Comprehensive Campus Master Plan
University of Nevada, Reno

Apprpoved by the University and Community College System of Nevada Board of Regents
December 2004

The University of Nevada, Reno Comprehensive Campus Master Plan culminates a two-year effort to define a vision for the future of our campus as it continues to grow in response to the needs of the State of Nevada. As the historic flagship and land-grant institution in Nevada, the university has an obligation to be responsive to societal need, innovative in our approach to higher education, and a critical source of new ideas, scholarship, research, and creative activity through the efforts of our community of scholars.

This plan embodies all those responsibilities. It is responsive to our projections of tremendous enrollment and program growth over the next 25 years. In order to accommodate the educational needs of our students of the future, the university must begin anticipating its physical needs now. It does so by acknowledging our responsibility as global citizens to incorporate sustainability and environmentally-friendly practices wherever possible.

The plan also addresses anticipated changes in teaching and learning through its incorporation of appropriate information technologies, its promotion of informal learning spaces, and its artful juxtaposition of academic and residential spaces. Students learn much from their environment and the master plan emphasizes the entire campus as a collective classroom.

Finally, the important role of scholarship and research is highlighted in the plan through the incorporation of expanded facilities for research in the sciences and engineering, the centralized location of the new Knowledge Center, the development of a health sciences campus, and the growth of an agricultural sciences district.

I hope that all who study this plan will participate in making it a reality, whether through active participation in ongoing planning efforts at the university, through an investment in the future of our institution, or merely through an appreciation of all the things that make ours a distinctively beautiful campus.

Sincerely,

John Lilley
President

John H. Frederick
Executive Vice-President and Provost
Chair, Campus Master Planning Committee

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APPENDIX

Bound Separately

Purpose and Process

1

The Nevada Master Plan builds a vision for campus growth by establishing goals and directions for the university's future. The plan serves to enhance the university's identity, tying it to its educational and research mission, and the natural, cultural, and ecological features that make Nevada unique among institutions of higher education.

PURPOSE

The Comprehensive Master Plan for the University of Nevada, Reno (Nevada Master Plan) marks a threshold for both the university and the City of Reno. Just as the city is strategically investing in its downtown, setting the stage for the city's future, so too is the university. The master plan sets a bold and creative vision for the university.

The master plan establishes the goals and the foundation for bringing the institution to a higher level, making it a major university for the new millennium. Among these goals is to expand the campus in preparation for a projected 43% enrollment growth over the next ten years. Conservative estimates indicate that enrollment could possibly double in twenty-five years.

Establishing a vision for campus growth and enhancement, the master plan increases Nevadans' access to the institution's resources and strengthens the institution's identity and image.

PLAN SUMMARY

The university's master plan projects a campus of 30,000 students, equivalent in size, resources, and stature to nationally-recognized state land grant institutions. To accommodate this growth, the university plans to increase its influence from its present 290 acres to an expanded campus that includes the majority of the land bounded by North Sierra Street, Interstate 80, Sutro Street, and North McCarran Boulevard.

Consistent with the goals and academic mission of the university, the master plan envisions an enlarged academic core, building on the character of the university's historic center and encompassing four compact, academic districts. It calls for improved recreational facilities, an expanded health sciences district, and residential enclaves. Supported by a comprehensive shuttle service, a network of pedestrian-oriented open spaces and pathways integrates all areas of the campus and connects to a proposed mixed-use development between downtown and Interstate 80.

As the basis for the “University Regional Center Plan” to be prepared by the city, the master plan includes an implementation strategy approved by both the University and Community College System of Nevada and the City of Reno.

L E G E N D

Existing Campus Boundary

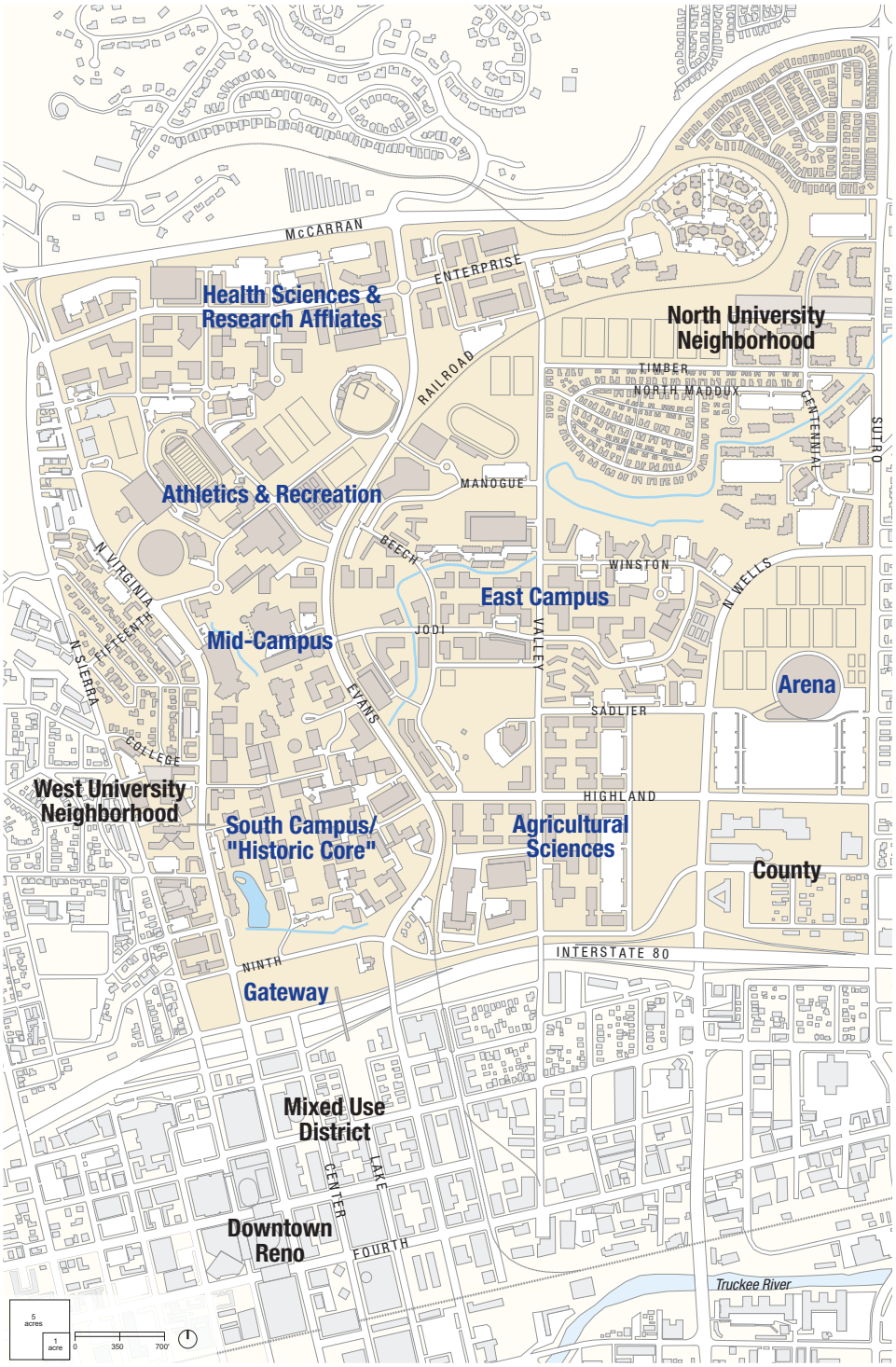
Campus Planning Area / University Regional Center Boundary

1-1 Campus Boundary and the Regional Center Plan

The master plan addresses the 860-acre area bounded by North Sierra Street on the west, Interstate 80 on the south, Sutro Street on the east, and North McCarran Boulevard on the north. The boundary is coterminous with the "University Regional Center Plan" boundary, a city planning district designated for higher density, transit-oriented development. The plan boundary outlines a region of cooperative planning and partnership between the university and the City of Reno.

1-2 Place Names - Horizon 3

The master plan uses these "place names" as points of reference.



L E G E N D

University Regional Center Boundary

1-3 Historic Campus View

The campus has grown significantly since the 1930s.

HISTORY AND IDENTITY

Founded in 1874 in Elko, the University of Nevada was established as a Land Grant University. The Morrill Land Grant Act of 1862 offered states acreage in support of agricultural and mechanical arts instruction. For much of its 130-year history, the university served as Nevada's only state-supported institution of higher learning. Moved to Reno in 1885, the university modeled its master plan to reflect the principles of Thomas Jefferson's plan for the University of Virginia.

This resulted in the campus's first quadrangle surrounded by academic buildings of which one side was paralleled by student residences. This master plan guided the campus's growth up to 1941. During this period, the personal and financial contributions of Clarence Hungerford Mackay greatly influenced the campus's physical development. The campus architecture reflects a variety of styles and the work of many influential architects, including Frederick DeLongchamps of Reno, Robert Farquhar of Los Angeles, and William S. Richardson of McKim, Mead, and White, New York.

Added in 1987 to the National Register of Historic Places, the campus's historic district includes the original quadrangle reaching west to North Virginia Street and south to East 9th Street. The 40-acre area incorporates 13 contributing and five non-contributing buildings as well as two built landscape features.

The University of Nevada offers a wide range of undergraduate and graduate programs, selected doctoral programs, and professional studies, emphasizing programs and activities that best serve the needs of the state, region, and nation. It encourages and supports faculty research that benefits the State of Nevada and the nation.

1-4 Master Plan Web Site

The master plan web site allowed open access to the master planning process.

Several special studies informed the planning process. These studies included a comparative physical scale analysis of the university to comparable institutions as well as an in-depth study of mixed-use developments adjacent to universities.

PLAN APPROACH AND PROCESS

The project took place over a 12 month period that included six work sessions with representative committees and the university community, including faculty, staff, students, the administration, and campus neighbors. Each work session built upon feedback, comment, and direction gained during the prior sessions. In sequence, the work sessions focused on the following topics:

- Master plan goals, issues, concepts
- Analysis and preliminary concepts
- 1st Round of master plan alternatives
- 2nd Round of master plan alternatives and selection of a preferred alternative
- Preferred alternative
- Draft report

The process included an extensive programming process and analysis of existing physical conditions. Also, to extend the university's outreach, the process included a master plan web site that provided access to in-progress documents and a means of feedback.

Final products include this report and its appendices, in both hard copy and electronic form. A copy is available for loan at the university library. Additionally, the City of Reno will use this master plan to develop a regulatory document, the “University Regional Center Plan.”

Goals Program & Planning Factors

2

GOALS
PROGRAM DEMAND
PARKING DEMAND
PLANNING FACTORS
SUSTAINABILITY

The master plan responds to goals relating to the long-term vision and direction for the university, programmatic projections, and site characteristics and constraints.

GOALS

Based on the university's strategic mission and work sessions with university community members, the goals for the Nevada Master Plan express the ultimate aims and desires for the university and its campus.

Reach Forward

Create an inspired, flexible campus master plan that supports the university's mission of teaching, research, and community service and is responsive to future demands, needs, and opportunities.

Establish a Welcoming Image

Enhance the character and provide visitor amenities along the campus boundary, incorporating landscape enhancements, identity signage, directional and information signage, and parking access. Strive for exceptional site design and architecture.

Build Upon the Historic Character of the Campus

Draw upon the historic character of the original campus, including building scale and orientation and open space scale and character, to inspire and inform the design of new improvements.

Foster a Collegial Atmosphere

Foster a vibrant and safe campus life. Strategically locate uses and campus amenities that afford social and educational interaction, provide a mix of residential and academic uses in the campus core, and expand the range of undergraduate and graduate housing opportunities.

Encourage Pedestrian Activity and Transit Use

Create a pedestrian-friendly campus by concentrating and clustering land uses and providing open space amenities. Encourage the use of transit to access the campus and discourage reliance on single occupancy vehicles through design and policy.

Embrace Sustainable Practices

Encourage stewardship of the campus lands with sustainable practices in building planning and design, open space planning and design, and resource use, including lower energy and water consumption.

Encourage Positive Relationships with the Surrounding Community

With open and inclusive communication, create and implement a plan that values the community, encourages cultural and social diversity, achieves mutually beneficial relationships, and fosters academic outreach.

Engage the City of Reno

Encourage relationships with the City of Reno that serve the goals and needs of both the city and the university. Create land use relationships and linkages that enhance the connection between Downtown Reno and the university campus.

2-1 Work Session

PROGRAM DEMAND

The space needs analysis provides the university with information on the amount of space the university will require for current and future enrollment, staffing, and research levels in relationship to national guidelines and recognized space standards. The analysis takes into account:

- Unique needs of the university
- University and Community College System of Nevada (UCCSN) standards for space utilization
- Council of Educational Facilities Planners, International (CEFPI) guidelines
- Professional judgment of experts in the field

The space analysis classifies space on campus into the following categories:

Academic

- Classrooms
- Teaching Laboratories
- Open Laboratories
- Academic Offices
- Other Academic Department Space
- Administrative Offices
- Other Administrative Department Space
- Related Service
- Library
- Assembly and Exhibit
- Physical Plant

Research

- Research Laboratories and Service

Athletic, Recreation, and Physical Education Facilities

- Athletic Facilities
- Recreation and Physical Education Facilities

Residential

- Student Housing
- Faculty and Staff Housing

Auxiliary

- Student Union
- Student Health Facilities
- Health Care Clinics

Although not included as part of the space analysis, the master plan (qualitatively) considers the space needs for affiliated organizations on campus, such as the National Judicial College and the National Council of Juvenile and Family Court Judges.

The space analysis addresses demand for the present (2004) and three "horizons" of student FTE growth.

Horizon 1, with a 16,000 FTE student count, is expected to be reached sometime between the years 2012 and 2016.

Horizons 2 and 3 correlate to an unspecified time in the future when the university reaches a 24,000 and 30,000 FTE student count, respectively.

2-2 Space Needs Analysis

The table summarizes program demand for various space categories based on full time equivalent (FTE) student counts. The projected program for residential use reflects university policy and is not based on FTE student counts.

Definitions

FTE

Full Time Equivalent

A formula-derived number that results from converting student credit hours (SCH) into equivalent full-time "students" in terms of credit load. In most cases, 15 student credit hours equals one FTE.

HC

Headcount

The number of unduplicated students enrolled in credit courses in a given semester or academic year.

ASF

Assignable Square Feet

The area measured within the interior walls of a room that can be assigned to a program. It includes associated support space, such as meeting rooms but does not include building services space, such as restrooms, circulation, and rooms for mechanical equipment.

GSF

Gross Square Feet

Includes ASF and building service space, such as restrooms, circulation, and mechanical equipment rooms. The GSF calculation adds approximately 50% to the ASF amount.

			Program Demand			
		Actual	Current-2004	Horizon 1	Horizon 2	Horizon 3
Student FTE		11,600	11,600	16,000	24,000	30,000
Student HC		15,971 [1]	15,971 [1]	21,500 [1]	30,000 [2]	38,000 [2]
Non-Student FTE [3]		2,820 [4]	2,820 [4]	3,470 [5]	4,640 [5]	5,700 [5]
Non-Student HC [3]		4,765 [4]	4,800 [4]	6,000 [5]	8,400 [5]	10,500 [5]
ASF/FTE (Academic, Research, and Athletic, PE, Recreation, and Auxiliary)		180	201	201	190	188
Academic and Service	**ASF**	1,400,667	1,586,500	2,030,900	2,842,200	3,468,700
	GSF	2,005,000	2,380,000	3,046,000	4,263,000	5,203,000
	ASF/FTE	121	137	127	118	116
Research Laboratories and Service	**ASF**	255,879	300,600	605,700	904,700	1,090,000
	GSF	453,000	457,000	999,000	1,493,000	1,800,000
	ASF/FTE	22	26	38	38	36
Research Affiliates (Non-academic research)	**GSF**			450,000	1,080,000	1,250,000
Athletic, PE, Recreation - Facilities	**ASF**	258,054	273,000	345,000	485,000	624,000
	GSF	449,000	478,000	604,000	800,000	1,030,000 [6]
	ASF/FTE	22	24	22	20	21
Athletic, PE, Recreation - Fields	**Existing (2004) Acres**	17	21 37	51 [7]	69 [7]	76 [7]
Residential	**Students**					
	Percent of FTE	16%	22%	30%	38%	40%
	Total Beds [8]	1,800	2,500 [9]	4,800	9,100	12,000
	Faculty/Staff					
	Target Percent of FTE			5%	15%	25%
	Target Total Dwelling Units [10]			200	700	1,400
	Total Beds			5,000	9,800	13,400
Auxiliary	**ASF**	12,194	170,000	2,405,000	340,400	420,000
	GSF	226,000	298,000	421,000	596,000	735,000
	ASF/FTE	1	15	150	14	14
Parking	**Existing Spaces**	7,545 [11]	8,975 [12]			
	Gross Demand	0	9,300	12,100	16,900	21,200
	General Parking Demand Net of TDM and Resident Reduction		9,100 [13]	8,900 [14]	11,400 [14]	13,900 [14]
	General - Structured			6,150	7,540	8,600
	General - Surface			2,750	3,870	5,290
	Affiliated Research			580	1,350	1,600
	Residential [15]			3,110	7,210	10,840

SOURCE: Paulien & Associates, Fehr & Peers, Sasaki Associates, 2004

NOTES:
1 Assumes FTE: Headcount ratio of 0.74
2 Assumes FTE: Headcount ratio of 0.80
3 Includes faculty and staff
4 Based on UNR data
5 Projections for Non-Student HC in Horizons 1 & 2 include no growth for the President, Deans, Vice Presidents, Directors, and Chairs; growth of faculty at same rate of enrollment growth; and growth of non-faculty at half the rate of enrollment growth.
6 Includes 229,100 SF arena. Program demand = 990,000 SF
7 Master Plan projects 40, 63, and 80 acres of fields for Horizons 1, 2, and 3 respectively; Interim use of areas for fields could address deficiencies in Horizon 1
8 Mix of residence halls, suites, and apartments
9 Includes Sterling Apartments (732 beds; 720 parking spaces)
10 Mix of apartments and single family units
11 Does NOT include West Stadium Parking Structure and shared parking lot located at the Sterling Apartment Complex; Does include existing parking targeted for removal in the Mid-Campus Plan
12 Includes 1,860 spaces in West Stadium Parking Structure (under construction), removal of 1,150 spaces due to the Mid-campus plan, and 720 new spaces in a shared parking lot located at the Sterling Apartment Complex.
13 Reflects partial implementation of TDM measures
14 Based on residential targets and assumption that 5% of students, faculty and staff living within the Regional Center will drive to the campus
15 Conservative parking ratios were used for proposed parking demand; Existing residential parking is assumed to meet existing residential demand

2-3 Computer Lab

The analysis found that current demand for academic space and research laboratories is 1,887,100 assignable square feet (ASF). This compares to an existing supply of 1,656,546 ASF. For Horizons 1, 2, and 3, the amount of academic space and research laboratories needed on campus will increase to 2,636,600, 3,746,900, and 4,558,700 ASF, respectively.

The categories of space with the greatest need for additional space as the campus grows include:

- Classrooms
- Academic Offices
- Research Laboratories
- Teach Laboratories
- Student Union
- Athletics

In addition, the number of beds serving students, faculty, and staff is projected to increase by over 11,500 by Horizon 3.

Several of the colleges will need to significantly increase their space to accommodate the projected growth. These colleges and units with the greatest future need of space include:

- College of Liberal Arts
- College of Science
- School of Medicine
- College of Human and Community Sciences
- College of Agriculture, Biotechnology, and Natural Resources

2-4 Current Parking in the Mid-Campus

The master plan identifies the maximum demand for parking spaces, recognizing that incentives and management measures could serve to further reduce the demand. Therefore, the university and the city should monitor parking demand to ensure that users have access to the proper amount of parking, while avoiding oversupply which is wasteful in terms of land and resources.

PARKING DEMAND

The net general parking demand for the university at the three planning horizons, including the reductions discussed below, are:

- **Horizon 1: 9,000 spaces**
- **Horizon 2: 11,700 spaces**
- **Horizon 3: 13,800 spaces**

Future parking demand reflects future student and non-student headcount projections, using parking ratios of 0.38 spaces per student and 0.65 spaces per non-student. General parking is provided for students, faculty, and staff who live outside of the campus. Parking for students, faculty, and staff living within the planning area is provided at their residence.

The following measures allow reduction in the general demand for parking spaces:

Planned Transit Improvements

The planned Bus Rapid Transit (BRT) system and a Transportation Demand Management (TDM) program reduces the general student parking demand by approximately seven percent and the non-student demand by three percent.

TDM programs minimize automobile travel by increasing the number of persons in a vehicle, influencing the time of travel, or reducing the need to travel. TDM strategies at the university include (but are not limited to) transit improvements (frequency, route location, and subsidy), parking incentives for carpools and vanpools, bicycle system and capital improvements, pedestrian system improvements, parking restrictions, and funding considerations. Further resource savings can be achieved by using transit powered by alternative fuels.

On-Campus Housing

The master plan includes a significant amount of on-campus housing for students, faculty, and staff. Due to the proximity of the housing to places of work, study, and research, 95% of the those residing on-campus will likely leave their vehicles at their place of residence, utilizing alternative modes of transport (taking the shuttle, bicycling, or walking) to travel to their destinations on campus.

Furthermore, it is likely that students, faculty, and staff will reside in housing located outside but in close proximity to the campus, further reducing the general parking demand.

Shared Parking

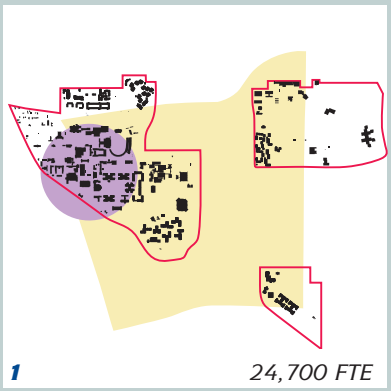
Parking demand generated by facilities, such as the proposed 20,000 seat arena, will utilize general parking structures during off-peak academic demands; i.e. in this case, utilizing 75% of the general use parking structure spaces. Likewise, the arena parking spaces are part of the general parking supply for academic uses due to the predominant weekend and night-time schedule of the arena. University sharing of parking facilities may also be incurred in the mixed-use development south of Interstate 80 during the weekdays when commercial demands are low.

Campus Characteristics

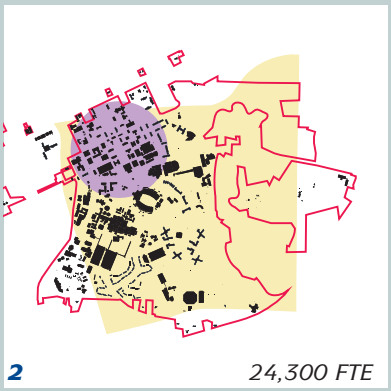
Multi- and single-family residences dominate the existing land uses in the master plan area. The residential uses vary from single-family neighborhoods comprised of mobile homes and bungalows to two-story multifamily housing complexes, some located on the terraced land that overlooks the current campus.

A large area of industrial uses borders the northern reach of the railroad spur line that transects the master plan area. This area, comprised of manufacturing, merchandising, and storage facilities, appears underutilized.

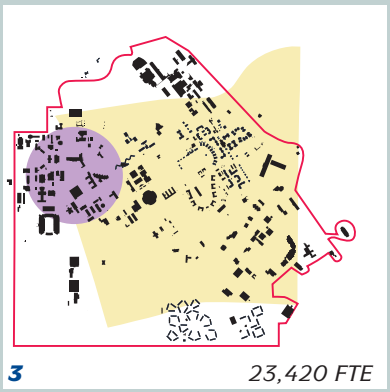
Neighborhood commercial activities concentrate along the northern and southern portions of North Virginia Street and along Sutro Street north of the county fairgrounds. Two city-owned parks are also included in the master plan area: one adjacent to Interstate 80, and the other east of Evans across from the university's agricultural research fields.



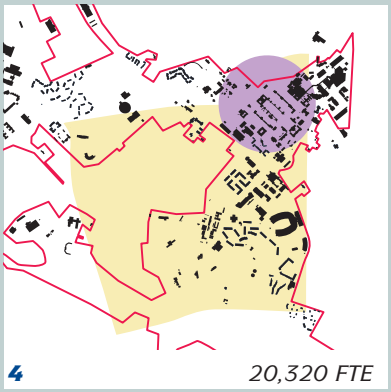
1 24,700 FTE



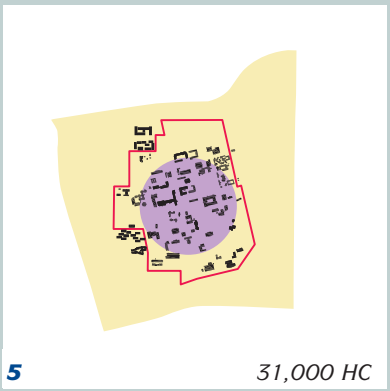
2 24,300 FTE



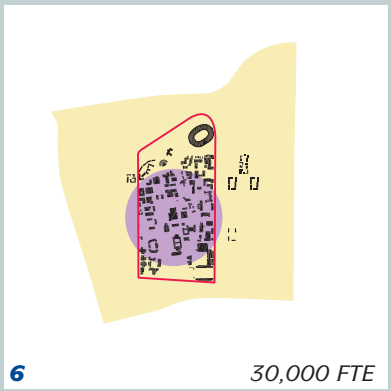
3 23,420 FTE



4 20,320 FTE



5 31,000 HC



6 30,000 FTE

Campus Comparisons

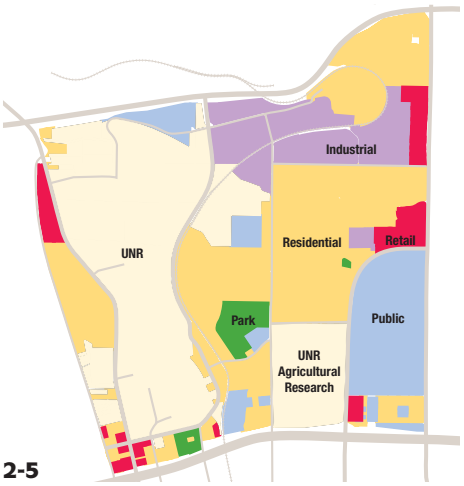
Campuses of similar size and FTE to the planned Nevada campus create a context to help understand the characteristics of the university in relationship to its target peer institutions.

The master plan identifies a total of 860 acres of campus land (shown as the yellow background on the diagrams) needed to support its projected 30,000 student FTE at Horizon 3.

The campuses along with their student FTE are:

1. *University of Colorado, Boulder*
2. *University of North Carolina, Chapel Hill*
3. *University of Utah*
4. *University of Virginia*
5. *University of California, Davis (campus core only shown)*
6. *University of California, Berkeley (campus core only shown)*

On all of the campus maps, a 10 minute walking circle is overlaid in purple to help understand relative distances and pedestrian accessibility.



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PLANNING FACTORS

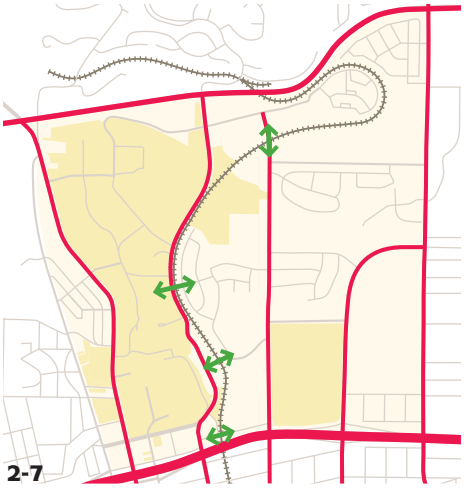
The planned campus area contains numerous significant physical features and land uses that present a range of opportunities and constraints to campus development.

Land Use Mix

The planning area currently contains a variety of land uses beyond that of the university. Residential uses dominate, ranging from mobile homes to single family units to two-story apartment buildings. Some industrial uses occur in the northeast portion of the study area. Commercial uses that serve both city and neighborhood needs are located along the study area edges, concentrated near Interstate 80 and along North Sierra Street and Sutro Street. As the official gateway to the university, the area that lies between the current university land and Interstate 80 serves a significant role in the image of the university. In addition, multiple crossings over Interstate 80 will provide access to a mixed-use development currently under consideration by the city.

Historic District and Buildings

With the exception of the Fleischmann Planetarium, the majority of buildings of historic value lie within the 40-acre historic district, an area added to the National Register of Historic Places in 1987. Key to this district is the historic quad and Manzanita Lake. This district currently provides the highest emblematic character to the university. The patterning of the buildings and open space guides future development adjacent to and throughout the master plan area.



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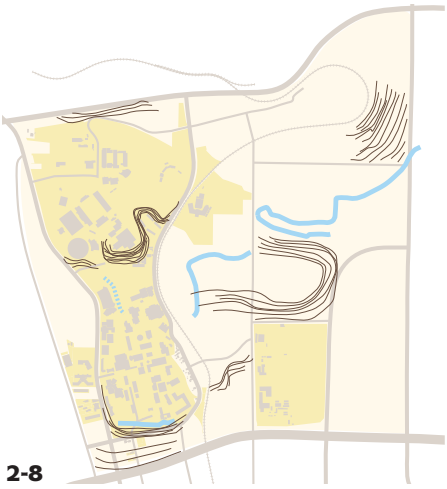

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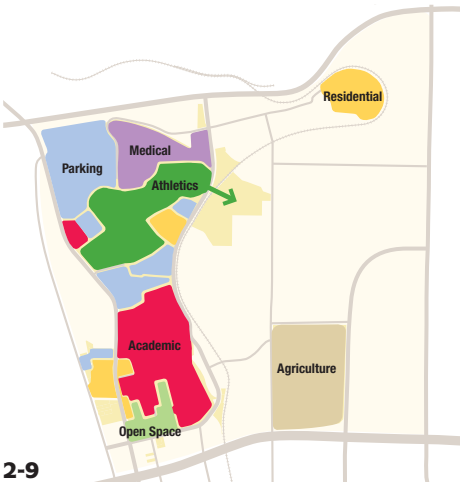
Circulation

Most vehicular and pedestrian circulation systems favor a north-south axis. A spur railroad line transects the campus, limiting east-west crossings due to differences in the grade of the railroad line and the adjacent properties. Few significant east-west circulation routes occur within current campus lands or in the study area as a whole. The exception to this is the major east-west vehicular routes that define the north and south boundaries of the University Regional Center boundary. The master plan addresses this lack of a comprehensive circulation system.

Topography, the Irrigation Channel, and Evans Creek

With over 200 feet of elevation fall from the northwest to the southeast corner of the planning area, the land is formed by a series of terraces that offer magnificent near and long views. However, they also act as impediments to pedestrian and vehicular circulation routes. The master plan addresses this through careful siting of new routes and the placement of new facilities that bridge topographic changes. Also, the irrigation channel that runs through the southern end of the existing campus could be an aesthetically-pleasing open space feature as it winds its way through the remainder of the campus to the east. Opportunities also exist to reveal and restore Evans Creek, which is currently buried under the mid-campus area.



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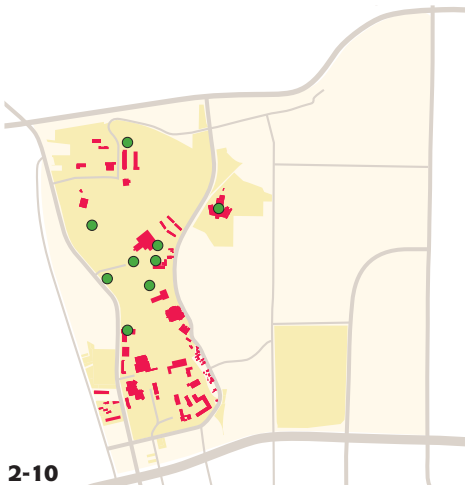

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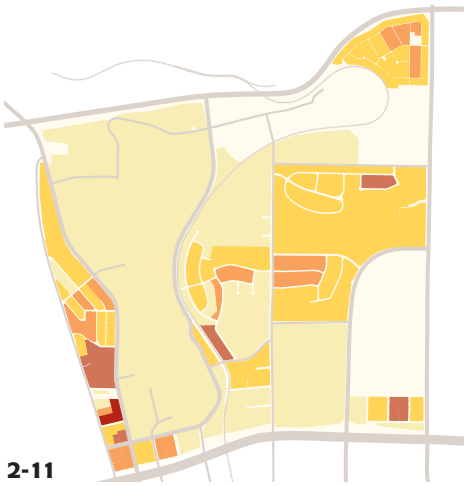
Campus Zones of Use

Academic and research functions concentrate in the southern area of the campus. A current and projected increase in medical teaching and research is fostering development in the northern area of the existing campus. Separating these two zones is a band of athletic and recreational facilities and fields that are targeted to expand into the recently-acquired former Manogue High School property. University residential areas currently concentrate along North Virginia Street. The new Sterling Apartments (privately owned) begin to create a new student enclave in the northeast portion of the study area.

The master plan addresses the expansion and connects land uses. The university will consider maintaining and improving the mix of residential uses among academic and research functions to create a vibrant campus throughout the day and night.

Current and Planned Projects and Potential Renovations and Replacements

The university has over 1.7 million gross square feet (GSF) of current and planned projects and 1.3 million GSF in new construction. Approximately 1.5 million GSF of existing university buildings could be renovated or replaced due to obsolescence and cost efficiency factors. The majority of renovations and demolitions will occur in Horizon 1. More importantly, this provides an opportunity to the university to significantly reshape its image along the current edges of the south main campus. Renovation and demolition should be done in a way that maximizes opportunities to recycle and reuse building materials.



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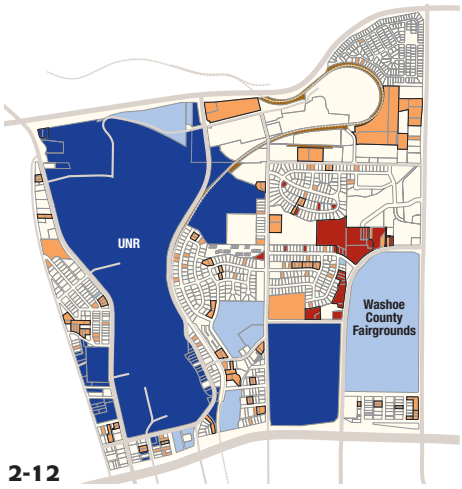


2-12

Population Densities

Most of the proposed campus area and its context have population densities of four persons per acre, similar to the City of Reno's average density. University housing exhibits the highest densities; i.e. 100+ persons per acre. A few pockets of multi-family housing east of Evans Avenue also have high densities (25 to 50 persons per acre). Future residential development serving university uses will need to achieve high densities to foster transit use and pedestrian activity as well as provide an ease of access to university resources.

Ownership Patterns

Clearly, the university controls the largest amount of contiguous land in the study area. Other large land areas, such as the county fairgrounds, are owned by the State. While the majority of parcels are owned by single owners, a number of individuals own from 2 to 14 parcels. The degree of private ownership in the study area affects the means and timing of land assemblage and/or improvements to meet the university's needs. The master plan promotes the inclusion of owner-occupied housing as a strategic part of the land use mix.

2-13 Campus Shuttle
The university has initiated the use of biodiesel shuttles.

SUSTAINABILITY

The master plan identifies numerous ***Best Practice Considerations*** for sustainability, promoting a multi-dimensional approach to planning. A typical planning decision can have multiple impacts and far-reaching consequences. Often planning decisions are approached as though a trade-off must occur. In these scenarios, one objective always loses out to another. Thus, conventional wisdom suggests a two-dimensional decision-making approach: How much does it cost and what can I get for it right now? As an alternative, this master plan suggests applying a more integrated approach – one that factors in present and future costs, externalities not typically measured, quality of life issues, and potential benefits to society and the environment. To factor in these considerations is to take a holistic view of our plans and actions and to strive for a result that is acceptable in the short term and sustainable over the long run.

The terms “sustainable development” and “sustainability” are now commonly used and just as commonly misunderstood. In this document, sustainability means integrating environmental stewardship, economic development, and the well being of all people - both for today and for future generations.[1] Simply put, to be sustainable, a practice or policy must consider and balance environmental, economic, and social considerations as though they form the axes of an equilateral triangle.

If one of these essential legs of the triangle is weighted less than the others, the balance called for in sustainability has not been achieved. Sustainability is reaching the triple bottom line of improving economic, environmental and social conditions, even if it does not happen simultaneously. Sustainable practices are easiest and most cost-effective to implement when incorporated into a project or process from the very beginning.

Significantly, the university is already a signatory to an international document promoting sustainability in institutions of higher education. This document, the Talloires Declaration, establishes an action plan for colleges and universities to incorporate sustainability and environmental literacy in the arenas of teaching, research, operations and outreach. Embracing sustainable development offers many advantages, especially for an institution of higher learning. Sustainable development makes positive physical impacts, saves money (especially over time), and benefits society. When a university adopts sustainable practices, it promotes leading-edge research, advances visionary thinking, and exemplifies extraordinary leadership by demonstrating what can be achieved.

By incorporating sustainability into its practices and procedures, the university can have a major impact beyond the campus environs. For example, Reno and most of the State of Nevada are currently experiencing extreme drought conditions. As part

Sustainable development "meets the needs of the present generation without compromising the ability of future generations to meet their needs."
- Brundtland Commission, 1987

2-14 Science Lab

The Best Practice Considerations for Sustainability are suggested policies and practices for the implementation of the master plan and associated operations. These considerations should be evaluated in terms of their overall contribution to the environmental, economic, and social well being of the university community.

of its sustainable development approach, the university can install water-saving fixtures in its buildings and eliminate unnecessary irrigation of turf areas. In this way, the university not only acts in a sustainable manner, but also models the use of best practices for others in the community and state to learn from and adopt. By supporting research on the water-saving impacts and teaching about these best practices, the university serves as an intellectual laboratory and helps equip those who will confront environmental challenges of the future with the tools they need.

The Best Practice Considerations for Sustainability are suggested policies and practices. In assessing which approaches are a good fit for a particular university building or procedure, these concepts should be evaluated in terms of their overall contribution to the environmental, economic, and social well being of the university community. For example, the use of renewable energy sources, such as solar panels and geothermal energy, may be appropriate for some university buildings, even though they will require an initial economic outlay. It is likely that the initial capital investment can be recovered in a reasonable time as a result of the savings associated with decreased reliance on conventional energy sources, whose costs continue to rise. In short order, the use of renewable energy sources could become an economic benefit to society and the university, while also protecting the environment. This is the kind of balanced economic-environmental-social approach called for in sustainable development.

It is unrealistic to require that every practice or policy by itself be a sustainable one. For example, mitigation activities such as recycling and minimizing waste slow down negative impacts on the earth, but they are not wholly sustainable as they will eventually have an impact on future generations. However, these mitigation activities are still important. They can play a significant part in an overall sustainability strategy, especially when coupled with the use of regenerative activities that actually enhance the condition of the earth, such as restoring and nourishing ecological processes or the environment.

In sum, this master plan recommends that the university both adopt and apply an integrated and holistic approach to its planning and development processes, incorporating sustainable practices wherever possible. If it does, it will advance environmental, economic, and social objectives, fulfill its teaching, research, and service mission, and demonstrate again that it is a leader among Nevada institutions.

1 Adapted from the definition of the International Institute for Sustainable Development; www.iisd.org.

The Plan

3

The unique qualities of the university's setting and its environment served as strong determinants to the master plan's conceptual development.

The Nevada Master Plan envisions a vibrant, compact, pedestrian-oriented academic core, enhanced recreational facilities, an internationally recognized health sciences center, and residential enclaves. A network of open spaces and pathways integrates all areas of the campus and is supported by a comprehensive public and university transit service

The master plan sets forth a framework for the university to foster educational and social interactions by creating positive physical connections to its neighbors. The unique qualities of the university's setting and its environment served as strong determinants to the master plan's conceptual development.

The university recognizes its responsibilities to embrace sound principles of planning and design, sustainability policies, and a quality of life and environment that provide lasting benefits to its users and the State of Nevada.

PLANNING PRINCIPLES

Seven fundamental planning principles underlie the master plan concept:

- Compact Campus
- Formal Academic Quadrangles and Streets
- Integrated Open Space Network
- Pedestrian Orientation
- Places for Interaction
- Campus Gateways
- Responsiveness to the Environment

3-1

3-2

Compact Campus

A compact arrangement of buildings unifies a campus environment, utilizes land resources more efficiently, affords synergistic relationships between academic disciplines, and enhances the overall collegial and social life of the campus.

The master plan calls for a contiguous, compact campus core, creating one unified campus composed of the original and new campus areas. As part of this effort, the master plan proposes the infill of the university's current campus lands.

Formal Academic Quadrangles and Streets

Built on the principles of Jefferson's "Academical Village", the historic quadrangle in the South Campus is a shaded, intimate formal open space framed by low-scale buildings and stately trees. Behind those buildings is a second tier of buildings housing additional academic activities and residences.

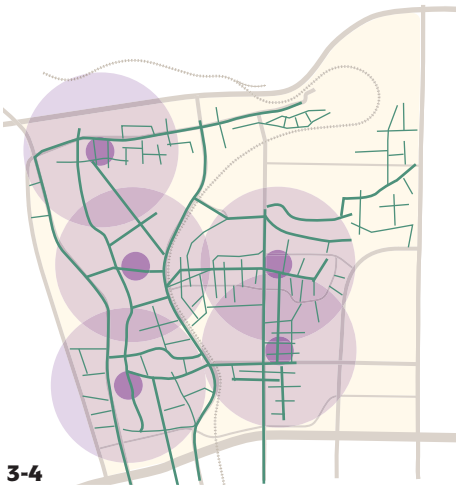
The master plan builds upon this formal, iconographic building and open space arrangement, providing a series of academic quadrangles connected by pathways and streets. In some cases, this formal arrangement orients to a street rather than an open space, such as the health sciences center at Enterprise Road.

Best Practice Considerations for Sustainability

ADMINISTRATION & FACULTY

- Adopt sustainable policies for major university decisions, including operations, transportation, purchasing, construction, and landscaping
- Encourage leadership among administration, students, and faculty, on sustainability issues
- Pursue Leadership in Energy and Environmental Design (LEED) Green Building principles
- Establish a sustainability advisory group with broad representation from faculty and students
- Develop outreach programs and materials relating to the university's sustainable features and accomplishments
- Support research by faculty and students and encourage integrated learning opportunities relating to sustainability

3-3



3-4

Integrated Open Space Network

A comprehensive and integrated open space system enhances the image, character, and functionality of the campus. It affords a welcoming environment for learning, interaction, and introspection for the university community.

The master plan connects all areas of the campus through a series of formal and informal open spaces, streets, and landscape features, including an enhanced irrigation channel. It provides six strategically-located open space and pedestrian connections across Evans Avenue and the adjacent railroad track.

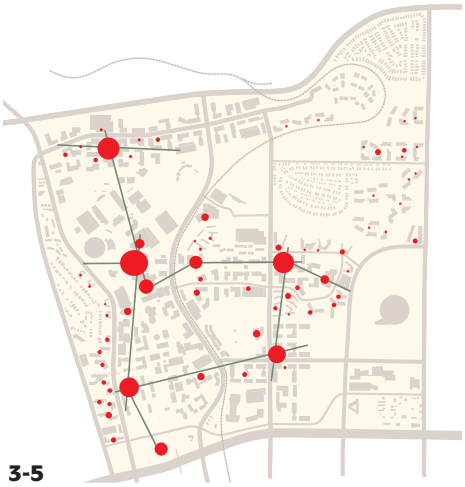
Pedestrian Orientation

A well-designed and integrated pedestrian-oriented environment enhances the collegial atmosphere of the university, improves safety, and reduces the use of automobiles and their visibility on campus.

The master plan proposes a pedestrian-friendly environment through:

- Inviting, landscaped pathways
- Buildings, many with active ground-floor uses, that orient to and enliven pedestrian precincts
- Close proximity and pedestrian-scale of most campus facilities
- Linkages to shuttle services that connect all corners of the campus
- Strategically-located parking structures along major gateway roadways, providing easy access to the pedestrian pathway system

The master plan also provides equitable access for all users, including those with disabilities, by integrating an extensive public transit and shuttle system, by siting facilities in areas graded to achieve slopes of less than five percent, and by traversing topographic changes through building and landscape design.



3-5

3-6

Places for Interaction

A university community thrives when there are welcoming places for intellectual and social interaction strategically located on campus.

The master plan places facilities that afford high levels of interaction, such as student services, residential study halls, and open space plazas, at campus crossroads and other highly visible locations on campus. It encourages interaction by connecting active interior and exterior spaces. The master plan also creates campus centers, with food service, retail, and student services, in all major campus areas and within a ten minute walking distance of most places on campus.

Campus Gateways

Enhanced gateways improve the image of the university and welcome visitors to campus.

The master plan improves the campus's frontage along Interstate 80 and Downtown Reno with a sweeping lawn, serving as the symbolic entrance to the campus. The plan welcomes the university community and campus visitors with landscaped drives, information kiosks, and regional transit stops along North Virginia Street and Evans Avenue and with improved landscape treatments at other locations.

Best Practice Considerations for Sustainability

OPERATIONS & PURCHASING

- Follow life cycle accounting and cost analysis
- Purchase supplies that are environmentally preferable, such as those recycled with high post-consumer waste content
- Purchase supplies, materials and food from local and regional vendors to reduce transport impacts on the environment
- Reduce waste generation on campus; manage waste efficiently; participate in recycling activities including paper, glass, plastic, metal and cardboard
- Follow special laboratory waste handling procedures
- Provide compost bins and use compost to fertilize vegetation
- Reduce paper use; use recycled paper for university printing and encourage two-sided copying

3-7

Responsiveness to the Environment

An environmentally-sensitive campus relates to its physical setting and follows the principles of sustainability.

The master plan responds to the topography and associated wind and sun patterns by orienting development (including academic, recreational, and research functions) along east-west "fingers" and by integrating new construction with the existing terrain and environment.

It also responds to the site's dry climate and arid conditions through the extensive use of native and drought tolerant plant materials. The master plan promotes principles of sustainability through infill development of the campus, the integration of academic uses, housing, pedestrian pathways, and transportation, the careful use of water, and the promotion of environmentally-sensitive building design and practices.

Best Practice Considerations for Sustainability

ENERGY AND WATER RESOURCES

- Optimize energy performance; replace inefficient equipment, fixtures, and appliances with energy-efficient ones
- Increase generation and/or purchase of renewable energy sources such as solar and geothermal
- Employ passive heating and cooling systems to reduce loans on heating ventilation and air conditioning (HVAC) equipment
- Reduce use of chloro fluoro carbons (CFCs) in HVAC equipment
- Use energy-efficient materials, including lighting and window protection
- Use low-flow toilets and shower heads and waterless urinals
- Use aerators or automatic timers on faucet fixtures
- Reduce impervious expanses on campus and replace with permeable areas on walkways, emergency access ways, and other appropriate sites

1

2

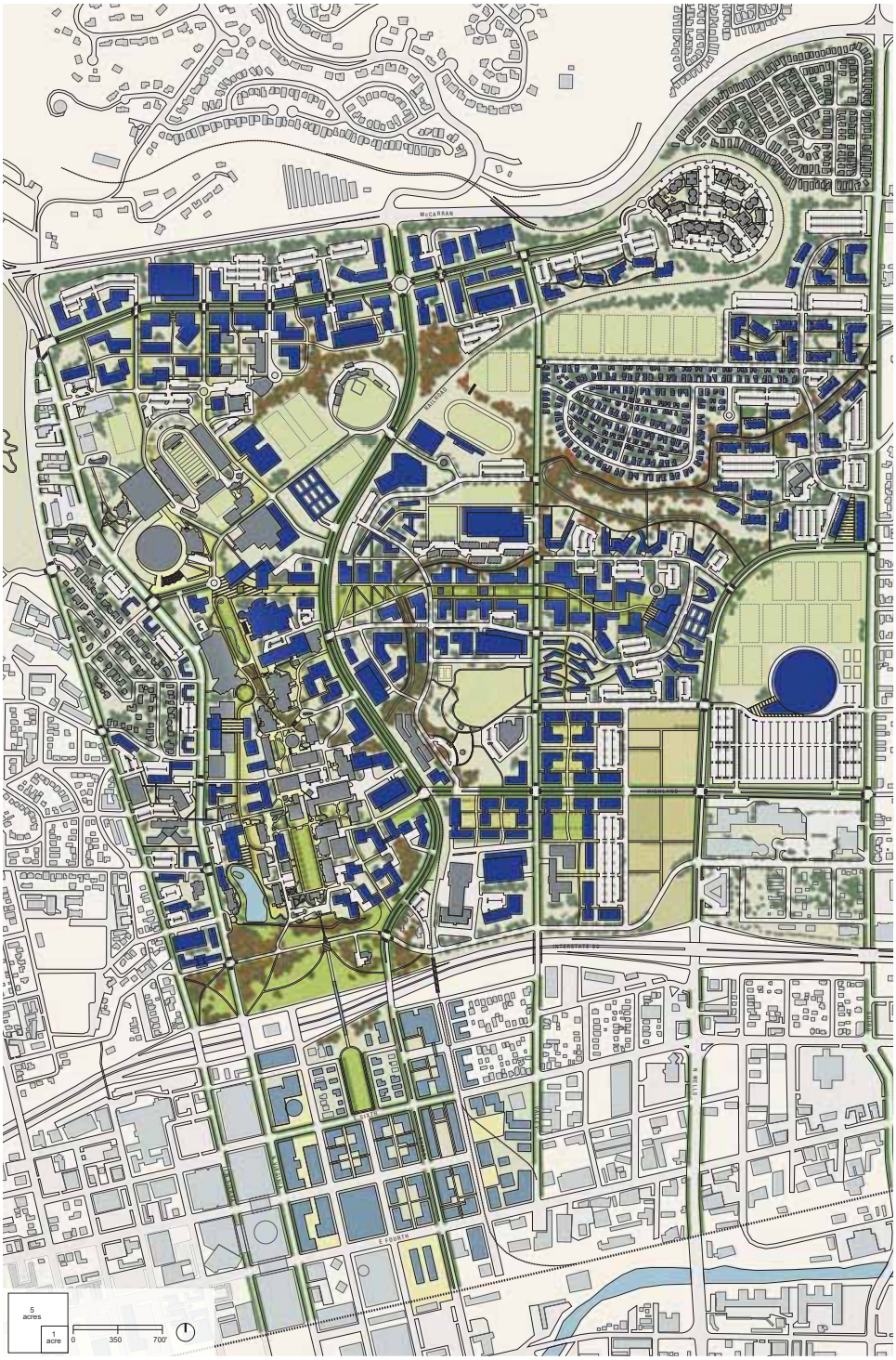
3-8 Bird's Eye View

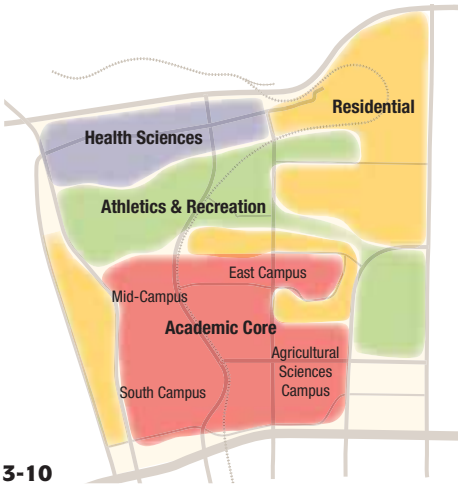
*The master plan will dramatically change the existing campus and its environs **(1)**.*

*Viewed from its southwest corner, the long-term vision for the campus **(2)** illustrates the expansion of the historic academic core into areas east of the existing campus, sports facilities north of the academic core, a health sciences complex on the campus's northern boundary, and adjacent residential development.*

3-9 Illustrative Plan

The plan illustrates the potential build-out of the campus in conformance with the master plan's overall planning principles, land use direction, and design guidelines.





3-10

LAND USE

The master plan establishes the overall distribution, location, and extent of land uses. Through urban design guidelines (described in Section 4), the master plan describes the desired form, scale, and character of future development.

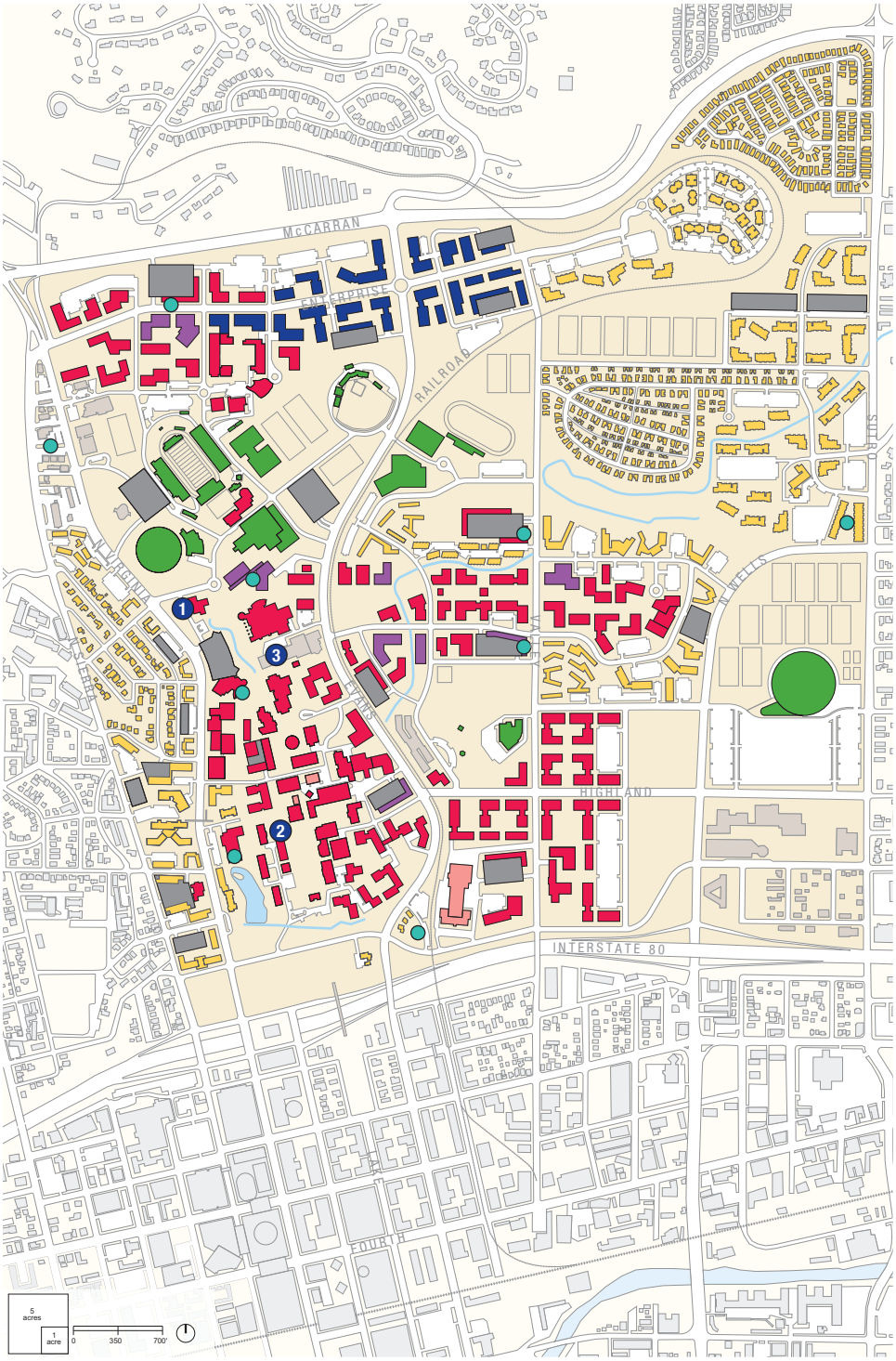
The plan extends the historic South Campus to the north and east. This enlarged academic core is organized around four distinct areas – the historic South Campus, the evolving Mid-Campus, the new East Campus, and the expanded Agricultural Sciences Campus.

Open space connections integrate these compactly developed areas. On the south and mid-campus areas, the master plan locates new infill construction on undeveloped land and on land made available through selective demolition of buildings. The East and Agricultural Sciences Campuses are linked to the South and Mid-Campus areas by existing at-grade railroad crossings at Jodi Drive and Highland Avenue.

The master plan concentrates athletic facilities and recreational fields north of the academic core, building upon existing facilities in the area. It also creates a compact, densely developed health sciences district along the northern boundary of the campus that includes affiliated private research facilities. The master plan organizes the health sciences district along a realigned and extended Enterprise Road, and establishes residential areas to the east and west of the academic, recreation, and health sciences districts. Residential uses include residence halls, suites, apartments, and single-family units.

3-11 Evans Avenue and East Campus Mall

A new open space mall connects the Mid-Campus with the East Campus, crossing Evans Avenue at Jodi Street. A new streetscape for Evans Avenue, with new street trees, gracious sidewalks, and native drought-tolerant plantings, enhance the roadway as an important north-south spine on campus. Evans Avenue also provides convenient access to the Bus Rapid Transit (BRT) and campus shuttle systems.



L E G E N D

- Academic and Research
- Affiliated Research
- Common Facilities
- Athletics
- Residential
- Physical Plant
- Parking Structure
- Non-UNR
- Retail

3-12 Land Use by Buildings - Horizon 3

Consistent with the land use concept, building functions suggest complementary and synergistic relationships between adjacent uses. The plan reinforces existing academic districts and establishes new ones. It expands existing and establishes new residential enclaves and strategically locates common facilities.

Social gathering places, including libraries, student services, convenience retail, food service, and day care facilities, are within a ten-minute walk of the academic and health sciences districts.

*The master plan proposes locating Alumni Association events at the new visitor center **(1)** or in a new or renovated building on South Campus **(2)** facing the historic quad.*

*Also, the master plan calls for the replacement of the one-story building that houses a portion of the National Judicial College **(3)**. The new building would step down the hill and engage the new Mid-Campus quad. This facility could also provide space for the National Council of Juvenile and Family Court Judges.*

The master plan locates the physical plant in a well-hidden yet central location on the south side of the campus near freeway access. It also carefully locates parking facilities near the edge of campus and along major campus arterials.

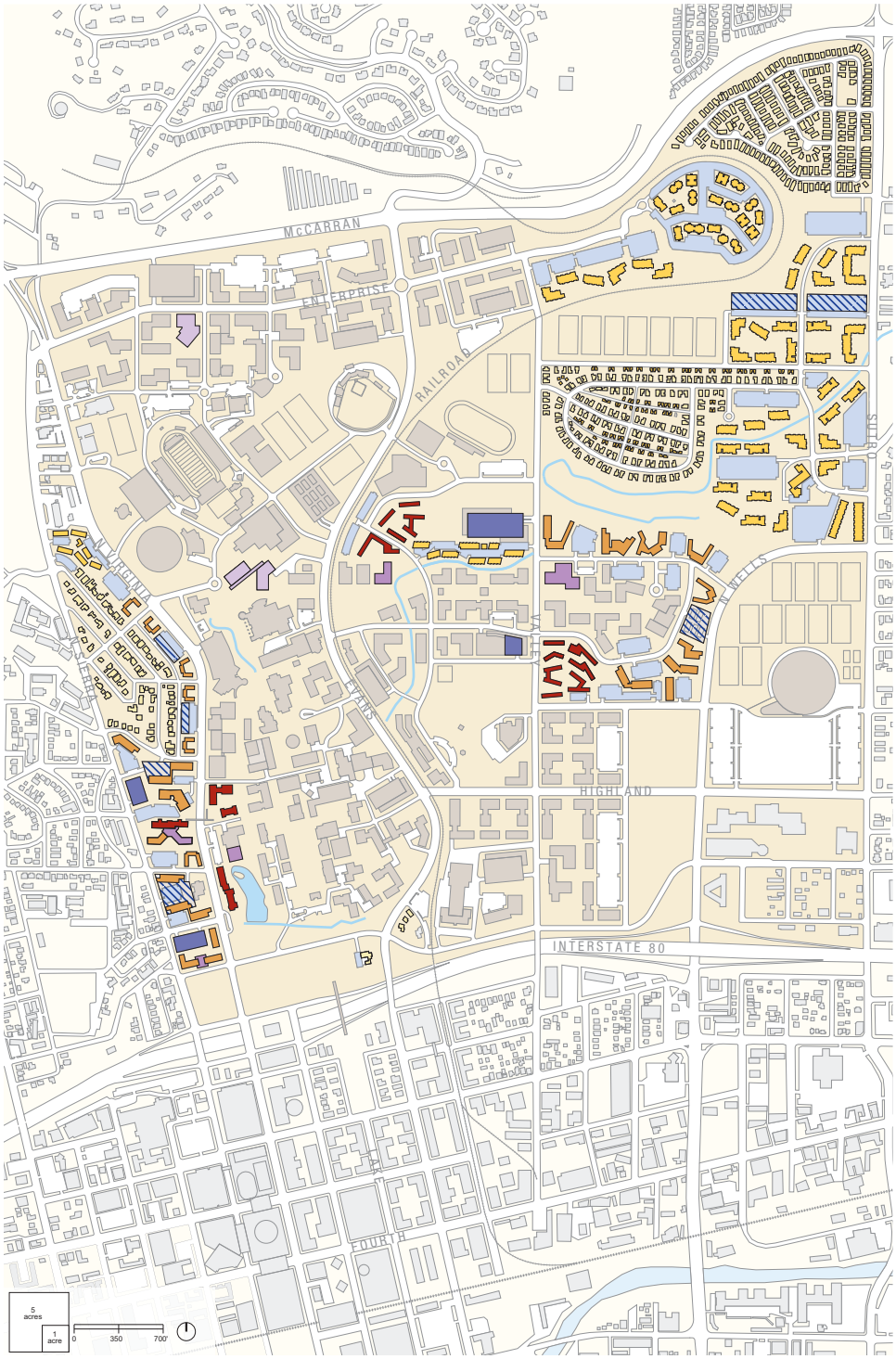
3-13 Residential Uses - Horizon 3

The master plan recognizes that a variety of housing types is required to meet the needs of students, faculty, and staff. It relies on housing provided by both the university and the private sector to meet these housing needs. The master plan targets 40% of the student FTE and 25% of faculty and staff to reside within the University Regional Center.

The master plan provides for residence halls, suites, apartments, and single-family housing, locating residential suites and residence halls for lower division students, many with dining facilities, near academic quadrangles.

Single family homes and apartments for graduate and adult students, faculty, and staff are located throughout the area and could be built and maintained by private interests.

Residential parking decks take advantage of topographic grade changes to provide dense parking with less visual impact than normally evidenced by above-grade structures.



L E G E N D

- Residence Hall
- Suite
- Apartment
- Single Family Residence
- Residential Dining Facility
- General University Dining Facility
- Residential Parking Lot
- Residential Parking Structure
- Residential Parking Deck

3-14 Mixed-Use Downtown District - Horizon 3

The City of Reno proposes, and the university supports, a mixed-use, community-serving district between Interstate 80 and 4th Street and between North Virginia Street and the Western Pacific Railroad in downtown Reno. The district calls for a mix of commercial, cultural, educational, and residential uses catering to both the university and larger communities. It currently connects with the campus over Interstate 80 along four streets.

The city's proposed plan for the area includes:

1. *North Virginia Street and Evans Avenue as active, pedestrian-friendly streets activated by retail, housing, and educational and cultural facilities, such as a Family Research Center and Science Center; retail activity could include a grocery store and other amenities serving students and the larger community*
2. *Lake Street as a pedestrian-oriented street, incorporating a significant open space aligned with the university's historic quadrangle; it could include a pedestrian bridge over Interstate 80, providing another connection between downtown and the campus*
3. *A mix of multi-family housing types and, possibly, historic houses relocated from the area north of Interstate 80*
4. *Business park providing incubator space for small businesses*

3-15 Historic Quad

Best Practice Considerations for Sustainability

ECOLOGY AND NATURAL AREAS

- Replace water-demanding plant species with those that require low water; use demonstration gardens as much as possible
- Plant native species where possible to encourage habitat and reduce costly maintenance needs such as mowing
- Assess biologically significant habitat and plant and animal species on the campus and proposed campus expansion areas; provide appropriate protections

OPEN SPACE

The master plan's open space concept and associated landscape improvements link various campus areas together, enhance the image of the school, afford community and academic life, and promote sustainable practices. The open space system is a central organizing device for the campus's physical layout.

The open space network of quadrangles, pathways, and streets tie together the campus's various academic, health sciences, and residential areas. It includes athletic and recreational facilities, an enhanced irrigation channel, and a restored Evans Creek as significant campus features.

The open space concept and the location and configuration of significant open space elements respond to the programmatic demands of academic, recreational, and residential users. In response to program needs, some of these elements incorporate lawns in their design. The master plan proposes that most landscapes on campus, including lawns, be composed of drought-tolerant plant materials. Water-saving grass species and water-efficient irrigation systems can significantly reduce water consumption without sacrificing programmatic needs.

Formal Campus Gateway

Consisting of a portion of the historic South Campus and a new green open space between 8th and 9th Streets, the campus's formal gateway is the symbolic "front door" to the university, providing a welcoming image to visitors. This gateway is one of many serving the campus.

Campus Quadrangles and Malls

Consistent with the historic quadrangle in the South Campus, the campus quadrangles are formal, open spaces framed by academic buildings. Affording informal sitting and play areas, quadrangles typically consist of turf with trees and planting areas framing a park-like setting.

Like campus quadrangles, malls are programmed open spaces framed by buildings. They typically have a linear configuration, serving as organizing elements and circulation corridors in the overall landscape. They can consist of hardscape, turf, and drought-tolerant plantings depending on program need.

Courtyards

Courtyards provide a central organizing element for a group of buildings with a limited range of users (distinct from the campus quadrangles that address a broad range and number of users). Courtyards contain small intimate spaces and can be a mix of hardscape, turf, and drought-tolerant plant materials depending on program need.

3-16 Pedestrian Ways

Athletic and Recreational Facilities
The master plan infills athletic facilities and recreational fields north of the academic core, building upon existing facilities in the area. The athletics/recreation area extends to the east, culminating in a 20,000-seat arena and adjacent athletic/recreation fields. Infill facilities in the west include an expansion to the existing recreation center and a new athletic facility in the location of the existing tennis courts, which are relocated to the top of a new adjacent parking structure.

Agricultural Fields
The agricultural fields are living laboratories of university research. The sheer magnitude of their size and location exhibits a significant image to the agricultural sciences academic and research facilities in this area of the campus.

Rural Landscape
Due to past development, very little remains of the rural meadow landscape that once dominated this area of Reno. The master plan conserves this open space element on the eastern edge of the campus, serving as a positive buffer between single family homes and one of the campus's concentrations of academic activity and lower division housing.

Irrigation Channel and Evans Creek
One of the campus's unique open space elements is the irrigation channel that bounds the southern edge of the existing campus and flows to the northeast through the expanded campus area. The master plan proposes to enhance and expand pedestrian access to and along the channel, increasing its prominence and value to the campus community. Despite low (or no) flows during winter months, the channel can be a pleasant open space, providing a place for introspection and reflection at any time of the year. A restored Evans Creek could also serve as an important natural element in the mid-campus area. Both open space elements would provide habitat for flora and fauna, as well as study and research opportunities for the university and surrounding community.

Primary Parkways/Pedestrian Ways
Parkways and pedestrian pathways are significant open space elements, providing pedestrian connections to all areas of the campus.

Best Practice Considerations for Sustainability

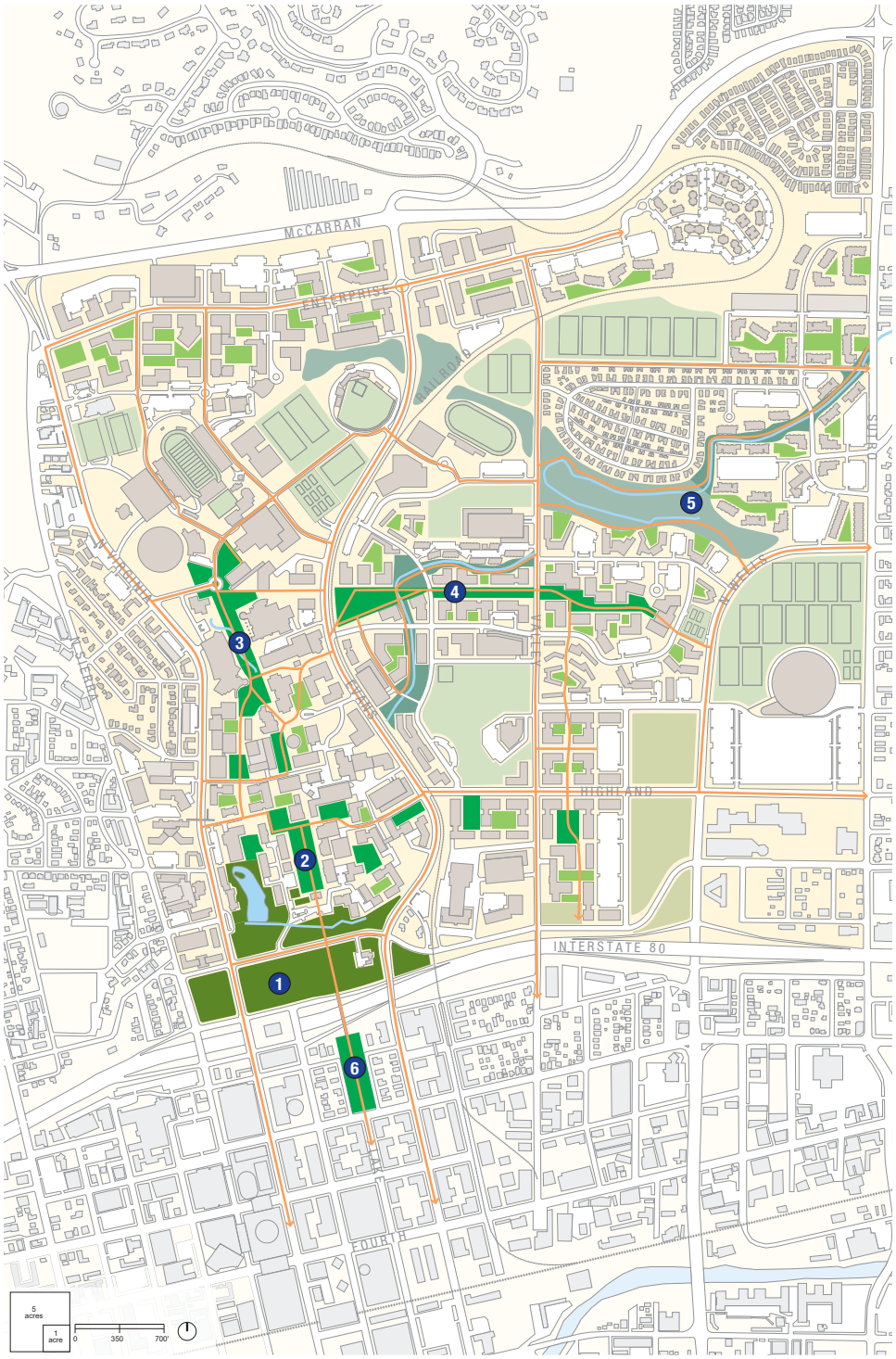
ECOLOGY AND NATURAL AREAS

- Use a site selection process that protects ecologically significant areas
- Support production of organic produce and make available to campus community
- Restore habitats and create natural banks near lake, stream corridors, and other natural areas so that they function as healthy ecosystems
- Use paths, signage, and materials to showcase and teach about native species on campus, especially in the arboretum and new open areas
- Improve water quality by planting vegetative buffer strips along roadways to filter storm water runoff and prevent pollutants from entering storm drains and waterways

3-17 Open Space - Horizon 3

*The new campus gateway **(1)** enhances the front-door image of the university, while a series of interconnected quadrangles, patterned after the campus's historic quad **(2)**, provide areas for informal gathering, socializing, and sitting. Other major gathering spaces, lined with academic uses, include the new Mid-Campus quad **(3)** and East Campus mall **(4)**. The Mid-Campus quad features a restored Evans Creek. An enhanced irrigation channel **(5)** links residential areas with the academic core. South of the campus, a new city open space **(6)**, on axis with the campus's historic quad, connects with the campus across Interstate 80 via a city-proposed pedestrian bridge.*

Designated a state arboretum by the Nevada State Legislature in 1985, the university is a living collection of plants - trees, shrubs, flowers, ornamentals, and native flora - with many designated areas on campus open for public enjoyment, as well as scientific and educational pursuits.



L E G E N D

- Formal Campus Gateway
- Quadrangles and Malls
- Courtyards
- Athletic/Recreation Facilities
- Agricultural Fields
- Rural Landscape
- Irrigation Channel and Evans Creek
- Primary Parkways/Pedestrian Ways

3-18 Pedestrian Circulation

PEDESTRIAN AND BICYCLE CIRCULATION

The master plan's overall circulation system enhances the image of the university, provides convenient vehicular access to campus parking facilities, and encourages pedestrian and bicycle movement through an inviting and comprehensive circulation system, with convenient connections to shuttle and bus services. It provides for equitable access, establishing ADA accessibility to parking facilities, transit, and buildings.

Pedestrian Circulation

An extensive and comprehensive pedestrian circulation system unites the functional areas of the campus. The master plan integrates pedestrian circulation with the open space system of quadrangles, malls, and parkways, punctuated by plazas, public art, demonstration gardens, and other features, and uses streets when needed to traverse long distances or to create urban districts, such as the health sciences area. Separated from service routes and parking areas to the greatest extent possible, the pedestrian system also facilitates numerous jogging routes.

Accessible Pathways and Entries

The master plan provides accessible pathways and building entries throughout the campus. In some places with steep topography, buildings help bridge the change in elevation, affording movement from one elevation to another through elevators and multiple entrance ways. In all cases, the master plan provides accessible parking to all areas of the campus.

Railroad Crossings

The Union Pacific Railroad alignment through the center of campus presents one of the biggest challenges to achieving an integrated pedestrian circulation system. The master plan addresses this challenge with five safe crossings. The land use patterns and the resulting building massing and pedestrian paths build upon these five crossings. Elsewhere, the master plan proposes fencing along the railroad right-of-way to discourage random pedestrian crossings.

Bicycle Circulation

A comprehensive network of off-street paths shared with pedestrians, on-street bicycle lanes, and signage encourage bicycle use on campus. Other facilities such as conveniently located storage lockers, racks, showers, and a repair shop further facilitate bicycle commuting. Many of these facilities can be located at parking facilities, including parking structures.

Best Practice Considerations for Sustainability

TRANSPORTATION AND PARKING

- Make the campus bicycle-friendly with paths, storage, racks, showers, and a repair shop
- Promote educational efforts on campus for both bicyclists and drivers
- Provide clear signage to direct bicyclists to appropriate routes and to remind drivers to share the road
- Emphasize pedestrian circulation by providing well-lit pathways and sidewalks that ensure safe pedestrian access to all facilities
- Close little used internal roadways to general vehicular traffic to create a more pedestrian-friendly campus
- Provide shared bicycles for use on campus, designating them by painting them a conspicuous color or by other means

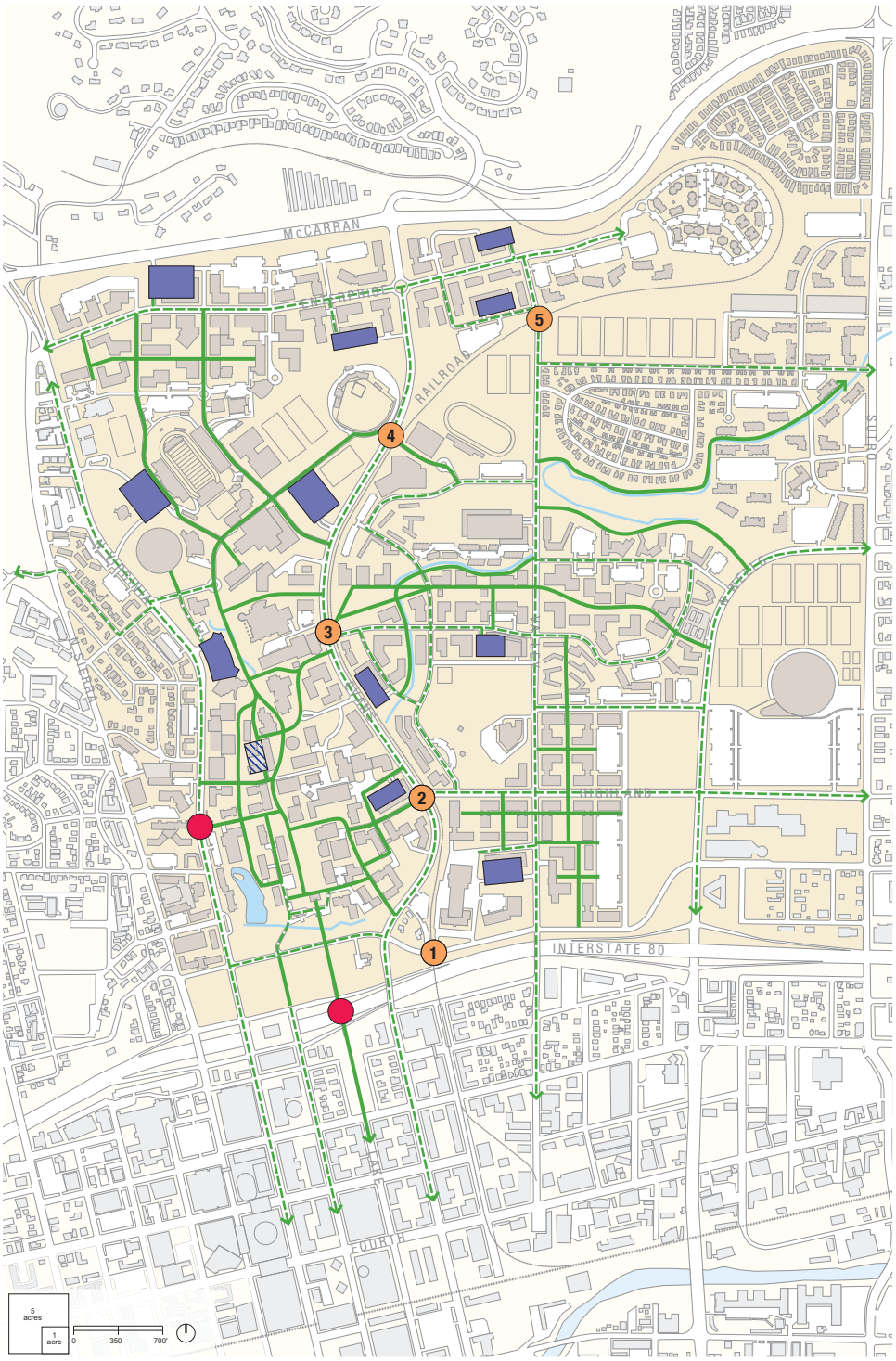
3-19 Pedestrian Circulation - Horizon 3

The master plan's comprehensive and integrated pedestrian circulation system includes five safe crossings of the railroad tracks, as follows.

1. **East Ninth Street**
   An existing at-grade crossing
2. **Highland Avenue**
   An existing at-grade crossing connecting the Agricultural Sciences Campus with South Campus
3. **Jodi Drive**
   An existing at-grade crossing connecting East Campus with the Mid-Campus
4. **Former Manogue High School**
   An at-grade crossing when railroad policy permits
5. **Valley Road**
   An existing at-grade crossing connecting the Health Sciences District with the eastern half of the campus

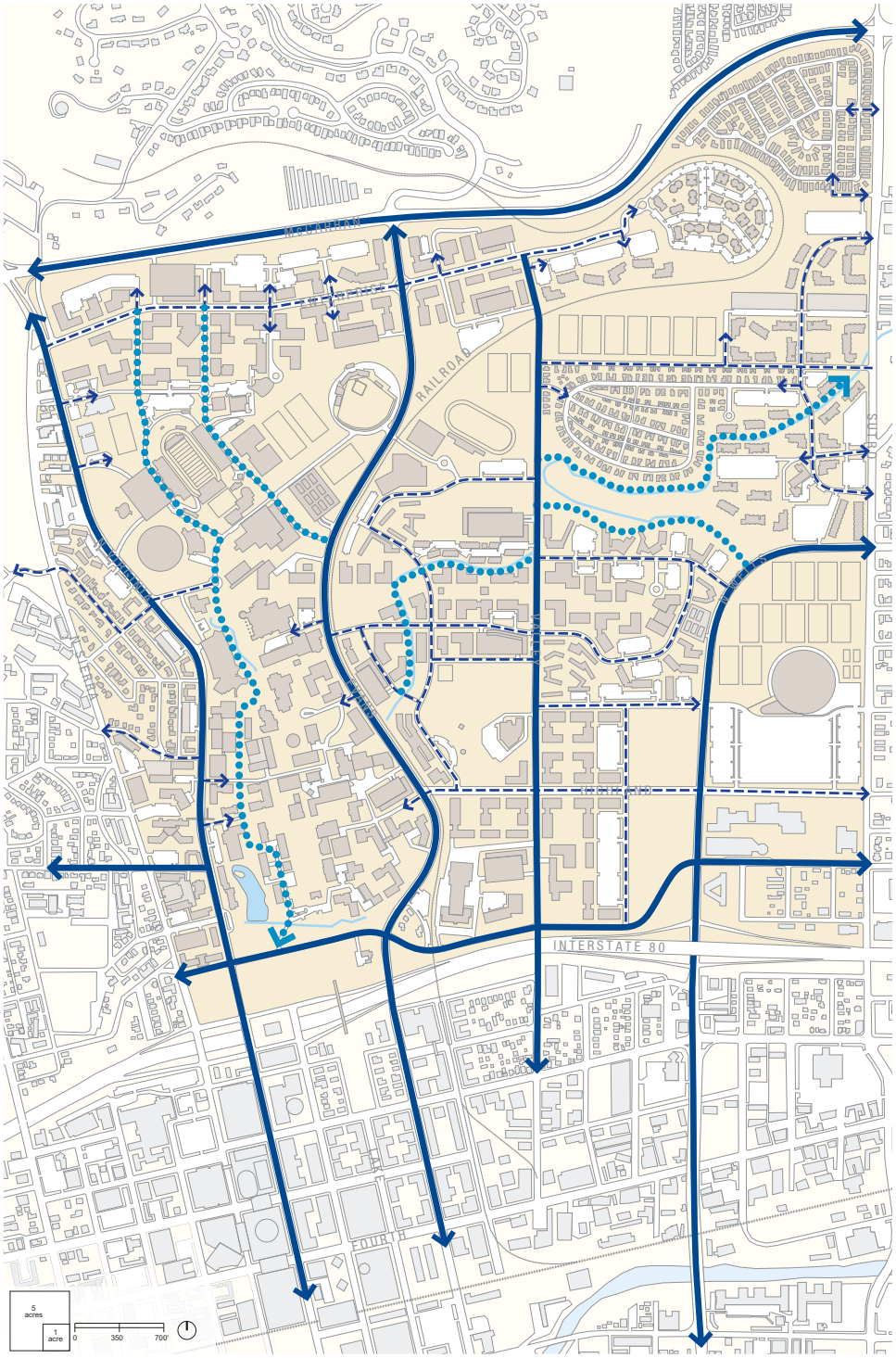
Jogging Trail

Beside providing convenient access, the major pathways and sidewalks provide ample opportunities for jogging throughout the campus.



L E G E N D

- Major Pathway
- Major Sidewalk Connections
- At-Grade Railroad Crossing
- Pedestrian Bridge
- General Parking Structure
- General Parking Structure (Below Grade)



L E G E N D

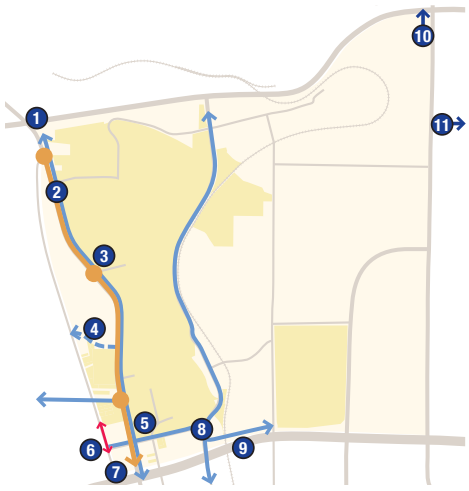
- Bicycle Lane (Class II)
- On-Street Bicycle Access (Shared)
- Off-Street Bicycle Access (Shared)

3-20 Bicycle Circulation - Horizon 3

The bicycle circulation network uses a combination of on-street bicycle lanes, on-street shared lanes (with vehicular movement), and off-street bicycle paths, providing a comprehensive bicycle system.

3-21 Irrigation Channel

A unique open space feature of the campus environment, the irrigation channel provides a contemplative setting for sitting, studying, and reading.



3-22 Planned Transportation Improvements

The master plan incorporates several transportation improvements (planned by others) including:

1. *Grade-separated intersection at North McCarran and North Virginia*
2. *Bus Rapid Transit line on North Virginia*
3. *Traffic signal at 15th and North Virginia*
4. *Bike route on College*
5. *Bike lanes on North Virginia, 9th, 11th, and Evans*
6. *Two-way traffic flow on North Sierra from Maple to 9th (project currently under way)*
7. *Additional turn lane on 8th at North Sierra*
8. *Roundabout at 9th and Evans*
9. *Widening of Interstate 80 through Downtown Reno from 6 to 8 lanes*
10. *Widening of Sutro north of North McCarran to US 395 from 2 to 4 lanes, and new interchange at Sutro and US 395*
11. *Widening of US 395 from 4 to 6 lanes (not shown on map)*

VEHICULAR ACCESS, PARKING, AND TRANSIT

Existing and new roadways provide convenient access throughout the campus for vehicular and transit circulation. The vehicular access system includes roadways that can be managed, allowing for traffic circulation when needed for special events or specialized needs. Vehicular traffic is relegated to the edges of major campus districts, minimizing intrusion into the core.

Major elements of the campus's vehicular circulation system include:

- Campus Gateways
- Evans Avenue
- Enterprise Road
- Parking and Accessible Parking
- Freeway Access
- Transit
- Emergency Access

Campus Gateways

As entrances to significant areas of campus, gateways provide points of orientation to the campus users. The master plan denotes gateways through the use of signage, information kiosks, architectural elements such as lighting standards, and landscape enhancements. The 15th Street gateway is the campus's major point of access to the Mid-Campus. It includes a small building where visitors can obtain maps, event tickets, and campus information. This building may also serve as the university's alumni center. The master plan improves the campus's frontage along Interstate 80 and the City of Reno with a sweeping lawn that serves as the symbolic entrance to the campus. The Center Street gateway serves as the university's symbolic front door, providing direct access to the heart of the campus's historic South Campus.

Evans Avenue

Widened to a four-lane boulevard with a planted median and bicycle lanes, Evans Avenue is the central spine of the university, providing access to major points on campus. The boulevard includes numerous at-grade railroad crossings. The master plan shifts Evans Avenue eastward parallel to the railroad tracks with the realignment of the roadway in the southern portion of the campus. A sidewalks lined with street trees parallels the western side of the street.

3-23 Parking Structures

Parking structures are generally located off of major roadways to minimize vehicular traffic on campus. To activate adjacent open spaces, many of the parking structures are faced with buildings housing uses such as offices and ground-floor convenience retail. Others take advantage of topographical changes to minimize visual impact.

3-24 Wrapped Parking Structure

Example of a parking structure faced with building at York University, Toronto.

3-23

3-24

Enterprise Road

A new four-lane boulevard paralleling McCarran Boulevard, Enterprise Road creates a new "street address" for the health sciences campus. It also serves as a major pedestrian spine, unifying the area as a distinct district.

Parking

Parking structures and surface lots provide convenient access to academic, research, and athletic and recreational functions. Parking structures are located off of major roadways to capture vehicular traffic at the perimeter of major campus districts. The master plan integrates the parking facilities into a comprehensive campus-wide shuttle and pedestrian circulation system.

Recognizing the future value of the land, the need to have parking in close proximity to uses, and the disruptive effect of large surface parking lots, the master plan places a significant amount of the parking in six-level parking structures. Much of the parking for resident halls is in structures as well. Parking for other residential uses and for research affiliate uses are located adjacent to these facilities.

The master plan assumes that a university-sponsored Transportation Demand Management (TDM) program, using transit incentives, ride share programs, and other measures to reduce parking demand, will reduce the general student parking demand by 0.07 spaces per student and the general non-student parking demand by 0.03 spaces per student. The close proximity of housing, supported by the university shuttle system, and the pedestrian network provides a 95% credit towards the general parking demand for those students, faculty, and staff housed on campus who park their vehicles at their place of residence.

The master plan accommodates the parking demand from sporting and other large traffic-generating events by using 75% of general demand parking structures during off-peak hours (i.e. evenings and weekends). Users will connect to the venues via foot or the shuttle service.

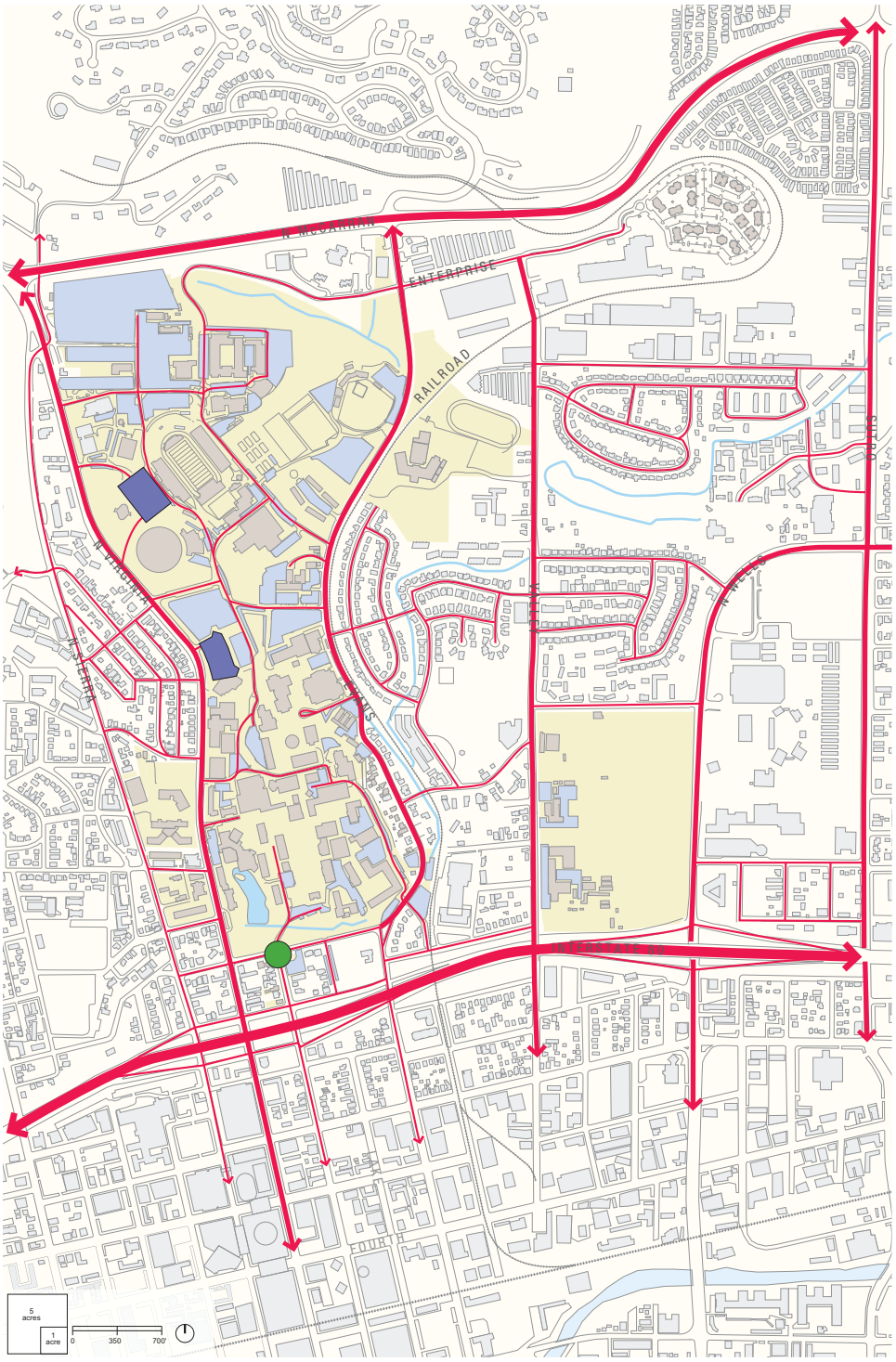
Accessible Parking

The master plan locates accessible parking consistent with ADA requirements. In some cases, motorists in need of accessible spaces and accessibility vans may gain entry to auto-restricted areas with a gate card or other means.

Best Practice Considerations for Sustainability

TRANSPORTATION AND PARKING

- Do not exceed minimum zoning requirements for parking capacity
- Establish preferred parking for carpools and users of alternative fuel cars
- Use trees or architectural elements to shade parking and walking areas and use light-colored paving materials to reflect heat
- Use planting areas in parking lots to absorb storm water runoff and reduce heat island effect



L E G E N D

- Public Access (Major)
- Public Access (Minor)
- General Parking Structure
- General Parking Lot
- Gateway

3-25 Vehicular Circulation - Existing

Outside of the historic quad, the existing campus is largely dominated by large expanses of surface parking. Vehicular traffic that cuts through the campus degrades the campus's sense of place and walkability.

The majority of university-related vehicles arrive from Interstate 80 and McCarran Boulevard, entering the campus on North Virginia Street, and, to a lesser extent, Evans Avenue.

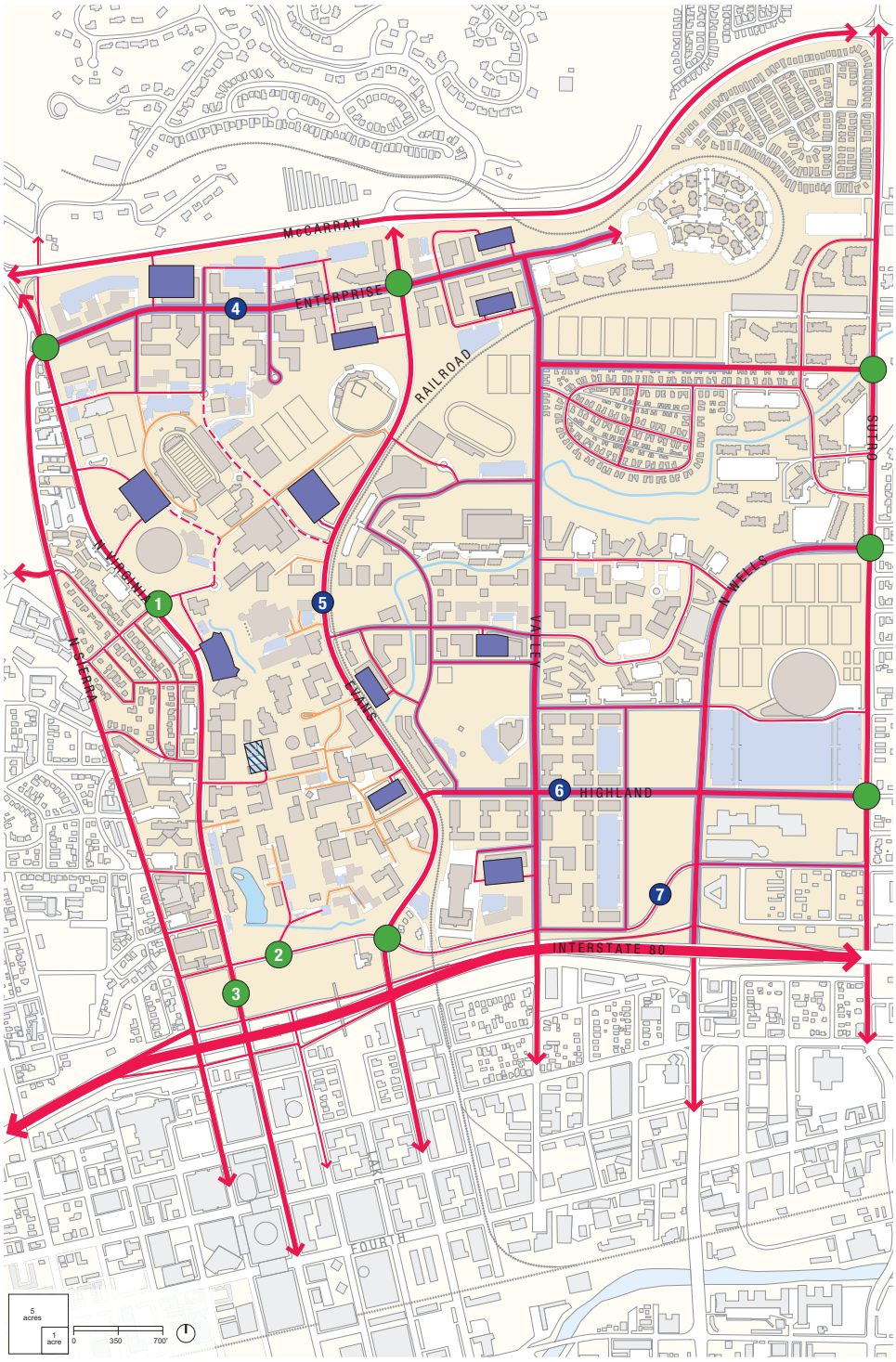
The campus currently has one major gateway at North Center Street that serves as the university's symbolic entrance.

3-26 Vehicular Circulation and Parking - Horizon 3

*The master plan creates a network of north-south and east-west roadways, connecting all areas of the campus while minimizing auto intrusion into core areas. Campus gateways, with enhanced landscape and signage, welcome and direct people to their destinations on campus. The campus gateway at 15th Street **(1)** provides access to academic, social, and recreational facilities while the North Center Street gateway **(2)** and the great lawn **(3)** serve as the campus's symbolic entrance.*

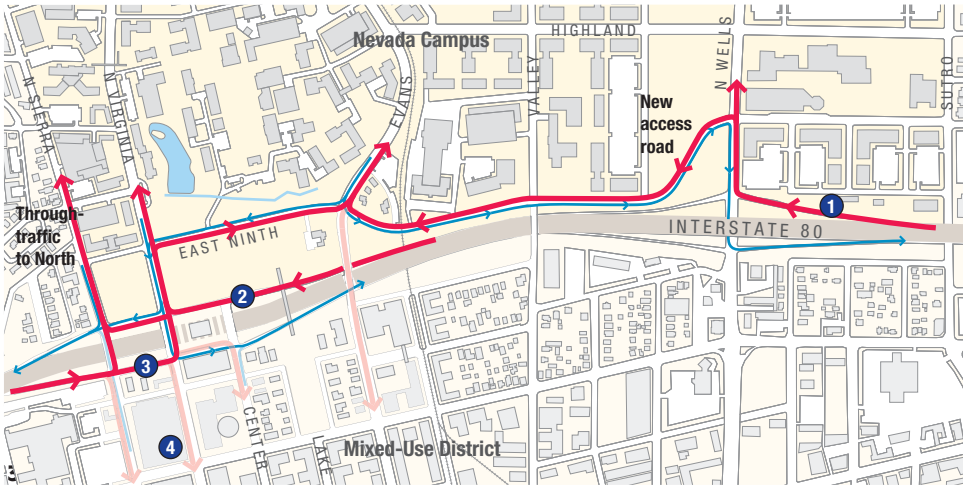
*Major new and improved roadways include Enterprise Road **(4)**, a new boulevard in the health sciences district; a re-aligned and expanded Evans Avenue **(5)**; an extended and expanded Highland Avenue **(6)**; and improved access to and from Interstate 80 **(7)**.*

Conveniently located with easy access from major campus roadways, parking facilities serve visitors and the campus community. The parking supply, at 26,200 spaces, meets parking demand for Horizon 3, the period when the university's FTE (full time equivalent) student count reaches 30,000 students. Of this, 13,900 spaces represent the maximum number of general parking spaces that the University should need at Horizon 3. The remainder of parking addresses the needs of the residential and research affiliates uses.



L E G E N D

- Public Access (Major)
- Public Access (Minor)
- Managed Access
- Service Access
- General Parking Structure
- General Parking Structure (Below Grade)
- General Parking Lot
- General On-Street Parking
- Gateway



3-27 Freeway Access

Visitors and the university community will benefit from direct access to the campus from Interstate 80. A new access road through the existing agricultural fields brings drivers from Interstate 80 to centralized parking garages. Two-way access on North Sierra Street accommodates northbound through-traffic, easing congestion on North Virginia Street.

1. *Access to Evans from Interstate 80 westbound, via North Wells, a new access road through the agricultural fields, and 9th*
2. *Access to North Virginia from Interstate 80 westbound*
3. *Access to Evans and North Virginia from Interstate 80 eastbound*
4. *Access to new mixed use district and downtown*

Freeway Access

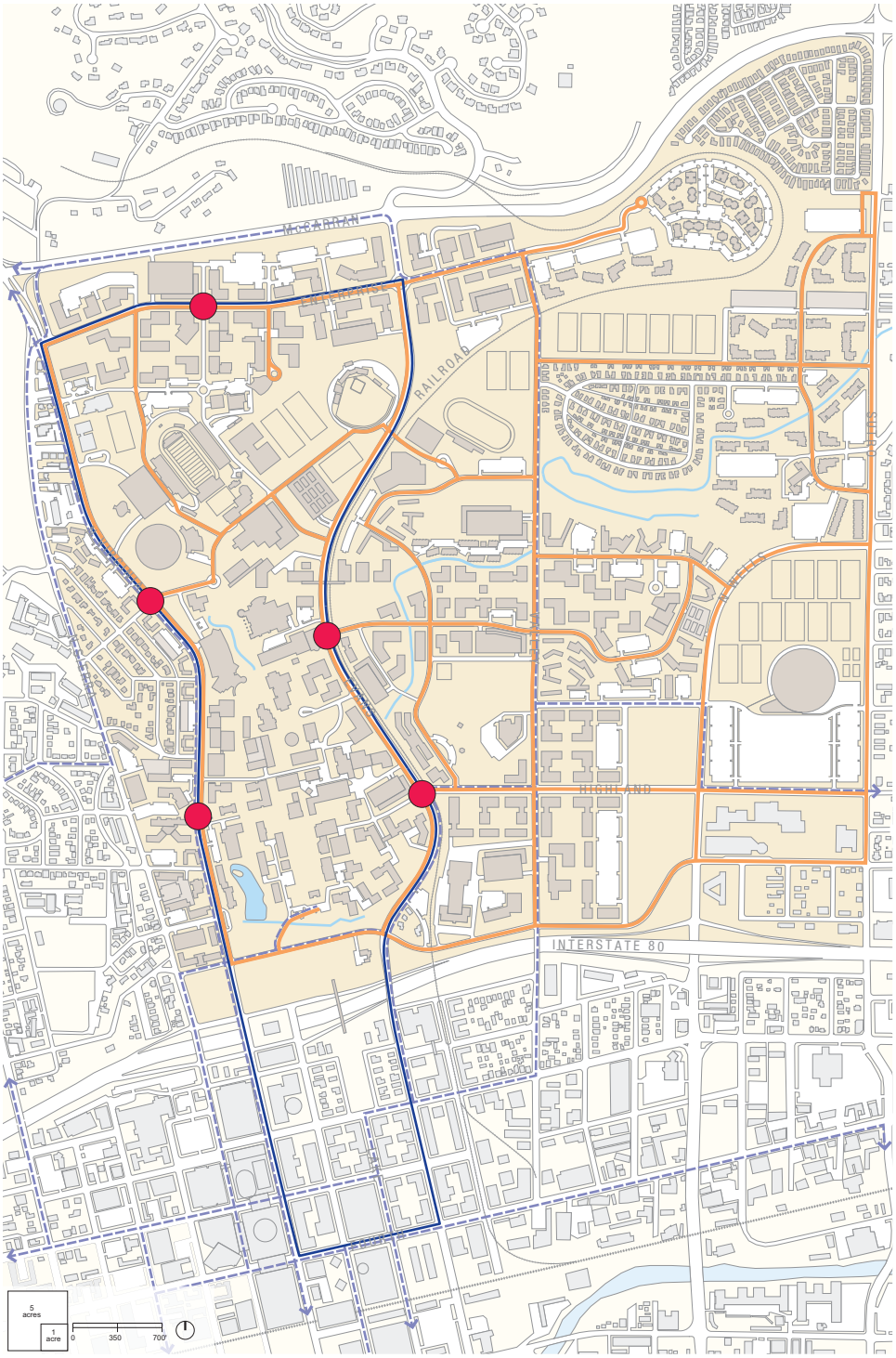
Interstate 80 is the place where the university meets the new mixed-use district to the south and offers direct access to the university and downtown. The master plan proposes changes and realignments of existing roadways to facilitate campus and downtown ingress and egress from the freeway.

Transit

The Bus Rapid Transit (BRT), Citifare, Sierra Spirit, and the university's shuttle system provide comprehensive transit service to the campus along major arterial roadways and connecting streets. Evans Avenue, Enterprise Road, and North Virginia Street provide a loop system, with service in both directions, for the BRT. The BRT route, originating at the planned downtown 4th Street transit center, will have five stops on campus. The BRT and Citifare will connect the university to the greater Reno region through the 4th Street Transit Center. The university's shuttle service uses Evans, Enterprise, North Virginia, and connecting streets to reach virtually all corners of the campus. The shuttle system could be further extended to residential areas with high concentrations of students and faculty; further review is necessary to determine specific routes.

3-28 Transit - Horizon 3

The proposed BRT line provides regional connections to university shuttle and city bus routes. Five strategically located stops provide direct access to major campus districts while maintaining reasonable service speeds. University shuttle routes not only connect new residential areas with academic districts, but also provide links to remote parking areas.



L E G E N D

- Potential Shuttle Route
- Bus Rapid Transit Route
- Bus Rapid Transit Stop
- Existing Public Bus Route

Best Practice Considerations for Sustainability

TRANSPORTATION AND PARKING

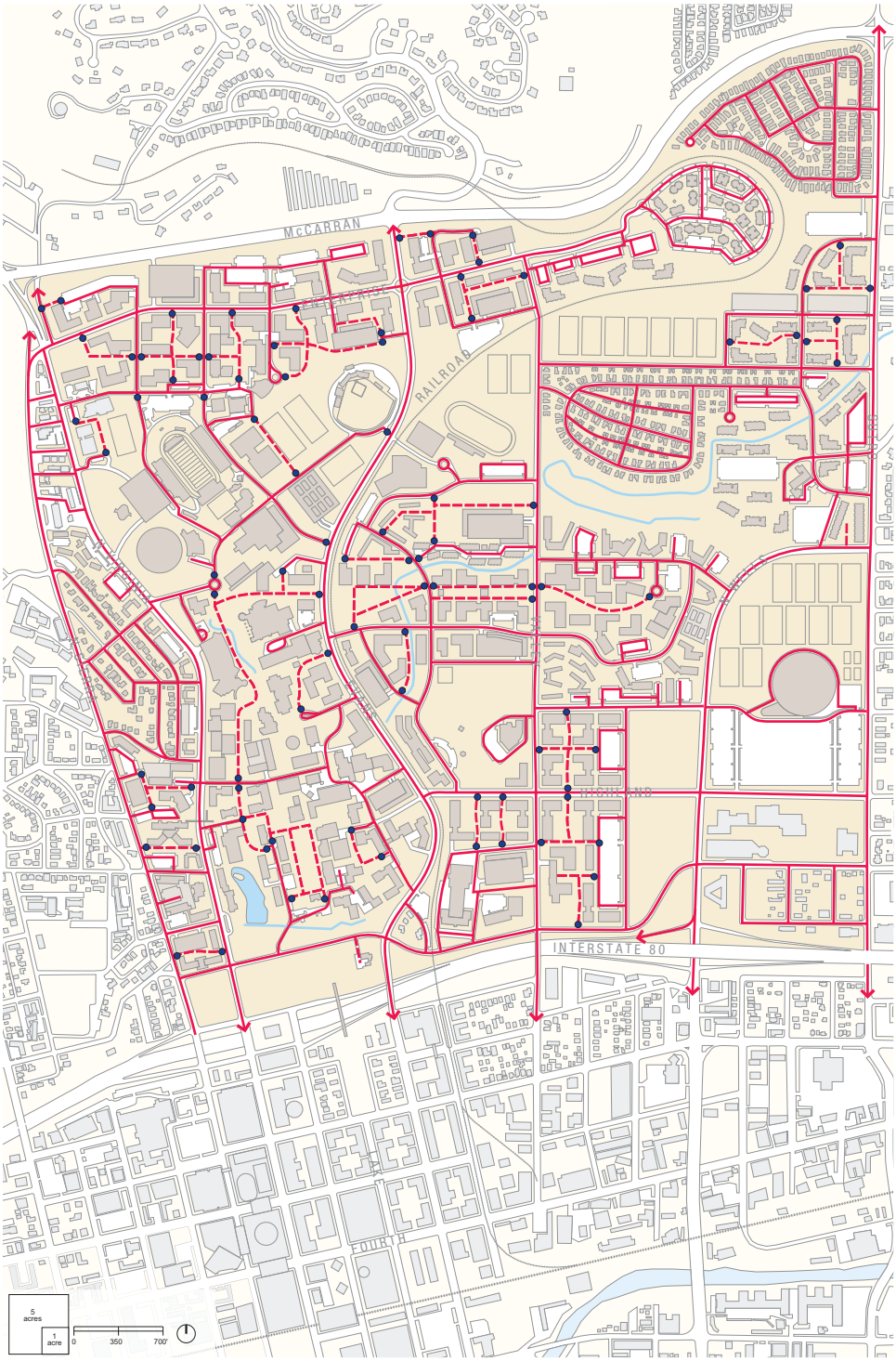
- Reduce need for automobiles for commuting to campus by placing facilities within a half mile of public transportation
- Extend the shuttle system to residential areas with high concentrations of students and faculty
- Replace conventional maintenance and university vehicles with fleets that rely on alternative fuels and energy such as hybrid buses and electric carts
- Create incentives for transit use, such as providing transit passes for students, faculty, and staff

3-29 Enterprise Road

Serving as the central spine for the health services district, Enterprise Road is an urban, pedestrian-oriented street framed by buildings and activated by building entrances and other ground-floor activities.

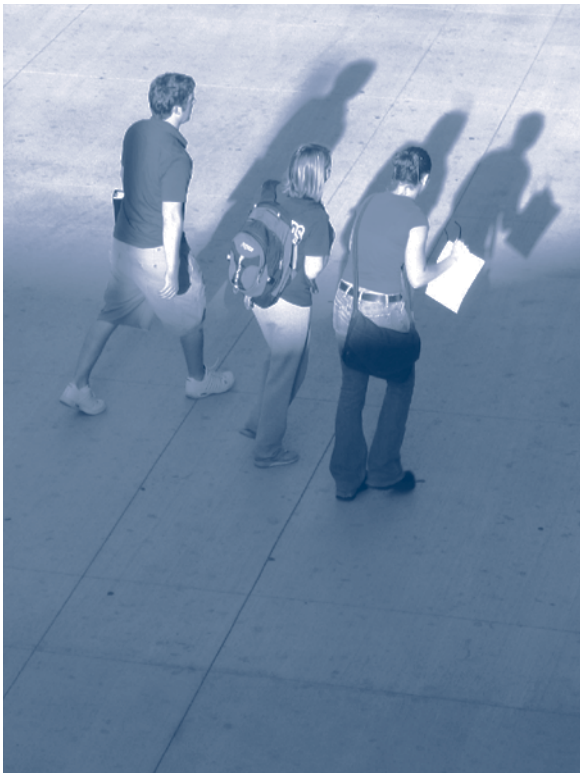
3-30 Emergency - Horizon 3

The master plan provides a comprehensive emergency access system, using streets and pedestrian pathways. Controlled access throughout the campus allows for emergency access when needed.



L E G E N D

- Emergency Access via Street or Parking
- Off-Street Emergency Access
- Controlled Access Point



Guidelines

4

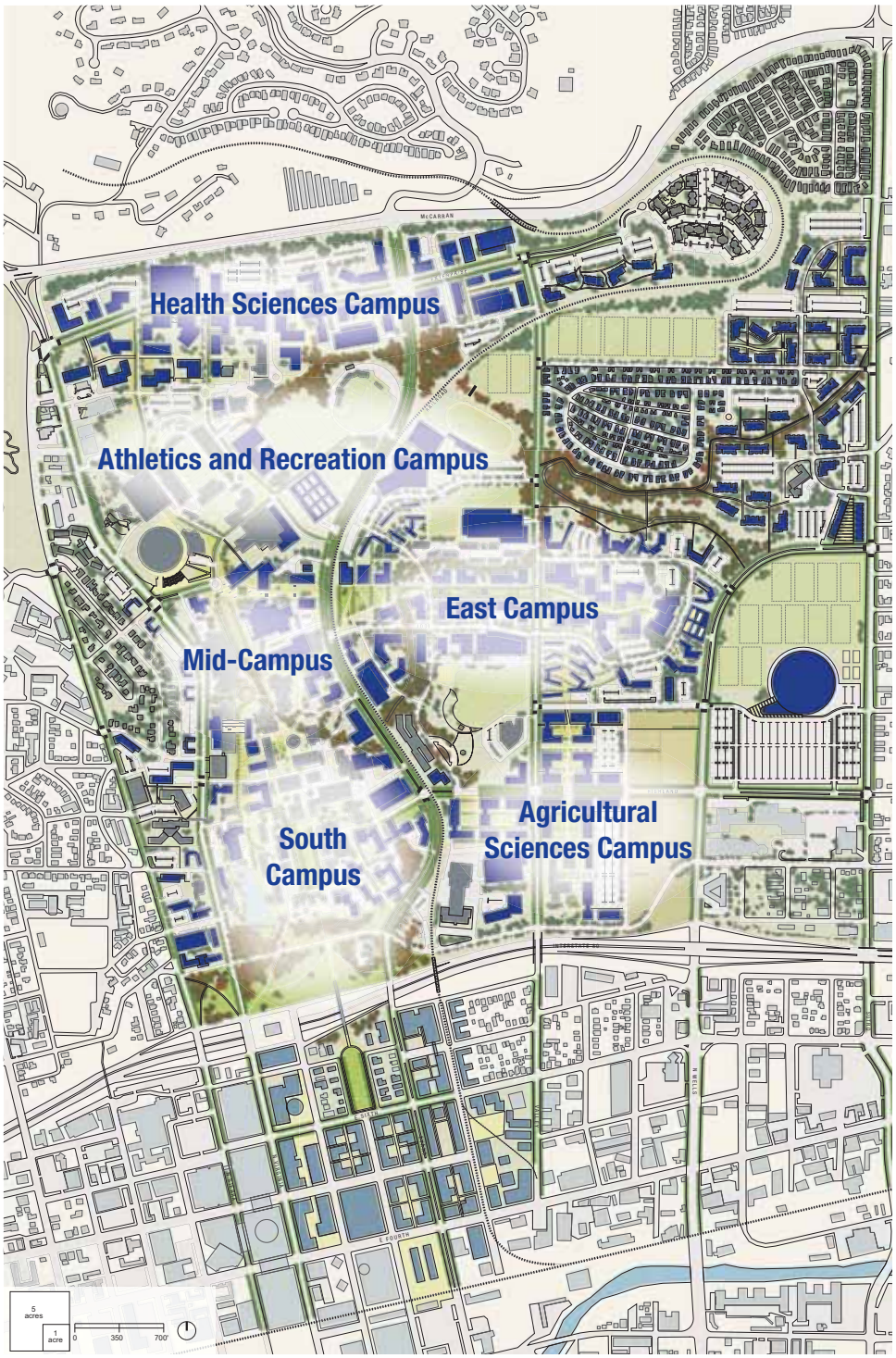
During the Colonial era and early 19th century, campus design in the United States looked to the moral benefits of the landscape and to the nurturing character of Thomas Jefferson's "Academical Village," as expressed at the University of Virginia. Underlying and informing the design of the University of Nevada's historic quadrangle, Jeffersonian principles include:

- *Axial organization of buildings and open space*
- *Straight streets*
- *Buildings aligned with or bordering park-like landscapes reminiscent of village greens*
- *Hierarchical arrangement, with a central quadrangle organizing academic functions with associated functions, typically residential, beyond*
- *Separation of pedestrian spaces and service access*

The success of future improvements and the expansion of the campus depends on creating an ensemble of buildings, open space, and streets that contribute to the campus's quality of life, environment, and character. The master plan's design guidelines, coupled with descriptions of campus districts, establish a framework for improvements.

The master plan sets general guidelines for architectural and landscape character, providing urban design guidelines for each campus district. The campus's districts include South Campus (the historic campus), Mid-Campus, East Campus, Agricultural Sciences Campus, Health Sciences Campus, and Athletics and Recreation Campus. The guidelines do not address residential areas.

These guidelines serve as a starting point for the preparation of campus district plans and associated guidelines. Adherence to guidelines alone does not guarantee good results. A talented design team and an aware and supportive institutional client will bring more to a particular project than it is possible to convey in a set of rules.



4-1 Campus Districts

Campus districts include South Campus, Mid-Campus, East Campus, Agricultural Sciences Campus, Health Sciences Campus, and Athletics and Recreation Campus

Best Practice Considerations for Sustainability

CONSTRUCTION & MATERIAL USE

- Establish sediment and erosion control, especially during construction
- Recycle or reuse building materials that are by products of demolition
- Use salvaged, refurbished, recycled, or sustainably harvested materials
- Use durable materials to increase life span
- Protect indoor air quality of buildings by using carpet, paint, and furnishings with low or no Volatile Organic Compounds
- Use light colored, reflective materials for roofing to avoid heat islands

4-2 **Historic Quad**

Best Practice Considerations for Sustainability

BUILDING DESIGN

- Integrate new construction with existing terrain and environment
- Maximize reuse of existing buildings and infrastructure
- Employ passive heating and cooling systems and use operable windows to provide thermal comfort
- Incorporate solar panels into building design
- Employ day-lighting and use automatic timers for lights
- Ensure adequate natural ventilation; prohibit indoor smoking and smoking near building entrances

GENERAL GUIDELINES

This section describes the architectural and landscape architectural guidelines that apply to the overall campus. Design guidelines specific to each district follow.

Architectural Character

Guidelines for architecture speak to building form and massing, facades and fenestration (windows, doors, porches, etc), building entrances, roof treatments, and materials and color.

Building Form and Massing

- Maintain building heights of three to four stories (40 to 55 foot eave height above grade)
- Selectively punctuate the skyline of the campus districts with building towers
- For parking structures, allow up to six levels in height (above grade)
- With new buildings, respond to the context of existing and planned buildings and unique site characteristics
- Use half basements to allow for ample natural light to the basement level
- Orient buildings to take advantage of passive solar heat gain in cold months
- Wrap parking structures with buildings housing convenience retail, offices, etc. to activate adjacent open spaces

Facades and Fenestration

- Enhance building facades by juxtaposing simple brick walls punctured by window openings and lighter articulated porch, arcade, or entry structures
- Allow for a contemporary building expression in new districts
- Incorporate passive solar design to maximize light and heat for improved learning environments
- Avoid the use of large expanses of tinted glass curtain walls

Building Entrances

- Locate primary entrances on important public spaces
- When possible, locate primary entrances to take advantage of the winter sun
- Use articulated porch, arcade, or canopy structures to signal entry and to create transitional spaces between interior and exterior spaces
- Design universally-accessible primary building entrances

Roof Treatments

- Use roof dormers or other roof treatments to reduce the scale of buildings
- Integrate and hide from view mechanical equipment

Materials and Color

- Employ materials and colors appropriate to the context of the university and its regional setting (e.g. walls of brick, stone, poured or pre-cast concrete; roof areas of metal and slate; porch and arcade structures of stone, concrete, or wooden members; glazing with clear, non-reflective, and low-E glass)

4-3 Drought-Tolerant Planting

The use of drought-tolerant plants conserves water resources and connects the campus landscape to the regional ecology.

Landscape Architecture

Guidelines for landscape architecture speak to the overall landscape concept, pedestrian connections, plants and materials, and the campus's various landscape types. The major proposed landscapes include picturesque, formal, irrigation channel, and drought-tolerant landscapes.

Overall Campus Landscape

- Establish a landscape dominated by native and other drought-tolerant plant materials compatible with the high desert, Great Basin Region ecology and punctuated by more formal landscapes connected with campus life and academic and recreational uses

Pedestrian Connections

- Create a coherent, inviting, and safe network of pedestrian pathways with lighting, signage, and landscape
- Create a system of pedestrian connections and programmed spaces that are clearly marked and integrated with pedestrian destinations and building entrances
- Encourage public interaction in primary public spaces by orchestrating the crossing of paths and creating focal points for people to gather

Plants and Materials

- Use paving and site materials that are capable of withstanding the local climate and ranges in temperature
- Use native and drought-tolerant plantings as much as possible, reducing the need for irrigation and chemical applications
- With lawns, use water-saving grasses, maintain with water-efficient irrigation systems, and minimize pesticide and herbicide use
- Establish drought-tolerant demonstration gardens on campus in conjunction with the university arboretum

Picturesque Landscape

- Extend the picturesque landscape of the historic South Campus, characterized by rolling pastoral lawns, informal mixed tree borders, and mixed exotic and native plants, to the campus gateway area between 8th and 9th Streets

Formal Landscape - Open Spaces

- Use formal landscapes, characterized by lawns, plazas, and geometric tree plantings, for quadrangles and other open spaces with programmed activity

Formal Landscape – Streets

- Use formal landscapes, characterized by geometric tree plantings and associated ground cover and shrubs, for streets

Irrigation Channel and Evans Creek

- Enhance the existing irrigation channel and Evans Creek as campus amenities, creating passive areas for relaxation and contemplation
- Create visual and physical access to and along the irrigation channel and Evans Creek

Best Practice Considerations for Sustainability

LANDSCAPE MANAGEMENT

- Install efficient irrigation equipment
- Use recycled site water for non-potable purposes such as irrigation
- Avoid using herbicides and pesticides on campus grounds such as lawns, gardens, and recreation and agricultural fields
- Where mowing is essential, use electric mowers to reduce air pollutant emissions
- Place deciduous and evergreen trees near buildings to block and permit sunlight depending on the season and orientation
- Use filter strips and vegetative buffer areas to improve water quality of stormwater runoff
- Use pervious surfaces, especially on walkways, emergency access ways, and other lower-impact areas

4-4 Landscape Features - Horizon 3

The university landscape is dominated by native and drought-tolerant plantings punctuated by more formal landscapes connected with campus life and academic and recreational uses.

Picturesque Landscape

The picturesque landscape of the South Campus extends to the gateway area between 8th and 9th Streets

Formal Landscape – Open Spaces

The formal landscape character of the South Campus's historic quadrangle, including plazas and other treatments consistent with programmatic needs, extends to the new campus quadrangles and mall in Mid-Campus and East Campus

Formal Landscape – Streets

Formal streetscape treatments define gateways, streets, and parking areas, and form buffers and boundaries

Irrigation Channel

The enhanced irrigation channel passes through the South Campus, East Campus, and northeastern residential areas

Evans Creek

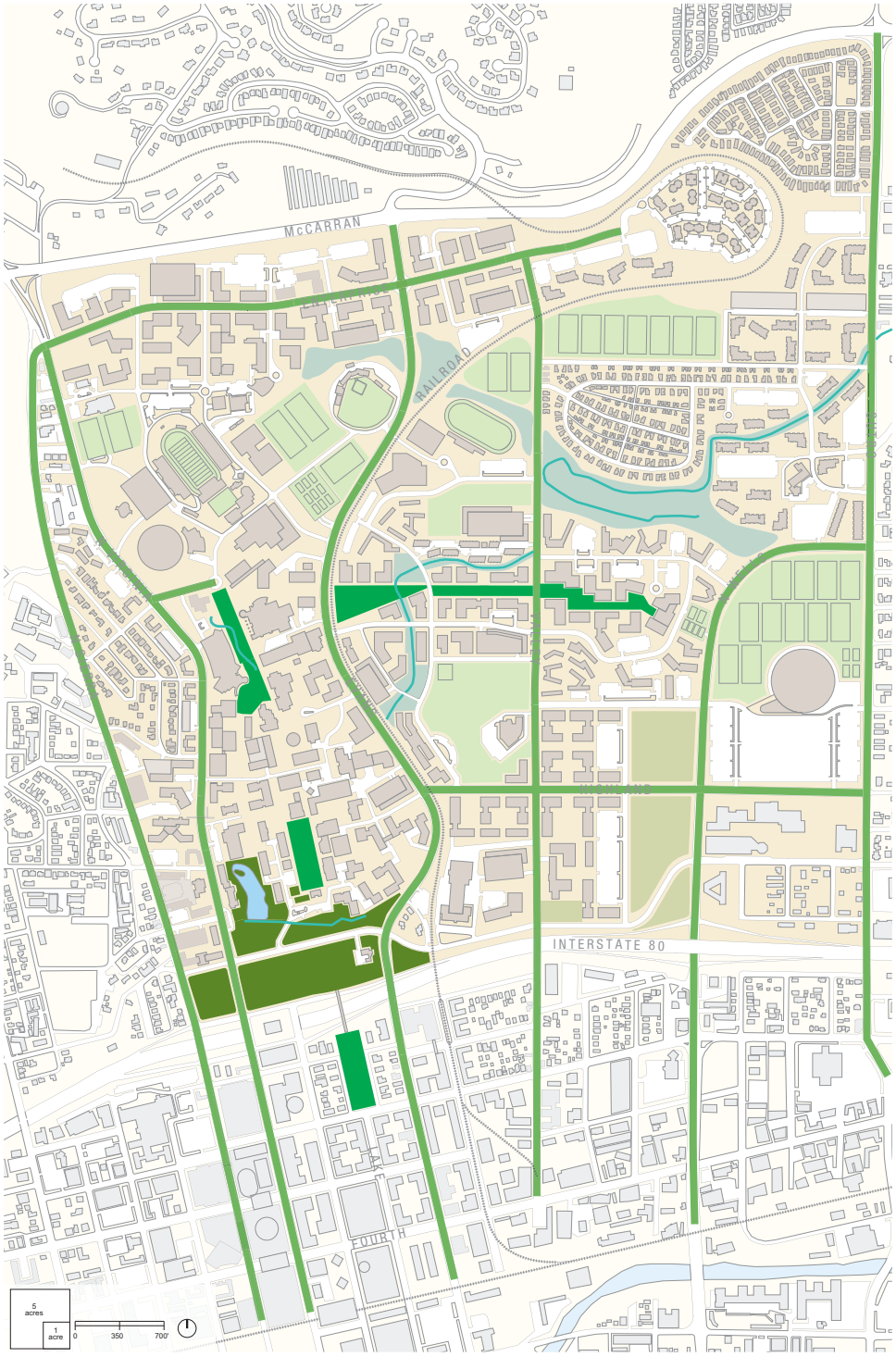
The reclaimed and enhanced Evans Creek is a prominent feature of the Mid-Campus.

Athletic and Recreation Fields

Athletic and recreation fields are functional landscapes responding to the needs of athletic and recreation programs

Agricultural Landscape

Agricultural landscapes are functional landscapes responding to the needs of university research

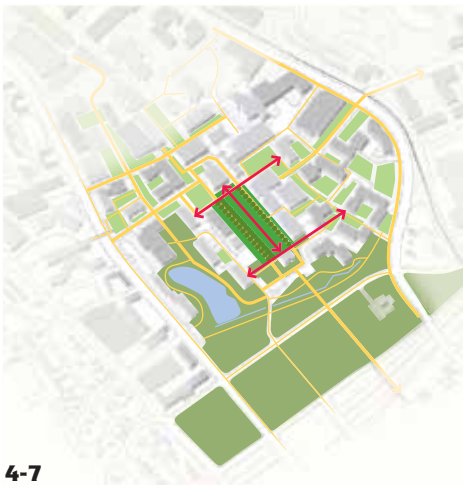


4-5 South Campus

The South Campus contains the historic core of the university campus. Bounded by 8th Street on the south, North Virginia Street on the west, Evans Avenue on the east, and the Mid-Campus on the north, the district's iconic arrangement of buildings and quads is the image of the university.

Laid out based on the model of the University of Virginia, a core of smaller and historically significant buildings characterize and form this district. Its series of interconnected quads of varying size, use, and importance remain the symbolic heart of the university.

4-6


4-7

SOUTH CAMPUS

Existing Organizing Elements

Landform

- Buildings and quads perch on a promontory of land overlooking Downtown Reno and the mountains beyond

Historic Features

- The lake and the main quad distinguish this district; the placement of surrounding buildings and quads directly relate to and support these open space features

Urban Context

- The urban edges at North Virginia and Evans Avenue define the outer limits of the district and influence the placement of buildings at the east and west extremes of the district

Urban Design Framework

Interconnected Quads

- Strengthen the primary urban structure of the district with a series of quads framed by individual buildings and connected by landscaped pathways
- Use buildings to define edges of quads, while allowing for open connections to neighboring quads
- Program active uses for the new quads

Gateway - A New Arrival Sequence

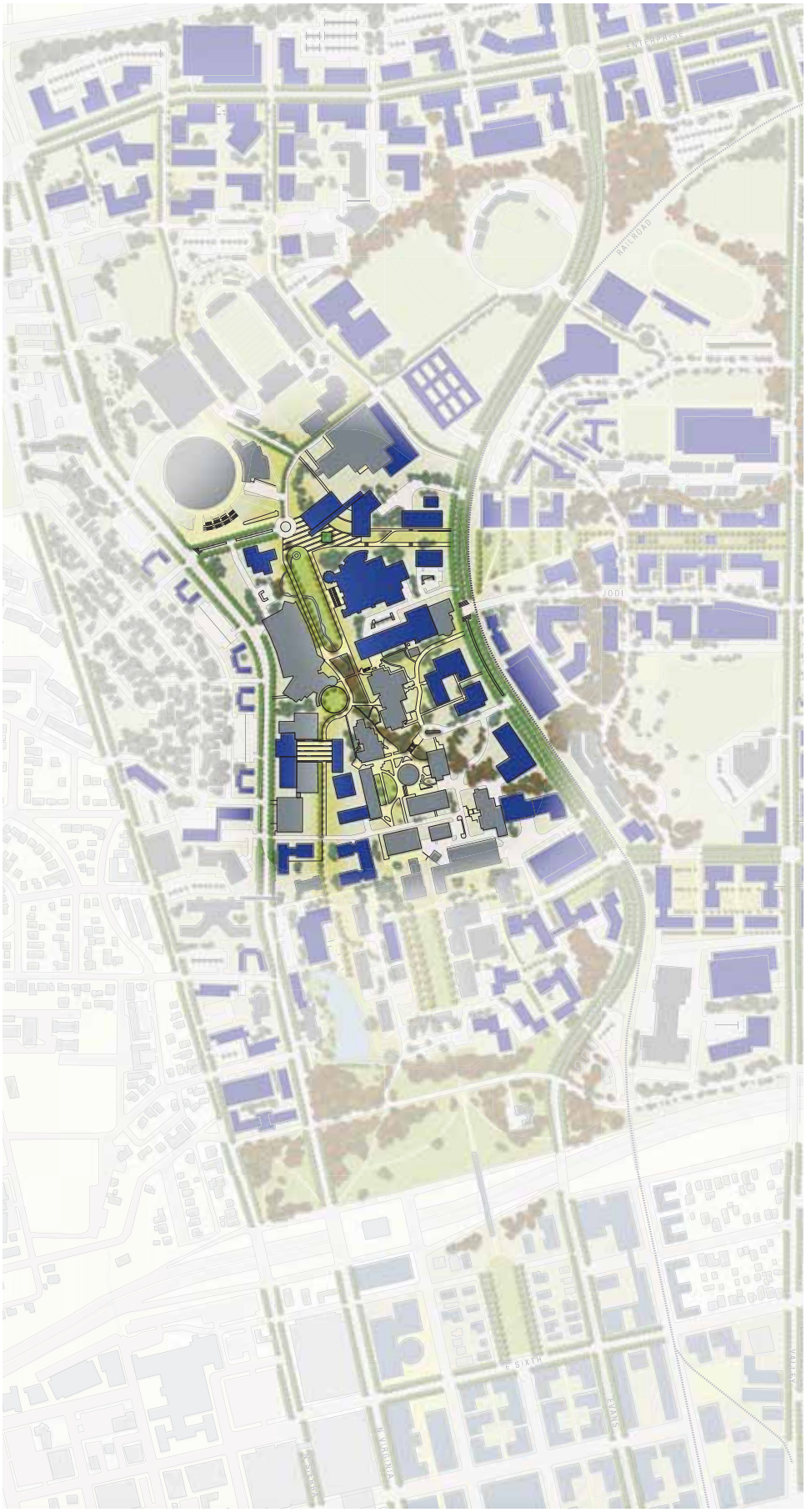
- Create a landscaped area at the symbolic front door of the campus to establish a powerful new image for the university and to elevate its presence from Interstate 80 and Downtown Reno
- Clearly link this gateway with the proposed civic open space south of Interstate 80
- Program the area for multiple uses

Orientation and Visual Relationships

- Create clear and frequent pedestrian connections that are integrated into an overall plan for access to campus and building entrances
- Build on important views that create relationships between buildings and quads and provide orientation

Building Form and Massing

- Use care to have new buildings respond to the scale, proportions, and character of the historic buildings of the South Campus

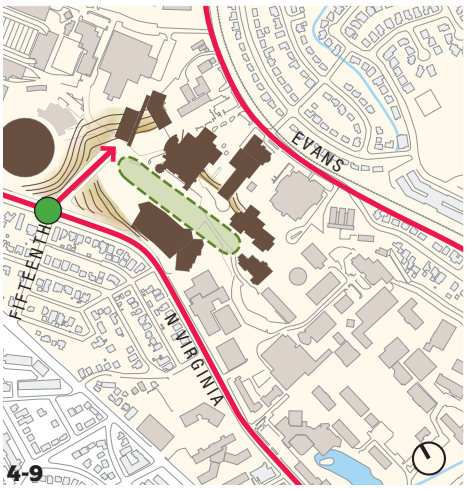


4-8 Mid-Campus

Major event venues, including Lawlor Events Center and the stadium, attract a large number of people to the Mid-Campus. With the construction of the new Knowledge Center and the new Student Union, the Mid-Campus becomes the heart of social life at the university. Bounded by North Virginia Street on the west, Evans Avenue on the east, the Athletics and Recreation Campus on the north and the South Campus on the south, parking lots and structures currently dominate the mid-campus aesthetic.

With the signalization of the North Virginia Street and 15th Street intersection and the introduction of a Bus Rapid Transit (BRT) stop, the district becomes a major entrance to the campus and one of the university's first impression for many visitors.

The plaza and open space improvements between the new Student Union and the new Knowledge Center becomes an important pedestrian hub in this district.



4-9


4-10

MID-CAMPUS

Existing Organizing Elements

Landform

- Terraces, created by dramatic grade changes on the west, north, and east edges of the district, define and afford significant views
- The alignments of North Virginia Street and Evans Avenue create the narrowest and most restricted area on the current campus, challenging the siting of new buildings, open space, and circulation routes

Existing and Proposed Buildings

- A collection of large buildings face onto the Mid-Campus quadrangle; these buildings include the Lawlor Events Center, Whalen Parking Complex, and two new "civic" buildings to be constructed - the Knowledge Center and Student Union

Urban Context

- 15th Street will become a major arrival point to the university's public functions
- The urban edges at North Virginia and Evans Avenue define the outer limits of the district

Urban Design Framework

The Mid-Campus Quadrangle

- Use buildings to form strong edges to the new quad
- Highlight a restored Evans Creek
- Focus east-west pedestrian access at the north end of the quad along the 15th Street corridor
- Use landscape elements such as paths, plant material, and lighting to orient building entrances to the quad, encouraging a high level of use at all hours of the day and evening
- Program the quad for active uses

15th Street Allée

- Create a tree-lined entrance on 15th Street, focusing attention on the roundabout and the new Student Union

Student Union Commons

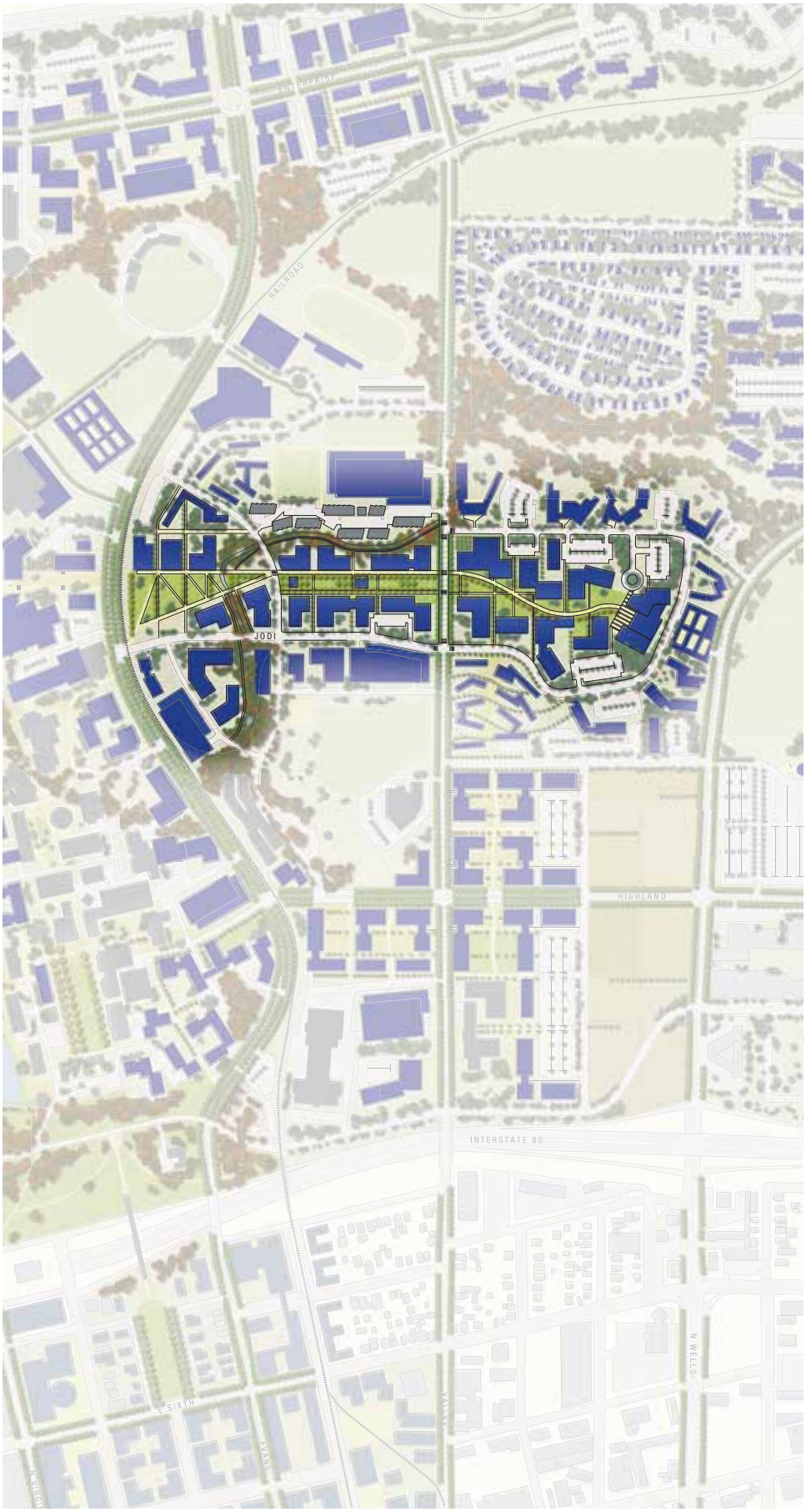
- Bridge topographic changes to encourage pedestrian connections between the quad and the recreation center
- Create a seamless connection within the quad between the new Student Union and the Knowledge Center and beyond

Orientation and Visual Relationships

- Frame views from North Virginia and Evans to the civic buildings in the district

Building Form and Massing

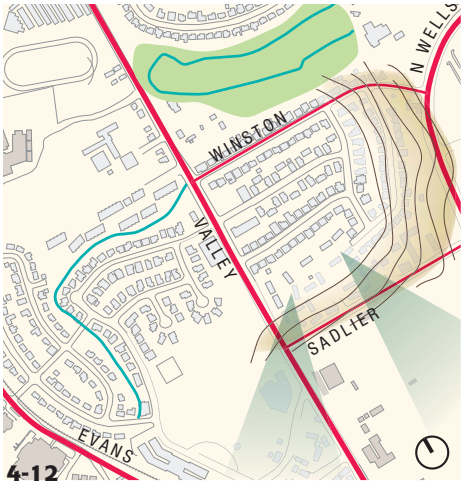
- Articulate the public edges of large buildings with massing and architectural elements of human scale
- Integrate large buildings into the topography and step down their massing as they front onto public spaces



4-11 East Campus

The East Campus significantly expands the academic resources of the university. New academic facilities run along a plateau, flanked by residential complexes that capture and frame views and meander down the hillsides.

Defined by Evans Avenue on the west, North Wells Avenue on the east, agricultural fields on the south, and the rural meadow lands on the north, this distinct plateau of land falls to the south and east, affording near and distant views. An at-grade pedestrian crossing at Jodi Drive ties the Mid-Campus to the East Campus.



4-12


4-13

EAST CAMPUS

Existing Organizing Elements

Landform

- A terrace of land runs along the southern edge of the district, creating a plateau with views to the south and east
- An irrigation channel runs through the northern edge of the plateau, creating a lush expanse of grass and mature trees

Existing Streets

- The area spans between Valley Road and North Wells Avenue and is structured around the existing street network that connects these two arterials

Views

- Dramatic panoramic views overlook Downtown Reno and the mountains beyond

Urban Design Framework

East Campus Mall

- Connect this major new campus district with the Mid-Campus
- Use buildings to define and strengthen this major east-west open space
- Program and design this major open space element for both active and passive uses

Irrigation Channel and Open Space System

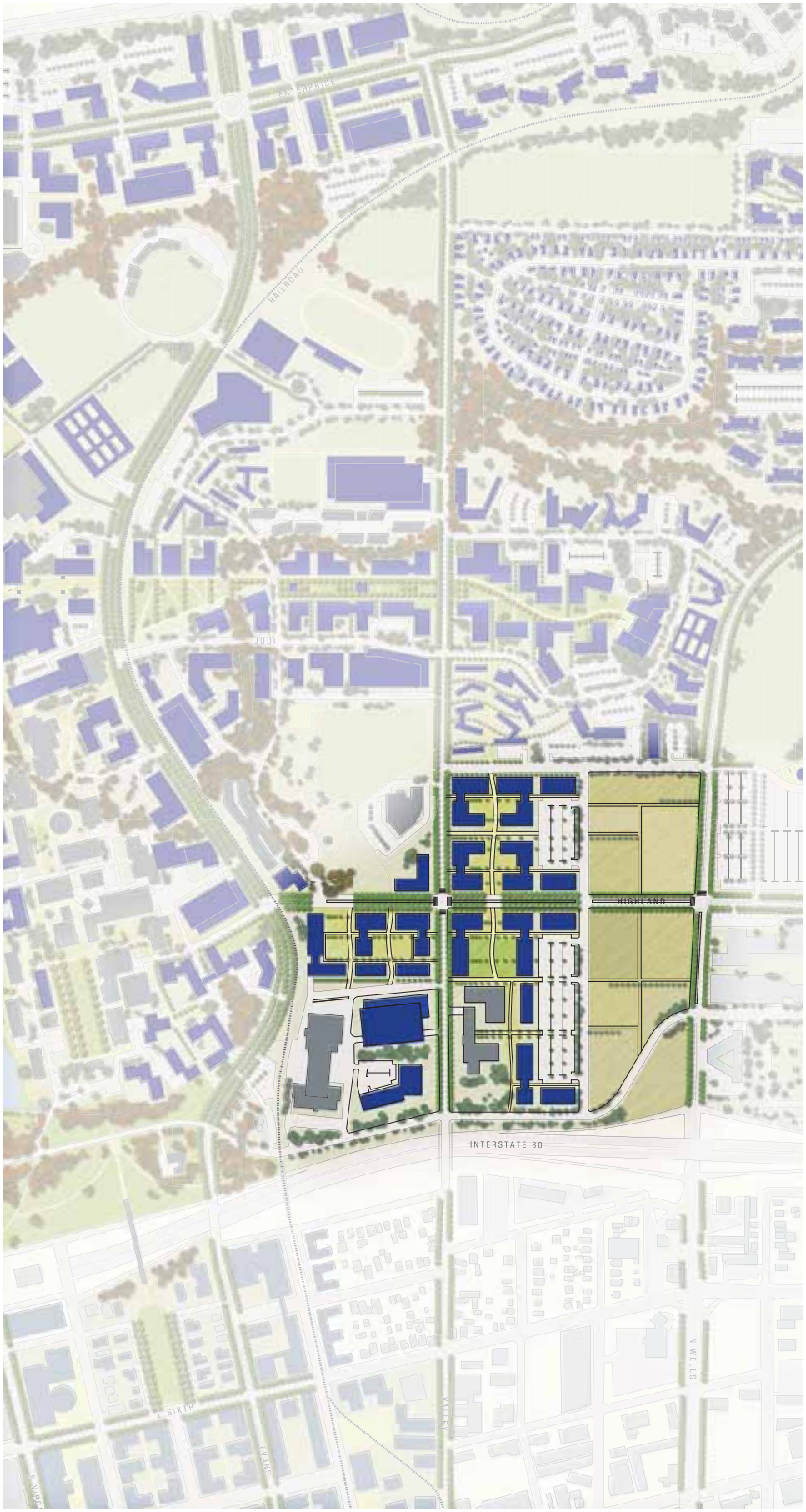
- Embrace and enhance the existing irrigation channel that meanders through the East Campus as a major open space amenity

Orientation and Visual Relationships

- Frame views from the academic plateau through the residential areas to Downtown Reno and the mountains beyond
- Build on important views to create relationships between buildings and quads and to give users an overall sense of orientation

Building Form and Massing

- Use topography and views to guide building heights; e.g. buildings can step back and up to five stories



4-14 Agricultural Sciences Campus

The Agricultural Sciences Campus sits primarily on land deeded to the university for agricultural purposes. The district's agricultural heritage, with its grid of fields, streets, and windrows of trees, forms a dominant image. Bordered by the South Campus on the west, Wells Avenue on the east, the East Campus on the north, and Interstate 80 on the south, the Agricultural Sciences Campus forms an eastern gateway to the university.

The pedestrian connection between the South Campus and the Agricultural Sciences Campus builds on an existing railway crossing at Highland Avenue.

4-15


4-16

AGRICULTURAL SCIENCES CAMPUS

Existing Organizing Elements

Landform

- A flat wide open expanse of agricultural land characterizes the district

Existing Streets and Field Divisions

- Valley Road and North Wells Avenue running north-south and field divisions running east-west create a prominent grid in this district

Views

- The approach to this district from the east affords panoramic views of the fields in the foreground, framed by distant views of university facilities

Urban Design Framework

Grid of Streets and Windrows

- Express the agricultural heritage of this district by organizing buildings and windrows of trees to frame fields and line streets

Courtyards

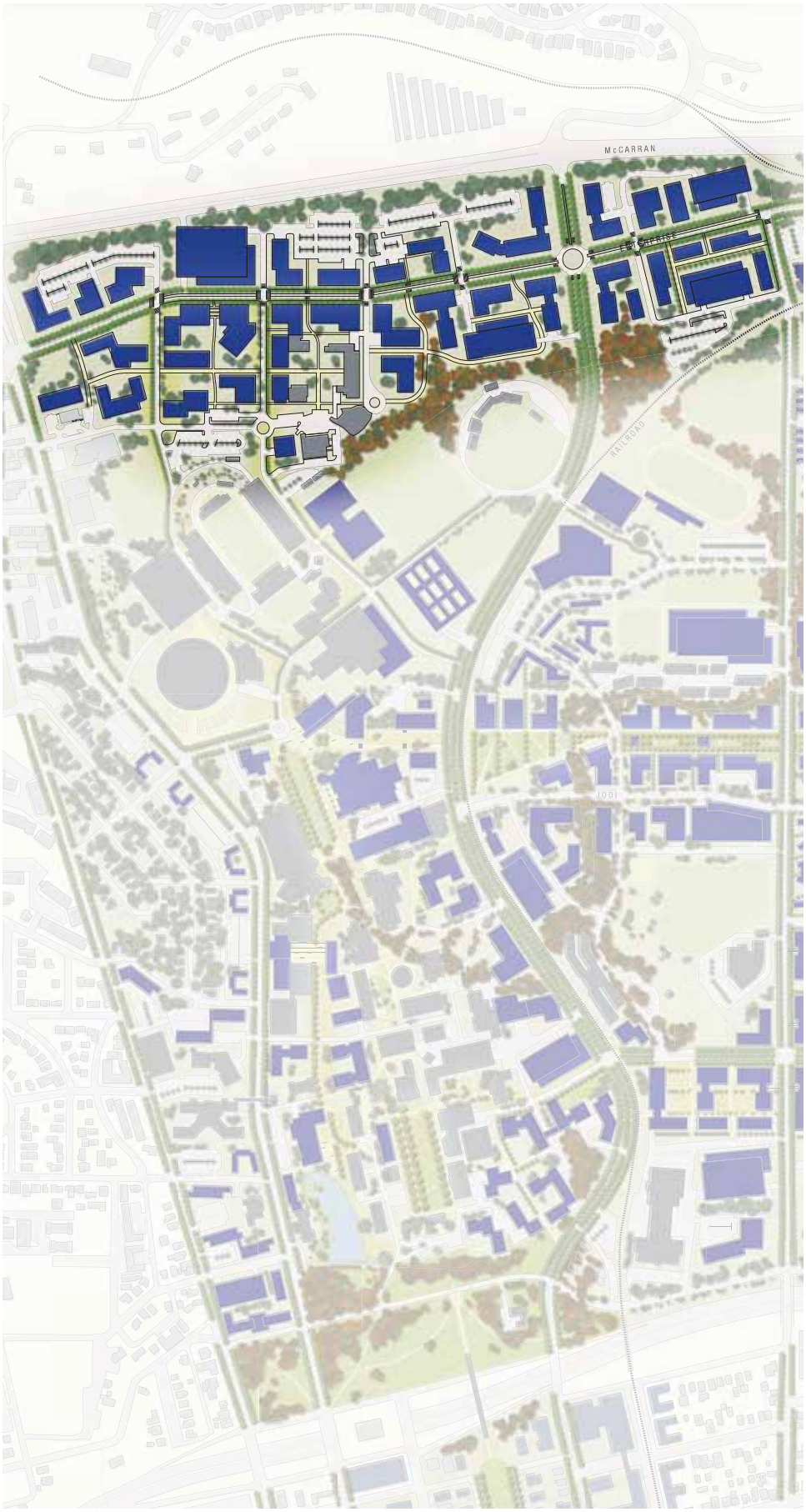
- Create mid-block open space courtyards, with an agricultural vernacular, within building blocks
- Incorporate intimate, protected spaces within the courtyards as retreats for the users of individual buildings
- Create a clear system of pedestrian connections between courtyards to allow for multiple mid-block crossings
- Ensure that entrances are equally welcoming from both the street and the courtyards of building complexes

Orientation and Visual Relationships

- Design courtyards in building complexes along Highland Avenue to be visible and welcoming by creating openings in buildings that line the road
- Use the tree-lined grid of streets to create a clear sense of orientation

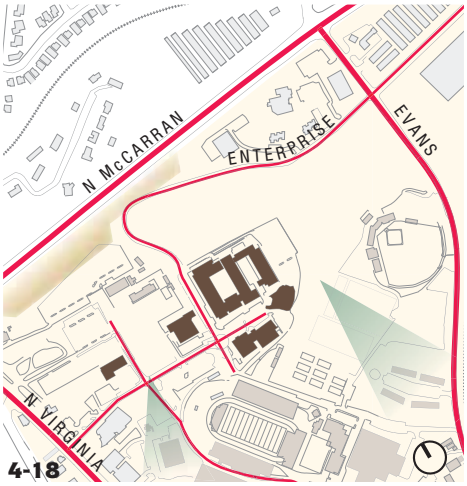
Building Form and Massing

- Vary the height of buildings to soften the hard edges of the grid and to provide visual interest; buildings could range from three stories to six or seven stories
- Mix large footprint buildings with smaller footprint buildings to create informal arrangements



4-17 Health Sciences Campus

The Health Sciences Campus on the northern boundary of the campus is a mixture of academic and research uses and private, research-affiliated enterprises. Bounded by North McCarran Boulevard on the north, athletic facilities on the south, North Virginia Street on the west, and Valley Road on the east, the heart of the district is centered along a new street, Enterprise Road. This road connects North Virginia Street to Valley Road, providing access and a "front door" address to the health sciences facilities. The bus rapid transit (BRT) route provides regional transit access, supported by the university's shuttle system. Strong and clearly articulated pedestrian connections to the south connect the Health Sciences Campus to other campus districts.



4-18


4-19

HEALTH SCIENCES CAMPUS

Existing Organizing Elements

Landform

- The district perches on the northern edge of campus, commanding spectacular views across the university to Downtown Reno
- To the north, the topography rises dramatically to McCarran Boulevard

Existing Streets and Buildings

- The existing medical campus and the alignment of streets influence the location of new streets in this district

Urban Design Framework

Enterprise Road

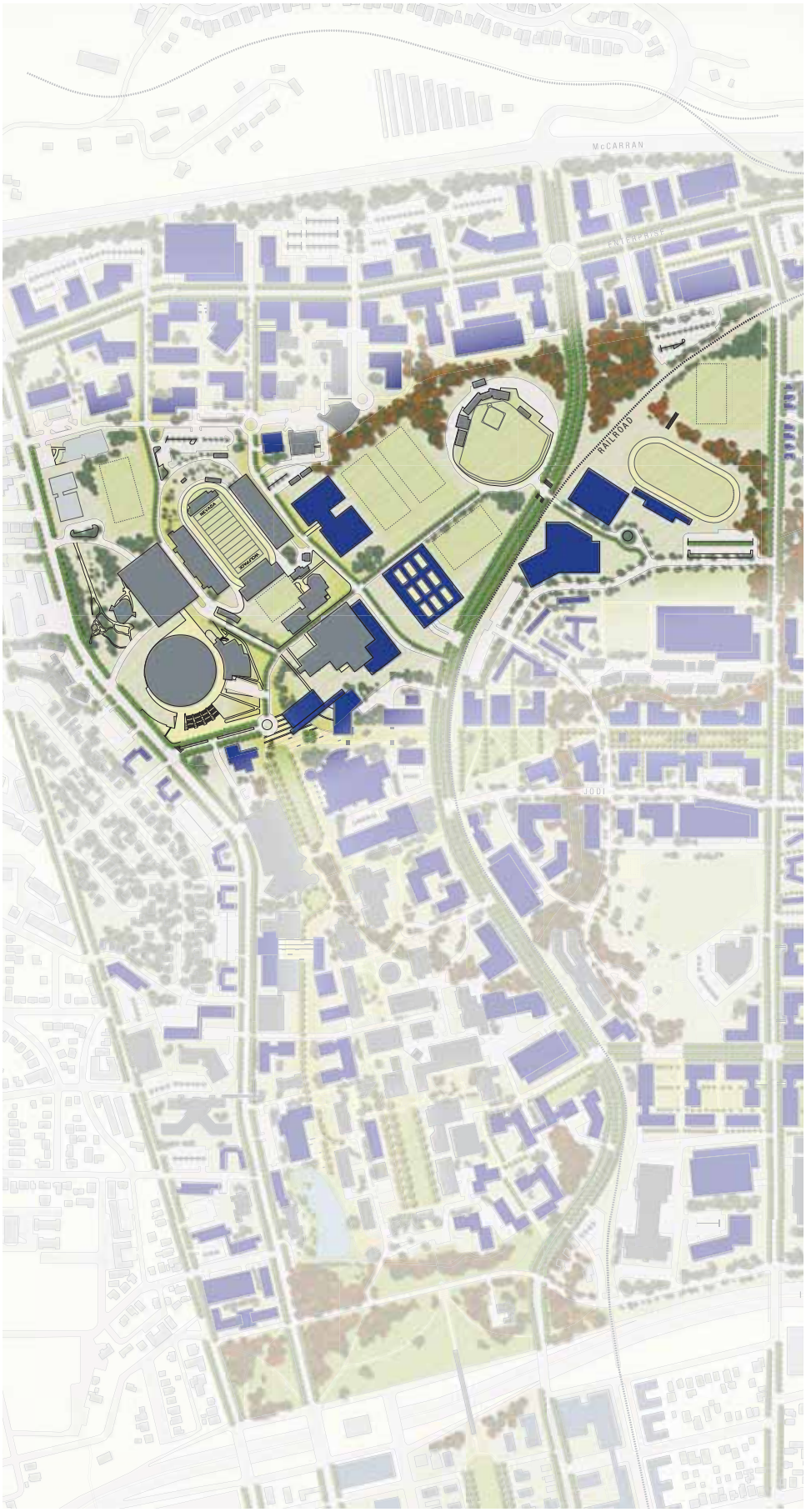
- Establish Enterprise Road as the main organizing element in the district, framed by a grid of north-south streets
- Establish a “build-to” line for both sides of Enterprise, providing a continuous pedestrian-oriented streetscape - suggested line is 15 feet back-of-curb
- Place well-defined primary building entrances onto Enterprise Road
- Use strong masses of plant materials to create a unified character for Enterprise
- Furnish public walks to foster a highly pedestrian-oriented street

Orientation and Visual Relationships

- Create clear and frequent pedestrian connections along tree-lined streets and at mid-block crossings
- Clearly design and integrate the system of pedestrian connections and programmed spaces with building entrances to activate the pedestrian street side environment

Building Form and Massing

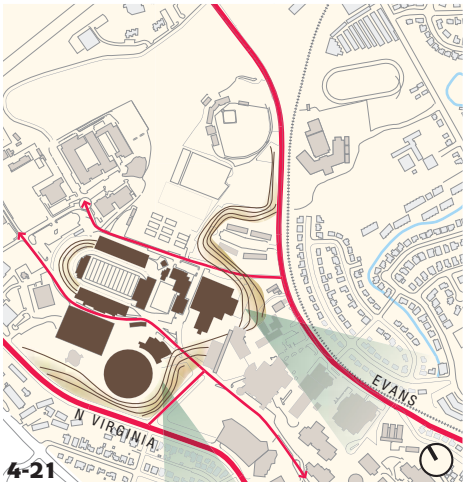
- Allow for a mixture of building heights; punctuate a base of three to four stories with 8 to 10-story towers



4-20 Athletics and Recreation Campus

The Athletics and Recreation Campus forms a band of open space running west to east from North Virginia Street to Sutro Street. This district bridges the new Health Sciences Campus and northeastern residential districts with the academic core. The establishment of inviting, convenient pedestrian connections through this district is critical.

The majority of new athletic and recreation facilities concentrate in the western part of campus, in close proximity to academic uses. Parking in this district serves both the Health Sciences Campus to the north and the core academic campus to the south. New fields on the eastern edge of campus are served by facilities in the new arena and on the former Manogue High School property. An at-grade railroad crossing is proposed at Manogue when railroad policies allow.



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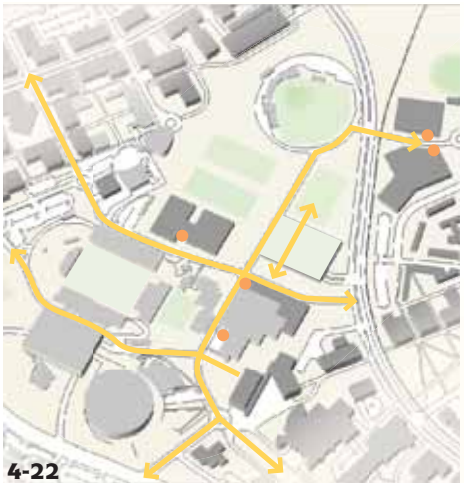

4-22

ATHLETICS AND RECREATION CAMPUS

Existing Organizing Elements

Landform

- Dramatic terraces fall from both the Lawlor Events Center and Lombardi Recreation Center
- The bowl in between the Recreation Center and Evans Avenue provides an unobtrusive site for a parking garage

Existing Streets and Buildings

- Large buildings dominate the district, which is currently bounded by North Virginia and Evans
- The stadium and other existing buildings form a grid for pedestrian connections through the district
- The railroad right-of-way serves as a physical barrier between existing athletic facilities and proposed facilities on the former Manogue High School property

Urban Design Framework

Grid of Pedestrian Pathways

- Orient new facilities on the grid established by existing buildings
- Create pedestrian linkages to the larger open space network, providing joggers and walkers with a continuous route
- Clearly locate and identify building entrances on major pedestrian pathways
- Reinforce north-south pedestrian connections to the Health Sciences Campus and to the former Manogue High School property through landscape, signage, and lighting

Athletic Fields

- When possible, optimize layout of athletic fields (i.e. avoid east-west orientation)

Orientation and Visual Relationships

- Use pedestrian pathways to provide a sense of orientation
- Maintain dramatic views from plateaus by preserving pedestrian access at the edges

Building Form and Massing

- For buildings that serve the community at large, make buildings highly visible and easily accessible to parking
- Take advantage of lower parking structures by siting play courts on roofs; i.e. top the parking structure sitting in the bowl between the Recreation Center and Evans with tennis courts level with adjacent pathways and fields

Implementation

5

Successful implementation of the Nevada Master Plan depends on the orderly redevelopment of land to the east of the existing campus, the careful planning, design, and review of university projects, and the ongoing updating of the master plan and associated studies. Successful implementation recognizes the unique challenges of expanding into areas with established neighborhoods and the incremental and long-term nature of the implementation process.

CONSIDERATIONS

The master plan's strategy for implementation considers several key interrelated factors regarding land ownership, land use designations, public/private implementation initiatives, community stabilization, implementation and land acquisition approaches, and the regulatory framework. The master plan requires significant assembly and redevelopment of selected tracts of land to the east, west, and south of the existing campus.

An important component of the university's implementation strategy will be establishing the ways and means for financing the acquisition of land not currently owned by the university.

Existing Land Ownership

In the context of the master plan's land use designations, ownership patterns have implications for land acquisition and approaches to development. Land currently owned by the university allows for immediate improvements. Land owned by other public agencies or the private sector will require more time for acquisition and improvements by the university or by the private sector.

Regional Center Land Use Designations

Land use designations translate the master plan into land use zones indicating allowable uses. The following are the suggested land use designations to be used by the City in the preparation of the "University Regional Center Plan". All designations, except open space, include retail, food service, and parking in support of the land use.

Academic and Research

Academic and research uses and their related uses include: classrooms, laboratories, libraries, assembly space, academic and administrative offices, operations and maintenance, and student services. Private university-affiliated research facilities, including laboratories, offices, and supportive uses, are also located in these areas.

Health Sciences

Uses similar to "Academic and Research" uses, but related to health science research or the School of Medicine.

5-1 Close-up of Land Area to be Affected by the Future East Campus

Recreation
University-related recreational, physical education, and athletic uses, including stadiums, arenas, athletic fields, and supporting uses.

Residential
Housing for university students, faculty, and staff, including single-family homes, apartments, suites, and residence halls.

Open Space
Programmed and unprogrammed open space not integral to the academic, research, residential, and recreation development (i.e. not included in the above designations). This includes the formal campus gateway and the rural landscape.

Commercial
Existing commercial and retail uses, including county offices. The university reserves the right to acquire these areas in the long-term should such opportunities arise.

Interim Uses
Temporary use of land acquired by the university prior to implementation of plan improvements. Interim uses are not identified on the land use plan.

Public/Private Implementation
Implementation initiatives speak to the possible combination of university, other public, and private initiatives that could be employed to implement the plan. The approaches are in response to land use designations, funding opportunities, and a fundamental desire to realize the plan.

The university will primarily address development of all academic and research functions, supportive services, and residential development focusing on lower division students. The university, with possible participation by the private sector, will also address affiliated research facilities and residential development for adult students, graduate students, faculty, and staff.

Community Stabilization
The university and the city will encourage a stable and vital community within and adjacent to the planned campus boundary. Long-term implementation of the master plan can dramatically impact existing residential neighborhoods and commercial interests, possibly causing land speculation in the area and creating disincentives for investment and improvement of existing properties.

Given the long-term and incremental nature of the implementation process, existing permitted land uses will be allowed to continue to operate and expand. Any changes in use must be in compliance with the new land use designation.

An important component of the university's interface with the community, therefore, will be the adoption of specific policies and guidelines for future land acquisition. Such policies will establish a clear understanding of the intentions of the university, mitigating speculation or disinvestments on the fringe of the campus.

5-2 Close-up of Aerial Perspective of Future East Campus

Land Acquisition

The master plan assumes that the university will acquire individual properties incrementally over time and utilize those properties, until such time that the land is needed for the implementation of the master plan.

The university may be able to raise the funds for land acquisition through a property acquisition fund supported by student fees, donations, bequeaths, and special funding through the State of Nevada. The university may also be able to swap surplus State lands for private and public property. A land trust could be created on the university's behalf.

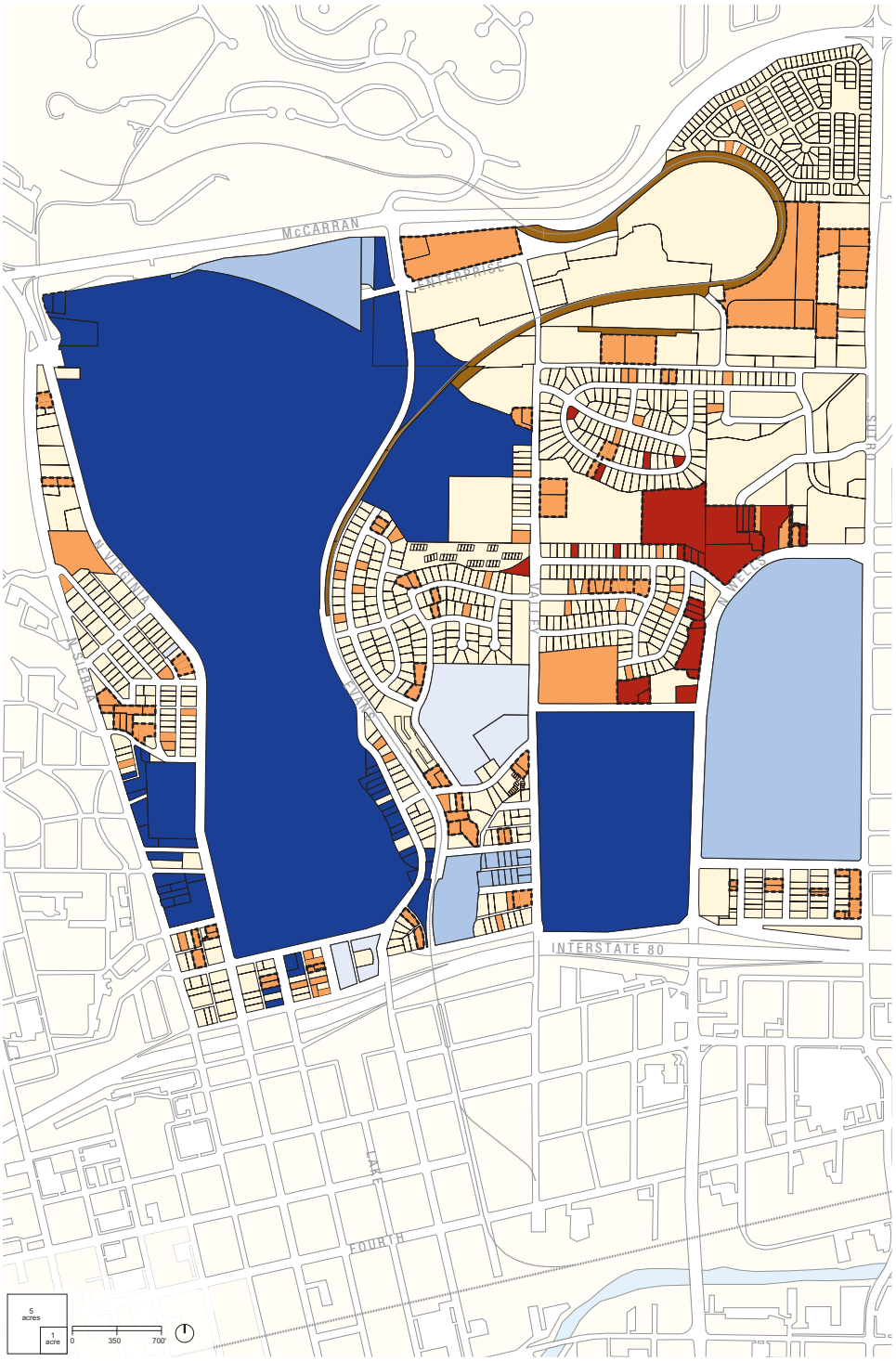
Redevelopment Area

The area south of the existing campus bounded by 8th and 9th Streets, as well as the proposed mixed-use district between Interstate 80 and 4th Street, is under consideration by the City of Reno for inclusion in a designated Redevelopment Project Area. North of Interstate 80, the Redevelopment Project Area could include areas within and/or outside the Regional Center boundary, recognizing the beneficial effects the university could have as a catalyst to private investment.

This designation allows the City of Reno Redevelopment Agency to use tax increment financing to fund infrastructure and public facilities, assemble land, and forge public-private partnerships to encourage private investment and revitalize an area. Pending a financial analysis and further review of the extent of the subject area, the city's Redevelopment Agency could assist the university in assembling needed properties between 8th and 9th Streets.

Regulatory Framework – University Regional Center Plan

The master plan's project area is one of the nine regional center planning districts that the City of Reno has designated for higher density, transit-oriented development. Using the master plan, the city will prepare the "University Regional Center Plan". This plan will describe the development and circulation concepts and the land use, zoning, and code amendments for the area. Adopted by the city, the "University Regional Center Plan" will become an element of the City of Reno Master Plan (i.e. the city's general plan).



L E G E N D

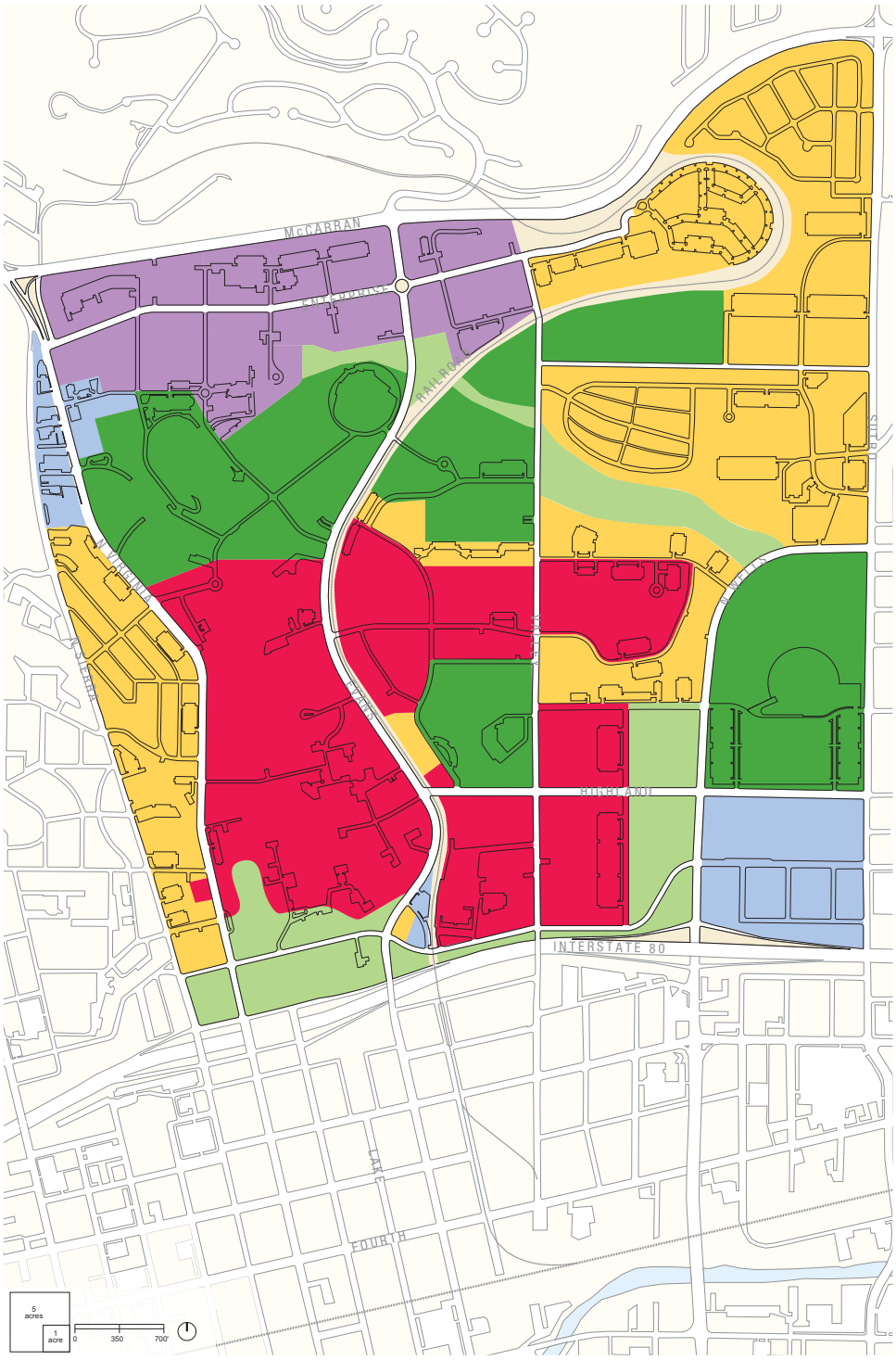
- University Ownership
- City of Reno Ownership
- State/County Ownership
- Union Pacific Railroad Ownership
- Private Owner with Contiguous Parcels
- Private Owner with 1 Parcel within Regional Center
- Private Owner with 2 to 5 Parcels within Regional Center
- Private Owner with 9 to 14 Parcels within Regional Center

5-3 Existing Land Ownership Patterns

Existing ownership patterns reveal a mix of public and private interests.

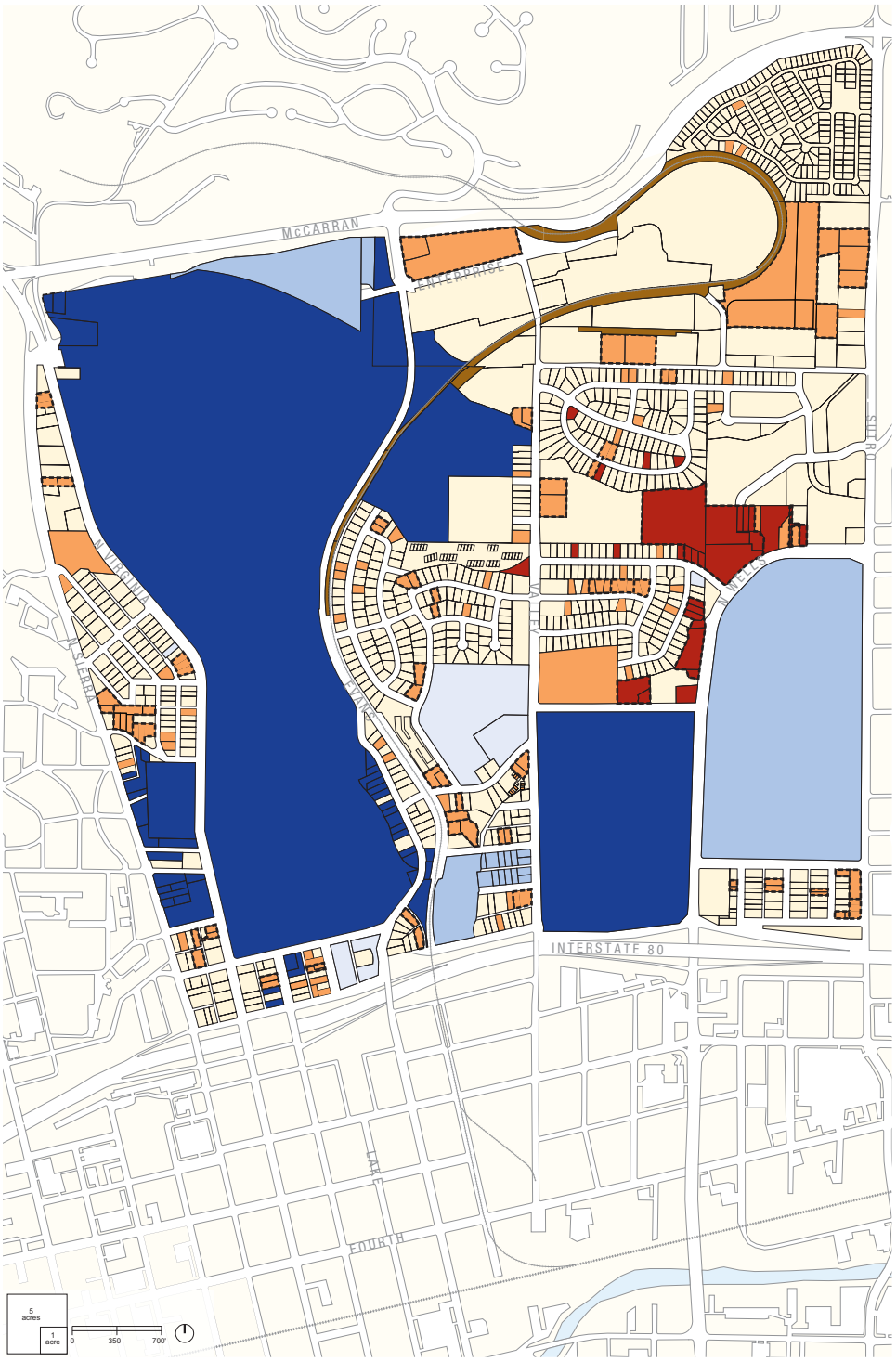
5-4 Land Use Designations for the University Regional Center Plan

The land use designations illustrate the master plan's organizational structure. All land use designations allow university- and neighborhood-serving retail, food service, and parking. Research affiliates (private sector interests) can be located within the Academic and Research, Health Sciences, and Recreation land use designations.



L E G E N D

- Academic and Research
- Health Sciences
- Recreation
- Residential
- Open Space
- Commercial



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- City of Reno Ownership
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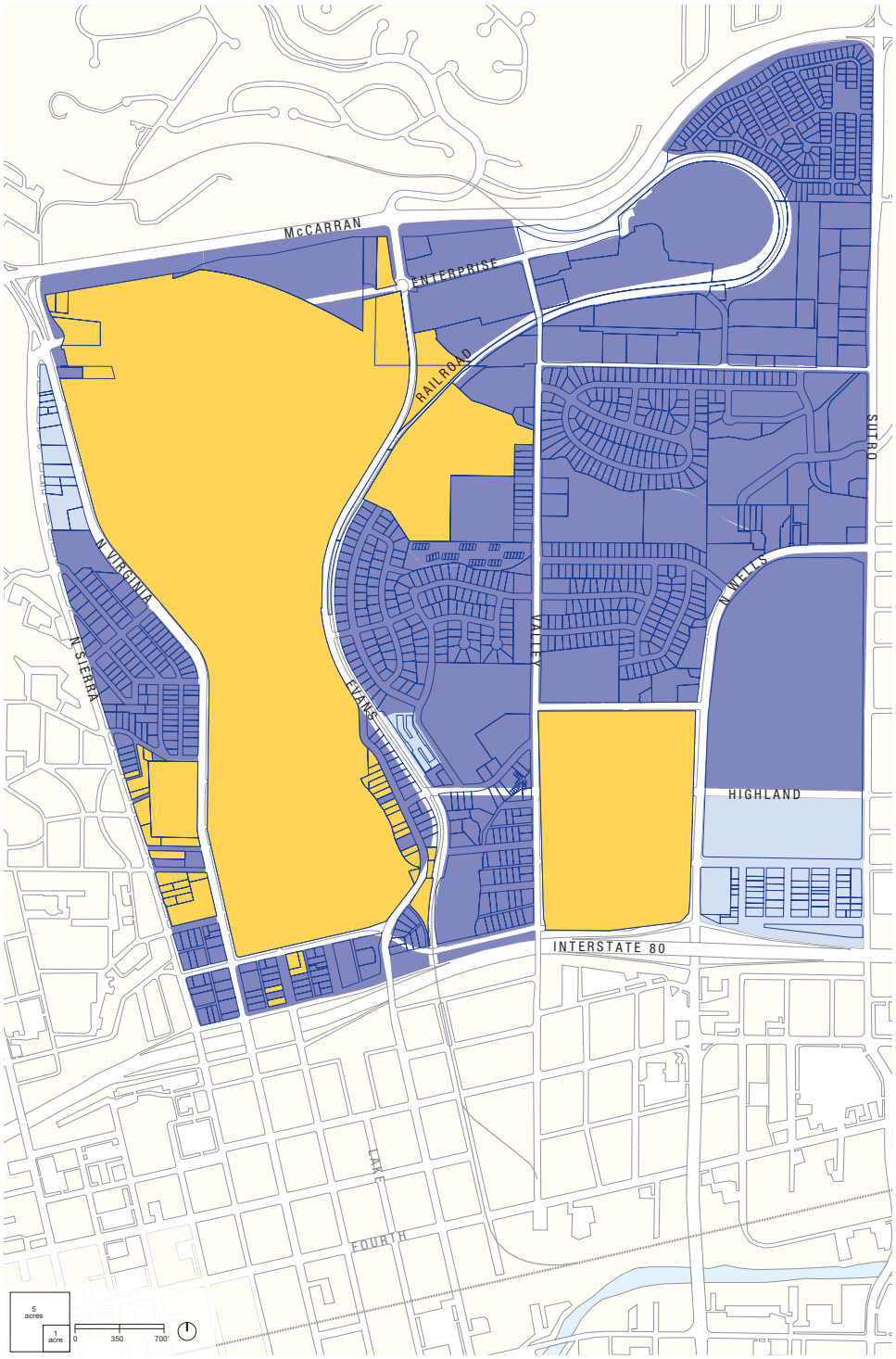


L E G E N D

- Existing University Campus
- University Initiative (includes University/Public/Private Partnerships)
- Other
- Parcel Lines

5-5 Ownership and Land Development

The master plan assumes that the university will acquire the majority of the land within the Regional Center boundary. Some uses could be developed in partnership with public or private interests.

The university reserves the right to acquire land designated as "Other" should these lands become available.

5-6 Building Renovation and Replacement

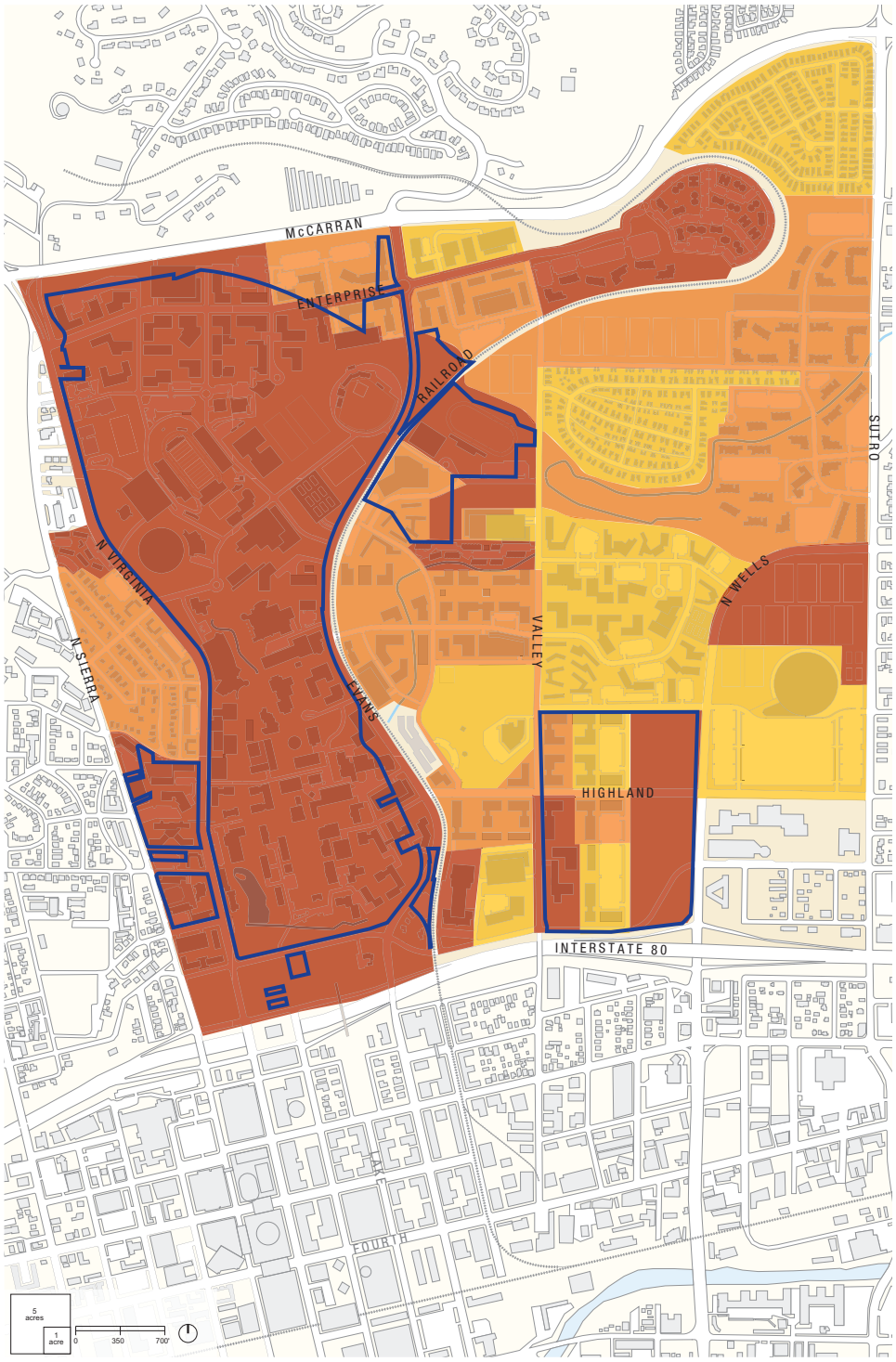
Numerous existing campus buildings will require extensive renovation or replacement in Horizon 1.

PHASING STRATEGY

The master plan proposes an orderly, incremental phasing strategy based on numerous factors including the size of the student body, site characteristics, and the logical development of campus districts.

The three phasing horizons correspond to projected (full time equivalent or FTE) student counts at Nevada. Compared to an existing 2004 FTE count of 11,600, Horizon 1 corresponds to an FTE count of 16,000, anticipated between the years 2012 and 2016. Horizons 2 and 3 correspond to a 24,000 and 30,000 FTE, respectively. The master plan does not project when the FTE thresholds for Horizons 2 and 3 might be reached. The implementation of the master plan for the three horizons involves the demolition of existing on- and off-campus buildings and the selective acquisition of lands not currently owned by the university.

The horizons serve as a guide. The university will undertake continuous review of the supply and demand for facilities to meet the programmatic needs of its growing student population and research functions.



5-7 Phasing Plan by Horizon

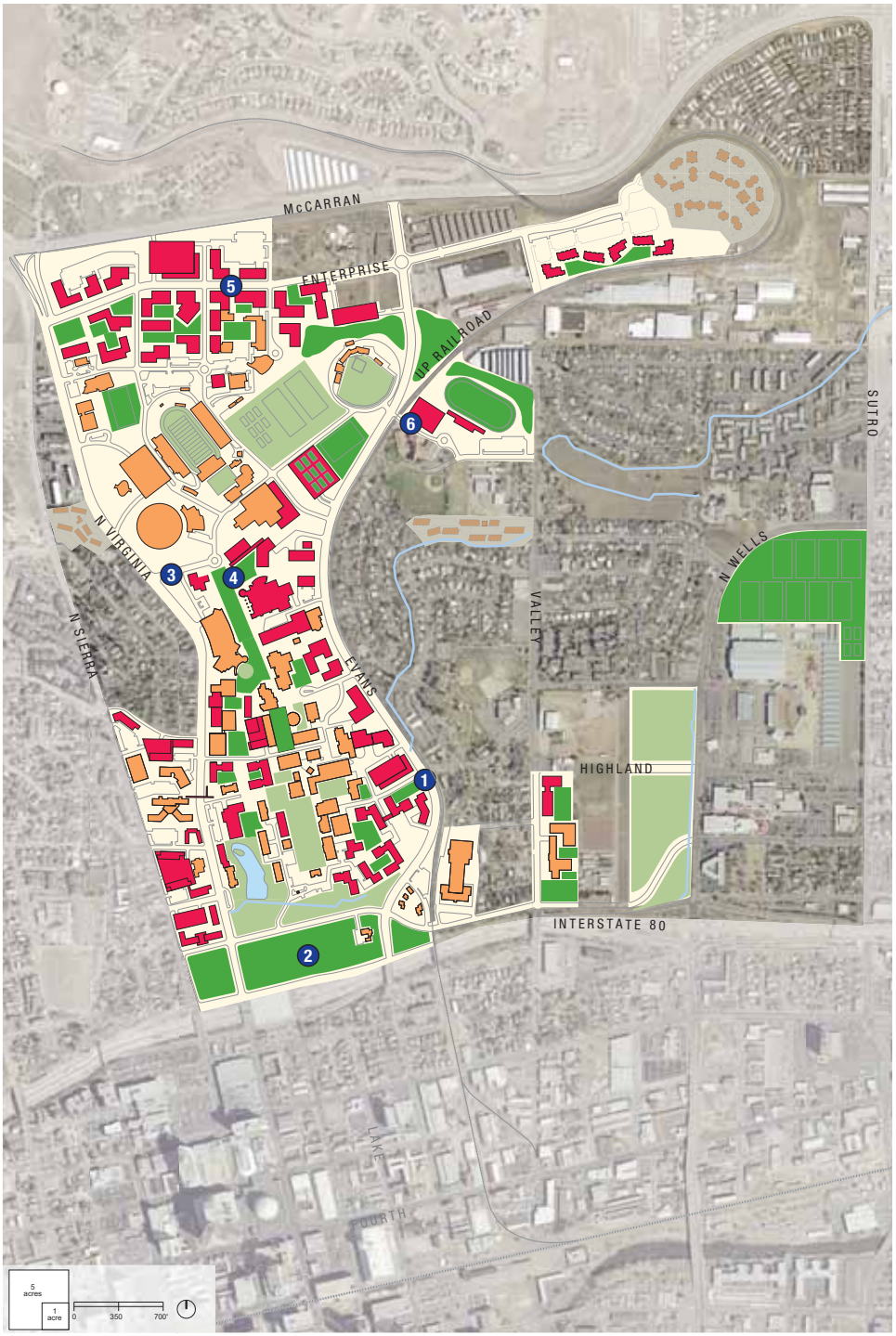
The master plan allows for incremental growth to address increasing program needs.

5-9 Building Renovation and Removal by Horizon

A significant number of buildings within the existing campus boundary will be renovated or replaced in Horizon 1. Some areas will slowly transition from existing industrial or residential uses to university-related uses, while others will be incrementally renovated, replaced, and expanded over time.

L E G E N D

- Renovation or Replacement
- Removal in Horizon 1
- Removal in Horizon 2
- Removal in Horizon 3
- Existing University Campus



L E G E N D

- Proposed Building
- Existing Building
- Proposed Open Space
- Existing Open Space
- Irrigation Channel

5-10 Horizon 1

Student FTE target of 16,000

In addition to selected infill of new buildings on the existing campus, Horizon 1 includes the following major improvements:

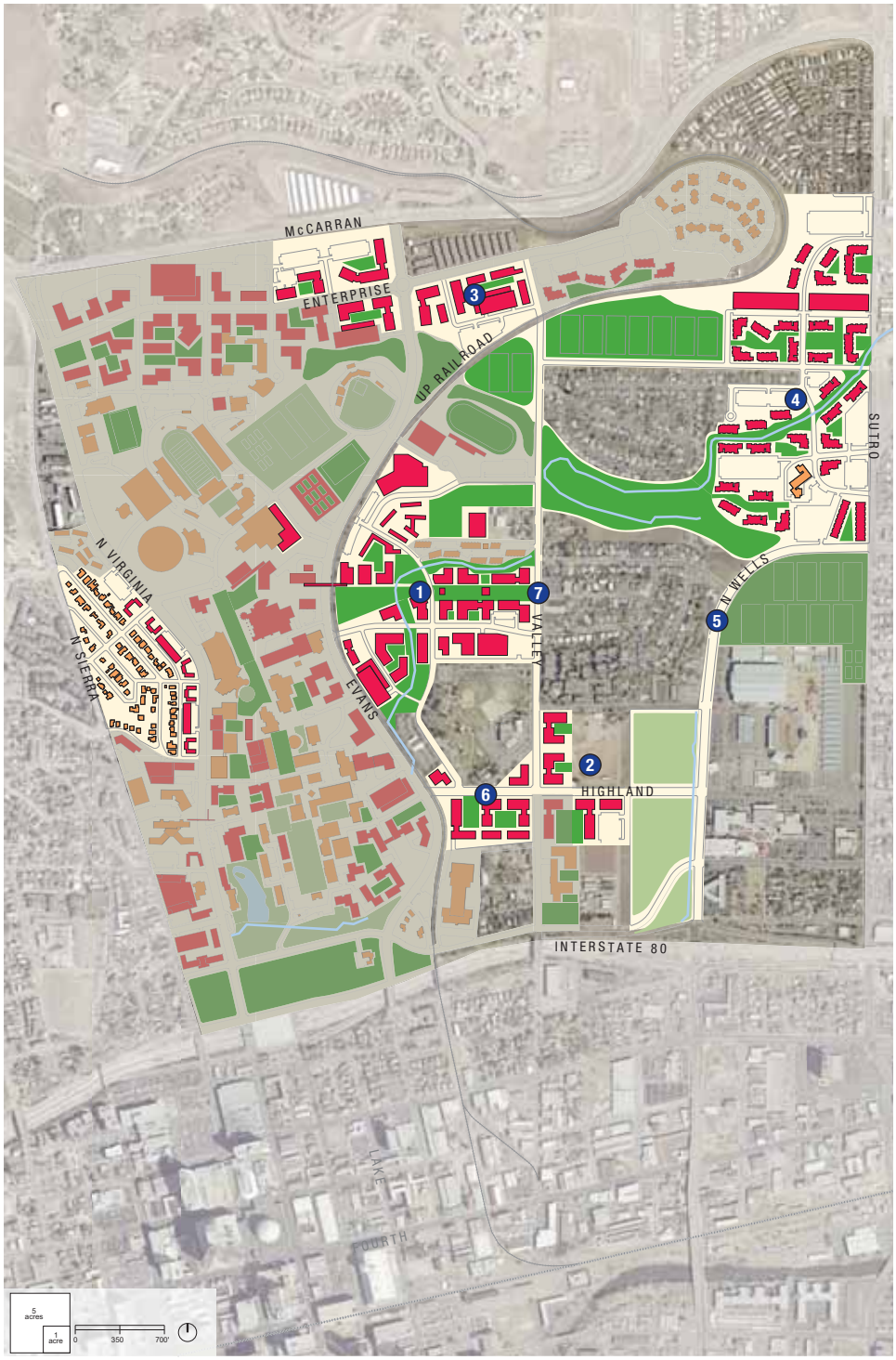
1. *Widen Evans Avenue to a four-lane boulevard and relocate it eastward from its current location in the southern portion of the campus, requiring the acquisition and removal of existing houses in the area*
2. *Create a new gateway open space between 8th and 9th Streets in the southern part of the campus, requiring the acquisition and removal of existing housing and commercial entities in the area*
3. *Create a new gateway entrance at 15th Street, consisting of improved landscape, signage, and a small visitor information building*
4. *Complete the Mid-Campus, including the Student Center, Knowledge Center, and new campus quadrangle*
5. *Relocate Enterprise Road and configure as a four-lane boulevard to organize expanding medical needs*
6. *Construct at-grade railroad crossing when allowed by railroad policy*

5-11 Horizon 2

Student FTE target of 24,000

Horizon 2 includes the following major improvements:

1. *Create the western half of the new East Campus, including new buildings and new mall*
2. *Construct new buildings at the Agricultural Sciences Campus*
3. *Expand private research affiliates*
4. *Construct new university and/or private sector residential development*
5. *Improve North Wells Avenue to a four-lane boulevard, including bike lanes*
6. *Widen selected sections of Highland Avenue to a four-lane boulevard*
7. *Improve selected sections of Valley Road, including bike lanes*



L E G E N D

- Proposed Building
- Existing Building
- Proposed Open Space
- Existing Open Space
- Irrigation Channel

L E G E N D

- Proposed Building
- Existing Building
- Proposed Open Space
- Existing Open Space
- Irrigation Channel

5-12 Horizon 3

Student FTE target of 30,000

Horizon 3 includes the following major improvements:

1. *Complete the East Campus, including new buildings and new mall*
2. *Complete the Agricultural Sciences Campus*
3. *Construct a new 20,000-seat arena with center parking lot available for outdoor events*
4. *Renovate and expand existing residential area as affordable housing for faculty and staff*
5. *Complete Highland Avenue as a four lane boulevard*
6. *Construct pedestrian bridge crossing Interstate 80 (City of Reno initiative)*

5-13 Mackay Science Building

The university should begin with moderate sustainability objectives, and gain momentum by going after "low hanging fruit," before pursuing larger-scale sustainability initiatives.

SUSTAINABILITY INITIATIVES

The master plan recommends an integrated and holistic approach to its planning and development processes, incorporating sustainable practices wherever possible. The master plan's recommendations for implementation of sustainable practices build upon the university's strengths, including the recent proposals to establish the Academy for the Environment and the Institute for Innovation and Informatics, the existence of Students and Educators for Environmental Development and Sustainability (SEEDS), and an effective Faculty Senate.

The master plan establishes the following goals regarding sustainabilty on campus:

- Promote sustainability through leadership and support from top university officials
- Engage faculty, staff, and students from all disciplines in sustainability efforts
- Establish a sustainability baseline assessment and measures of success for the university
- Build momentum and raise environmental awareness with the university community

DESIGN REVIEW

In order to ensure development to the highest standards, the master plan suggests a design review process under the auspices of a design review board or similar body.

The design review board's review responsibility is the "civic" mission of the project. This includes review of the project in light of the master plan and the relevant district plan, with emphasis on the quality of public open space and landscape, architectural form and exterior appearance, the design of primary interior public spaces, and the project's relationship and contribution to the larger campus context in which it is sited.

The success of the design review process is predicated on the careful integration of the design review board into the existing university administration, especially as it relates to campus development and project initiation. Perhaps the most important single factor in successful master plan implementation is the selection of highly qualified design professionals.

5-21 Construction

SUPPLEMENTAL STUDIES

The master plan consists of a set of planning and design principles, concepts, and guidelines, providing a framework for campus improvements for university decision-makers. In order to be effective, the master plan should be supported by more detailed design guidelines at the district level, supplemented by additional planning studies. The master plan should also be implemented, monitored, interpreted, enforced, and modified over time based on regular reviews or in response to significant changes in programmatic needs.

The master plan proposes the following supplemental planning studies:

- District planning and design studies that focus on the district concept (land use, landscape, architecture, circulation, etc.) and design and development guidelines
- Infrastructure master plan
- Signage master plan
- Landscape master plan
- Lighting master plan
- Sustainability master plan
- Land acquisition policies and guidelines plan
- Project-level feasibility studies that address detailed program, preliminary siting, and budget

GRADING AND INFRASTRUCTURE

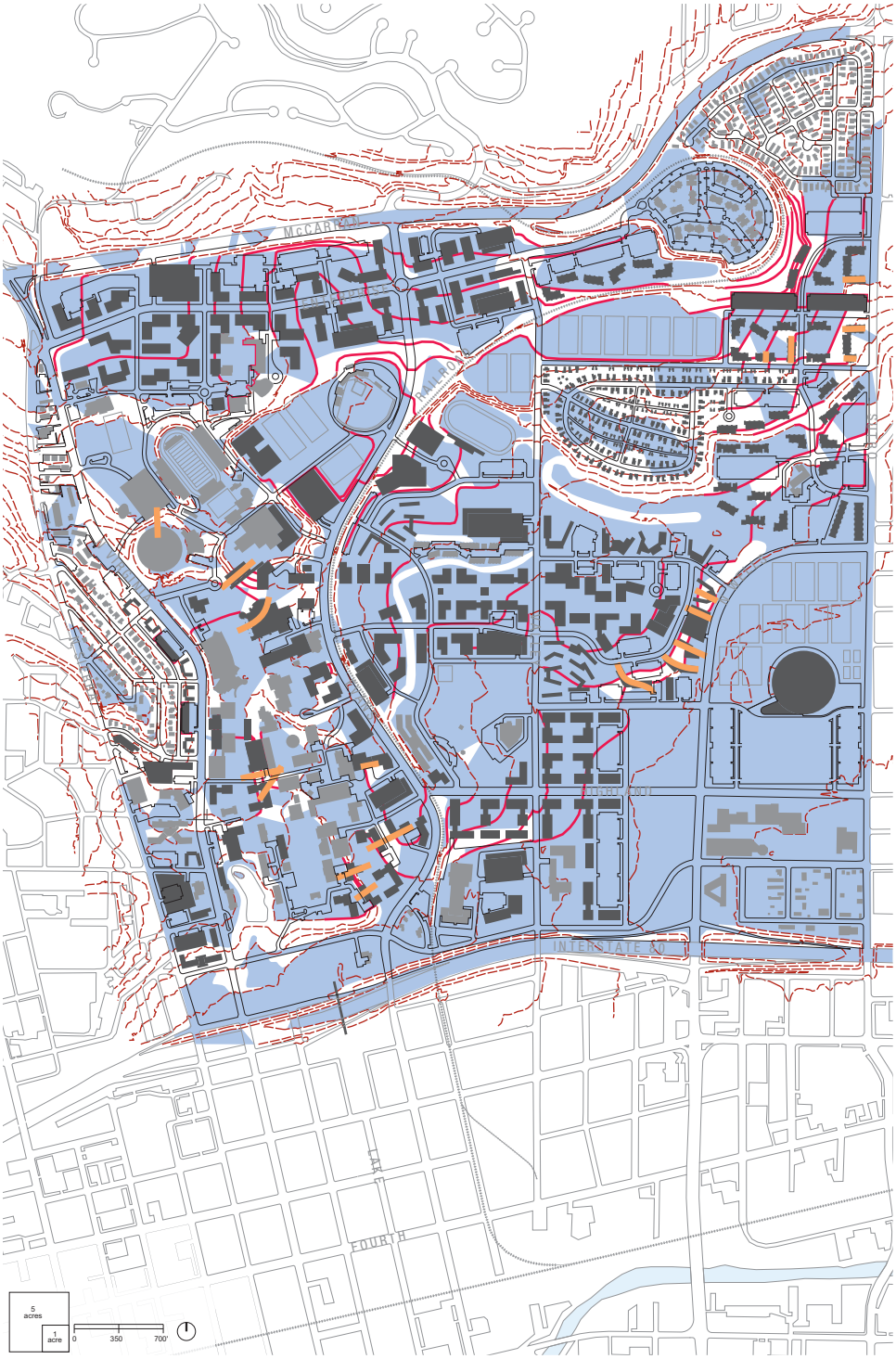
The master plan proposes a grading plan and improvements to campus-wide infrastructure systems for domestic water, fire protection, gas, central heating and cooling, electricity, communications, sanitary sewer, and storm drains. The proposed infrastructure improvements, as presented in the master plan, are diagrammatic and planning-level and are subject to change.

As the university plans and designs buildings, open space, site, and other improvements, a more detailed analysis and field survey should be performed to verify locations and sizes of the infrastructure improvements in the affected area. A preliminary plan and cost estimate for possible new construction, relocation, or upgrade can then be developed. Such work may be incorporated into district design studies.

A phased study of the existing mechanical, electrical, and gas systems of the Nevada campus area is currently in progress. This multi-year phased approach will look at implementing upgrades to the lighting, mechanical, and gas supply systems and may realize substantial future cost savings.

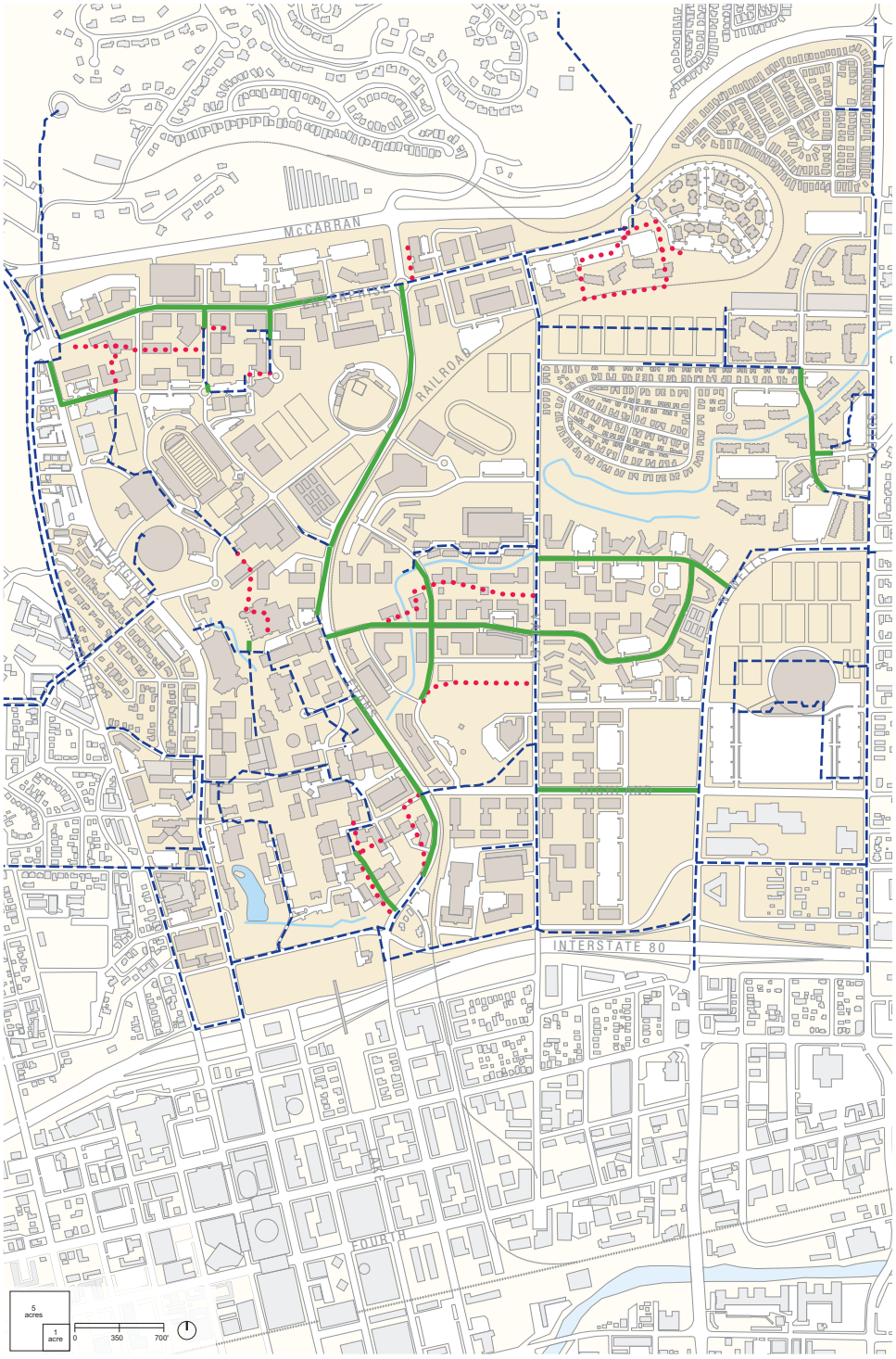
5-22 Grading - Horizon 3

The grading plan for the campus, based on 10-foot contours, takes advantage of opportunities arising from new development areas and strives to create contiguous areas of land with grades equal to or less than 5 percent.



L E G E N D

- Area of ADA Accessibility (less than 5% slope)
- Interior or Exterior Access (bridging areas with slopes greater than 5%)
- Existing Contour (10 ft)
- Proposed Contour (10 ft)
- Existing Building
- Proposed Building



L E G E N D

- Proposed Domestic Water Main
- Existing Domestic Water Main to Remain
- Existing Domestic Water Main to be Removed

5-23 Domestic Water - Horizon 3

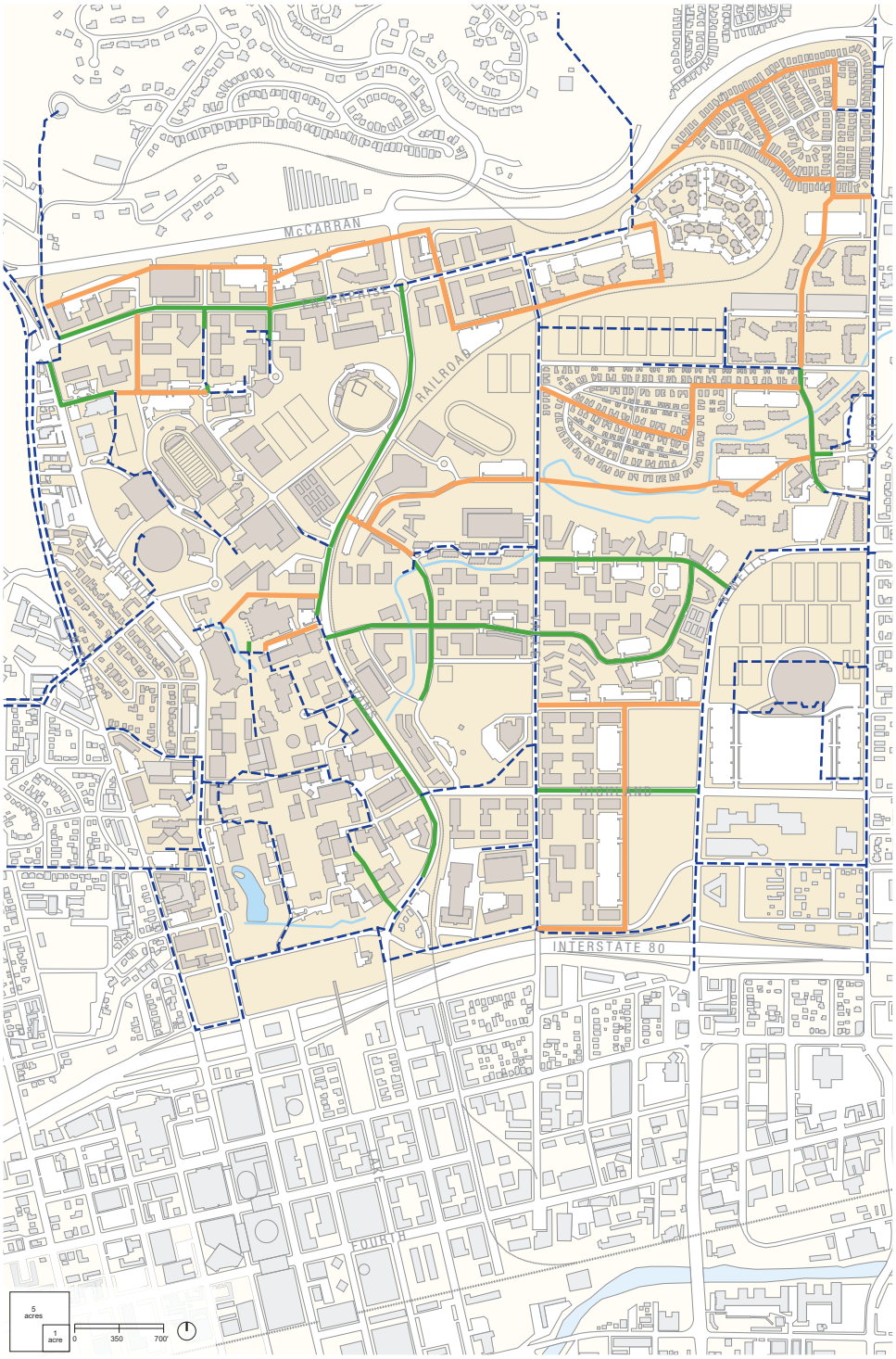
The existing domestic water supply system appears to adequately serve the project area in its current configuration. Static water pressures range from 40 psi to 100 psi and are separated by water pressure zones throughout the entire area.

Newly adopted Truckee Meadows Water Authority (TMWA) fees for additional water supply will greatly increase up-front construction costs.

5-24 Fire Protection - Horizon 3

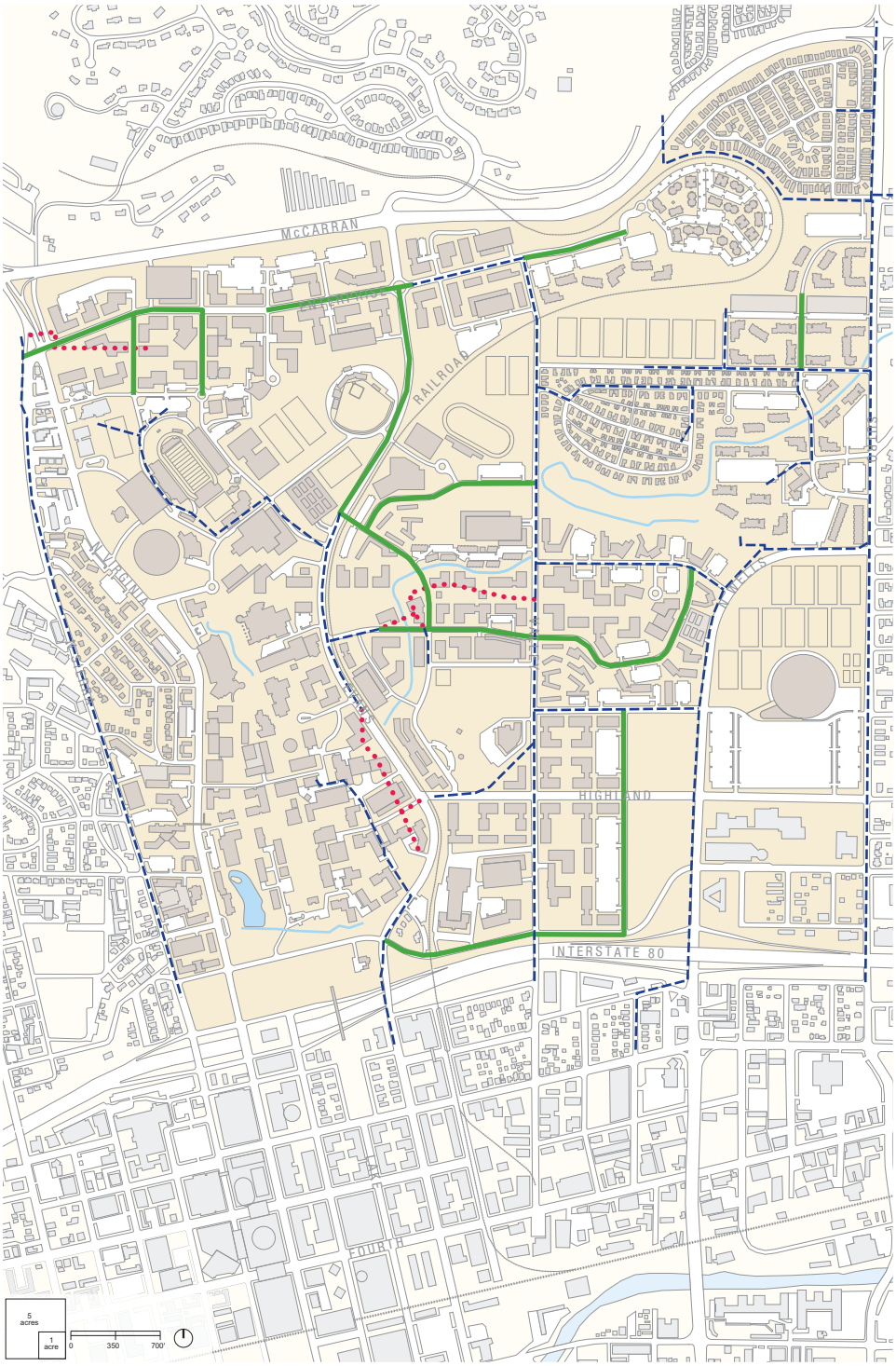
The water supply servicing the project area in its current configuration serves as both domestic and existing fire protection. In the campus area, fire protection currently consists of hydrants located along the streets, along sidewalks, and near parking areas. Buildings consist of full or partial fire sprinkler systems, combined with fire hose cabinets, smoke and heat alarms, and HVAC duct alarms. This current fire protection configuration appears to serve the campus area sufficiently. Throughout the remaining project area, fire protection currently consists of hydrants located along the streets, as standard with City of Reno Fire Code.

The surrounding existing subdivisions are currently serviced by 6-inch water mains. As the areas are improved and constructed, the water mains may require replacement with new 8- to 10-inch water mains, as is now standard within the City of Reno. As shown in the diagram, the new water mains have been placed within the study area to maintain "looped" fire main systems throughout the water supply network.



L E G E N D

- Proposed Fire Main (> 8 to 10 in)
- Proposed Domestic Water Main (> 8 to 10 in)
- Existing Domestic Water Main to Remain (< 8 to 10 in)



L E G E N D

- Proposed Gas Main (≥ 4 in)
- Existing Gas Main to Remain (≥ 4 in)
- Existing Gas Main to be Removed (≥ 4 in)

5-25 Gas - Horizon 3

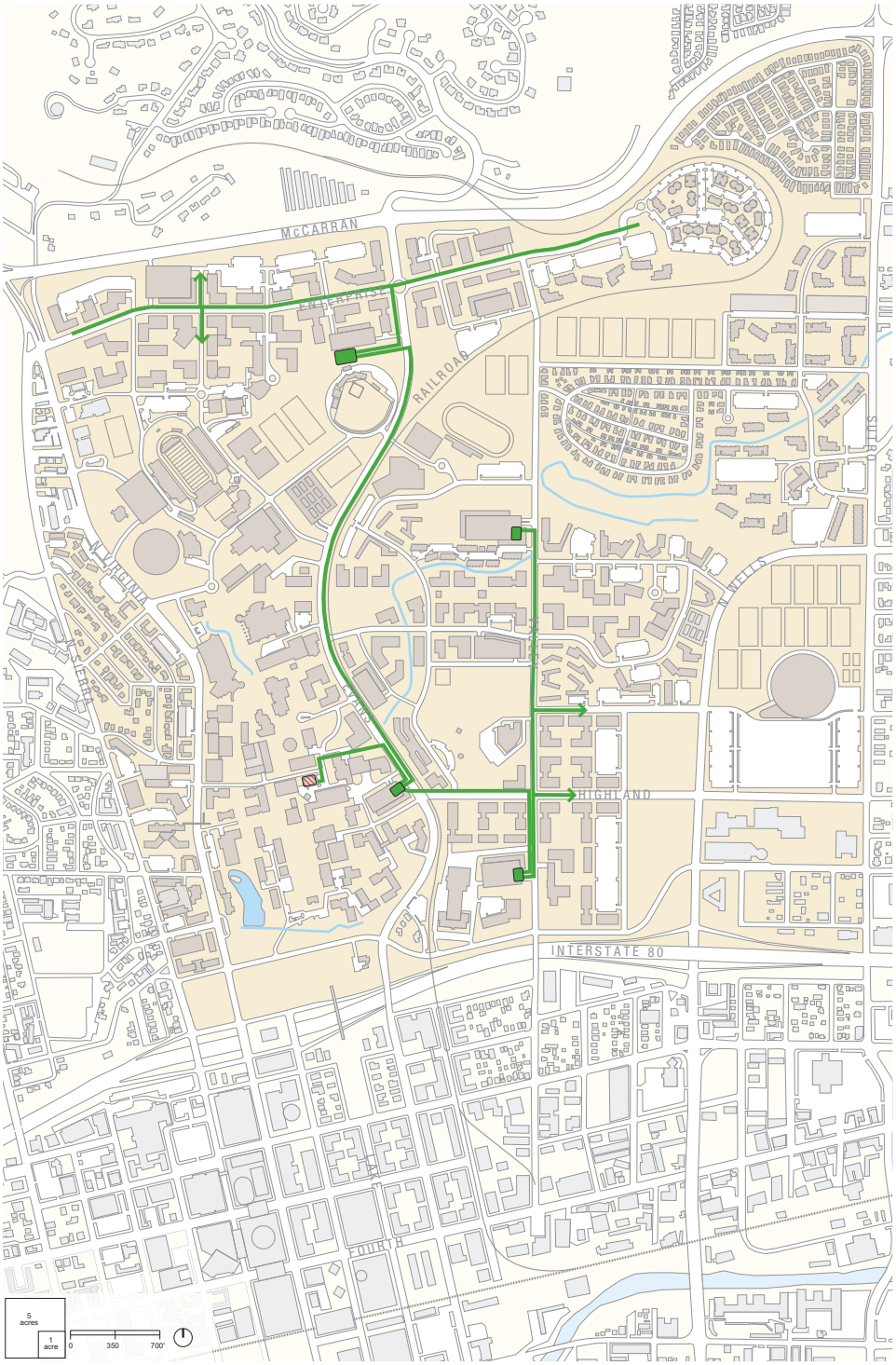
The natural gas supply system appears to be adequate to serve the project area in its current configuration and for future requirements. Minor adjustments (removal or additions) should be made to the existing alignment of the gas lines to accommodate growth and changes per the master plan and to comply with existing regulations of the governing agencies regarding installation of the gas lines.

5-26 Central Heating and Cooling - Horizon 3

The existing central heating loop will not be sufficient to serve the future expansion of the campus. This existing loop serves approximately 61% of the buildings in the southern campus area and the majority of this piping needs replacement due to leaks. No central piping extends very far beyond the southern core campus area.

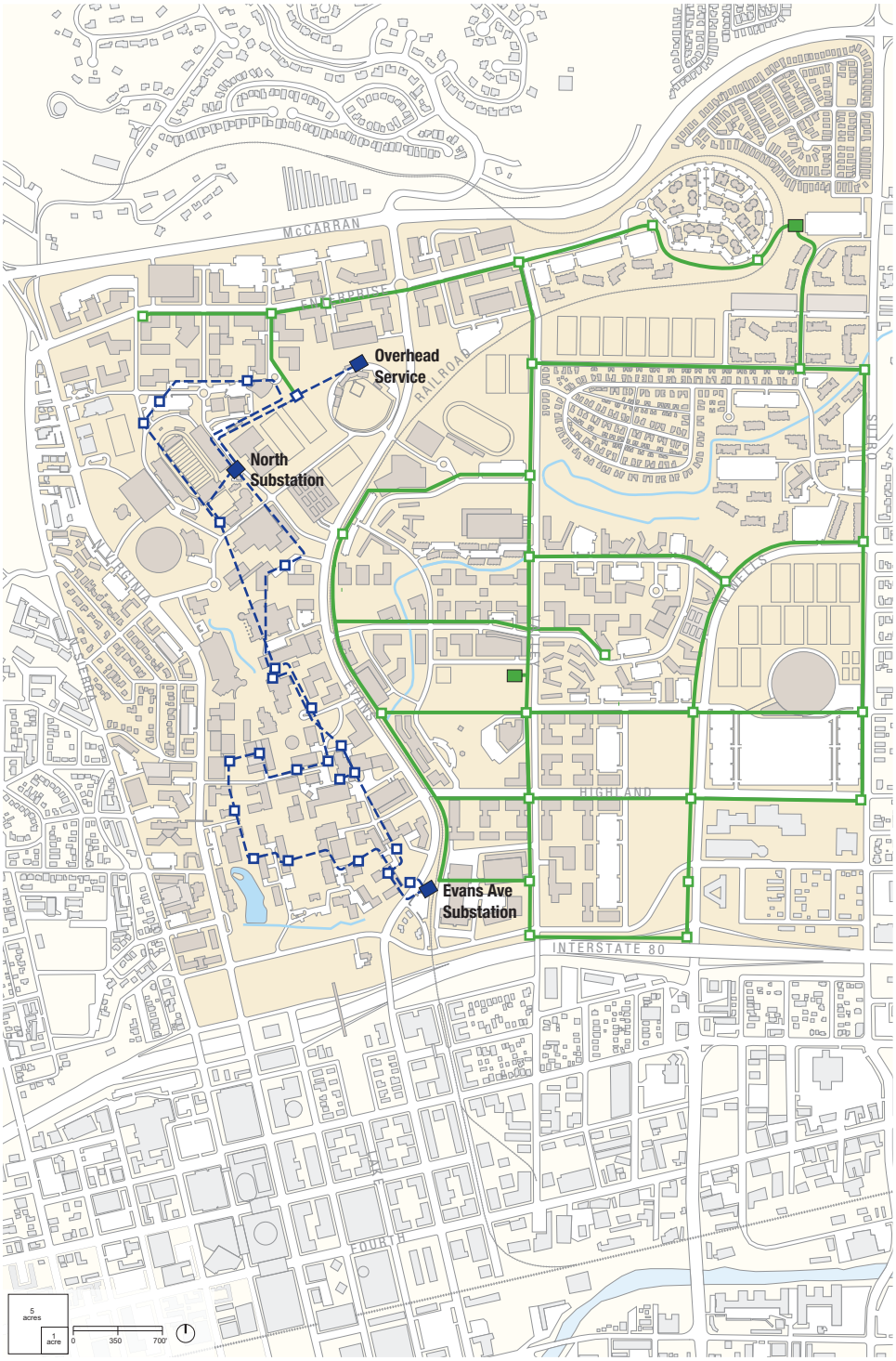
As the campus expands, new central heating and cooling plants should be located throughout the planned expansion area. These new plants could be stand-alone buildings or incorporated into the design of future parking structures. From the new plant locations, central heating and cooling distribution piping can be routed in the main roadways with branches to each area of development. Additionally, alternative energy sources, such as solar panels and small wind turbines, should be designed into new buildings. The current central heating plant should be abandoned at some time in the future, with this load being assumed by one of the nearby new central plants.

New buildings should incorporate energy-saving designs and materials to decrease the reliance on conventional systems.



L E G E N D

- Proposed Main Pipe
- Proposed Heating/Cooling Plant
- Existing Heating Plant to be Removed



L E G E N D

- Proposed Line - (4) 5" C
- Existing Line
- Proposed Power Switch
- Existing Power Switch
- Proposed Substation
- Existing Substation

5-27 Electrical - Horizon 3

Power is presently brought onto campus from the far north and south ends of campus. The entire electrical distribution system on campus is university owned. At the south end, the university takes its electrical service from the Evans Avenue Substation at both 4160 volt and 25KV. The 4160-volt system is at capacity. On the north end of campus the university takes service at 25KV and is routed to a university owned substation. The north substation distributes power at both 4160 volt and 25KV. The south 25KV system and north system both have a sufficient amount of room for growth.

New buildings constructed on the existing main campus should be fed from the south 25KV system, the north substation, or use alternative energy sources. With the growth of the campus to the east, additional substations or alternative energy sources should be developed. The electrical distribution system would continue to be university owned and maintained.

Electrical duct bank consisting of a minimum of 4 5 inch conduits should be routed through the campus to create an electrical backbone system. This will allow for the interconnection of electrical systems between the existing campus and the planned eastern expansion.

Power company metering occurs at the point of service. Buildings should be provided with individual electronic metering to allow the university to monitor power consumption throughout campus.

5-28 Communications - Horizon 3

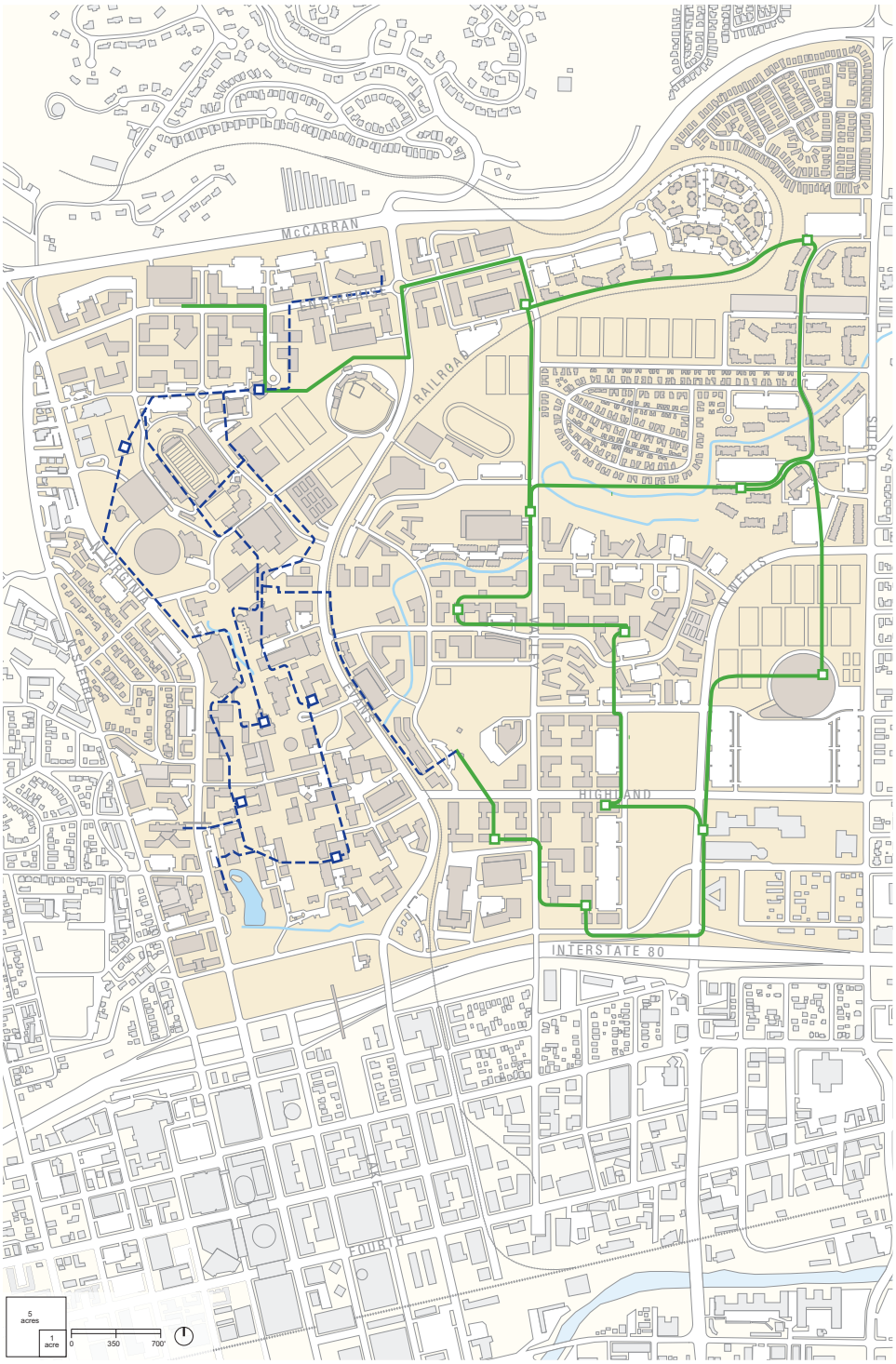
The existing telecommunications infrastructure is rapidly becoming maximized on the existing campus. Old cabling that is not in use should be removed where possible to provide additional space within the existing duct banks.

Each building currently has an independent SBC phone entry point. As the campus continues to expand, the creation of a central private branch exchange (PBX) should be considered. Buildings would connect to the central PBX via fiber optic or copper cable. A PBX system would be more economical than the existing system of purchasing individual phone lines.

The existing fiber optic cable system is routed in a star topology. The installation of a fiber optic loop around campus will provide redundancy for the fiber optic system. Communication duct bank should consist of a minimum of 6 4-inch conduits with inner duct or multiduct to optimize capacity. Because telecommunication media is a constantly changing technology, the campus system needs to be continually re-evaluated.

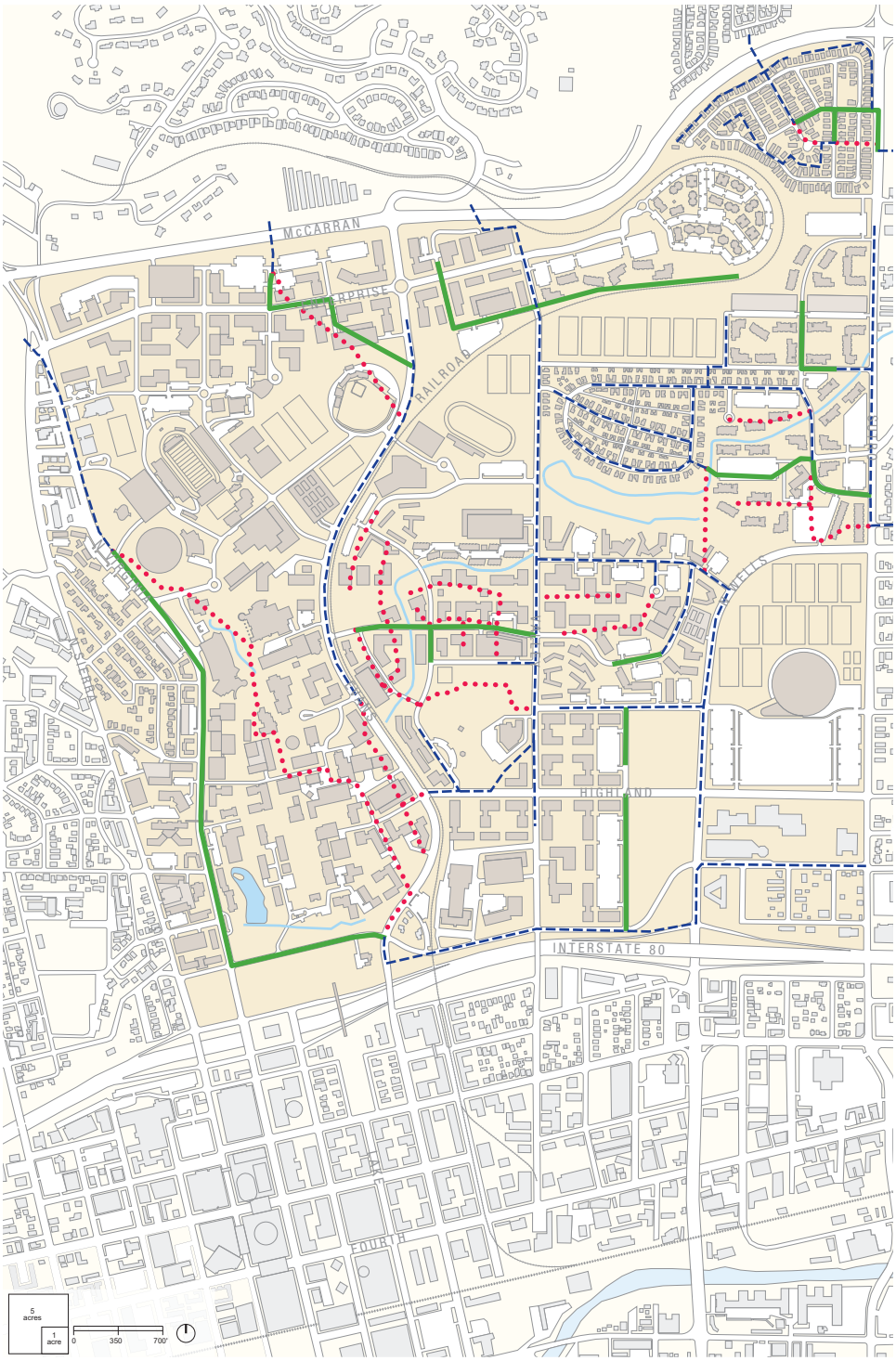
Workstation cabling varies throughout campus. A telecommunication standard addressing room sizes, cable tray, air conditioning requirements, patch panels, jack types and cabling systems should be established as a guideline for new and remodel construction projects.

Wireless communications should also be considered in the future, as it is a growing and improving field and would help reduce the amount of communications wiring within a building.



L E G E N D

- Proposed Line - (6) 4" C
- Existing Line
- Proposed Fiber Hub
- Existing Fiber Hub



L E G E N D

- Proposed Sanitary Sewer Main
- Existing Sanitary Sewer Main to Remain
- Existing Sanitary Sewer Main to be Removed

5-29 Sanitary Sewer

The sanitary sewer system appears to adequately serve the campus in its current configuration and university staff has indicated no problem areas with the system. The installation of water-saving devices in new and existing buildings can help ensure adequate capacity.

The project area is serviced primarily by 8-inch diameter, collector gravity sewer lines and by a 15-inch diameter, interceptor gravity sewer line. The sewer system and the storm drain system are not a combined system.

The City of Reno is currently analyzing options for the rehabilitation (options may include lining or pipe bursting), replacement, or relocation of the 15-inch interceptor that currently runs through the campus. A decision may be reached by winter 2004.

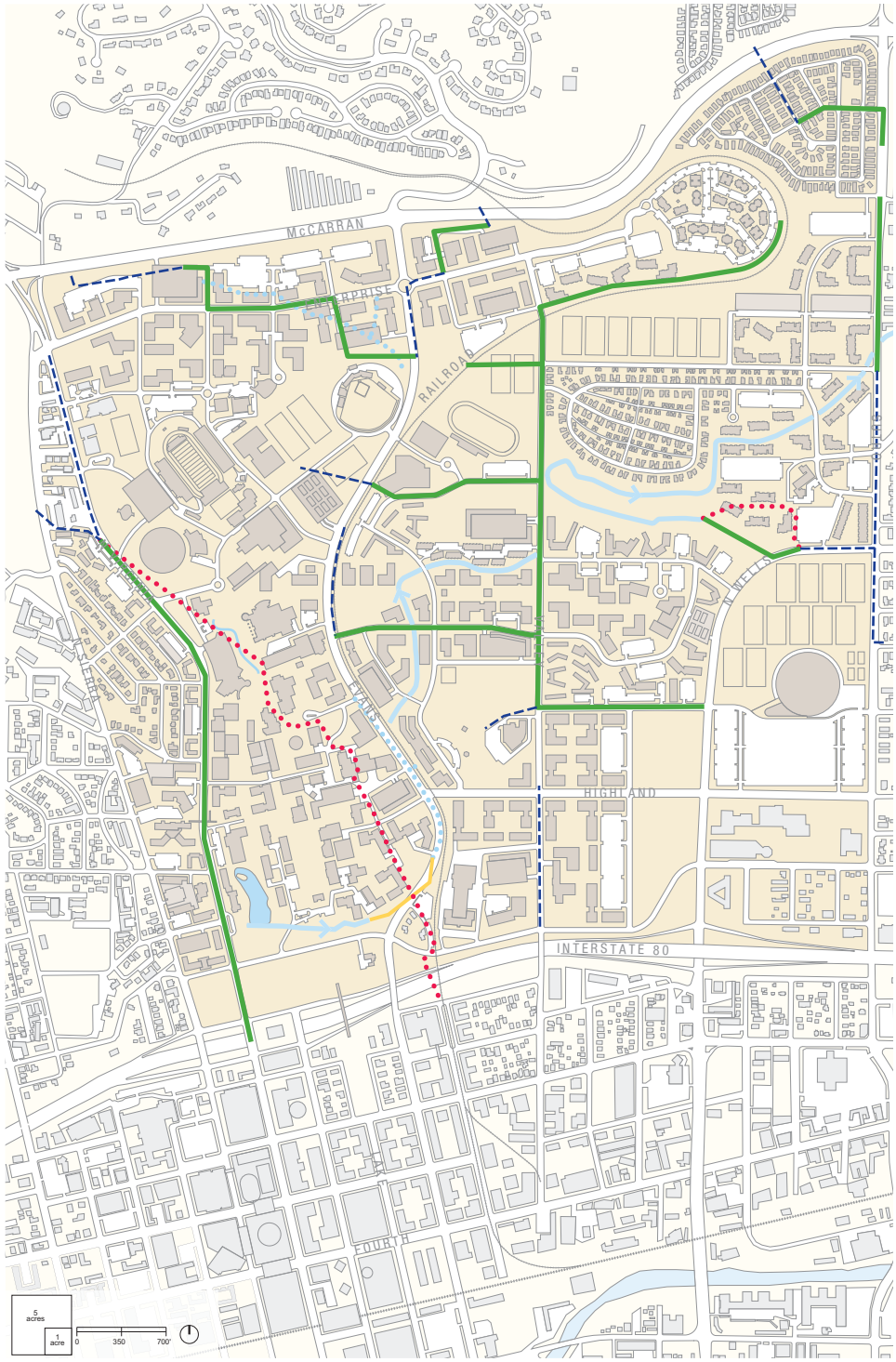
5-30 Storm Drain

The storm water and drainage system appears to adequately serve the campus in its current configuration.

The study area is serviced by a 48-inch to 54-inch storm drain line that runs, in general, along the same path as the 15-inch sewer interceptor line. The storm drainage and sanitary sewer systems are not a combined system.

The use of pervious materials rather than impervious ones, as well as planted buffer strips along roadways and paved areas, will help ensure adequate capacity by reducing peak loads on the storm drain system. Another benefit is a reduction in pollutants and sediment that enter the system.

No information could be obtained on the existing capacity of the storm drain system from the City of Reno, although the City of Reno is presently mapping the public storm drain system and is expected to complete the project within the next four to five years.



L E G E N D

- Proposed Storm Drain
- Existing Storm Drain to Remain
- Existing Storm Drain to be Removed
- Existing Irrigation Channel
- Existing Irrigation Channel to be Buried
- Existing 5 to 6 in Diameter Siphon

Contributors

6

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6-1 Work Session

The work sessions presented a range of technical analysis and concepts.

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Jim Toner
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6-2 Variety of Studies

Numerous studies helped inform the university in making recommendations for siting new facilities.

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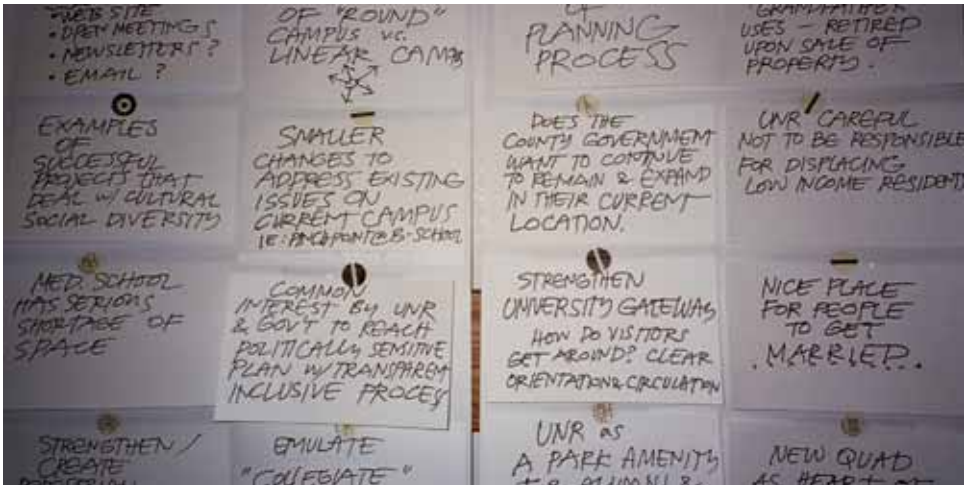

6-3 Note Cards

Note cards prepared during work sessions captured the participants' goals, issues, and concepts for the master plan.

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6-4 Range of Concepts

The work sessions afforded an opportunity to explore a range of options.

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