning Data* chapter, the majority of students who attended Norco College in 2011–2012 resided in Corona, Riverside, Norco, Mira Loma/Eastvale, Moreno Valley, and Lake Elsinore.

Approximately 79% of students travel to Norco College from the south and the east; 6% live in Norco; and 12% travel from the north.

Interestingly, a significant percentage of students (24%) who attend Norco College drive from the City of Riverside (home of RCCD's Riverside City College).

AHEAD

OFF-CAMPUS EDUCATIONAL CENTER

The public systems of California higher education must submit proposals and obtain approval prior to moving forward with establishing a community college educational center, converting an off-campus operation to an educational center, or establishing a joint use educational center.

As defined by the California Postsecondary Education Commission (CPEC), a community college educational center "is an off-campus enterprise owned or leased by the parent district and administered by the parent college. The center must enroll a minimum of 500 full-time equivalent students (FTES), maintain an on-site administration (typically headed by a dean or director, but not by a president, chancellor, or superintendent), and offer programs leading to certificates or degrees to be conferred by the parent institution."

Location

Typically, educational centers are strategically located in high population growth areas where the host district is at or near capacity and student demand is expected to increase.

The student population data summarized in the *Planning Data* chapter indicates that the best location for an off-campus center administered by Norco College would be either to the south or to the east of the existing campus.

Interstate 15 (I-15), located east of campus, and Highway 91 (US Route 91), located south of campus, are the two major regional arterials that support the travelling student population. The location of an off-campus educational center should be easily accessible from one or both of these arterials and established on property acquired by the Riverside Community College District/Norco College that is well situated for visibility, access, and student population (existing and future).

Furthermore, selection of a location for a future educational center should be mindful of both college programming and state criteria for center status or possibly greater designation.

Programs

Norco College envisions that a future off-campus educational center would primarily be a general classroom facility that offers transfer education courses that serve the majority of their students. Large lecture, rather than specialized lab sections, would fulfill community access demands.

Courses offered by the Social + Behavioral Sciences Department - political science, psychology, and sociology, courses offered by the Arts, Humanities + World Languages Department - humanities and philosophy, and mathematics courses offered by the Math + Sciences department would lend themselves well to an off-campus location.

RECOMMENDATIONS

LOOKING AHEAD (CONT'D)

Some of the dreams of the administration, faculty, students, and staff are included here and the dialogue will continue. These ideas need to be tested, be supported by data and funding, and linked to developed programming as this FMP continues to evolve over time.

JOINT USE LIBRARY

Imagine a Library/Learning Resources Center that is shared by Norco College, John F. Kennedy Middle College High School (JFK), and the City of Norco Public Library. This would necessitate a joint venture between Riverside Community College District/Norco College, Corona-Norco Unified School District/JFK, and the Riverside County Library System/Norco Library.

Currently Norco College shares its library facility with the high school. To innovatively and efficiently meet the needs of all the constituencies, including the community, all three entities could join forces. This idea strongly supports Norco College's core commitments to access and civic engagement.

BUSINESS CENTER

Imagine a building that is conducive to hosting local business and industry partners and employers. This Business Center would facilitate critical interaction and dialogue between faculty, students, and employers.

The Business Center would support the Career and Technical Education (CTE) focus at Norco College, communicate information about CTE programs and services to the external community, and create a place where regional needs and partnerships are explored and discussed. This facility strongly supports Norco College's core commitments to innovation and inclusiveness.

JOINT USE SPORTS/AQUATICS FACILITY

According to the Center For Cities + Schools at the University of California, Berkeley, "[college] facilities and grounds are integral components of public infrastructure that provide students with space to learn, socialize, and exercise...As interest grows in addressing pressing social concerns such as childhood obesity, lack of recreation/open space, suburban sprawl, and the need to efficiently use limited public resources, many [are] considering expanding the use of [college] spaces to include non-school users (commonly referred to as 'joint use') as a strategic approach to help address these issues."

There is an opportunity for Riverside Community College District/Norco College, the City of Norco Parks and Community Services Department, and the Corona-Norco Unified School District/JFK to partner and work together to accommodate the high demand for recreational needs — K–12, college, and the local community — on the Norco College campus.