University of Colorado
Colorado Springs

Master Plan

September 2012

Contents

Executive Summary

The 2012 Master Plan for the University of Colorado Colorado Springs (UCCS) provides a strategy for meeting projected growth needs and campus capacity in a responsible and sustainable way. This guide to capital improvement projects supports the university's academic mission and strategic plan while identifying opportunities to reinforce campus identity and a sense of place. It incorporates proposals from previous planning efforts, including the 2006 Master Plan and the East Campus Master Plan, into a holistic framework for campus development.

The Master Plan was undertaken concurrently with the development of the UCCS 2020 Strategic Plan, and both plans reinforce shared goals. The strategic plan indicates that enrollment will grow from 9,321 students in 2011 to over 13,000 students by 2020. This growth will largely occur as a result of a significant number of new students attracted from outside the Colorado Springs region.

The Plan specifically focuses on the underdeveloped North Campus and suggests ways to accommodate future growth on North Nevada Avenue nearest to the commercial activity of Colorado Springs, a prominent area of the university. The capacity of the North Campus at full build-out respects the campus character, connects to the rest of the university, and promotes sustainable design.

MASTER PLAN GOALS

Preserve a Sense of Place

The Colorado Springs campus offers uninterrupted, impressive views of Pikes Peak, the Front Range, and Pulpit Rock, which differentiates it from every other university in the state and nation. Respecting this natural beauty and the dramatic topography of the university setting is critical to avoid environmental damage as enrollment grows and campus development expands.

The Master Plan sites buildings to maintain and frame important views. Drainage corridors are respected and enhanced to accommodate stormwater runoff. Where appropriate, large stands of native vegetation are preserved, and native species are reintroduced to developed landscapes. Evidence of archeological remains uncovered during building excavations for new development will also be monitored and documented or preserved as appropriate.

Connect Campus Destinations

The university's setting is distinctive in its linear organization. Like a string of pearls, the campus is distinguished by various activity areas connected by a single pathway. This circulation spine unifies the campus and serves as a community gathering space for students, faculty, staff, and visitors. It unifies the campus, but each campus district has a unique character that will be preserved and strengthened.

The Master Plan suggests ways of building on existing nodes of activity by creating academic and housing "villages" along the spine extenstion. The pathway maintains a primary pedestrian route, but also allows bicycles and public transit in an area separate from vehicular traffic. In some situations, pedestrian paths are separated from transit and bicycle routes; at other times, their routes run parallel to one another. Where the pedestrian spine runs alongside a campus road, appropriate design ensures that pedestrians feel separated from auto traffic.

Develop the Campus in a Responsible & Sustainable Way

To accommodate 13,000 students on campus, nearly 1,200,000 gross square feet of new academic and student life facilities will be needed. Should enrollment rise to 20,000 students, nearly 2 million gross square feet of new academic and student life facilities will be needed. However, the university is experiencing several trends that may impact future space needs: online courses, higher utilization of classrooms, and increased on-campus housing. These trends may either slow or accelerate the rate of growth needed to reach full build-out capacity.

The Master Plan accommodates these future needs for academic, research, administrative, and housing facilities by suggesting locations for buildings that are well-connected to the Core Campus through transit, bike, and pedestrian connections. To ensure these facilities are integrated with the campus fabric in a sustainable way, the Plan addresses how future development can reflect the principles of smart growth, achieve high performance buildings and landscapes, and take advantage of alternative modes of transportation.

Engage the Public on the North Campus

A mix of uses within walking distance will be considered carefully when developing the North Campus. With a significant portion of campus located within the North Nevada Corridor Urban Renewal Zone, university development can complement commercial and residential development at University Village Colorado and near the Interstate 25 interchange to create a college town district. By providing public university functions along this important corridor, UCCS can take advantage of partnership opportunities and enhance its presence in the cultural life of Colorado Springs.

The Master Plan sites new buildings related to the health sciences, arts, and athletics on the North Campus that will engage the public in the life of the university. These major facilities are described below.

The Lane Center for Academic Health Sciences, a partnership between the university and community health centers, will be approximately 54,000 square feet and house clinic, research, and office space. The Center is envisioned as the first phase of a future Health and Wellness Village. Potential uses in this area of the North Campus include expansion of existing clinical programs, a nursing school, and additional research, office, or new clinical program space.

The Visual and Performing Arts Center will accommodate performance venues, practice rooms, classrooms, offices, and studio and gallery space. This facility could be split into two buildings devoted to the visual and performing arts or combined into one. By connecting to a shuttle bus stop and the central green aligned with the existing soccer field, a campus gateway will be created along North Nevada Avenue. A series of sculpture gardens, stormwater management ponds, and outdoor art yards will line the path from the North Nevada underpass to a new arena and complement the existing student sculpture installations along North Nevada Avenue in front of University Village Colorado.

As part of a consolidated athletics precinct on the North Campus, a new 4,000-seat arena will house UCCS athletics programs as well as host public events such as UCCS athletics, US Olympic Committee gatherings, and concerts. Its location along North Nevada Avenue offers easy access and makes it a landmark entry to the UCCS campus. A nearby outdoor stadium hosting track and field and soccer events could be used by community organizations and the US Olympic Committee as well.

These transformational projects establish a vibrant UCCS presence on the North Campus, and the transportation and pedestrian spines establish a critical link back to the academic core. As enrollment grows to 13,000 in 2020 and beyond, the identified development sites allow the university to meet new facilities needs while respecting its natural resources and establishing a unique sense of place.

Purpose & Planning Process

UNIVERSITY MISSION AND VISION

The Colorado Revised Statutes state the mission of the university as:

The Colorado Springs campus of the University of Colorado shall be a comprehensive baccalaureate and specialized graduate research university with selective admission standards. The Colorado Springs campus shall offer liberal arts and sciences, business, engineering, health sciences, and teacher preparation undergraduate degree programs, and a selected number of master's and doctoral degree programs.[1]

To support this mission, the University of Colorado Colorado Springs Strategic Plan, 2012-2020 has set forth the following vision:

UCCS, a premier comprehensive undergraduate and specialized graduate research university, provides students with academically rigorous and life-enriching experiences in a vibrant university community. We advance knowledge, integrate student learning with the spirit of discovery, and broaden access to higher education for the benefit of southern Colorado, the state, nation and world.

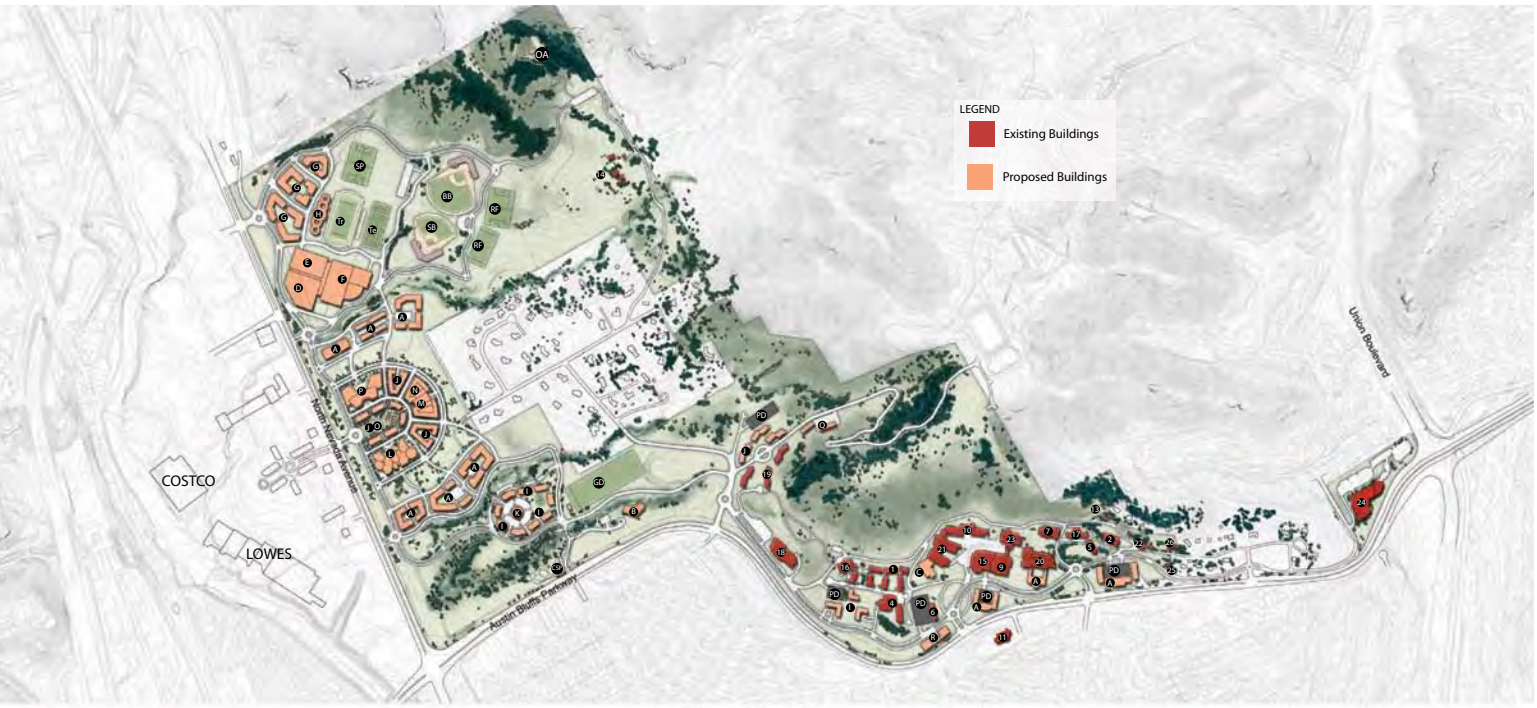
[1] *Colorado Revised Statutes. Senate Bill 11-204. Section 2. 23-20-101 (1) (c) Approved June 10, 2011*

PREVIOUS PLANNING STUDIES

The State of Colorado requires that each campus develop a master plan for facilities and land use to support the implementation of the academic mission and guide capital improvement plans. UCCS' existing master plan was submitted in 2006 and includes seven- and fifteen-year plans proposing new development on the Core Campus and North Campus. In light of additional property acquisition to the east of the Core Campus, the University commissioned a Concept Master Plan for the East Campus in 2009.

Several of the proposals from the 2006 plan have been implemented, and others remain valid ideas for future development. However, changing conditions at the university merit some reconsideration of these planning documents, particularly the plan for North Campus.

The findings of the most recent planning effort are documented in this Master Plan, which incorporates proposals from previous planning efforts into a holistic framework for campus development, while focusing specifically on the North Campus at this critical moment in its development.



Fifteen Year Master Plan for University of Colorado Colorado Springs, completed in 2006.

East Campus Concept Master Plan, completed in 2009.

PURPOSE OF THE PLAN

The University of Colorado Colorado Springs (UCCS) has grown steadily since its inception. As the designated growth campus within the CU System, the university is aware that enrollment growth will provide both challenges and opportunities in coming years. The university anticipates that this growth will propel university development onto North Campus, which has long been identified as a critical component of the university's growth strategy.

In light of this context, the Master Plan will:

- Accommodate enrollment growth within a development framework that unifies the campus.
- Evaluate the responsible capacity of North Campus at full build-out and create a plan that respects that capacity in a sustainable manner.
- Integrate university development on North Campus with adjacent development on North Nevada Avenue within the Urban Renewal Zone.
- Develop an implementation plan that aligns with goals set by the university's Strategic Plan for 2020.

The pedstrian spine is an important organizing element in the Core Campus that will inform North Campus development.

CAMPUS COMMUNITY INVOLVEMENT

The campus community participated in the planning process throughout all of its phases. This input took a variety of forms, which are briefly described below. Detailed documentation of participants and meeting schedules is included in the Acknowledgements section.

Master Planning Team

The master planning team facilitated the overall process and was guided by Executive Director of Facilities Services, Gary Reynolds, and Project Manager for the Colorado Springs Urban Renewal Authority, Jim Rees. The team also included representatives from Ayers Saint Gross (master planning), Tapis Associates (landscape architecture), Wilson Associates (civil engineering), and HNTB (arena planning and design). The team used a collaborative workshop model, meeting for two to three days at a time over a period of nine months.

Master Plan Committee

The Committee was comprised of more than 30 individuals representing a range of interests related to the Master Plan. Neighbors, faculty, and staff served as committee members, shepherding the process, vetting and offering ideas, and advising the master planning team. The Committee met with the team at least once during every workshop.

Design Review Board

The Design Review Board for the University of Colorado System reviewed the progress of the master planning process at four intervals during the process. Based on their knowledge of the UCCS campus, the CU System, and the unique challenges of building in the region, the Design Review Board's feedback proved invaluable in shaping the Master Plan.

Focus Groups

Early in the process, the master planning team conducted listening sessions with focus groups representing a cross-section of the university community. During these sessions, the team described the objectives of the master planning process and asked participants to discuss the strengths of the university and its physical campus, specific needs for new or different facilities, and how to meet these needs in a manner that continually improves the quality of the campus.

The Master Plan Committee discussed ideas while walking around campus.

During workshop sessions, the Master Plan Committee explored scenarios.

Public Forum sessions informed the campus community about the plan.

Open House workshops generated ideas about campus organization.

Students, faculty, staff, and neighbors attended the Open House Workshop.

Public Forums

Throughout the planning process, the Master Planning Team held public forum sessions to present their findings and proposals and to listen to concerns and suggestions from those who attended. The meetings were open to all members of the campus community and residents of adjacent neighborhoods were notified of meetings through a mailing sent by a City of Colorado Springs notification system.

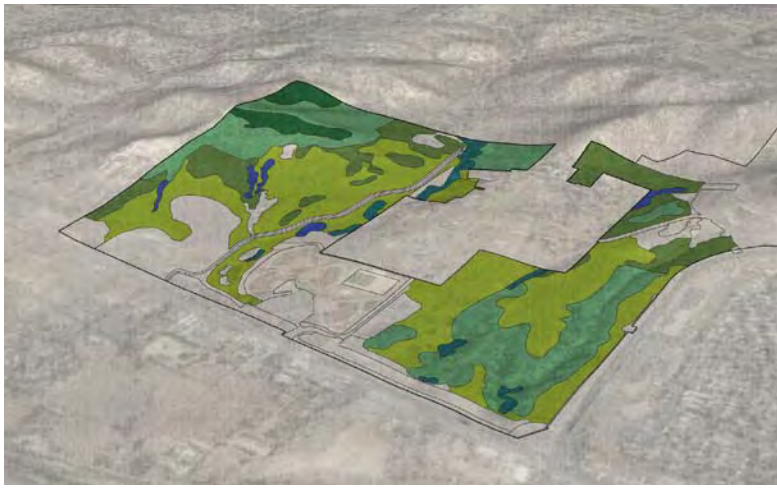
Open House Workshop

In November 2011, during the Capacity Studies phase of the planning process, the university held two open house sessions for students, faculty, staff and neighbors to provide input on future campus development. Posters displayed analysis of the campus, planning principles, and initial sketch plans of campus organization at full build-out. Participants had the opportunity to comment on the work displayed as well as to complete a planning activity that explored how new facilities designed to support a 20,000-person student body would be organized on campus. More than 60 students, faculty, and staff attended the open house sessions, providing a wide range of valuable input to the planning process.

PLANNING PHASES

Observations and Concept Plan

During the first phase of the planning process, the master planning team gathered information about the university through various means. Meetings with students, faculty, and staff provided insight into daily life on campus and the visions the community has for the future of the campus. Analysis of campus organization, specific site issues on the North Campus, and facilities needed to accommodate potential enrollment growth provided context for future development on the site. On-the-ground experiences of the campus community confirmed observations from technical analysis and the themes that emerged coalesced into a concept to guide the process moving forward.



Identification of native vegetation in the Observations Phase.

Capacity Studies

During the Capacity Studies phase, the team explored development options for the North, Core, and East Campuses to implement the Concept Plan. Discussion with the campus community resulted in preferred strategies and a better understanding of the number of students the campus can accommodate.

Campus organization scenarios helped evaluate capacity.

Strategic Plan Integration

Concurrently to the first two phases of the master planning process, the university worked to develop its Strategic Plan. The Strategic Plan set enrollment growth targets and prioritized development projects through 2020. In the final phase of the planning process, the master planning team worked to integrate the preferred long-term development scenarios generated during the Capacity Studies phase with near-term priorities from the Strategic Plan, resulting in the final Master Plan.

Integration with the Strategic Plan informed the final Master Plan.

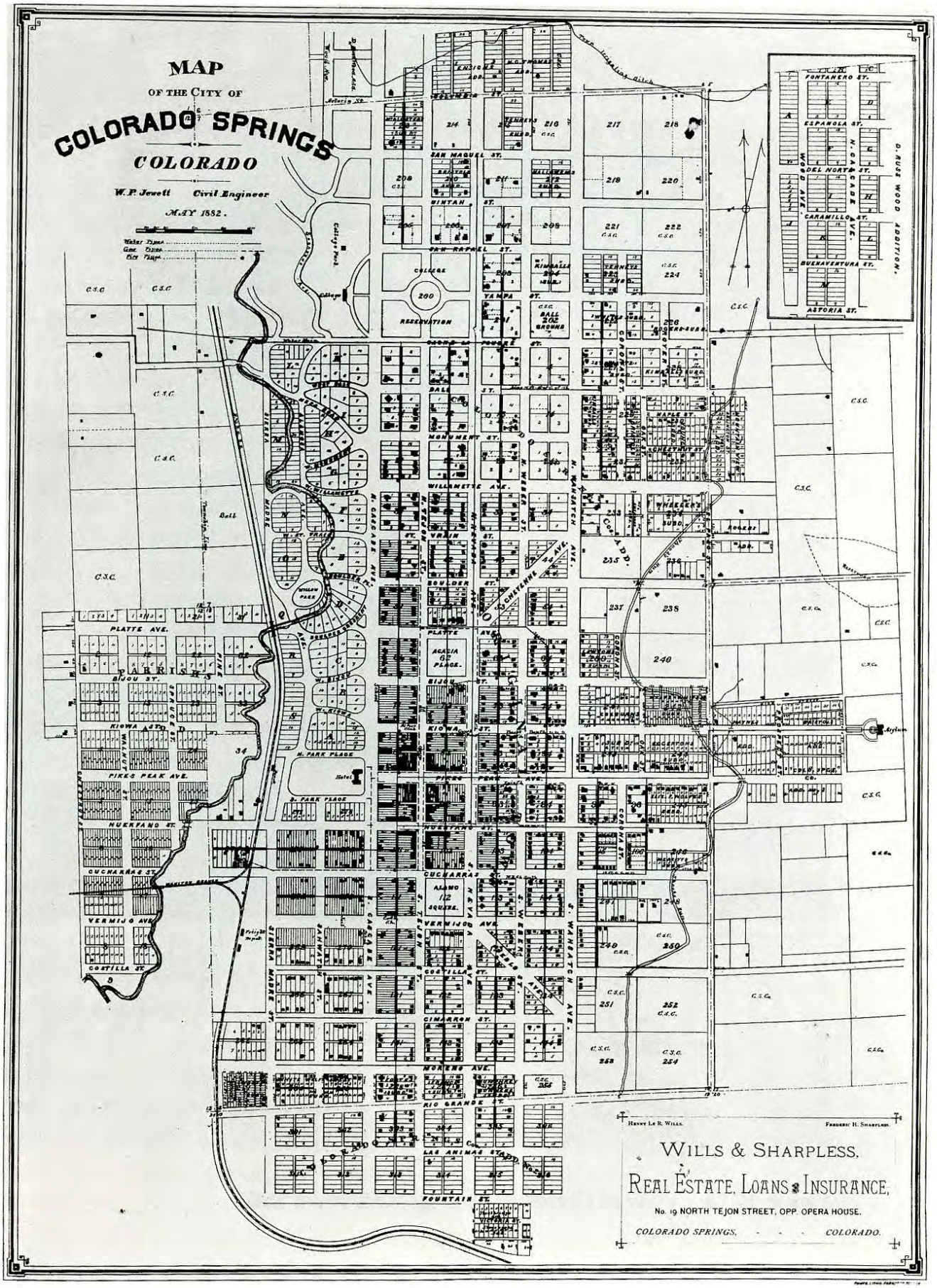
Campus Setting

CAMPUS-WIDE ANALYSIS

Colorado Springs and UCCS History

Beginning with the Ute, Cheyenne, Kiowa, and Arapahoe Native American tribes, people have been drawn to Colorado Springs by the iconic peaks and rock formations including Garden of the Gods and Pikes Peak. Small numbers of early American settlers farmed and raised livestock in the area before the Civil War. After the Civil War and in anticipation of a new railroad line, Colorado Springs was founded in 1871. General William Jackson Palmer laid out plans for a gridded city whose main avenue would frame views of Pikes Peak. Land was allocated for schools, parks, and churches in what was envisioned to be a resort town. The city's planning tradition of establishing grid development based on view corridors inspired and informed the Master Plan.

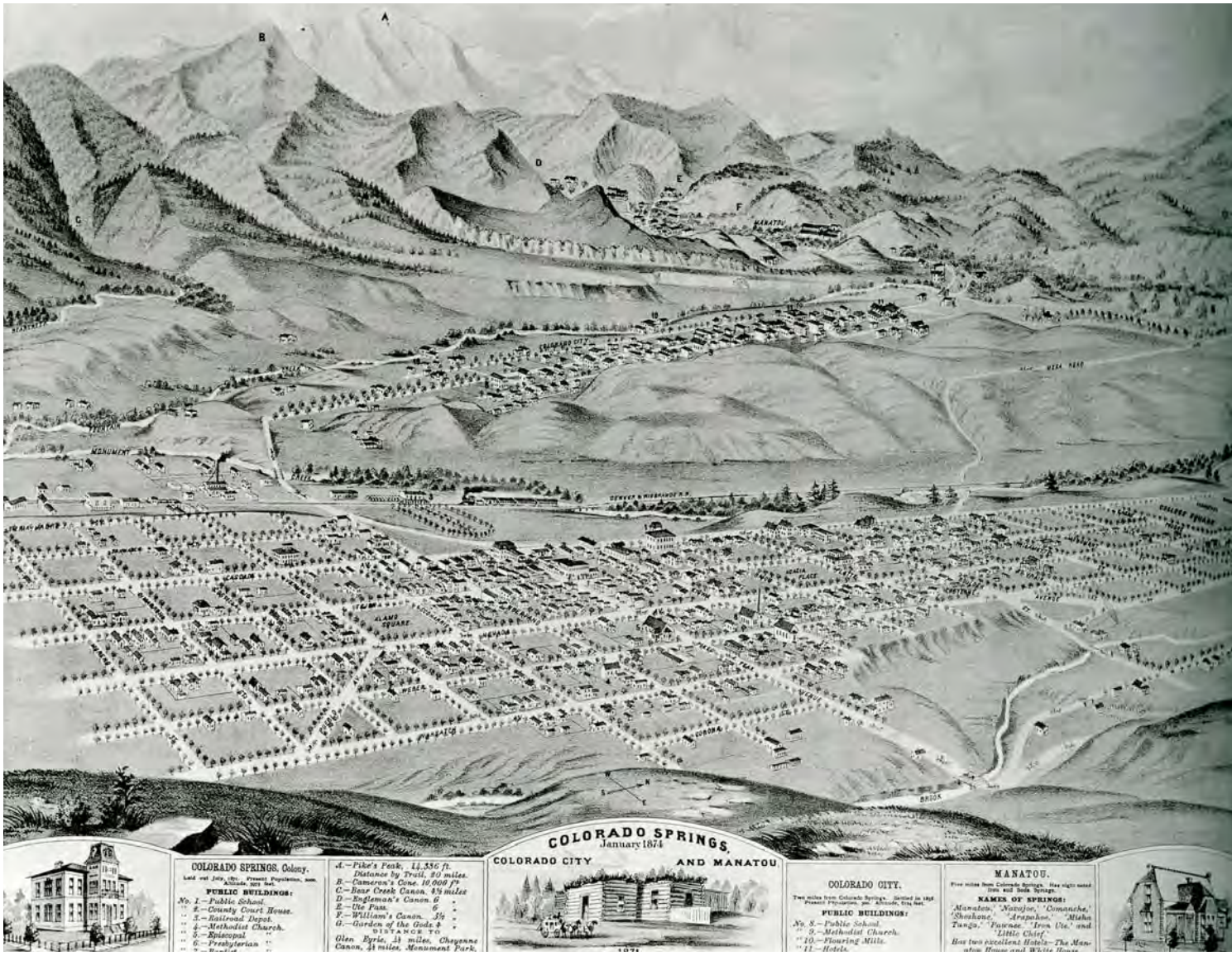
The natural features of Colorado Springs have drawn people for centuries and continue to define campus character.



1882 Plan of Colorado Springs. Source: Cities of the American West by John W. Reps.

The city grew rapidly in the 1890s, fueled by the rail line and the gold mining rush at Cripple Creek. The sunny conditions and mild, dry climate also encouraged new residents, particularly because the weather was thought to improve the health of tuberculosis patients. Consequently, the city housed many sanatoriums. One of these sanatoriums, the Cragmor Sanatorium, became the site of the University of Colorado Colorado Springs. Although the CU system had offered courses in the 1920s at informal locations throughout the city, it did not establish a significant presence until the 1960s.

At that time, Hewlett-Packard (HP) wanted to expand operations in Colorado and began negotiations with the local and state governments. The state promised HP a full CU campus in Colorado Springs to support the company's continued expansion, which was realized on the 80 acre Cragmor Sanatorium site. While most of today's Core Campus occupies the original 80 acre parcel, the university has added 365 acres over the last 45 years, for a total of 445 acres. This has mostly occurred through donations of land in support of its mission, including the Heller and Trembly estates, that make up much of the North Campus.



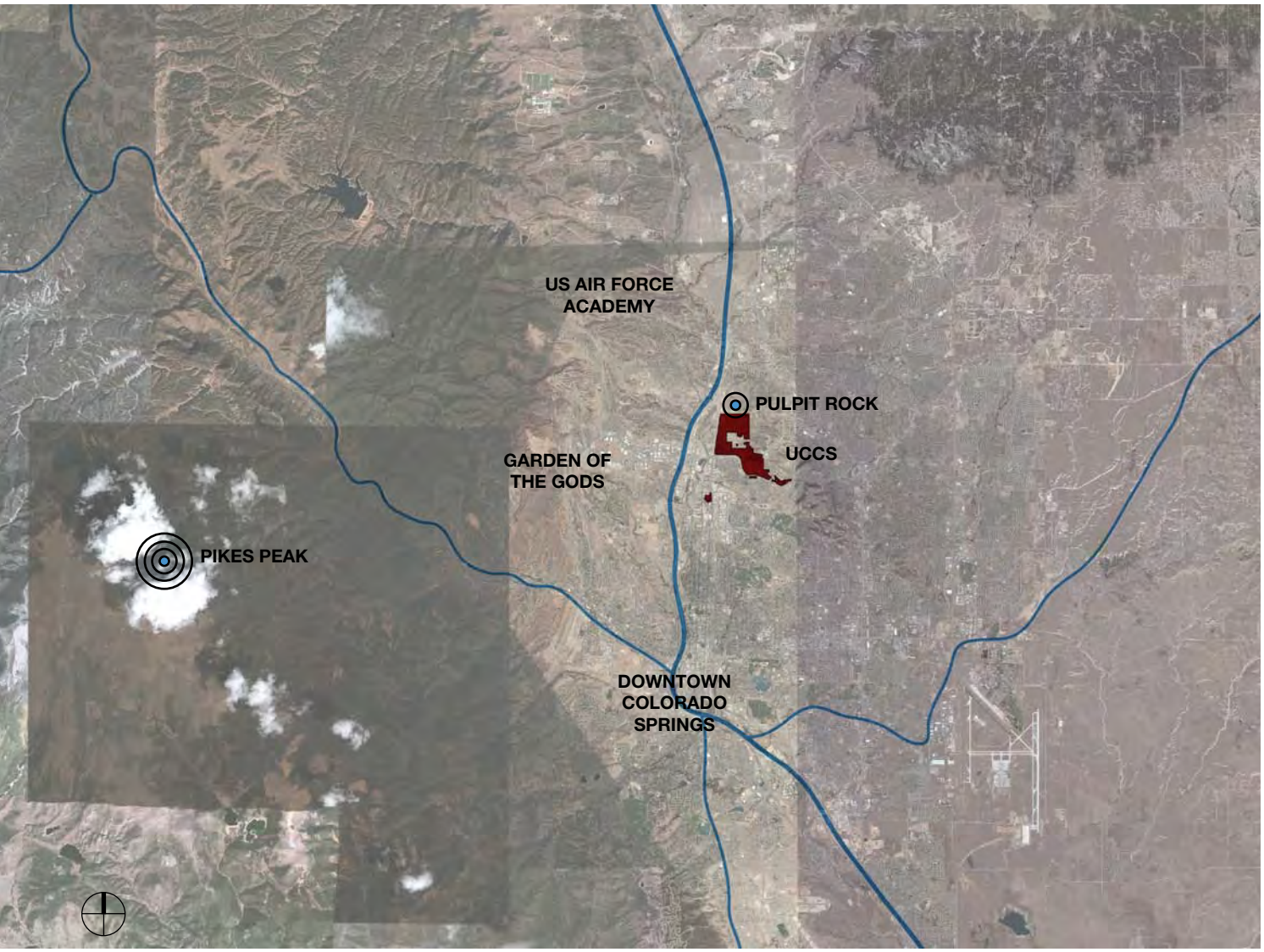
1882 View of Colorado Springs. Source: Cities of the American West by John W. Reps.

Regional Context

The UCCS campus is located north of downtown Colorado Springs, close to Interstate 25. The campus is bounded by North Nevada Avenue to the west, Austin Bluffs Parkway to the south, and the rock formations of the Austin Bluffs to the north and east.

The Colorado Springs region is home to 650,000 residents, the second largest metropolitan area in the state. Its extensive outdoor recreation opportunities and scenic landscape make it a popular place to live. This is an enormous asset to the university in attracting and retaining students and creating a unique sense of place on campus.

The local economy has long specialized in technology, military, and international sports organizations. The high elevation and dry, sunny climate have attracted the US Olympic Committee and its Olympic Training Center to the region as well as several military installations. The military presence began with the development of Fort Carson in the 1940s and now includes the United States Air Force Academy, Peterson Air Force Base, Schriever Air Force Base, North American Aerospace Defense Command (NORAD), Air Force Space Command, and the US Northern Command, making the military the region's largest employer. Private sector employment in technology is significant as well due to the cluster of high-tech companies located in the region. These organizations and firms all provide unique partnership opportunities for the university; athletic facilities, for example, could be shared with Olympic training programs to maximize the use.



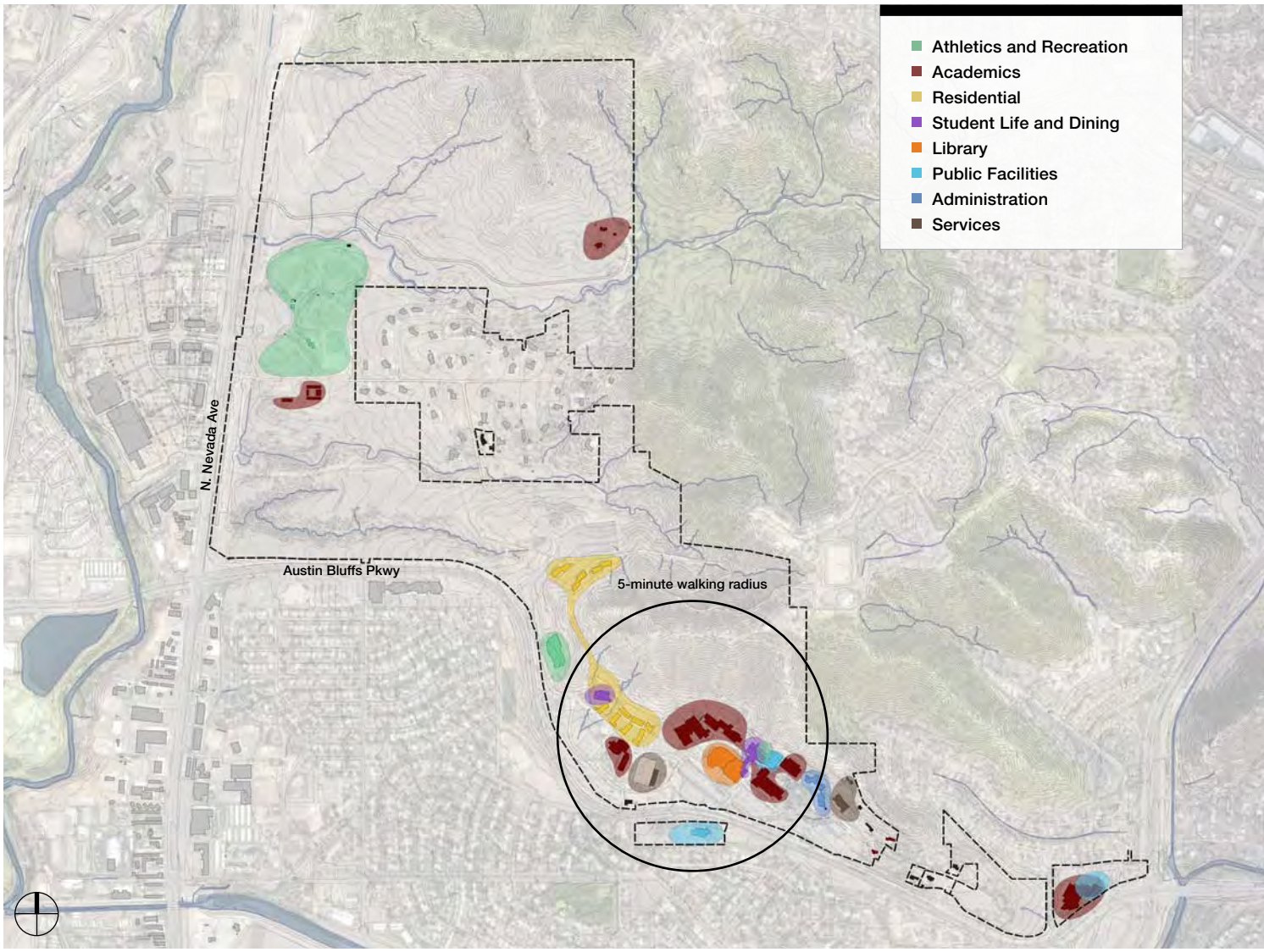
UCCS' location provides natural and economic amenities.

Building & Land Use

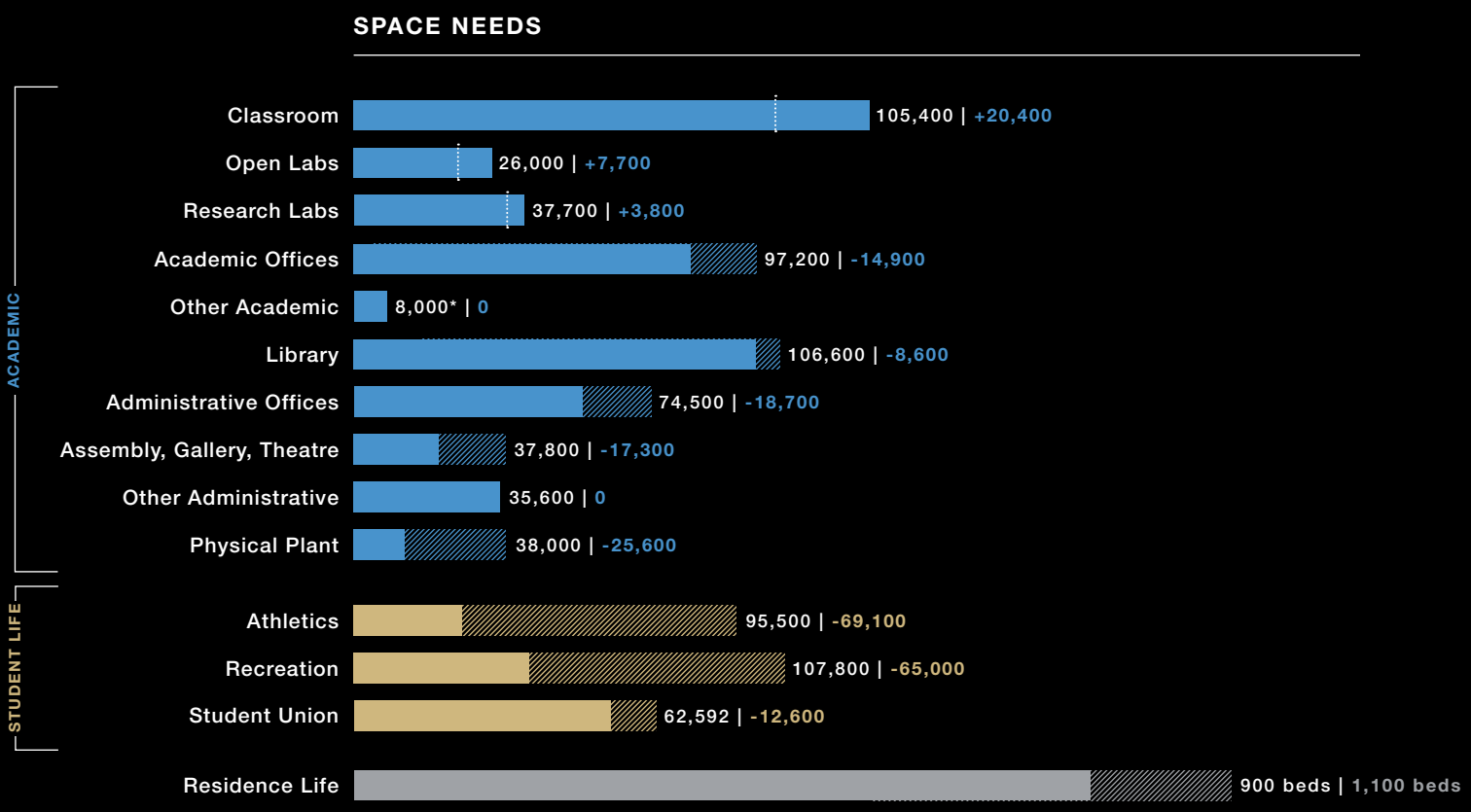
Existing campus facilities accommodate 9,321 students in a tight-knit core. The Core Campus mixes academic, research, administrative, athletic, union, and residential facilities. Due to this diverse mix, the half-mile pedestrian spine connecting the Core has become a vibrant place where the university community interacts daily. In this way, the physical campus organization contributes to the feeling that the community is small and personal.

The Four Diamonds Complex and University Hall function as satellite facilities accommodating athletics and recreation fields, ROTC facilities, the nursing and drama programs, and parking. While these facilities are within a ten-minute walk of the Core, the pedestrian connections back to the Core are not well developed and the quality of the walk is not as pleasant as the ten-minute walk through the Core. As a result, these facilities can feel disconnected from university life.

The plan preserves the tight-knit feeling of the community while integrating the North and East Campuses into the campus fabric.



The mix of uses in the Core Campus creates a vibrant campus life.



Space Utilization

Including all academic and auxiliary facilities, the university currently has over 800,000 square feet of assignable space. This does not include corridors, closets, mechanical rooms, and other non-assignable square footage. Including those spaces, the campus consists of just under 1,800,000 gross square feet of space.

The State of Colorado has established guidelines for the amount of space a university should have per enrolled full-time student. At this broad-brush level, these guidelines are intended to provide an order of magnitude benchmark but do not replace more detailed analysis. They depend on averages and, as a result, only address whether the overall quantity of a space category is correct, not whether the appropriate sizes and types of spaces exist.

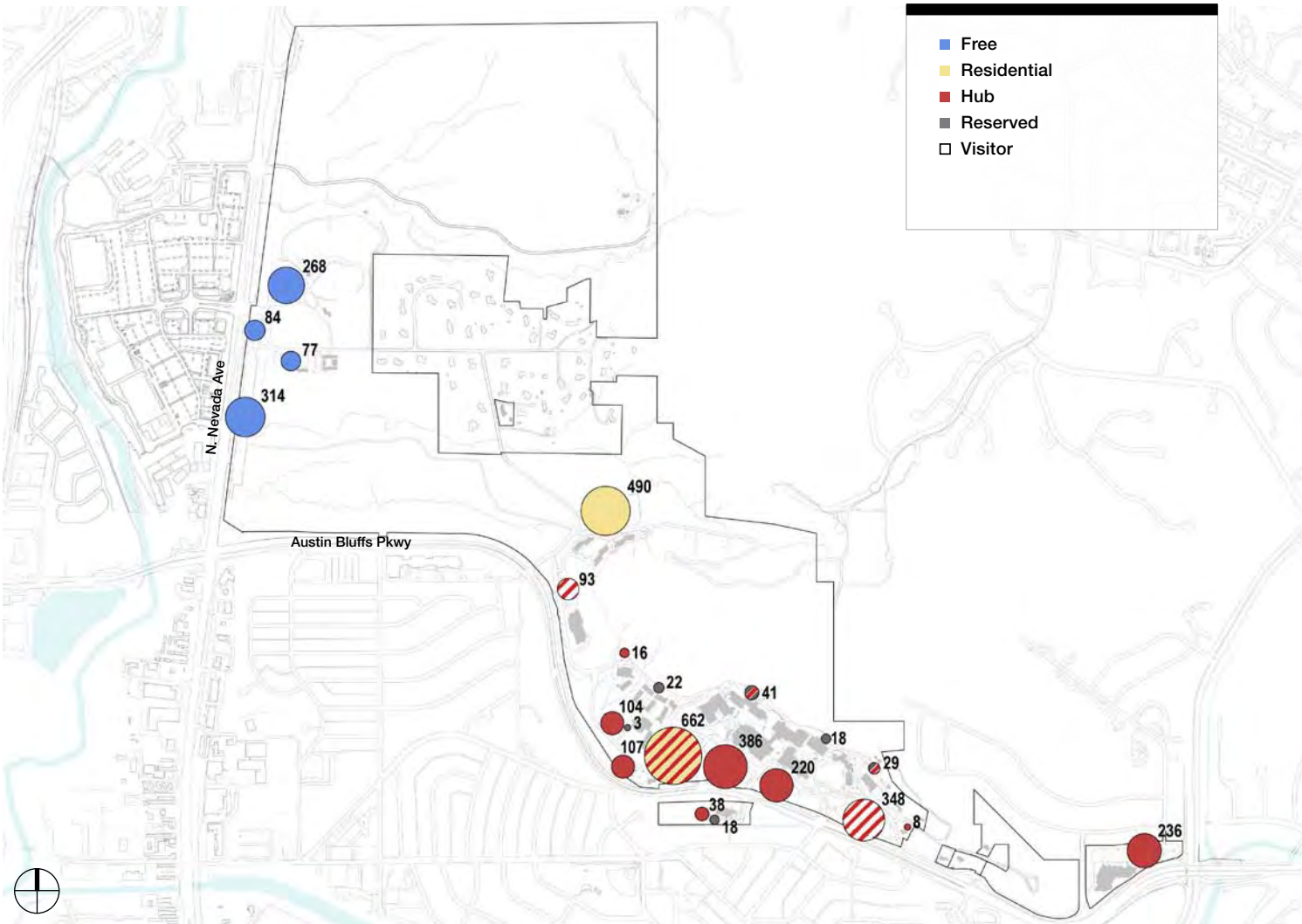
According to state guidelines, UCCS is on target for academic space. However, the guidelines show that office space is at a premium, and the university does not have adequate space for the arts, athletics, and recreation. Additionally, spaces to facilitate student life are notably lacking. These deficits became priorities for the Master Plan.

There are no guidelines for the amount of residential space a campus should provide. Supply of on-campus student housing is the result of an interaction between policy decisions about student housing, student demand, and market supply of housing units nearby. Ultimately, on-campus housing significantly impacts the feel of the campus community and research suggests that students who live on campus, even for just one or two years, perform better in the classroom throughout their academic careers. Currently, 900 students, less than ten percent of the student body, are housed on campus. This is markedly lower than schools like Colorado State University – Fort Collins or University of Colorado Boulder, where more than twenty percent of students live on campus. However, UCCS residence halls have been very popular, and a waiting list of over 140 students for Fall 2011 indicates there is unmet demand for on-campus housing. As the university continues to grow, they will continue to increase the percentage of students who live on campus.

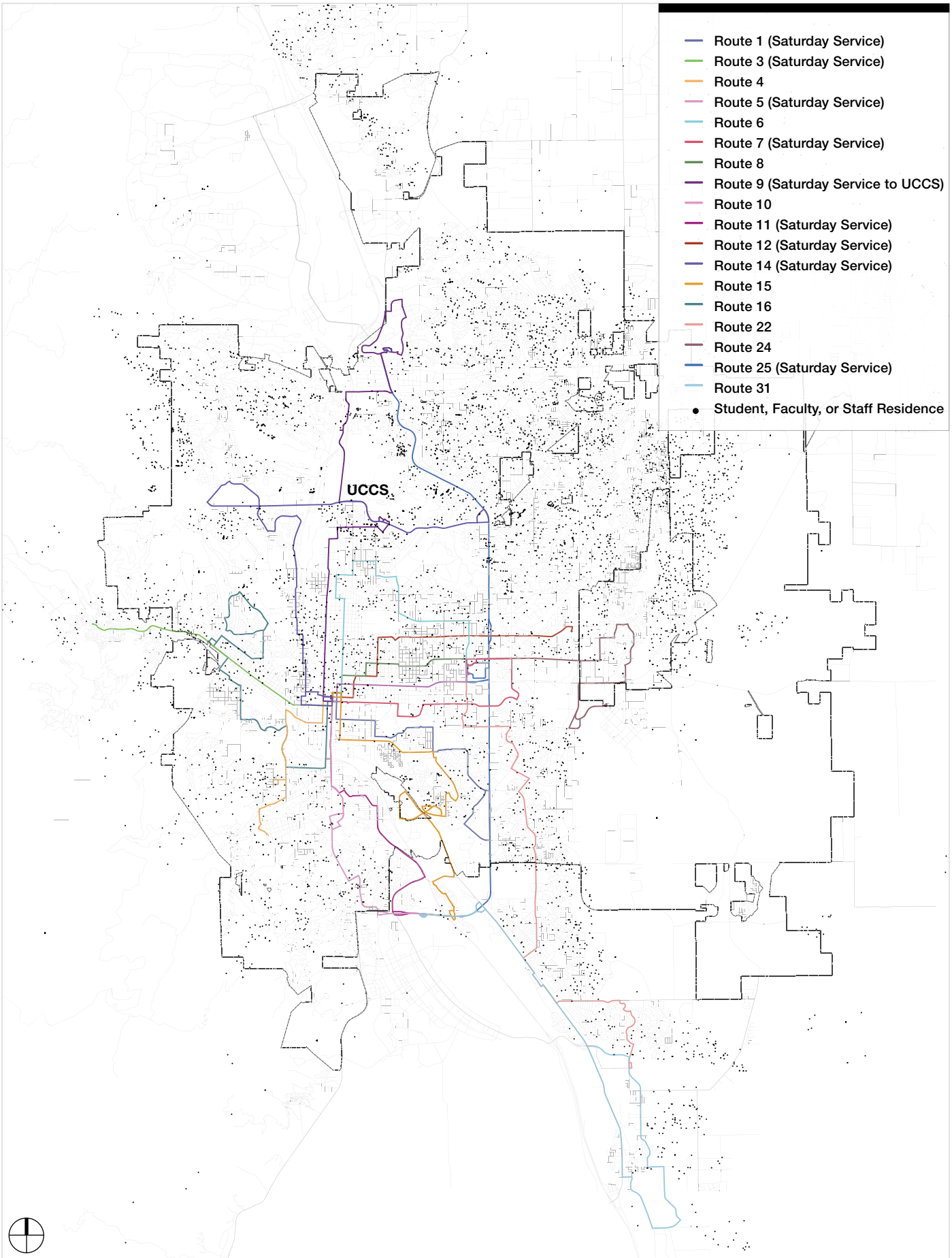
Transportation and Parking

The UCCS student, faculty, and staff population is very evenly dispersed around the city and the region in terms of where they live. It is difficult to effectively serve a distributed population with public transit, especially when many commute significant distances. Two city buses serve the campus: the number 9 route runs on campus roads, stopping at the Lower Plaza adjacent to the student center and then stopping on North Nevada Avenue at the underpass. The number 14 route stops along Austin Bluffs Parkway adjacent to the Core Campus. UCCS ridership could potentially support more frequent bus service, but sufficient funding does not exist to support those services. The City of Colorado Springs has studied the feasibility of a streetcar system. While the preferred route runs along North Nevada Avenue, service to the university would not be included until later phases of development. The limited transit availability is reflected in the fact that most people arrive at UCCS in single occupant vehicles, which creates traffic and parking challenges on campus.

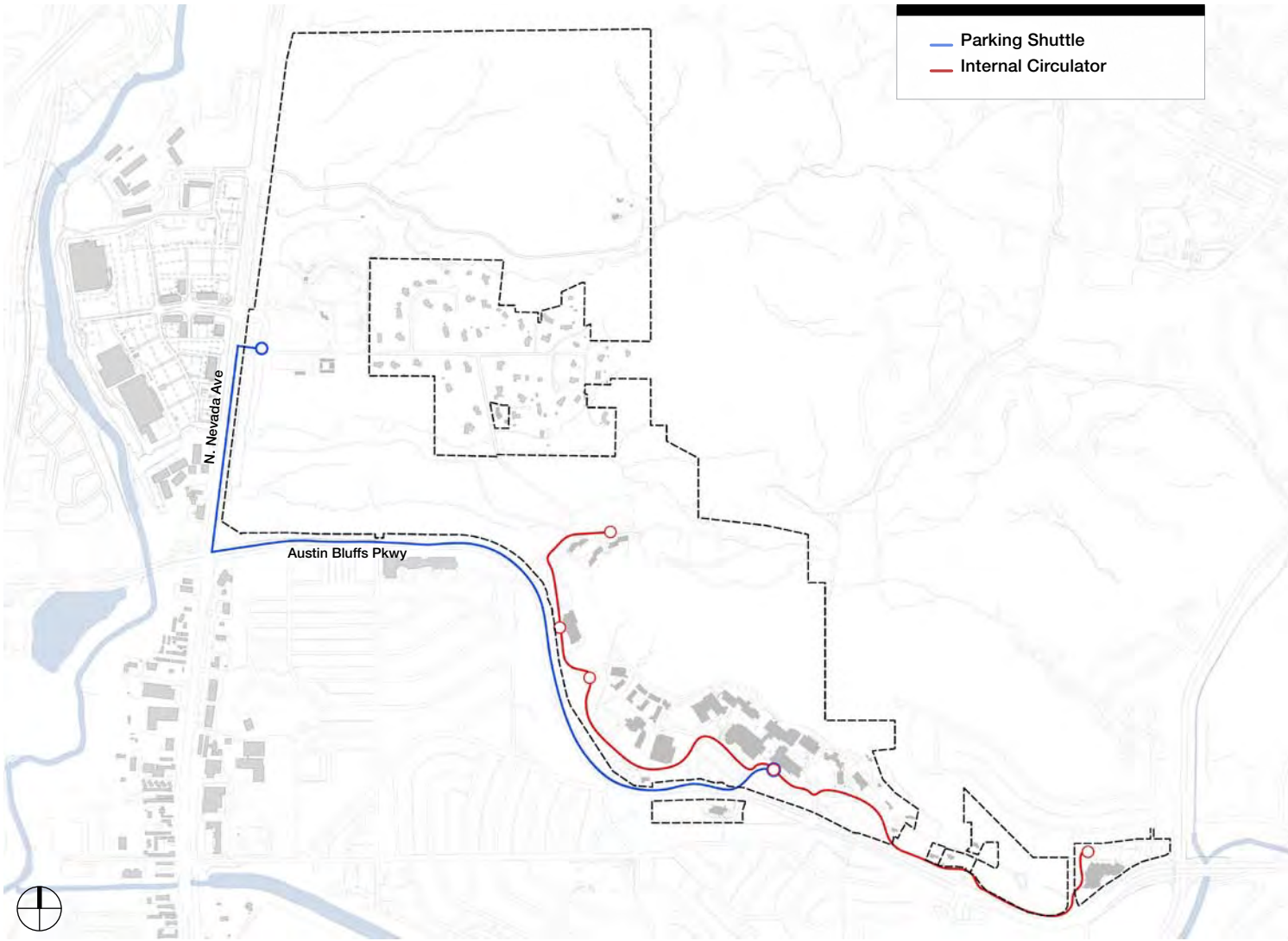
The campus has 3,351 parking spaces. Of this total, nearly 2,000 spaces located in the Core Campus are reserved for "hub" permit holders, and more than 600 additional spaces are reserved for students who live on campus. One lot in the Core, part of the parking garage, and one lot adjacent to the Recreation Center allow for hourly, paid visitor parking. This parking supply fills up quickly during peak hours from 9 am to 3 pm, Monday through Thursday, when it can be difficult to find a parking spot. There are 730 parking spaces at the Four Diamonds, where students who did not purchase a permit may park and ride a shuttle to the Core Campus. As a result of a student referendum, the university will continue to offer a free parking option to its students.



Students, faculty, and staff may purchase a hub permit to park in the Core Campus or use the Four Diamonds lots at no additional cost.



Students, faculty, and staff live throughout the City of Colorado Springs, making it challenging to provide bus access for the entire population.



The parking shuttle travels on North Nevada Avenue and Austin Bluffs Parkway, where congestion often slows its operations.

The university operates two shuttle routes that serve the campus, helping students, faculty, and staff travel between campus destinations. An internal circulator travels from Alpine Village to University Hall making 5 stops. A parking shuttle, travelling along North Nevada and Austin Bluffs Parkway, picks up those who have parked at the Four Diamonds and drops them off at the Core Campus. The shuttle has high ridership, but the traffic it encounters on the public streets slows the shuttle and prevents it from operating at higher capacity. Providing a route on campus for the shuttle to travel between the Core and North Campuses without using public streets would significantly improve its ability to serve the campus.

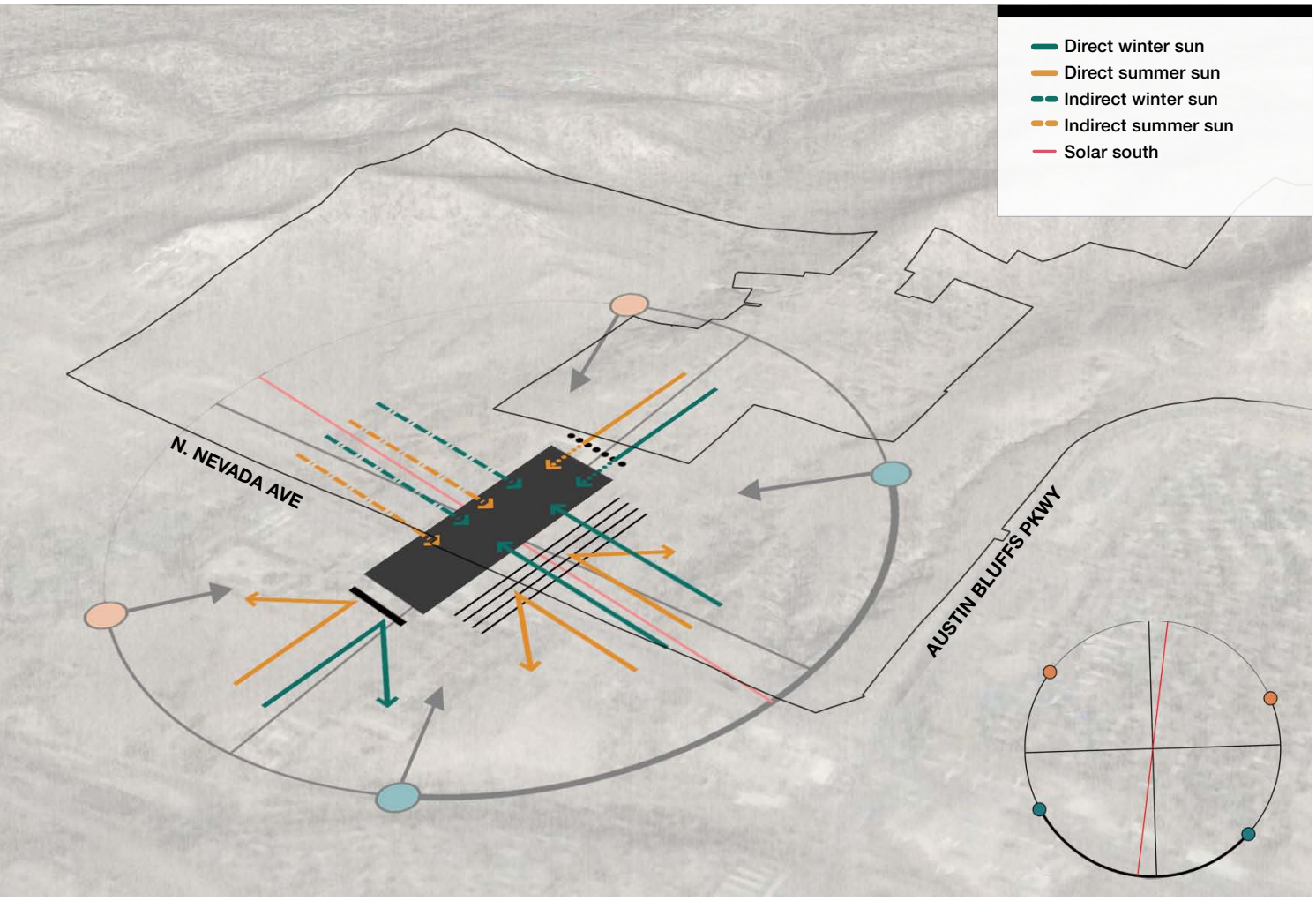
Biking, both to UCCS and around the campus, has gained popularity. The bike racks installed by the university in the past few years are often full. While steep climbs deter some riders, bike lanes along Austin Bluffs Parkway and North Nevada Avenue allow riders to access the campus from other parts of the city. Students biking on campus must share campus roads with vehicles as well as share the pedestrian spine with foot traffic that can become significant during certain times of day. Where the pedestrian spine passes through the University Center, bike riders are expected to dismount their bikes, creating an obstacle that should not be replicated in other areas of the campus. As the campus continues to grow, biking will become an even more important component of the transportation network and new infrastructure proposed in the Master Plan prioritizes bicycle accommodations.

NORTH CAMPUS SITE ANALYSIS

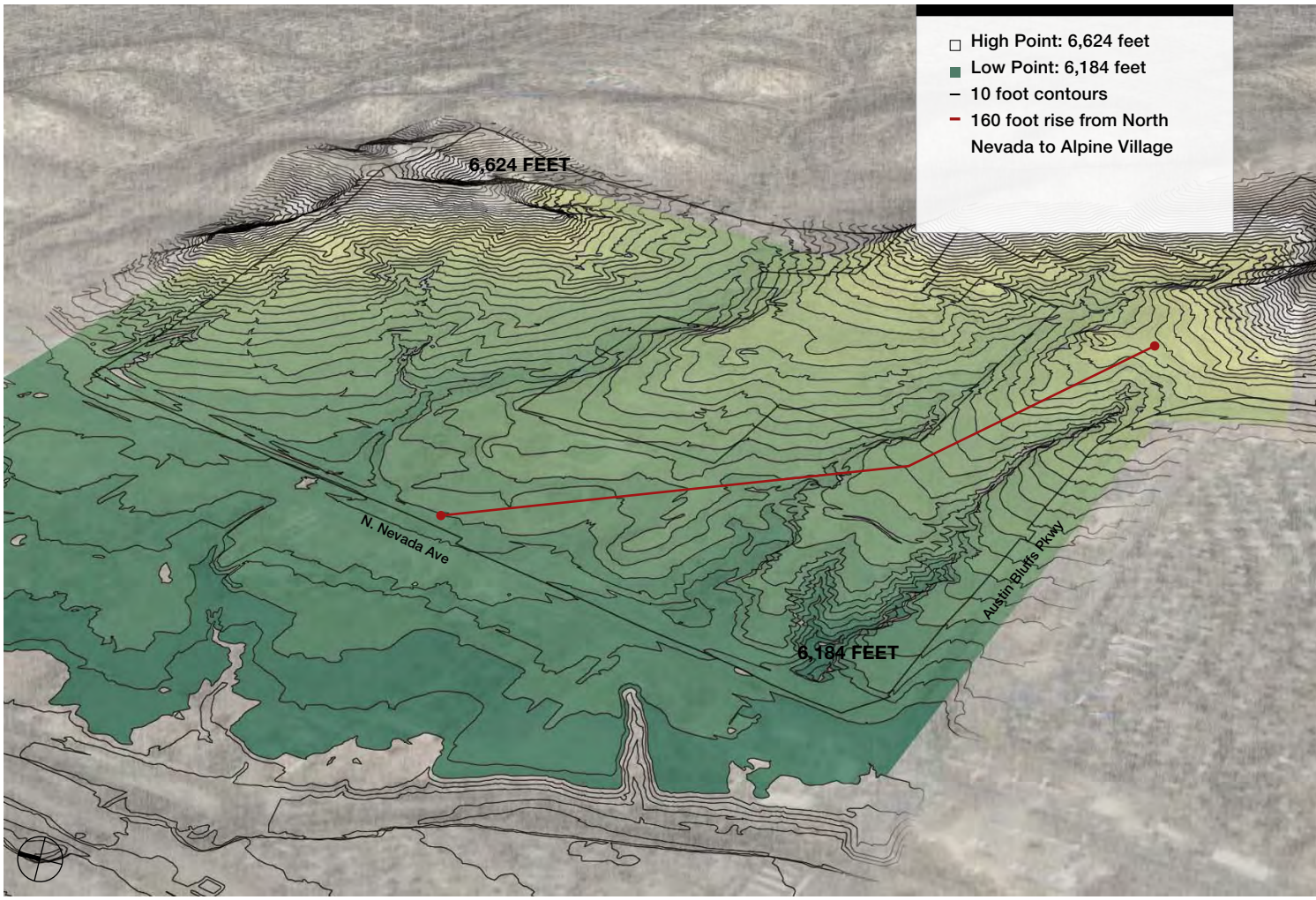
Climate

The State of Colorado receives 300 days of sunshine in a given year, and the thinner atmosphere at its higher elevations results in significant penetration of the sun's rays. Land forms surrounding the North Campus do not cast shadows across large portions of the site, maximizing its solar access. Siting buildings to respond to the sun's path of travel throughout the day and year provides heating and lighting benefits. While continual exposure to these intense rays can damage building materials, the solar climate offers a significant opportunity to pursue solar power and hot water generation on the site.

In Colorado Springs, wind direction varies greatly, coming from both the north and the south throughout the year. Wind speeds are periodically severe and turbulent, creating uncomfortable and even hazardous outdoor conditions. The general wind patterns are occasionally interrupted by the warming Chinook winds that arrive in the spring or the Albuquerque Low winds that can bring significant snow falls from the south. To the extent possible, buildings should be sited to block the northern winter winds and to avoid creation of wind tunnels that exacerbate already windy days.



Proper building orientation and glazing strategies minimize energy use for heating, cooling, and lighting.



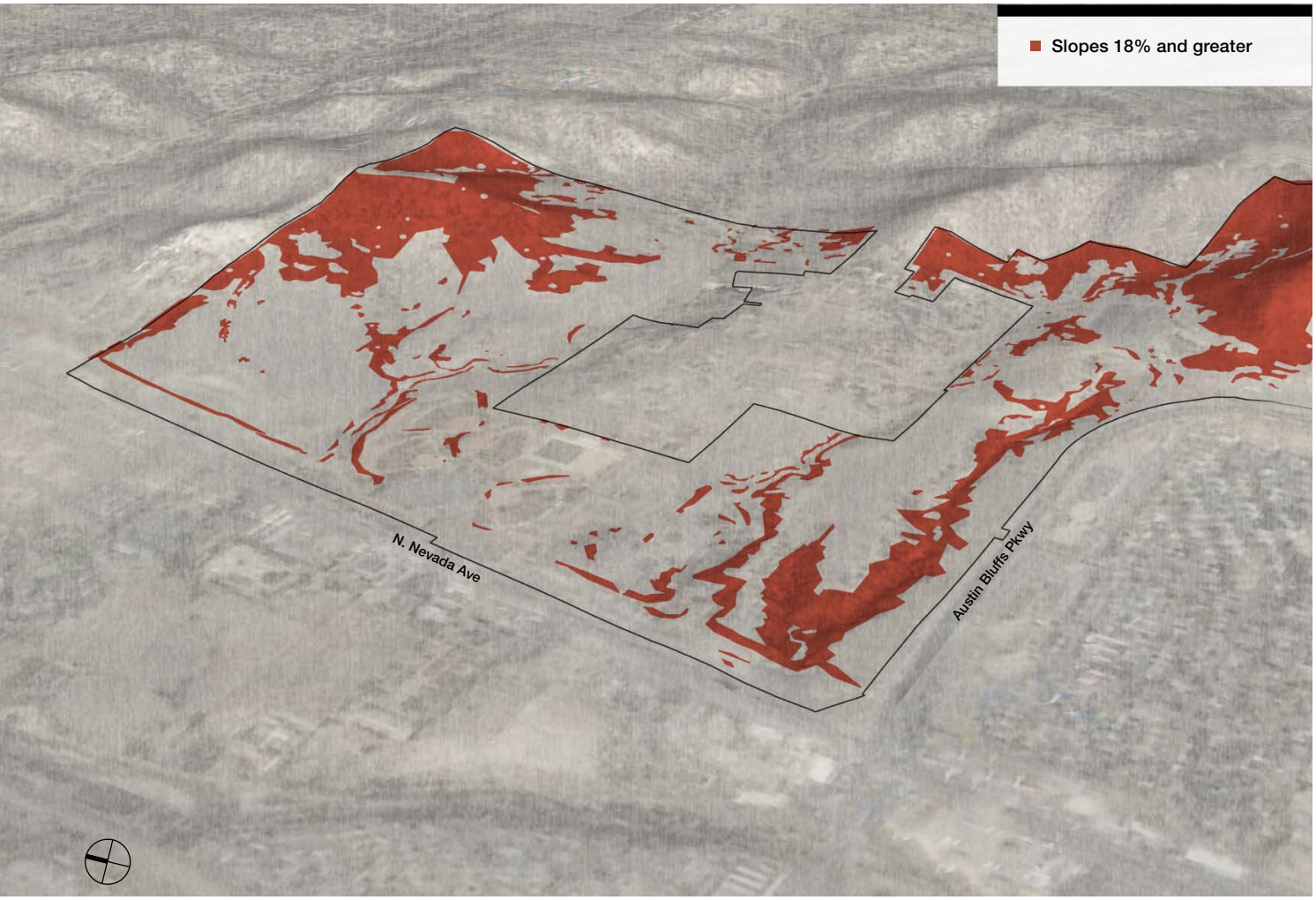
The North Campus' significant topographic changes contribute to its character but present development challenges.

Topography

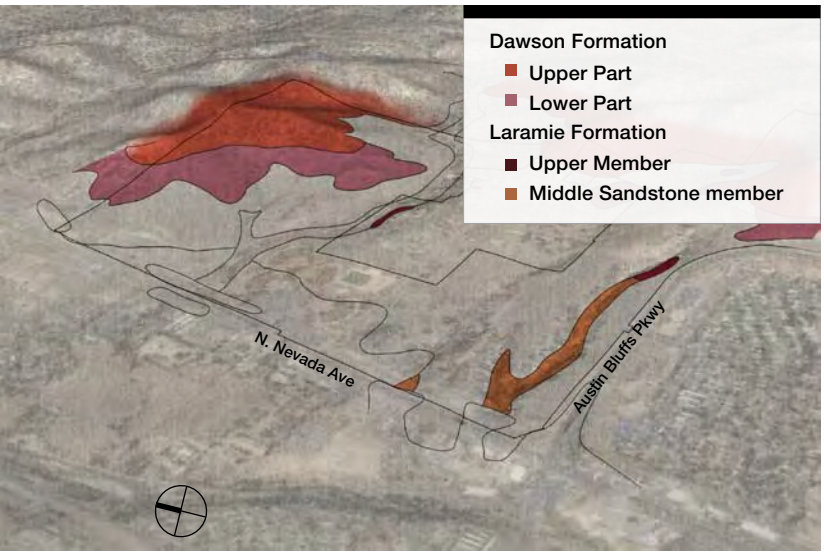
The dominant topographic features of the North Campus are the dramatic bluffs and exposed rock outcroppings ringing the north and east horizon lines, which curve east to create the signature backdrop for the existing Core Campus. While the topography contributes much to the campus' character, it also presents challenges for site development and pedestrian connectivity. The North Campus ranges in elevation from 6,184 feet to 6,624 feet, a difference of 440 feet between its high and low points. The elevation difference between Alpine Village and the Four Diamonds complex, however, is only 160 feet, suggesting that a pedestrian and bike friendly connection between the existing Core Campus and new development on the North Campus is feasible.

Slope

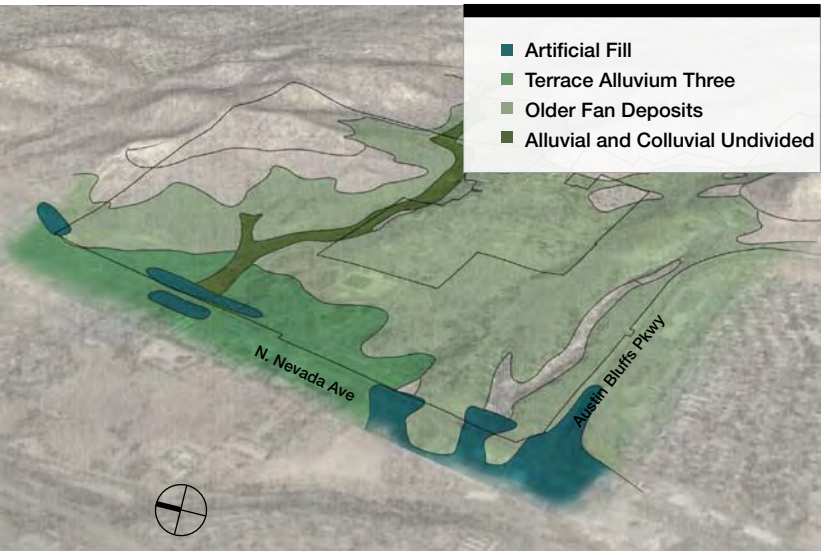
Land with a slope less than three percent can accommodate most uses without significant re-grading. Above a three percent slope, athletic fields become a challenge to site; above seven percent, surface parking proves difficult and more expensive to construct. In areas with 18 percent and greater slope, development may be feasible in some cases but should be carefully considered: construction will be complex, and it is environmentally preferable to leave these sites undisturbed. On the North Campus, gently sloping terrain in the lower elevations gives way to steep terrain culminating in rock cliffs. The drainages bisecting the site also have steep side slopes. Along the North Nevada edge, the land has been significantly altered, creating a few large, flat areas that are prime development opportunities.



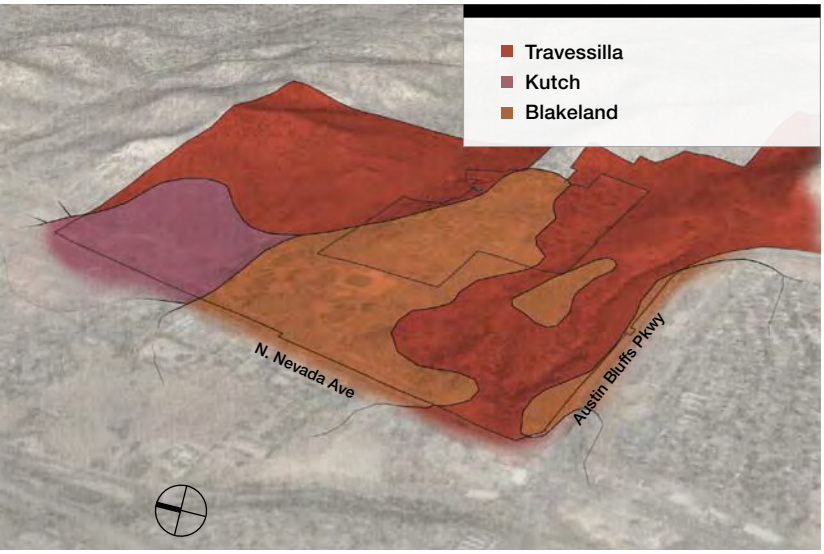
Areas of steep slope are not suitable for building.



Unstable and unique geologic formations.



Geologic formations suitable for development.



North Campus soils present development challenges.

Geology

Along with topography, geology creates the dramatic bluffs and cliffs on the North Campus. Three geologic formations found in the bluffs and arroyos pose subsurface stability hazards. Although site specific construction adaptations can mitigate these hazards, it is preferable to avoid these areas, minimizing construction cost and environmental damage.

Other geologic formations should be preserved due to their unique historic significance. The Lower Dawson Formation, located in the lower portion of the bluffs, is exposed in only one other site in Colorado. The region's early Native American populations traveled significant distances to collect these rocks because the rock is highly suitable for making tools. This unique formation should be preserved on the site wherever possible.

Soils

North Campus soils differ distinctly from those found in the Core Campus. While the Core Campus soils pose some challenges for construction and landscape, the North Campus soils will require more careful consideration. The Travessilla, Blakeland, and Kutch soils found on the North Campus erode very easily and contain low nutrient levels. To prevent unnecessary erosion, construction sites need to have tight boundaries and careful attention must be paid to runoff. Low nutrient levels in the soil make it difficult to establish new landscape communities and restore disturbed native landscapes, further emphasizing the importance of tight construction boundaries to preserve as much native landscape as possible. While all three soils will require engineered solutions to grade and site buildings, the Kutch soils in the northern area of the site are likely to pose the greatest challenges.

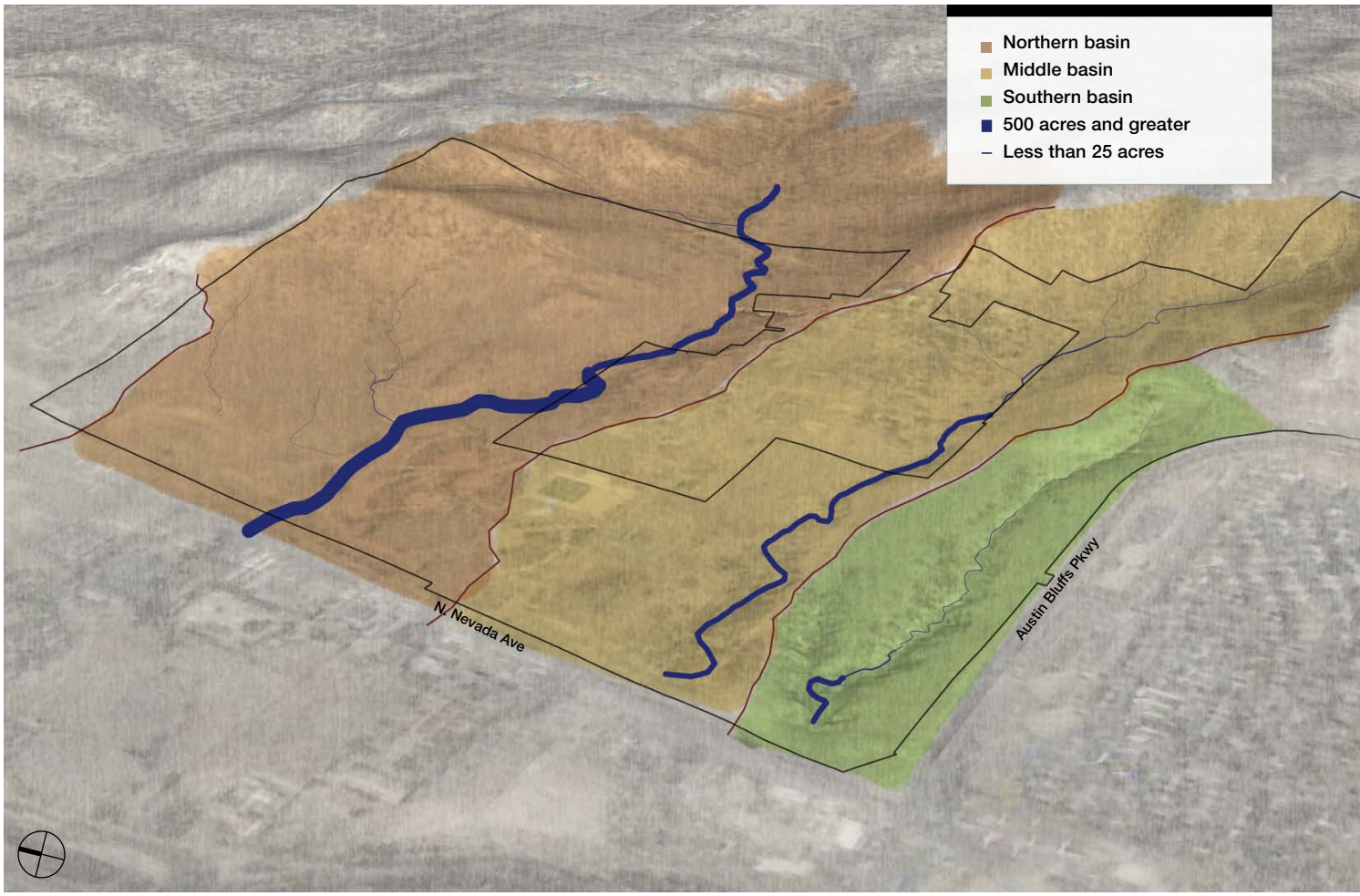
Hydrology

Three drainage basins define the hydrology of the site. The northernmost arroyo collects drainage from the largest amount of land, with a catchment area of over 500 acres consisting of UCCS property and surrounding areas. The other two drainages have smaller catchment areas that include mostly UCCS property, giving the university more control over stormwater runoff in these areas. The arroyos currently support a significant amount of native vegetation including grass lining their bottoms. This indicates that the bottoms of the arroyos are relatively stable. The sides of these arroyos are very steep and prone to erode rapidly when subjected to concentrated flow, which is evident in several locations.

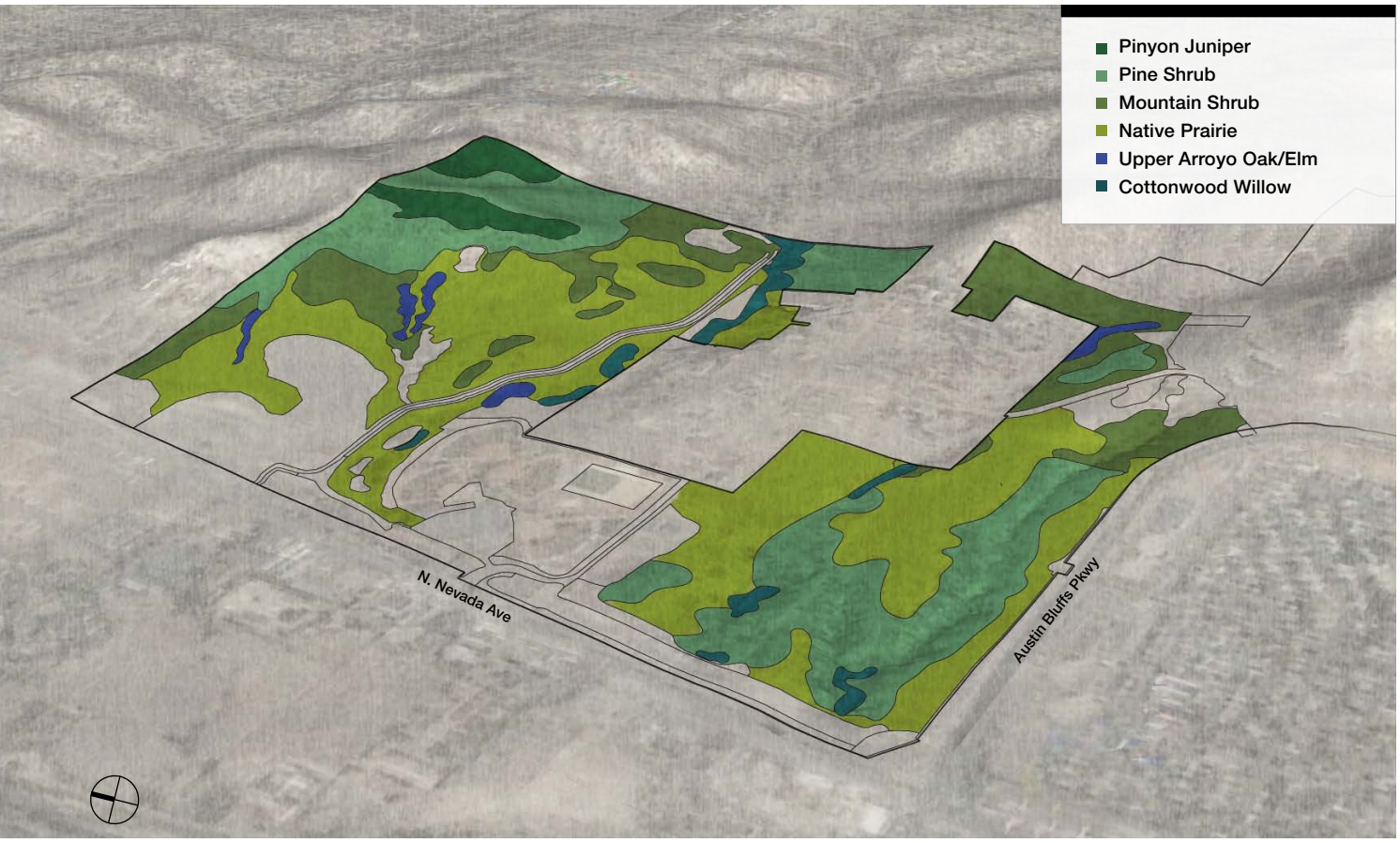
Development west of North Nevada Avenue has altered natural drainage patterns, with surface water being piped to Monument Creek. Development in the watershed without significant regard to controlling stormwater could lead to rapid erosion in the arroyos that would be very costly and difficult to mitigate. Thus, a stormwater management program that strives to mimic natural runoff conditions after development will be important to preserving the stability of these arroyos.

A non-detailed, approximate hydrologic analysis for the North Campus estimates pre- and post-development peak runoff rates and compares them to the existing outfall capacity, identifying potential discharge constraints. The following summarizes three existing stormwater outfalls along the east side of North Nevada Avenue, based on discharge capacities indicated in previous drainage reports.

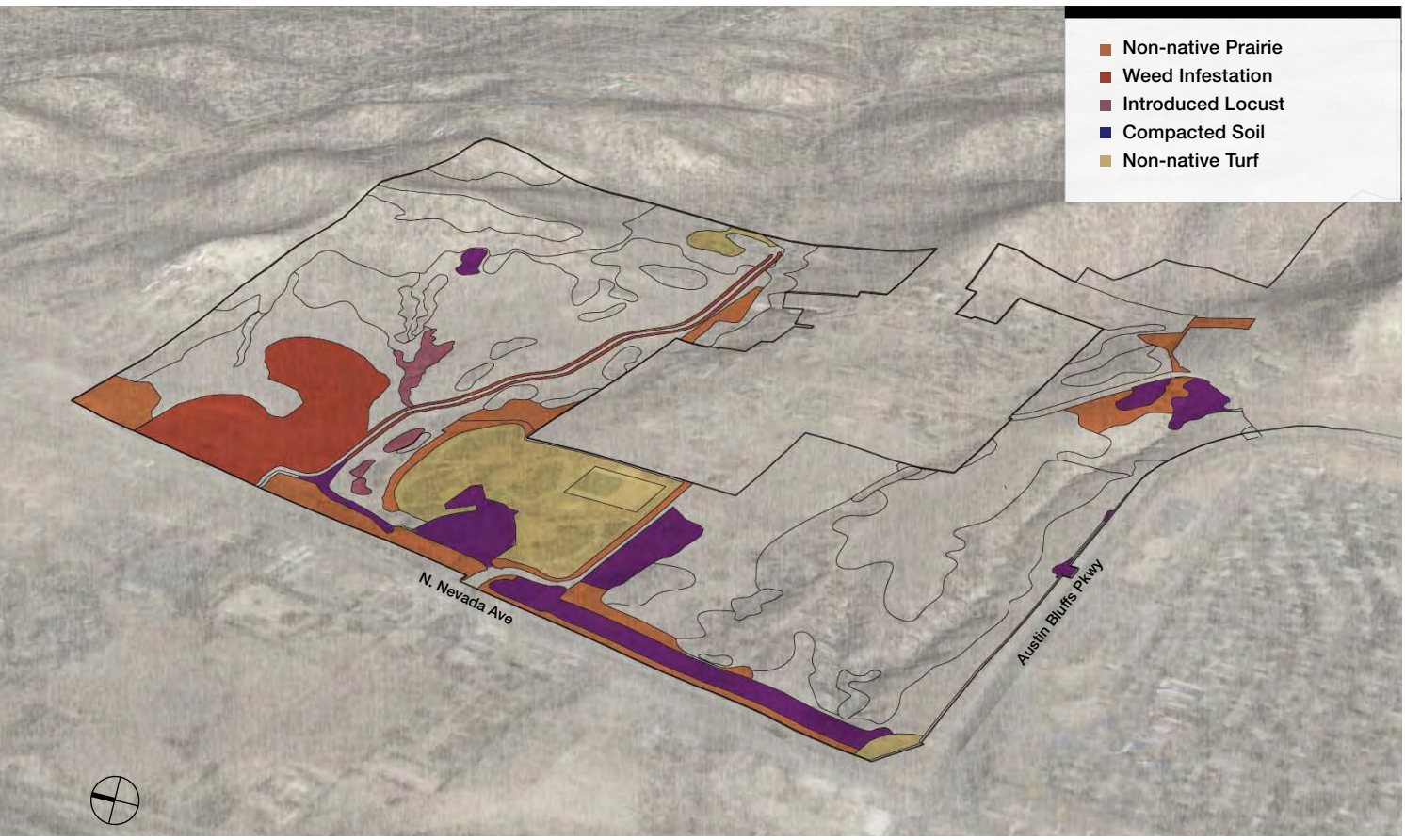
- The southern outfall, located approximately 400 feet north of Austin Bluffs Parkway, has sufficient capacity to accept 100-year peak runoff from the watershed in the existing condition provided that the existing informal detention area is maintained in the arroyo immediately upstream of the outfall.
- The middle outfall, located approximately 1,200 feet north of Austin Bluffs Parkway, has considerably less capacity than needed to accept 100-year peak runoff from the site even in the existing condition. Early discussions with City of Colorado Springs engineering staff indicated that post development peak discharge rates from the site should be limited to those that were planned for the existing systems.
- The northern outfall, located approximately 3,200 feet north of Austin Bluffs Parkway, has sufficient capacity to accept 100-year peak runoff from the watershed in the existing condition.



Three drainage basins define the North Campus. The middle outfall has considerably less capacity than the others.



The North Campus is home to several large stands of native vegetation.



Areas of disturbed vegetation are priority development sites.

Vegetation

Topography, slope, geology, soils, hydrology, and human impact all play significant roles in supporting vegetation. A large portion of the North Campus consists of undisturbed, native vegetation. Steep, rocky areas in the upper elevations of the bluffs and lower elevations of the arroyos are inhabited by pine shrub, pinyon/juniper, and mountain shrub interspersed with rock outcroppings. Flatter land in the middle elevations supports the native prairie, where the upland grasses, forbs, and cacti protect the sensitive soils from erosion. The prairie is broken from time to time with stands of cottonwood, willow, and upper arroyo oak/elm landscapes.

These plant communities are easily disturbed by human activity including earthwork, cultivation of turf, and introduction of non-native species. In disturbed areas, weeds and non-native grasses thrive despite attempts at reestablishing a native landscape. Disturbed landscapes should be considered priority development sites and development in native landscape areas should be undertaken carefully to ensure that its impacts are contained.

1. Native Praire
2. Native Prairie
3. Mountain Shrub
4. Upper Arroyo Oak/Elm
5. Cottonwood/Willow
6. Pinyon Jniper (background) and Mountain Shrub (foreground)
7. Weed Infestation


1


2


3


4


5

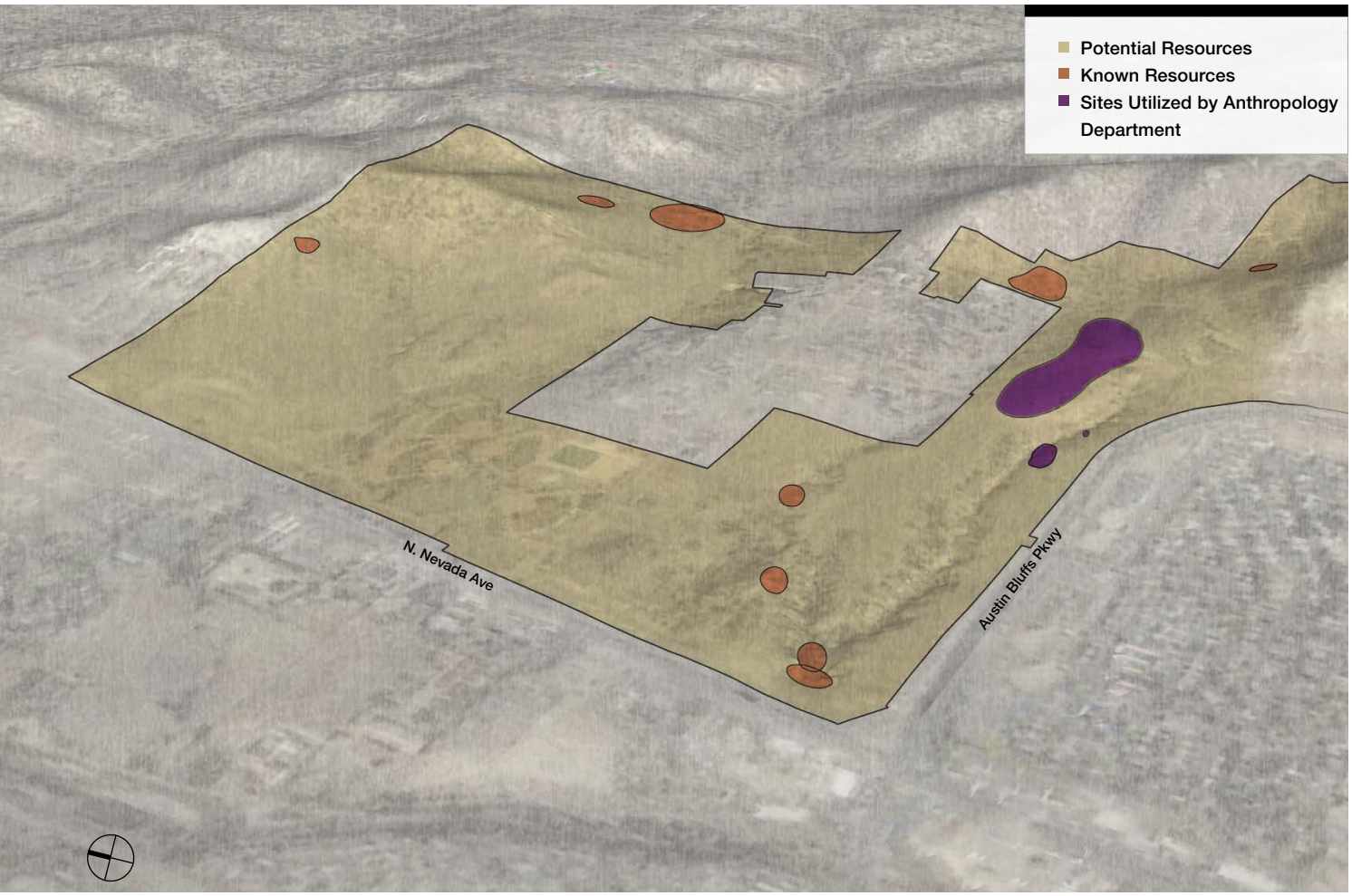

6


7

Cultural Resources

The North Campus' iconic rock formations, unique geologic resources, and views from upper elevations have been drawing settlement to the site for thousands of years, beginning with the Native Americans. As a result of erosion, many artifacts have already been uncovered in the North Campus' drainages. Research suggests that artifacts may be located at or below the surface across the entire site and, as a result, all North Campus construction sites must be monitored during excavation. In the past, students from the Anthropology Department have performed this monitoring for the university. Sites of known resources should be preserved until they have been properly excavated and documented. However, after this process is complete they may become campus development sites as appropriate. The Anthropology Department uses two sites, located northwest of Alpine Village, as part of its curriculum. These areas will be under excavation and documentation for a longer time period before they may be candidates for development.

Faculty members in the Department of Anthropology have identified the possibility that rock formations already uncovered on the North Campus may be Native American vision quest sites. The vision quest was a rite of passage into adulthood for young males who would go off by themselves with no food or water until they experienced a vision revealing spirit helpers to guide them. These sites can only be formally identified by a Native American elder. In this region, the Ute tribe would likely take the lead role in a consultation process. Working with the Department of Anthropology, university leadership will need to explore this issue further to determine if it is necessary to initiate a consultation and the appropriate timing for a consultation. If the sites are designated as vision quest sites, the university would need to determine a strategy to preserve this aspect of the tribe and campus heritage. This may include documenting the sites, taking measures to ensure they remain secluded, or preserving the viewshed from these locations.



Due to the site's rich history, artifacts may be located across the entire site.

Mining

The Colorado Springs region has a history of both formal and informal mining activities beginning in the late nineteenth century and continuing as a driver of rapid development in the early twentieth century. Abandoned mines can compromise structural stability and complicate construction for development above them. Abandoned mines have been identified below ground on the Core Campus, but have been evaluated and determined to be of low concern. There is no evidence that formal or informal "bandit" mines exist on the North Campus.

Utilities

Sanitary Sewer

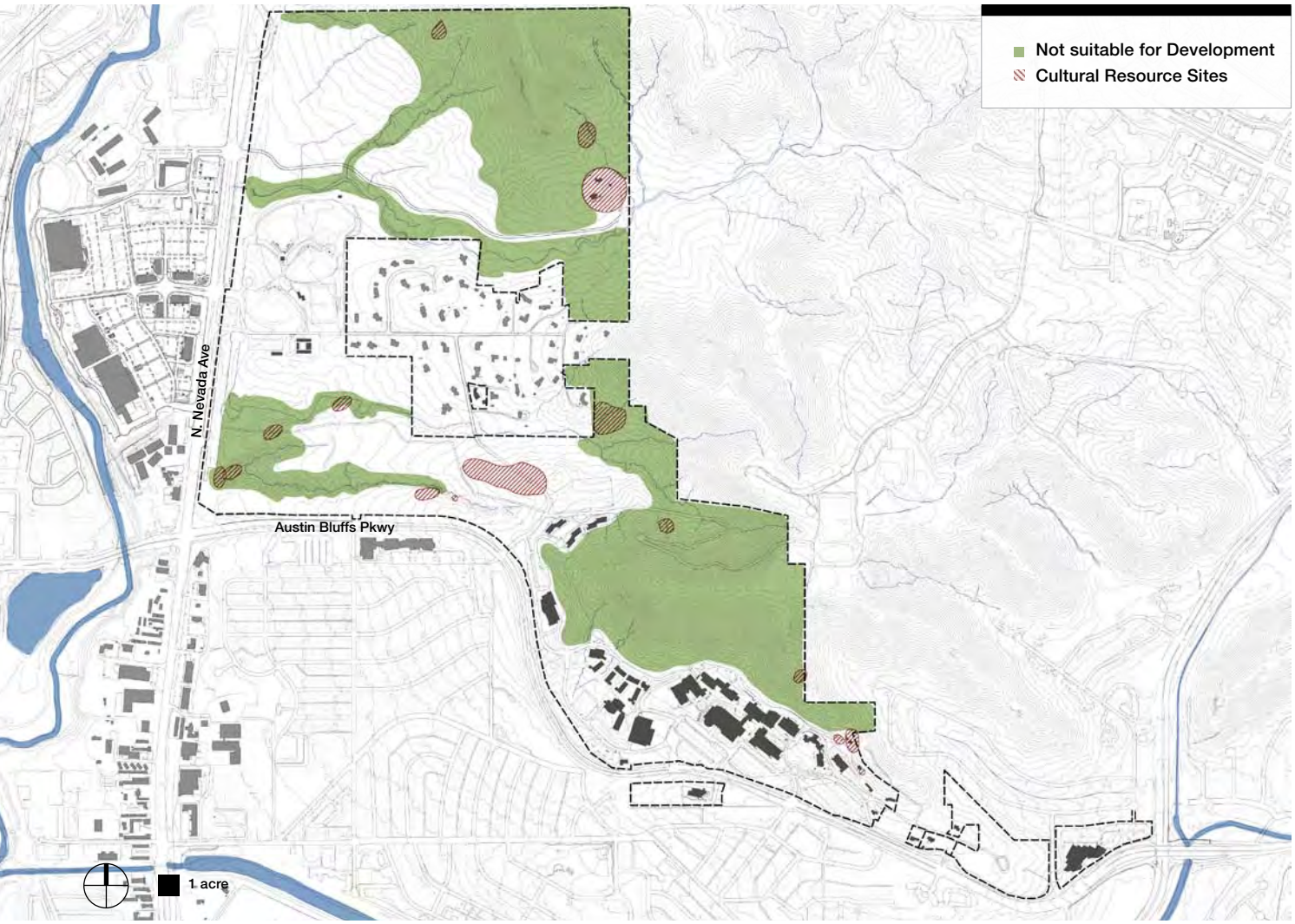
Despite being relatively underdeveloped, public sanitary sewer lines exist on the North and East Campuses, providing service to existing residential, academic, and athletic uses. Sanitary sewer capacity for new development is significantly greater in the North Campus than it is in the East Campus, where constrained capacity in downstream pipes south of Austin Bluffs Parkway could require costly upgrades. This is particularly important in considering the location of residence halls, which create significant sanitary sewer demand.

Water

The Core Campus is relatively built out and has extensive water service lines. Water lines already cross the North and East Campuses, providing service to University Hall and private residences on the East Campus and the Heller Center, Eagle Rock Neighborhood, Four Diamonds Complex, and Alpine Village on the North Campus. While these lines are well-distributed across the sites, the current demands are fairly minimal. As the North and East Campuses are built out, new and upsized water lines will be needed to meet more intense demands.

Gas and Electric

Colorado Springs Utilities (CSU) provides electricity and gas to each building on the UCCS campus. CSU owns the electric transformers and gas meters, which meter each building separately. They also maintain the transformers and service access to them. The university maintains electrical service and gas lines routed underground from the meter to the building. Each building has an individual HVAC unit with no central plant for the campus. The university plans to continue purchasing the electricity and gas needed to service future development from CSU.



While the university has a significant amount of land, much of it is not suitable for development.

Development Constraints

While the UCCS campus consists of 445 acres of land, much of it is constrained by topography, slope, geology, hydrology, and cultural significance. While these areas will not become part of the university's built infrastructure, they are a vital and contribuitng part of the campus, providing the character and sense of place that distinguish UCCS from other institutions in the state and country.

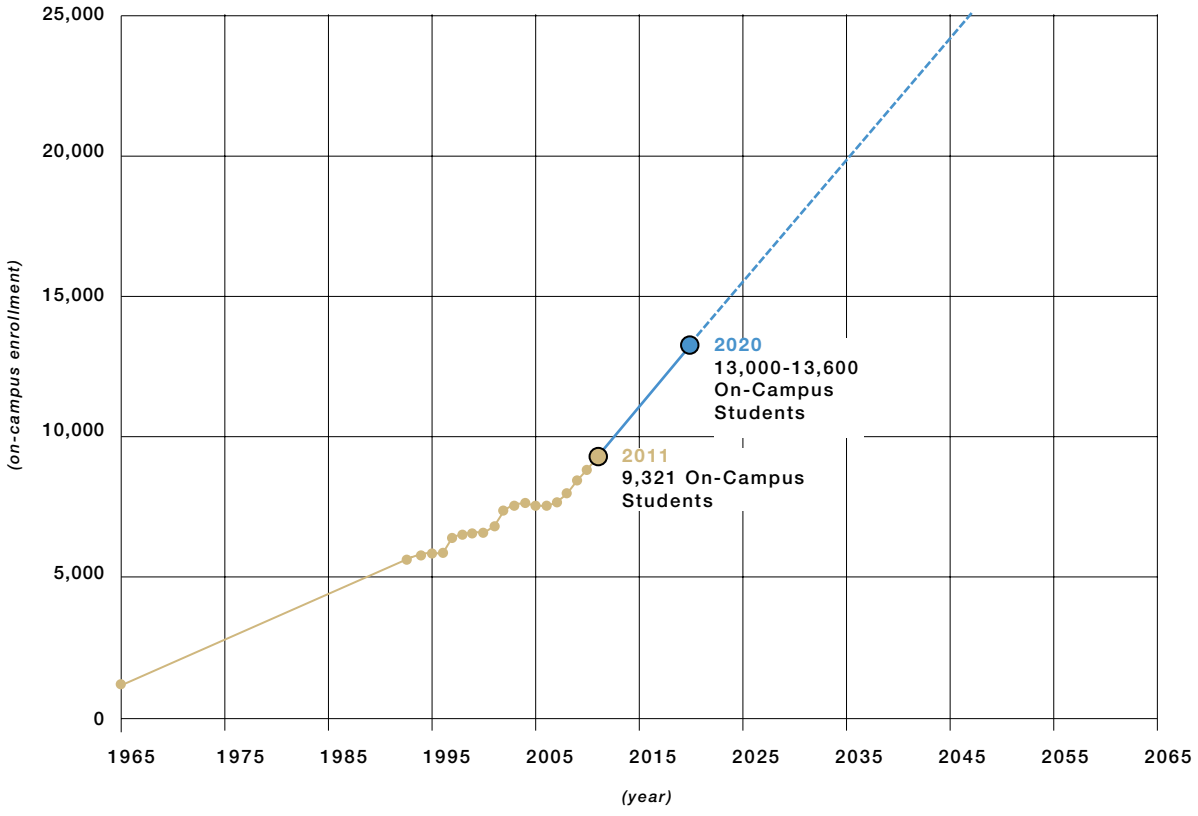
The developable land that remains, however, offers the campus significant capacity to accommodate new facilities to support a larger student body in the future.

Campus Growth & Facilities Needs

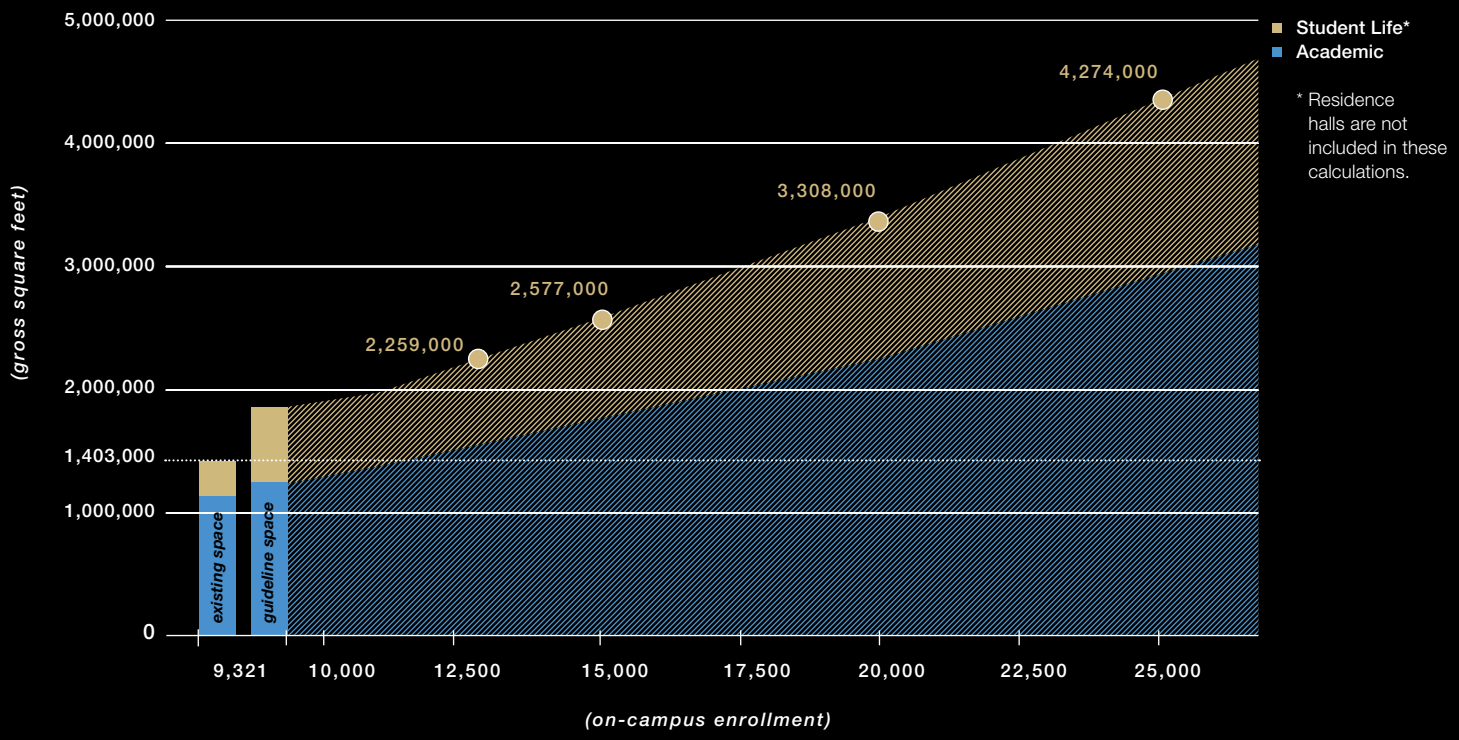
ENROLLMENT GROWTH

At its inception in 1965, approximately 1,200 students attended UCCS. Over the last 45 years, enrollment has grown to 9,321 students (Fall 2011). While the rate of enrollment growth has varied over the years, the university has always maintained growth at some level. As the designated growth campus within the University of Colorado System, both state and university leadership anticipate that enrollment gains will continue as the State of Colorado's population increases and more people choose to pursue higher education. The university's Strategic Plan projects that overall enrollment will grow to between 13,000 and 13,600 students by 2020. Growing from 7,584 students to 11,000 students, the undergraduate population will increase significantly. The plan is less specific about graduate student growth, anticipating between 2,000 and 2,600 graduate students in 2020. As part of this growth, the university expects to attract a significant number of new students from outside the region as it moves from a commuter campus to a residential university.

ENROLLMENT TRENDS

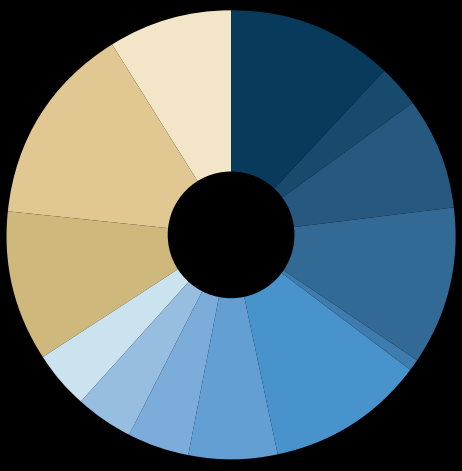


ACADEMIC & STUDENT LIFE* FACILITIES NEEDS



NEW FACILITIES FOR 13,000 STUDENTS: ONLINE COURSES

7% of Credit Hours Online

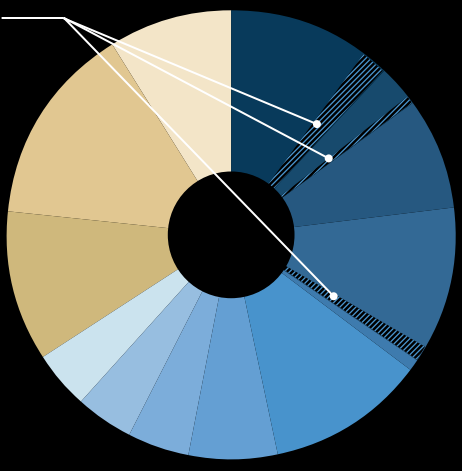


1,594,000 GSF Academic
665,000 GSF Student Life

2,259,000 GSF total

15% of Credit Hours Online

Fewer Faculty Offices, Classrooms & Open Labs Needed



1,546,000 GSF Academic
665,000 GSF Student Life

2,211,000 GSF total

- Classrooms
- Open Labs
- Research Labs
- Academic Offices
- Other Academic Departmental
- Library
- Administrative Offices
- Assembly, Exhibit, Gallery, Theatre works
- Other Administrative Departmental
- Physical Plant
- Athletics
- Recreation
- Student Union

Doubling the percentage of credit hours taken online by 2020 would reduce academic space needed by 48,000 GSF.

Although current "on-campus" enrollment at UCCS is 9,321 students, the number of total students is more than this headcount due to online enrollment. While this is a small portion of the total student body today, a larger portion of enrollment growth will be accommodated through distance learning programs in the future. This difference in accounting is important because on-campus student headcount drives most projections of space needs as online-only students do not use classrooms, labs, student union spaces, on-campus housing, recreation, or parking facilities. In a few cases, the instructors teaching online courses work remotely as well, further reducing these students' impact on the physical campus footprint. For the purposes of the high-level space needs projections in this Master Plan, it is assumed that the entire projected population will be "on-campus" students.

NOTE:
Facilities needs projections assume that as enrollment grows, more research space per faculty will be needed and more athletics teams will be supported. For more details about the assumptions used to generate the projections, please see Appendix A.

While the Strategic Plan focuses on the year 2020, the Master Plan assesses the full build-out capacity of the university's current real estate holdings in order to determine the responsible capacity of the land.

FUTURE CAMPUS FACILITIES NEEDS

State guidelines suggest that the university has an overall deficit of space due to shortages in office, student life, arts, athletics, and recreation facilities. The guidelines are meant as general benchmarks rather than prescriptive requirements, and the ideal amount of space needed by the university likely lies somewhere in between the existing space levels and the guideline levels. To assess full build-out capacity of the campus, the Master Plan uses the state guidelines to determine order of magnitude space need at different enrollment levels. It should be noted that these guidelines do not account for more intensive space usage patterns that might be implemented, allowing higher student populations.

The guidelines suggest that to accommodate 13,000 students on campus, more than 850,000 GSF of new academic and student life facilities will be needed (residence halls are excluded from these projections). If enrollment rises towards 20,000 students, nearly 2,000,000 GSF of new academic and student life facilities (residence halls excluded) will be needed. Appendix A includes detailed documentation of the assumptions used to generate these projections. However, the university is experiencing several trends that may impact future space needs.

The Impact of Online Courses and Hybrid Learning Models

As discussed previously, some UCCS students complete their education entirely online with little physical impact on campus facilities. However, online courses are taken by students in multiple formats for varied reasons. Students who visit campus regularly, taking most of their courses in person, participating in university activities, and even living in residence halls, may choose to enroll in an online course to address a scheduling conflict or fulfill a requirement for a course with limited availability. Currently, seven percent of credit hours are taken in online-only formats. Moreover, some three-credit courses operate as hybrid courses, holding two-hour sessions in person each week and hosting the third hour online.

While this trend will undoubtedly impact campus culture, classroom demand, and IT infrastructure, its impact on long-term space needs is relatively small. Projections show that if 15 percent of credit hours are taken online and 7.5 percent of faculty work remotely by 2020, the university could build approximately 48,000 GSF less classroom, lab, and faculty office space (Appendix A details this analysis). This impact equates to a relatively small university-scale building. Ultimately, hybrid students still engage in campus life, visiting the student union and dining facilities, meeting informally with classmates and instructors, and using recreation facilities, particularly if they live on campus. Due to the uncertain future of online education, full build-out capacity is assessed using existing state guidelines.

Higher Utilization of Classrooms

State space planning guidelines suggest that, on average, a classroom should be in use 30 hours per week with 67 percent of its seats full during those hours. Based on these benchmarks, UCCS classrooms are appropriately utilized, suggesting that the right amount of classroom space is available.

University leadership has identified classroom utilization as an opportunity to increase its efficiency. Rather than continuing to build new classrooms, they strive to first maximize use of the resources currently available. Projections show that increasing utilization to 40 hours per week by 2020 would allow the university to accommodate the projected enrollment growth without building significant numbers of new classrooms. As the campus continues to grow, the university could accommodate more students within its classrooms at full build-out capacity than state guidelines suggest. However, increasing classroom utilization and enrollment without accounting for a corresponding increase in housing, student life, library, and other support space will present challenges on campus. It is important to note that this analysis only assesses overall quantity of classroom space and does not address classroom sizes and configurations, where mismatches between class sizes and classroom types may exist.

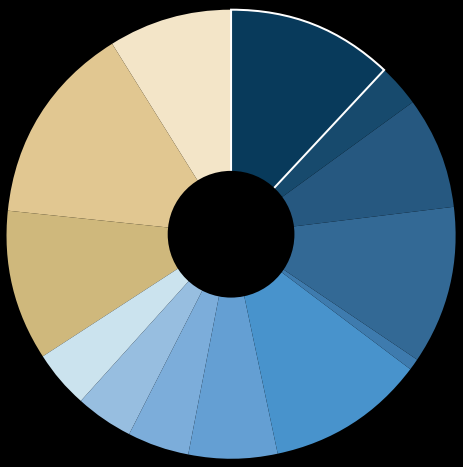
While initiatives including Weekend University are increasing the hours of classroom utilization per week, there are still opportunities for greater utilization. However, as the effectiveness of implementing higher classroom utilization is uncertain, the Master Plan assesses full build-out capacity using state guidelines for classroom space and utilization.

Increased On-campus Housing

State guidelines do not include recommendations for residence halls, which have a significant land use impact. Currently, the university's residence halls accommodate 900 students, allowing 9.6 percent of students to live on campus. UCCS residence halls are very popular: students often cite the high quality of residence life as a reason they chose to attend the university, and there are often waiting lists for on-campus housing. Research shows that students who live on campus have higher grade point averages, are more likely to get involved in university activities, and are more likely to graduate. An active residential community also helps activate the campus throughout the evening and weekend. As enrollment of students from outside of Colorado Springs increases, there will be increased demand for on-campus housing.

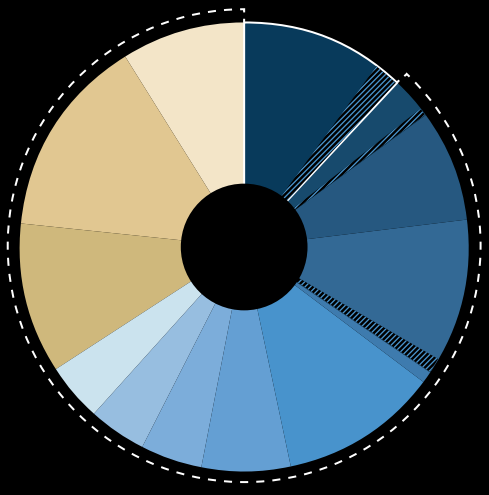
INCREASED CLASSROOM UTILIZATION

30 Hour Week
13,000 Students



147,000 GSF Classroom Space
2,259,000 GSF Academic & Student Life Space

40 Hour Week
17,500 Students

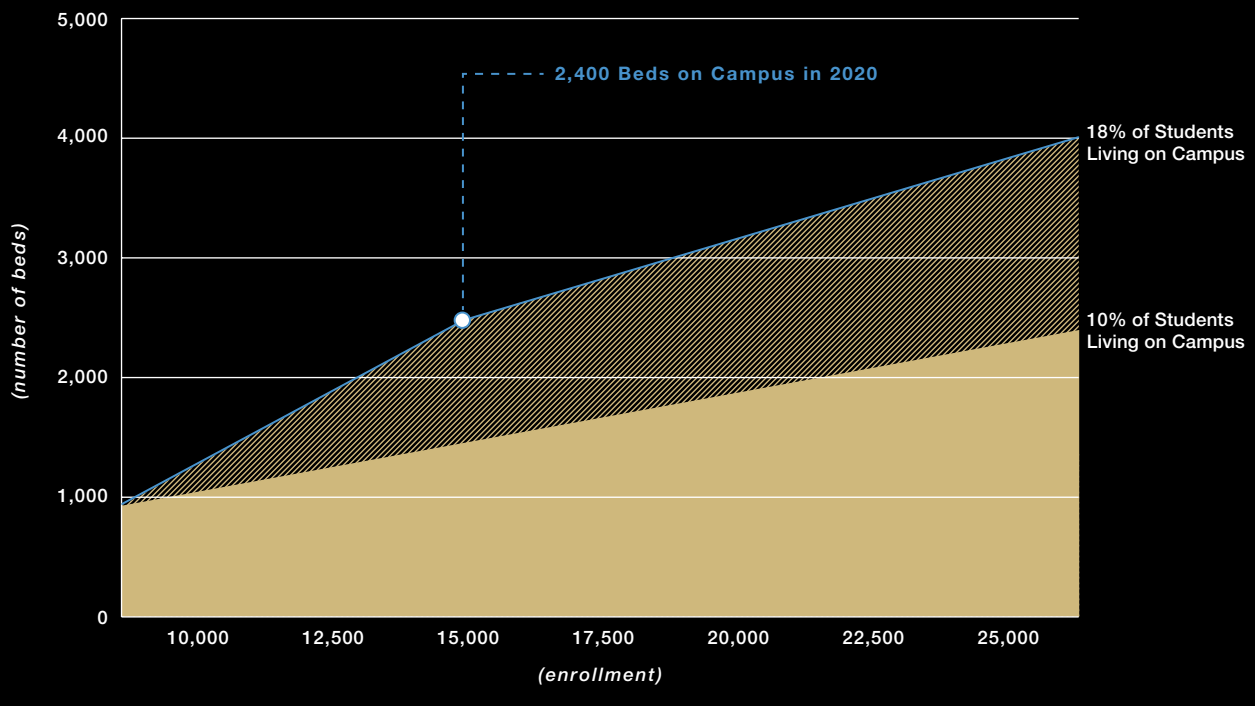


147,000 GSF Classroom Space
2,843,000 GSF Academic & Student Life Space

- Classrooms
- Open Labs
- Research Labs
- Academic Offices
- Other Academic Departmental
- Library
- Administrative Offices
- Assembly, Exhibit, Gallery, Theatre works
- Other Administrative Departmental
- Physical Plant
- Athletics
- Recreation
- Student Union

Increasing overall classroom utilization to 40 hours per week by 2020 would allow the university to accommodate 4,500 additional students in the same amount of classroom space. However, this would create deficits in other space categories to serve this larger student body.

INCREASED ON-CAMPUS HOUSING



The university plans to add 1,500 beds on campus by 2020 to accommodate 2,400 total students in on-campus housing. This will increase the percentage of students living on campus to over 18 percent, similar to institutions such as Colorado State University - Fort Collins and the University of Colorado Boulder. This requires a land use commitment to residence halls that must be accommodated in the Master Plan, particularly as the student body continues to grow. The university has already begun to move towards this target with the Summit Village expansion already underway. The remodel of existing housing will add 18 beds, and the design of two new residence halls to house 192 students, for a total of 210 new beds. In the future, however, there may be opportunities for the university to develop upper division student housing near the campus but not on university property through development partnerships. This might allow the university to allocate more of its land to academic uses.

Parking

As a campus with a large number of commuters and limited public transit options, parking is a challenge. While a lack of parking on campus is detrimental to the functioning of the university and surrounding neighborhoods, structured parking is very costly to build, and surface parking consumes valuable land. The Master Plan allocates land to provide adequate parking without compromising the university's ability to develop the facilities critical to its mission. The university currently has a ratio of 0.36 parking spaces per enrolled student. Due to the high utilization of existing parking facilities that can make it difficult to park on campus, the Master Plan assumes that, moving forward, the university would strive for a ratio of 0.40 parking space per enrolled student.

FACILITIES NEEDS

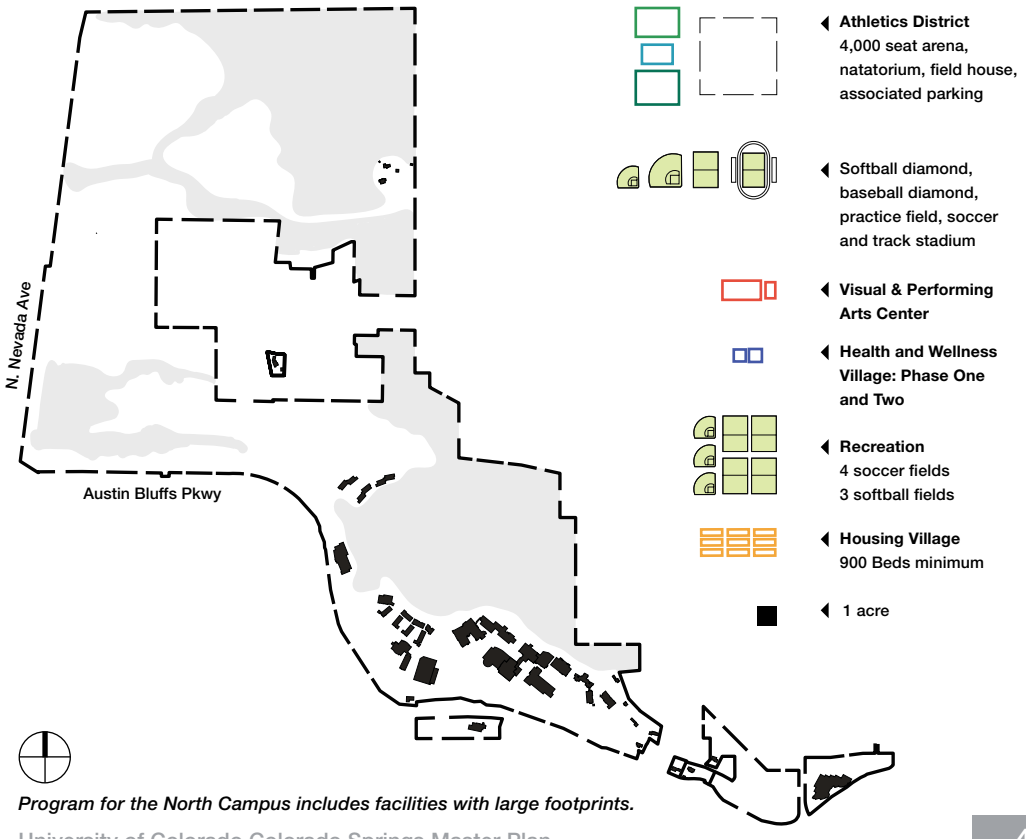
	ENROLLMENT	ACADEMIC & STUDENT LIFE				HOUSING		PARKING	
	On-Campus Student Headcount	Academic GSF	Student Life GSF	Total GSF	Difference From Existing	Beds	Difference From Existing	Parking	Difference From Existing
Fall 2011 Existing	9,321	1,116,941	285,513	1,403,454	—	900	—	3,350	—
Fall 2011 Guideline	9,321	1,232,000	606,000	1,838,000	434,546	1,491	591	3,728	378
2020	13,000	1,594,000	665,000	2,259,000	857,546	2,400	1,500	5,200	1,850
	15,000	1,825,000	752,000	2,577,000	1,173,546	2,700	1,800	6,000	2,650
	20,000	2,369,000	939,000	3,308,000	1.904,546	3,600	2,700	8,000	4,650
	25,000	3,125,000	1,149,000	4,274,000	2,870,546	4,500	3,600	10,000	6,650

NORTH CAMPUS PROGRAMMING

The North Campus plays a critical role in accommodating the university's future space needs and offers opportunities to partner with outside organizations to support shared facilities. Easy access off North Nevada Avenue makes North Campus sites ideal for university facilities involving public interaction, such as performance venues, galleries, and clinics. As a significantly sized site adjacent to the Core, it offers an opportunity to accommodate functions that do not necessarily need to be located in the Core Campus. The full build out of the Master Plan includes the following program elements in the North Campus to support the needs of a growing university and the vision of community partnerships.

Athletics

The Athletics Department currently occupies a central Core Campus location in the University Center and shares facilities with conferencing services and student union functions. As a growing student body supports more athletic activities, a dedicated complex, located on the North Campus, will fully support the department's needs. This dedicated complex could be developed in partnership to host community and entertainment events, in addition to UCCS athletics. The university envisions a 4,000-seat arena anchoring a complex with a soccer and track stadium, softball diamond, baseball diamond, and one or two practice fields. In addition, sites will be reserved for an indoor sports field house and a natatorium. Due to their large footprint and dimensional constraints, it is important to reserve adequately sized sites for these facilities even though they are considered long-term needs.



Program for the North Campus includes facilities with large footprints.

Visual and Performing Arts

The university's Visual and Performing Arts (VAPA) programs are scattered through different buildings across the campus, stretching from University Hall to mobile units on the North Campus. These diverse locations negatively impact operations, and their galleries and performance venues can be difficult to access. VAPA faculty members describe their department as highly collaborative and interdisciplinary. A consolidated facility along North Nevada Avenue that includes performance venues, studios, and gallery space would offer significant opportunities for extensive collaboration within the department as well as partnership opportunities to increase community engagement.

Health and Wellness Village

An increased focus on health and wellness is an important part of the university's Strategic Plan. UCCS envisions the Lane Center, a partnership between Peak Vista Community Health Centers and university academic and clinic programs, as the first phase of a series of academic medical facilities on the North Campus. Ties to the University of Colorado Medical School may be strengthened in the future as well. A number of the school's medical residents already work in the Colorado Springs region due to a limited number of residency positions in Denver, and the University of Colorado's proposed lease of Memorial Hospital has the potential to expedite the expansion of a Health and Wellness Village on the North Campus.

Recreational Fields

The existing Four Diamonds Complex is highly scheduled to accommodate university and Colorado Christian School athletics, intramurals, and community recreation. A growing student body with an increasing population of on-campus residents will generate greater demand for recreational opportunities and create additional development pressure on the Four Diamonds site. As facilities are built in the current location of Four Diamonds fields it will be necessary to find replacement locations to accommodate this expanding recreational need. Finding flat sites for new and relocated fields amidst the campus' significant topography is challenging. The Master Plan identifies opportunities for artificial turf fields that accommodate intensive use and are integrated into housing and parking developments.

Student Housing

The North Campus offers land to develop new student housing in support of the university's goal to have more than 20 percent of students living on campus. Proximity to the other academic and recreational facilities planned for the North Campus as well as to University Village Colorado makes this a desirable location for housing. The university will continue to offer a mix of suite-style units and apartment-style units clustered into villages with a minimum of 900 beds. Within student housing, food service facilities will promote socialization. Dining facilities support suite-style housing, while smaller convenience stores or coffee shops serve apartment units, which include kitchens. Students and administrators often note the current lack of gathering and meeting spaces in existing residence halls. Ground floors of new residence halls should be programmed to include ample space for these activities.

General Campus Expansion

As the university grows, facilities' needs and funding opportunities that cannot be anticipated in advance will undoubtedly arise. The Master Plan includes general building sites to accommodate future needs for academic, research, administrative, and housing facilities. By identifying future building sites that are well-connected to the Core Campus through transit, bike, and pedestrian connections, the Master Plan ensures that future academic facilities will be integrated into the campus fabric.

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Concept Plan

Several overarching themes emerged from focus group and public forum meetings with the university community, analysis of the campus setting with a focus on the North Campus, and projections of campus growth potential:

- UCCS has a unique identity as a well-respected yet affordable university that fosters a close-knit community.
- The natural setting of Colorado Springs, including its native landscape and views of the Front Range, Austin Bluffs, and Pulpit Rock, contribute to the university's unique sense of place.
- A lack of spaces to support student and residence life is felt on campus today, while future enrollment growth will create facilities needs across the board.
- Building partnerships with outside organizations creates significant opportunities to fund new facilities.
- The North and East Campuses are critical to accommodating projected growth, but feel disconnected from the Core Campus.
- The North and East Campus sites are sensitive environmental resources that need to be respected.

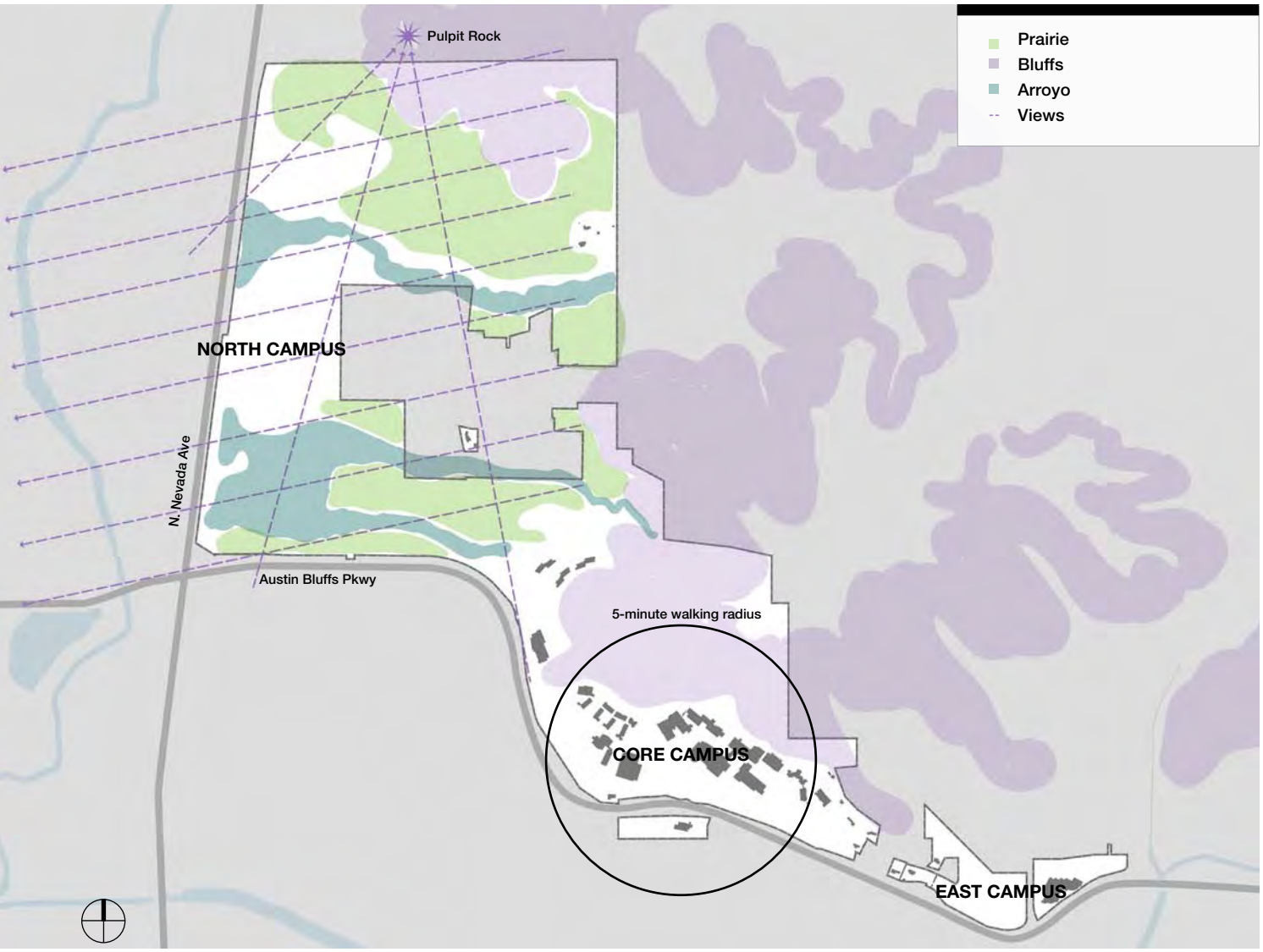
These themes informed a Concept Plan, which dictates that growth must be accommodated based on three principles:

1. Respect natural features.

2. Reinforce vibrant campus anchors.

3. Connect campus destinations.

These three principles can be characterized as "respecting the responsible capacity of the land."



Incorporating natural features into future development fosters a unique sense of place.

Respect Natural Features

The university's setting perched among the Austin Bluffs with uninterrupted views of Pikes Peak, the Front Range, and Pulpit Rock differentiates it from every other university in the state and country. Yet the topography that creates this dramatic landscape prevents many areas of the campus from being easily developed. Similarly, the bluff, prairie, and arroyo landscapes - and the soils that support them - are a fascinating educational opportunities, while posing significant construction challenges.

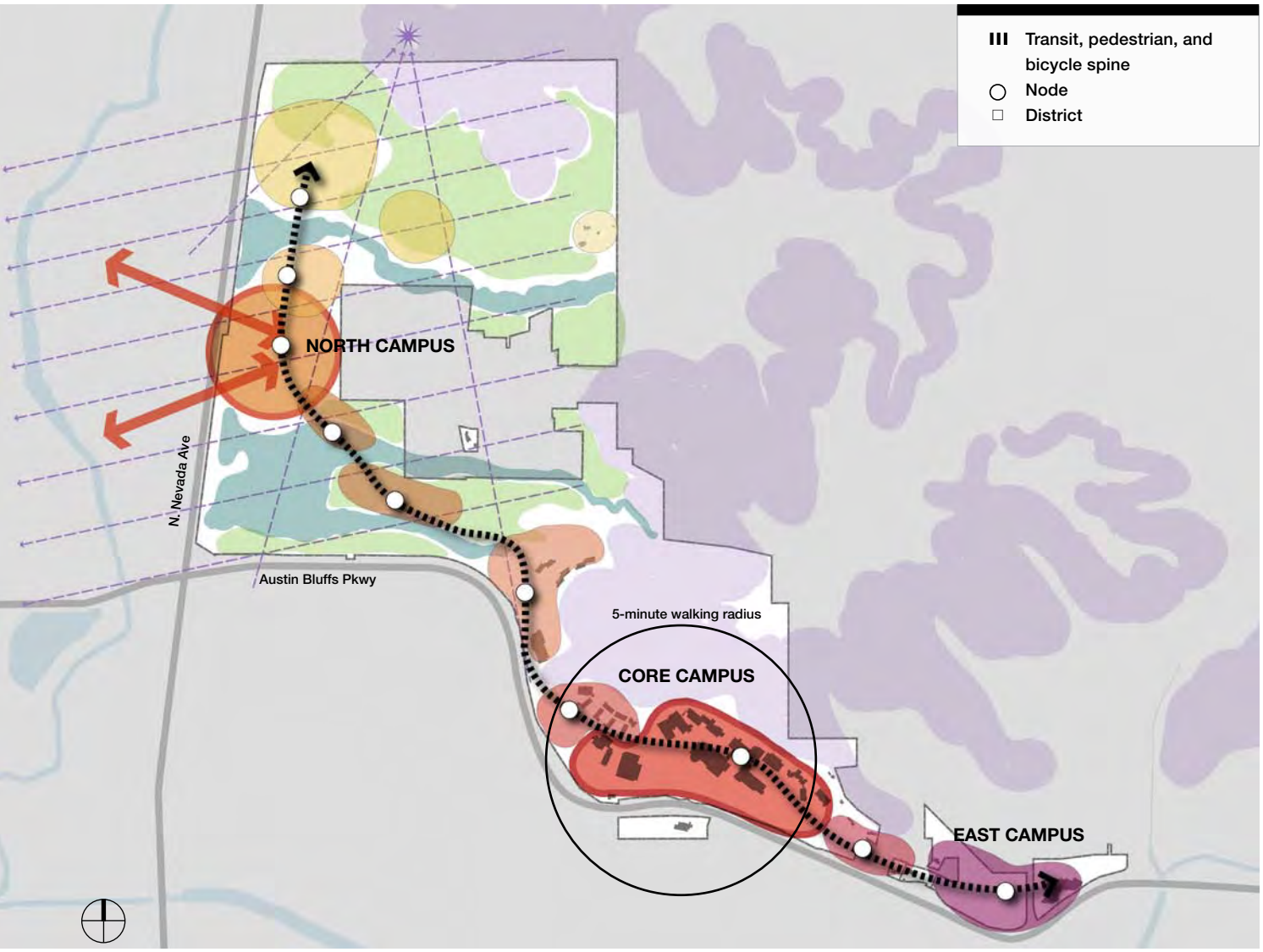
Respecting these natural features will provide an opportunity to enhance the sense of place, but it will also be critical to avoiding excessive development cost and environmental damage. As enrollment growth creates a need for new facilities, each new development provides opportunities for the university community to interact with the surrounding landscape in a way that enhances their appreciation of it without harming its natural functionality. Building siting and massing will be designed carefully to maintain and frame important views. Drainage corridors will respect and enhance natural stormwater flows. Large stands of native vegetation will be preserved and native species reintroduced to developed landscapes.

The Core Campus and new North Nevada development are campus anchors.

Reinforce Vibrant Campus Anchors

The Core Campus is a tight-knit, academic district with a mix of uses within close walking distance. The pedestrian spine connects the campus together in a way that is easy to navigate and provides a common ground where the university community interacts with one another as part of their daily routine. This feeling of community is preserved and enhanced as the campus grows.

The lessons learned about creating a successful community through a mix of uses within walking distance is carefully considered in developing a new anchor on the North Campus. The North Campus has long been identified as a great asset to UCCS and Colorado Springs region. With a significant portion of the site located within the Urban Renewal Zone along North Nevada Avenue, university development will complement commercial development at University Village Colorado to create a college town district. By providing public university functions along this important corridor, UCCS will take advantage of partnership opportunities and enhance their presence in the cultural life of the City of Colorado Springs.



A series of districts connected along a spine links the Core Campus to North Nevada Avenue.

Connect Campus Destinations

As the university expands into the North and East Campuses, the connections between new facilities and the Core Campus will be enhanced. An extension of the pedestrian spine connects campus anchors, but as academic functions move outside of a ten-minute walking distance, the concept of the spine must expand to include transit and bicycles as well. While each of these three modes will travel the same general path across campus, each needs specific infrastructure that can be incompatible in certain locations. In some situations, pedestrian paths will separate from transit and bicycle routes, while at times their routes will run parallel to one another.

The concept of the spine will unify the campus but manifest a unique character in each campus district. The character of the spine responds to different uses and landscape adjacent to it. In each district, nodes of activity will serve as landmarks along the spine.

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Campus Organization & Capacity

CAMPUS ORGANIZATION

The physical constraints of university land ownership and topography dictate that as the campus grows, all its critical functions cannot be accommodated within walking distance of one another. Strategic organization of academic, residential, and recreational uses on campus is important to ensuring its functionality, with the relationship of academic uses to one another bearing heavily on class change times. Participants in the Master Plan Open House were challenged to create a plan that addressed campus organization while accommodating facilities for 20,000 students. Groups generated many interesting strategies, which are fully documented in the appendix. Three themes emerged as the most promising and impactful to the organization of the Master Plan.

The pedestrian spine is an organizing element on the Core Campus that can extend as the campus grows.

Campus Center Shifts North

Some groups felt that the increased activity along North Nevada would shift the perceived “center” of campus towards the north. As a result, new academic and housing developments were located between the Core Campus and the North Nevada Avenue edge to activate the connection between the two. Athletics and parking were located towards the north and east edges in these schemes.

Proposed organization creating a second core along North Nevada.

Campus Center Shifts East

Some groups felt that the East Campus holds the greatest development potential and could become a unified extension of the existing core, while the North Campus is better suited for specialized, satellite functions. These groups chose a dense concentration of development in the Core Campus. Housing, parking, athletics, and recreation were all located on the North Campus to preserve the core as a walkable academic district.

Proposed organization using the East Campus to expand the Core.

Mixed-use Campus

Inspired by the mix of uses in the Core Campus today, some groups chose to create a mixed-use district along the length of the spine. In these scenarios, living-learning clusters with associated recreation and parking facilities were proposed.

Proposed organization mixing residential, academic, and recreation.

CAMPUS CAPACITY

To determine the capacity of the university's existing real estate holdings, development options for each precinct of the campus were studied. While some ideas were rejected immediately, others resonated with the campus community. Ultimately, these initial studies were the origination of many of the Master Plan components, with each idea evolving between initial testing and the final plan.

Core Campus

With the design of two additional Summit Village residence halls underway, the Core Campus feels nearly built out, with the exception of the parking lots lining the front edge of the campus adjacent to Austin Bluffs Parkway. While developing the parking lots would provide valuable land for new academic facilities within the Core, the cost of replacing the parking might be prohibitively expensive. One early design scenario for the Core Campus assumed that its full capacity includes only one additional building site and retains the parking lots. In this scenario, circulation within the parking lots would be clarified to create a regularized street as part of the vehicle and bicycle spine.

A second early design scenario proposed a parking structure at the eastern edge of the Core Campus that would free the parking lots for new academic facilities. Massing of new buildings would be limited in height to preserve views from existing buildings and the spine. While many members of the campus community felt that surface parking in the core detracts from the campus' aesthetic appeal, new development in the Core was anticipated to be a very long-term solution.

Early sketch showing Core Campus surface parking remaining.

Early sketch exploring potential capacity of parking lots for development.

Early sketch showing a residential and academic district.

Early sketch exploring residence halls and recreation on the East Campus.

East Campus Capacity

The East Campus Concept Master Plan shows an extension of the pedestrian spine connecting the Core Campus to University Hall. While this framework could accommodate academic or residential facilities, it anticipates a residential village closer to the existing core and new academic buildings clustered towards University Hall to the east. Due to the desire to significantly increase the percentage of students living on campus, a second initial study explored the East Campus as an entirely residential village with an integrated soccer field for recreational use. In this scenario, University Hall would be best used for support functions.

Easy access to the Core Campus, reducing University Hall's academic isolation, providing an academic east end anchor like Columbine Hall's Core Campus western end anchor, and limited sanitary sewer capacity for housing led the university community to prefer a mix of residential and academic development on this site.

Alpine Village and the "Mesa"

Preliminary capacity studies for this area identified the opportunity for a node of new development around the Recreation Center and Alpine Village to mark the transition from Core Campus to North Campus. Significant erosion at the top of the southernmost arroyo has created a site that would accommodate a structured parking facility. Due to its proximity to the Recreation Center, this would be an opportunity to enhance recreational facilities by building an artificial turf field on the top level of the garage. New development in this area could accommodate residential or academic development. Ultimately, the anticipated need for housing to meet targets for students living on campus, the proximity of recreation facilities, and the available sanitary sewer capacity suggested that these areas would be best suited for residential uses.

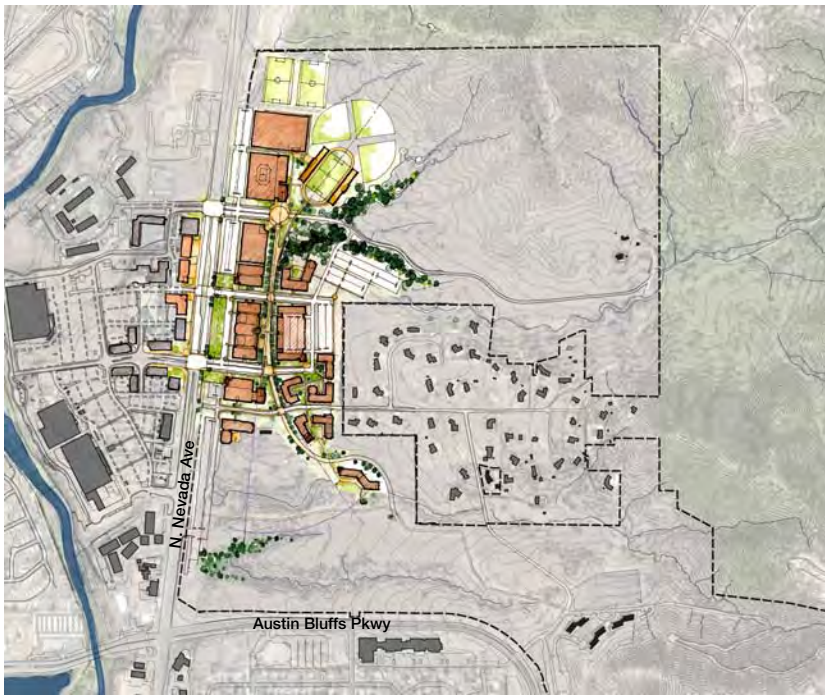
Conceptual sketches for a new village on the flat "mesa" between Alpine Village and North Nevada could accommodate a wide range of uses, but the native landscape, cultural resources, and views of Pulpit Rock and the Front Range in this district present unique development opportunities to integrate educational landscapes into the built environment.

Early sketch shows buildings framing courtyards along the Mesa.

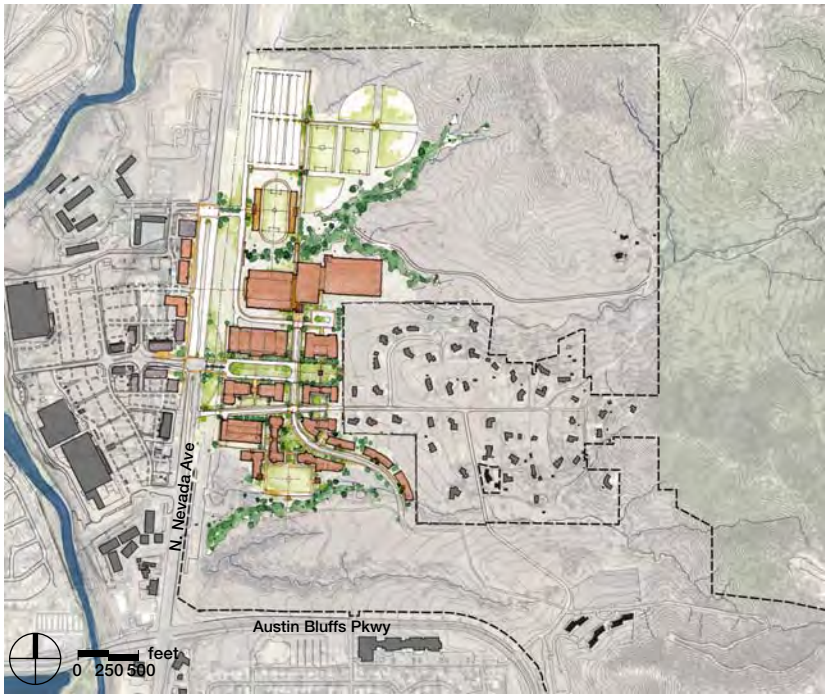
Early sketch explores residential expansion of Alpine Village.

North Nevada

Three different concepts explored the development capacity of the North Nevada edge. To give the character of a traditional college town, a main street lined with active uses along the pedestrian spine was envisioned. A grid of development that frames views of Pulpit Rock and Pikes Peak shaped a second scenario. To give the North Nevada edge a campus character, a third sketch clustered development around a central green. In each of the three scenarios, the major athletics facilities were clustered differently. Based on feedback about ideal programmatic adjacencies, a fourth preliminary design arranged athletics facilities along an extension of the pedestrian spine aligned with Pulpit Rock. Components of each of these schemes are incorporated into the Master Plan.

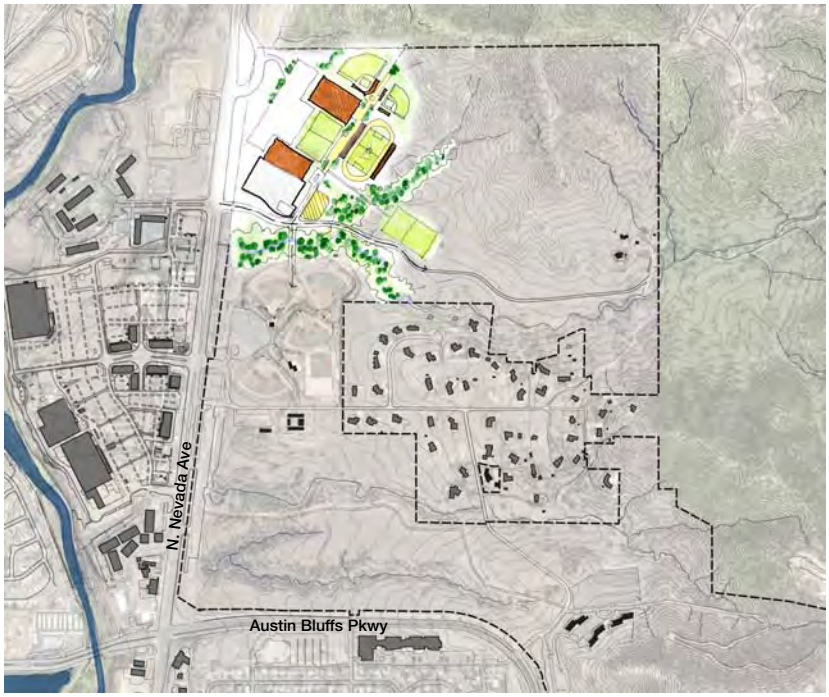


Early sketch organizing North Nevada around a "main street."



Early sketch exploring a campus green.

Early sketch using new buildings to frame views of Pikes Peak.

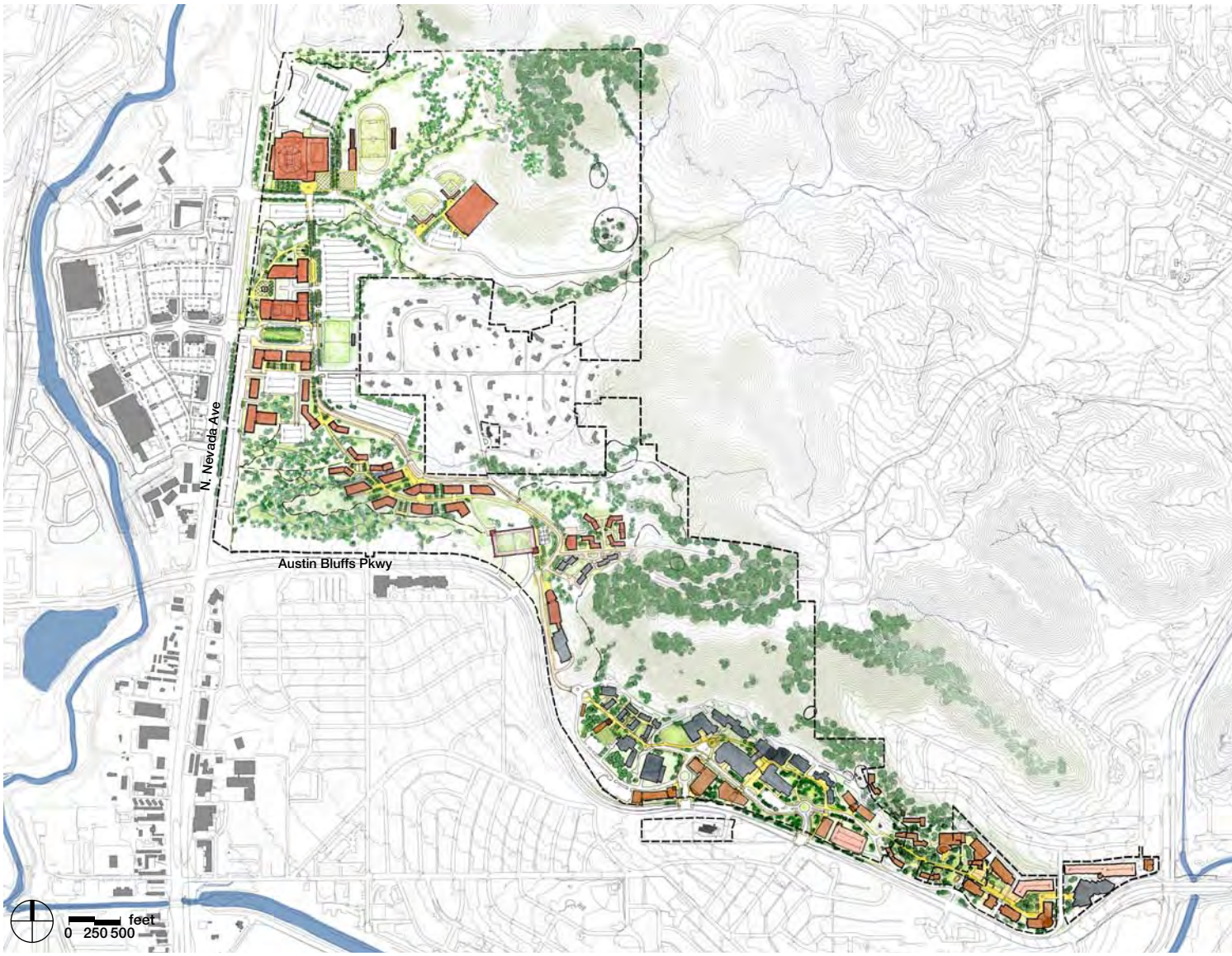


Early sketch aligning athletic facilities on axis with Pulpit Rock.

STUDENT ENROLLMENT CAPACITY

Combining the capacity studies for each district into a campus-wide Draft Plan helped establish the enrollment capacity of the campus. Using the assumptions that most new buildings will be four stories, the Draft Plan shows potential for about 4,000,000 GSF plus 4,500 beds; this number is inclusive of the 1,700,000 GSF of existing space on campus. This amount of development would accommodate the residence halls, academic, student life and parking needs of a student body of 20,000 to 23,000 students using state utilization guidelines.

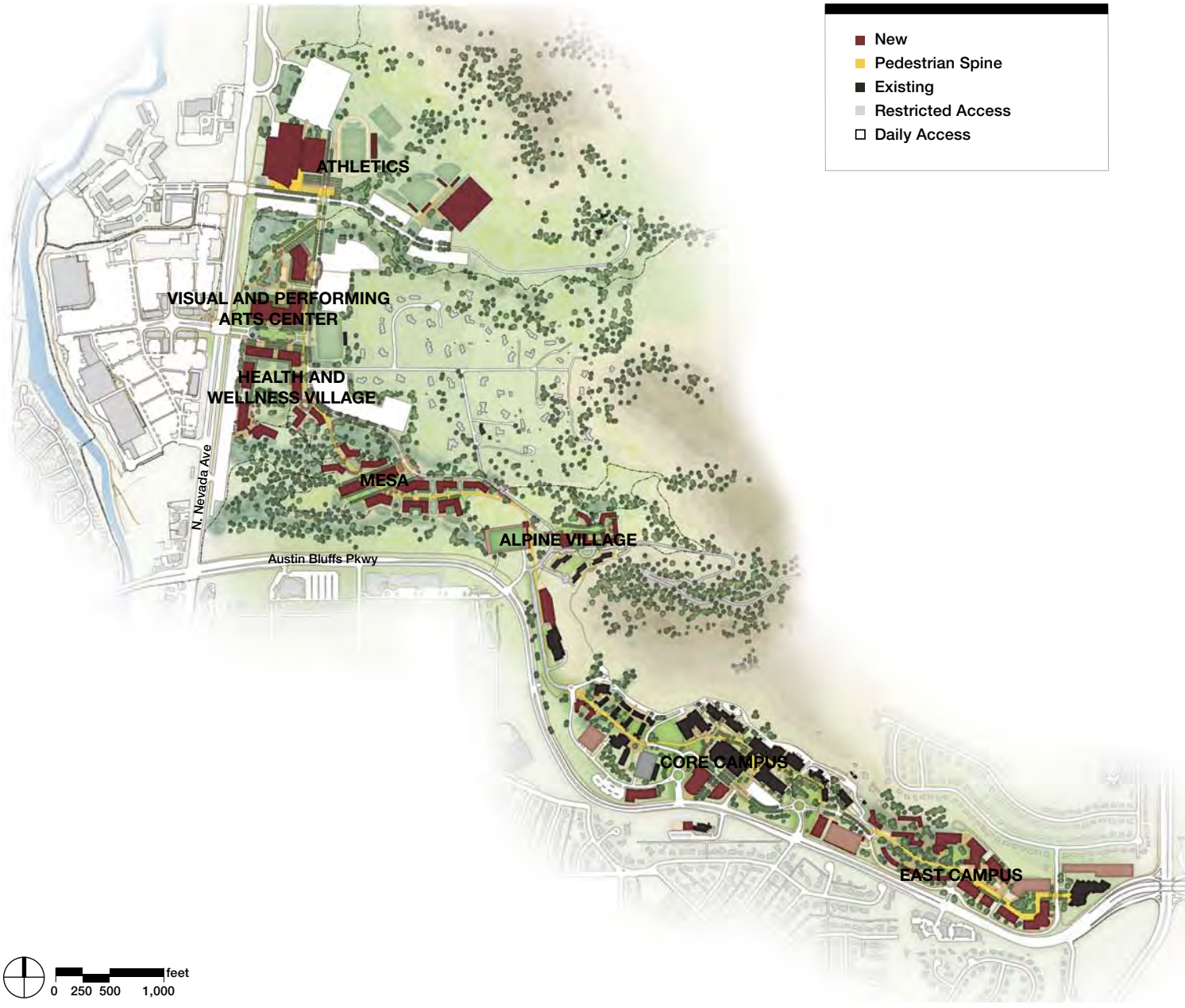
	ENROLLMENT	ACADEMIC & STUDENT LIFE				HOUSING		PARKING	
	On-Campus Student Headcount	Academic GSF	Student Life GSF	Total GSF (exclusive of housing)	Difference From Existing	Beds	Difference From Existing	Parking	Difference From Existing
Fall 2011 Existing	9,321	1,116,941	285,513	1,403,454	—	900	—	3,350	—
Fall 2011 Guideline	9,321	1,232,000	606,000	1,838,000	434,546	1,491	591	3,728	378
2020	13,000	1,594,000	665,000	2,259,000	855,546	2,400	1,500	5,200	1,850
	15,000	1,825,000	752,000	2,577,000	1,173,546	2,700	1,800	6,000	2,650
	20,000	2,369,000	939,000	3,308,000	1,904,546	3,600	2,700	8,000	4,650
	25,000	3,125,000	1,149,000	4,274,000	2,870,546	4,500	3,600	10,000	6,650



When combined, capcity studies for each precinct inform projections of feasible enrollment growth.

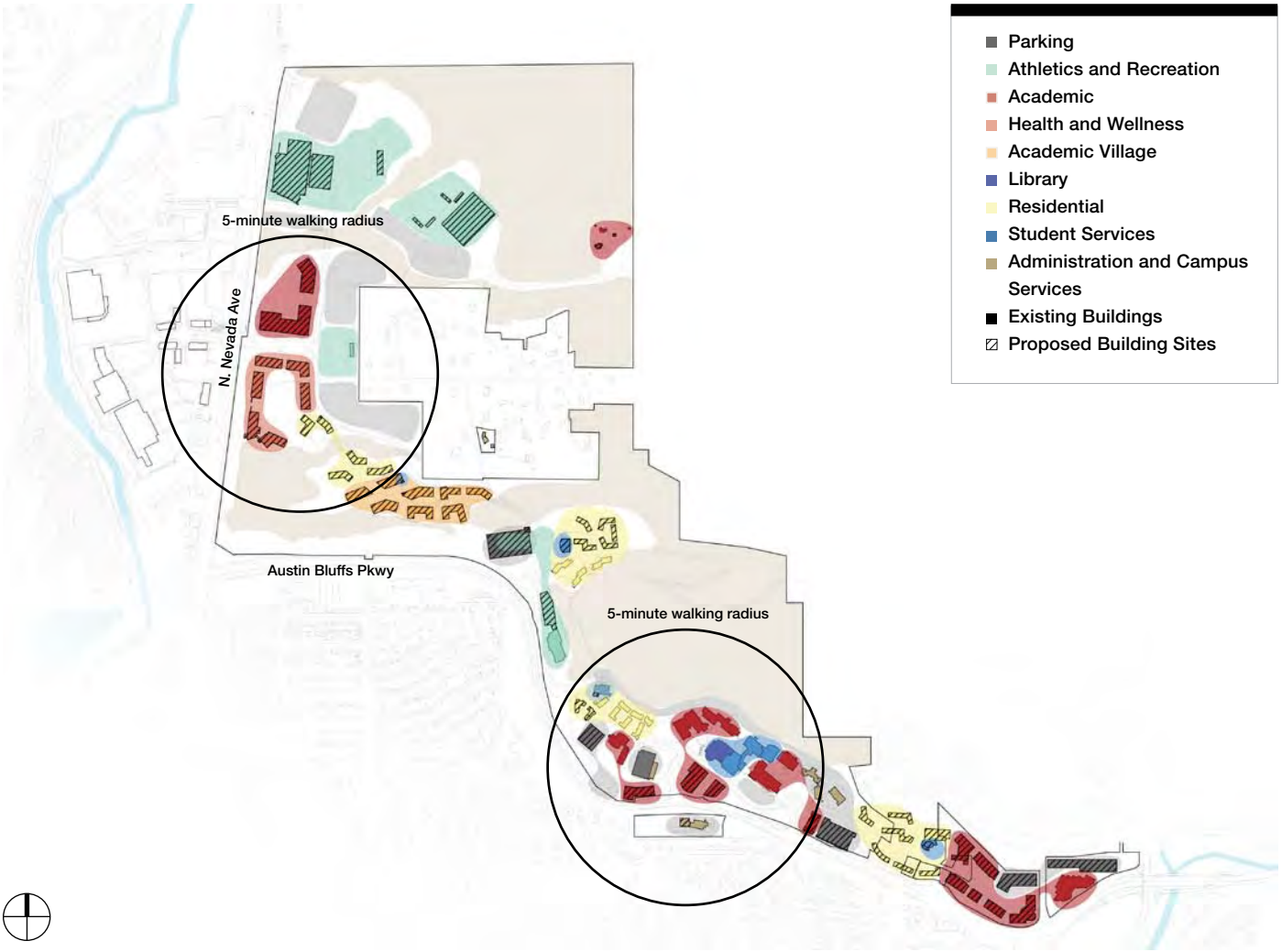
Master Plan

In accordance with the goals of the UCCS 2020 Strategic Plan, the Master Plan provides a framework for “responsible campus stewardship that minimizes … environmental impact, protects … financial resources and nurtures a sense of place” (UCCS 2020 Strategic Plan, Goal 7). Layers of traditional and green infrastructure support the growth of a functional and sustainable campus organized around a spine connecting several districts. Each district has a different mix of uses and nodes of activity that define its unique character. While there are campus-wide unifying elements, these expressions of difference provide a changing landscape to experience while travelling across the campus.



The Master Plan consists of several interconnected districts along a spine.

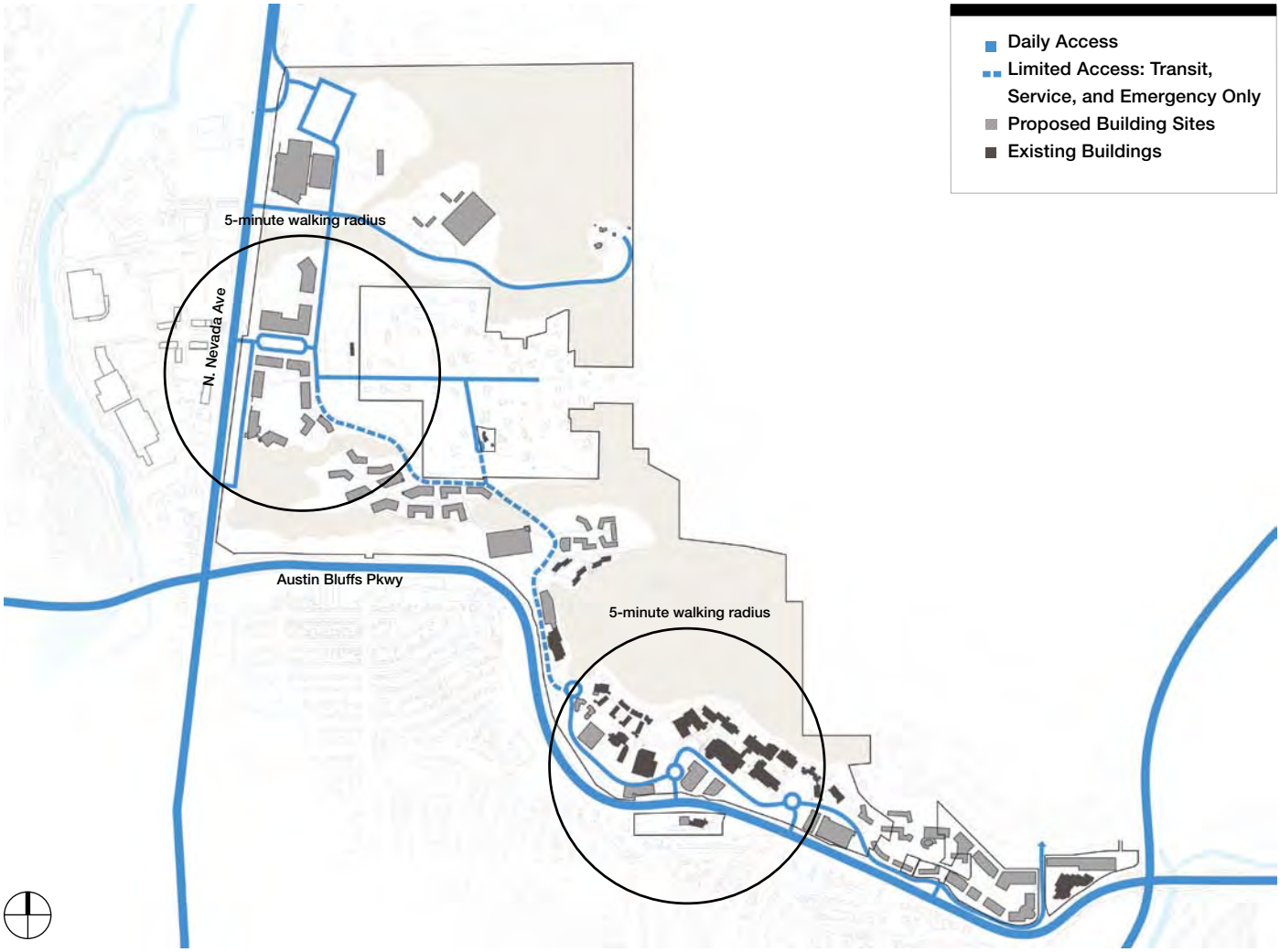
CAMPUS-WIDE SYSTEMS



Campus uses are organized in clusters across the campus.

Building Use

At full build-out, UCCS buildings are organized in clusters along the spine. The Core Campus is preserved and enhanced by a mix of uses that add academic facilities and housing where capacity exists. On the East Campus, a housing village and academic expansion around University Hall continues the pattern of living-learning districts. Athletics facilities are consolidated into an athletics complex along North Nevada Avenue, while the Student Recreation Center continues to expand on its current site. Academic facilities with public interface components, including Visual and Performing Arts and the Health and Wellness Village, are strategically planned for the North Nevada edge. A new academic village consisting of a mix of academic and residential uses connects the North Campus to the Core Campus.



Access is limited between Summit Village and the North Nevada district to allow the shuttle to operate more efficiently.

Automobile Access

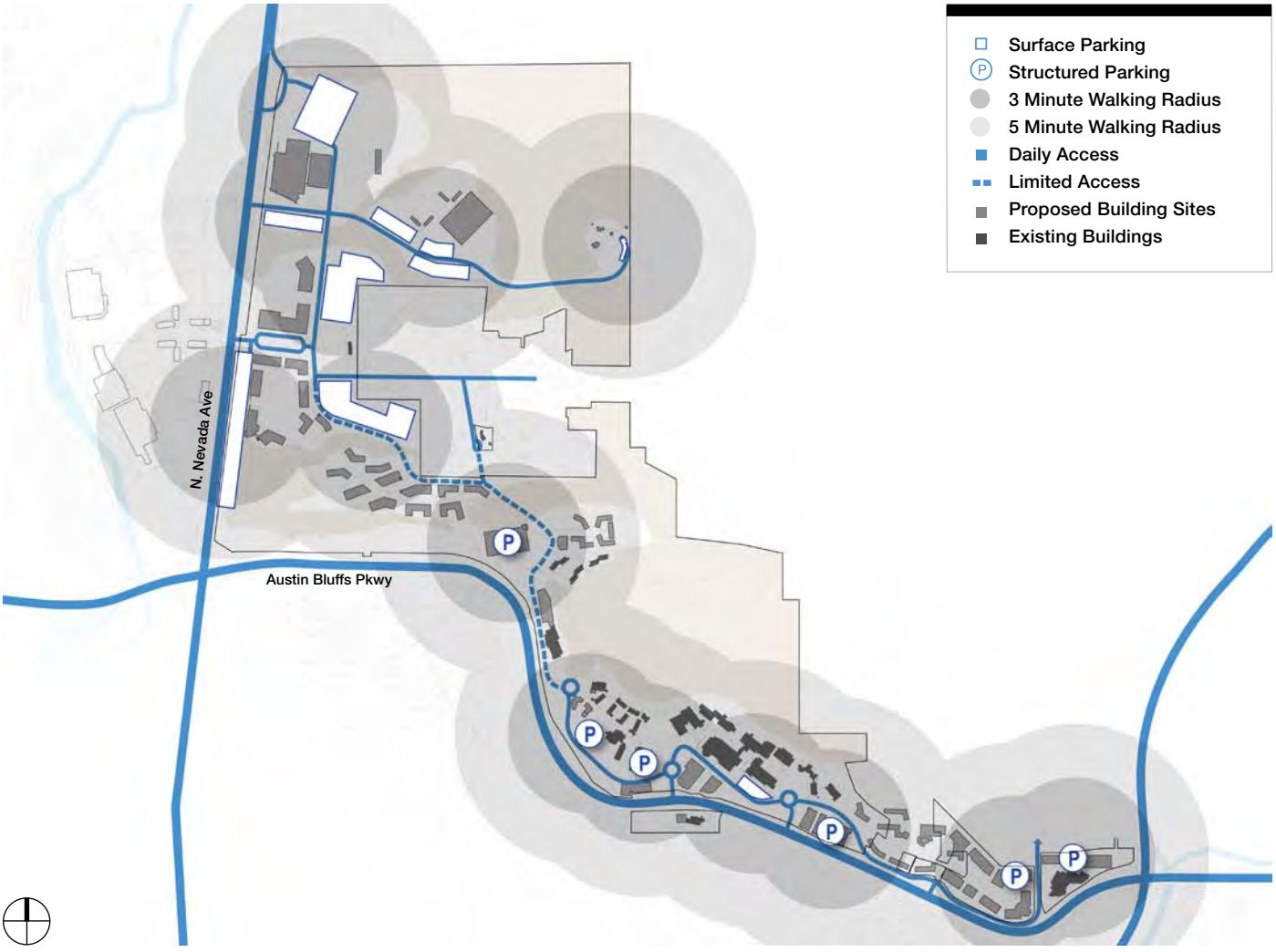
A large percentage of the university community drives to campus. While the university will continue to promote alternative modes of transportation, accommodating personal vehicles remains an important component of the campus transportation system. The Master Plan establishes a circulation system that allows daily traffic to access the Core Campus, the public facilities along North Nevada, and all proposed parking areas. It acknowledges, however, that daily traffic does not need access to all areas of the campus: the spine between Alpine Village and North Nevada will be reserved for shuttle transit, pedestrians, and bicyclists only and will close to daily traffic. This supports the most efficient operation of the parking and shuttle systems to reduce dependence on personal vehicles for travel within the campus.

Parking

The Master Plan mixes structured and surface parking to provide over 8,000 parking spaces at full build-out. Parking facilities need to serve all campus destinations, but facilities with differing peak parking time frames can share capacity to create greater efficiency within the system. The parking plan facilitates a “park once” system, where drivers park at either a North or Core Campus facility when they arrive for the day and walk, bike, or take the shuttle to move between on-campus destinations.

Even after it is developed more intensively, the North Campus will continue to function as a satellite surface parking resource for the Core Campus. The Visual and Performing Arts Center, arena, and other athletic facilities will take advantage of these lots to provide parking for their events during off-peak evening and weekend hours.

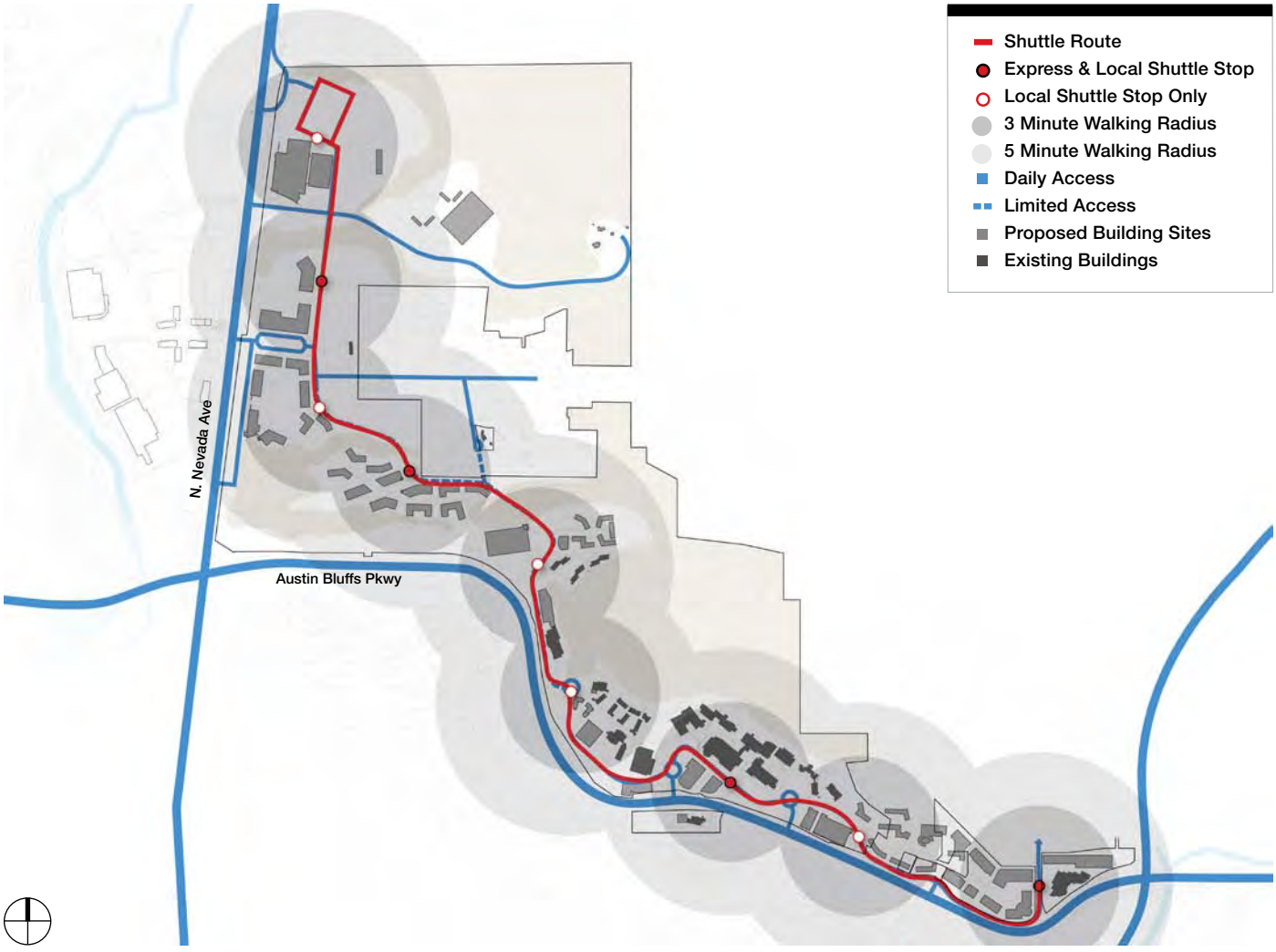
In the short term, the Core Campus maintains its mix of structured and surface parking. However, as financing for structured parking becomes available, parking garages will be added to the North and Core Campus on strategic sites to enable full build-out of the Core Campus.



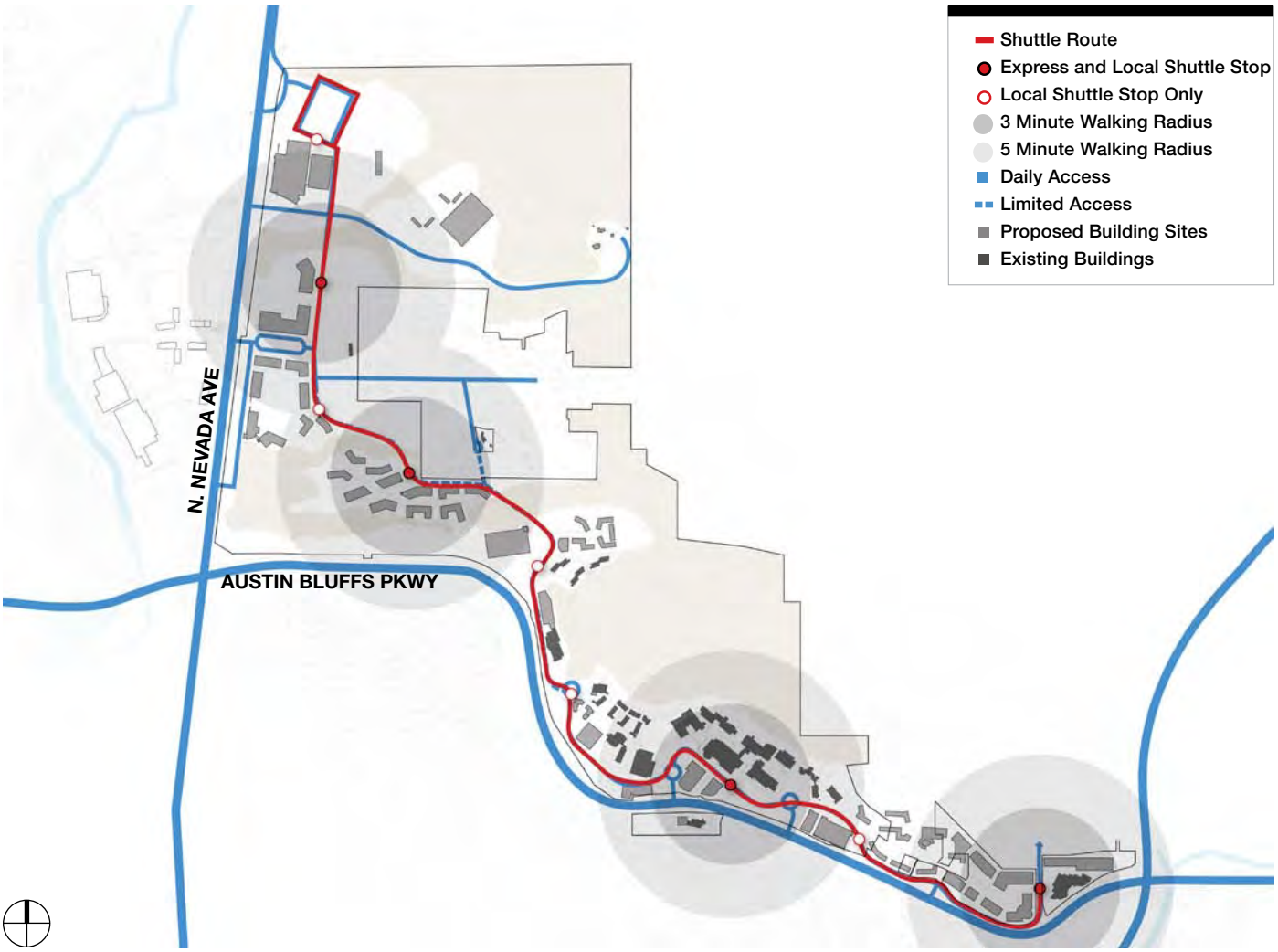
Parking facilities serve the majority of campus facilities within a three minute walk.

Internal Shuttle

As the campus grows and academic uses extend beyond quick walking distance, efficient operation of the campus shuttle will take on an even more important role. While the current shuttle routes require transit vehicles to use public streets to access the North Campus, the Master Plan designates a shuttle route as part of the spine travelling entirely on UCCS property, improving its efficiency. Between the Core Campus and the North Campus, daily traffic will be prohibited from using the shuttle route, preventing traffic congestion from slowing its operation.



With nine stops, the shuttle serves most campus facilities within a three minute walk.



With 4 stops, an express shuttle serves the major academic districts.

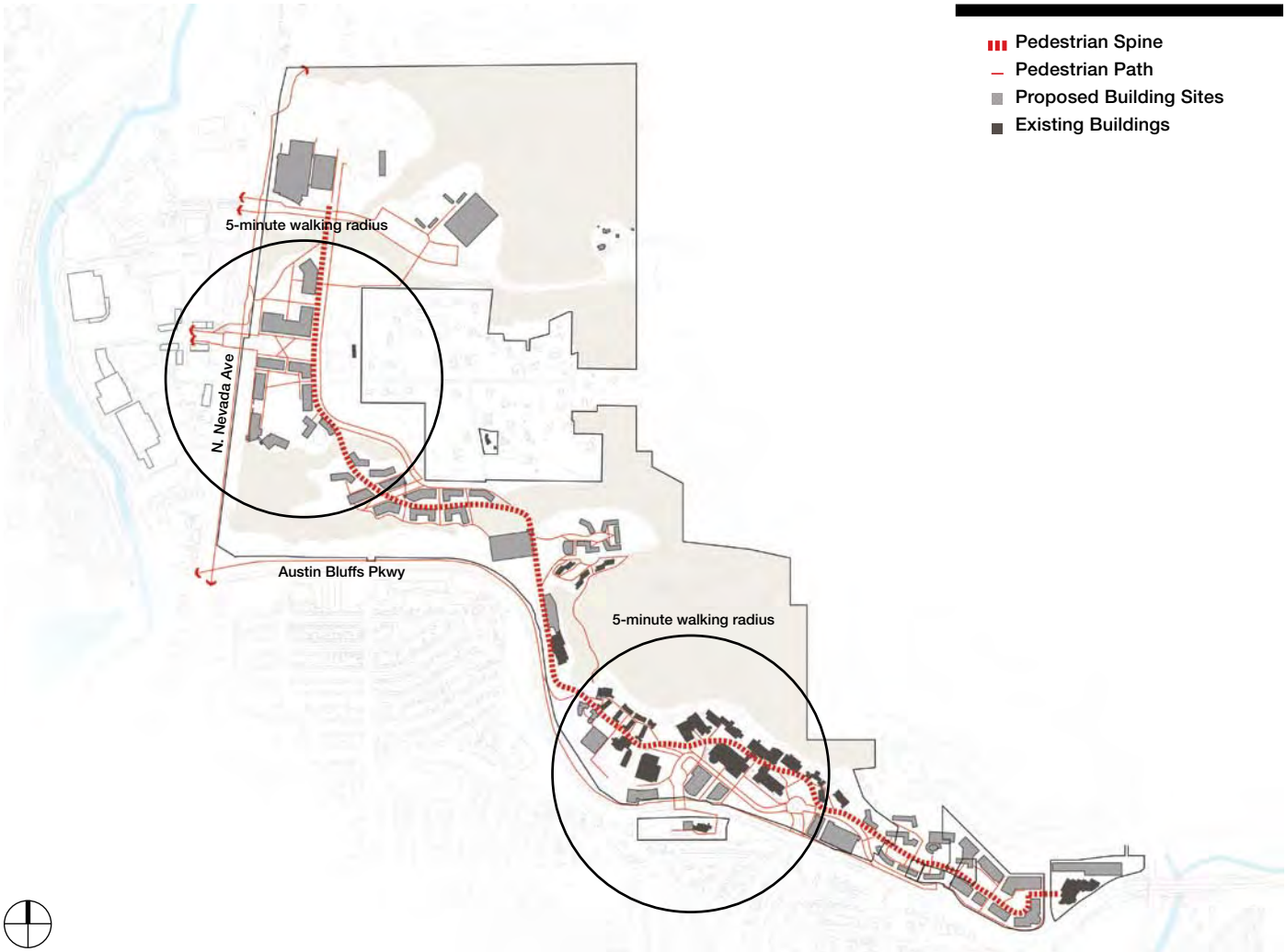
The shuttle route needs to stop frequently enough to provide access to all parts of the campus and facilitate handicap accessible routes from shuttle stops to every building. The Master Plan shuttle proposal achieves this with seven stops, but acknowledges that this number of stops may not create short enough headway times to facilitate class changes. An express bus route operating during key class change times will stop only at nodes of classroom activity, including the North Nevada edge, the Core Campus, and the East Campus, providing quick access between these key destinations.

Pedestrian Spine and Paths

The pedestrian spine in the Core Campus extends to connect University Hall to the proposed arena, serving as the organizing element of campus. Despite the campus' significant topography, the pedestrian spine follows a route that falls at approximately a five percent slope for nearly its entire length between Alpine Village and the proposed new development along North Nevada Avenue. This relatively gentle slope creates a handicap accessible route through the campus. The overall distance between University Hall and the Arena along the pedestrian spine is 2.25 miles.

Across most of the campus, the pedestrian spine is separated from automobile traffic to provide a comfortable pedestrian-only environment. These sorts of high quality walks make the trip seem shorter and encourage walking. In some cases, however, the pedestrian spine runs alongside a campus road. In these instances, planting or other means could be considered to ensure that pedestrians feel separated from auto traffic.

The pedestrian spine is the most prominent aspect of the pedestrian path network on campus. Providing a pleasant, complete, and interconnected pedestrian path system that accesses all campus destinations facilitates mobility by encouraging the campus community to walk: longer walks feel much shorter when the quality of the walk is pleasant.

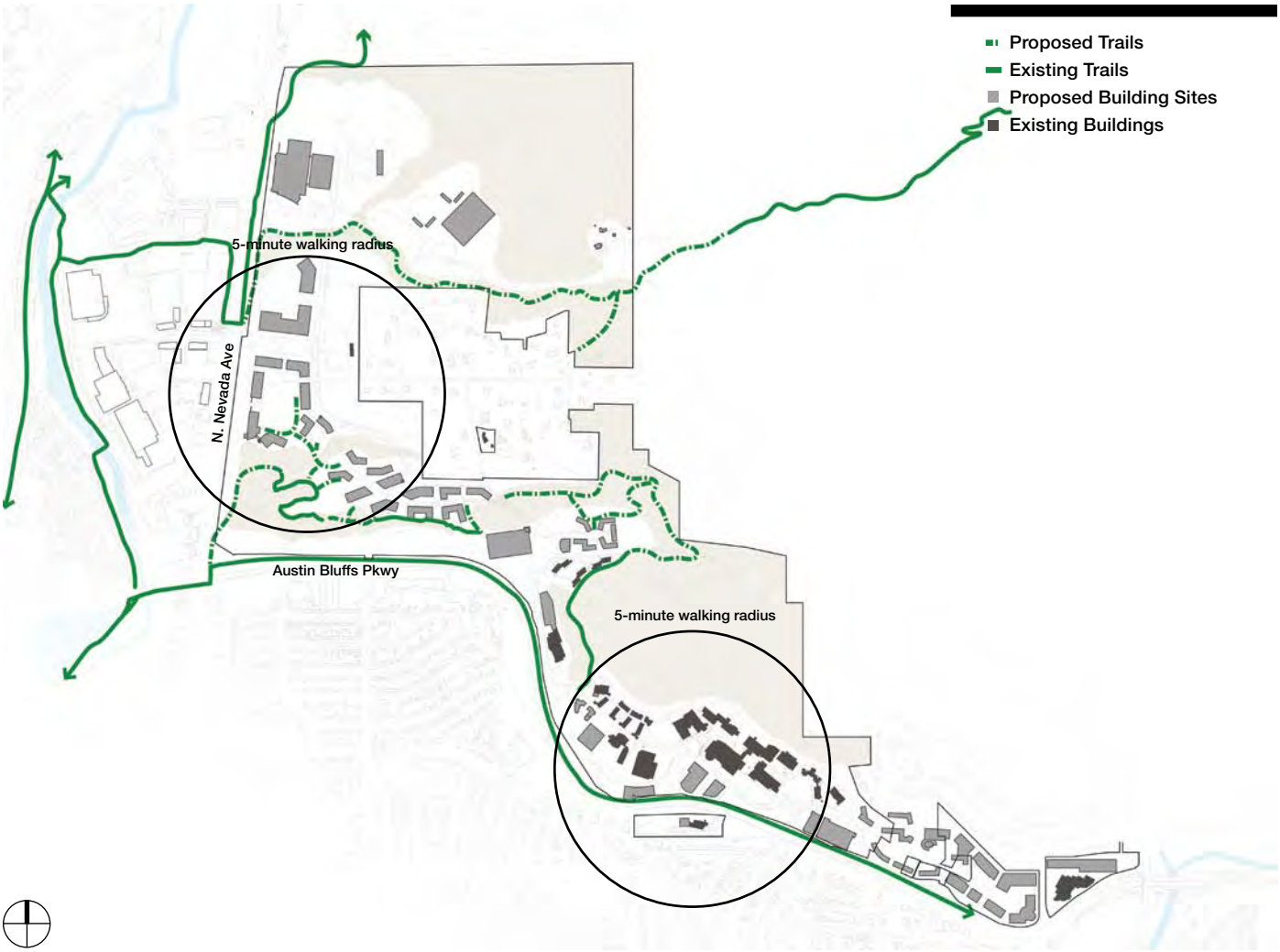


The pedestrian spine connects University Hall to the Arena.

Trails

The natural-surface trail system expands campus-wide pedestrian access, providing alternative linkages to residential, academic, and recreational facilities while crossing the natural drainage corridors, bluffs, varied plant communities, and views unique to the UCCS Campus. In addition, the campus trail system connects through University Village Colorado to the Pikes Peak Greenway as well as to the City's multi-use trail system, creating an expansive recreational opportunity with access to shopping, employment, off-campus housing, and many Colorado Springs' resources.

The 2011-2012 Facilities Master Plan includes accommodation of a campus trail system for both campus access and recreational use. After funding is identified, a more detailed micro-master plan of the recreational trail system will be completed during the 2012-2013 academic year, which will include campus input, appropriate consideration for ADA access, and review processes, and will be considered an addendum to the facilities master plan.



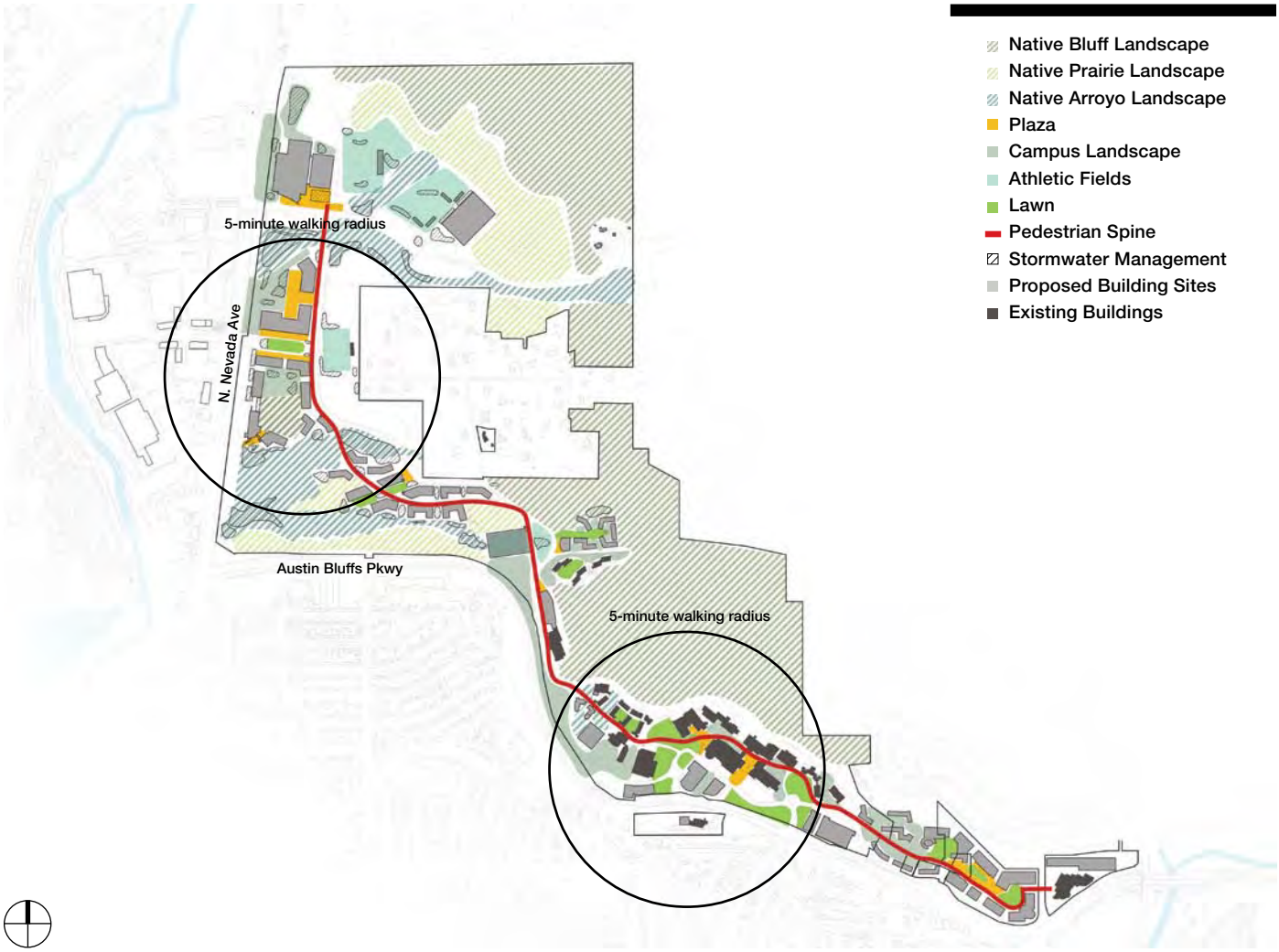
A recreational trail system allows the campus community to engage with the landscape.

Open Space

The campus open space network today consists of urban public spaces located along the spine and areas of preserved native landscape, particularly in the bluffs. The West Lawn has provided the opportunity for programmed and informal passive recreation that was previously missing on campus.

The Master Plan shows that as the campus expands, the open space network also expands and diversifies. Native landscapes are developed that allow the community to engage the landscape without causing environmental harm. Additional open lawns allow for informal, passive recreation opportunities that are lacking on campus today.

Preserving native landscape establishes a unique sense of place, fulfilling one of the UCCS 2020 Strategic Plan goals for sustainability. The native landscape in the bluffs is preserved above the Core Campus and the North Campus, linking the two. This feature defines the North Campus character with dramatic topography and geologic features, expansive views, drainage corridors, intact vegetative communities, and cultural sites. The plan also preserves the arroyo landscapes for their stormwater management functionality, natural beauty, and educational value. Native prairie is preserved in key locations. Development in native prairie areas integrates native landscapes, weaving these features through building clusters to the greatest extent possible. Along with establishing campus character, the open space also preserves views of the bluffs for both UCCS and the greater community, buffers surrounding residential development, and protects the remote retreat experience at the Heller Center. During North Campus development, tightly controlled construction zones will ensure protection of these natural features.

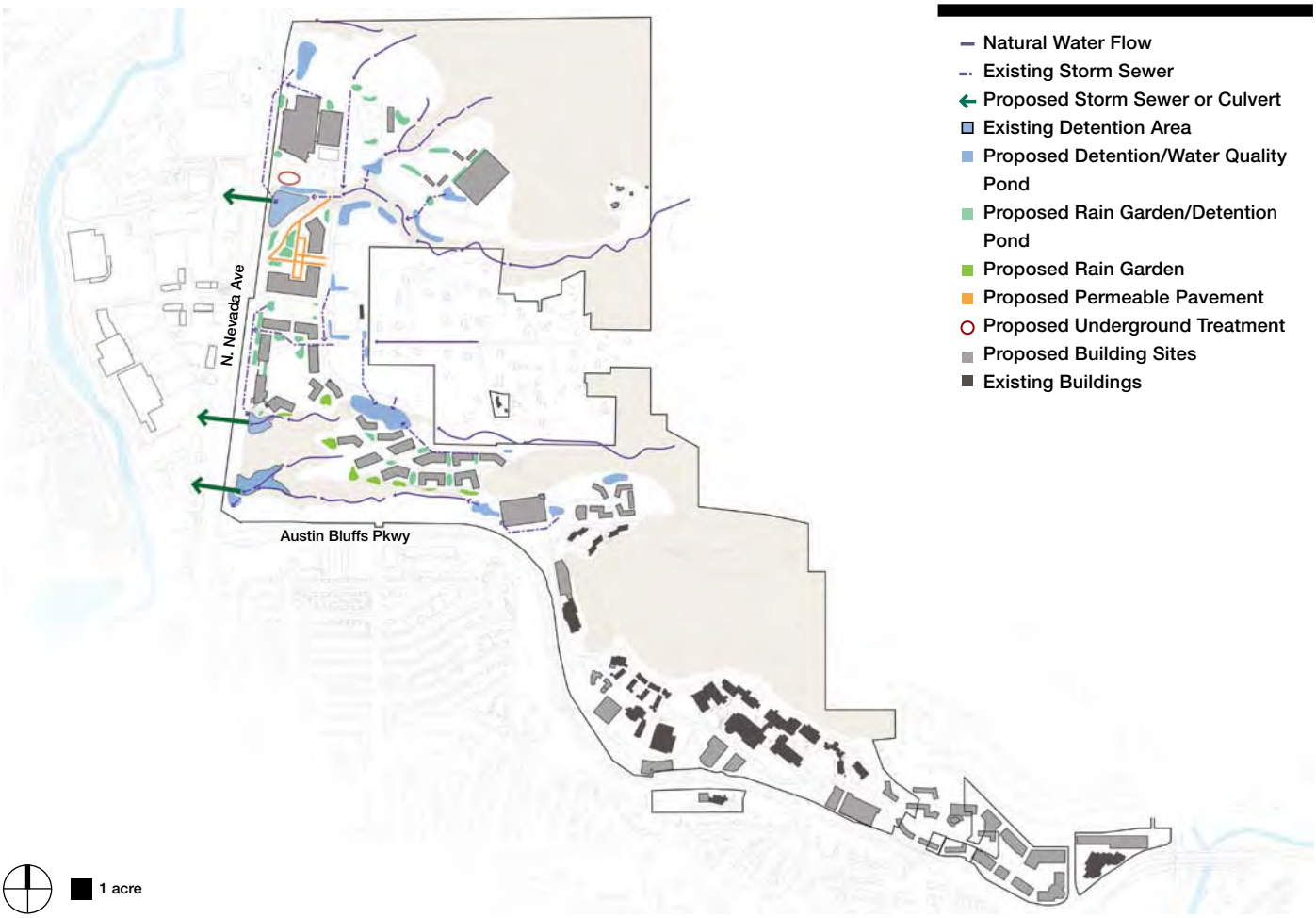


A diverse open space network establishes a sense of place on campus.

The Master Plan establishes two new open lawns on campus. One creates a gracious entrance to the university along North Nevada Avenue, and the other serves as a central gathering space for the academic village located on the Mesa. Both will offer opportunities for students to throw a Frisbee, read outside on nice days, or attend university-sponsored events. Plazas, like the existing El Pomar Plaza, at key nodes along the pedestrian spine, including its termination at the arena and at shuttle stops, establish additional areas for community interaction. Several smaller courtyards in other areas of development, particularly in conjunction with residence halls, diversify the scale of open spaces available on campus.

Stormwater Management

Across the North Campus, stormwater runoff management mimics natural hydrology processes to the extent practical. The pattern of dense development surrounded by preserved naturalistic open space is conducive to this type of drainage management. Rain gardens for bio-retention and full spectrum detention ponds are the primary management facilities. Use of permable pavement in specific low-traffic areas, porous base materials under athletic fields, grass swales, and grass buffers in specific areas enhances the university's stormwater strategy. As technology advances, new practices may offer additional stormwater management approaches. These strategies all work to reduce the frequency and quantity of runoff discharged from impervious surfaces and improve water quality through filtration and sedimentation. Stormwater best management practices work well with phased development, avoiding the need for significant downstream improvements in early development phases.



Stormwater management facilities on the North Campus maintain natural water flows wherever possible.

Existing Arroyos

With careful implementation of a stormwater management plan that mimics existing hydrology by discharging runoff to the arroyos over erosion resistant surfaces, the three main arroyos will serve as the drainage outfalls for the North Campus area with minimal improvements. More detailed analysis will be necessary and the condition of the arroyos should be monitored for instability as development in the watershed progresses.

The small existing arroyos above the proposed athletics district collect and convey runoff from the very steep and rocky areas along the northern perimeter. The steeper portions of these arroyos exhibit active erosion and will continue to erode and deliver and deposit sediment in the North Campus unless efforts are made to stabilize them. Given the relatively small watersheds contributing to these arroyos, potential treatments include construction of small ponds or level terraces along the watercourses to facilitate infiltration of frequent runoff coupled with construction of relatively flat and wide diversion channels constructed nearly parallel to the existing grade contours to shelter proposed athletic facilities from upstream flow.

Permeable paving can be successfully installed in low-traffic areas including parking stalls and plazas.

Rain Gardens

Rain gardens consist of shallow depressed landscaped areas constructed over thick beds of a mixture of sand and organic material. They improve water quality through filtration and biological processes and reduce runoff volume and flow rates through infiltration, evaporation, evapotranspiration, and controlled discharge. Given the availability of open land, it is recommended that these facilities be sized for events well in excess of the water quality event.

Stormwater is concentrated in shallow depressions and then percolates into the underlying bed material. If the bed is constructed over well-draining soil, it continues to percolate into the sub-grade soil. If the sub-base soils are not adequately permeable, a pipe under-drain system is required to allow the rain garden to drain over time. Large, flat facilities like surface parking and athletic fields, will prove to be the most challenging, particularly on the steep topography. In these areas, pre-treatment, including grass buffers, swales, and sediment-collection forebays to remove coarse sediments as water is routed to the rain gardens is recommended.

Landscape areas can be specifically designed to retain stormwater.

Detention Ponds

Detention ponds discharging to the arroyos treat water quality and control runoff from afternoon showers as well as 100-year flood events in accordance with the criteria for “full spectrum detention ponds” developed by the Urban Drainage and Flood Control District.

A non-detailed approximate hydrologic analysis revealed:

- In its existing condition, the southern outfall, located approximately 400 feet north of Austin Bluffs Parkway, has sufficient capacity to accept 100-year peak runoff from future development in the watershed. This is contingent upon maintaining the existing informal detention area in the arroyo immediately upstream of the outfall. The stormwater facilities identified to mitigate new development in this watershed should result in peak flows that are equal to or less than existing flows.
- The middle outfall, located approximately 1,200 feet north of Austin Bluffs Parkway, has considerably less capacity than needed, even to accommodate existing runoff. Preliminary discussions with City of Colorado engineering staff indicated that future peak discharge rates from the site should not exceed the existing limits planned for this outfall. If left unmitigated, North Campus developments will increase peak runoff rates from the site; however, planned stormwater management facilities will result in post-development peak runoff rates that are less than existing condition peak flow rates. Further discussions with City of Colorado Springs engineering staff are recommended as development progresses.
- The northern outfall, located approximately 3,200 feet north of Austin Bluffs Parkway, has sufficient capacity in its existing condition to accept 100-year peak runoff from future development in the watershed. In addition to the informal detention area that exists immediately upstream of the outfall, the additional facilities identified to control discharge to the arroyo from North Campus development should result in peak flows that are equal to or less than in the existing condition.

Storm Sewers, Culverts, and Bridges

Where practical, the plan uses open swales and arroyos to convey runoff through the campus. However, storm sewers, culverts, or bridges are needed in more complex conditions, such as transit and pedestrian spine crossings. Overland emergency flow paths will be preserved in case of storm sewer failure.

Theses structures should be designed in keeping with the campus character. Box culverts provide the most economical structures for arroyo crossings, but will be outfitted with wing walls, headwalls, and railings reflective of campus architectural character to feel more like a bridge and integrate them into the campus fabric.

Underground Stormwater Treatment Facilities

Due to the large size of the arena and Visual and Performing Arts Center and their locations along North Nevada Avenue, there is not adequate room downstream to employ above-ground stormwater management facilities to treat the quantity of runoff these large impervious areas will generate. Given these constraints, a combination of underground treatment, including separators, filters, and underground extended detention will be required.

Utilities

To support the Master Plan, utility needs were assessed at a planning scale based on current projections of future building use and size. As these projects progress into design phases, further analysis will be needed in accordance with the requirements provided by Colorado Springs Utilities.

Sanitary Sewer

Sanitary sewer capacity is limited on the East Campus by low capacity through downstream facilities, particularly when considering intensive uses such as residence halls. Preliminary analysis suggests the university will be able to accommodate a 900 bed residential village and significant academic growth on the East Campus by constructing new 8-inch lines through the proposed East Campus academic district and connecting them into existing public lines southeast of campus (North Union Boulevard at Cragwood Drive).

To accommodate projected North Campus development, an 8-inch sanitary sewer collector will run underneath the pedestrian spine. Isolated segments of this collector will require 10-inch pipes. New Core Campus facilities could take advantage of North Campus sanitary sewer capacity and avoid necessitating downstream improvements by connecting back to the collector. Small segments of existing infrastructure that connect this new collector to North Nevada Avenue will need to be upgraded to 10- and 12-inch mains to accommodate the new flow created upstream.

To serve the new athletics venues at the north end of the campus, 12-inch lines running underneath North Campus Heights Road will be needed.

Water

Water service must meet building system flow needs or the fire flow needs, whichever is greater. Water system demands for each building are determined based upon the gross square footage and building usage. Chapter 6 of the International Building Code regulates fire flows based upon a building's gross square footage and building construction type. The water analysis supporting the Master Plan reduces required fire flow by 50 percent under the assumption that all buildings will be equipped with an approved automatic sprinkler system. Despite this reduction, projections indicate that fire flow requirements will exceed building system demands and dictate pipe size selection. Hydraulic analysis and water availability studies during design will determine necessary improvements.

Planned development on the East Campus requires two 12-inch loops: one serving the residential village and one serving the academic district. To support new academic facilities in the Core Campus a new 12-inch loop connects at Meadow Lane and at Austin Bluffs Parkway.

A 10-inch loop connecting to existing Alpine Village water service will facilitate expansion of this residential village. To serve new university development in the Mesa area, Health and Wellness Village, Visual and Performing Arts Center, and Athletics Districts of the North Campus, a 14-inch water line will run underneath the pedestrian spine. The existing 8-inch line connecting this area to North Nevada Avenue will need to be upgraded to a 12-inch line as well. To accommodate the significant fire flow demands of the arena, natatorium, and field house, existing water mains along North Campus Heights Road will need to be upgraded to 16 inches between North Nevada Avenue and the spine and 14 inches east of the spine.

Gas and Electric

Gas and electric service to new buildings in the Core, North, and East Campuses will continue to be metered separately using utility-owned transformers. In order for public gas and electric utilities to serve the development of the North Campus, a one to one and a half mile long utility corridor easement through campus is necessary. To facilitate Colorado Springs Utilities (CSU) maintenance, the easement is located along the roadside, but not under the roadway, with separate manholes for power and telecommunication installed at least every 500 feet.

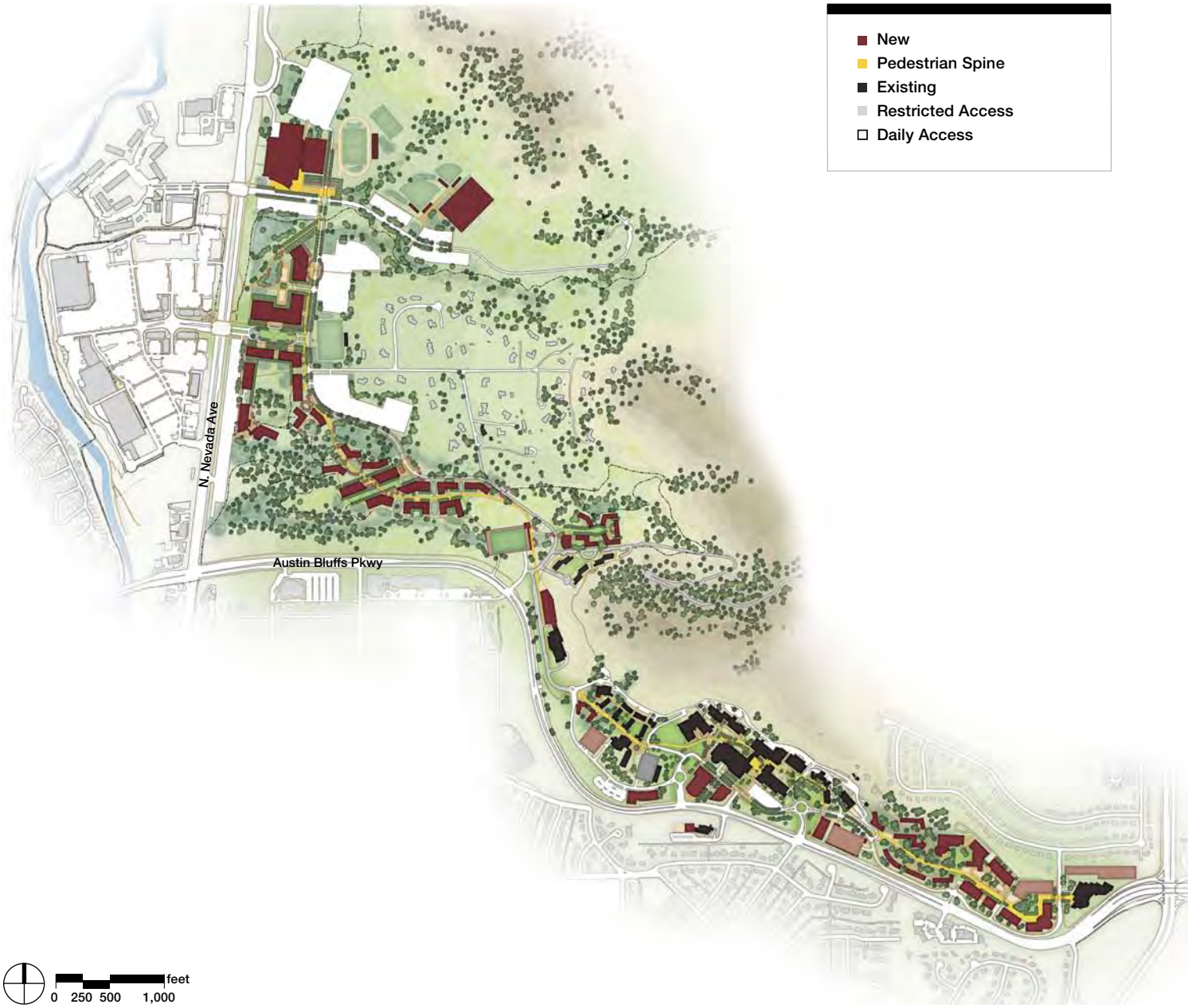
Gas, electric, and telecommunications will all be routed in this corridor. CSU standards require that electrical service be accommodated in a concrete-encased duct bank. While not required, encasing telecommunication conduit in concrete as well will extend its life and reduce maintenance needs. Electrical and telecommunication lines can be encased together or separately.

CSU offers incentives to reduce electric load during peak demand hours. By installing submeters for high load applications including lighting, heating, ventilation, and air conditioning (HVAC), and computer labs, the university can take advantage of reduced electrical rates during off-peak times. CSU also offers incentive programs for renewable energy generation. Individual building projects will include cost benefit analysis to determine if renewable energy's payback period will be short enough to pursue.

Phasing plans and funding constraints for a central steam plant to supply campus heating, ventilation, and air conditioning (HVAC) make the infrastructure cost prohibitive. As a result, the university will continue to operate individual HVAC units for each building.

Features of the Master Plan

The Master Plan calls for new facilities, landscapes, and infrastructure across the campus with significant concentrations of new development on the East and North Campuses. While each development reflects the unique character, challenges, and opportunities of its individual site, the Master Plan in its entirety reflects a cohesive, unified campus.



Master Plan developments in each campus district contribute to a cohesive campus.

CORE CAMPUS

Today, the Core Campus consists of a mix of academic, administrative, athletic, and residential facilities within easy walking distance and linked by a pedestrian spine. As athletic and visual and performing arts facilities are relocated to the North Campus, the living-learning environment is preserved and enhanced through the addition of new facilities on the few available building sites in the core.

A. As it negotiates the existing Core Campus surface parking lots, Regent Circle is clarified into an internal campus street with a defined shuttle stop. Clarified circulation improves shuttle efficiency and increases safety for pedestrians and cyclists.

B. Two new residence halls with 192 beds and an expansion of the Lodge complete the build-out of Summit Village.

C. A new building along Austin Bluffs Parkway provides additional faculty office and administrative space.

D. After relocating to the North Campus, Athletics vacates the Gallogly Events Center, freeing additional student union and conferencing space.

E. Expansion of the Child and Family Development Center provides for its continued growth.

F. Long-term sites for two parking garages serve the Core Campus by providing a parking resource at either edge, while freeing existing surface parking lots for development.

G. Existing surface parking lots provide additional academic development capacity when structured parking facilities are financially feasible. Building height on these sites is limited to three stories to preserve views of the Front Range from existing buildings, and building massing defines a gateway to the university campus by preserving views of the Engineering and Applied Sciences Building.

H. A new academic or administrative building at the Meadow Lane entrance to the university defines the edge of Cragmor Green by continuing the sweeping arc established by Main Hall.

EAST CAMPUS

While University Hall feels disconnected from the center of campus today, a new residential village and academic district will connect University Hall to the campus through an extension of a living-learning environment similar to the Core Campus. An extension of the pedestrian spine holds the district together by linking a series of interconnected open spaces that will contribute to a vibrant public realm.

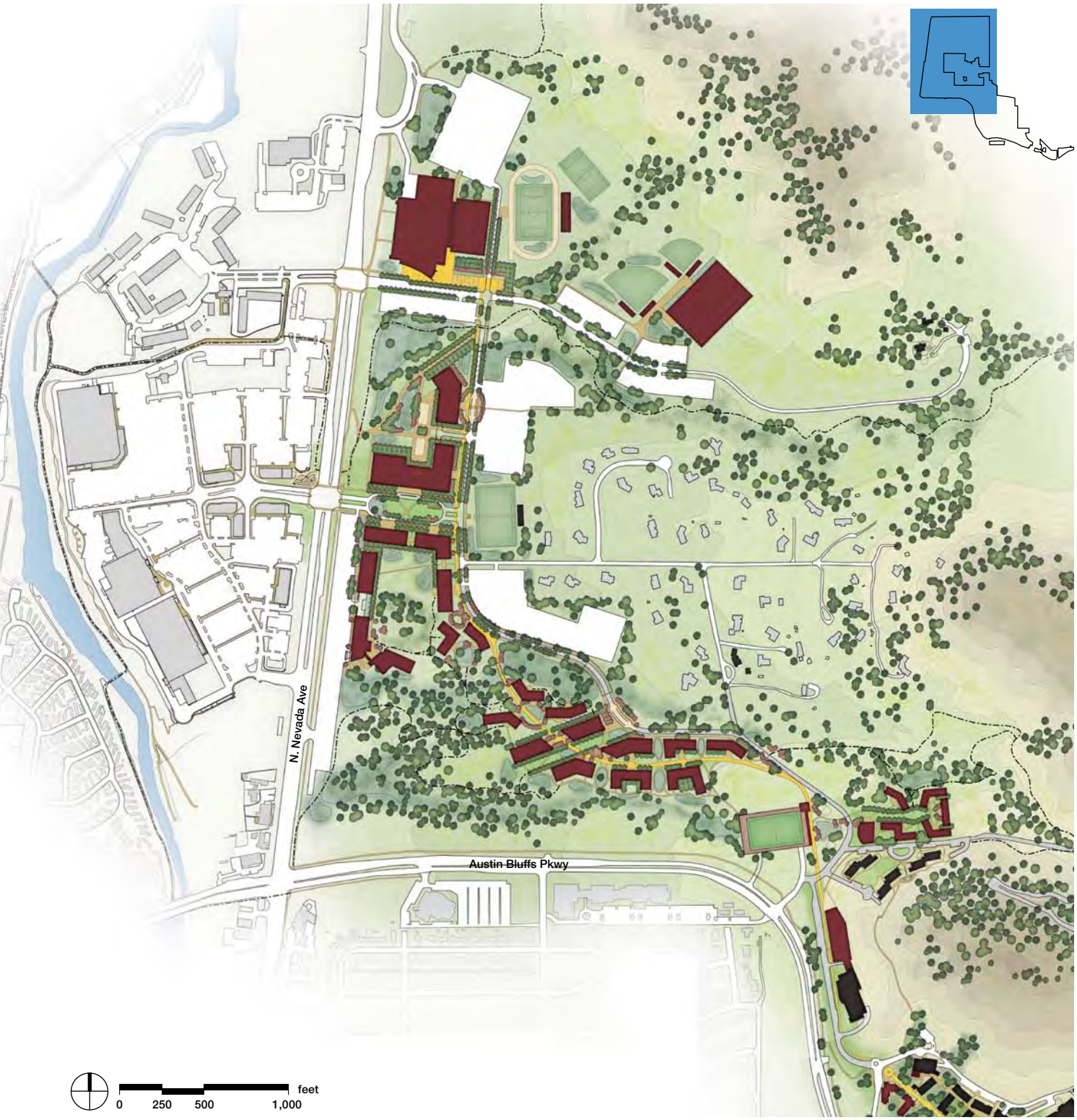
A. This heavily wooded site accommodates 900 additional beds of student housing through environmentally sustainable design. Its close proximity to the majority of the university's academic facilities make it an optimal location for lower division, suite-style housing.

B. A dining facility located prominently along the spine in the center of the East Campus precinct offers students the opportunity to gather for a meal in a location where they can "see and be seen." Its proximity to both residential and academic facilities make it a vibrant place at breakfast, lunch, and dinner.

C. A cluster of new academic and administrative facilities offer over half a million gross square feet of capacity to support the growth of the university.

D. The pedestrian spine extends east along a relatively flat path through the residential village and academic district. It ends in a grand stair that negotiates the terrain between the upper terrace and a lower University Hall.

E. Structured parking facilities at the eastern edge of campus serve daily users of East Campus facilities.



NORTH CAMPUS

The North Campus accommodates much of the anticipated development to facilitate university growth. Development is clustered along the pedestrian spine in the most buildable areas of the site. Public facilities for athletics, visual and performing arts, and academic health sciences create a public face to the university that draws the campus and Colorado Springs communities together, complements the commercial development at University Village Colorado, and influences the type of development along the rest of the North Nevada Corridor.

ALPINE VILLAGE

A. A new structured parking facility sits in the depression at the top of the southernmost arroyo, which has experienced significant erosion. The garage has easy access off Austin Bluffs Parkway and serves the Recreation Center, housing in Alpine Village, and development on the mesa. Due to its proximity to the Recreation Center and its large potential footprint, this garage is an ideal opportunity to consider a turf field on the top level. The field is accessed at grade from Stanton Road.

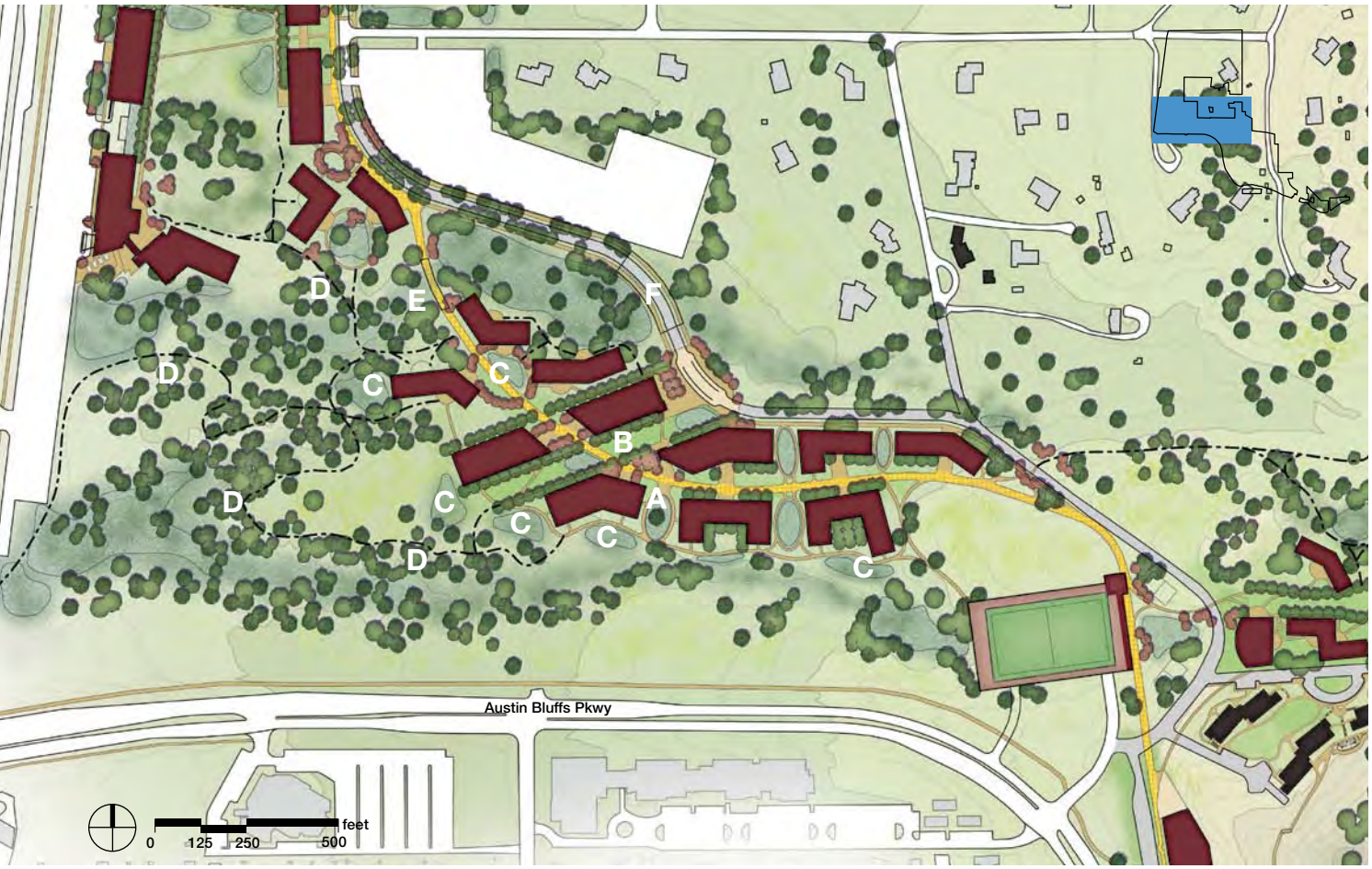
B. Daily traffic is prevented from traveling past the Student Recreation Center and new structured parking facility.

C. Structured parking at (A) frees the surface parking lot north of the Student Recreation Center for a building addition. By expanding in place to create one large, central facility, operations are more efficient.

D. Structured parking at (A) allows the Alpine Village surface parking lot to accommodate an additional 625 suite-style beds, completing a 925-bed village. The potential mix of units in this village presents an opportunity for a themed village, such as an honors college or sustainability village that brings together lower and upper division students.

E. A dining hall serving Alpine Village sits in a prominent location along the pedestrian spine, overlooking recreation fields and courts, the Front Range and the Austin Bluffs.

F. The archaeological mound is preserved. Signage along the pedestrian spine educates the campus community about the site's history and ongoing academic investigations.



MESA

A. An academic village mixing residence halls, research facilities and academic buildings provides a living-learning environment.

B. A central quad framing views of Pikes Peak provides an open outdoor gathering space for passive recreation.

C. Stormwater management facilities and native landscape planting offer opportunities to educate the campus community about the site's unique landscape and hydrologic processes.

D. The trail system allows the campus community to engage with the landscape.

E. A pedestrian bridge, much like those in Summit Village, carries bicyclists and pedestrians across the arroyo.

F. The transit spine crosses the arroyo over a bridge designed to complement the site's native landscape.

HEALTH AND WELLNESS VILLAGE

A. The Lane Center, a partnership between Peak Vista Community Health Centers, the Gerentology Center, Trauma, Health, and Hazard Center, and Psychology Clinical Research, is an approximately 54,000 GSF building that houses clinic, research, and office space. It is envisioned as the first phase that will catalyze the Health and Wellness Village.

B. Additional academic health sciences facilities line the edge of North Nevada Avenue, the central green, and the spine, creating a shared internal courtyard. Potential uses in this area include the nursing school and additional research, office, or clinical space.

C. The existing surface parking lot along North Nevada Avenue provides easy access to the Lane Center and future Health and Wellness Village buildings.

D. A large surface parking resource to the northeast of the transit spine serves the academic village on the mesa and the health and wellness facilities. The lot is accessed off the transit spine. South of the parking lot access, the spine is restricted to campus shuttles, bicycles, and pedestrians.

VISUAL AND PERFORMING ARTS CENTER

A. The Visual and Performing Arts Center accommodates performance venues, practice rooms, classrooms, offices, studio, and gallery space. The facility is either split into two buildings to separate the visual and performing arts or combined as one.

B. The central green, on axis with the existing soccer field, creates a campus gateway along North Nevada Avenue.

C. A series of sculpture gardens, stormwater management facilities, and outdoor ceramics yards line the path from the North Nevada underpass to the arena.

D. The spine is open to daily traffic through this district of public facilities. A shuttle stop across from the Visual and Performing Arts Center provides easy access to the performance groups and the surface parking resource east of the transit spine.

ATHLETICS

A. A 4,000-seat arena hosts public events including UCCS athletics, US Olympic Committee events, and concerts. Its location along North Nevada Avenue offers easy access and makes it a landmark at the entry to the UCCS campus.

B. The Master Plan allocates a site to accommodate the long-term potential of a natatorium. Its adjacency to the arena allows for shared facilities between the venues, including parking.

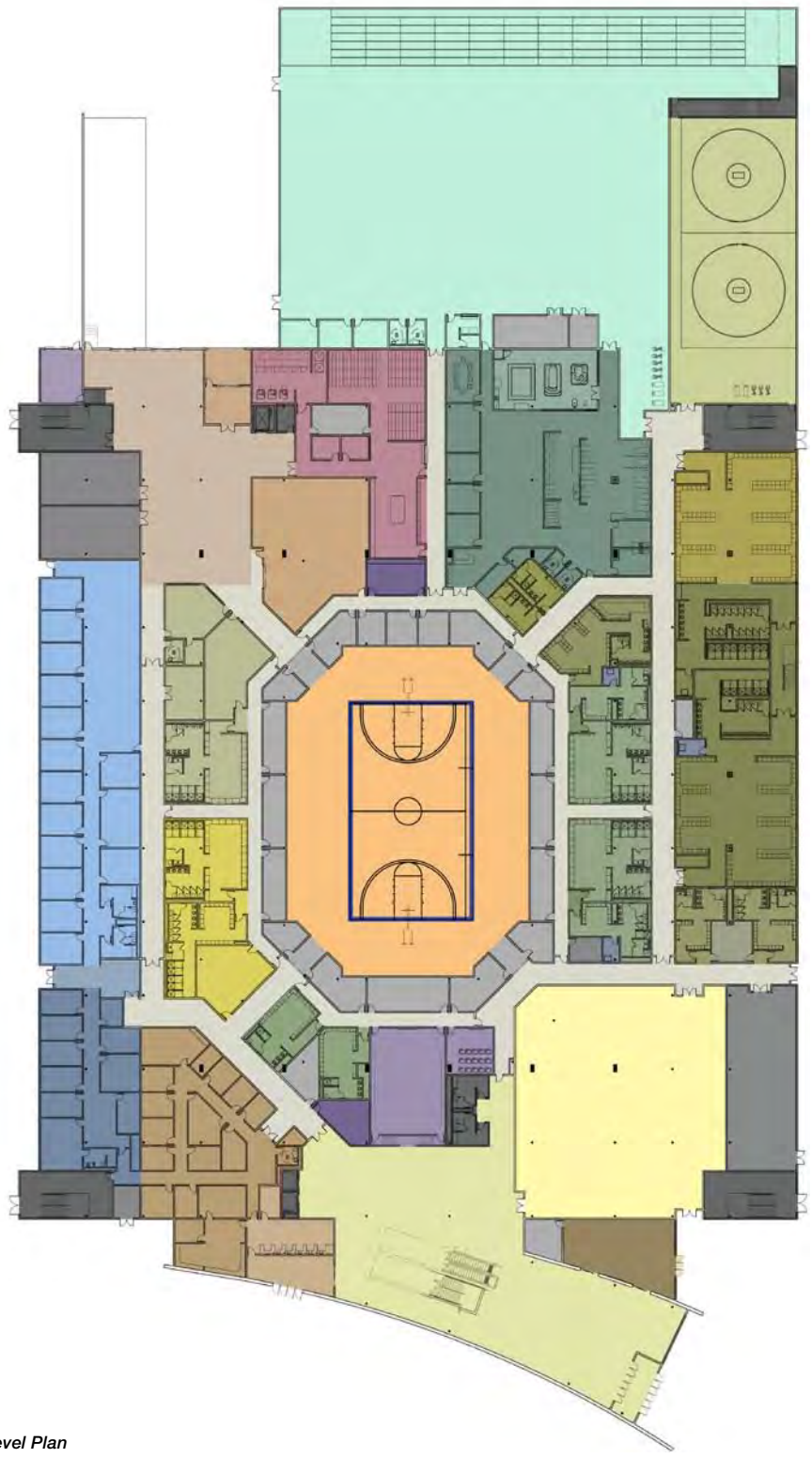
C. A surface parking resource that is easily accessed off of North Nevada Avenue serves the athletics complex during events and helps meet daily university demand.

D. An outdoor stadium hosting track and field and soccer events could be used by community organizations and the US Olympic Committee as well.

E. An additional athletic field provides flexibility for scheduling practice and ensures competition fields are not overused.

F. One softball and one baseball field are relocated from the Four Diamonds Complex to provide a shared facility for athletic competition and practice as well as intramural use.

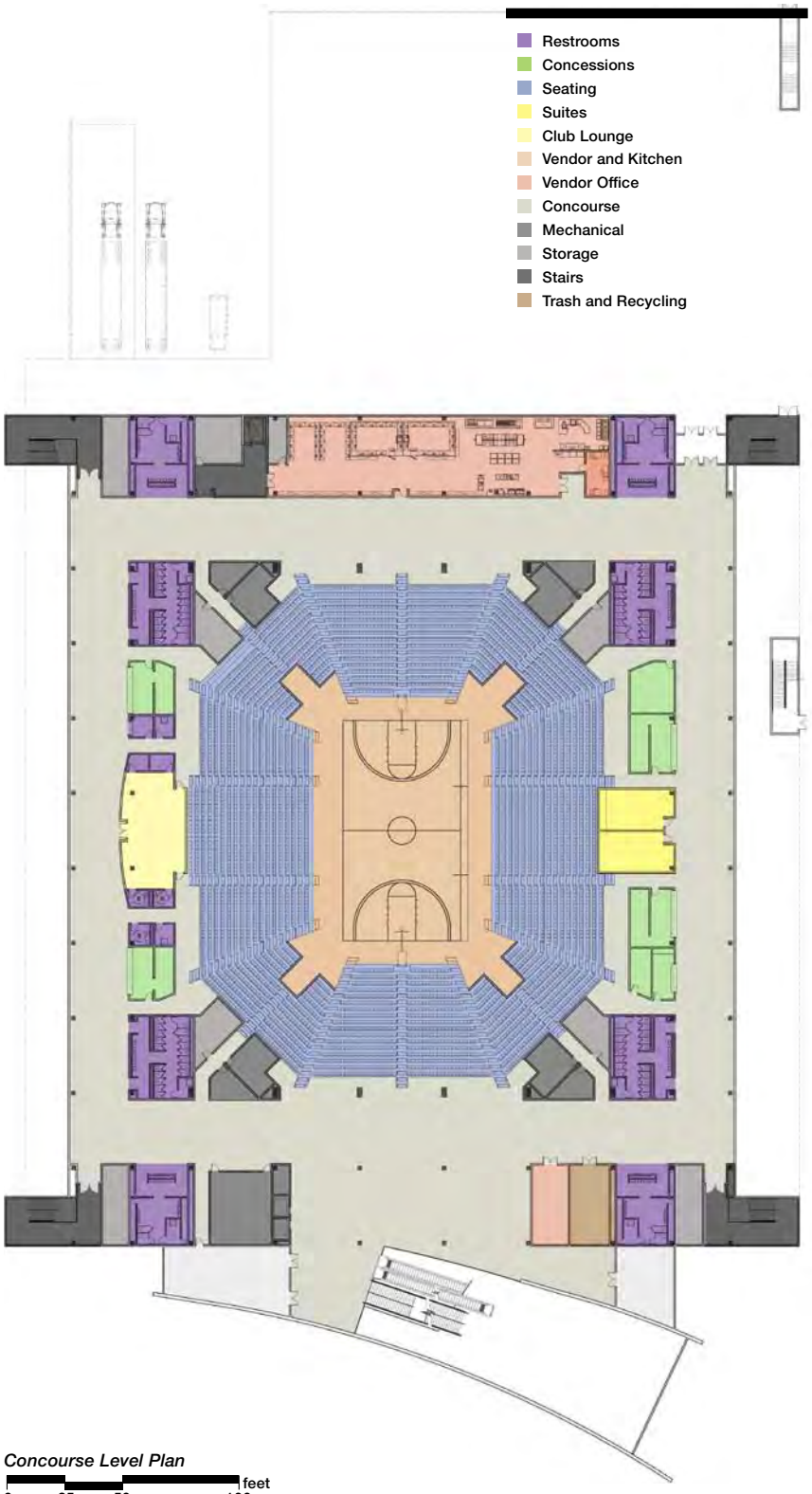
G. The Master Plan allocates a site to accommodate the long-term potential of an indoor sports field house. In the short term, the site can accommodate an additional practice field.



- Athletic Administration
- Coaches' Offices
- Auditorium and Ticket Rooms
- Ticketing
- Lobby
- Arena Administration
- Womens' Indoor Team Lockers
- Womens' Outdoor Team Lockers
- Mens' Indoor Team Lockers
- Mens' Outdoor Team Lockers
- Visiting Team Lockers
- Weight Room
- Sports Medicine
- Wrestling Practice
- ROTC
- Court
- Broadcast
- Press Room
- Loading Dock and Receiving
- Equipment and Laundry
- Stairs
- Trash and Recycling
- Storage
- Mechanical

Event Level Plan

0 25 50 100 feet



Concourse Level Plan

0 25 50 100 feet

ARENA

The arena is the anchor of North Campus development, contributing to a vibrant campus and a prosperous city economy. It provides a 4,000-seat venue for university athletics as well as entertainment events. No other facility of this size exists in Colorado Springs, allowing it to fill a niche in the market. Visitors arriving from the south will enter a grand atrium from North Campus Heights Road and travel upstairs to the concourse level, where they will have the opportunity to visit concessions stands before heading to their seat in the bowl. Visitors entering from the north and using the northernmost parking lot will enter at the concourse level.

In addition to functioning as an event venue, the facility will accommodate all athletics and ROTC programs on the ground level. This includes locker rooms, coaches' offices, classrooms and meeting rooms, storage, and other support space. The facility will also include an athletic training area, weight room, and wrestling area. Consolidating these facilities allows the programs to share resources, and frees up valuable space in the Core Campus for student use. Programming studies suggest that this will require a 267,000 square foot facility.

Sustainability

Sustainability Commitments

The University of Colorado's guiding principles state that they seek to "be conscientious stewards of the university's human, physical, financial, information, and natural resources." (Regent Policy 1.B: University of Colorado Legal Origins, Guiding Principles, Principles of Ethical Behavior. Approved 02/11/2010; revised 06/24/2010). While the UCCS 2020 Strategic Plan sets a vision for a period of significant growth, it places a high value on growing sustainably. "Dynamic responsible growth," defined as "financially responsible, academically sound, and environmentally sustainable," is a stated value of excellence. Moreover, one of the 12 stated goals for 2020 is to "provide inspired sustainability leadership and education, and direct the responsible, informed application of social, environmental, and economic sustainability measures in all university activities." The Strategic Plan calls out the need to consider the triple bottom line of economic, environmental, and social criteria to minimize the impact of a growing campus.

The Master Plan supports social sustainability by accommodating enrollment growth to continue to allow all Coloradoans access to higher education, by encouraging community engagement through development of public facilities, and by establishing a network of communal indoor and outdoor spaces that allow a diverse body of students, faculty, and staff to interact. By planning for shared facilities and partnership models that offer additional funding opportunities, the Master Plan also supports economic sustainability. Primarily, however, the Master Plan supports the university's environmental sustainability efforts, which are guided by the Climate Action Plan.

Chancellor Shockley-Zalabak was a charter signatory of the American College and University Presidents Climate Commitment in 2007, and UCCS submitted its Climate Action Plan in June 2010. The Strategic Plan affirms that the University will work to meet the goals of its Climate Action Plan, including a 20 percent reduction in greenhouse gas emissions by 2020, through efforts focused on energy efficiency, conservation, and small-scale renewables. The Climate Action Plan lays out a holistic series of environmental sustainability initiatives, encompassing efforts to enact individual behavioral change, reduce waste and energy use in university operations, and implement leading edge technologies. The Master Plan supports these efforts in the areas of smart growth, transportation, high performance buildings, and landscape.

Smart Growth

The university acknowledges that the most sustainable building is the one that they do not have to build. This is true from an economic sustainability perspective as well as an environmental perspective. As the university grows, they plan to reduce their space needs by increasing the utilization of their classrooms. The integration of online teaching models into the curriculum may play a role in this increased utilization as well. Ultimately, these efforts may result in fewer classroom buildings being necessary.

As the analysis in Chapter 4 indicated, these efforts are significant but impact a limited range of facility needs. Enrollment growth will result in the need for new buildings and when new facilities are necessary, disturbed landscapes are identified as priority development sites in order to preserve native, undisturbed landscapes. By clustering facilities together along the pedestrian spine, the disturbance of native landscape is minimized and transportation can function most effectively. Through these efforts, the plan sets aside a significant quantity of native landscape to remain undisturbed in perpetuity.

Preserved landscape is an amenity and educational opportunity.

By clustering new development, large stands of native vegetation can be preserved.

Transportation

According to the 2011 Greenhouse Gas Inventory, 28 percent of the university's greenhouse gas emissions are the result of student and faculty commuting. Despite the university's dispersed population, continued support of alternative transportation offers an opportunity to reduce greenhouse gas emissions. By improving the connection from the bus stops on North Nevada Avenue to the Core Campus and establishing more university uses along the North Nevada edge, the Master Plan increases the convenience of using available bus transportation. If Colorado Springs pursues a streetcar system along North Nevada in the future, the university will be well-positioned to take advantage of it. Increased bicycle lanes and trails connecting to existing bicycle facilities will continue to encourage cycling.

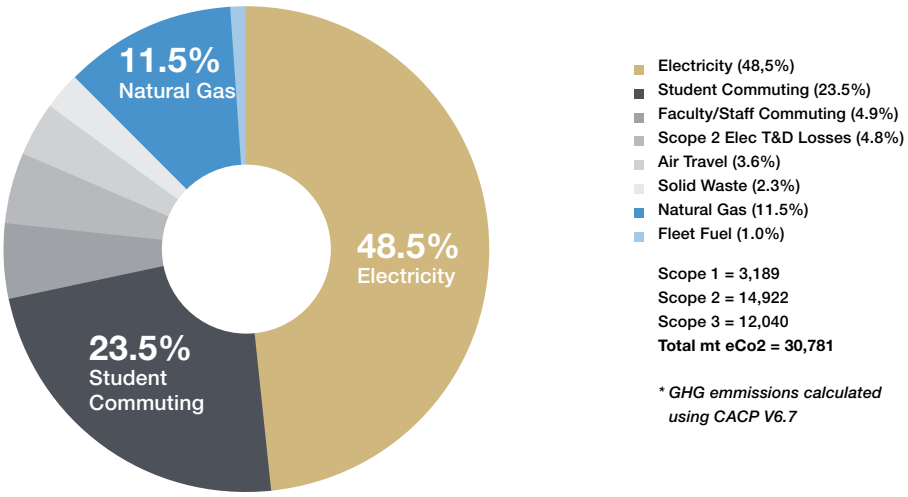
The greatest transportation impact of the Master Plan lies in the potential reduction of vehicle miles travelled between campus destinations. While the Core Campus is very pedestrian-friendly, the North and East Campuses feel remote and difficult to access on foot or by bike, encouraging the campus community to drive there from other parts of campus. As the campus grows, these areas will hold more and more campus activities and demand for travel back and forth will continue to grow. By establishing a transit spine and restricting daily traffic along a significant portion of its route, the university will provide an alternative to driving that is more efficient and results in fewer greenhouse gas emissions. New bicycle facilities hold the same potential impact.

Buildings

The 2011 Greenhouse Gas Inventory highlights that 63 percent of the university's emissions come from the operations of buildings. Increased efficiencies in this area represent a significant opportunity to reduce emissions and improve environmental sustainability, particularly as the campus grows and adds significantly to its building stock. The Climate Action Plan and the UCCS 2020 Sustainability Strategic Plan took a significant step in this regard by specifying that all new buildings meet LEED Gold standards and target 40 percent greater energy efficiency than ASHRAE 90.1 by fiscal year 2020. It emphasizes energy efficiency retrofits in renovations as well.

To achieve and surpass these targets, each project requires holistic consideration. The Master Plan lays the framework as it establishes transit-accessible building sites that avoid disturbing natural resources and support optimal solar orientation. Throughout design processes for individual buildings, reduction in energy demand through increased efficiency and the potential for on-site energy creation will need to be considered. Measures to reduce the demand for water will play a role. Minimizing construction waste contributes as well. Each new building project should continue to push for the highest performance possible, incorporating new technologies as they become available and feasible, in pursuit of the UCCS 2020 Strategic Plan goal of providing "inspired sustainability leadership and education."

GREENHOUSE GAS EMISSIONS (SCOPE 1, 2 & 3)



Landscape

The campus landscape is an opportunity to instill a unique sense of place, achieve environmental sustainability by minimizing water use for irrigation and managing stormwater on site, and offer educational opportunities.

The site's native landscape thrives with little to no irrigation in the Colorado Springs high-plains desert climate. The Plan preserves native plantings and proposes a native palette in developed areas to minimize the university's water use for irrigation in addition to enhancing the landscape's natural beauty.

Moreover, landscape areas will be used to provide critical on-site stormwater management with full spectrum functionality. As additional development has occurred and increased impervious surfaces within the North Campus drainages, the arroyos have experienced significant erosion. As university development expands into the North Campus, increased impervious surface has the potential to exacerbate erosion and contribute more runoff to the city storm sewers. The Master Plan proposes a series of stormwater management landscape interventions to maintain natural hydrology on the North Campus. They include installation of small rain gardens to filter and clean runoff, larger rain gardens to store runoff for short periods of time, allowing water to recharge back into the aquifer, and detention ponds to store runoff for longer periods of time after storm events. Additionally, it is recommended that the niversity consider the use of pervious materials and pavements for parking lots and walkways to allow water to percolate down in place instead of being added to the overall stormwater flows.

While all of the environmental sustainability initiatives can be used to engage the campus community in an educational manner, campus landscape initiatives provide a compelling opportunity for both formal and informal education. The UCCS 2020 Strategic Plan states that it will "provide exceptional education in sustainability issues and practice, encouraging opportunities for experience in the field." The unique landscapes and geology could provide the basis for formal education and research as part of the UCCS curriculum. Providing educational signage along the recreational trail systems about the native landscape as well as the stormwater management interventions integrates education about the landscape into the everyday routines of the campus community.

Rain gardens integrated into campus landscape at the National Renewable Energy Laboratory.

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Implementation

2020 PLAN

The Capital Construction Detail of the UCCS 2020 Strategic Plan outlines a series of investments the university plans to make in their campus to achieve the Strategic Plan goals. The plan shows anticipated investments for each academic year, which have been grouped into three phases to illustrate how development will take shape.

Phase One: 2012-2014

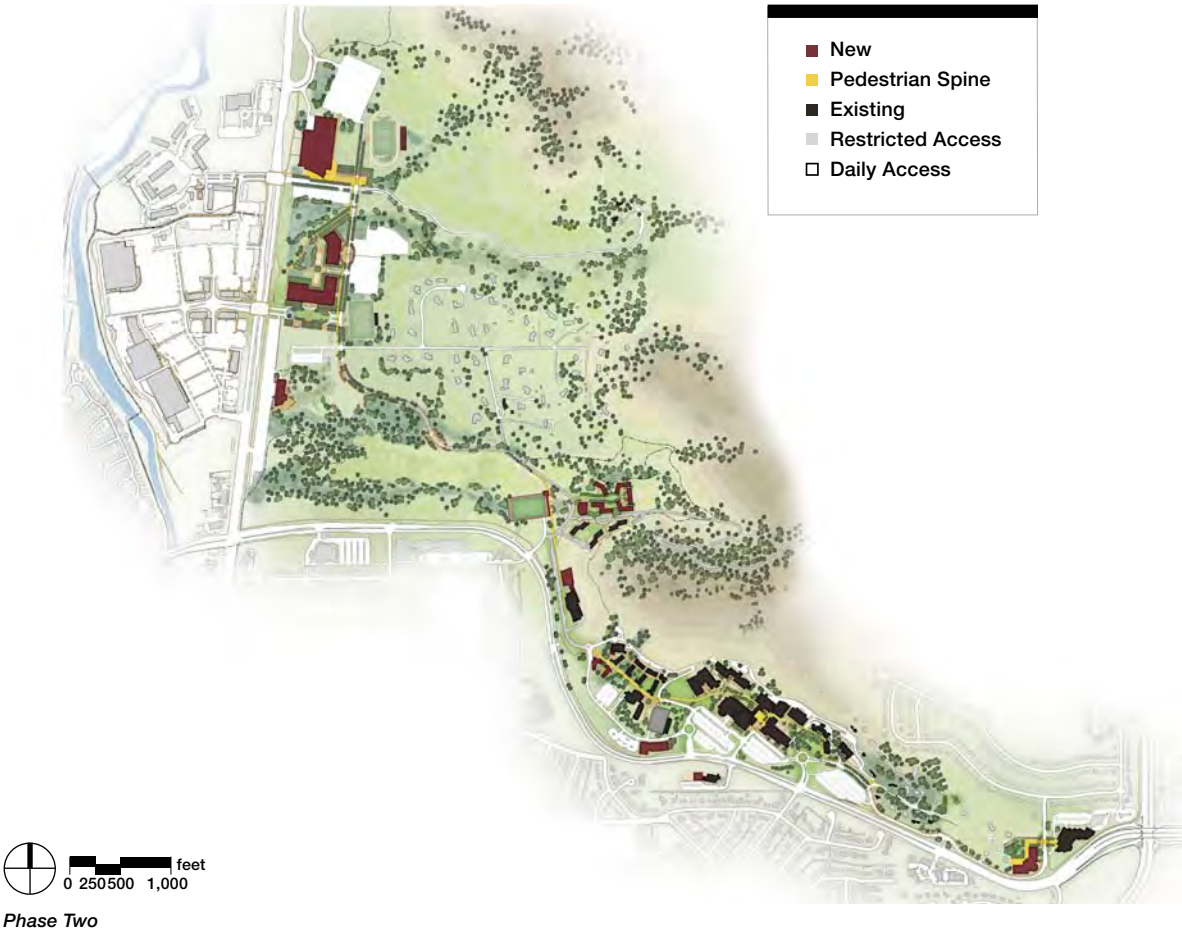
With the Summit Village expansion and the Lane Center in design, Phase One is underway. Before 2014, the university will also pursue a Core Campus building to increase faculty office space. To prepare for additional housing and student recreation development in Alpine Village, the university will expand the parking system with a new garage. In anticipation of significant North Campus development in Phase Two, the university will invest in infrastructure and the relocation of Mountain Lion Field with stadium seating for soccer and track events. Additionally, research facility renovations and purchases of East Campus properties will continue to advance progress on long-term goals.

Phase One

Phase Two: 2014-2017

Phase Two will enact transformational change on the North Campus with the development of new public venues, including the Visual and Performing Arts Center and Sports Arena. As campus activity shifts north, more investments will be made in North Campus infrastructure and recreation fields, and the transit spine will be constructed to facilitate easy access to this redeveloped district. The university will continue to increase its on-campus housing capacity by completing Alpine Village with several new residence halls and a building addition to the Student Recreation Center.

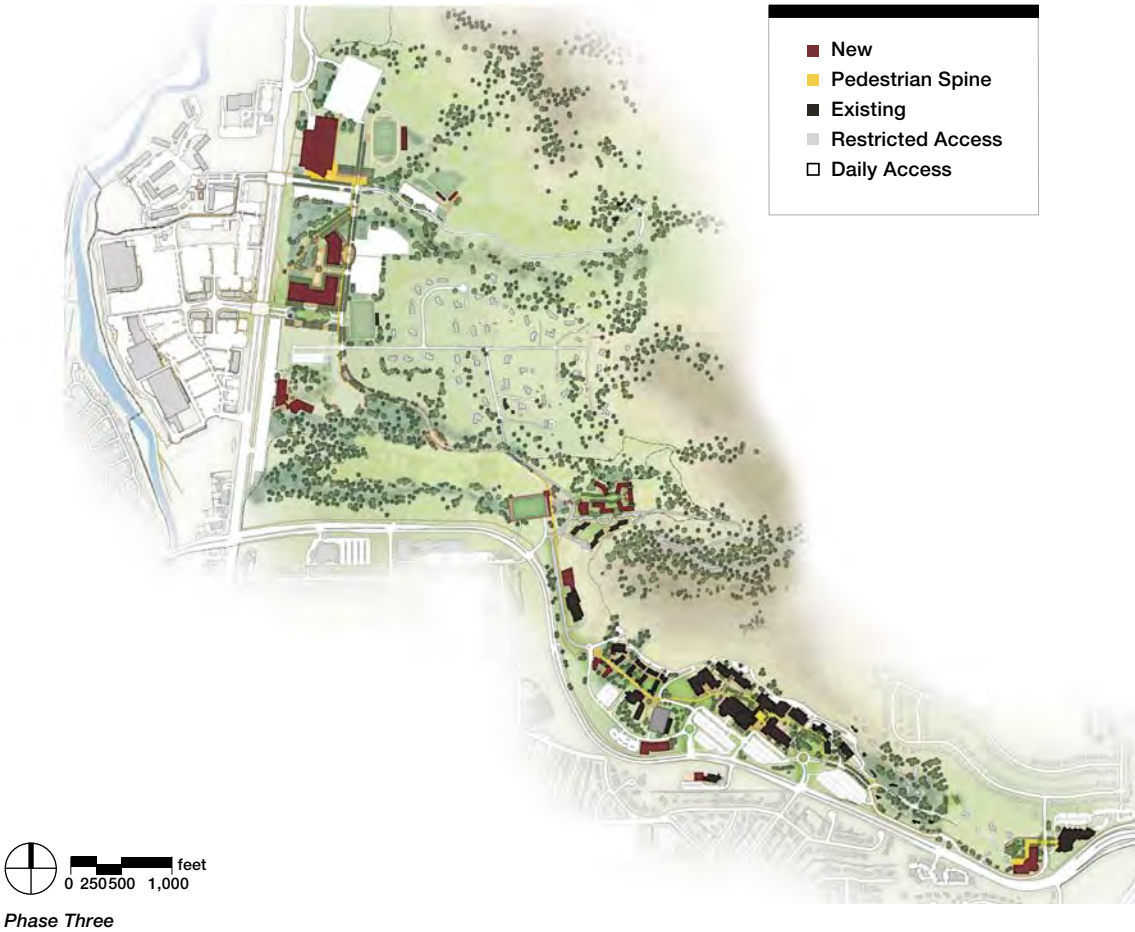
As the university completes its East Campus property acquisition in this phase, development will begin on the East Campus with the construction of South Hall, a new academic facility located adjacent to University Hall. The Core Campus will continue to grow as well with an expansion of the Family Development Center, and continued investment in research facilities.



Phase Two

Phase Three: 2017-2020

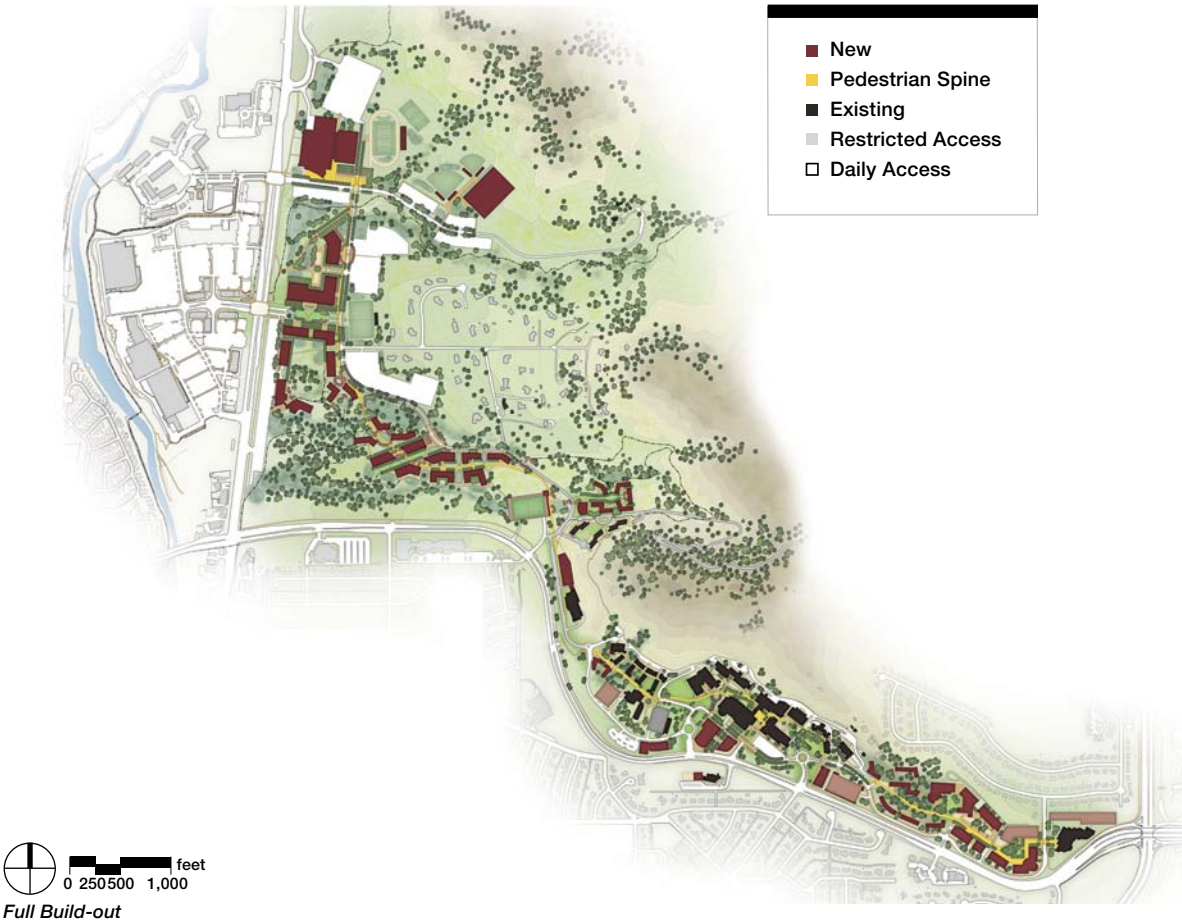
In the final phase of the 2020 Plan, the Health and Wellness Village will expand with the construction of the Phase II Wellness Center. A new baseball field and associated support facility will be added to the North Campus. During this phase, the university will undertake a significant Engineering and Applied Science Renovation and complete its planned research facility renovations.



Phase Three

FULL BUILD OUT

As enrollment continues to grow in the years beyond 2020, the Master Plan allocates capacity for facilities that would accommodate 20,000 to 23,000 students on campus. Sites will be available on the East Campus and Core Campus to accommodate academic growth in support of the university's mission, particularly when additional parking structures are constructed. To continue housing 16 percent of its students on campus, new residence halls will be needed. The Master Plan shows a new housing village on the East Campus. The Academic Village planned for the Mesa has been programmed with flexibility to allow for additional housing or academic capacity depending on the university evolution and partnership opportunities. Finally, the Athletics District can support additional programs through new facilities, and several additional sites have been allocated for the build out of the Health and Wellness Village.



Full Build-out

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Acknowledgements

MASTER PLAN COMMITTEE

The university would like to thank the members of the Master Plan Committee for shaping future campus development through their ideas and guidance throughout the planning process.

Meetings

July 13, 2011
September 8, 2011
October 12, 2011
October 14, 2011
February 9, 2012

Members

Doug Anderson
Colorado Springs Utilities

Andy Burkart
IT Department, UCCS

Minette Church
Associate Professor of Anthropology, UCCS

Brian Colvert
UBS

Tom Cone
University Village Colorado/Kratt Commercial Properties

Bob Cope
Economic Development, City of Colorado Springs

Tom Christensen
Dean, Letters, Arts, and Sciences College, UCCS

Ramaswami Dandapani
Dean, School of Engineering and Applied Sciences, UCCS

Hector Flores
Student Council Vice President, UCCS

Carolyn Fox
University Architect, UCCS

Ralph Giese,
Director Residence Life and Housing, UCCS

Jarod Gray
Student Council President, UCCS

Linda Kogan
Sustainability Director, UCCS

Kevin Kratt
University Village Colorado/Kratt Commercial Properties

David Krauth
City Traffic Engineer, City of Colorado Springs

Liz Lancaster
Cragmor Neighborhood

Mike Maloney
Colorado Springs School District 11

Robyn Marschke
Director of Institutional Research, UCCS

Jessica McMullen
Colorado Springs Chamber of Commerce

John Olson
Vice-Chair, Colorado Springs Urban Renewal Authority

James Rees
Colorado Springs Urban Renewal Authority

Gary Reynolds
Executive Director of Facilities Services, UCCS

Carl Schueler
Senior Planner, City of Colorado Springs

Ralph Seaman
Eagle Rock Neighborhood

Matt Sidor
Student Government Association, UCCS

Val Snider
Colorado Springs City Council

Jim Spice
Public Safety Director, UCCS

Gregory Stock
Associate Professor, College of Business, UCCS

Teri Switzer
Dean, Kraemer Family Library, UCCS

Jerry Seracuse
Design Review Board, University of Colorado

Susan Szpryka
Vice Chancellor for Administration and Finance, UCS

Ron Toman
Eagle Rock Neighborhood

Steve Tuck
Senior Planner, City of Colorado Springs

Homer Wesley
Vice Chancellor for Student Success, UCCS

Sabrina Wienholtz
Program Assistant, UCCS

David White
Executive Vice President, Colorado Springs Regional Economic Development Corporation

FOCUS GROUPS

Students, faculty, staff, university leadership, neighbors, and city officials participated in a range of focus groups convened around the following topics. Their input offered unique insight into UCCS culture and is sincerely appreciated.

Provost, July 13, 2011
Chancellor, July 13, 2011
Academic Affairs and Advancement, July 13, 2011
Local Business, July 13, 2011
Neighborhood Relations, July 13, 2011
Student Success, July 14, 2011
City Planning Considerations, July 14, 2011
Parking and Transportation, September 7, 2011
Housing, September 7, 2011
Student Government, September 8, 2011
Faculty Assembly, September 8, 2011
Student Recreation Facilities, September 8, 2011
Graduate Students, September 8, 2011
Sustainability, September 21, 2011
Research, September 22, 2011
Food Service, October 13, 2011
Cultural Resources, November 9, 2011

PUBLIC FORUM SESSIONS

Master Plan progress meetings generated extensive discussion about the campus' future. The university thanks students, neighbors, faculty, staff, city officials, and members of the business community for their enthusiastic participation in sessions held on the dates listed below.

September 8, 2011
October 12, 2011
October 13, 2011 (two separate meeting sessions)
November 9, 2011 (Open House)
November 10, 2011 (Open House)
February 9, 2012

DESIGN REVIEW BOARD

The university is grateful for the Design Review Board's collaboration and guidance as they shepherded the development of the Master Plan.

Members

Lois Drake
Victor Olgyay
Teresa Osborne
John Prosser
Candy Roberts
Jerry Seracuse

Meetings

July 14, 2011
September 9, 2011
January 12, 2012
February 10, 2012

CONSULTANT TEAM

Master Planning

Ayers Saint Gross Architects + Planners
1040 Hull Street, Suite 100
Baltimore, MD 21231
www.asg-architects.com

Landscape Architecture

Tapis Associates
540 Buckeye, Terrace Level
Colorado Springs, CO 80919
www.tapisassociates.com

Civil Engineering

Wilson and Company
5755 Mark Dabling Boulevard, Suite 220
Colorado Springs, CO 80919
www.wilsonco.com

Sports Architecture

HNTB Architects
7115 Kirk Drive
Kansas City, MO 64105
www.hntb.com

Appendix A

Space Needs Projections

30 Hours Per Week Classroom Utilization, 7% of Credit Hours Online

Student Enrollment Projections					
Year	**Fall 2011**	**2020**			
Number of Students	**9,321**	**13,000**	**15,000**	**20,000**	**25,000**
Students Living On-Campus	900	2,400	2,700	3,600	4,500
Percent Living On-Campus	9.7%	18.5%	18.0%	18.0%	18.0%
Fall Credit Hours	113,285	157,374	181,592	242,123	302,654
Online Credit Hours	7,876	10,941	12,625	16,833	21,042
Hours: Percent Online	7.0%	7.0%	7.0%	7.0%	7.0%
Fall Student FTEs	7,552	10,492	12,106	16,142	20,177
Online FTEs	525	732	845	1,127	1,408
FTE: Percent Online	7.0%	7.0%	7.0%	7.0%	7.0%
Number of Faculty	672	934	1,077	1,436	1,795
Student-Faculty Ratio	13.9	13.9	13.9	13.9	13.9
Faculty FTEs	471	654	754	1,006	1,257
Student FTE-Faculty FTE Ratio	16.0	16.0	16.1	16.1	16.1
Blended Faculty Headcount/FTE [C]	572	794	916	1,221	1,526
Number of Staff [C]	487	679	783	1,045	1,306

Space Needs Projections											
Year	**2011**			**2020**							
Enrollment	**9,321**			**13,000**		**15,000**		**20,000**		**25,000**	
Academic ASF	Existing	Guideline	Delta	Guideline	Delta	Guideline	Delta	Guideline	Delta	Guideline	Delta
Total Classroom Space[A]	125,792	105,409	0	147,014	21,222	169,631	43,840	226,175	225,281	282,719	156,928
Classroom RT-11	57,895										
Teaching Labs RT-12	67,896										
Open Labs RT-14	33,676	26,001	0	36,263	0	41,971	8,294	55,961	55,740	69,952	36,275
Research Labs RT-21[B]	41,468	37,680	0	71,453	29,985	128,249	86,781	181,380	181,380	362,760	321,293
Academic Offices RT-17[C]	82,295	97,155	14,860	134,966	52,671	155,730	73,436	207,641	207,641	259,551	177,256
Other Academic Dept RT-15/16	7,996	7,996	0	11,152	3,156	12,868	4,872	17,157	17,089	21,446	13,450
Library RC-40	98,032	106,596	8,564	136,726	38,694	157,760	59,728	210,347	209,515	262,934	164,901
Admin Offices RT-51[D]	55,774	74,511	18,737	103,921	48,147	119,908	64,134	159,878	118,019	199,847	144,073
Assembly & Exhibit, Gallery & Theatreworks[E]	20,751	37,764	17,013	55,649	34,898	65,372	44,622	89,680	89,295	113,987	93,237
Other Admin Dept Space RT-52	35,614	35,614	0	49,670	14,056	57,312	21,698	76,416	76,114	95,520	59,906
Physical Plant RC-55[F]	12,396	37,992	25,596	52,987	40,591	61,139	48,743	81,518	81,196	101,898	89,502
Academic Total ASF	**513,793**	**566,718**	**52,925**	**799,801**	**286,008**	**969,941**	**456,148**	**1,306,153**	**1,261,270**	**1,770,614**	**1,256,821**
Academic Total GSF	**1,116,941**	**1,231,995**	**115,053**	**1,593,622**	**476,681**	**1,877,187**	**760,246**	**2,437,541**	**2,249,482**	**3,211,642**	**2,094,701**
Student Life ASF	Existing	Guideline	Delta	Guideline	Delta	Guideline	Delta	Guideline	Delta	Guideline	Delta
Athletics-Dept of Athletics[G]	26,396	95,523	69,128	125,332	98,936	42,310	141,537	182,050	294,762	222,562	196,167
Physical Education & Recreation[H]	42,808	107,842	65,033	128,258	85,450	68,618	147,990	179,200	241,920	224,000	181,192
Student Union[I]	62,592	75,523	12,932	105,332	42,740	100,329	121,537	162,050	161,409	202,562	139,971
Student Life Total ASF	**131,796**	**278,888**	**147,092**	**358,923**	**227,127**	**211,256**	**411,065**	**523,300**	**698,091**	**649,125**	**517,329**
Student Life Total GSF	**286,513**	**606,279**	**319,766**	**665,058**	**378,545**	**406,907**	**751,961**	**939,019**	**1,144,536**	**1,148,727**	**862,215**
Housing ASF	Existing	Ideal	Delta	Target	Delta	Target	Delta	Target	Delta	Target	Delta
Student Housing Total ASF	**180,442**	**319,327**	**138,885**	**532,942**	**352,500**	**603,442**	**423,000**	**814,942**	**634,500**	**1,026,442**	**846,000**
Student Housing Total GSF	**378,841**	**610,316**	**231,475**	**966,341**	**587,500**	**1,083,841**	**705,000**	**1,436,341**	**1,057,500**	**1,788,841**	**1,410,000**
Total	Existing	Guideline	Delta	Guideline	Delta	Guideline	Delta	Guideline	Delta	Guideline	Delta
ASF	**826,031**	**1,164,933**	**338,902**	**1,691,666**	**865,635**	**1,784,639**	**958,608**	**2,644,395**	**1,818,364**	**3,446,180**	**2,620,149**
GSF[J]	**1,782,295**	**2,448,589**	**666,294**	**3,225,021**	**1,442,726**	**3,367,936**	**1,585,641**	**4,812,901**	**3,030,606**	**6,149,211**	**4,366,916**

Notes

A. ASF per weekly student contact hour (WSCH) = (20 ASF/station)/(30 weekly room hours x 67% station occupancy) = 1.00 ASF/WSCH; Fall In-person Credit Hours used as proxy for WSCH

B. 40 ASF/Faculty FTE is standard for comprehensive institution; 250 for research institution; gradually steps from 80 to 180; (average of faculty and faculty FTE)

C. 170 ASF/Faculty FTE is standard; Because of high ratio of Faculty Headcount to Faculty FTE, used 170 ASF/Faculty Estimate (average of Faculty Headcount and Faculty FTE)

D. 170 ASF/staff requiring an office. Assumed 90% require an office.

E. 22,450 ASF core allowance plus 6 ASF/student FTE above 5,000

F. 6% of total campus ASF excluding residence life space and existing physical plant; existing includes plant building only. .

G. 50,000 base + 10ASF per FTE for FTE over 3000; arena at 15,000; fieldhouse at 20,000; natatorium at 25,000. .

H. NIRSA ASF guidelines per student headcount: 11,524/1,000 (under 9,999 students); 9,866/1,000 (10,000 - 19,999 students); and 8960/1,000 (over 20,000 students). .

I. 9-10 ASF/student FTE is standard; 10 ASF/FTE used due to high commuter rate

J. Projected ASF:GSF ratio is 0.6

40 Hours Per Week Classroom Utilization, 7% of Credit Hours Online

Projections impacted by higher classroom utilization

Space Needs Projections											
Year	**2011**			**2020**							
Enrollment	**9,321**			**13,000**		**15,000**		**20,000**		**25,000**	
Academic ASF	Existing	Guideline	Delta	Guideline	Delta	Guideline	Delta	Guideline	Delta	Guideline	Delta
Total Classroom Space[A]	125,792	105,409	0	109,825	0	126,721	929	168,961	225,281	211,201	85,409
Classroom RT-11	57,895										
Teaching Labs RT-12	67,896										
Open Labs RT-14	33,676	26,001	0	36,120	0	41,971	8,294	55,961	55,740	69,952	36,275
Research Labs RT-21[B]	41,468	37,680	0	71,453	29,985	128,249	86,781	181,380	181,380	362,760	321,293
Academic Offices RT-17[C]	82,295	97,155	14,860	134,966	52,671	155,730	73,436	207,641	207,641	259,551	177,256
Other Academic Dept RT-15/16	7,996	7,996	0	11,108	3,112	12,868	4,872	17,157	17,089	21,446	13,450
Library RC-40	98,032	106,596	8,564	136,185	38,153	157,760	59,728	210,347	209,515	262,934	164,901
Admin Offices RT-51[D]	55,774	74,511	18,737	103,510	47,736	119,908	64,134	159,878	118,019	199,847	144,073
Assembly & Exhibit, Gallery & Theatreworks[E]	20,751	37,764	17,013	55,400	34,649	65,372	44,622	89,680	89,295	113,987	93,237
Other Admin Dept Space RT-52	35,614	35,614	0	49,474	13,860	57,312	21,698	76,416	76,114	95,520	59,906
Physical Plant RC-55[F]	12,396	37,992	25,596	52,777	40,381	61,139	48,743	81,518	81,196	101,898	89,502
Academic Total ASF	**513,793**	**566,718**	**52,925**	**760,818**	**247,025**	**927,029**	**413,237**	**1,248,939**	**1,261,270**	**1,699,095**	**1,185,302**
Academic Total GSF	**1,116,941**	**1,231,995**	**115,053**	**1,457,792**	**340,851**	**1,802,217**	**685,276**	**2,337,581**	**2,249,482**	**3,086,692**	**1,969,751**
Student Life ASF	Existing	Guideline	Delta	Guideline	Delta	Guideline	Delta	Guideline	Delta	Guideline	Delta
Athletics-Dept of Athletics[G]	26,396	95,523	69,128	124,916	98,520	42,310	141,537	182,050	294,762	222,562	196,167
Physical Education & Recreation[H]	42,808	107,842	65,033	128,258	85,450	68,618	147,990	179,200	241,920	224,000	181,192
Student Union[I]	62,592	75,523	12,932	104,916	42,324	100,329	121,537	162,050	161,409	202,562	139,971
Student Life Total ASF	**131,796**	**278,888**	**147,092**	**358,090**	**226,294**	**211,256**	**411,065**	**523,300**	**698,091**	**649,125**	**517,329**
Student Life Total GSF	**286,513**	**606,279**	**319,766**	**663,699**	**377,186**	**406,907**	**751,961**	**939,019**	**1,144,536**	**1,148,727**	**862,215**
Housing ASF	Existing	Ideal	Delta	Target	Delta	Target	Delta	Target	Delta	Target	Delta
Student Housing Total ASF	**180,442**	**319,327**	**138,885**	**532,942**	**352,500**	**603,442**	**423,000**	**814,942**	**634,500**	**1,026,442**	**846,000**
Student Housing Total GSF	**378,841**	**610,316**	**231,475**	**966,341**	**587,500**	**1,083,841**	**705,000**	**1,436,341**	**1,057,500**	**1,788,841**	**1,410,000**
Total	Existing	Guideline	Delta	Guideline	Delta	Guideline	Delta	Guideline	Delta	Guideline	Delta
ASF	**826,031**	**1,164,933**	**338,902**	**1,651,850**	**825,819**	**1,741,728**	**915,697**	**2,587,180**	**1,761,150**	**3,374,662**	**2,548,631**
GSF[J]	**1,782,295**	**2,448,589**	**666,294**	**3,087,832**	**1,305,537**	**3,292,965**	**1,510,670**	**4,712,941**	**2,930,646**	**6,024,260**	**4,241,965**

Notes

A. ASF per weekly student contact hour (WSCH) = (20 ASF/station)/(40 weekly room hours x 67%station occupancy) = .75 ASF/WSCH; Fall In-person Credit Hours used as proxy for WSCH

B. 40 ASF/Faculty FTE is standard for comprehensive institution; 250 for research institution; gradually steps from 80 to 180; (average of faculty and faculty FTE)

C. 170 ASF/Faculty FTE is standard; Because of high ratio of Faculty Headcount to Faculty FTE, used 170 ASF/Faculty Estimate (average of Faculty Headcount and Faculty FTE)

D. 170 ASF/staff requiring an office. Assumed 90% require an office.

E. 22,450 ASF core allowance plus 6 ASF/student FTE above 5,000

F. 6% of total campus ASF excluding residence life space and existing physical plant; existing includes plant building only

G. 50,000 base + 10ASF per FTE for FTE over 3000; arena at 15,000; fieldhouse at 20,000; natatorium at 25,000

H. NIRSA ASF guidelines per student headcount: 11,524/1,000 (under 9,999 students); 9,866/1,000 (10,000 - 19,999 students); and 8960/1,000 (over 20,000 students)

I. 9-10 ASF/student FTE is standard; 10 ASF/FTE used due to high commuter rate

J. Projected ASF:GSF ratio is 0.6

30 Hours Per Week Classroom Utilization, 15% of Credit Hours Online

Projections inpacted by 15% of credit hours online

Student Enrollment Projections					
Year	**Fall 2011**	**2020**			
Number of Students	**9,358**	**13,000**	**15,000**	**20,000**	**25,000**
Students Living On-Campus	900	2,400	2,700	3,600	4,500
Percent Living On-Campus	9.6%	18.5%	18.0%	18.0%	18.0%
Fall Credit Hours	108,597	157,374	181,592	242,123	302,654
Online Credit Hours	6,101	23,606	27,238	36,317	45,396
Hours: Percent Online	5.6%	15.0%	15.0%	15.0%	15.0%
Fall Student FTEs	7,240	10,492	12,106	16,142	20,177
Online FTEs	407	1,574	1,816	2,421	3,026
FTE: Percent Online	5.6%	15.0%	15.0%	15.0%	15.0%
Number of Faculty	672	934	1,077	1,436	1,795
Student-Faculty Ratio	13.9	13.9	13.9	13.9	13.9
Faculty FTEs	471	654	754	1,006	1,257
Student FTE-Faculty FTE Ratio	15.4	16.0	16.1	16.1	16.1
Blended Faculty Headcount/FTE[C]	572	733	916	1,221	1,526
Number of Staff	487	627	723	965	1,206

Space Needs Projections											
Year	**2011**			**2015**		**2020**					
Enrollment	**9,321**			**12,000**		**15,000**		**20,000**		**25,000**	
Academic ASF	Existing	Guideline	Delta	Guideline	Delta	Guideline	Delta	Guideline	Delta	Guideline	Delta
Total Classroom Space[A]	125,792	105,409	0	133,768	0	154,347	28,556	205,797	225,281	257,246	131,454
Classroom RT-11	57,895										
Teaching Labs RT-12	67,896										
Open Labs RT-14	33,676	26,001	0	32,996	0	30,458	-3,219	50,763	55,740	63,454	29,777
Research Labs RT-21[B]	41,468	37,680	0	71,453	29,985	128,249	86,781	181,380	181,380	362,760	321,293
Academic Offices RT-17[C]	82,295	97,155	14,860	124,844	42,549	144,051	61,756	192,067	207,641	240,084	157,790
Other Academic Dept RT-15/16	7,996	7,996	0	11,108	3,112	12,868	4,872	17,157	17,089	21,446	13,450
Library RC-40	98,032	106,596	8,564	136,185	38,153	157,760	59,728	210,347	209,515	262,934	164,901
Admin Offices RT-51[D]	55,774	74,511	18,737	103,510	47,736	119,908	64,134	159,878	118,019	199,847	144,073
Assembly & Exhibit, Gallery & Theatreworks[E]	20,751	37,764	17,013	55,400	34,649	65,372	44,622	89,680	89,295	113,987	93,237
Other Admin Dept Space RT-52	35,614	35,614	0	49,474	13,860	57,312	21,698	76,416	76,114	95,520	59,906
Physical Plant RC-55[F]	12,396	37,992	25,596	52,777	40,381	61,139	48,743	81,518	81,196	101,898	89,502
Academic Total ASF	**513,793**	**566,718**	**52,925**	**771,515**	**257,722**	**931,464**	**417,671**	**1,265,003**	**1,261,270**	**1,719,176**	**1,205,383**
Academic Total GSF	**1,116,941**	**1,231,995**	**115,053**	**1,546,476**	**429,535**	**1,825,449**	**708,508**	**2,368,557**	**2,249,482**	**3,125,412**	**2,008,471**
Student Life ASF	Existing	Guideline	Delta	Guideline	Delta	Guideline	Delta	Guideline	Delta	Guideline	Delta
Athletics-Dept of Athletics[G]	26,396	95,523	69,128	124,916	98,520	42,310	141,537	182,050	294,762	222,562	196,167
Physical Education & Recreation[H]	42,808	107,842	65,033	128,258	85,450	68,618	147,990	179,200	241,920	224,000	181,192
Student Union[I]	62,592	75,523	12,932	104,916	42,324	100,329	121,537	162,050	161,409	202,562	139,971
Student Life Total ASF	**131,796**	**278,888**	**147,092**	**358,090**	**226,294**	**211,256**	**411,065**	**523,300**	**698,091**	**649,125**	**517,329**
Student Life Total GSF	**286,513**	**606,279**	**319,766**	**663,669**	**377,156**	**406,907**	**751,961**	**939,019**	**1,144,536**	**1,148,727**	**862,215**
Housing ASF	Existing	Ideal	Delta	Target	Delta	Target	Delta	Target	Delta	Target	Delta
Student Housing Total ASF	**180,442**	**319,327**	**138,885**	**532,942**	**352,500**	**603,442**	**423,000**	**814,942**	**634,500**	**1,026,442**	**846,000**
Student Housing Total GSF	**378,841**	**610,316**	**231,475**	**966,341**	**587,500**	**1,083,841**	**705,000**	**1,436,341**	**1,057,500**	**1,788,841**	**1,410,000**
Total	Existing	Guideline	Delta	Guideline	Delta	Guideline	Delta	Guideline	Delta	Guideline	Delta
ASF	**826,031**	**1,164,933**	**338,902**	**1,662,547**	**836,516**	**1,746,162**	**920,131**	**2,603,245**	**1,777,214**	**3,394,743**	**2,568,712**
GSF[J]	**1,782,295**	**2,448,589**	**666,294**	**3,176,486**	**1,394,191**	**3,316,198**	**1,533,903**	**4,743,917**	**2,961,622**	**6,062,980**	**4,280,685**

Notes

A. ASF per weekly student contact hour (WSCH) = (20 ASF/station)/(30 weekly room hours x 67% station occupancy) = 1.00 ASF/WSCH; Fall In-person Credit Hours used as proxy for WSCH

B. 40 ASF/Faculty FTE is standard for comprehensive institution; 250 for research institution; gradually steps from 80 to 180; (average of faculty and faculty FTE)

C. 170 ASF/Faculty FTE is standard; Because of high ratio of Faculty Headcount to Faculty FTE, used 170 ASF/Faculty Estimate (average of Faculty Headcount and Faculty FTE); Assumed 7% of faculty are online only

D. 170 ASF/staff requiring an office. Assumed 90% require an office.

E. 22,450 ASF core allowance plus 6 ASF/student FTE above 5,000

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H. NIRSA ASF guidelines per student headcount: 11,524/1,000 (under 9,999 students); 9,866/1,000 (10,000 - 19,999 students); and 8960/1,000 (over 20,000 students)

I. 9-10 ASF/student FTE is standard; 10 ASF/FTE used due to high commuter rate

J. Projected ASF:GSF ratio is 0.6

Appendix B
Open House Workshop

In compliance with Colorado state mandates, UCCS completes a Master Plan at least every ten years to evaluate the long-term capacity of its campus and guide the next phase of development in support of the university's mission. During the 2011-12 academic year, the university has undertaken this process with particular attention to the growth potential on the North Campus.

During November of 2011, the university held two open house sessions for students, faculty, and staff to provide input on future campus development. Posters displayed analysis of the campus, planning principles, and initial sketch plans of campus organization at full build-out. Participants had the opportunity to comment on the work displayed as well as to complete a planning activity that explored how new facilities to support a 20,000 person student body would be organized on campus. More than 60 students, faculty and staff attended the open house sessions, providing a wide range of valuable input to the planning process. The open house materials and the UCCS community input provided during the sessions are summarized in this appendix.

In the future, what will attract and retain students at UCCS?

Student Life

Dorms

- Residence halls are the biggest draw to a university. The current halls are outdated and not conducive to a "living" atmosphere. Updated halls and academic communities would provide better access to social and academic areas.
- Living space close to University
- Connectivity & proximity from new dorms to academic buildings. Students love the idea of leaving Summit and being in COB within 2 minutes.

Community

- Community- being brought together to work together, play together, etc.
- Strong campus community with ties to larger Colorado Springs community/Pikes Peak region
- Active student life
- A large, fun and diverse student life presence
- Fun stuff like recreation opportunities and ample parking.
- Community feel
- Small community and active student body
- Balance of personal growth and non-academic experiences with academics. Other students like themselves (hopefully good students!). Younger students like more hoopla.
- Creating a sense of campus community and school pride. This will come from athletics and a relocated student union.
- Areas for larger student life and activities. Our school is mostly commuter so students need interactive reasons to stay on campus.
- More student life space. Other public spaces would allow for better relations with the University.
- Available housing and parking will create a real campus feel and give the campus more than a "CU Branch" feel. Students want to know that there's a space for them here....and right now it's tight.
- Student-centered student union with ample space consideration for programming, specific student club meeting and event space. Informal meeting space, too. Ideally, consideration should be given to student affairs services located in the student union. Staff office areas and storage are important as well.
- Enough areas for student life opportunities (recreation, housing, unions, open unplanned space). As the campus grows it needs to focus on the development of the "whole student" and provide space and facilities to provide that enriching environment.
- More spaces for non-traditional students and their families
- Student focused places to gather for study, hanging out,eating, playing
- I think students would be drawn to a campus community. For example, most schools like CSU, UCLA and the other UC campuses, as well as private schools and other public schools built their campuses so students have everything that they need on campus. For example, sports, entertainment, eateries, and movie theaters for the public. If there was a Target at the University Commons area students would barely have to go off campus for anything. That way, students really live on campus and there is something to do here at night and on the weekends. This is particularly important if we have a light rail or tram that is automated 24 hours a day (or close) to go to the University Commons for shopping, and all other areas on campus.

Athletics

- It takes years to develop athletic and social programs - Athletic facilities
- Football!! This school needs a football team!
- A football team

Sense of Place

- Incredible physical environment both in the local area, region and on campus – maintain open space; encourage outdoor activities – biking, hiking, etc.
- Keep natural landscape undisturbed
- A nice environment might help a lot, I know that was very important to me at least
- Environment! Maintain our unique Sense of Place
- Preserve incredible physical setting – capitalize on that rather than ignore/damage it.
- Preservation of natural areas that create great spaces to both hang in and pass through. Preserve views.
- Keeping some natural features.
- The colors & landscaping of the East Campus are lovely
- and I'd like to see that continue.
- Get rid of surface parking in most visible sites along Austin Bluffs!
- Our bluffs are sacred land. Something to consider when being respectful about where building. For further info talk to Linda Watts in Anthropology
- Unique landscape
- Natural open space. Pikes Peak views.
- Keep the views and easy movement.
- Attractive campus.
- Open space and environmental amenities. Attractive

buildings and facilities. Non-car based transportation within campus.
- The “look’ form North Nevada of our campus should resemble the “college-feel” - academic buildings, housing, bookstore, athletics, fine arts Center, etc. This view of the campus will be the most visible to our community and a huge selling point for recruitment.
- Developing a unique sense of UCCS campus character, something students and want to identify with and spend time on.
- It is a bit contradictory to have Pikes Peak, Garden of the Gods & Pulpit Rock etc. be focus points and part of the future campus identity but not significantly incorporate our immediate environment into the campus plan.
- Apply City Landscape setbacks & buffers when development occurs adjacent to City streets or non-university development.
- Creating more university structures (housing, stadium, performing arts center) while maintaining the lands natural beauty.
- Preserve existing open space feature of campus wherever possible especially on N. Campus as elevation ramps up from N, Nevada.
- Great views and hiking/walking trails for students. Easy movement between all buildings from new athletics to East campus.

Academics

Breadth of Curriculum
- Strong academic culture with diverse majors and minors
- Offering more majors while enriching the ones we have
- Academic programs
- Upper level degree opportunities
- Programs of interest to them.

Quality of Curriculum
- Culture of academic excellence
- Quality academics and facilities
- A quality educational and student experience that includes adequate academic facilities.
- Good teaching. Consistent instruction – fewer adjuncts
- Good teaching will attract/retain students so meet full
- Quality education with unique opportunities in research, instruction and service that connects to local and international community.

Student/Teacher Ratio and Class size
- Small, intimate classes where students and faculty actually know each other
- Provide enough space and faculty members to maintain small class sizes and foster close professor-student relationships
- Keeping the size down – most students really appreciate the small class sizes (best of 100-level are average 40 per class)!
- Keeping a small school feel while offering most of the programs of a big school.
- Retain small class sizes
- Small class sizes

Costs

- Cost/Value of degree
- Reasonable tuition
- Reasonable cost for quality product

Miscellaneous

- On campus resources are also very important
- More chain restaurants in the cafeteria
- RESEARCH, RESEARCH, RESEARCH
- Large theater
- Practical application of education to employment
- Sustainability measures on the landscape
- Listening to their concerns and feedback - like today. More opportunities avenues for arts, culture and recreation.
- Retention has been a problem. Ask Barbara Gaddis.
- An intelligent, wise, welcoming and helpful University Administration trained to listen and aid students through their college transformation.
- My only suggestions is that we take into account Universal Design principles as we welcome students, faculty, and guests with disabilities onto our campus

Where will the core academic campus and the main student life areas be located? Where will students, faculty, and staff park?

Location of Core

North

- Core Area? – Very challenging. I don't' really know. Probably has to move north. Nothing is ideal.
- Probably North Nevada is the best site, though it would be really important to make it "blend' with North Campus.
- Dorms and Academic buildings on N Nevada
- I feel the north campus option looks the best, but we really need to watch our growth.
- Two core academic areas – 1 in center of Nevada; 1 in center of Austin Bluffs
- Should have 2 core areas, present location and north campus
- Split the campus into two parts. Keep current buildings as engineering and business focus. Make new buildings cater to nursing and Arts/Education. Create a tight knit community down on North Campus to make students fell more connected. University Village should really feel like a student community.
- All entertainment facilities (Athletics, Visual and Performing Arts) should move towards N. Nevada to integrate with University Village and easy access to the Colorado Springs community.
- I feel like the academic buildings should first be built around the main campus area followed by branching out with additional parking near the new Health Sciences Building. We should put academic buildings and dorms in our current parking lots to have the academic spaces nearest each other. Make the area on Nevada focused on health sciences and nursing and move them from Main Hall to be near the new Health Sciences Building for Psychology. Make that area a hub for the public (a theater space), a place for Theatreworks as well as a arena, make a sports area near there for the public and our students, and have the light rail come to the main part of campus from that area.
- Pocketed academic spaces behind Community fee-based buildings.

East

- Other Academics can grow East on the hill.
- Core academic campus should be focused in the main campus and University Hall
- I like the East centered plan the best.
- East campus seems most ideal...
- Center of campus shifts East is preferable.
- Build to East first
- Core academic areas should be located toward the center of campus (as much as possible given the linear nature of the campus).
- The setup is great now I believe.
- Keep the core where it is for academic buildings so that people can get from one class to the other easily. Extend academic buildings to the east. If necessary, buy property across the parkway.
- The bluffs (not on them, at the base of them). I like the east core development more, with residences and parking north.
- The main academic areas, in my opinion; should for the most part stay where they are at. If they must be put in different locations, similar ones should be clumped together.
- I think core academic buildings should be in center(where it is now) and moving East at first. Later to Nevada.

University Hall/Beth-El

- University Hall needs to be more connected to campus.
- Beth-El more central to included in campus life.
- Repurpose facilities in University Hall
- Move Beth-El to central ... and put Beth-El nearer for Athletic trainers and strength and conditioning.
- Relocate Beth-El central to Rec Center, Athletics and Peak Vista for athletic trainers and sports medicine student

Housing

- Like the residential housing on East Campus
- I like the idea of new housing villages located between Main Hall/Cragmor and University Hall with parking. Also, another housing area near North Campus, Athletics area would be good.
- I think putting dorms down on N. Nevada is a good idea, especially if there are shuttles. Similar to what they have at CU Boulder; seems to work out well.
- Have recreational areas near dorms
- Housing areas need rec facilities nearby.
- Main student life areas should be located at North Campus originating near Rec Center
- I lived in the dorms and feel that housing should grow! Housing should be at the heart of campus with Recreation. Academics on either side.
- Student housing will be interspersed through the campus located adjacent to recreation fields.
- Move housing down the mill if necessary.
- Making dorms close enough so people don't have to walk so far in the dark at night. Some dorms close to UVC for activities.
- Needs more dorms
- Upper classmen housing

General

- Campus needs more density
- Encourage compact, dense development (pods) with direct pedestrian/bicycle/vehicular access between pods.
- I like having the density of building going east first.
- Condensed areas of academic colleges (Engineering, VAPA, Business) would create better community within the disciplines and easier access to classes
- There should be sections. I.e. Academic Section, Rec Section
- Form academic cores with programs (education, etc.) - KEEP ACADEMICS TOGETHER!!
- I think it's important for academic buildings to be consolidated in one area. When people need to get from building to building between classes, they want to get there as quickly and easily as possible.
- Make sure neighborhood across the way (Cragmor) is fully considered.

Miscellaneous

Greek Row

- As part of Greek life, I would like to see a Greek Row on campus, Individual houses or resident halls centralized around a common area would be nice, within walking distance to the center of campus.

Safety

- Concern for student safety if housing is located near public interchange (performing arts center, athletic fields)

Student Life

- Student life centered at center of campus (corner of Austin Bluffs and Nevada) with other housing near the academic areas
- Create a main student life area in the central part of the university land holdings
- It will be important if we continue to expand as predicted to have an expanded multi-cultural center not just a union. This means having bigger spaces for women, lgbt, people of color, disability services (not on top of a hill please) and keeping student space with academic buildings.
- Separate, new student union located nest to recreational and existing housing village. Over time, this location may be the center of campus.
- I like the idea of keeping student life central on campus.
- Student life will be more spread out to accommodate increase.
- Expand University Center!

Athletics

- Put athletics or upper classmen next to athletic facilities. Condense all athletic facilities.

Energy

- Bill Good is working on a Master degree in Engineering in space operations. He is taking Space 5595 class. There are 4 students in the class; project is to design a satellite system that can control 1 million mini-nuclear reactors – about 1 megawatt in size. Could locate one at the substation at the corner of Austin Bluffs and Stanton. They are proposing something like the X-prize for the first non-government space flight for someone who develops the small 1 megawatt nuclear reactor.

Transportation

Spine

- Love the spine idea, especially one that incorporates a shuttle road & a pedestrian trail (that meanders a bit)
- Spine is a good idea.
- The concept of a spine is very nice – with nice kiosks and views of the Front Range.
- Difference in scale of paths – spine=big, single sidewalks, dirt paths – all have a role.
- Spines merge and separate
- Building aspects of the pedestrian spine should be implemented soon.

Transit

- Good transit system within campus that can move people effectively.
- I love the fact that there are plans to get the buses onto their own area and off the main roads where traffic is sure to be a problem.
- On campus transportation – timely & reliable & frequent
- Need to look at transit hub on east side – not on Nevada Ave. but actual pull-off – bring Frex, internal shuttle, trolley
- Tie in major transit center near new union (recommended above) near the Rec Center area.
- Agree to have Eagle Rock close road and create a cul-de –sac
- In University Village parking lot, don't make any more concrete out of earth. Make everyone buy a bus pass (like in Boulder) to improve public transportation to campus (it's not socialism – now taxes subsidize cars).

Alternative Transportation Methods

- Offer free bus passes. Encourage biking: free bike if student agree to not bring a car to campus; support

bikes – bike shop open daily, etc.
- Also include options for bikes, pedestrians and mass transit.
- Trails for recreation
- Focus on sustainable transportation options
- Make sure we explore other non-motorized options Need more bike trails
- A gondola would be brilliant. It would be a huge cost initially, but over time (I have not done the math on this). I think it might actually save money. Costs of bus maintenance, gas and driver salary would be cut. It would also make transport across campus more convenient. Instead of waiting an hour for a bus, students could step onto a gondola and be able to exit at multiple stops across campus.

Parking

Interspersed

- Faculty and staff should have parking that is separate from student parking
- Parking should be available near each center (sports & recreation, each academic center, near Beth-El, and the parking on Austin Bluffs should be kept.
- Parking should be slightly scattered to allow people to park relatively close to which ever building they want to get to.

Periphery

- Parking at the ends
- Limit parking on campus!
- Park and Ride, except have faculty/staff parking on the core campus.
- I would like to see that parking is eliminated from the central campus zones, so that a pedestrian-focused campus is created. Parking/public transportation should be zoned to the campus perimeters.
- I would like to see larger parking nodes that are more on the outskirts – accessed by shuttles and paths. Some smaller lots within campus, but not dominating the landscape.
- Staff and students will still park at 4 Diamonds.
- If we continue to expand parking at 4 Diamonds and make the transit options up the spine as fast and efficient as possible, the land down there will be a great parking resource.
- Park on the edges of the campus- NOT where walking and biking traffic are focused.
- Parking in focused areas end of campus (large lots) with garages and other lots interspersed.
- Parking at periphery of campus in high-density structures and underground (with green roofs on top
- see UNC Chapel Hill as a model). Parking should be kept out of the core (interior) campus and pushed to the margins, with effective bus/bike/pedestrian/ transit internally.
- Parking located on North Nevada near future buildings that will also draw community. Parking area between Main Hall, Cragmor, and Beth-El.
- Could we work with University Village to allow students to park on some of their available parking? Could there be parking between facilities and University Hall in the open lot over there?

Structures

- Need 2 new garages
- Create more garage parking in available areas to save space but create more availability
- More parking needed obviously – go vertical in places but don't block the view
- I think parking garages are the best bet. They may cost more, but they take up less surface area while providing more parking. Plus all spaces in the garages are basically the same distance from the building.
- Parking will require structures. Plan phased construction to evaluate impact of online attendance
- Parking issue, I suggest a bigger taller parking garage, underground even.
- Parking should focus under buildings to keep the natural landscape. Parking will always be a problem but as long as there is a plan for new (underground) or more shuttles [sentence not completed]
- Underground parking (beneath buildings)

General

- Smart & plentiful parking/transportation
- That's the million dollar question! Parking is a big challenge.
- Parking is a big problem.
- Need more parking
- More parking.

General comments

Communication with University

- Listen to students in terms of vision
- Please remember to include our mission to serve the local community. We need design (buildings, parking and signage) that welcomes them, not mystifies them.

Master Planning Process

- I can tell a lot of thoughts has already gone into this. Thanks for the opportunity to contribute.
- I like the concepts presented.
- Nice to have this opportunity.
- Please continue to listen / and implement non-administrative perspectives – students faculty input counts. Thank you.
- Good exercise – challenging building site!!
- Good Session – Great idea to open it up for students, faculty and staff.
- Thanks - this is great info and a great opportunity.
- Doing a great job.
- Nice drawings! Keep up the great work.
- I like the ideas that are in place! Good Luck

Facility Safety and Human Factors

- Hub 3 access to Centennial Hall is hazardous. There's only 1 set of stairs and it's not centrally located (at east end). One in the middle would be helpful (near bus stop) for rainy/snowy days. I've slipped several times and actually ended up on backend once. Not fun in the snow with a bag full of books.
- The east stairwell doors in Columbine need to be wider
- Double if possible – it is a real traffic jam there with an easy solution.
- Library Ventilation Improvements - during summer, the library is unpleasant to study in for more than 90 minutes (I take full summer loads and read fall textbooks then. I'm at the library a lot). Body heat and greenhouse effect and summer heat. Last summer had numerous days in the 90s.

Growth

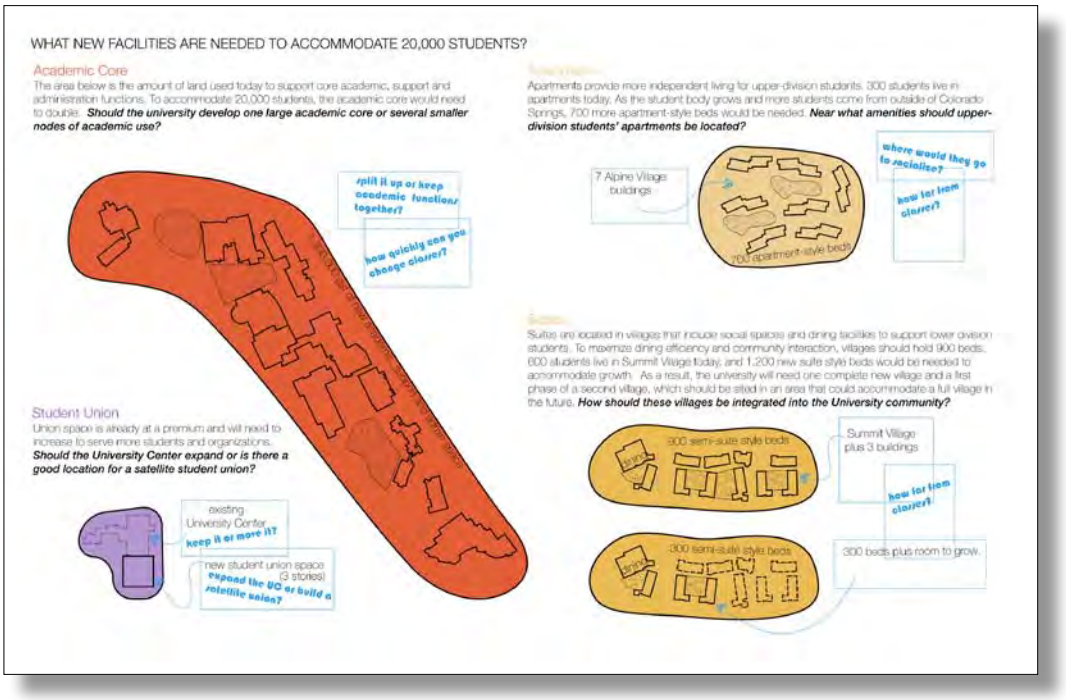
- Limit campus growth – students have expressed how essential the small campus population/class size is to what makes UCCS special/attractive
- Why does UCCS have a growth imperative? Is having 20,000 students good for the community/land/existing student population?
- We may want limited growth to increase overall quality of the student body, while reducing pressure due to growth. The campus could lose its friendly atmosphere if to grows too much. Buy some of the properties in Eagle Rock area that we do not own.

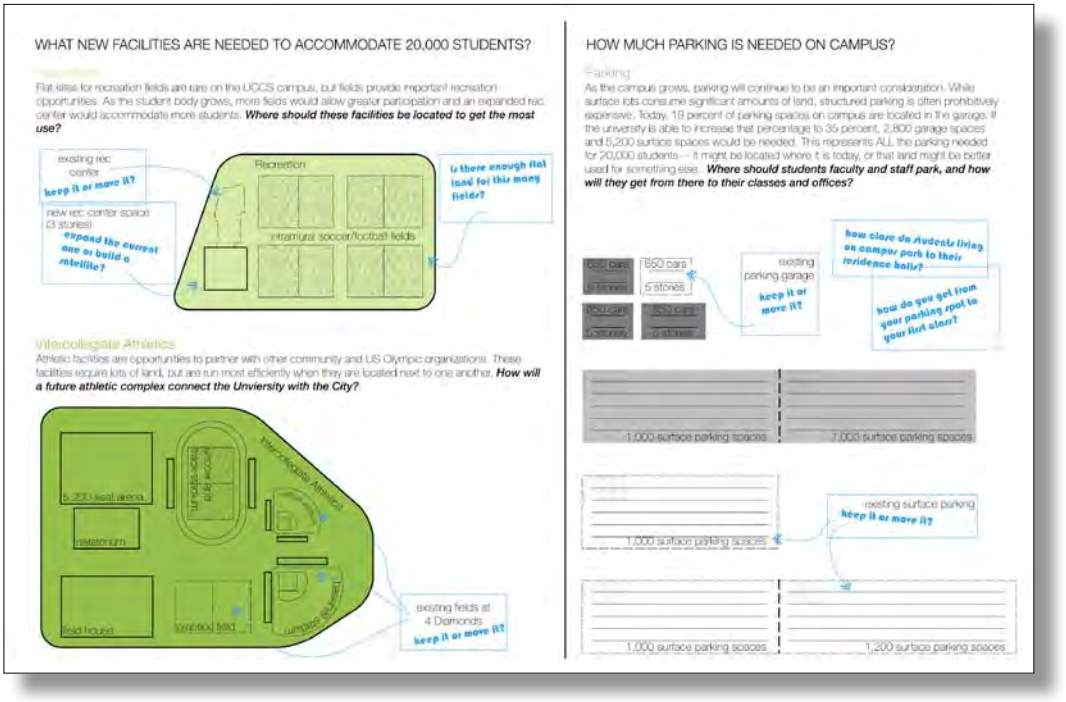
Scheduling/Programming Space

- There are two critical issues that should be considered. Space for classrooms should reflect an analysis at the classroom, seat and college level. Thinking about needs in the aggregate are[sic] likely to underestimate the true capacity requirements. There are also too few offices so office space needs should be considered carefully.
- UCCS Master of Engineering in space ops
- Also as you add housing please don't require studentsto live on campus. UCCS is the only school that allows freshmen to commute out of the big state schools: CSU, CSU Pueblo, CU Boulder.
- High-tech Energy Research Center
- Recognize separate academic spaces decreases interaction.
- Engineering and Applied Science needs new infrastructure. A new complex will allow the modernization of facilities to meet the goals of international level research. Suggest this complex be in the North Campus with LAS taking over the current Engineering Building.
- More functional classrooms like the Engineering (math) building versus overcrowded cubes like Columbine.
- The campus has a strong initiative to offer (and increase) conferencing services. Is this being factored into planning? Also, we want to bring alumni here but often meet elsewhere because of the challenges We need to work on the perceptions of those challenges as well (i.e. how the perception that it's difficult to come to and park on campus and find your building can deter potential students, visitors, alumni and parents) How much is it a deterrent? How can we improve the perception?
- Also with the growth of this campus it is important not to forget to focus on our Media Services & Film & Video programs on campus. Film & Video can be a very important component to communicating what we do on campus to the surrounding Community. Colorado also has a rich history in filmmaking & is making a comeback.
- The University of Alaska, Fairbanks has a building open for students for student study only. It is open 24hours (perhaps use a student ID card swiping machine. Would it be possible to have such an indoor facility here?

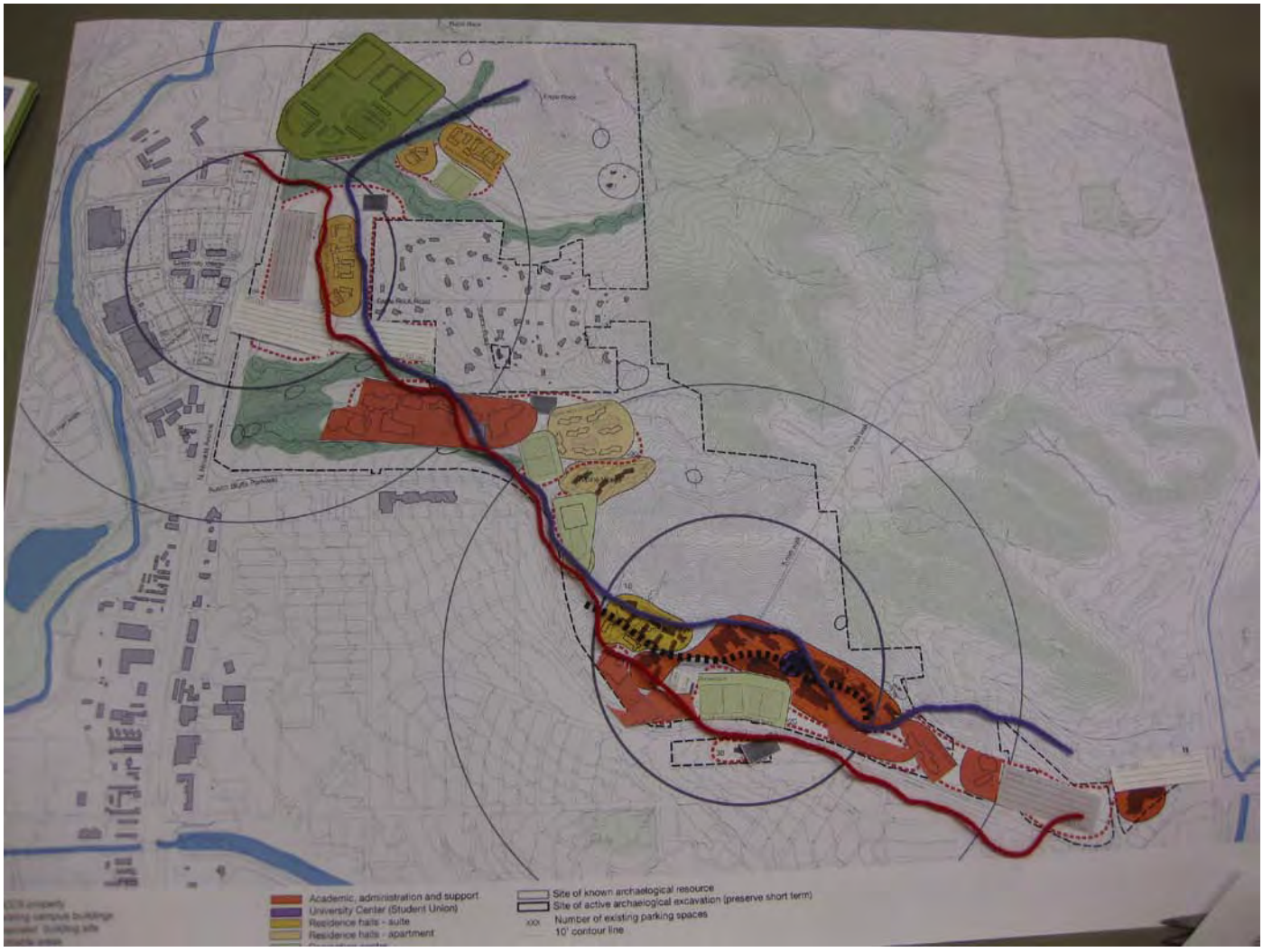
- With the ongoing economic stagnation, more students are enrolling. Many of us find library computers are, at times, hard to find. Instead of expanding facilities, can we recommend improvements to I.T. and increasing the number of computers in the library?
- This first might start with making sure we have classes from 8 am- 10 pm Monday through Friday to utilize parking on campus. Then build the Health Sciences Building followed by the new corridor for the light rail. This would be followed by the new nursing Health Sciences Building etc. Then we could build a new academic building (in a current parking lot)and dorms (between the main campus and UHall).
- Consider sending campus buses to the TJ's area.

Planning Activity: A Campus for 20,000 Students



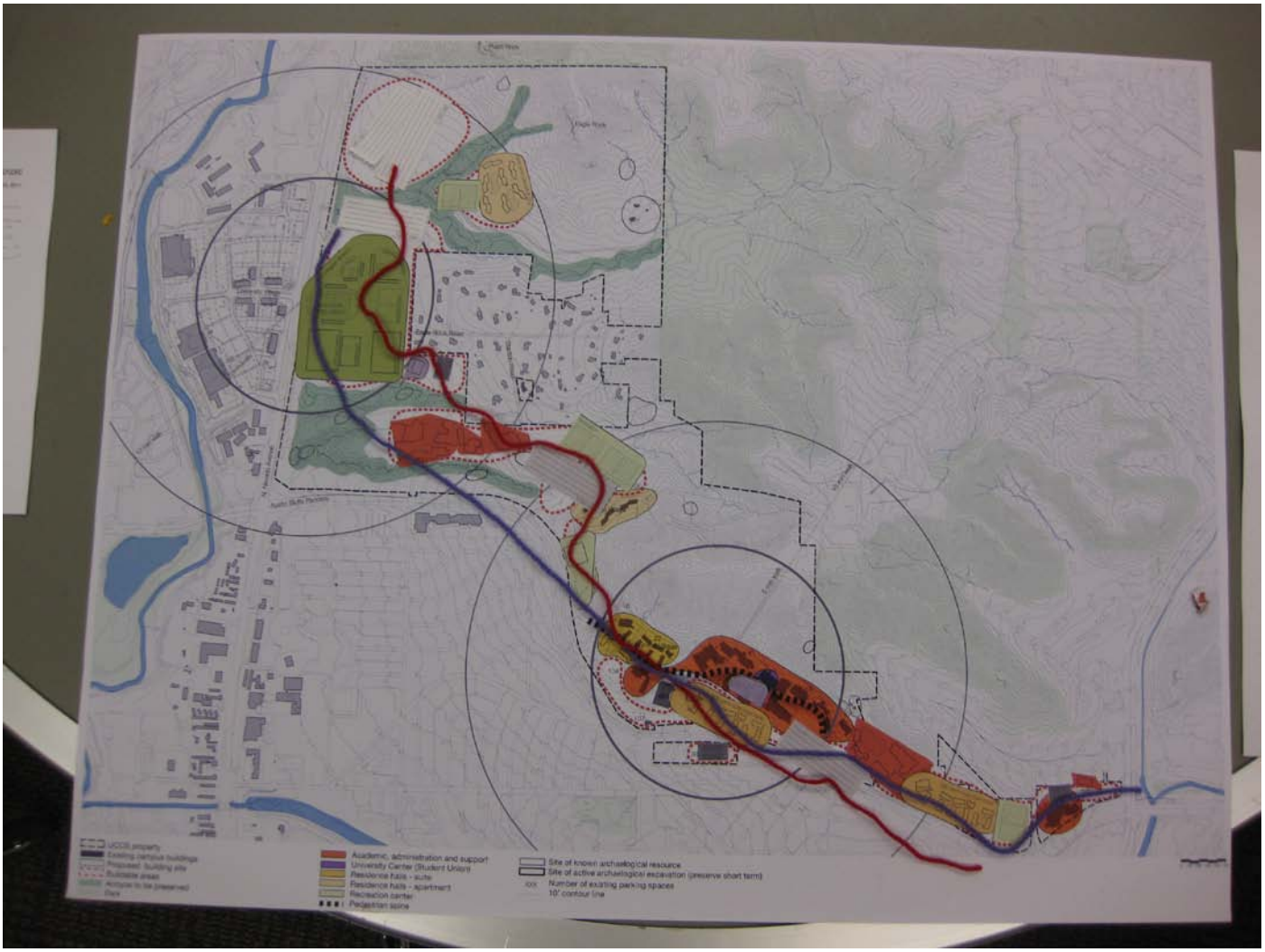


Two groups chose to create a second academic core with a new node of development west of Alpine Village.



Group 1

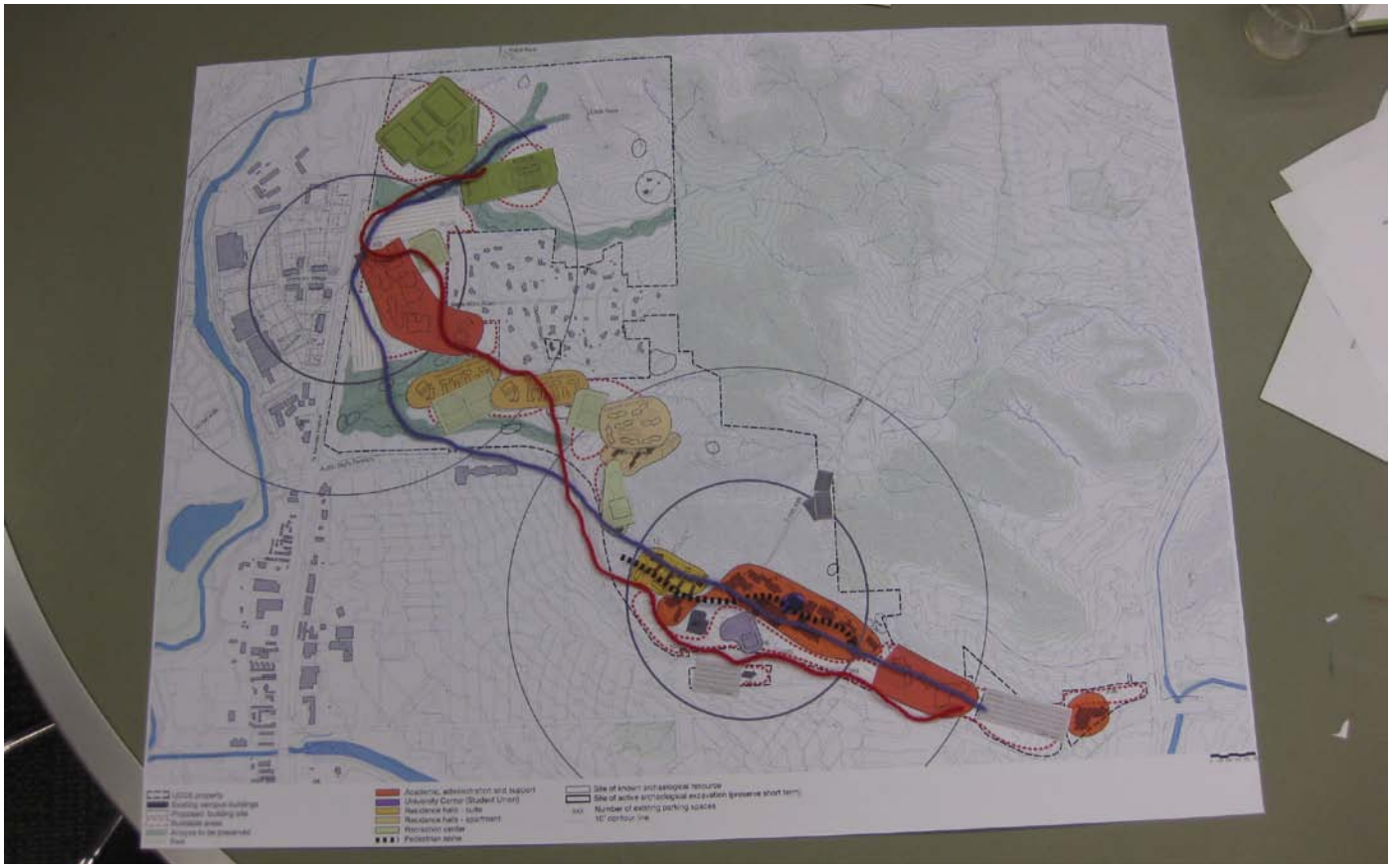
The group that created this plan focused on promoting healthy lifestyles. They chose to locate parking at the eastern and western end of campus and establish well-connected trail systems to get to the core. They suggested that Beth-El College be located closer to Center and the Academic Health Services Center and that dorms should have recreation fields close to them.



Group 2

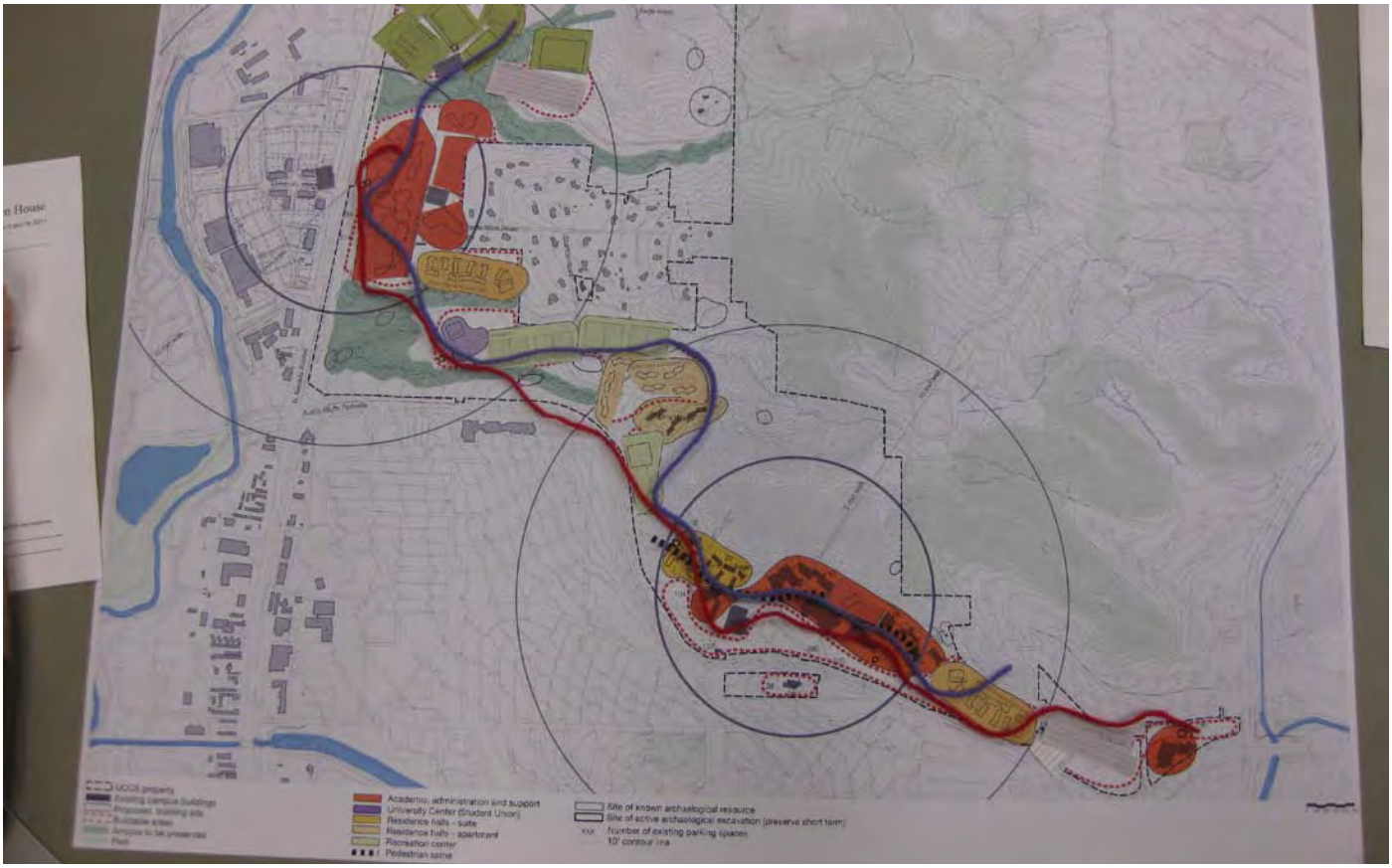
This plan located academic facilities as close to the core as possible, but chose to have housing and recreational facilities interspersed throughout the campus. Students, faculty, staff and visitors can park in larger surface lots at the edge of campus or in garages closer to the core.

Three groups created a second academic core along North Nevada Avenue.



Group 3

This plan creates a concentrated housing district with recreational facilities that connects the two cores together. Athletics facilities are located to the north and parking is located at the edges of campus.



Group 4

The student union/university center is proposed in the center of the two core areas with housing and recreation adjacent. Parking is located near each main area and athletics is concentrated to the north.

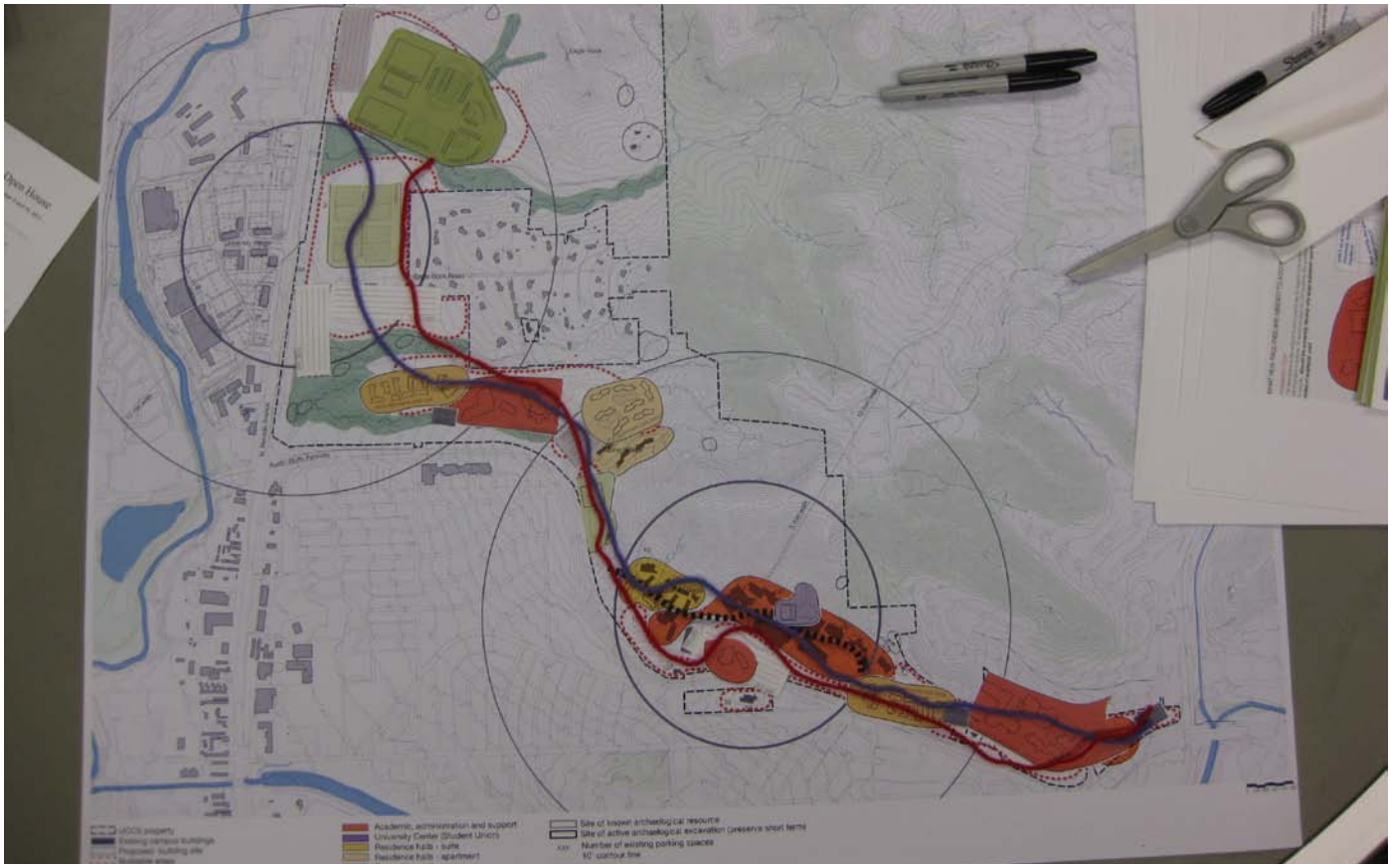
Group 5

The group that created this plan focused on creating a new community center for students on the North Campus. To support this center, academics, housing, and parking are located nearby.

Two groups took other approaches to organizing the academic core.

Group 6

In this scenario, all academic uses are centralized in the Core and East Campuses. Housing, recreation, and athletics are located on the North Campus, which students can access by riding a gondola.



Group 7

This plan proposes two new academic nodes: one at the East campus and one near Alpine Village. Housing is interspersed throughout, creating a mixed living-learning community along the spine. Athletics and recreation are located on the North Campus.

Appendix C
GES 3170: Saving Place
Class Input

Group 1

- Expand the core – centralize academic functions
- Place a parking structure at University Hall for parking needs at that end of the campus
- Put housing on main campus – place parking structure south of current parking structure/set down at lower elevation – will not block views
- Apartments should go together
- Parking structure with field on top per current draft master plan
- Shuttle Spine (red) – follow Stanton Rd. to where it turns into Eagle Rock neighborhood then parallel Eagle Rock then cross arroyo - stay out of arroyo
- Place a new university center at housing down on north campus so activity center is near living area
- Pedestrian spine (purple) through buildings and follow a more natural path

Group 2

- Putting all new housing together to create a sense of community
- Put all academic together on core campus
- Put a small academic support facility (learning centers, tutoring, etc.) in the middle of housing
- Concept is that you can leave housing and go up to consolidated academic core and move from class to class and then go back “home.” Then during study back at housing help is available at the learning centers.
- Could have a second core that is the medical region and visual and performing arts region down on N. Nevada. Thus housing would be in the middle and students could go in either direction.
- Pedestrian spine (purple) – to follow natural facilities and support traffic volume
- Trail (Burgundy) – to follow more natural contours

Shuttle Spine (red) – similar to group 1

UCCS
Columbine Hall
Austin Bluffs Parkway
Colorado Springs, CO 80918

GES 3170 Saving Place
Carole Huber

February 28, 2012
Gary Reynolds
Executive Director of Facilities Services
University of Colorado at Colorado Springs
1420 Austin Bluffs Pkwy
Colorado Springs, CO 80918

Dear Gary,

The physical setting of the University of Colorado at Colorado Springs is one of the most unique and interesting aspects of the school. The campus itself should not revolve around construction of new buildings but rather preservation of the surrounding natural beauty such as the Bluffs, Pulpit Rock, and Pikes Peak. As Colorado is a state widely known for outdoor living due to the inspiring views and has over 300 days of sunshine, one must be cognizant of the reason out-of-state students decide to enroll. Although the new expansion seeks to make more room for these incoming students, we fear that a 4,000 seat arena and buildings on the expansive natural grasslands might cancel out some of the aforementioned special qualities. We are especially concerned about the proposed arena because it puts the focus on the public domain of Colorado Springs rather than on the needs of the students. Another concern is the impact this huge expansion will have on adjacent physical settings. The campus is at a lower elevation than the majority of the surrounding Bluffs and new structures will likely increase erosion and runoff to the detriment of the surrounding area. The only option available in order to preserve the natural features, other than minimizing the amount of new construction, is to utilize the east campus which already has some infrastructure in place. We thank you for considering our plea to preserve the natural environment of our land.

Sincerely,

Karee Milowicki

Melissa Greenleaf

Josh Richards

February 28, 2012
Gary Reynolds
Executive Director of Facilities Services
University of Colorado at Colorado Springs
1420 Austin Bluffs Pkwy
Colorado Springs, CO 80918

Dear Mr. Reynolds,

We are current students at University of Colorado at Colorado Springs are writing in regards to the plans we have seen of the new Master Plan for UCCS. We as concerned students would like to voice our opinion as to what we would like to see in the future of this campus' expansion and its new facilities. We have seen in the Master Plan that this campus is planning on shifting the core towards Four Diamonds. Our first concern is that new buildings and sporting structures will work against nature and not with it. There is a lot of beautiful landscape between the current campus and Four Diamonds and we would prefer to see as little damage as possible to the existing landscape. We mention this concern because when the new buildings are erected, we would like to know that some of the natural scenery will remain and will not be covered with unnatural things such as parking lots, roads, and to some extent the housing sections. One suggestion we have is to incorporate native plants that may be put into natural gardens around campus tying campus with the surrounding area.

Along with keeping the campus looking as natural as possible we would like to see new buildings holding up to and beyond current green standards, and we want to see if rooftop access for greenhouses or study sessions would be available. Current students will be able to utilize space of the roofs for activities and gardens, and the green on each roof will help to keep the heating bill down. We believe it will also make the campus more attractive.

Something that we feel will not be as beautiful as the rest of the campus is parking structures. We realize making these look good is hard but we feel that parking structures should also be created to waste as little space as possible. As the expected increase of students is estimated to reach 30,000 heads, there will be a lot of need for new parking structures and on campus parking. The idea of building the parking garage in the wallow near the Alpine Apartments is a good one that we support. What our hope is however is that with the rest of the parking structures there is a way to make them less of an eye sore while still make them as convenient as possible. We would like to consider building parking garages under the new buildings. As we discussed when Mr. Reynolds came and spoke to our class these structures are very expensive and will require an increase in student parking fees. We are aware that most students would prefer not to have to pay more, but one thing that should be taken into consideration is that this building process is going to take a few decades, therefore we believe underground structures may still be worth considering in the future budget We believe the end result will both look and function better in the long run. We understand that controlling parking can be difficult; we would just like to make sure that design is taken into consideration for every new building that is on this proposal.

Now we know that plans are progressing for a commercial greenhouse here in the near future and we could not be more excited. What we would like to request however is that this is not the only garden on campus and that locations other than behind Main Hall are considered. After our meeting with Mr. Reynolds in our GES 3170 class on February 14, 2012 we realized

that rooftop gardens would be a possibility. With that said we would like to propose gardens that are designed like the one at Heller Center, raised, but then also have the garden boxes raised off the roof themselves. This way the building can be maintained at any point in time and students can have access to either gardens or greenhouse(s). As for the placement of the proposed commercial greenhouse could we not consider building that on a current rooftop? Say the roof of the library? We understand that rooftop access is a complicated issue, but not something that should be in the way of a greenhouse. Or if the rooftop is truly not convenient then somewhere on the main campus where people can see it. Half the point of moving the garden/greenhouse up to campus is so that people know it is there and so that they will be inclined to participate. If the greenhouse is hiding behind the main part of campus we believe people will not go work on it. There are many advantages to having a greenhouse on campus but that is a letter in itself, all we wanted to do here was inform you of some of our concerns and requests. Please consider our suggestions and we look forward to hearing from you soon.

Sincerely,
Cody Lewis and Brett Miller

UCCS
Columbine Hall
Austin Bluffs Parkway
Colorado Springs, CO 80918

GES 3170 Saving Place
Carole Huber

February 28, 2012
Gary Reynolds
Executive Director of Facilities Services
University of Colorado at Colorado Springs
1420 Austin Bluffs Pkwy
Colorado Springs, CO 80918

Mr. Gary Reynolds,

Thank you for your time spent working on the expansion and growth of our campus here at University of Colorado – Colorado Springs. We appreciate your extra time spent with our class and explaining the details of the Facilities Master Plan to the student body. We thank you for the opportunity to be heard as a student body in this matter.

In this letter, it is our intent to offer some ideas concerning transportation and parking around campus as UCCS plans on growing and expanding. We know that transitions are not easy and that phasing into new systems as the student body expands is essential to the process, but we are greatly concerned with a huge expansion plan when we feel that current systems have not been effective.

First, we would like to mention that the idea of the spine of transportation concept in the Facilities Master Plan is a positive one. We like the idea of the spine, but the process needs to be perfected and monitored for specific student and faculty needs and adjusted accordingly. More specifically, if the campus is expanded toward the North, therefore stretching the span of UCCS further than it already is, effective transportation that is available quickly to all students and faculty is crucial.

A few ideas that we agree with are the express shuttle service and the shuttle transportation only route along the spine of the campus. Not only do students need to get from one side of the campus to the other in a timely manner, one must also be able to do this safely and efficiently. This means less wait time at stops and more frequency in shuttle arrivals. Students and Staff need stops that are easy to get to and routes that are fast at getting to the destinations.

A problem we see with the current system is that there is a lag in time between shuttles and the time wasted on these routes is frustrating for the passengers. Once the shuttle arrives, there is wasted sitting time waiting for departure time. Next, the shuttle begins its route traveling on unsafe roads with loads of traffic to a central stop on campus that is often another five to ten minute walk away further. Many times, shuttles will fill all the seats and the waiting time is doubled for anxious awaiting passengers.

A question we came to through our research is why is the capacity on these shuttles limited to the number of seats? The shuttles are equipped with handles and standing support, but it is not being implemented on the shuttles, therefore it is not using the shuttles to their greatest capacity. There is an inconsistency in the schedule of busses because of the way the scheduling of classes works out. There are large spats of people all waiting at one stop for one bus. Why not spread these stops out and offer more busses at a higher frequency so that we are not packing out busses at high demand times. Our internal transportation system should mimic that of a busy city; busses only stop long enough to let departing passengers off and let new passengers on.

Second, parking is another huge issue with the campus. If the university desires for student growth by the thousands of students, we need to accommodate for that in the parking for those students. The biggest complaint is the parking permit dilemma; I buy a permit so that I can park on campus, yet too many passes are sold so I am not ever guaranteed a spot and the majority of the time, I do not find a space anywhere near my next class. The demand for a better, more efficient parking system is necessary for an ever growing school.

Surface parking, though more affordable, is a waste of space on our campus that already lacks critical building space. Building a parking garage, half underground half above ground, would be a better option to add for more spaces. We suggest the garage that has one way routes so that there is not two-way traffic jams in the garage. The idea of placing athletic fields on top of these garages is one that we find beneficial.

We also collaborated in creating a possible solution to both parking and transportation issues. Our suggestion: The Hub. These Hubs would be parking garages located on the north end near the arena and possibly a second Hub near

University Hall. This would be where students parked for the day and could be guaranteed quick transportation to the part of the campus where their class was. This is where all the shuttles would meet up and arrive every few minutes; each bus with a new destination. Busses could be faster at getting passengers to their destination without having to wait for other stops, all the while, everyone is getting closer to where they need to be.

Then, in addition to specific express routes to main academic buildings, there would be other routes that would be available for higher traffic times during the day as well as offering inter campus transportation. For example, I would take the Columbine Express from the hub parking garage to Columbine Hall then I hop on the bus that would take me a little further to the library. The main idea of this route system for the shuttles is offering a more frequent system that gets students and faculty exactly (or close to) where they need to go faster.

We also briefly discussed the idea of a bike share program. This would work similarly to how a stroller system works in the mall. You pay or swipe your card to rent a bike from outside your classroom and ride to your next destination. There would be several stops across campus that you can pick up and drop off bikes from and there is an accountability piece that comes from either swiping your student ID or a credit card so if a bike goes missing, it is accounted for. If we could only make one change to improve transportation across campus, the bike share program would be a priority.

Thank you for considering our ideas. We hope that we have shared ideas that give the Facilities Master Planning team food for thought.

Thank you.
Alaina, Alex, Alyssa, Anna, Kelsey

February 28 2012
Gary Reynolds
Executive Director of Facilities Services
University of Colorado at Colorado Springs
1420 Austin Bluffs Pkwy
Colorado Springs, CO 80918

Gary Reynolds,

On behalf of the students of GES 3100 Saving Place Class, we would like to propose alterations to student life and campus activities for the University of Colorado-Colorado Springs. We understand the importance of overall campus growth, but we feel it is necessary to maintain a sense of place and a culture that values the location we share. The three main topics we will discuss are campus trails, University Village culture, and the atmosphere of campus restaurants.

The natural beauty of campus should definitely not be lost with the master plan; we believe views of Pikes Peak and the location of campus are a huge part of the appeal of UCCS to in-state and out-of-state students. We would like to see the master plan not only continue with and emphasize the natural beauty of the campus's setting but also enhance the outdoor features already present at UCCS. Hiking trails should be expanded sustainably, using proper trail building practices. Signage should also be put up, informing people of the delicate eco systems surrounding the trails and urging them stay on the trails so as not to harm the environment. Trail maps should be placed around campus or made available on the UCCS web site so people are able to see where exactly the trails lead for better planning of their walks, runs, biking, etc. Outdoor safety classes should be offered as part of the SOLE center or regular curriculum to make sure everyone who is interested knows proper outdoor skills. We recognize the campus does have limited outdoor classes available already and the SOLE center leads great trips. We propose there should be more advertisement about the SOLE center classes which will enable students to be more aware of the outdoor opportunities available to them.

We would also like to see University Village open more local stores instead of big chain stores. With the inclusion of more local establishments, we would like to see at least one focus more on a bar atmosphere along the lines of Trinity Brewing. We feel that this inclusion would allow for students to congregate in an atmosphere that is superior to the current establishments serving alcohol. These would also benefit from the future theater and stadium that are currently being proposed to be built across the street from University Village.

On top of that, we would like to propose the addition of a bar that services only those of legal drinking age with reasonable prices, bar room activities, nightly specials, and pub style food on campus. This will help to create more business for the university while also giving students a chance to be a more active part of the campus community. We understand that Clyde's has done a great job at creating a student friendly atmosphere in the University Center, but we feel that it can be improved with the addition of liquor spirits and reduction in prices of beer.

As a whole we feel that if we are able to do these three things we would greatly enhance UCCS. With the addition of trails, a friendlier University Village culture, and changes to the on campus restaurants the overall satisfaction of students would increase.

Respectfully,

Cindy Bathelt, Justin Wilson, James Chiles, Elizabeth Fluharty, Hillary Fuller, and Paul Wood

Appendix D
Plan Development Sketches

OCTOBER WORKSHOP: INITIAL SCHEMES

East Campus

Core Campus

Alpine Village

North Campus

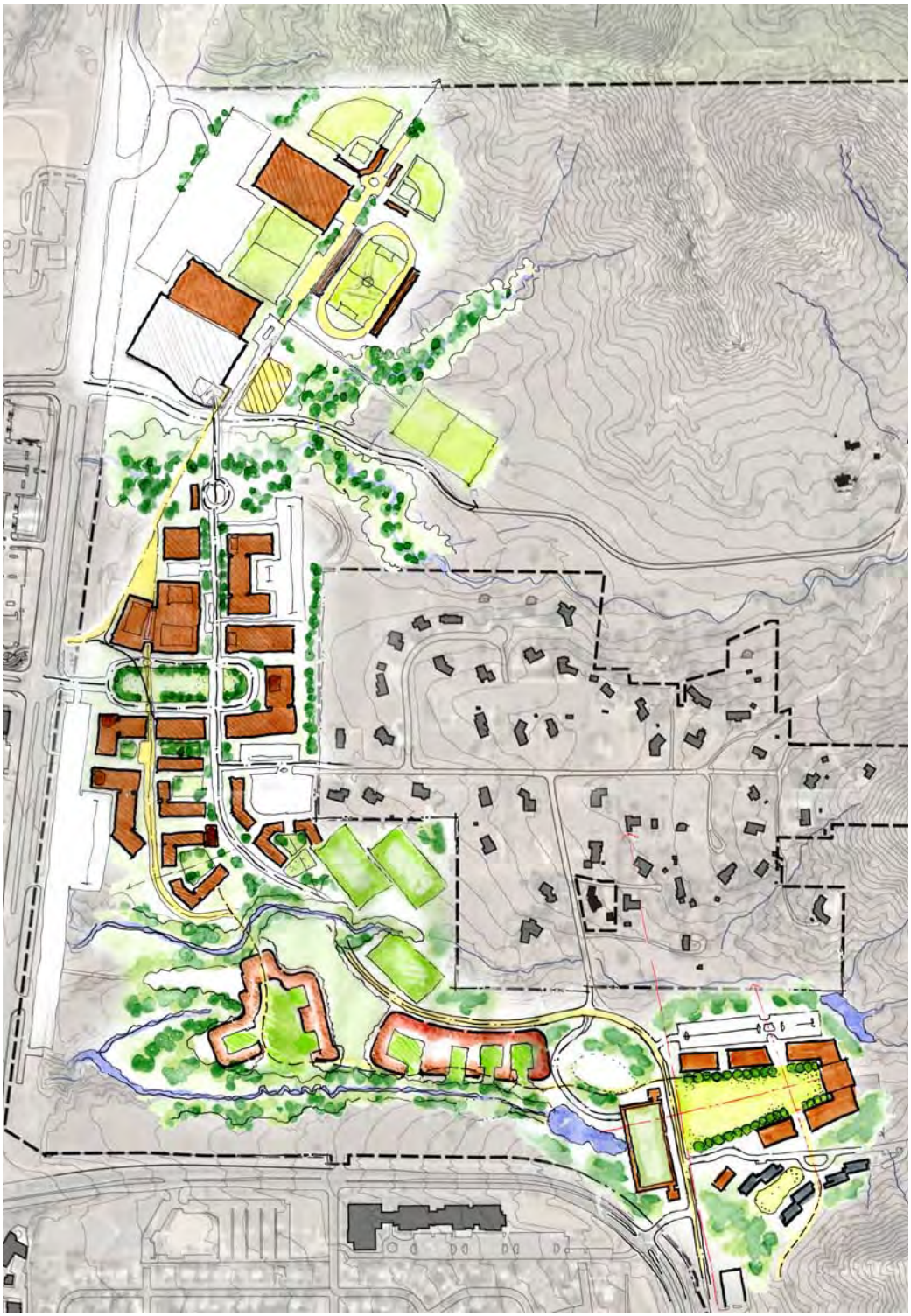
OCTOBER WORKSHOP: ON-CAMPUS SCHEMES

Athletics District

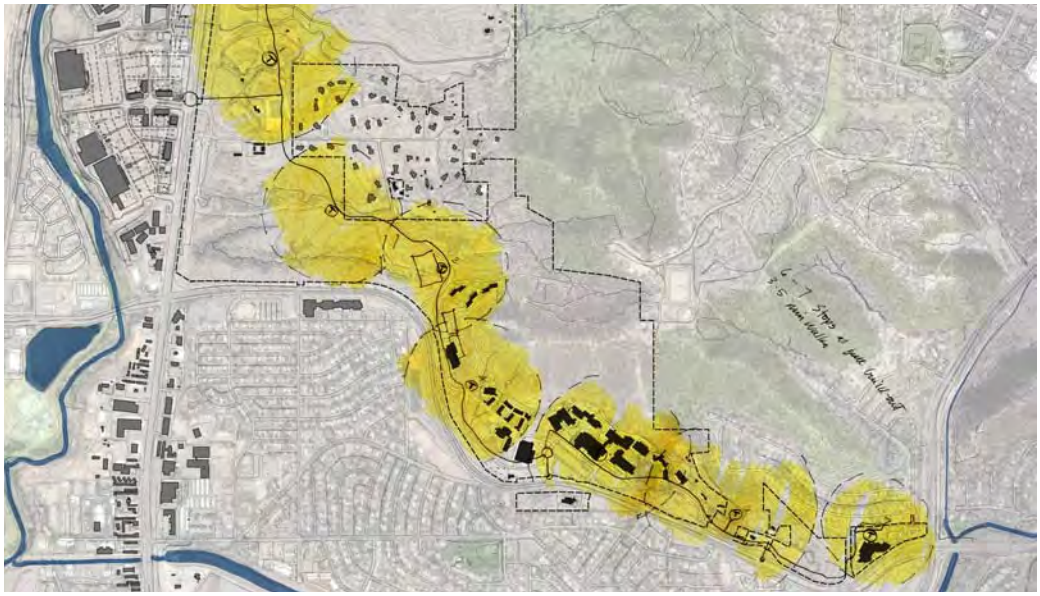
North Nevada District

Alpine Village and the Mesa

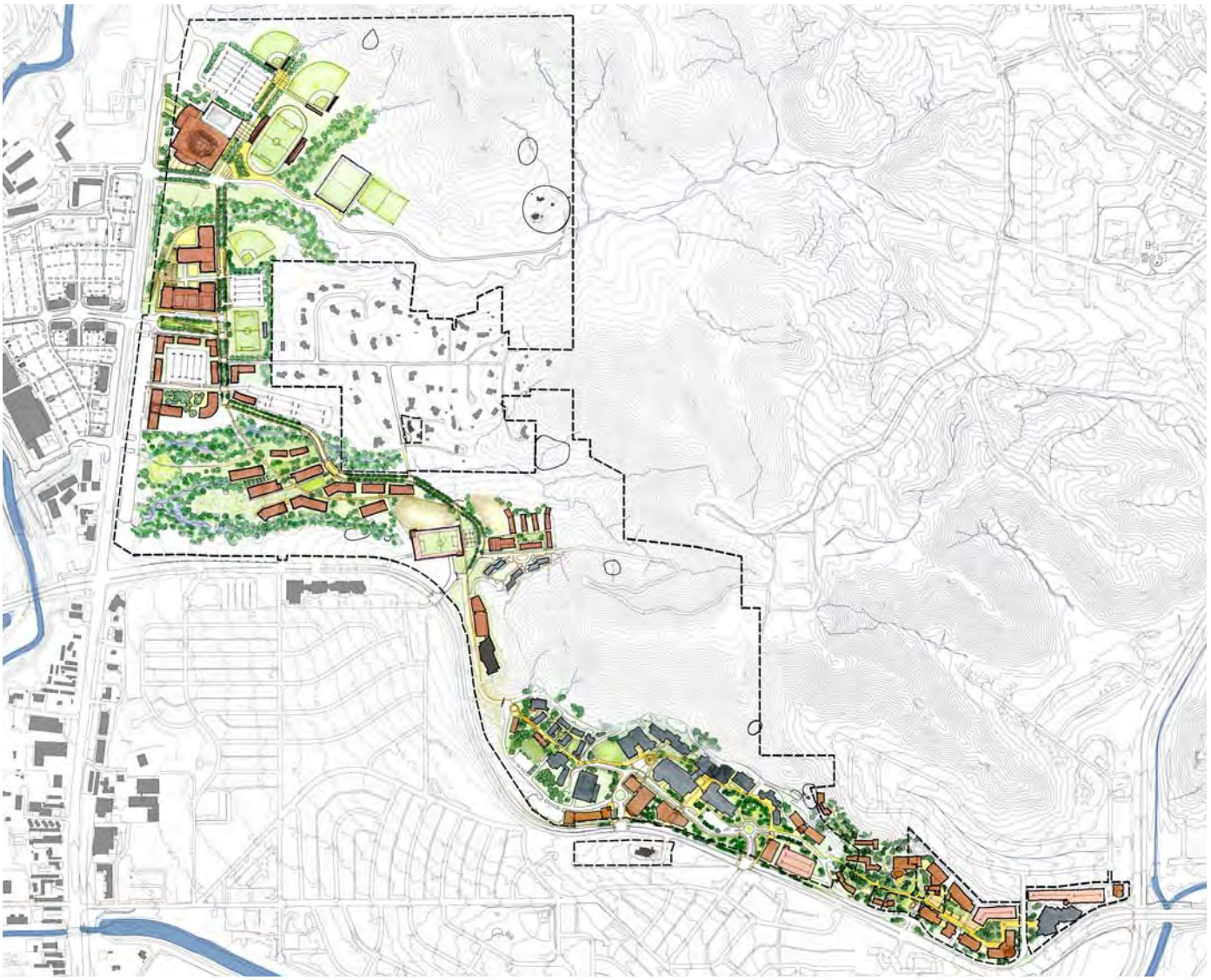
Preferred Plan



Campus-wide Transporation



DRAFT PLAN: DECEMBER



DRAFT PLAN: FEBRUARY WORKSHOP

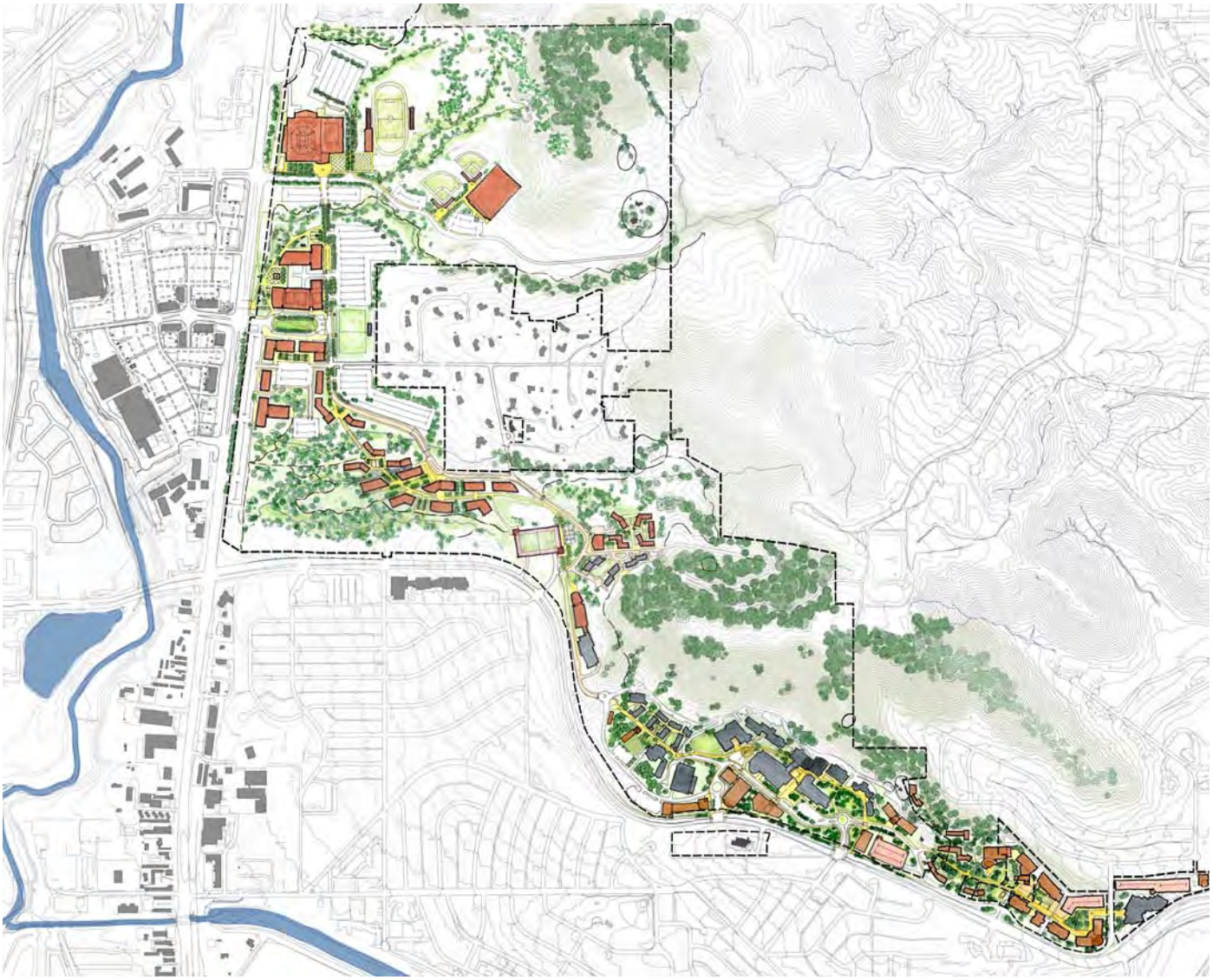
Athletics District

The Mesa

North Nevada District

Alpine Village

Draft Plan: February



Appendix E
Sanitary Sewer Phasing and Cost Evaluation

1. North Campus

a. Phase 1 Improvements:

1. Construct pipe segments N401, N402, & N403 before building J (Lane Center) is constructed, and connect to existing pipe segment N201. Construction Cost $50,000.00.

2. Construct N101 through N110 to serve buildings A & B on the Core Campus, and building DD on North Campus. Construction Cost $375,000.00.

3. Construct N201 through N203 to serve buildings C, X, Y, Z, AA, & BB. Section needs to be completed with N101 through N110 segments due to sanitary sewer rerouting around the parking garage (9). Construction Cost $70,000.00

b. Phase 2 Improvements

1. Construct N601, N602, & N603 to serve buildings C, D, E & F. tie into E305. Construction Cost $130,000.00.

2. Realign north collector to follow roadway. Construct N701 through N707 to serve stadium/ Natatorium (A) and field house (B). Connect to E402. Construction Cost $144,000.00.

c. Phase 3 Improvements

1. Connect building G & I to pipe segments N401 & N402, as constructed und phase 1. Upsize existing Sanitary Sewer Pipes E111, E112, E113 & E114. Construction Cost $122,000.00.

d. Full Build-out

1. Construct N501 through N503 to serve buildings H, K & L. tie into E303. Construction Cost $63,000.00.

2. Upsize pipe segments E107 through E110 to accept flows from N301 through N304. Cost $103,000.00.

3. Construct N301 through N304 with Pedestrian walkway to serve buildings M, N, O, P, Q, R, S, T, U, & V. Connect to E107. Construction Cost $90,000.00.

2. Core Campus:

a. Phase 1 Improvements: - None

b. Phase 2 Improvements – Option A (figure 2-2):

i. Construct N801 through N808 to serve buildings G, H, K, N, O, Q, & T. Connect to E401 on east edge of property. Cut and abandon pipe 701. Rerouting flows from northern buildings in area will allow Buildings F, J, L, & M to be connected to the existing sanitary sewer. Construction cost $225,000.00.

ii. Construct N 901 through N903 to serve building P, R, & S. Connect to E501 on south side of Austin Bluffs Parkway. Cost $87,000.00.

iii. Construct Lift station and forcemain east of and adjacent to building C. Route forcemain up to the end manhole of N101. Construct N1001 to serve buildings D & E. Flow will go to the North Campus South Collector. Cost $260,000.00.

iv. Option A total Cost Estimate: $572,000.00

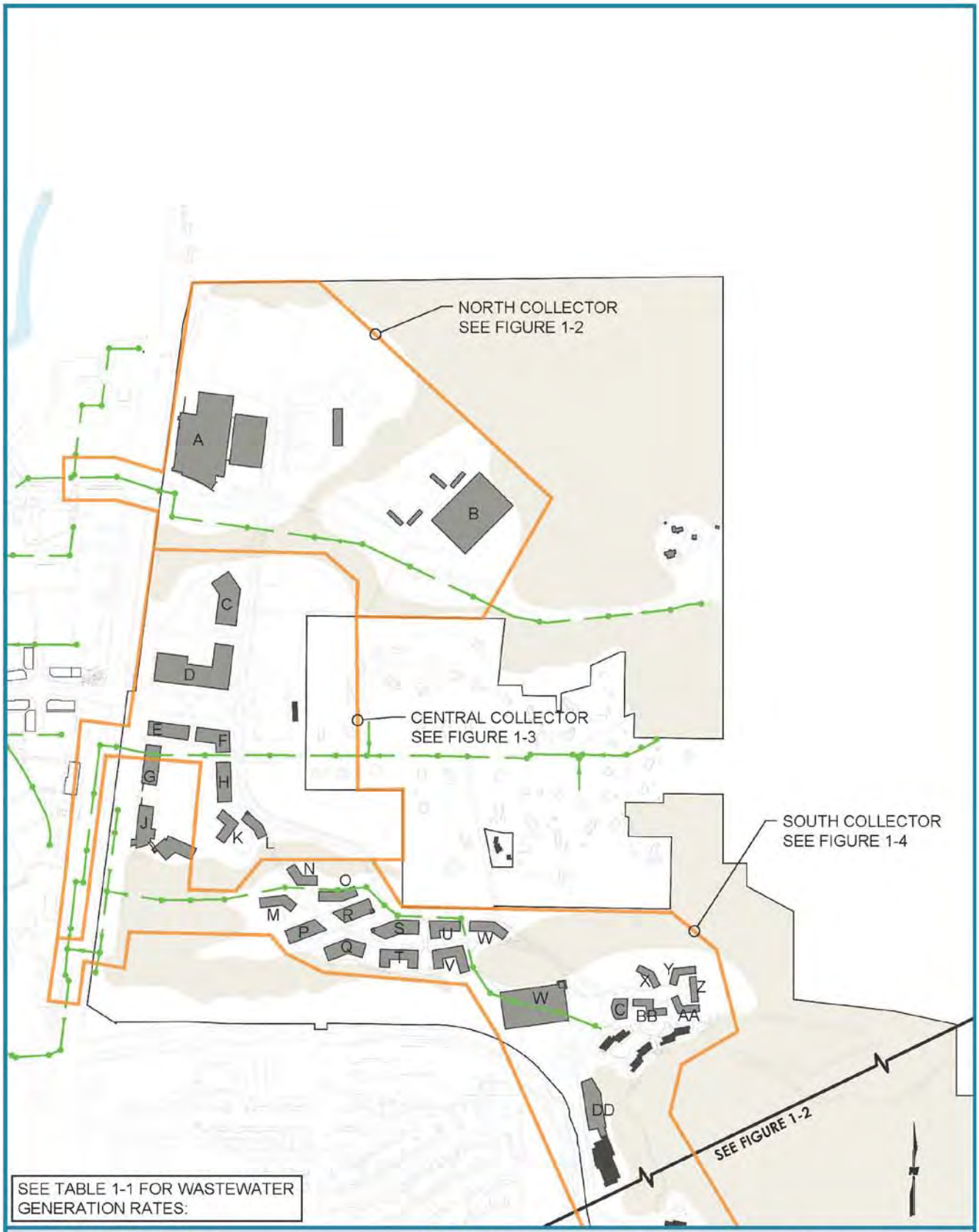
c. Phase 2 Improvements – Option B (figure 2-3):

i. Increase diameter of all necessary existing sanitary sewer pipes including branches E801 through E805 and downstream; E707 and downstream. Limits of increasing pipe diameter cannot be ascertained without reviewing hydraulic analysis of the existing system. Presumably, since the existing 8-inch is collecting wastewater from the neighborhood downstream of the campus, the total length of sanitary sewer to be increased is 7,230-feet. Using pipe bursting techniques to minimize the construction cost, the estimated cost at $125 per foot is: $925,000.00.

ii. Construct N801, N803 through N809, and N901 through N903 to serve buildings G, O, P, Q, R, and S. Connect to E501 on east edge of property. Construction cost $200,000.00.

iii. Option B total Cost Estimate: $835,000.00.

Note: All evaluation of existing sanitary sewer size and capacity is based upon available information. A comprehensive availability study in accordance with Colorado Springs Utility analysis requirements must be completed to verify downstream conditions and needs for improvements at the time of design.



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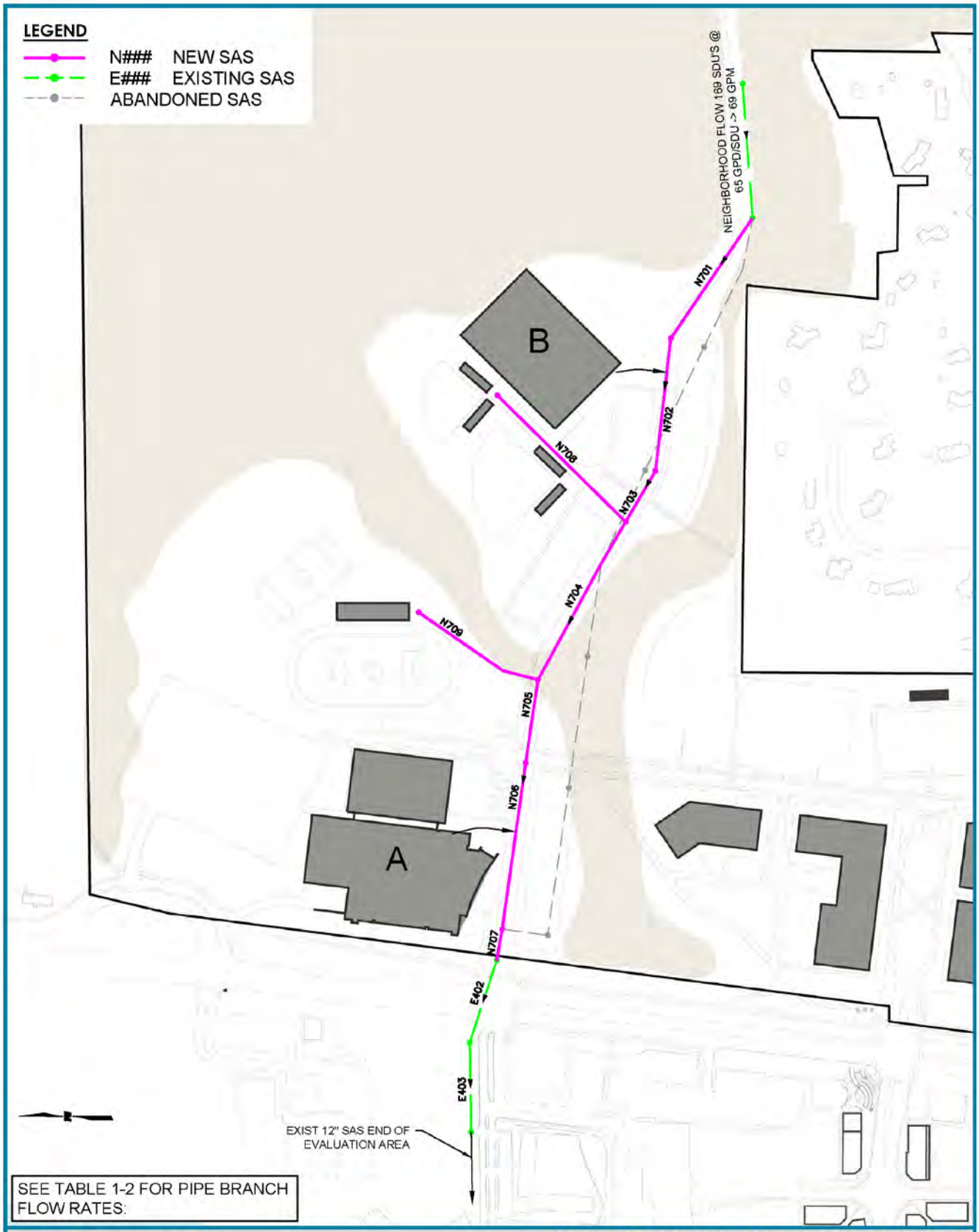
UCCS Master Plan - Sanitary Sewer Improvements
Wastewater Generation

Figure 1-1
North Campus Map
DATE: August 2012

University of Colorado - Colorado Springs
North Campus Wastewater Generation Flow Rate Calculations

BLDG ID	USE	FOOTPRINT	LEVELS	TOTAL AREA	SF PER AN OCCUPANT	CALC. OCCUPANTS	WASTEWATER GENERATION PER FACILITY	DAILY WASTEWATER FLOWS			
UNITLESS		GSF	EA.	GSF	SF/EA	EA.	GAL/PER/D	GPD	GPM	PEAKING FACTOR	Q_{PEAK} GPM
A	Stadium	132000	2	264000	-	5200	8	41,600	29	3	87
	Natatorium	64000	1	64000	25.5	2510	12	30,118	21	3	63
B	Fieldhouse	126000	1	126000	50	2520	30	75,600	53	3	158
C	Visual Arts	160000	2	160000	100	1600	16	25,600	18	3	53
D	Performing Arts	145000	2	145000	80	1809	16	28,940	20	3	60
E	Research	27000	4	108000	100	1080	16	17,280	12	3	36
F	Research	27000	4	108000	100	1080	16	17,280	12	3	36
G	Research	21600	4	86400	100	864	16	13,824	10	3	29
H	Research	37800	4	151200	100	1512	16	24,192	17	3	50
J	Research	23000	4	92000	100	920	16	14,720	10	3	31
K	Residential	13500	4	54000	-	129	125	16,125	11	3	34
L	Residential	10700	4	42800	-	102	125	12,750	9	3	27
M	Residential	12000	4	48000	-	11	125	1,375	1	3	3
N	Residential	10500	4	42000	-	100	125	12,500	9	3	26
O	Residential	11400	4	45600	-	109	125	13,625	9	3	28
P	Academic	20500	4	82000	100	820	16	13,120	9	3	27
Q	Academic	23000	4	92000	100	920	16	14,720	10	3	31
R	Academic	15400	4	61600	100	616	16	9,856	7	3	21
S	Academic	21300	4	85200	100	852	125	106,500	74	3	222
T	Residential	22000	4	88000	-	235	125	29,375	20	3	61
U	Residential	15500	4	62000	-	165	125	20,625	14	3	43
V	Residential	23000	4	92000	-	245	125	30,625	21	3	64
W	Residential	15500	4	62000	-	165	125	20,625	14	3	43
X	Residential	9000	4	36000	-	111	65	7,215	5	3	15
Y	Residential	10000	4	40000	-	123	65	7,995	6	3	17
Z	Residential	8000	4	32000	-	98	65	6,370	4	3	13
AA	Residential	10000	4	40000	-	121	65	7,865	5	3	16
BB	Residential	13800	4	55200	-	170	65	11,050	8	3	23
CC	Dining	14000	2	28000	15	1867	10	18,667	13	3	39
DD	Recreation	60000	3	180000	50	3600	30	108,000	75	3	225



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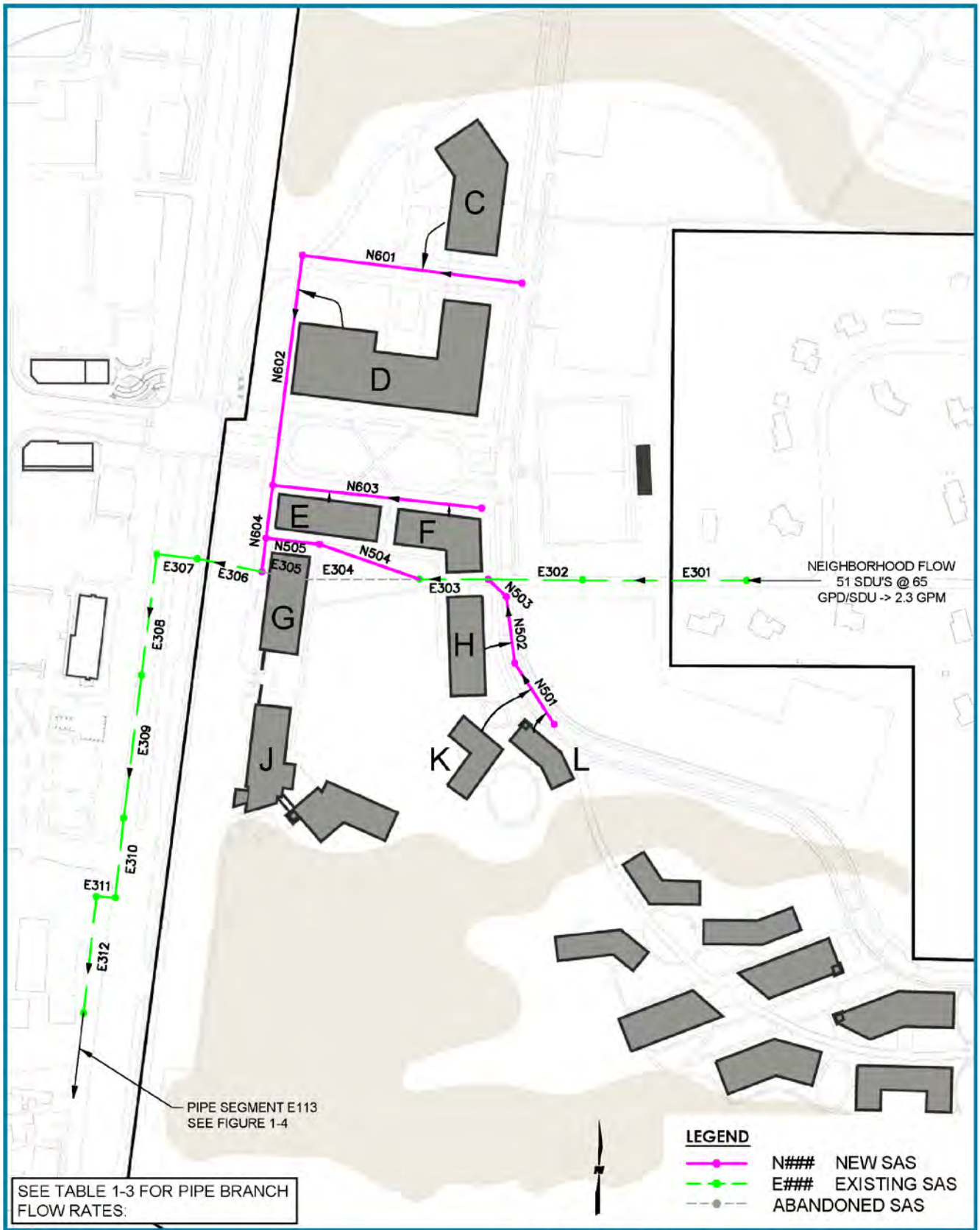
NORTH CAMPUS - NORTH COLLECTOR

Figure 1-2
North Campus Map
DATE: August 2012

Pipe Branch N700							
PIPE SEGMENT	SLOPE	DIA	FLOW IN	MAX CALC CAPACITY	% FULL	UPSTREAM SEGMENT	DOWNSTREAM SEGMENT
-	%	IN	GPM	GPM	-	-	-
N701	2.66	12	69	2801	2.46%	E401	N702
N702	2.66	12	227	2801	8.10%	N701	N703
N703	2.66	12	227	2801	8.10%	N702	N704
N704	2.66	12	237	2801	8.46%	N703	N705
N705	2.66	12	247	2801	8.82%	N704	N706
N706	2.66	12	397	2801	14.17%	N705	N707
N707	0.66	12	397	1395	28.46%	N706	E402
N708	0.66	8	10	472	2.10%	-	N704
N709	0.66	8	10	472	2.10%	-	N705
Pipe Branch E200 - Existing SAS							
PIPE SEGMENT	SLOPE	DIA	FLOW IN	MAX CALC CAPACITY	% FULL	UPSTREAM SEGMENT	DOWNSTREAM SEGMENT
-	%	IN	GPM	GPM	-	-	-
E401	0.66	12	69	1395	4.95%	-	N701
E402	0.66	12	397	1395	28.46%	N707	E403
E403	0.66	12	397	1395	28.46%	E402	-



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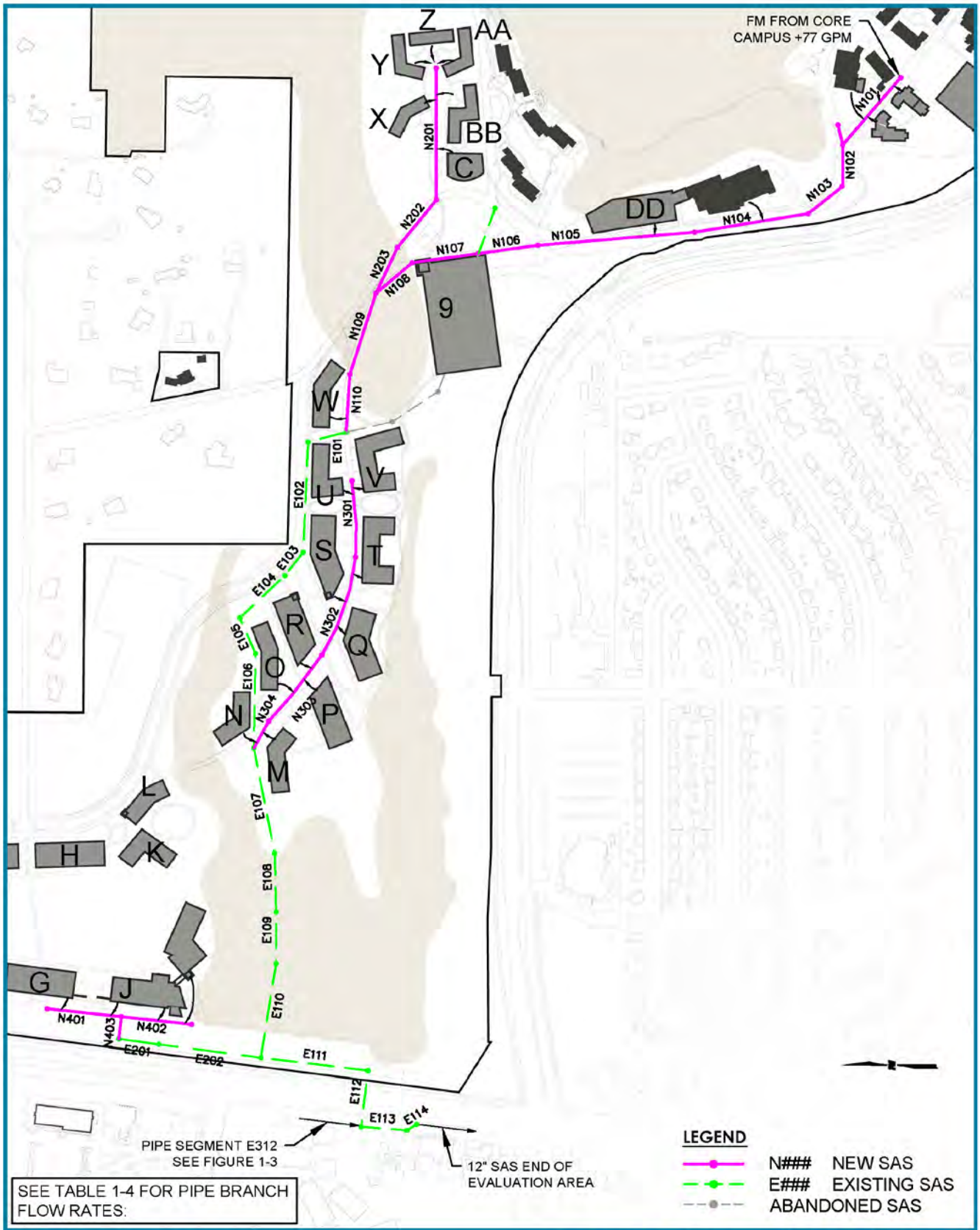
NORTH CAMPUS - CENTRAL COLLECTOR

Figure 1-3
North Campus Map
DATE: August 2012

Pipe Branch N500							
PIPE SEGMENT	SLOPE	DIA	FLOW IN	MAX CALC CAPACITY	% FULL	UPSTREAM SEGMENT	DOWNSTREAM SEGMENT
-	%	IN	GPM	GPM	-	-	-
N501	0.66	8	61	472	12.92%	-	N502
N502	0.66	8	61	472	12.92%	N501	N503
N503	0.66	8	61	472	12.92%	N502	E303
N504	2.66	8	78	948	8.23%	E303	N505
N505	0.66	8	78	472	16.53%	N504	N604
Pipe Branch N600							
PIPE SEGMENT	SLOPE	DIA	FLOW IN	MAX CALC CAPACITY	% FULL	UPSTREAM SEGMENT	DOWNSTREAM SEGMENT
-	%	IN	GPM	GPM	-	-	-
N601	2.66	8	53	948	5.59%	-	N602
N602	1.66	8	113	948	11.92%	N601	N603
N603	2.66	8	72	948	7.59%	N602	N604
N604	2.66	8	263	948	27.74%	N603	E306
Pipe Branch E300 - Existing SAS							
PIPE SEGMENT	SLOPE	DIA	FLOW IN	MAX CALC CAPACITY	% FULL	UPSTREAM SEGMENT	DOWNSTREAM SEGMENT
-	%	IN	GPM	GPM	-	-	-
E301	2.66	8	7	948	0.74%	#REF!	E302
E302	2.66	8	7	948	0.74%	E301	E303
E303	2.66	8	78	948	8.23%	E302	E304
E304	2.66	8	78	948	8.23%	E303	E305
E305	0.66	8	78	472	16.53%	E304	E306
E306	2.66	8	263	948	27.74%	E305	E307
E307	0.66	8	263	472	55.72%	E306	E308
E308	1.66	8	263	749	35.11%	E307	E309
E309	1.66	8	263	749	35.11%	E308	E310
E310	1.66	8	263	749	35.11%	E309	E311
E311	0.66	8	263	472	55.72%	E310	E312
E312	1.66	8	263	749	35.11%	E311	E113



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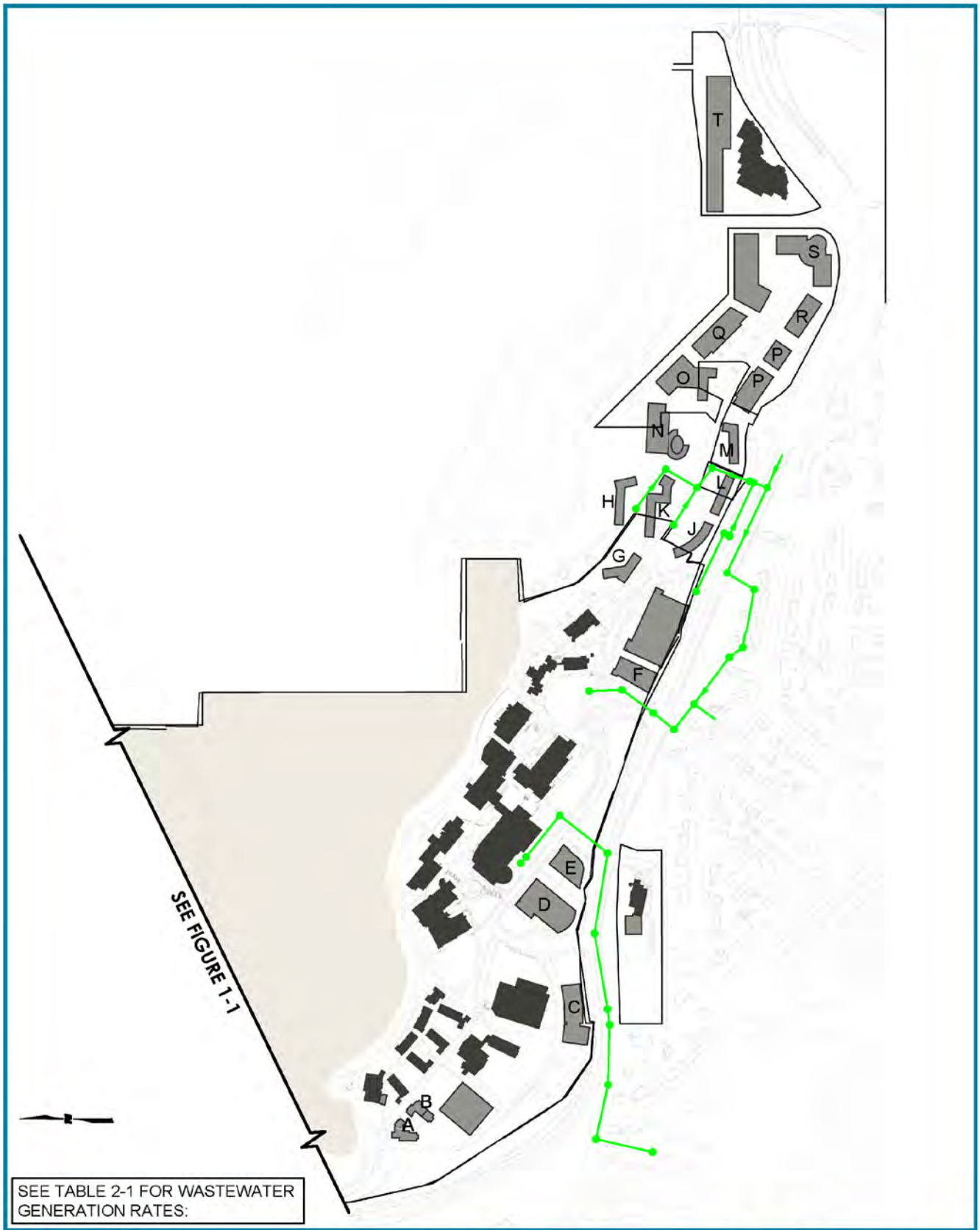
NORTH CAMPUS - SOUTH COLLECTOR

Figure 1-4
North Campus Map
DATE: August 2012

Pipe Branch N100							
PIPE SEGMENT	SLOPE	DIA	FLOW IN	MAX CALC CAPACITY	% FULL	UPSTREAM SEGMENT	DOWNSTREAM SEGMENT
-	%	IN	GPM	GPM	-	-	-
N101	0.66	8	103	472	21.82%	CORE FM	N102
N102	3.16	8	103	1034	9.96%	N101	N103
N103	0.66	8	103	472	21.82%	N102	N104
N104	0.66	8	103	472	21.82%	N103	N105
N105	0.66	8	328	472	69.49%	N104	N106
N106	1.66	8	328	749	43.79%	N105	N107
N107	0.66	10	385	875	44.00%	N106	N108
N108	0.66	10	385	857	44.92%	N107	N109
N109	3	8	565	1007	56.11%	N108	N110
N110	3.16	8	565	1034	54.64%	N109	E101
Pipe Branch N200							
PIPE SEGMENT	SLOPE	DIA	FLOW IN	MAX CALC CAPACITY	% FULL	UPSTREAM SEGMENT	DOWNSTREAM SEGMENT
-	%	IN	GPM	GPM	-	-	-
N201	2.66	8	180	948	18.99%	-	N202
N202	0.66	8	180	472	38.14%	N201	N203
N203	2.66	8	180	948	18.99%	N202	N109
Pipe Branch N300							
PIPE SEGMENT	SLOPE	DIA	FLOW IN	MAX CALC CAPACITY	% FULL	UPSTREAM SEGMENT	DOWNSTREAM SEGMENT
-	%	IN	GPM	GPM	-	-	-
N301	2.66	8	107	948	11.29%	-	N302
N302	2.66	8	227.4	948	23.99%	N301	N303
N303	2.66	8	275.4	948	29.05%	N302	N304
N304	2.66	8	278.4	948	29.37%	N303	E107
Pipe Branch N400							
PIPE SEGMENT	SLOPE	DIA	FLOW IN	MAX CALC CAPACITY	% FULL	UPSTREAM SEGMENT	DOWNSTREAM SEGMENT
-	%	IN	GPM	GPM	-	-	-
N401	2.66	8	29	948	3.06%	-	N402
N402	0.66	8	41	472	8.69%	N401	N403
N403	0.66	8	70	472	14.83%	N402	E201
Pipe Branch E100 - Existing SAS							
PIPE SEGMENT	SLOPE	DIA	FLOW IN	MAX CALC CAPACITY	% FULL	UPSTREAM SEGMENT	DOWNSTREAM SEGMENT
-	%	IN	GPM	GPM	-	-	-
E101	3.16	8	565	1034	54.64%	N110	E102
E102	3.16	8	565	1034	54.64%	E101	E103
E103	2.66	8	565	948	59.60%	E102	E104
E104	2.66	8	565	948	59.60%	E103	E105
E105	2.66	8	565	948	59.60%	E104	E106
E106	3.05	8	565	1015	55.67%	E105	E107
E107	2.66	10	888.4	1721	51.62%	E106	E108
E108	0.66	12	888.4	1395	63.68%	E107	E109
E109	2.66	10	888.4	1721	51.62%	E108	E110
E110	2.66	10	888.4	1721	51.62%	E109	E111
E111	0.66	12	958.4	1395	68.70%	E110	E112
E112	2.66	10	958.4	1721	55.69%	E111	E113
E113	1.21	12	1277.4	1889	67.62%	E112	E114
E114	1.21	12	1277.4	1889	67.62%	E113	12" SAS
Pipe Branch E200 - Existing SAS							
PIPE SEGMENT	SLOPE	DIA	FLOW IN	MAX CALC CAPACITY	% FULL	UPSTREAM SEGMENT	DOWNSTREAM SEGMENT
-	%	IN	GPM	GPM	-	-	-
E201	2.66	8	70	948	7.38%	N403	E202
E202	2.66	8	70	948	7.38%	E201	E111



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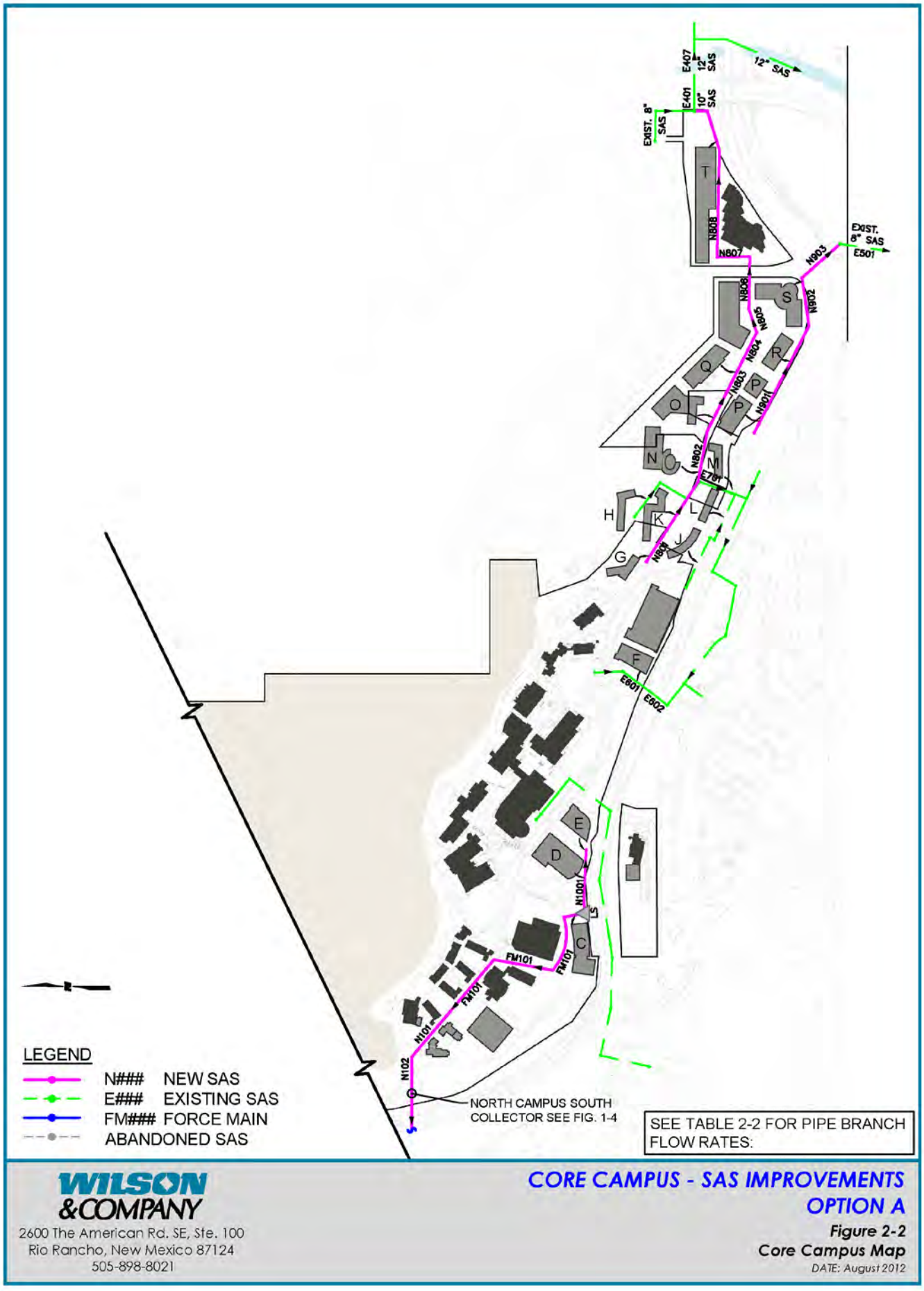
UCCS Master Plan - Sanitary Sewer Improvements
Wastewater Generation

Figure 2-1
Core Campus Map
DATE: August 2012

University of Colorado - Colorado Springs
Core Campus Wastewater Generation Flow Rate Calculations

BLDG ID	USE	FOOTPRINT	LEVELS	TOTAL AREA	SF PER AN OCCUPANT	CALC. OCCUPANTS	WASTEWATER GENERATION PER FACILITY	DAILY WASTEWATER FLOWS			
UNITLESS		GSF	EA.	GSF	SF/EA	EA.	GAL/PER/D	GPD	GPM	PEAKING FACTOR	Q_{PEAK} GPM
A	Residential		4	33,390	-	106	65	6,890	5	3	14
B	Residential		4	27,090	-	86	65	5,590	4	3	12
C	Academic Office	29,300	4	117,200	100	1172	16	18,752	13	3	39
D	Academic	38,800	2	77,600	100	776	16	12,416	9	3	26
E	Academic	18,300	2	36,600	100	366	16	5,856	4	3	12
F	Academic	15,000	4	60,000	100	600	16	9,600	7	3	20
G	Residential	11,000	5	55,000	-	169	65	10,985	8	3	23
H	Residential	12,000	4	48,000	-	148	65	9,620	7	3	20
J	Residential	10,700	4	42,800	-	132	65	8,580	6	3	18
K	Residential	15,700	4	62,800	-	193	65	12,545	9	3	26
L	Residential	9,000	4	36,000	-	111	65	7,215	5	3	15
M	Residential	10,100	4	40,400	-	124	65	8,060	6	3	17
N	Dining/Residential	35,000	2	70,000	15	1680	65	109,200	76	3	76
O	Academic	33,400	4	133,600	100	1336	16	21,376	15	3	45
P	Academic	22,000	4	88,000	100	880	16	14,080	10	3	29
P	Academic	10,000	4	40,000	100	400	16	6,400	4	3	13
Q	Academic	27,700	4	110,800	100	1108	16	17,728	12	3	37
R	Academic	17,500	4	70,000	100	700	16	11,200	8	3	23
S	Academic	39,000	4	156,000	100	1560	16	24,960	17	3	52
T	Academic	24,600	4	98,400	100	984	16	15,744	11	3	33



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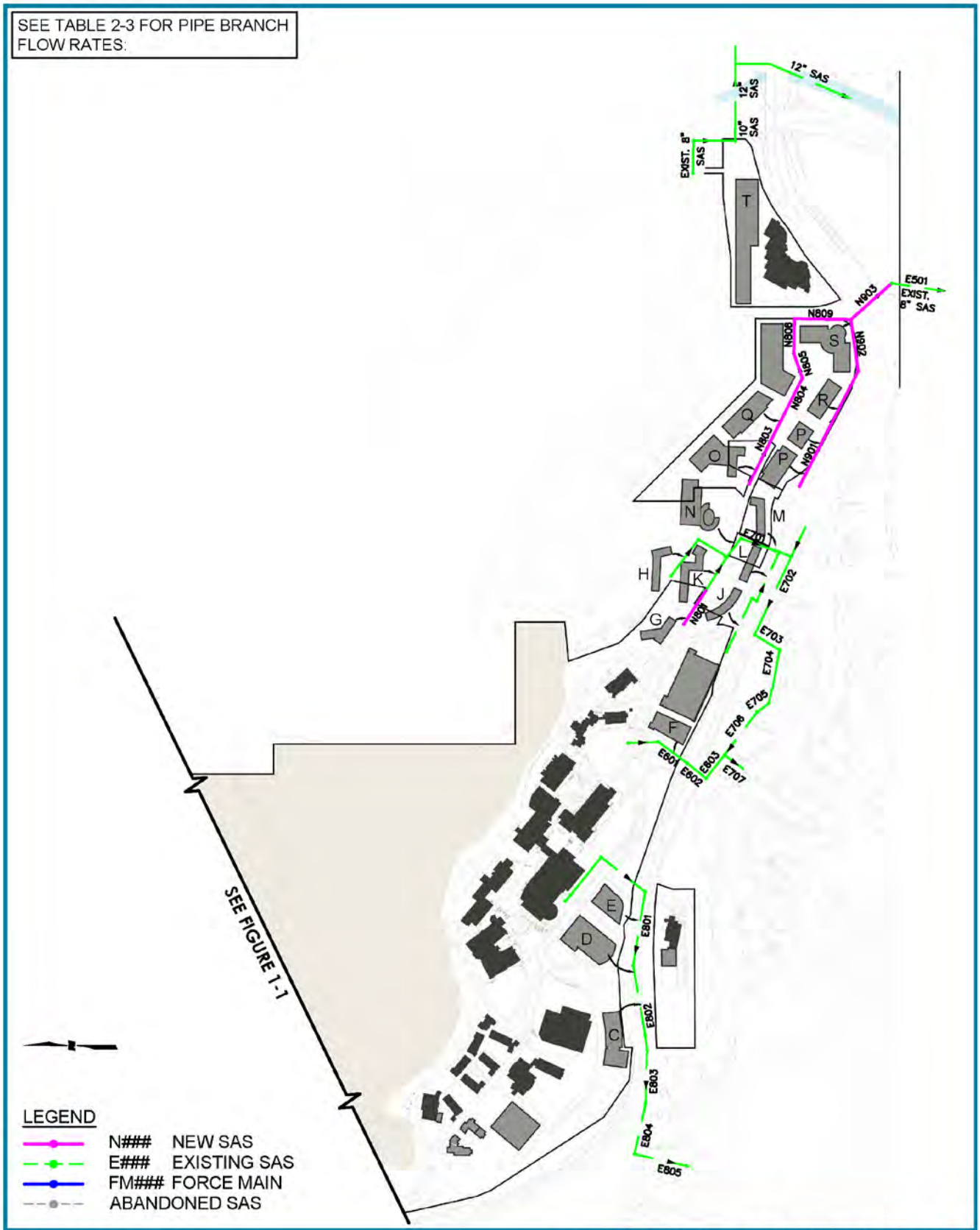
CORE CAMPUS - SAS IMPROVEMENTS
OPTION A
Figure 2-2
Core Campus Map
DATE: August 2012

Pipe Branch N800							
PIPE SEGMENT	SLOPE	DIA	NEW FLOW IN	MAX CALC CAPACITY	% FULL	UPSTREAM SEGMENT	DOWNSTREAM SEGMENT
-	%	IN	GPM	GPM	-	-	-
N801	3	8	69	1007	6.85%	-	N802
N802	0.66	8	145	472	30.72%	N801	N803
N803	0.8	8	190	520	36.54%	N802	N804
N804	3	8	227	1007	22.54%	N803	N805
N805	0.66	8	227	472	48.09%	N804	N806
N806	3	8	227	1007	22.54%	N805	N807
N807	0.66	8	227	472	48.09%	N806	N808
N808	1.66	8	260	749	34.71%	N807	EXIST 10" SAS
Pipe Branch N900							
PIPE SEGMENT	SLOPE	DIA	NEW FLOW IN	MAX CALC CAPACITY	% FULL	UPSTREAM SEGMENT	DOWNSTREAM SEGMENT
-	%	IN	GPM	GPM	-	-	-
N901	1.66	8	65	749	8.68%	-	N902
N902	1.66	8	117	749	15.62%	N901	N903
N903	1.66	8	117	749	15.62%	N902	EXIST 8" SAS
Pipe Branch N1000							
PIPE SEGMENT	SLOPE	DIA	NEW FLOW IN	MAX CALC CAPACITY	% FULL	UPSTREAM SEGMENT	DOWNSTREAM SEGMENT
-	%	IN	GPM	GPM	-	-	-
N1001	2.66	8	107	948	11.29%	-	FM TO N. CAMPUS
Pipe Branch E500 - Existing SAS							
PIPE SEGMENT	SLOPE	DIA	NEW FLOW IN	MAX CALC CAPACITY	% FULL	UPSTREAM SEGMENT	DOWNSTREAM SEGMENT
-	%	IN	GPM	GPM	-	-	-
E501	0.66	8	117	472	24.79%	-	EXIST 8" SAS
Pipe Branch E600 - Existing SAS							
PIPE SEGMENT	SLOPE	DIA	NEW FLOW IN	MAX CALC CAPACITY	% FULL	UPSTREAM SEGMENT	DOWNSTREAM SEGMENT
-	%	IN	GPM	GPM	-	-	-
E601	3.16	8	565	1034	54.64%	-	E602
E602	3.16	8	565	1034	54.64%	E601	EXIST 8" SAS
Pipe Branch E700 - Existing SAS							
PIPE SEGMENT	SLOPE	DIA	NEW FLOW IN	MAX CALC CAPACITY	% FULL	UPSTREAM SEGMENT	DOWNSTREAM SEGMENT
-	%	IN	GPM	GPM	-	-	-
E701	0.66	8	50	472	10.59%	-	EXIST 8" SAS



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CORE CAMPUS - SAS IMPROVEMENTS
OPTION B
Figure 2-3
Core Campus Map
DATE: August 2012

Pipe Branch N801							
PIPE SEGMENT	SLOPE	DIA	NEW FLOW IN	MAX CALC CAPACITY	% FULL	UPSTREAM SEGMENT	DOWNSTREAM SEGMENT
-	%	IN	GPM	GPM	-	-	-
N801	3	8	195	1007	19.36%	-	E701
Pipe Branch N803							
PIPE SEGMENT	SLOPE	DIA	NEW FLOW IN	MAX CALC CAPACITY	% FULL	UPSTREAM SEGMENT	DOWNSTREAM SEGMENT
-	%	IN	GPM	GPM	-	-	-
N803	0.8	8	45	520	8.65%	-	N804
N804	3	8	82	1007	8.14%	N803	N805
N805	0.66	8	82	472	17.37%	N804	N806
N806	3	8	82	1007	8.14%	N805	N809
N809	0.66	8	82	472	17.37%	N806	N903
Pipe Branch N900							
PIPE SEGMENT	SLOPE	DIA	EST FLOW IN	MAX CALC CAPACITY	% FULL	UPSTREAM SEGMENT	DOWNSTREAM SEGMENT
-	%	IN	GPM	GPM	-	-	-
N901	1.66	8	65	749	8.68%	-	N902
N902	1.66	8	117	749	15.62%	N901	N903
N903	1.66	8	199	749	26.57%	N902	EXIST 8" SAS
Pipe Branch E500 - Existing SAS							
PIPE SEGMENT	SLOPE	DIA	EST FLOW IN	MAX CALC CAPACITY	% FULL	UPSTREAM SEGMENT	DOWNSTREAM SEGMENT
-	%	IN	GPM	GPM	-	-	-
E501	0.66	8	117	472	24.79%	-	EXIST 8" SAS
Pipe Branch E600 - Existing SAS							
PIPE SEGMENT	SLOPE	DIA	EST FLOW IN	MAX CALC CAPACITY	% FULL	UPSTREAM SEGMENT	DOWNSTREAM SEGMENT
-	%	IN	GPM	GPM	-	-	-
E601	3.16	8	64	472	13.56%	EXIST CAMPUS	E602
E602	0.66	8	64	472	13.56%	E601	EXIST 8" SAS
E603	0.66	8	64	472	13.56%	E602	EXIST 8" SAS
Pipe Branch E700 - Existing SAS							
PIPE SEGMENT	SLOPE	DIA	EST FLOW IN	MAX CALC CAPACITY	% FULL	UPSTREAM SEGMENT	DOWNSTREAM SEGMENT
-	%	IN	GPM	GPM	-	-	-
E701	0.66	8	245	472	51.91%	N801	E702
E702	0.66	8	245	472	51.91%	E701	E703
E703	0.66	8	245	472	51.91%	E702	E704
E704	0.66	8	245	472	51.91%	E703	E705
E705	0.66	8	245	472	51.91%	E704	E706
E706	0.66	8	245	472	51.91%	E705	EXIST 8" SAS
E707	0.66	8	309	472	65.47%	E706	EXIST 8" SAS
Pipe Branch E800 - Existing SAS							
PIPE SEGMENT	SLOPE	DIA	EST FLOW IN	MAX CALC CAPACITY	% FULL	UPSTREAM SEGMENT	DOWNSTREAM SEGMENT
-	%	IN	GPM	GPM	-	-	-
E801	0.66	8	264	472	55.93%	EXIST CAMPUS	E702
E802	0.66	8	341	472	72.25%	E801	E703
E803	0.66	10	418	857	48.77%	E802	E704
E804	0.66	10	495	857	57.76%	E803	E705
E805	0.66	10	572	857	66.74%	E804	E706
E806	0.66	10	649	857	75.73%	E805	EXIST 8" SAS

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Appendix F
Water System Phasing and Cost Evaluation

General Analysis: Water system demands were determined for each building based upon the gross square footage, and building usage. These system demands were then compared to the fire flow requirement for each building. Fire flows were determined based upon the gross square footage, building construction type as defined in Chapter 6 of the International Building Code, and Table B105.1 - Minimum Required Fire-Flow and Flow Duration for Buildings of the International Building Code. Minimum required fire-flows were reduced by 50 percent under the assumption that all building will be equipped with an approved automatic sprinkler system.

Based upon comparison of the building demands for each loop to the minimum required fire flow, the minimum required fire-flow governed in selection of the pipe size. Storage requirements for flow duration of fire flow were not evaluated, and should be considered further in the hydraulic analysis and availability studies during design. Other improvements to the Colorado Springs Utility water distribution system may be necessary to provide sufficient flow to the University of Colorado Colorado Springs campus. These improvements would be identified during the hydraulic analysis and water availability studies during design.

A summary of recommended improvements are as follows:

1. North Campus

a. Phase 1 Improvements:

i. At the pedestrian spine a 14-inch waterline has been identified extending south along the pedestrian spine, around the new parking garage, and connecting to the existing infrastructure south of the existing recreation center (Building ID DD in Figure 3-1.) 3,430-ft 14-inch water main. Construction Cost: $370,440.00

b. Phase 2 Improvements

i. A 16-inch main has been identified extending from the intersection of North Nevada and North Campus Heights, east past the future Stadium. A 14-inch loop should then be extended south from the 16-inch road to connect with the 14-inch main constructed under phase 2 (see figure 3-1.) 800-ft of 16-inch water main, 2,580-ft of 14-inch water main. Construction Cost $365,000.00

ii. A 10-inch loop has been identified to serve buildings X, Y, Z, AA, BB, & CC. 1,200-ft. Construction Cost: $115,000.00

c. Phase 3 Improvements

i. No improvements have been identified on the North Campus in Phase 3. Hydraulic analysis and water availability studies during design will determine adequacy of supply and fire protection.

d. Phase 4 Improvements

i. A 12-inch has been identified to replace the existing 8-inch extending from North Nevada to the pedestrian spine (see figure 3-1.) 1,210-ft of 12-inch water main. Construction Cost: $160,200.00

ii. A 14-inch main has been identified to extend east along North Campus Heights past the Field House where it will connect to the existing system. 1,588-ft. Construction Cost: $170,000.00

2. Core Campus:

a. Phase 1 Improvements:

i. No improvements have been identified on the Core Campus in Phase 1. Hydraulic analysis and water availability studies during design will determine adequacy of supply and fire protection.

b. Phase 2 Improvements:

i. A 12-inch loop has been identified extending east as shown in figure 4-1 to serve buildings N, O, P, Q, R, & S. this loop should connect to the existing system at Austin Bluffs Parkway and Cragwood Road. 3,040-ft of 12-inch water main. Construction Cost: $292,000.00

c. Phase 3 Improvements:

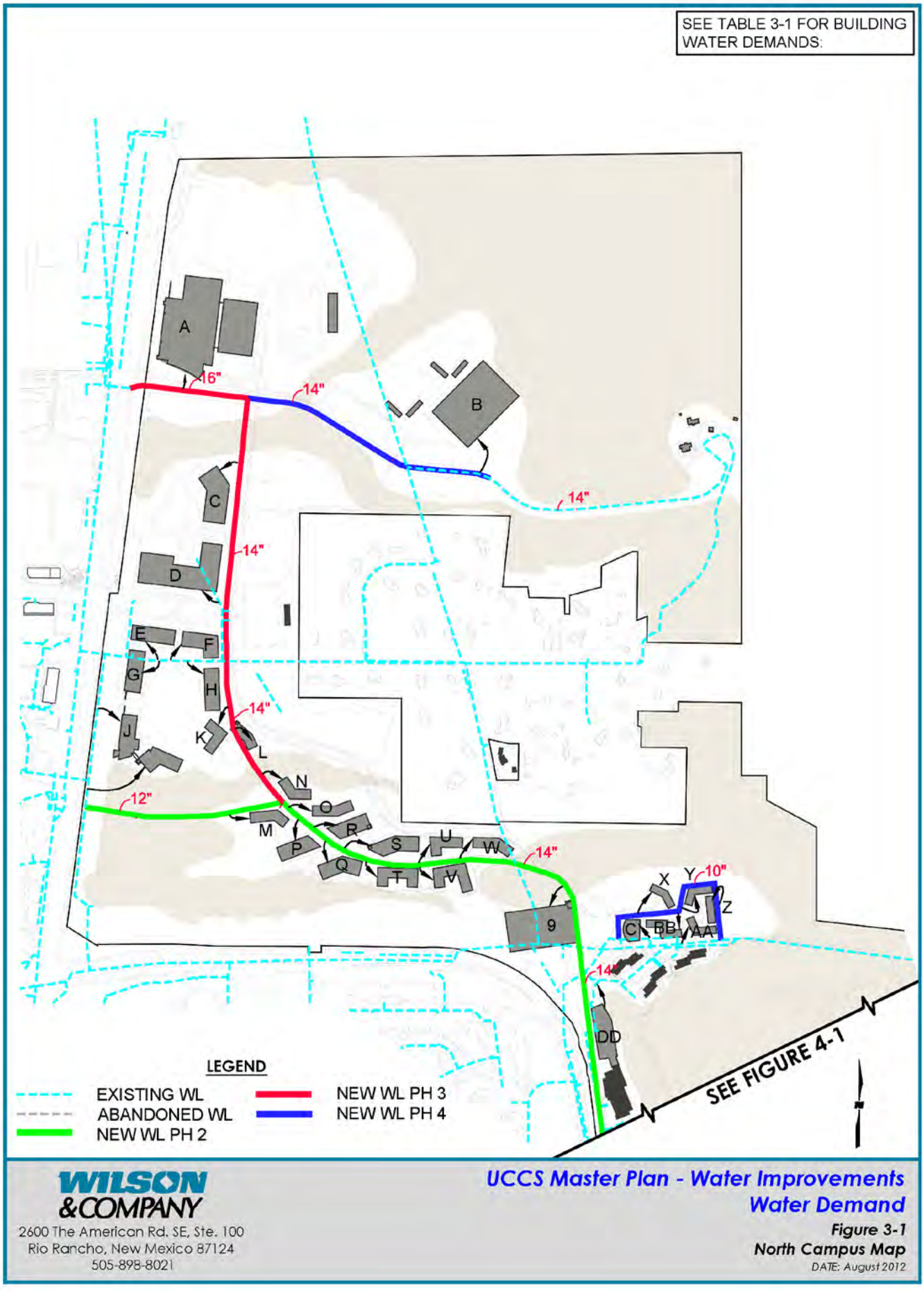
i. No improvements have been identified on the Core Campus in Phase 3. Hydraulic analysis and water availability studies during design will determine adequacy of supply and fire protection.

d. Phase 4 Improvements:

i. A 12-inch loop has been identified to serve buildings F, G, H, K, L, & M. connecting to the system at Austin Bluffs Parkway & Meadow Lane. and extending southeast along the transit spine to the next roadway access off of Austin Bluffs Parkway. A secondary loop has been identified around the north side of Buildings G & J (see figure 4-1). 3,660-ft if 12-inch water main. Construction Cost: $352.000.00

ii. A 12-inch loop has been identified extending from Meadow Lane east along the transit spine past building D, then southeast past building C to connect to the existing system in Austin Bluffs Parkway (see figure 4-1) 2,840-feet of 12-inch water main. Construction Cost: $275,000.00

Note: All evaluation of existing sanitary sewer size and capacity is based upon available information. A comprehensive availability study in accordance with Colorado Springs Utility analysis requirements must be completed to verify downstream conditions and needs for improvements at the time of design.



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UCCS Master Plan - Water Improvements
Water Demand
Figure 3-1
North Campus Map
DATE: August 2012

University of Colorado - Colorado Springs
North Campus Building Water Demands

BLDG ID	USE	FOOTPRINT	LEVELS	TOTAL AREA	DAILY WASTEWATER FLOWS	DAILY WATER USE		FIRE FLOW REQUREMENT
		GSF	EA.	GSF	Q_{PEAK} GPM	ASSUMED % CONSUMPTIVE USE	ASSUMED WATER DEMAND (GPM)	TYPE IIIA - SPRINKLED (GPM)
A	Stadium	132,000	2	264,000	87	30%	124	3000
	Natatorium	64,000	1	64,000	63	40%	105	1875
B	Fieldhouse	126,000	1	126,000	158	20%	197	2500
C	Visual Arts	160,000	2	160,000	53	20%	67	2875
D	Performing Arts	145,000	2	145,000	60	20%	75	2750
E	Research	27,000	4	108,000	36	20%	45	2375
F	Research	27,000	4	108,000	36	20%	45	2375
G	Research	21,600	4	86,400	29	20%	36	2125
H	Research	37,800	4	151,200	50	20%	63	2750
J	Research	23,000	4	92,000	31	20%	38	2125
K	Residential	13,500	4	54,000	34	30%	48	1625
L	Residential	10,700	4	42,800	27	30%	38	1500
M	Residential	12,000	4	48,000	3	30%	4	1625
N	Residential	10,500	4	42,000	26	30%	37	1500
O	Residential	11,400	4	45,600	28	30%	41	1500
P	Academic	20,500	4	82,000	27	20%	34	2000
Q	Academic	23,000	4	92,000	31	20%	38	2125
R	Academic	15,400	4	61,600	21	20%	26	1750
S	Academic	21,300	4	85,200	222	30%	317	2125
T	Residential	22,000	4	88,000	61	30%	87	2125
U	Residential	15,500	4	62,000	43	30%	61	1750
V	Residential	23,000	4	92,000	64	30%	91	2125
W	Residential	15,500	4	62,000	43	30%	61	1750
X	Residential	9,000	4	36,000	15	30%	21	1375
Y	Residential	10,000	4	40,000	17	30%	24	1500
Z	Residential	8,000	4	32,000	13	30%	19	1250
AA	Residential	10,000	4	40,000	16	30%	23	1500
BB	Residential	13,800	4	55,200	23	30%	33	1750
CC	Dining	14,000	2	28,000	39	50%	78	1250
DD	Recreation	60,000	3	180,000	225	30%	321	3000

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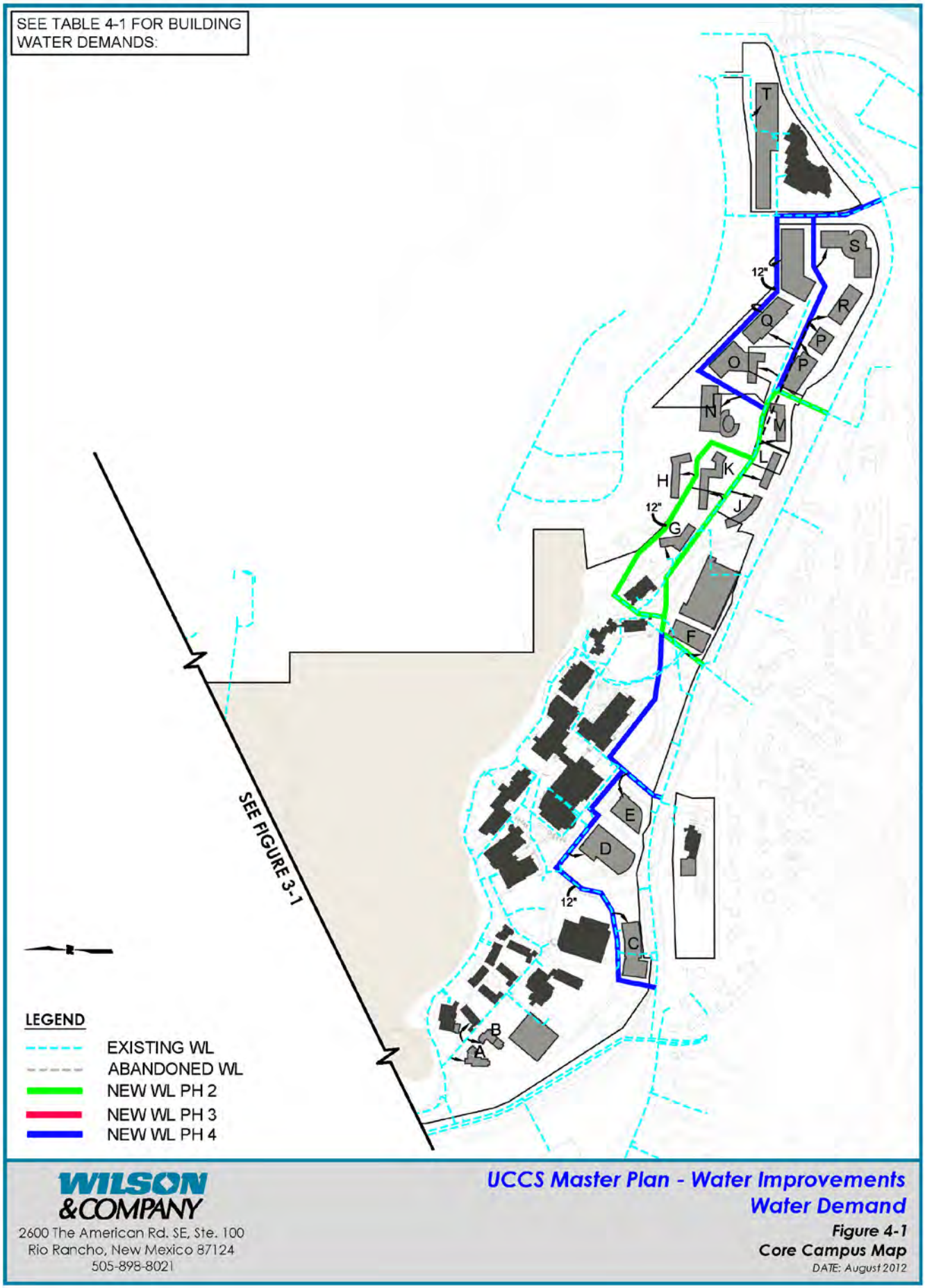

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UCCS Master Plan - Water Improvements
Water Demand
Figure 4-1
Core Campus Map
DATE: August 2012

University of Colorado - Colorado Springs
Core Campus Building Water Demands

BLDG ID	USE	FOOTPRINT	LEVELS	TOTAL AREA	DAILY WASTEWATER FLOWS	DAILY WATER DEMAND		FIRE FLOW REQUREMENT
		GSF	EA.	GSF	Q_{PEAK} GPM	ASSUMED % CONSUMPTIVE USE	ASSUMED WATER DEMAND (GPM)	TYPE IIIA - SPRINKLED (GPM)
A	Residential	8,348	4	33,390	14	30%	21	1000
B	Residential	6,773	4	27,090	12	30%	17	875
C	Academic Office	29,300	4	117,200	39	20%	49	2500
D	Academic	38,800	2	77,600	26	20%	32	2000
E	Academic	18,300	2	36,600	12	20%	15	1500
F	Academic	15,000	4	60,000	20	20%	25	1875
G	Residential	11,000	5	55,000	23	30%	33	1750
H	Residential	12,000	4	48,000	20	30%	29	1625
J	Residential	10,700	4	42,800	18	30%	26	1500
K	Residential	15,700	4	62,800	26	30%	37	1750
L	Residential	9,000	4	36,000	15	30%	21	1375
M	Residential	10,100	4	40,400	17	30%	24	1500
N	Dining/Residential	35,000	2	70,000	76	40%	126	1875
O	Academic	33,400	4	133,600	45	20%	56	2625
P	Academic	22,000	4	88,000	29	20%	37	2125
P	Academic	10,000	4	40,000	13	20%	17	1500
Q	Academic	27,700	4	110,800	37	20%	46	2375
R	Academic	17,500	4	70,000	23	20%	29	1875
S	Academic	39,000	4	156,000	52	20%	65	2875
T	Academic	24,600	4	98,400	33	20%	41	2250

Appendix G
MEP Master Planning

I. Introduction

This section will discuss the electrical and gas distribution needed to provide working facilities for the future expansion of the university. The current methods of distribution will be discussed, followed by recommended future approaches.

II. Current South Campus Electrical and Gas

Colorado Springs Utilities currently provides electricity and gas to each building. The existing buildings on the UCCS campus are fed from utility-owned transformers with each building metered separately. Colorado Springs Utilities maintains the transformers and service to the transformers. The university is responsible for the electrical service from the meter. The electrical distribution is routed underground from the meter to each building.

Gas lines are utility-owned and maintained to the gas meter for each building. The university maintains the line from the meter. Each building has individual HVAC units with no central plant for the campus.

III. Future Approach

We have had a meeting with a Colorado Springs Utilities representative, Doug Anderson (719-668-3587), and additional meetings are recommended to discuss expansion in more detail.

The future buildings' electrical service on the South Campus and North Campus should be kept consistent with the use of utility-owned transformers. Each building should have its own meter.

We recommend creating a utility corridor through campus. The corridor could run along the same path as the roadway, but not under the roadway. An easement would need to be established for the corridor because the services would be utility-owned. Gas, electric, and telecommunications should all be routed in the utility corridor. The electrical distribution should be in a concrete encased duct bank. A 4-inch telecommunication conduit could be installed on top of the concrete duct bank according to Colorado Springs Utilities' standards. We recommend concrete encasing the telecommunication conduit, so the conduit has a longer life and less maintenance. A shared telecommunication and power concrete duct bank currently costs approximately $65 per linear foot. The corridor would be between one mile and one and a half miles long. Manholes should be installed at least every 500 feet with separate manholes for power and telecommunication.

If it is decided to have separate duct banks for power and telecommunications, we recommend an underground duct backbone conduit system to allow installation of university owned fiber optic cable. Concrete encasing the conduit would provide a longer life and less maintenance. A concrete encased duct bank for a telecommunication backbone currently costs approximately $35 per linear foot.

The electrical rate structure varies by time of day and season. Colorado Springs Utilities offers incentive programs for reducing electrical load during peak time. We recommend installing submeters for the high load applications, such as lighting, HVAC, and computer labs, so it is possible to participate in load shedding methods for reduced electrical peak rates.

Based on phasing plans and associated funding constraints the infrastructure cost of a central steam plant to supply the HVAC equipment for the campus appears to be prohibitive at this time. We recommend using individual HVAC units for each building. The utility-owned gas lines should be located in the recommended utility corridor to run to the buildings throughout the campus. Each building should be metered separately.

Colorado Springs Utilities offers incentive programs for renewable energy generation. A cost benefit analysis should be calculated to determine if adding renewable energy has a short enough payback period to pursue.

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University of Colorado
Colorado Springs

1420 Austin Bluffs Pkwy
Colorado Springs, CO 80918
www.uccs.edu