February 6, 1998

Texas Tech University and Texas Tech University Health Sciences Center

LETTER | from the chancellor

Dear Colleagues, Friends and Supporters of Texas Tech:

As Texas Tech University celebrates its 75th anniversary and the Texas Tech University Health Sciences Center approaches the 25th anniversary of the School of Medicine, we face the challenge of renewing and enhancing our physical environment.

To address this challenge, the Texas Tech Board of Regents in 1996 initiated the development of a comprehensive Campus Master Plan for Strategic Growth. After collaborative planning involving faculty, administration, students, and community members, Texas Tech is proud to endorse this Campus Master Plan.

The primary purpose of the Campus Master Plan is to define a framework of opportunities within which the institutions can make decisions on upgrading existing facilities and systems and on accommodating new infrastructure and facilities, thus creating a beautiful and inviting campus environment. The Campus Master Plan is a blueprint for new construction, new infrastructure, traffic and parking modifications, necessary demolition, and enhancement of the pedestrian space on our campus.

Texas Tech is not alone in the need for a Master Plan for future growth. Higher education in the United States is undergoing significant transformations. New ways of receiving and disseminating information, innovative teaching techniques and state-of-the-art research initiatives require new facilities and environments. The challenge of recruiting the very best students to Texas Tech in a more competitive environment than we ever have known requires that we create a safe and beautiful campus that is conducive to student-to-faculty and student-to-student interaction. So that Texas Tech can continue to compete with the best in higher education institutions, we must develop the University's endowment lands as alternative sources of revenue. We also must have a Campus Master Plan in effect to guide future capital improvement opportunities that appeal to our donors' desires to create a better learning environment.

The Campus Master Plan is both a vision and a blueprint for our entry into the 21st century. It shows us the way to support excellence in all areas of our institutions' mission — teaching, research and service.

Implementation of this Master Plan will require future campus and community investigation and discussion. But with a sound Campus Master Plan, we have a powerful guide for our physical development into the next century.

John T. Montford, Chancellor

Texas Tech University
Texas Tech University Health Sciences Center

institutional

MISSION

The joint mission of Texas Tech University and the Texas Tech University Health Sciences Center is to provide the highest standard of excellence in higher education while pursuing continuous quality improvement; to stimulate the greatest degree of meaningful research; and to support faculty and staff in satisfying those whom we serve.

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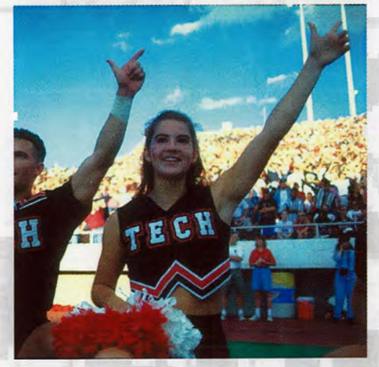
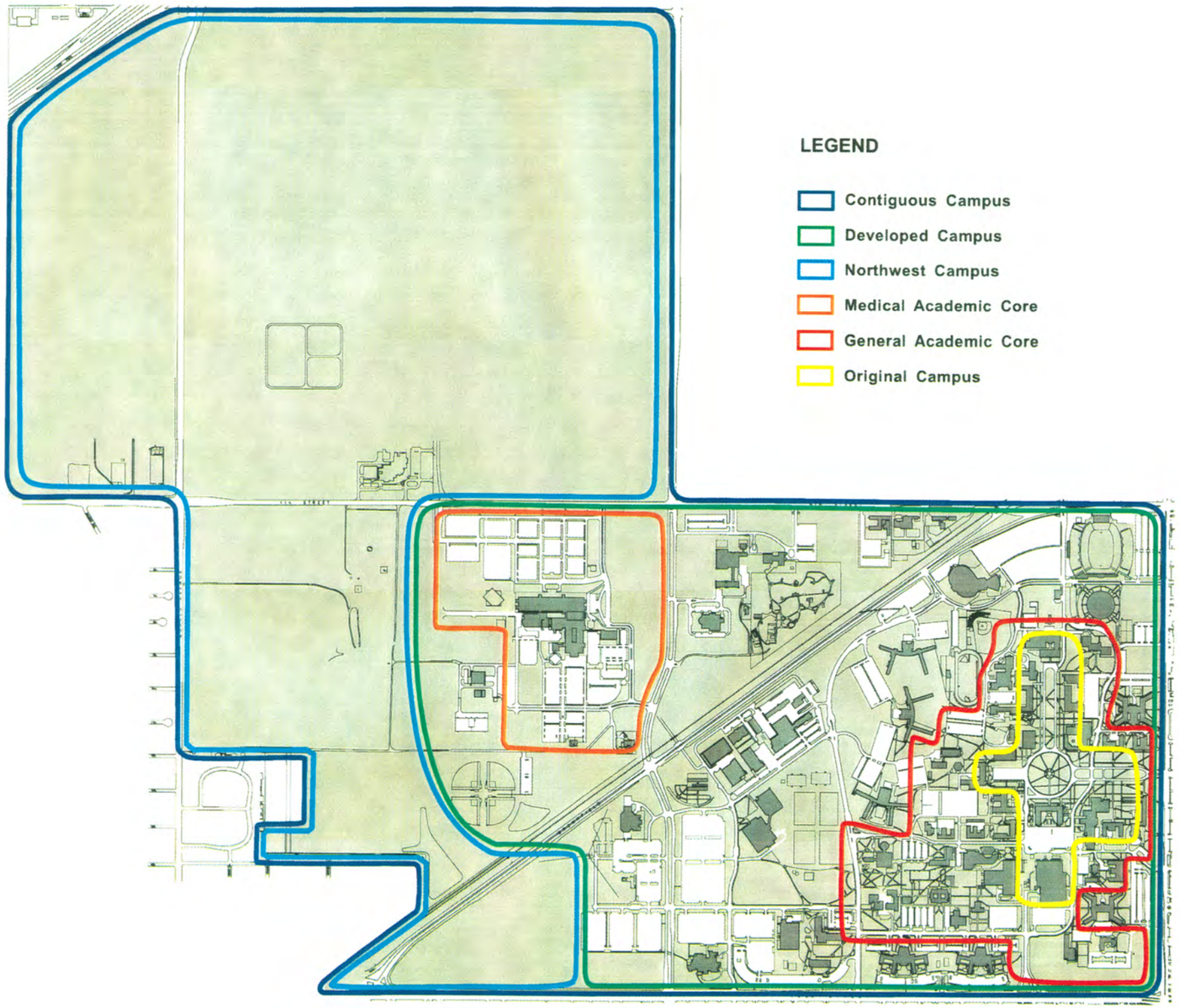


Architectural and Site Design Guidelines and an Appendix consisting of technical reports and background material related to the Master Plan are available upon request from the Texas Tech University Office of Facilities Planning and Construction.



Campus Definition

The term "campus" has multiple meanings when applied to Texas Tech. For the sake of clarity, the following terms have been used in the Master Plan report to distinguish all or parts of Texas Tech's 1,839-acre campus.

- Contiguous Campus – the entire 1,839-acre campus.
- Developed Campus – the area - including both Texas Tech University and Texas Tech University Health Sciences Center – bounded by 4th Street, 19th Street, University Avenue, and the commuter parking lots to the west.
- Original Campus – the original campus buildings and cross axial plan established by William Ward Watkin's 1923 campus master plan.
- General Academic Core – the area of campus which contains the University's academic and administrative functions including the original campus.
- Medical Academic Core – the area of campus which contains the Texas Tech University Health Sciences Center (TTUHSC) and related administrative and medical functions.
- Northwest Campus – the area of land west and northwest of the developed campus which either is used for agricultural and engineering research and teaching or is currently undeveloped.

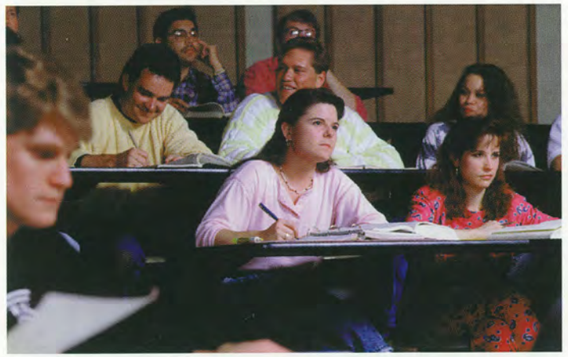
Texas Tech University and Texas Tech University Health Sciences Center

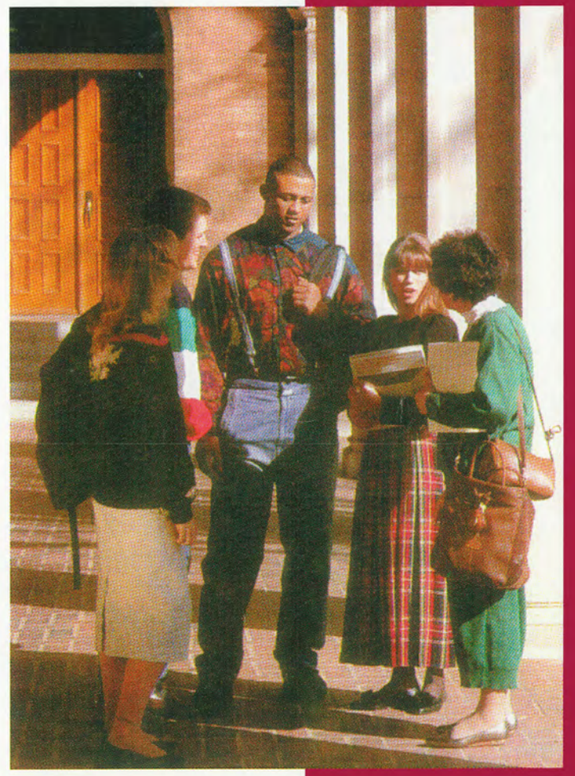
Created in 1923, Texas Tech University is one of the youngest major universities in the United States. It is the only major university located in the western two-thirds of the state of Texas. Texas Tech University and Texas Tech University Health Sciences Center share a 1,839-acre campus in Lubbock. They are the only two institutions of higher education within the state to occupy a common campus.

The Lubbock campus supports a population of 24,717* students. While 88% of Texas Tech students come from within the state of Texas, students from all of the other 49 states and 99 foreign countries annually enroll in the University. Students choose fields of study from 150 undergraduate, 100 master's and 50 doctoral programs. The University is comprised of seven colleges – Agricultural Sciences and Natural Resources, Architecture, Arts and Sciences, Business Administration, Education, Engineering, and Human Sciences – as well as the School of Law and the Graduate School.

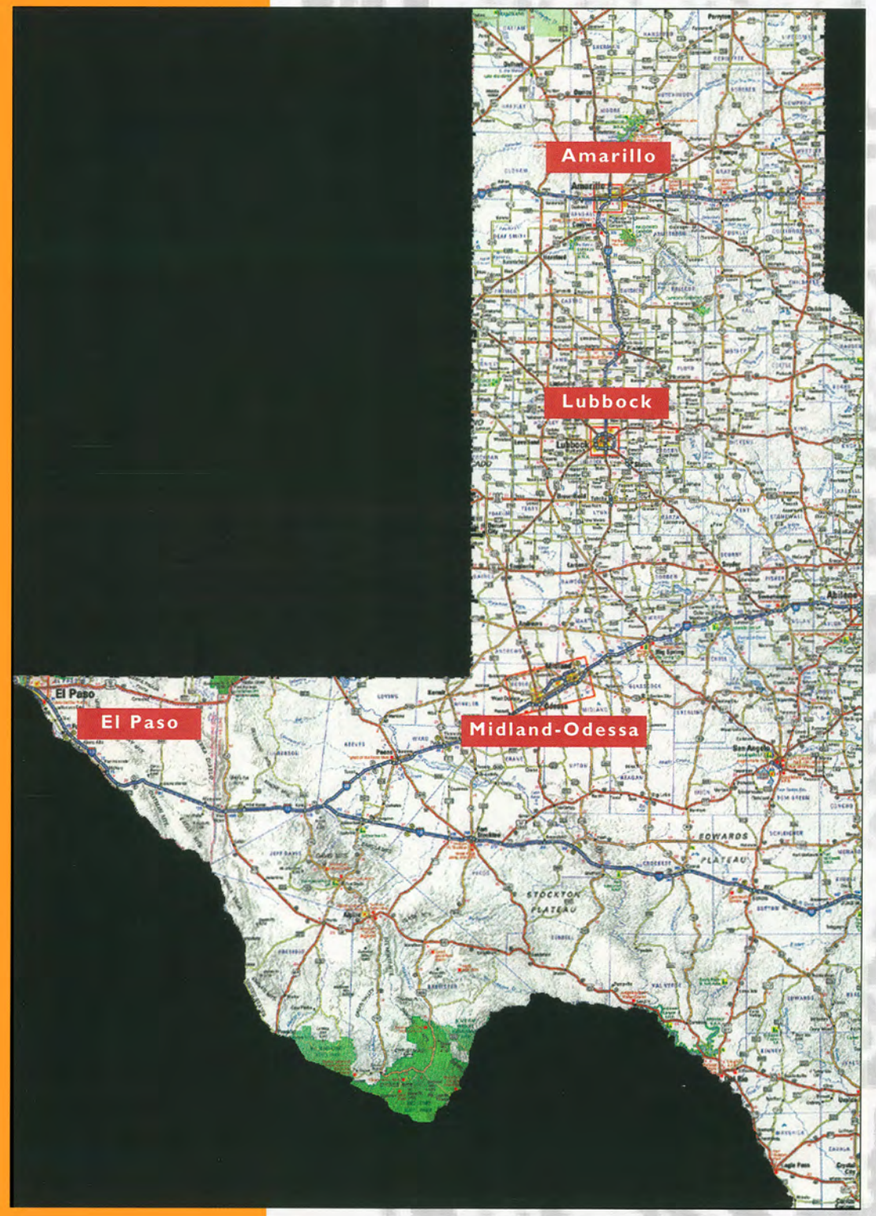
Texas Tech has been accredited by the Southern Association of Colleges and Schools since 1928 and is currently classified as a Research University II by the Carnegie Foundation. Texas Tech University is a member of the Big 12 Conference.

The Texas Tech University Health Sciences Center addresses problems of health care delivery in rural areas and develops educational programs emphasizing primary care throughout West Texas. The Texas Tech University Health Sciences Center is comprised of the schools of Allied Health, Medicine, Nursing, and Pharmacy and the Graduate School of Biomedical Sciences.





* Unless otherwise noted, Fall 1996 is the base year for statistics



Relationship of the Campus to West Texas

Texas Tech is an inextricable part of the history and culture of West Texas. As early as 1896, there was interest in a school of higher education in this area, mainly for the purpose of teaching settlers from the humid East the methods of farming and agriculture that would work in the drylands of West Texas. The creation of Texas Tech gave rise to a regional self-awareness in West Texas and produced the first major political activity on behalf of the region.[1]

Today, as the only major research university in the western two-thirds of the state, Texas Tech University and the Texas Tech University Health Sciences Center serve as a unique and varied resource to West Texas. In addition to the 1,839-acre campus in Lubbock, Texas Tech University operates an East Lubbock research campus, an agricultural research farm of 16,000 acres in the Texas Panhandle, and a 411-acre educational facility in Junction. Regional Health Sciences Centers are located in Amarillo, El Paso, and Midland-Odessa.

[1] Texas Techsan, September /October 1996, Vol.49. No.5, p.26.

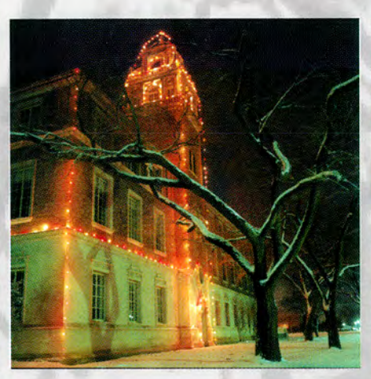
Relationship of the Campus to the Community

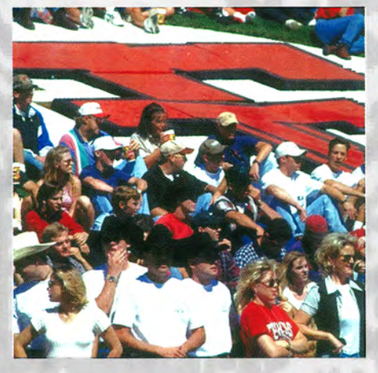
Within the city of Lubbock (population approaching 200,000), Texas Tech is a major cultural resource and a dynamic part of the community. Like the rest of West Texas, Lubbock looks to Texas Tech University and Texas Tech University Health Sciences Center for a wide range of activities and services from cultural and athletic events to state-of-the-art health care.

The significance of the University's relationship to the community is reflected in the original campus plan which extends Broadway into the campus, leading directly from downtown Lubbock to Memorial Circle. This visual and formal connection between the campus and community remains strong today.

As the city and the University have grown, however, entrances to the campus have been added at several of the city street grid points, and the relationship between internal streets and the city grid has been lost. The random penetration of city streets has fragmented the campus and created pedestrian and vehicular conflicts. Brownfield Highway, the major east-west route through Lubbock, has also worked to segregate the medical academic core and the Museum triangle from the rest of the developed campus.

As the cultural center of the community and West Texas, the University is a major destination. Yet, the limited availability of parking during evenings and weekends for events on campus keeps away some potential patrons. Circulation and parking must be improved if the relationship is to remain strong between the campus and community.





Purpose of the Master Plan

Implementation of any campus master plan can be a difficult process if the intent of the document is not understood or if the reality of change is not accepted. For Texas Tech, this Master Plan is meant to be a guide.

It results from a process of fitting the campus to its needs – needs that emerged from the University, itself, based on existing conditions, programs, space demands, budget, and desire. The intent was to pull the criteria together to recommend the most suitable arrangements that could accept change, provide permanence, and guide the University to evolve with grace.

It was clear from the start of the planning process that the strength of Texas Tech's campus lay in it its original plan. Like other American college campuses, Texas Tech has followed the route from order to chaos – from the memorable to the dispersed and ill-defined campus. It is the intent of this Master Plan to build upon the original campus structure and to restore its underlying principles, mindful of the changes faced by higher education today.

Higher education is entering a period of significant change. Fundamental and traditional concepts relating to teaching, financing, and facility needs are being challenged. Independent of enrollment growth at Texas Tech, new technologies and changing needs in education and research will require the renovation of facilities and new construction.

While this Master Plan is a guide for change, it is also a goal for what the campus ought to be. Too often institutions not prepared for the realities of growth will implement "emergency" measures to absorb the surges of expansion. Without a plan for the future, these moves are reactions that seem necessary in the context of their related problems, but cumulatively they prevent logical patterns from developing.

The Master Plan is a tool. Its purpose is to direct, not dictate, the inevitability of change. Its recommendations have been researched as appropriate changes that can both fulfill the mission of the University and enhance it as a place of architectural and landscape quality.

Future decisions can, of course, vary from the direction of this study. They should be made with careful evaluation so that the implications of variance can be fully understood regarding the vision that this Master Plan represents.

Key Issues Addressed by the Master Plan

In the spring of 1996, Texas Tech University initiated a comprehensive Campus Master Plan to address several important issues. Key among them were planning for new facilities on campus; improving the safety, image and coherence of the campus; and evaluating the highest and best use of the University's 1,839 acres of endowment land.

Identifying New Building Sites for Growth and Expansion

The demand for additional space coupled with new technologies and teaching techniques highlighted the need for new academic as well as athletic facilities. Yet, it was the University's perception that there were no sites left in the general academic core for these projects – that essentially it was built out.

The challenge was to uncover new sites, not at random, but as part of a logical framework for future growth.

Developing Open Spaces which Promote Social Interaction and Community

Outside the original campus, open spaces tend to be uninviting, "left-over" spaces. In many cases, open space meant for pedestrians has been taken over by surface parking.

The challenge was to create a system of open spaces which, by adding to the desirability of the campus environment, would foster the kind of informal interaction and community so important to campus life.

Creating a Unified and Safe Campus

The fragmentation of the campus was another key issue. The current roadway system divides the campus into several parts creating innumerable conflicts between pedestrians and vehicles. Most significant is the split which Brownfield Highway and Indiana Avenue make between the medical academic core and the rest of the developed campus.

With the creation of the Office of the Chancellor to administer both Texas Tech University and Texas Tech University Health Sciences Center, there was a clear need to connect the medical and the general academic cores both functionally and symbolically as well as to unify all parts of the campus.

The challenge was to restructure the roadway system and to strengthen pedestrian and bicycle linkages to enable pedestrians, bicyclists, and motorists to move safely and efficiently throughout a single, unified campus.

key | ISSUES

Strengthening the University's Image

Image was another key issue to be addressed by the Master Plan. Texas Tech is the City of Lubbock's most important resource, its crown jewel; and yet, the approach to the campus through the city in no way conveys the significance of the University. The campus is difficult to find; and, in some cases, the approach gives a negative first impression.

Once on the campus, it is difficult for both visitors and regular users to find their way. Beyond the original campus, the clear organization and identifiable image of the campus break down.

The challenge was to create a new approach to the University which would tie directly into North Loop 289 and create a positive image for the University outside the campus. Within the campus, the challenge was to extend the organization and character of the original campus to outlying areas.

Creating a Development Strategy for Endowment Lands in Order to Generate Revenue for Academic Programs

Governor Bush called upon all Regent institutions to evaluate their endowment land as a potential source of revenue to compensate for declining state and federal funds.

Responding to this call, the Board of Regents directed that the Master Plan Study identify those opportunities offered by Texas Tech University's endowment land. The charge was to determine:

1. what land ultimately would be needed for academic and related purposes, and

2. what non-typical uses could be developed on the remaining land to enhance the campus environment and provide a dependable, on-going source of revenue for academic programs.

Original Campus Master Plan

As the campus was originally conceived, it was meant to reflect the University's academic mission both through the grandeur of its plan and the symbolism of its architecture. It is significant that architects and engineers were hired to begin design of the campus even before the first president of the college was appointed.

The original cross-axial plan, designed in 1923 by William Ward Watkin, remains the heart of the Texas Tech campus. With its Spanish Renaissance architecture and broad sweep of lawn and trees, it is the original campus which creates the lasting image of Texas Tech.

Watkin's plan allowed for orderly new development along a central open space spine. Architecture and open space were conceived as one. The five original buildings which established the two major axes of the campus - Administration, Industrial Engineering, Electrical Engineering, Human Sciences, and Chemistry - were completed by 1930.

As the campus continued to grow through the early 1950's, buildings remained consistent in scale and fulfilled the spatial intent of the original plan. Construction of the new library south of its intended location established a new westward axis which, while not part of the original master plan, remained consistent with it in spirit.

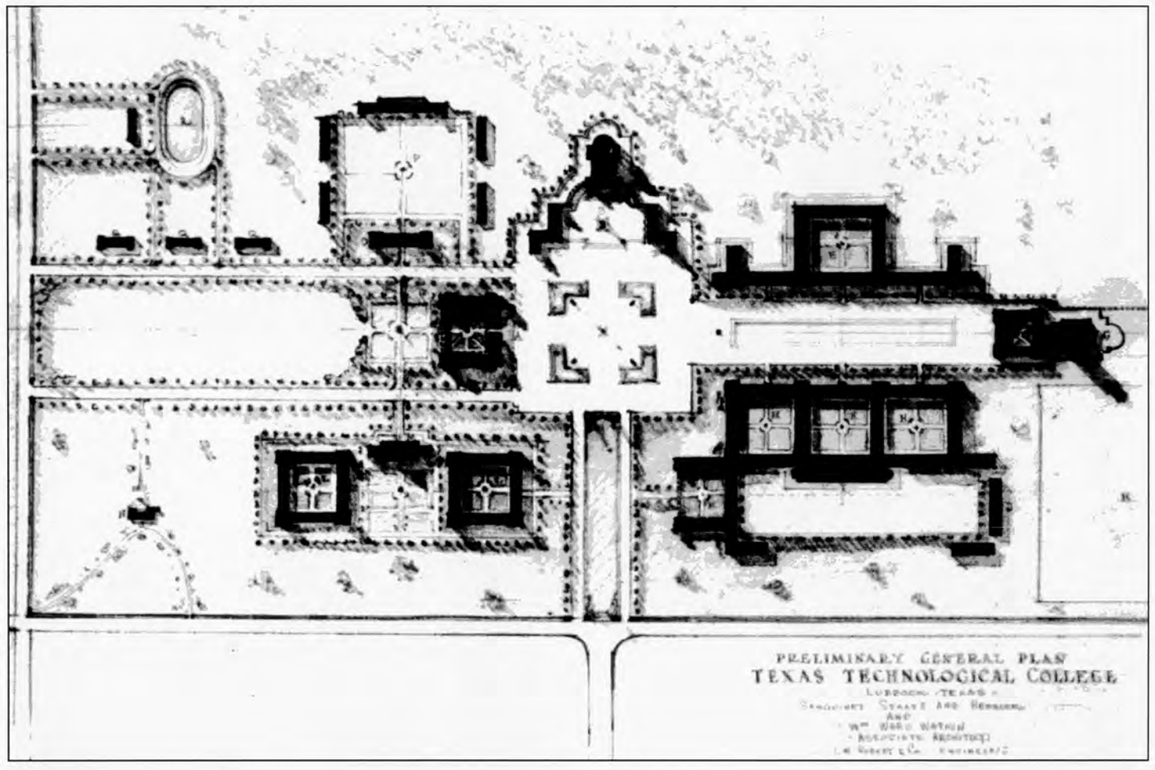
Principles of the Original Campus Master Plan

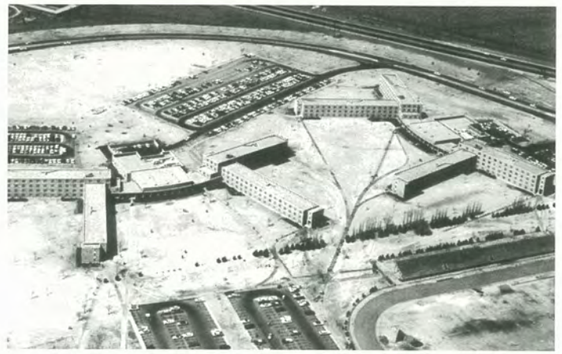
Campus structure which allows for orderly future growth - Functionally, the original cross axial plan provided a framework for orderly development on a generous site. The north-south axis formed a central open space spine along which flanking quadrangles were to be arranged as the campus grew.

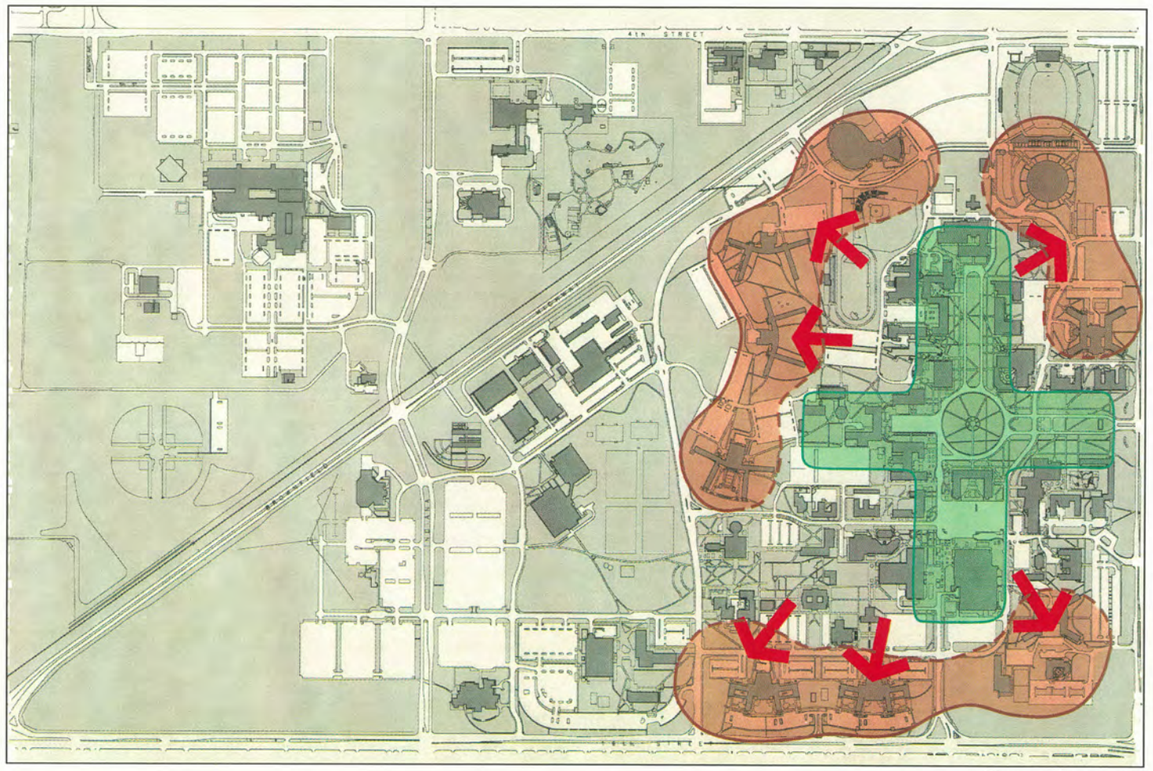
Integration of architecture and open space - The planners of the Texas Tech campus were faced with the problem of developing meaningful spatial relationships in the vast, unconfined space of the open plains. With no points of reference offered by the natural surroundings, buildings took on added significance as "features of the landscape."[2] Buildings were used to shape and modulate space, forming both the grand central axes and the more intimately scaled quadrangles and inner courtyards of the original plan.

Pedestrian campus - Watkin's plan envisioned a pedestrian inner campus. Arcades, courtyards, and landscaped walks were designed to enhance the experience of the pedestrian and to promote social interaction. Despite the intrusion of traffic and parking, the original campus remains essentially pedestrian.

[2] TEXAS TECH the Unobserved Heritage, Nolan Barrick, p.13.







Campus Expansion

Expansion

With rapid expansion beginning in the late 1950's, adherence to the original campus master plan was abandoned. The University's vast acreage encouraged development to move outward, and orderly growth gave way to random placement of new construction throughout the campus.

The scale of architecture changed dramatically. Buildings conceived independently of one another created left-over spaces between them rather than the positive and useful courtyards and quadrangles of the original plan. Parking, not foreseen in the original master plan, became a dominant and intrusive element.

Learning from the Past: A Vision for the Future

As Texas Tech University celebrates its 75th anniversary, it is clear that the principles underlying the original campus master plan have withstood the test of time. The original campus - characterized by a strong organizing framework, the careful integration of architecture and open space, and priority given to the pedestrian - remains the most memorable and workable part of the Texas Tech campus.

The new Campus Master Plan - the subject of this report - draws on the strengths of the original plan as it charts a course for Texas Tech University and Texas Tech University Health Sciences Center for the next 75 years and beyond.

The Planning Process

The process leading to the final Campus Master Plan has been complex and, at times, difficult to communicate. To appreciate the outcome, it is important to understand the events and circumstances which influenced the process.

In June 1996 when work first began on the Master Plan, Texas Tech was operating under an interim administration with several key administrative positions unfilled or held by acting heads. It was not until three months later, in August, that Senator John T. Montford was named Texas Tech's first Chancellor.

Meanwhile, two major building projects with strict construction schedules were already underway: a new arena to replace the existing Coliseum and a new residence hall to replace the existing Carpenter-Wells. Given the potential impact of these projects on the campus, integrating them into the Master Plan became the immediate focus of the planning effort.

It was clear from the outset of the planning process that the strength of the Texas Tech campus lay in the original 1923 plan designed by William Ward Watkin. The arena and Carpenter-Wells accelerated the planning process, but what drove the planning effort from the start was the goal of reinvigorating the principles of the original campus master plan: building a structure for orderly future growth, integrating architecture and open space, and giving priority to the pedestrian on campus.

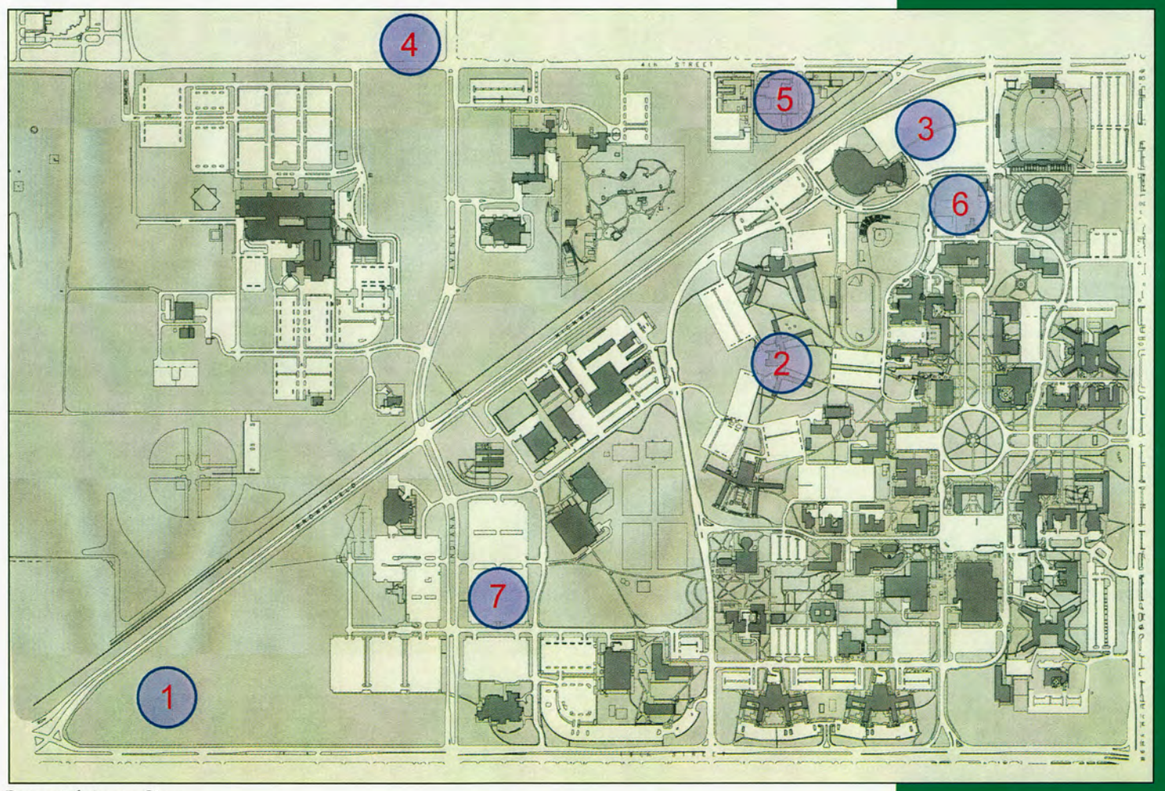
Prior to the arrival of the master planning team, four sites had been considered for the arena: the triangle at Brownfield Highway and 19th Street (1), the Carpenter-Wells site (2), the Coliseum parking area (3), and the northwest corner of 4th Street and Indiana Avenue (4). As in the past with site selection, the only criterion used to evaluate the potential sites was the availability of enough unoccupied land to accommodate a building of approximately 200,000 square feet and 5,000 parking spaces required for patrons.

The preferred site was the northwest corner of 4th Street and Indiana Avenue. At the suggestion of the master planning team, three more sites were added: the Naval Reserve site (5), a site south of the Coliseum parking lot (6), and the present site at 18th Street and Indiana Avenue (7). Schemes were generated for all seven sites, and during a three-day workshop and subsequent meetings, they were presented to the University administration, the deans of the colleges, members of the Athletics Department, members of the University's academic and non-academic staffs, consultants, and the Board of Regents.

Each scheme placed the arena site in the context of the entire 1,839-acre campus and evaluated it for its ability not only to meet the arena program but also to contribute to the overall organization of the campus. Each was evaluated for its impact on the following key elements: campus structure, parking, vehicular and pedestrian circulation, transportation, and non-typical development opportunities.

Unlike the 4th Street and Indiana Avenue site which was peripheral, the site finally chosen for the arena pulled it into the developed campus and gave it a position of prominence as the terminus to the library mall. The site also offered an opportunity for shared parking, ultimately providing a needed 500 additional commuter spaces.

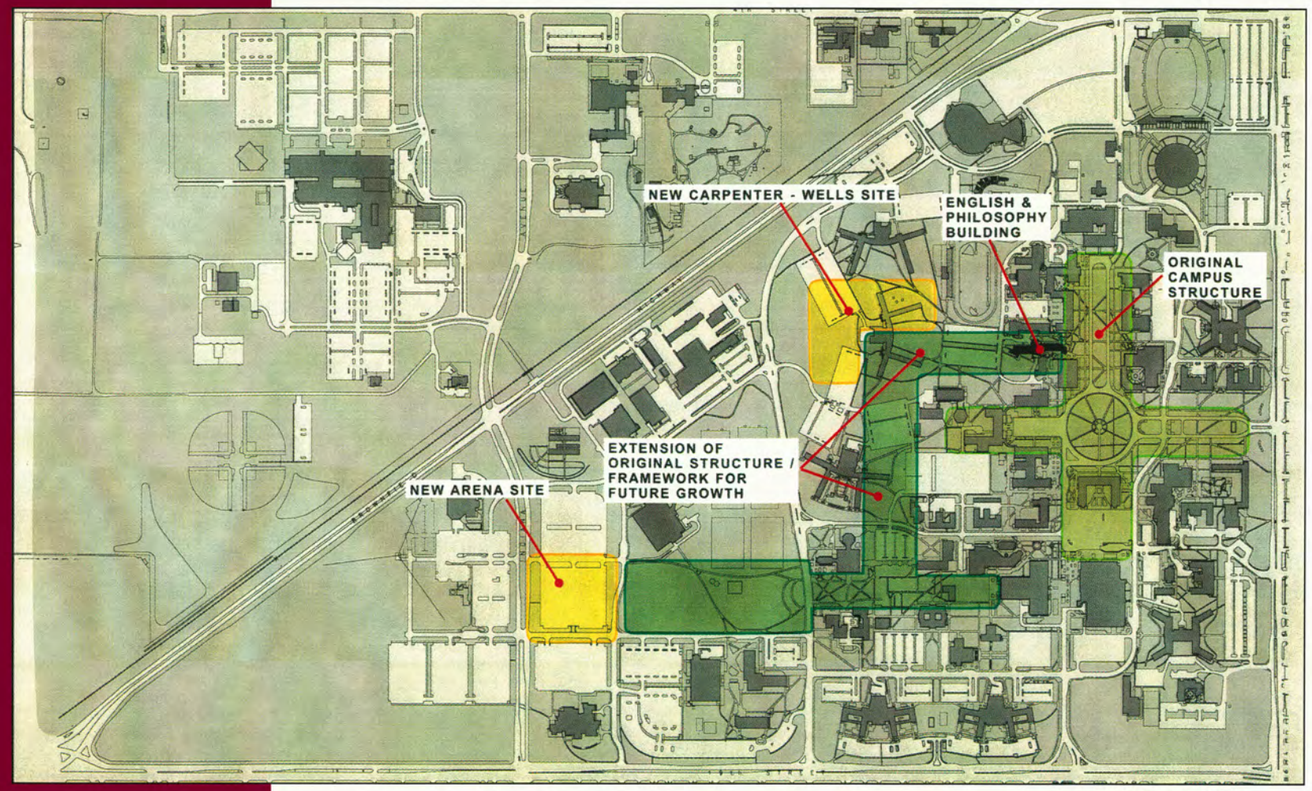
Arena



Potential Arena Sites

the planning | PROCESS

New Carpenter-Wells



Westward Expansion

The attention of the master planning team next shifted to Carpenter-Wells Residence Hall which was slated to be demolished and rebuilt on its old site. The area of campus where Carpenter-Wells was located particularly lacked a coherent structure. When it was determined that the English and Philosophy Building east of Carpenter-Wells would also be demolished, the opportunity arose to extend the original campus structure westward with a pedestrian mall connecting the Engineering Key to Carpenter-Wells and then turning south to meet the library mall. The proposed structure, like the original campus plan, would create a logical framework for future growth.

For the new Carpenter-Wells to fit into this structure, its site needed to be moved further west into what was then a parking lot. Recognizing the pivotal role Carpenter-Wells now played in the organization of the campus, the University agreed to find funds to replace the lost parking. The site shifted west and the project transformed. Under the influence of the emerging Master Plan, the architectural treatment - character, massing, materials - of Carpenter-Wells, like that of the arena, changed to reflect the campus vernacular architecture and the context within which these projects now were firmly placed.

Because of the significance and immediacy of the arena and Carpenter-Wells, decisions about the conceptual organization of the campus had to be made early in the planning process. The direction chosen - to build upon the original campus structure - met with the approval of a broad representative group. The accelerated and unalterable schedule for the arena and Carpenter-Wells did not allow time to take the conceptual plans out to the entire University community at that point. Yet, to have waited and missed the opportunity to bring these projects into the master planning process would have meant an irredeemable loss for the campus.

the planning PROCESS

In June 1996, the University administration and deans approved the sites for the arena and Carpenter-Wells and, with them, the direction of the Master Plan. Their decision was endorsed and given new momentum by Chancellor Montford the following September when he took office and made the Master Plan a priority of his administration.

At this point in the process, the master planning effort began to focus on vehicular circulation. Without any input from Texas Tech, plans were already underway by the Texas Department of Transportation (TxDOT) to redesign Brownfield Highway. A major interchange was proposed at the intersection of Brownfield Highway and Indiana Avenue requiring Indiana Avenue to be widened to a six-lane divided roadway, further separating the medical academic core and commuter parking from the general academic core.

The first question asked by the master planning team was whether Brownfield Highway could be moved outside the developed campus. It was quickly determined that prior right-of-way acquisitions, substantial investment in infrastructure improvements, and neighborhood opposition would make a move impossible. At the direction of Chancellor Montford, the master planning team began to work with TxDOT to ensure that plans for the new Brownfield Highway would serve the interests of Texas Tech. Priorities for the University were larger bridge overpasses to accommodate vehicles, pedestrians and bicyclists; pedestrian-only bridges to connect points north and south of the highway; urban design of the highway hardscape; and lush landscaping to buffer noise and screen views.

Attention next turned to Indiana Avenue. The master planning team proposed rerouting Indiana west of the medical academic core and creating a major interchange at its intersection with North Loop 289. The proposed realignment would accomplish a number of key goals: give frontage and value to land in the northwest campus identified for potential development, provide a new image and identity for the University off North Loop 289, and reunify the developed campus.

The importance of the realignment for the future of the campus and the delicacy of it as a political issue cannot be over-emphasized. In the 1970's, a bitter struggle ensued between the University, under then-President Grover Murray, and the City of Lubbock over locating Indiana Avenue through campus. It was clear that the City's full support would be necessary for the realignment to succeed.

Until government approval was received, the master planning team could not present the Indiana Avenue realignment to the public as an option. Public discussion had to be withheld until the City and TxDOT could be convinced of the viability of the proposal. From September 1996 to January of the next year, the master planning team worked with the mayor, city council, and key technical staff. During this time, at the request of the city, the Indiana Realignment Study 3 was completed to verify the feasibility of the plan.

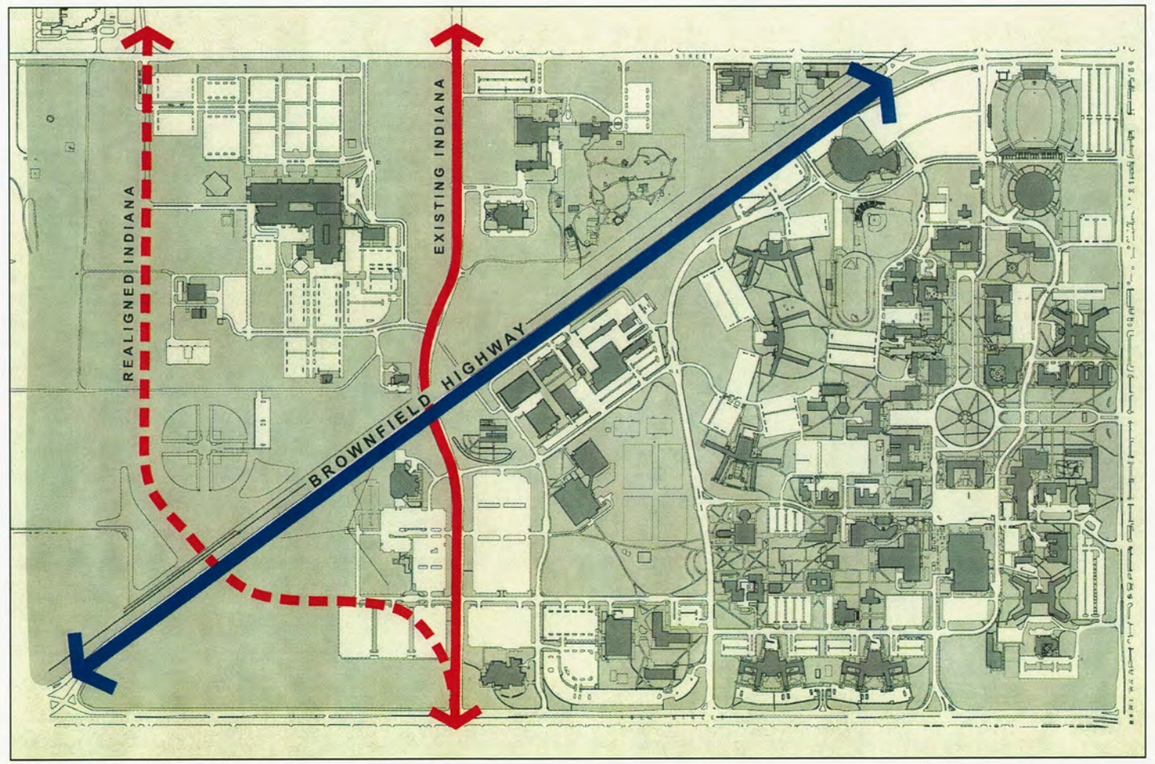
The realignment of Indiana Avenue was key to developing the northwest campus. The newly realigned Indiana Avenue, envisioned as a tree-lined boulevard with many amenities, would provide needed access, visibility, and increased value to this relatively inaccessible part of campus and thus create the conditions necessary for development to occur. In particular, Chancellor Montford emphasized the importance of this new roadway link in attracting research and development needed to help move the University to a Research I level.

Development of the northwest campus was considered feasible because of the city's pattern of growth around the campus. A marketing firm was brought in to determine what land uses could be supported. It was concluded that research and development related to the University, housing, retail, and mixed-use development were the most viable mix to ensure a steady stream of alternative income for the University.

A golf-course, the centerpiece of the development, was conceived as a highly visual open space amenity which, by fronting each of the proposed land uses, would add maximum value to the land. Another benefit of the golf course would be its use as a recreational resource for students, faculty and staff and as a site for turfgrass and ornamental research by the Department of Plant and Soil Science.

In late January, the Master Plan concept was presented at the Provost Council's Retreat. The administrators, faculty, and staff present expressed support for the Master Plan direction.

In February, with the City and TxDOT in agreement, the proposal was taken to the Board of Regents who reviewed the plan and approved it in concept. It was only then, with the practical and political realities of the realignment assured, that the master planning team was free to take the proposal back to the University community.



Indiana Avenue Realignment

the planning PROCESS

From April to May 1997, open meetings were held with the faculty and administration of each of the colleges and schools, the Student Senate, the Faculty Senate, and the community to discuss the plan and build consensus.[4] During those meetings, a number of issues arose which needed further study - the future use of agricultural lands, parking, the location of the Department of Biology's electron microscope, and the future of the Dairy Barn. The Faculty Senate requested that the deadline for submittal of the Master Plan be extended to allow these issues to be resolved. To allow time to achieve broad consensus on the plan, Chancellor Montford delayed submittal to the Board of Regents from August to November.

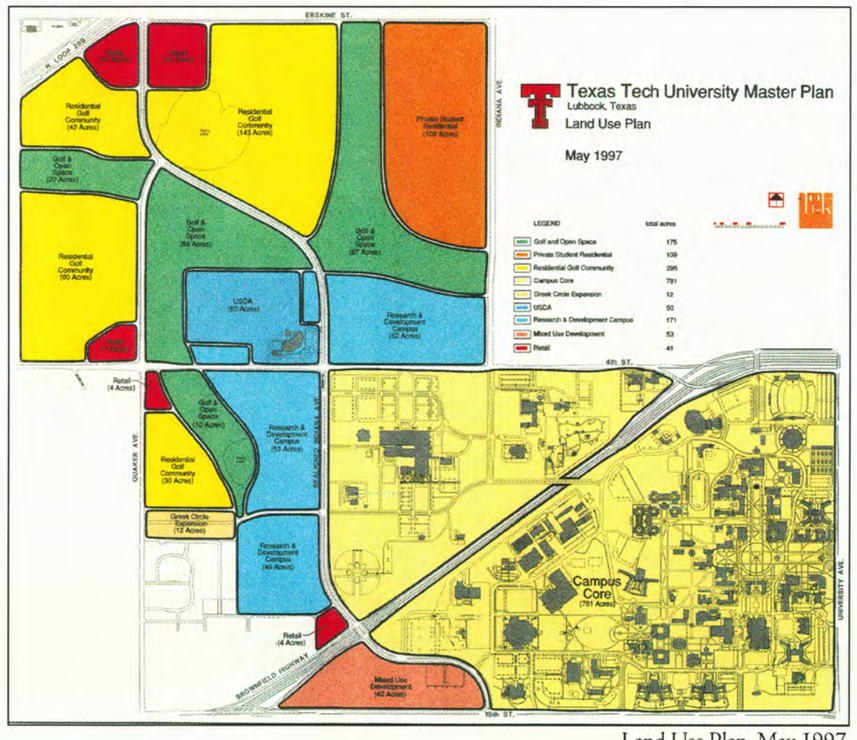
Over the next several months, the master planning team met with groups on campus to work out solutions to these issues, notably the preservation of 160 acres of virgin range land and the allocation of 75 acres of agricultural research land within the northwest campus. The market analysis[3] was completed confirming the viability of the proposed development and the feasibility that the project could be fully developed within the ten-year period of the Master Plan.

In early October 1997, the revised Master Plan was presented at a series of open meetings to the faculty and administration of each of the colleges and schools, the Student Senate, the Faculty Senate, and the Campus Care Givers.[4] Consensus was achieved on all issues with an agreement that new policies and plans for parking would be developed in detail following completion of the Master Plan.

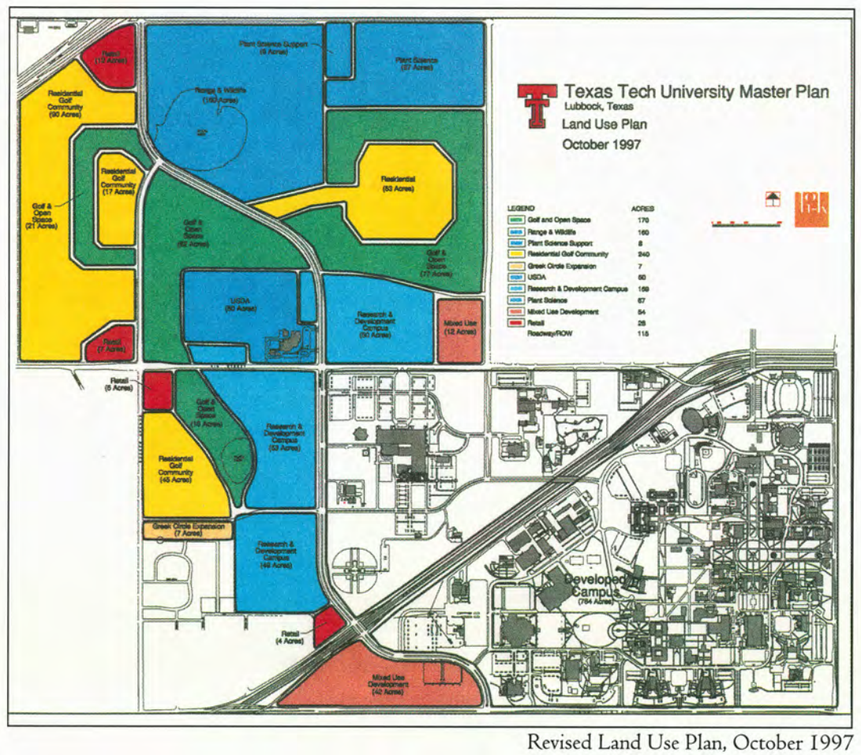
On November 7, 1997, the Draft Report of the Master Plan was approved by the Board of Regents at its regularly scheduled public meeting. No opposition was expressed.

[3] Included in Master Plan Appendix available from Texas Tech University Office of Facilities Planning and Construction.

[4] Summaries of the Master Plan meetings are included in the Master Plan Appendix, described above.



Land Use Plan, May 1997



Revised Land Use Plan, October 1997

Campus Framework

The roadway system divides the developed campus into five distinct zones. Outside the framework established by the original campus master plan, there is no organizing structure to guide future development:

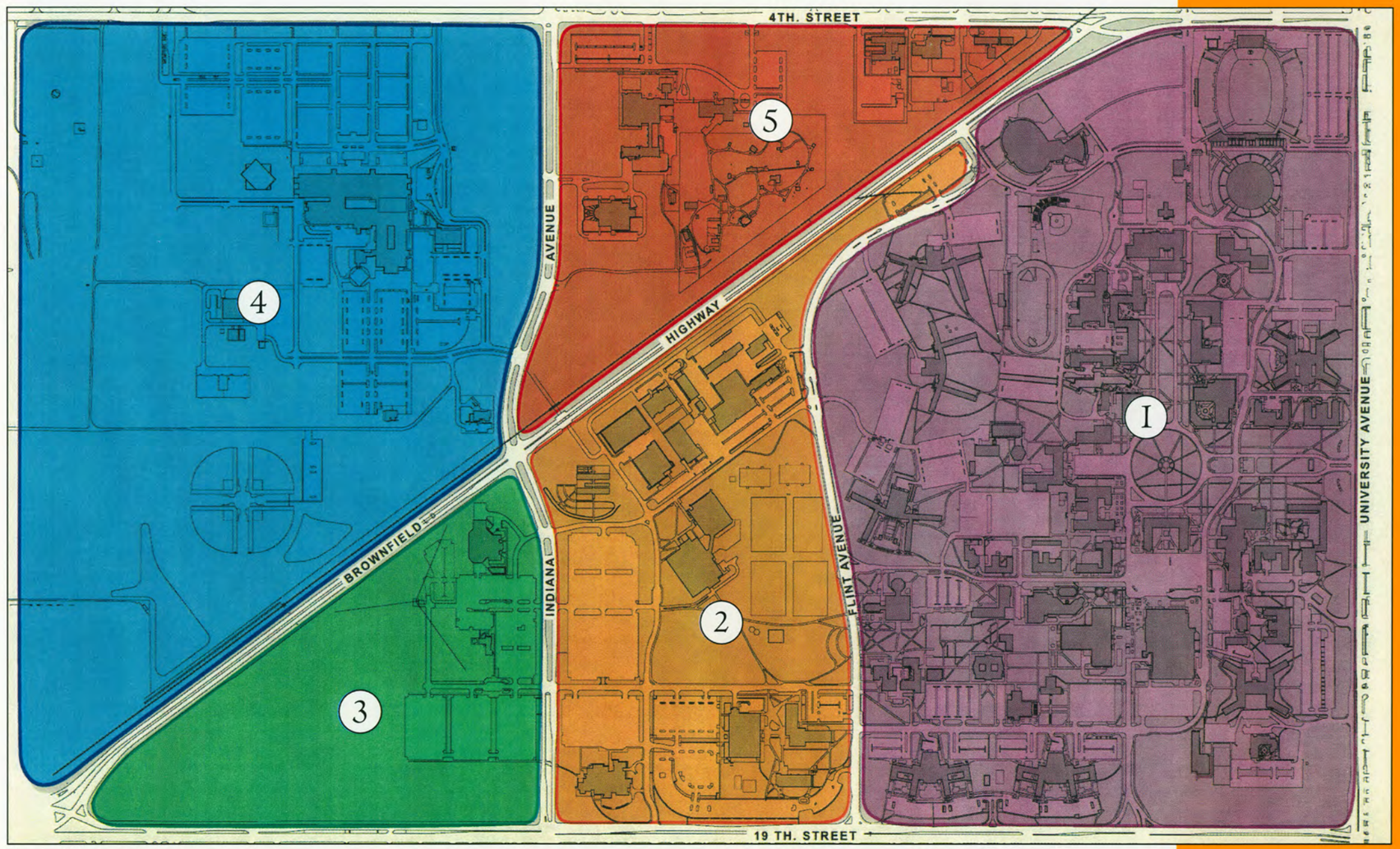
1. University Avenue to Flint: Areas west and north of the Engineering Key have developed with no regard to the original campus structure or to the principles of the original plan. No effort has been made to site buildings in relation to one another in order to create positive exterior spaces or to view elements of the campus – open space, pedestrian and vehicular circulation, and parking – in an integrated way.

2. Flint to Indiana Avenue: Campus recreational areas are segregated and disjointed.

3. Triangle Area (bounded by Indiana Avenue, Brownfield Highway, and 19th Street): The triangle area has become "throw-away" land for expansive surface commuter parking.

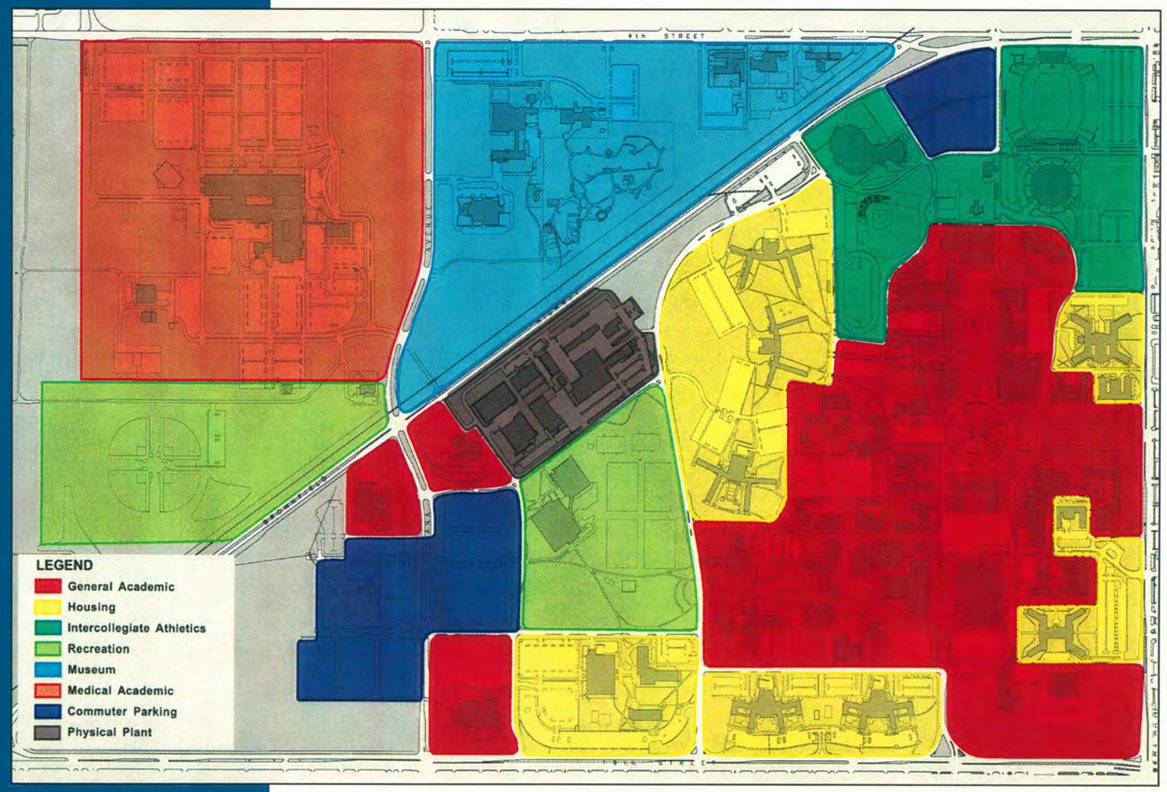
4. Medical Academic Core: The medical academic core has developed with no regard or relationship to the rest of the developed campus.

5. Museum Triangle (bounded by Brownfield Highway, Indiana Avenue, and 4th Street): The Museum triangle is a major destination point for citizens of Lubbock and West Texas. No effort has been made to relate this area to the general academic or medical academic cores.



Campus Framework

CONDITIONS



Existing Land Use Plan

Site Conditions

Located on the South Plains of Texas, the Texas Tech campus is essentially flat, with very little topographic variation. The campus is prized for its openness. The original campus is distinguished by a consistent architectural style and mature landscape which set it apart from the surrounding commercial and residential development.

Because of the flat topography, drainage is a major problem during the rainy season. Compounding the flat condition of the site is the vast amount of paved surface occupied by parking lots and roadways which leaves little permeable surface in the developed campus to absorb storm water.

Current Land Use

The primary categories of land use are as follows: general academic; medical academic; housing; intercollegiate athletics; health, physical education, and recreation (HPER); agricultural land; the Museum triangle; and the physical plant. Within these major land use areas are open space, parking and roadways.

With the exception of the Law School, most academic uses have developed around the original campus. However, as surface parking has consumed more and more space within the general academic core, expansion of academic facilities has been forced outward beyond the limits of efficiency – i.e. the distance students can comfortably walk in the 10 minute break between classes.

Surrounding the general academic core are housing, intercollegiate athletics, and HPER. Directly to the west is the physical plant, and to the northwest across Brownfield Highway is the Museum triangle. In the northwest-most portion of the developed campus is the medical academic core. Agricultural uses occupy land in the northwest campus.

All parking is located in surface lots. Commuter student parking surrounds the developed campus with most parking at the western end. Faculty and staff parking is located throughout the developed campus and occupies much of the general and medical academic cores.

Vehicular Circulation

Over time, automobile circulation and related parking areas have come to dominate the developed campus. The result is a fragmented campus, carved up by roadways and surface parking lots. Dangerous conflicts between pedestrians and automobiles occur at countless locations.

The roadway system is confusing and disjointed. More than twenty street names occur throughout the developed campus. The use of city street names only adds to the confusion. Where city streets enter the campus, their names have been retained; but, in most cases, the internal streets have no relationship to the city street grid system.

There is no hierarchy to the roadway system or logical relationship to parking. The maze of streets leads to over 75 surface parking lots scattered throughout the developed campus.

The prime time "closed campus" roadway system does little to relieve internal campus congestion. Individual cars back up at entry station points or simply pass by these points to parking areas in the general academic core.

Parking

Surface parking consumes much of the open space on the developed campus. The prevailing attitude has been to create parking lots wherever space is available, regardless of the intended use of that space. The Court of Honor (now the Science Quadrangle), envisioned as the ultimate focal point of the main Broadway entry, is now a parking lot. The generous allocation of parking combined with the sole reliance on surface lots makes parking a dominant element on campus.

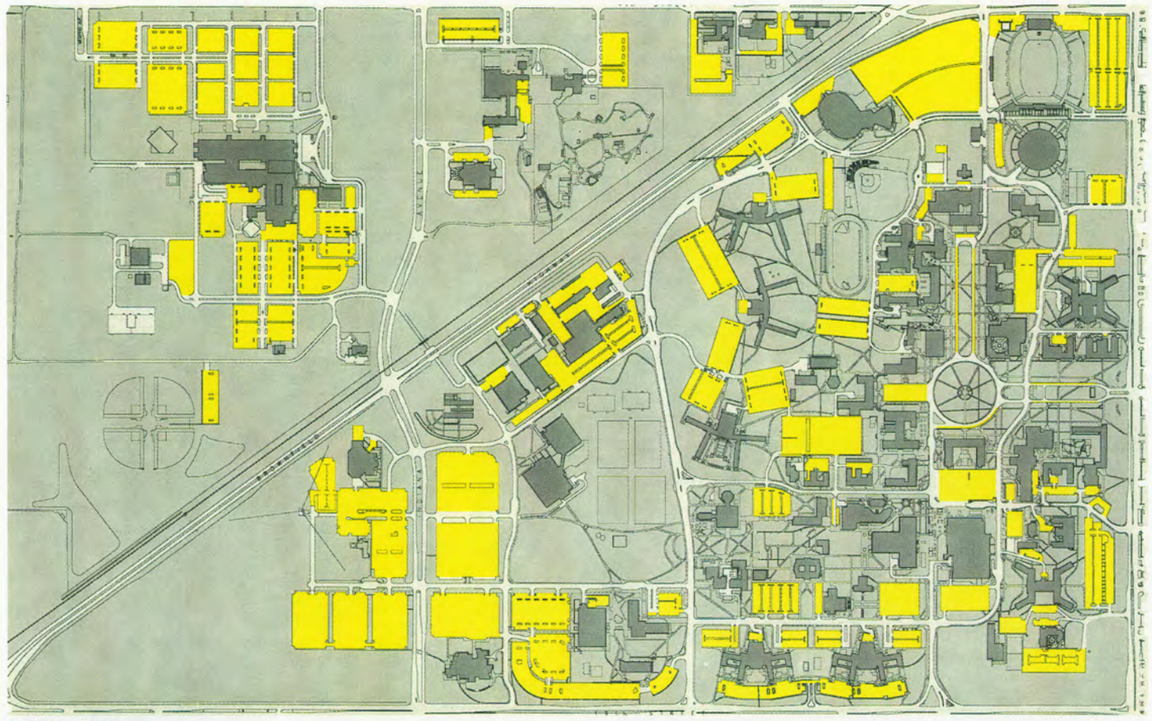
A comparison of parking among the Big 12 schools shows that Texas Tech is second only to the University of Missouri in availability of parking. For every full-time equivalent (FTE) student at Texas Tech, there are .79 parking spaces on campus or one parking space for every 1.26 FTE students, close to a one-to-one ratio. In contrast, at the University of Texas which has a parking ratio of .31, for example, there is one space for every 3.22 FTE students. The average parking ratio for the Big 12 is .60 or one parking space for every 1.66 FTE students. As the accompanying chart illustrates, Texas Tech has ample parking compared to its peers.

Within the Big 12, Texas Tech is one of only three schools to have no structured parking at all. Resistance to structured parking stems from the perception that there is unlimited space on Texas Tech's vast campus. Yet surface parking has depleted space where it is needed most - within the general academic core. While faculty and staff enjoy unusually convenient parking, parking for students, 80% of whom commute, has been pushed well beyond an efficient walking distance forcing students to walk 20 to 25 minutes or ride shuttle buses.

Transit

Campus shuttle service is provided by Citibus in cooperation with The Texas Tech Student Association. Over a dozen buses serve the campus during the Fall and Spring semesters, Monday through Friday, running every few minutes until 3:00 p.m. From 3:00 p.m. until 6:50 p.m., buses run approximately every 15 minutes All campus buses are wheelchair lift equipped. An adjusted schedule serves the campus during Summer semesters.

Bus routes run among the University Center, the commuter lots, the Texas Tech University Health Sciences Center, and the International Cultural Center and currently serve the campus well. Routes will need to be adjusted as the new campus roadway system is put into place.



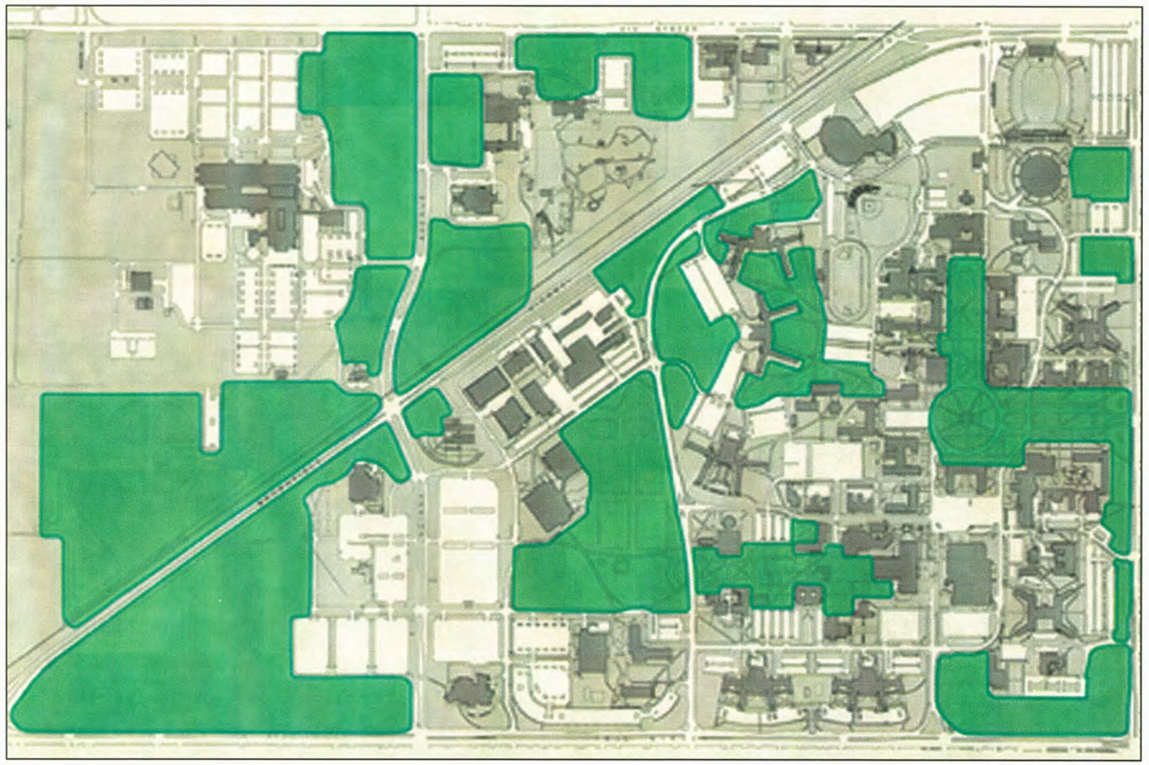
Existing Parking

TEXAS TECH UNIVERSITY MASTER PLAN LUBBOCK, TEXAS

PARKING SURVEY OF BIG 12 INSTITUTIONS

INSTITUTION	† HC	†† FTE	%	SURFACE	STRUCTURE	TOTAL	%
University of Missouri	22,500	18,905	0.84	13,900	4,600	18,500	0.98
Texas Tech Univ.	24,717	21,233	0.86	16,794	0	16,794	0.79
Oklahoma State Univ.	19,201	15,585	0.81	10,867	0	10,867	0.70
Texas A & M	41,461	35,651	0.86	18,500	5,500	24,000	0.67
University of Nebraska	23,887	21,307	0.89	13,031	597	13,628	0.64
Iowa State Univ.	25,384	23,125	0.91	14,000	640	14,640	0.63
Baylor University	12,931	11,496	0.89	6,289	696	6,985	0.61
Kansas State Univ.	20,324	17,727	0.87	10,300	0	10,300	0.58
University of Oklahoma	20,509	16,851	0.82	8,305	573	8,878	0.53
University of Kansas	24,874	22,007	0.88	10,682	770	11,452	0.52
University of Texas	48,857	41,702	0.85	9,425	3,375	12,800	0.31
University of Colorado	24,622	21,258	0.86	4,716	1,284	6,000	0.28
AVERAGE - SPACES PER FTE ENROLLMENT							**0.60**

† HC = Head Count
†† FTE = Full-time Equivalent



Existing Open Space

Open Space

One of the greatest assets of the Texas Tech campus is its bountiful open space. The broad vistas and sweeping lawns of the Broadway entry and Engineering Key are the most memorable part of campus. The distance between buildings reinforces the open feeling of the Texas Tech campus.

However, with the exception of the Broadway entry and Engineering Key, open space areas tend to be undefined, left-over spaces rather than the useful courtyards and quadrangles envisioned in the original campus master plan. Despite the amount of open space on campus, there are very few quality pedestrian gathering spaces or outdoor classrooms, especially for a university the size of Texas Tech.

Pedestrian Circulation

Apart from the Broadway entry and Engineering Key, pedestrian circulation routes are disjointed or nonexistent. With the intrusion of surface parking into almost every available open space, it is virtually impossible to walk between classes or across the developed campus without having to cross a parking lot.

The lack of a clear pedestrian circulation system has produced a cobweb of walkways which follow the dirt trails forged by students. Paved walkways often end abruptly or are incomplete, creating areas of bare, compacted ground which are an eyesore.

There are no pedestrian routes among the general academic core, the medical academic core and the Museum triangle. The lack of pedestrian connections further divides these areas of the campus.

Bicycle Circulation

Texas Tech has been described by bicycle enthusiasts as one of the worst campuses for bicycles. Bicycle routes are non-existent on campus, and bicyclists are forced into the street on the same circulation route with pedestrians and automobiles.

There are no bicycle connections among the general academic core, the medical academic core, commuter lots and the Museum triangle. A further problem is the lack of secure bicycle racks and lockers at major buildings and dormitories.

Bicycle circulation needs to be improved to encourage its use on campus as an alternative form of transportation to the automobile.

Wayfinding and Signage

Currently it is very difficult for both regular users and visitors to either Texas Tech University or the Texas Tech University Health Sciences Center to find their way around the campus. The lack of clear circulation routes contributes greatly to the confusion. Throughout the developed campus, building names, signs, location maps and other orientation devices are lacking or poorly placed.

Sports Facilities

Recreation

Most of the Texas Tech University recreational facilities are located in the area bounded by 18th Street, Hartford Avenue, Main Street and Flint Avenue. Included are the Student Recreation Center, Aquatic Center, tennis courts, and general purpose fields. The Student Recreation Center is a quality facility but requires expansion to keep pace with intramural and recreational needs.

Residence halls typically have general purpose fields located adjacent to them. Gordon, Bledsoe, Knapp, and Horn Halls, however, have lost their open space and general purpose fields to surface parking.

Softball and additional field facilities have been located north of Brownfield Highway and south of the medical academic core. The location of these facilities requires users to drive from other parts of campus. There are no pedestrian or bicycle routes which link recreational facilities to the rest of campus.

Intercollegiate Athletics

Intercollegiate athletic venues are located as a central complex in the developed campus. This central location contributes to the quality of life for Texas Tech students. It also allows for the consolidation of support facilities such as laundry, medical training and treatment, weight rooms, etc. Located in the northeast quadrant of the developed campus, the athletic facilities form a highly spirited entrance to the campus.

The quality of this "front door" provides a strong first impression for guests, prospective students, and the community.

Jones Stadium, a reinforced concrete cast-in-place structure, was last renovated in 1961 when it was expanded to seat 50,500 spectators. The current lighting is not, however, at the level required for nationally televised games. The press box is undersized and inefficient. Access to the press/VIP facilities is difficult. Concession, toilet, and ticket facilities need to be upgraded.

Dan Law Field is the home of the Texas Tech University Red Raiders and, currently, the Minor League Lubbock Crickets baseball teams. The seating includes aluminum bleachers and private boxes. Overhead and facade enclosures are needed to help reduce the effects of the elements and provide a friendlier environment for the fans. Concession and toilet facilities are in need of upgrading. The existing private suite and press boxes have been deemed inefficient since they are undersized.

The current combined track/soccer field is one of the top facilities for state high school, NCAA tournaments, and regional events. However, a more efficient, safer drainage system is required to prevent injuries. The existing field lighting does not provide the required levels for nationally broadcast events. Expansion and renovation of this facility would offer the University many revenue generating opportunities throughout the year.

The Texas Tech University Red Raiders women's softball team is currently competing on borrowed City of Lubbock facilities. There is no campus home for the team.

The existing tennis complex has four courts with no gallery, dressing/locker rooms, equipment storage, meeting space, toilets, wind protection, or concession stands.

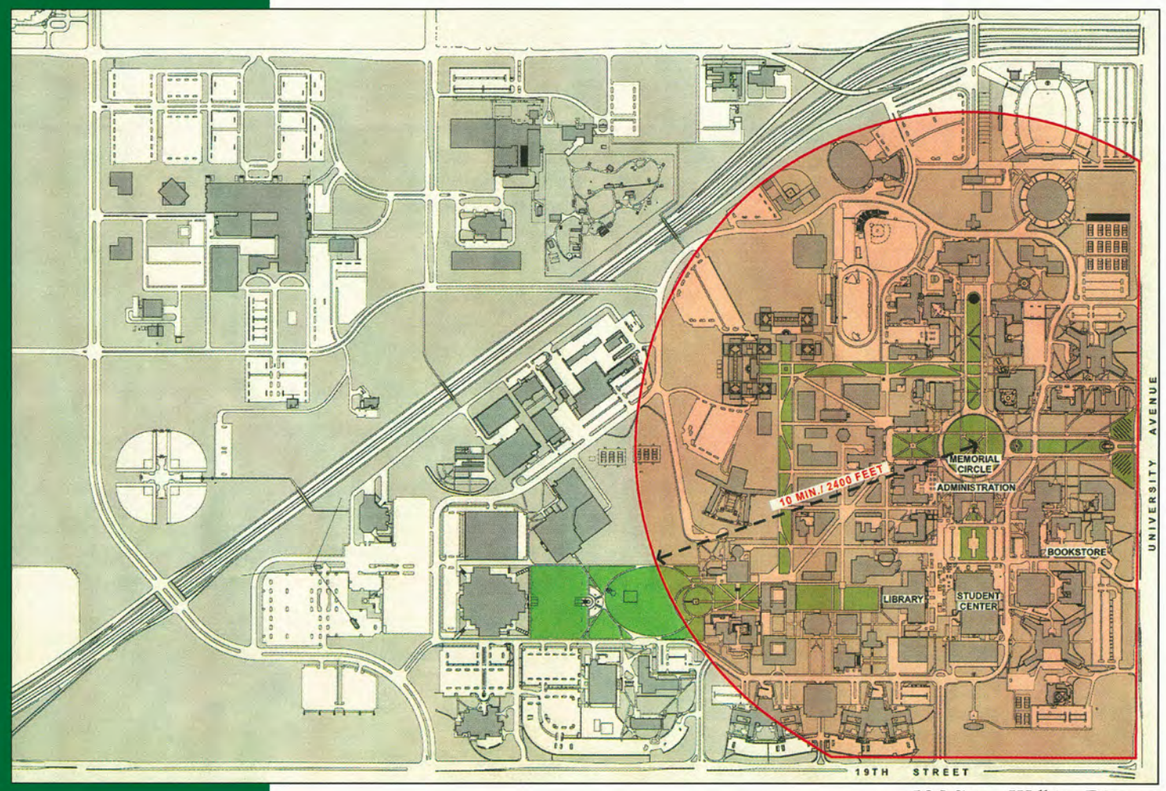
Many of Texas Tech's competitors in the Big 12 Conference are improving their overall athletic facilities. The University needs to build, expand, and improve its current facilities in order to be competitive in the Big 12 Conference and at the national level, to attract top student-athletes, to maximize revenue potential, and to enhance pride in students, alumni, and the community.

Land Resources

There are 1,058 acres of land in the northwest campus, some of which currently are used for agricultural and engineering research and teaching. Of particular importance are the following:

- An area of virgin untilled native range land which serves as a unique and irreplaceable resource to Range, Wildlife, and Fisheries Management
- Research land and outdoor classrooms used by Plant and Soil Science
- Agricultural Operations crop productions
- Texas Tech University Rodeo
- Texas Tech University Observatory

All of these elements are critical to the University's mission and must be considered in long range planning.



10 Minute Walking Distance

10 Minute Walking Distance

Because of Texas Tech's vast acreage, there is the perception that the University has unlimited land on which to build. Yet for the campus to function well, academic facilities need to be within an efficient walking distance of one another.

The distance a student can walk in the 10 minute break between classes - 2,400 feet - is a traditional module for pedestrian campuses. The circle described by the 10 minute walking distance uses Memorial Circle as its center, an arbitrary point which, no doubt, shifts in accordance with each individual's schedule.

To maintain an efficient campus, future academic growth needs to occur within or close to this circle. Only by reducing surface parking within the general academic core, will land be freed to allow growth to occur where it is needed most. The Master Plan proposes keeping future general academic functions within or close to this zone of efficiency while improving linkages with other areas of campus. A number of potential new building sites within the general academic core have been identified.

Capacity

An analysis of enrollment and semester credit hours for the past decade suggests a trend toward increased enrollment at Texas Tech, yet enrollment growth will not be the only determinant of change. Whether or not Texas Tech chooses to pursue a policy of growth through increased enrollment, new technologies and changing needs in education and research will require the renovation of facilities and new construction. It is for this reason that the expectations and accommodation of growth and change at Texas Tech have been analyzed in terms of "capacity".

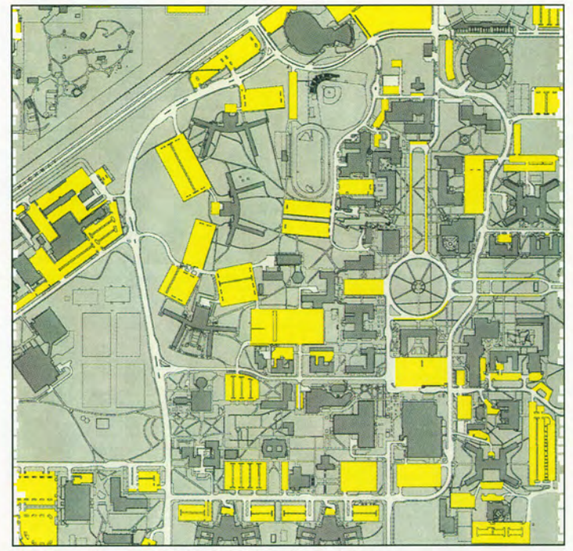
A capacity analysis shows that 47,875 students could be accommodated ultimately on the Texas Tech campus based on the University's ability to utilize the existing general academic core to its "technical" limit - i.e., 250 students (headcount) per acre within the academic core, the commonly accepted standard for universities in settings similar to Texas Tech. In reality, however, it is neither desirable nor practical to reach ultimate capacity, given the University's commitment to maintain the balance of built to open space which characterizes the original campus.

Practically, this "capacity" number also must be balanced against the ability to provide space for academic and support functions for the increase in student enrollment. Currently the amount of net assignable square feet for academic buildings is 2,040,295. At "capacity" it would need to be increased to 3,950,434. Since a three-story height limit has been established for the general academic core, it would be difficult to reach a capacity of 3,950,434 net assignable square feet without upsetting the balance of open space.

Capacity planning looks at the critical factors tied to enrollment: academic space, housing, parking, and recreation space. By describing these accommodations of enrollment growth in measurable terms - square feet of contained space and acres of land - capacity planning allows the University to anticipate the impact of enrollment increase and to make informed policy choices. Parking provides a good example of this.

Currently Texas Tech has a higher than average parking ratio - .79 spaces per FTE compared with the commonly accepted standard of .50 spaces per FTE for universities in similar settings to Texas Tech, or with the Big 12 average of .60 per FTE. All parking is in surface lots. With cars occupying land at the rate of 125 per acre, the result is that no land remains within the general academic core for new buildings.

If the University were to pursue its current policy - maintain the same parking ratio and use surface parking only - future academic growth would have to - and has - moved outside the general academic core resulting in a less efficient and less cohesive campus. The University should change its parking policy by lowering its parking ratio and/or adding parking structures on campus to free land within the general academic core for needed growth. The Master Plan represents such a shift in policy.



Existing Campus Parking in Academic Core

	Category	Status Fall 1996 (corrected)	2002 Projected Enrollment	30,000 Headcount Enrollment	35,000 Headcount Enrollment	40,000 Headcount Enrollment	"Capacity"	Standards
1	Enrollment - Headcount (HC on campus)	24,717.00	26,003.00	30,000.00	35,000.00	40,000.00	**47,875.00**	47,875.0
2	Enrollment - Full Time Equiv. (FTE)	21,133.46	22,224.76	25,650.52	29,925.60	34,200.69	40,918.76	40,918.7
3	FTE as % of Headcount	0.86	0.85	0.85	0.85	0.85	0.85	0.8
4	FTE Faculty	1,181.30	1,242.30	1,433.79	1,672.76	1,911.72	2,287.24	
5	Student/Faculty Ratio	**17.89**	17.89	17.89	17.89	17.89	**17.89**	
7	Gross Square Feet of Academic Space	3,417,318.00	3,593,744.35	4,147,733.95	4,802,759.83	5,488,868.38	6,567,052.19	
8	Net Assignable Square Feet (NASF)	2,040,295.00	2,145,653.15	2,476,386.70	2,889,117.81	3,301,848.93	3,950,434.36	
9	GSF/FTE	**161.70**	161.70	161.70	160.49	160.49	160.49	
10	NASF/FTE	**96.54**	96.54	96.54	96.54	96.54	96.54	
11	Total Acres of Core Campus	781.00	781.00	781.00	781.00	781.00	**781.00**	
12	Acres - Acad/Admin. Campus (excl. Law)	191.50	191.50	191.50	191.50	191.50	**191.50**	
13	% of Acad/Admin. Campuses to Total	0.25	0.25	0.25	0.25	0.25	0.25	
14	HC per Acre of Acad/Admin. Campus	129.07	135.79	156.66	182.77	208.88	250.00	250.0
15	FTE per Acre of Acad/Admin. Campus	110.36	116.06	133.95	156.27	178.59	213.68	
19	Acres of Land for Housing							
20	Total Students Housed on Campus	5,442.00	5,723.26	6,603.00	7,703.50	8,804.00	10,537.29	
21	% of Students Housed on campus (HC)	**0.22**	0.22	0.22	0.22	0.22	**0.22**	
22	Parking Spaces (Total)	16,794.00	17,668.69	20,392.16	23,790.85	27,189.55	32,530.42	
23	Acres of Surface Parking	134.35	141.35	163.14	190.33	217.52	260.24	
26	Parking Spaces per FTE	**0.795**	0.795	0.795	0.795	0.795	**0.795**	0.5
27	Acres of Intercollegiate Athletic space	71.30						
28	Acres of Recreation Space	94.00						
30	Total Acres IA & Rec.	165.30	173.90	200.63	234.07	267.51	320.17	
31	Students per Acre (HC)	149.53	149.53	149.53	149.53	149.53	149.53	
32	Sq. Ft. /Student (HC)							

Campus Capacity

Lot # /Name	Cell*	Totals (by lot)	Totals (by cell)	Service	Motorcycle	Van	Handicap	Dining (R19)	Time Zone	Visitor	Commuter	Residence	Area Reserved	Reserved
On-street Memorial Cir.	1	20					2		7	9				2
On-street Broadway	1	14					2		9					3
On-street Englin. Key	1	70	104	3		2	6		23	34				
TOTAL Cell 1														
Z-2	2	507			1		8	9	5	106		378		
R-7 Admin.	2	409					6			74				329
R-11 Music	2	204		1	3		4		1	160				37
R-12 Women's Gym	2	21		13		3	2		38					17
R-13 Drane Hall	2	322		1			10	15						261
R-19 Doak Hall	2	16		7				6					25	
R-19 Knapp-Horn Hall	2	13		5										
Ex-Students Assoc.	2	30		6					24					
University Center	2	6		12			2						9	
Book Store	2	38												
Child Dev.Research Ctr.	2	9												
Administration	2	1		1										
TOTAL Cell 2			1578											
R-3 Library	3	245					4		5					233
R-5 Business Admin.	3	148				3	6		8	3				136
R-6 Foreign Language	3	215				3	4			5			40	154
R-10 Speech-Hearing	3	47		2		4	3							41
Library	3	8				1								
Architecture	3	3		3										
Business Administration	3	5												
On-street Boston	3	12		3										9
On-street Plant Sciences	3	36		4						8				13
TOTAL Cell 3			719				4		7					
Z-3	4	861			1	6	12	8	20		1279	773		11
R-19 Gates/Wall Hall	4	10		20		2		8						
R-19 Clement/Hulen Hall	4	11		2			6							
TOTAL Cell 4			872	3				8	13					2
Z-4	5	959			1	1	7	7	16	29		904		13
R-19 Athletic Dining Hall	5	22		11				15						16
R-23 Wiggins Kitchen	5	16		7									18	
On-street Hartford	5	18												
TOTAL Cell 5			1013											
R-21 Law School	6	522			1	2	4		5	8	76			427
TOTAL Cell 6			822											
C-10 (temp)	7	144								144				
TOTAL Cell 7			144											
C-6	8	624					6				616			
C-7	8	326				2	1			2	325			
C-8	8	322							13		322			
C-9	8	322									322			
Livestock Arena	8	28		20			1			2				5
TOTAL Cell 8			1622											
C-4	9	1279			1						1279			
TOTAL Cell 9			1279											
University Greenhouses	10	27		12					13					2
TOTAL Cell 10			27											
R-18 Physical Plant	11	540		35	4	10	13		40	29			330	79
TOTAL Cell 11			540											
C-5W	12	288									288			
Z-5	12	828			1				13			791		
R-19 Murdough/Stangel	12	13		5			10	13						
R-19 Carpenter/ Wells	12	0						8				18		16
R-25	12	179		2			12			80				85
TOTAL Cell 12			1308											
Z-5	13	95			1					34		60		
R-1 Chemistry	13	402				2	4							396
R-8 Science Quad	13	135		2			6	4	4					123
R-9 Agriculture	13	50		9		2	2		3					04
Biology	13	15		15										
TOTAL Cell 13			897											
R-2 English	14	269			2	2	4			4				291
R-4 Elec. Englin.	14	110		2			2			2				106
R-16 Industrial Englin.	14	60		5			1			1				54
Mechanical Engineering	14	1		1										
Chemical Engineering	14	4		4										
Hazar. Chem. Stor.	14	2		2										
Elec. Englin. Addition	14	5		5										
Journalism	14	10		7					3					
TOTAL Cell 14			491											
R-14 Holden Hall	15	158					5		2	20				131
West Hall/Post Office	15	24		3					21					
Sneed Hall/Post Office	15	6					2	4						
Gordon Hall	15	12			2		2		8					
Bledsoe Hall	15	8		3				5						
TOTAL Cell 15			208											
C-2	16	524					3				468		42	11
Z-1	16	448			2	1	7	21				417		
R-15 Athletics	16	70			3		3			5				59
R-17 Industrial Englin.	16	26												26
R-22 Tow Yard	16	15												15
Athletic-Phys. Ed.	16	17		3			6		39		57			14
Jones Stadium	16	120			3	1								14
Engineering Research	16	11		1	1		3		5					1
Baseball Field	16	78			7		2		2		67		26	
Tow Yard	16	26					2							7
On-street Univ. Police	16	14		3					4					
TOTAL Cell 16			1349											
C-1	17	1447			33		33				1381			
TOTAL Cell 17			1447											
C-5	18	274									234			40
TOTAL Cell 18			274											
R-28 Museum	19	51		6						354			45	
Planetarium/Ranching	19	400		11			12						15	
ICC	19	114		10			6			49				49
TOTAL Cell 19			585											
Health Sciences Center	20	1885												1885
TOTAL Cell 20			1885											
Softball Fields	21	150											150	
TOTAL Cell 21			150											
Totals		16794	16794	283	14	100	234	127	325	980	5579	3341	682	5129

* FOR LOCATION OF CELLS REFER TO CELL DIAGRAM IN FOLLOWING SECTION OF REPORT

Parking Count - Spring 1996

Cell Analysis

An important determinant of campus character is the scale and density of development - the relationship between built and open space. To ensure that new construction is in keeping with the character of the existing campus, those factors which help to determine it have been quantified. The developed campus has been divided into twenty-one "cells" based on similar use. For each cell, we have calculated the following for the existing conditions as of Spring 1996:

Area - The total area of the cell measured in both square feet and acres.

Ground Area Coverage (GAC) - Percentage of the total area of a cell covered by the building(s) within it.

Gross Floor Area (GFA) - the total area of a building, measured in square feet, included within the outside faces of its exterior walls.

Assignable Square Feet (ASF) - The total area, measured in square feet, on all floors of a building which is assigned to, or available for assignment to, an occupant or specific use.

Floor Area Ratio (FAR) - ratio between the GFA of all buildings contained within a cell and the total area of that cell.

Classrooms (CR)

Class Labs (CL)

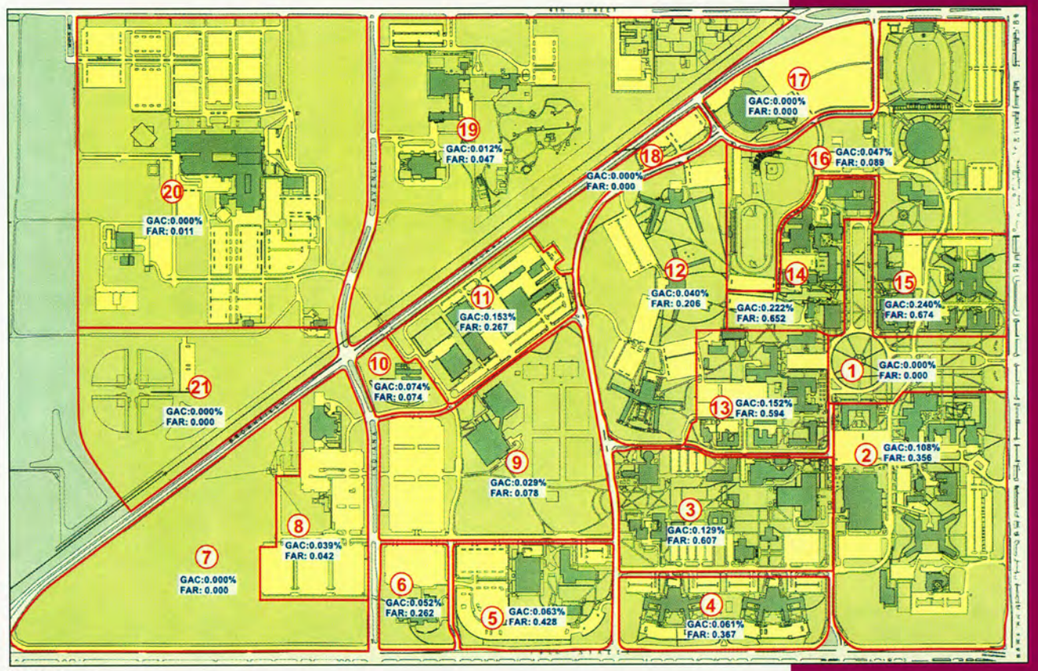
Capacity of classrooms and class labs located within the cell.

Parking - total spaces within the cell.

Beds - total residence hall beds within the cell.

The accompanying diagram and chart are meant to be a reference for future planning by attaching tangible numbers to known areas of campus at a fixed point in time. The composition of cells is already changing with new construction, and data for cells will need to be continually updated. To gauge the impact of new construction on the developed campus, calculations should be based on known expansion numbers - i.e., the footprint and GFA of a proposed building.

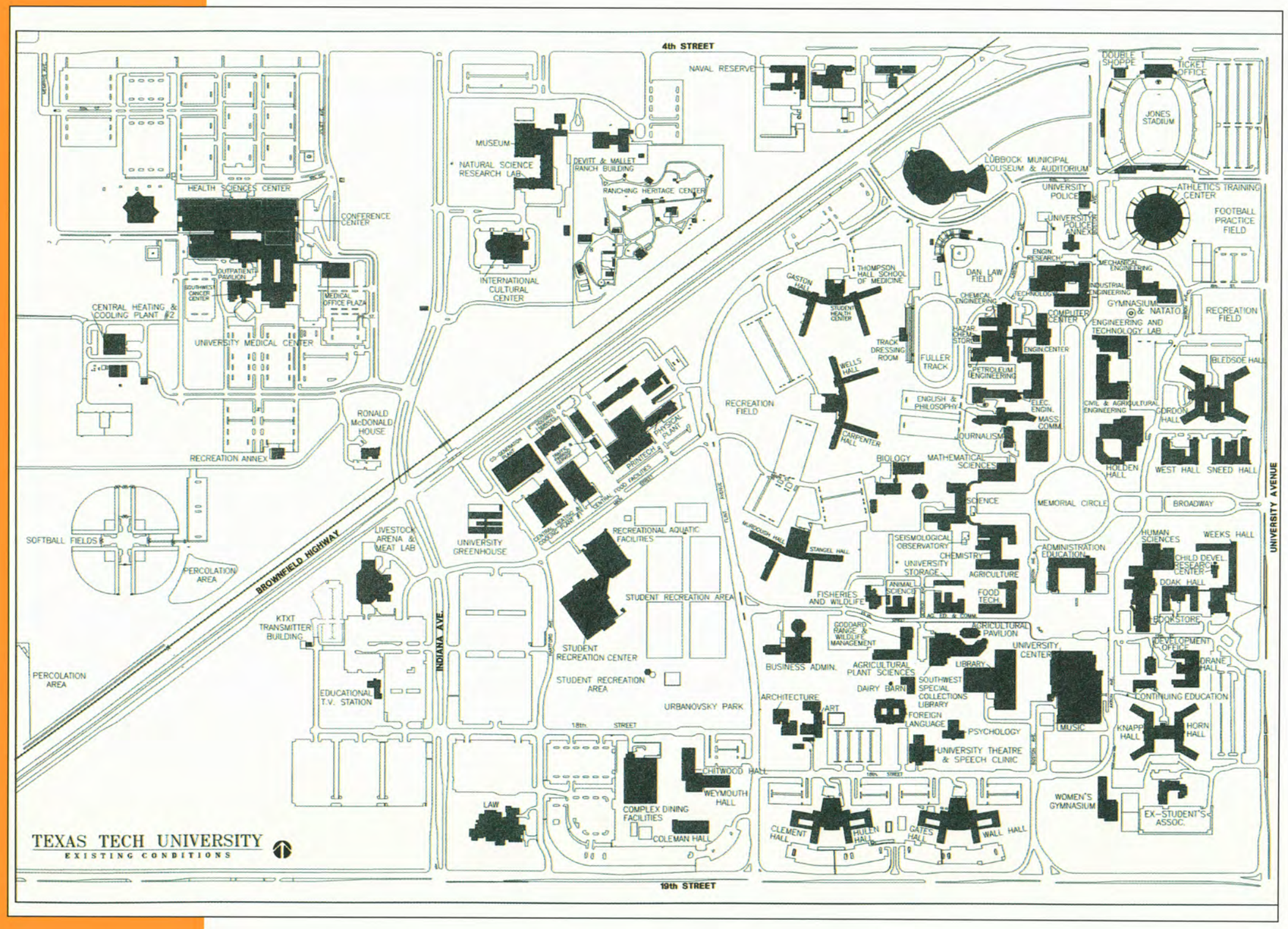
Within any given cell, then, by comparing the existing and proposed ground area coverage, the University will be able to tell in quantifiable terms how, for example, open space will be affected by new construction. Or by knowing the existing density of a given cell as measured by floor area ratio, the University can set limits on the allowable gross floor area for any new construction within that cell to maintain conformity with the massing, scale and height of the existing architecture.



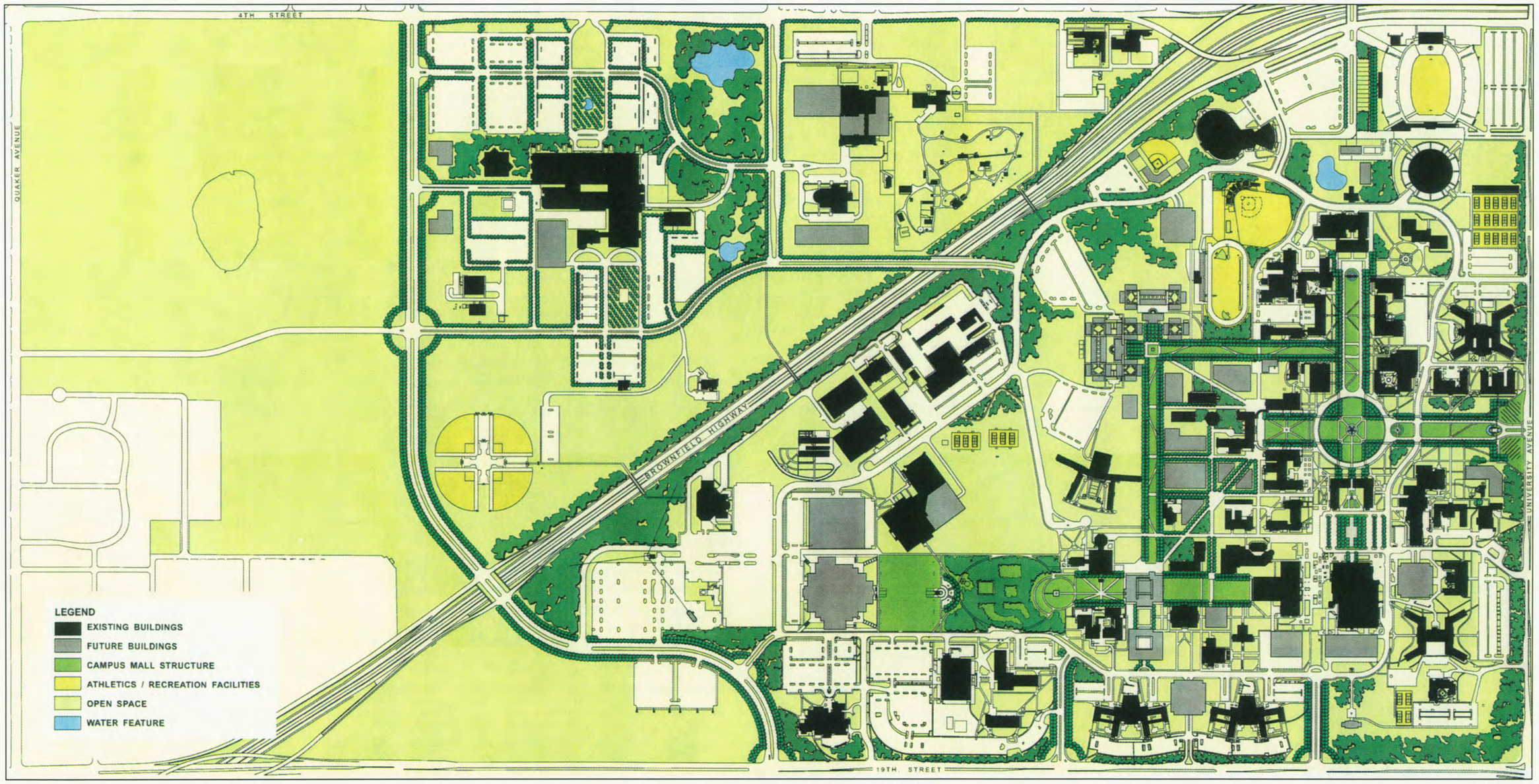
Cell Diagram

NO.	NAME	AREA IN SF	ACRES	GAC	GAC %	GFA	FAR	ASF	CR	CL	CR/CL cap	Parking	Beds
1	Memorial Circle	926,400.0	21.27	19.0	**0.000**	19.0	**0.000**	18.0	0	0		104	0
2	University/19th Corner	2,905,800.0	66.71	314,022.2	**0.108**	1,035,776.0	**0.356**	633,087.0	33	18	2,130	1,576	710
3	Library Mall	1,684,400.0	38.67	217,133.3	**0.129**	1,023,192.0	**0.607**	660,669.0	71	85	6,466	719	0
4	18th Street Residence Halls	1,011,600.0	23.22	61,821.5	**0.061**	370,929.0	**0.367**	222,557.0	0	0		872	1,373
5	Dining Hall Block	1,124,600.0	25.82	70,406.7	**0.063**	481,475.0	**0.428**	300,238.0	0	0		1,015	1,511
6	Law School	492,300.0	11.30	25,808.6	**0.052**	129,043.0	**0.262**	85,988.0	0	0		522	0
7	The Triangle	2,761,900.0	63.40	875.0	**0.000**	875.0	**0.000**	0.0	0	0		144	0
8	TV Station	1,216,900.0	27.94	47,823.0	**0.039**	51,715.0	**0.042**	43,777.0	2	3	250	1,622	0
9	Arena/Recreation	2,406,800.0	55.25	70,240.3	**0.029**	186,576.0	**0.078**	112,381.0	1	0	40	1,279	0
10	Greenhouse	290,700.0	6.67	21,646.0	**0.074**	21,464.0	**0.074**	19,031.0	1	0	24	27	0
11	Physical Plant	1,089,200.0	25.00	166,789.5	**0.153**	290,749.0	**0.267**	166,660.0	0	0		540	0
12	Carpenter-Wells	2,187,800.0	50.22	87,499.3	**0.040**	450,720.0	**0.206**	225,627.0	0	0		1,308	1,063
13	Chemistry	1,096,600.0	25.17	166,167.4	**0.152**	651,124.0	**0.594**	374,802.0	48	50	5,193	697	0
14	Engineering Key	812,600.0	18.65	180,199.3	**0.222**	529,665.0	**0.652**	326,097.0	56	17	7,637	491	0
15	Holden Hall Area	918,000.0	21.07	220,748.3	**0.240**	618,931.0	**0.674**	357,224.0	43	14	2,794	208	785
16	Stadium/Athletics	2,705,800.0	62.12	128,115.0	**0.047**	241,429.0	**0.089**	112,338.0	4	2	79	1,349	0
17	Municipal Coliseum	839,400.0	19.27		**0.000**		**0.000**		0	0		1,447	0
18	Brownfield Strip	386,600.0	8.88		**0.000**		**0.000**		0	0		274	0
19	Museum Triangle	4,542,000.0	104.27	52,755.3	**0.012**	213,599.0	**0.047**	113,207.0	2	0	54	565	0
20	Medical Center	5,862,700.0	134.59		**0.000**	63,616.0	**0.011**		0	0		1,885	0
21	Softball Fields	2,071,300.0	47.55		**0.000**				0	0		150	0
Totals		35,262,100.00	809.51	1,832,069.7	**0.052**	6,360,897.0	**0.180**	3,753,701.0	261	189.0	24,667	16,794	5,442

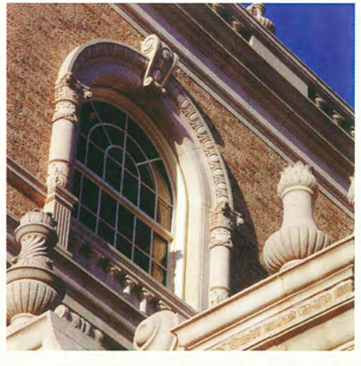
Cell Calculations



The Master Plan draws on the past as it looks toward the future. Its intent is to reapply the planning principles which underlie the best of the Texas Tech University campus and to find new ways to utilize the University's resources to ensure that Texas Tech continues to fulfill its mission with certainty.


4TH STREET
QUAKER AVENUE
BROWNFIELD HIGHWAY
UNIVERSITY AVENUE
19TH STREET
LEGEND
EXISTING BUILDINGS
FUTURE BUILDINGS
CAMPUS MALL STRUCTURE
ATHLETICS / RECREATION FACILITIES
OPEN SPACE
WATER FEATURE

PRINCIPLES



Comprehensive Approach

- Ensure that all building projects contribute to the overall character and quality of the campus.
- Use a design process which integrates architecture with open space, pedestrian circulation, and parking.

Campus Open Space Structure

- Give structure to the campus by creating major open spaces which are connected by pedestrian linkages.
- Create open spaces that humanize the campus, strengthen the image of the University, promote interaction, and add to the desirability of the University and its attractiveness to potential students.

Building Opportunities

- Use an infill strategy to tie new buildings into the existing campus fabric and to concentrate academic growth to ensure that buildings are within a 10 minute walking distance of one another.
- Use buildings to define the campus open space structure.

Pedestrian Circulation

- Enhance campus wayfinding, safety, and pedestrian movement.
- Accommodate the disabled and, wherever possible, separate automobiles, bicycles, and pedestrians.
- Create pedestrian linkages between major campus destinations.
- Provide appropriate illumination along pedestrian circulation routes.

Vehicular Circulation and Transit

- Create a simple, direct, and easily understood campus loop road system.
- Limit, to the extent possible, major volume streets to the periphery of the developed campus.
- Maintain the current shuttle service as a timely and cost-effective alternative to travel by private automobile and adjust bus routes as the new campus roadway system is put into place.
- Continue to provide an effective interface with the local municipal bus system.

Bicycle Circulation

- Recognize that bicycles are an important mode of transportation on campus.
- Encourage increased ridership by developing safe and clearly defined bicycle routes and better bicycle storage.
- Create separate bicycle and automobile routes including in-street dedicated lanes and off-street paths.
- Provide appropriate illumination along bicycle circulation routes.
- Connect campus with regional routes.

Parking

- Consolidate surface parking into above-ground parking structures located on the developed campus perimeter and served directly by the campus loop road.
- Locate parking structures within a ten-minute walk of major destinations.
- Provide appropriate illumination and safety features within parking structures.

Development of Northwest Campus

- Develop land uses which serve the campus community, provide opportunities for teaching and research, and produce a reliable source of income to support academic programs.
- Strictly enforce Codes, Covenants, and Restrictions which ensure a level of development consistent with the existing campus environment.

Recommendations

The Master Plan creates a vision for the campus for the 21st century. It provides the physical framework for Texas Tech University and Texas Tech University Health Sciences Center to become flagship educational institutions within the state and nationally recognized examples of excellence in public higher education.

Within the last year, three major building projects - the United Spirit Arena, the Carpenter-Wells Residence Complex, and the English/Philosophy and College of Education Complex - have begun construction or are nearing the construction phase. Guided by the Master Plan, each of these projects has breathed new life into the structure of the campus.

Other projects - including enhancement of the original campus, renovation of the Athletic Complex, and construction of the University Conferences Circle - are planned for the next ten year period. As new technologies and changing needs in education and research continue to require the renovation of facilities and new construction, the Master Plan will ensure that these and other future building projects contribute to the campus fabric and meet the highest standards of architectural and site design.

The following are the specific five and ten year recommendations of the Master Plan for buildings and land use. Careful consideration has been given to the phasing of proposed demolition and new construction to ensure that changes to the campus take place as seamlessly as possible.

Original Campus

Memorial Circle

Administration Courtyard/Parking Area

East/West & North/South Pedestrian Malls

Dairy Barn

Interior Courtyards

Campus Entries

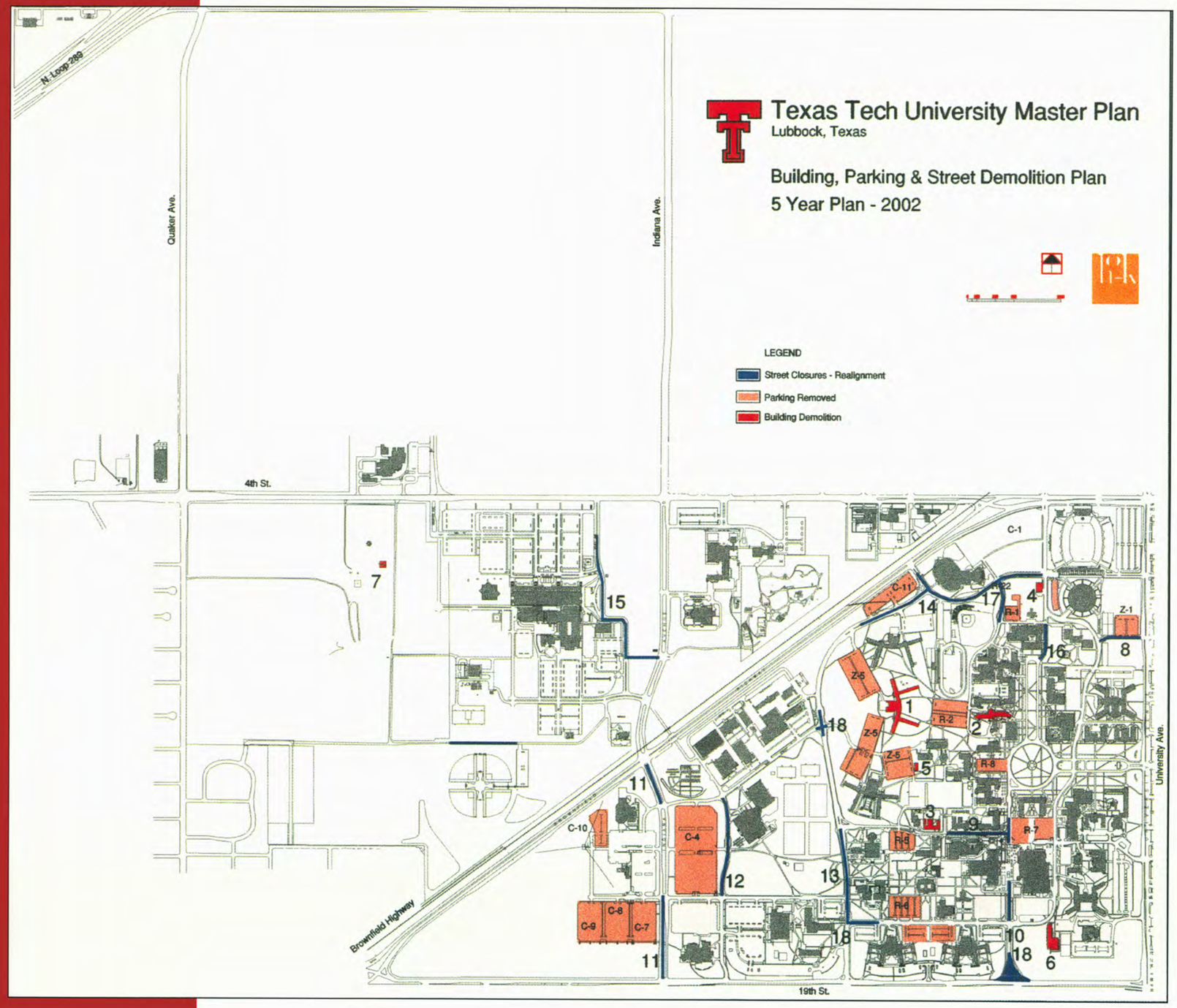
HSC/UMC Park and Entry Feature

United Spirit Arena

Jones Stadium Renovation

Red Raider Pavilion

University Conferences Circle



5-YEAR PLAN - 2002

Building, Parking, and Street Demolition

Developed Campus

DEMOLISH the following existing buildings:

1. Carpenter-Wells.
2. English / Philosophy.
3. Animal Science.
4. University Police.
5. X-47 Barrack.
6. Women's Gym.

Northwest Campus

DEMOLISH the following existing building:

7. Observatory building.

Vehicular Circulation and Transit

Developed Campus

CLOSE the following streets:

8. 8th Street between Akron and University Avenues.
9. 15th Street between Detroit and Boston Avenues.
10. Boston Avenue between library and new 18th Street.
11. Indiana Avenue from 19th Street to 18th Street and Main Street to Brownfield Highway.
12. Hartford Avenue from 18th Street to Main Street.
13. Flint Avenue from 18th Street to Detroit Avenue.
14. Drive of Champions from Boston Avenue to west of Gaston Hall.
15. HSC Drive from 6th to 9th Streets.
16. Boston from loop road to engineering key.
17. Canton from Drive of Champions to Akron Avenue.

REALIGN the following intersections:

18. 18th Street and Flint Avenue, Main Street and Flint Avenue, Boston Avenue and 19th Street.

10-YEAR PLAN - 2007

Building, Parking, and Street Demolition

Developed Campus

DEMOLISH the following existing buildings:

1. Office of Development.
2. McCullen Hall (Continuing Education).
3. Gaston Hall.
4. Thompson Hall.
5. Weeks Hall.
6. Army Reserve Center.

Northwest Campus

DEMOLISH the following existing buildings:

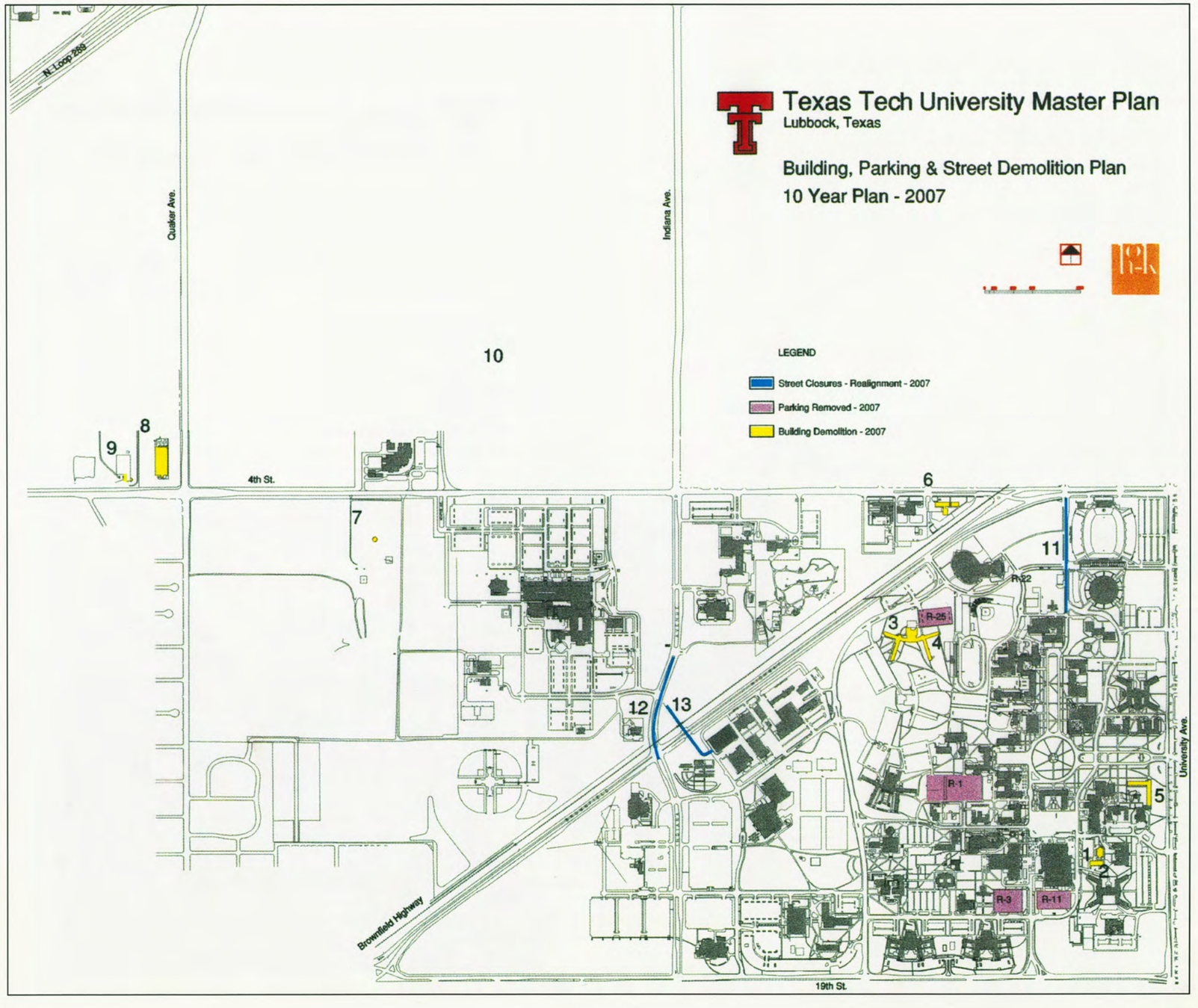
7. Wind Engineering.
8. Rodeo Arena and Shop.
9. Engineering Shop.
10. Agricultural Operations crop productions.

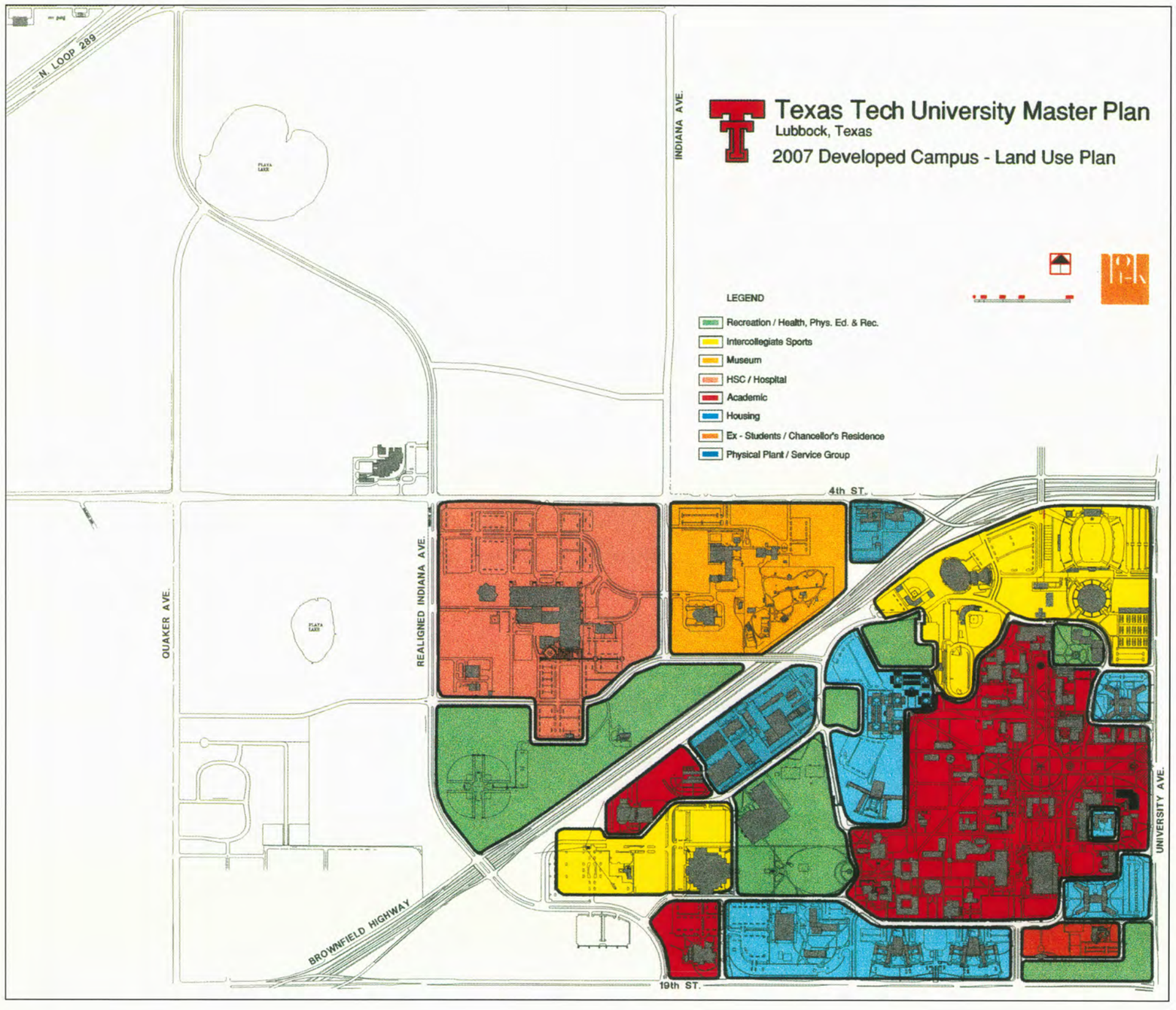
Vehicular Circulation and Transit

Developed Campus

CLOSE the following streets:

11. Red Raider Avenue from 4th Street to Akron Avenue.
12. Indiana Avenue from Brownfield Highway to 9th Street.
13. Service tunnel from Physical Plant to north of Brownfield Highway.





2007 Developed Campus Land Use Plan

This 781-acre area will provide land for all future educational growth related to Texas Tech University and Texas Tech University Health Sciences Center.

DEDICATE land use zones for the following academic and related uses:

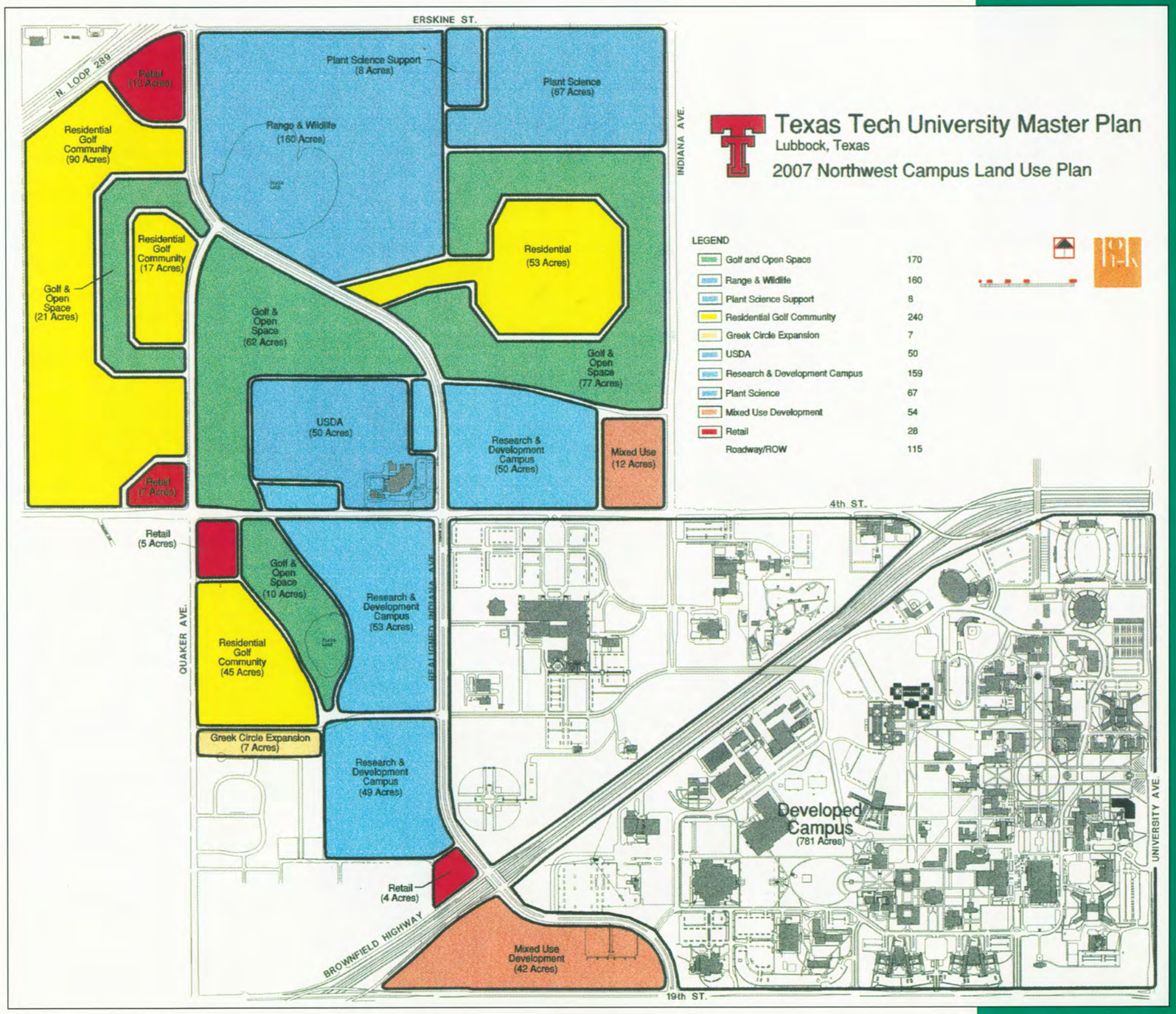
1. Recreation/Health, Physical Education & Recreation.
2. Intercollegiate Athletics.
3. Museum.
4. Medical Academic.
5. General Academic.
6. Housing.
7. Ex – Students / Texas Tech House.
8. Physical Plant / Service Group.

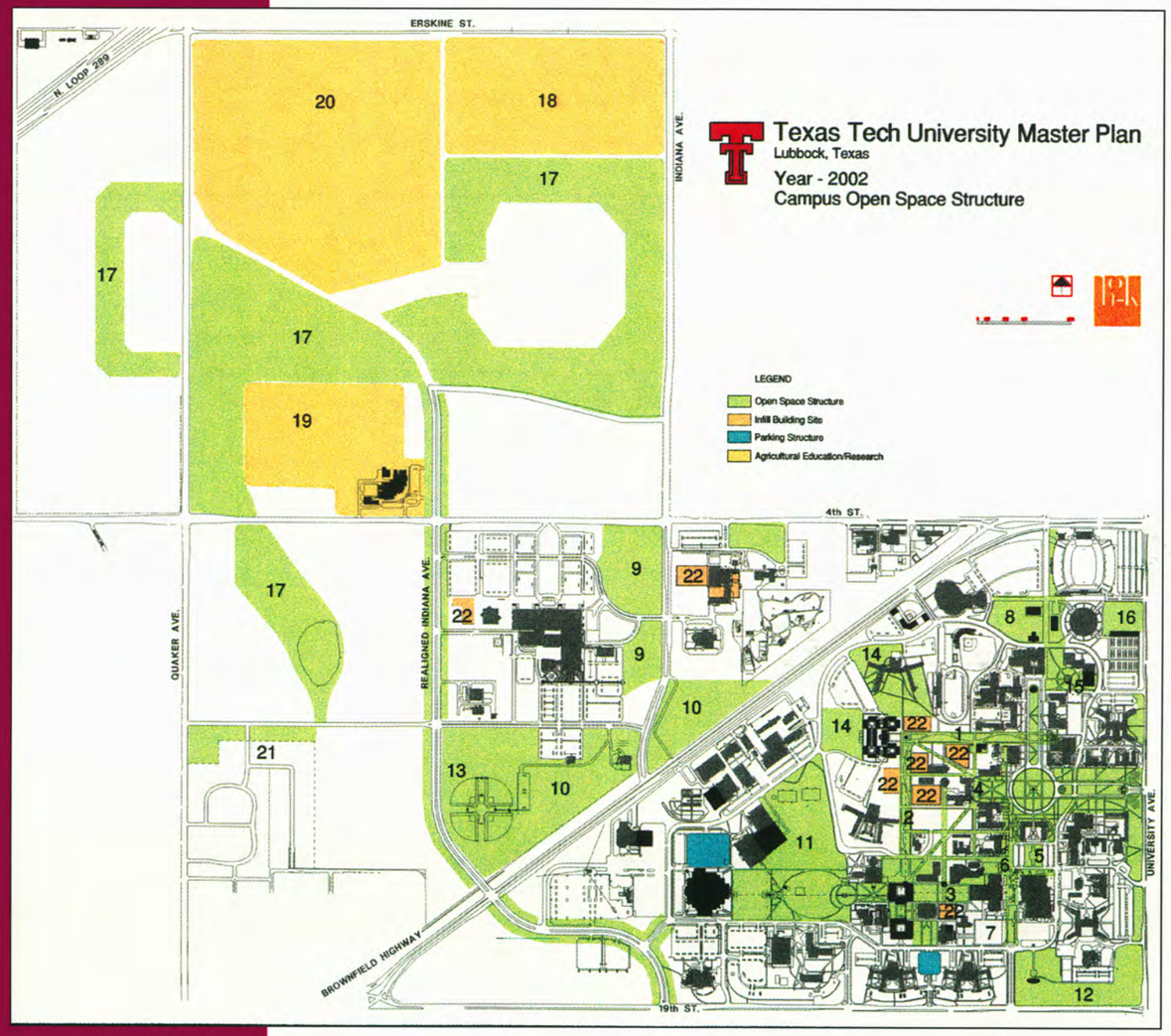
2007 Northwest Campus Land Use Plan

This 1,058-acre area will provide for all future agricultural education, research, and non-typical land use for Texas Tech University and Texas Tech University Health Sciences Center. All non-typical land use would be public / private ventures which provide maximum potential endowment without the selling of any University-owned land.

DEDICATE land for the following uses:

1. Research and Development.
2. Mixed Use Development.
3. Retail.
4. Residential Golf Community.
5. Golf and Open Space.
6. Range and Wildlife.
7. Plant Science Support.
8. Plant Science.
9. USDA.
10. Greek Circle Expansion.





5-YEAR PLAN - 2002

Campus Open Space Structure

Developed Campus

CONSTRUCT:

1. East/West Pedestrian Mall.
2. North/South Pedestrian Mall.
3. Remaining library pedestrian mall.
4. Pedestrian Science Quadrangle - "Court of Honor".
5. Pedestrian mall between Administration Building and University Center.
6. 15th Street pedestrian mall between Detroit and Boston.
7. Extension of pedestrian mall from library to campus loop road.
8. Red Raider Alley.
9. Fitness Park at medical academic campus.
10. New recreation-only fields north of Brownfield Highway.

PRESERVE the following recreation-only areas:

11. Open field areas at Student Recreation Center.
12. Open field areas along University Avenue and 19th Street.
13. Intramural softball complex north of Brownfield Highway.
14. Open field areas at Residence Halls.
15. Open area at Southwest Conference Circle.

PRESERVE the following intercollegiate athletics-only area:

16. Football practice field.

Northwest Campus

CONSTRUCT:

17. 18 hole golf course and playa drainage system.
18. Relocated 75-acre field area for Plant and Soil Science education and research.
19. 40-acre USDA Plant Stress Lab Research field area and 10-acre USDA Plant Stress Lab Research facility.

PRESERVE

20. 160 acres of virgin untilled native range land for Range, Wildlife, and Fisheries Management education and research.

DEDICATE land for:

21. Additional Greek Circle lots.

PROTECT and MAINTAIN as temporary open space:

22. New building sites identified for future construction and/or expansion of facilities.

5-YEAR PLAN - 2002

Building Opportunities

Developed Campus

CONSTRUCT the following new facilities:

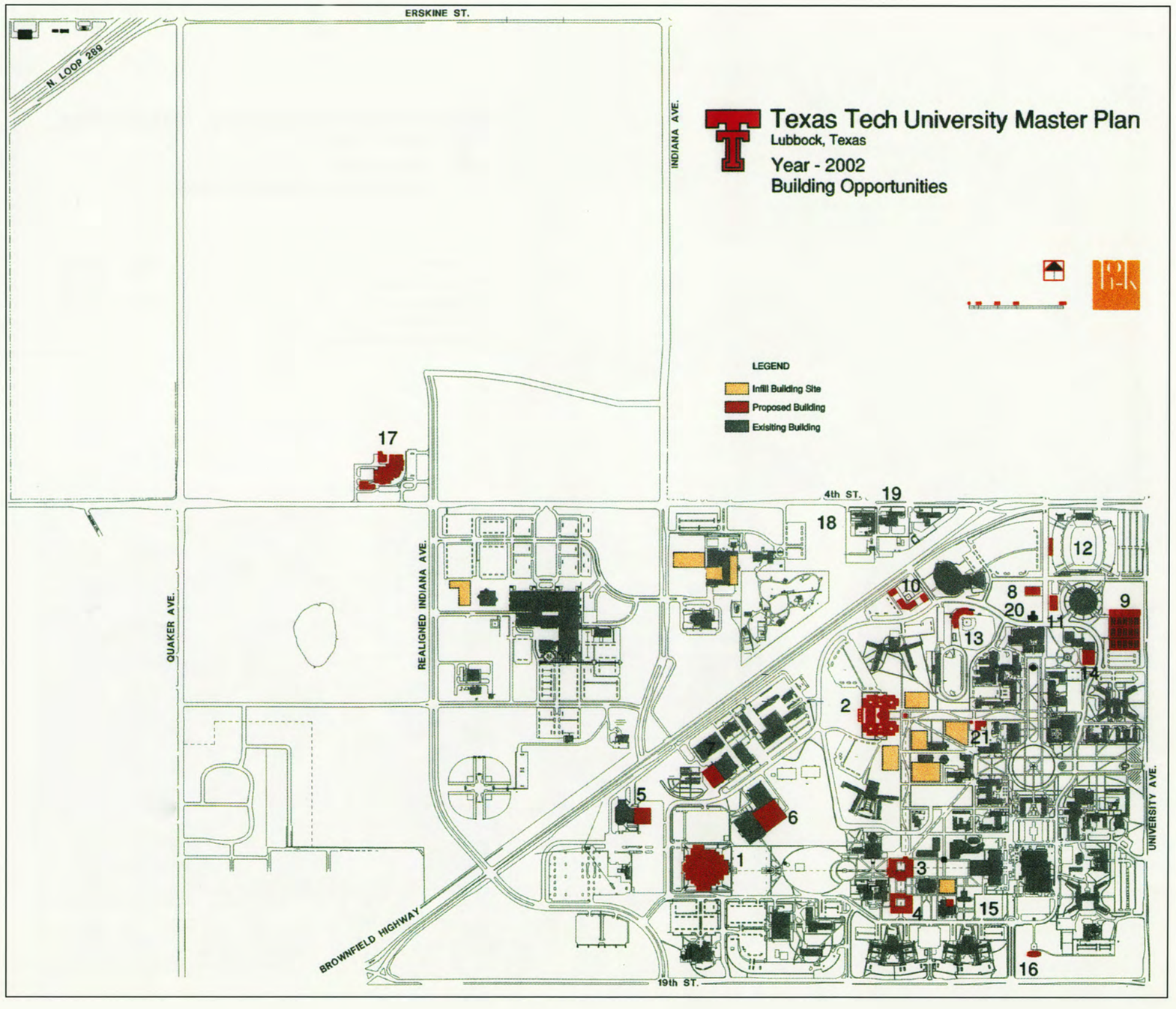
1. Arena at terminus of the library mall.
2. Carpenter-Wells Residence Complex.
3. English/Philosophy at terminus of new mall.
4. Education south of new English/Philosophy.
5. Addition to Livestock Arena.
6. Addition to Student Recreation Center.
7. Addition to the Central Heating and Cooling Plant.
8. Ex-Students Red Raider Pavilion.
9. Tennis Complex.
10. Women's Softball Stadium.
11. Academic Services Building.
12. Jones Stadium infrastructure and facade, press box.
13. Dan Law Field facade and roof canopy.
14. Addition to Men's Gym.
15. Addition to University Theater.
16. Texas Tech House.
17. USDA Building.

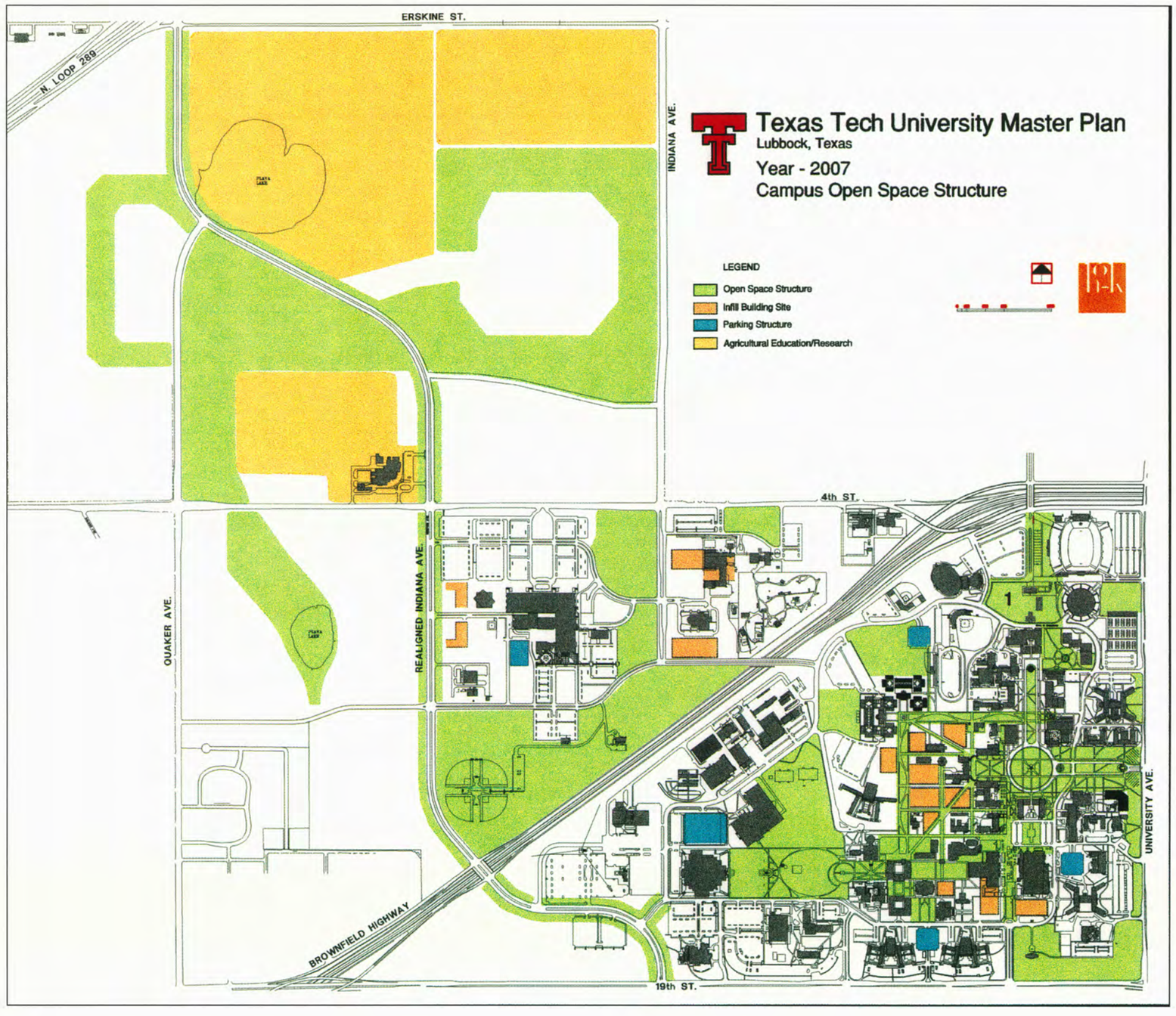
RENOVATE

18. Naval Reserve Building for Services Group.
19. National Guard Armory for University Police and Services Group.
20. Renovate Red Raider Alley.

RELOCATE

21. Dairy Barn to East/West Pedestrian Mall for Faculty Club & University Coffee Shop.





10-YEAR PLAN - 2007

Campus Open Space Structure

Developed Campus

CONSTRUCT:

1. Athletic Complex open space area:
   Walk of Champions.

PROTECT and MAINTAIN as temporary open space, new building sites identified for future construction and/or expansion of facilities.

10-YEAR PLAN - 2007

Building Opportunities

Developed Campus

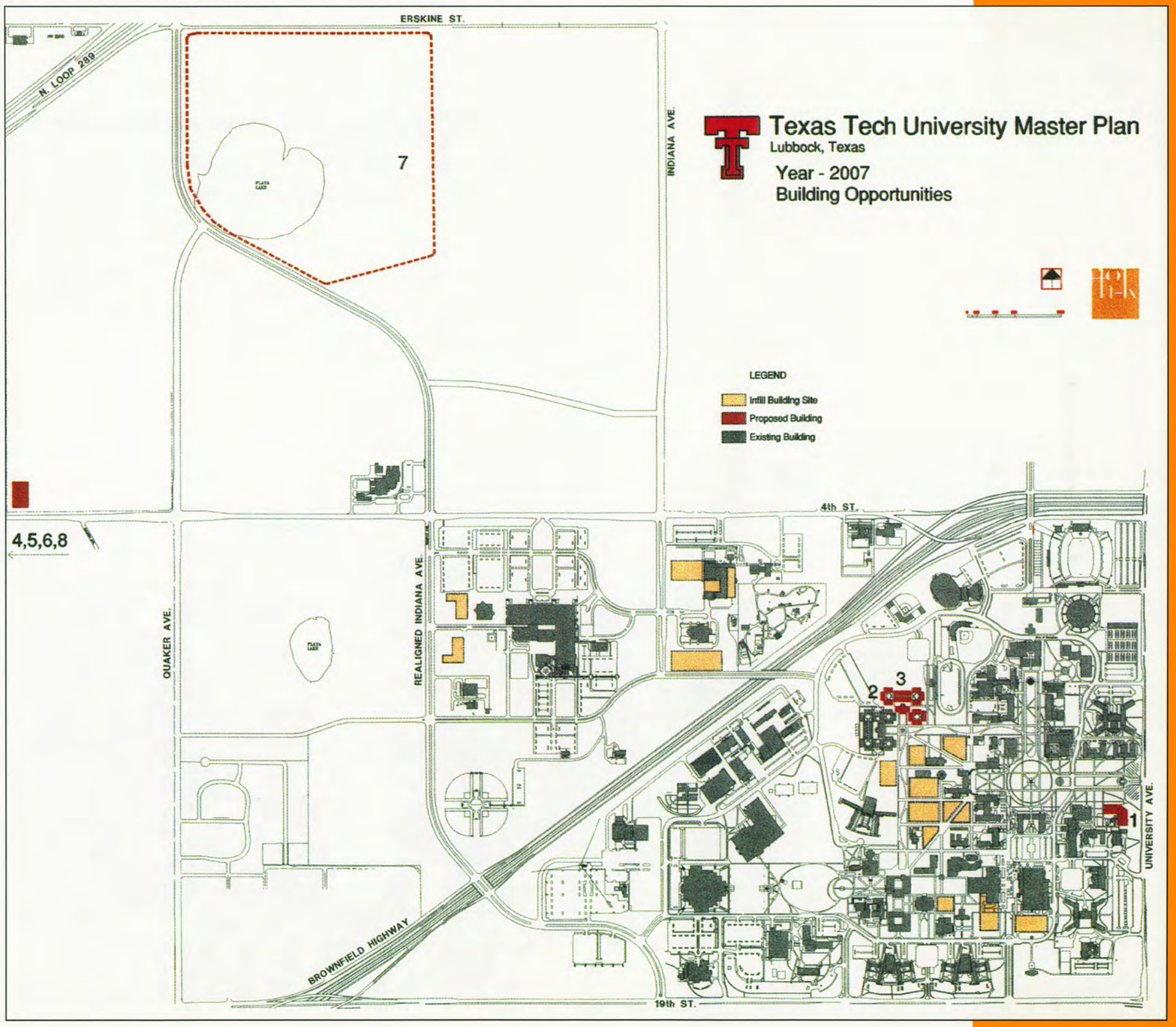
CONSTRUCT the following new facilities:

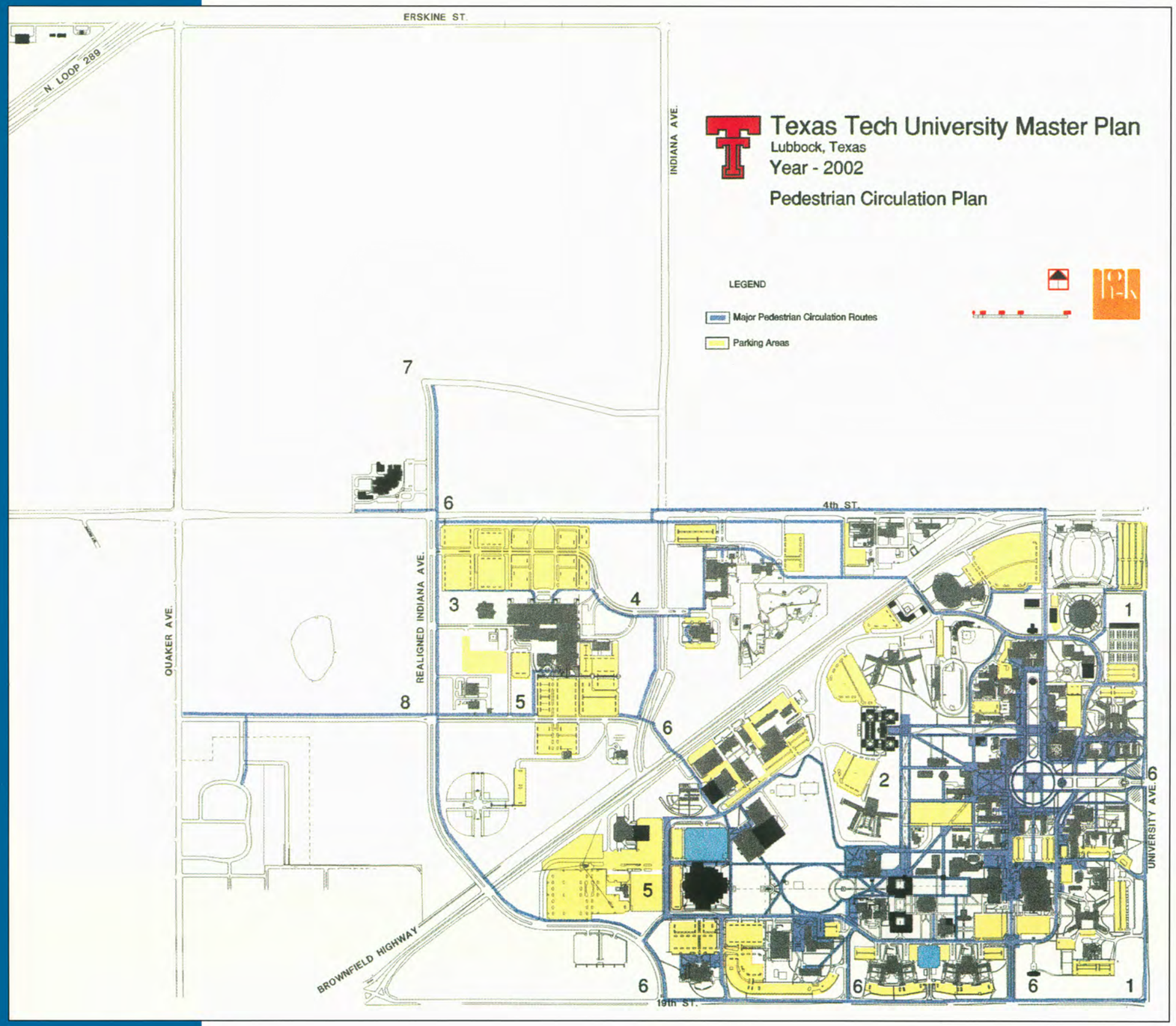
1. Principal academic building at Broadway entrance (Weeks Hall site).
2. Addition to Carpenter-Wells Residence Complex.
3. Student Wellness Center (Locate at new Residence Hall addition).

Northwest Campus

CONSTRUCT:

4. Rodeo Complex (Location to be determined).
5. Wind Engineering (Reese Air Force Base).
6. Engineering Shop (Reese Air Force Base).
7. Construct secure perimeter at 160-acre Range & Wildlife research/education area.
8. Agricultural Operations crop productions (Location to be determined).





5-YEAR PLAN - 2002

Pedestrian Circulation

Developed Campus

CONSTRUCT:

1. Pedestrian sidewalk along campus edge from Jones Stadium to Law School.
2. Pedestrian sidewalk circulation structure within new malls.
3. Medical and general academic campus pedestrian circulation system.
4. Pedestrian sidewalk connections between the medical academic campus and the general academic campus.
5. Pedestrian sidewalk corridors from all peripheral parking areas within the medical and general academic campuses.
6. Pedestrian crossings at all controlled intersections (realigned Indiana, Brownfield Highway, 4th Street, University Avenue & 19th Street).

Northwest Campus

CONSTRUCT:

7. Pedestrian linkages via golf course and open space.
8. Pedestrian linkages to developed campus.

10-YEAR PLAN - 2007

Pedestrian Circulation

Developed Campus

CONSTRUCT:

1. Pedestrian sidewalk circulation structure within new malls.
2. Pedestrian sidewalk corridors from all peripheral parking areas within the medical and general academic campuses.

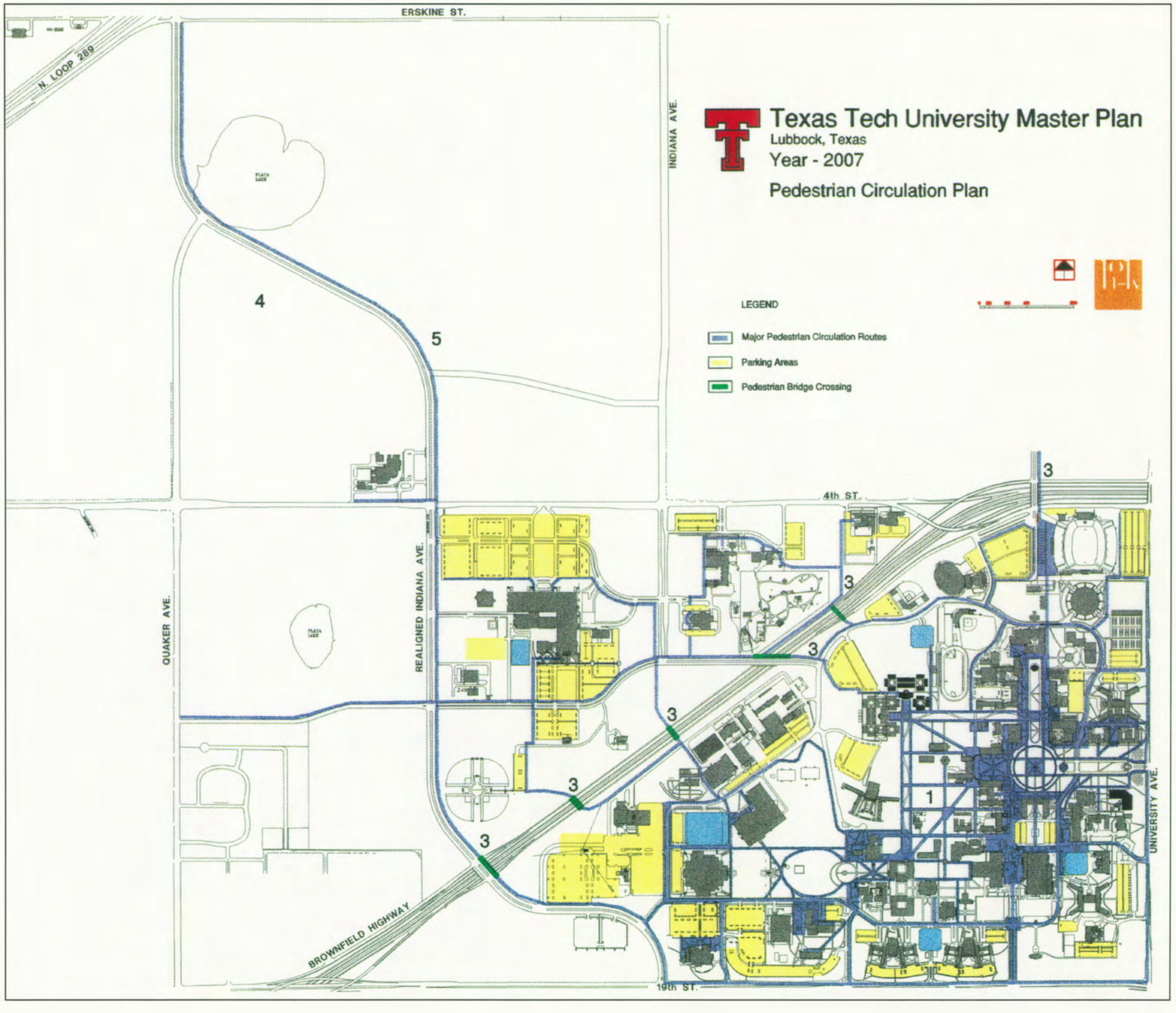
COORDINATE with TxDOT:

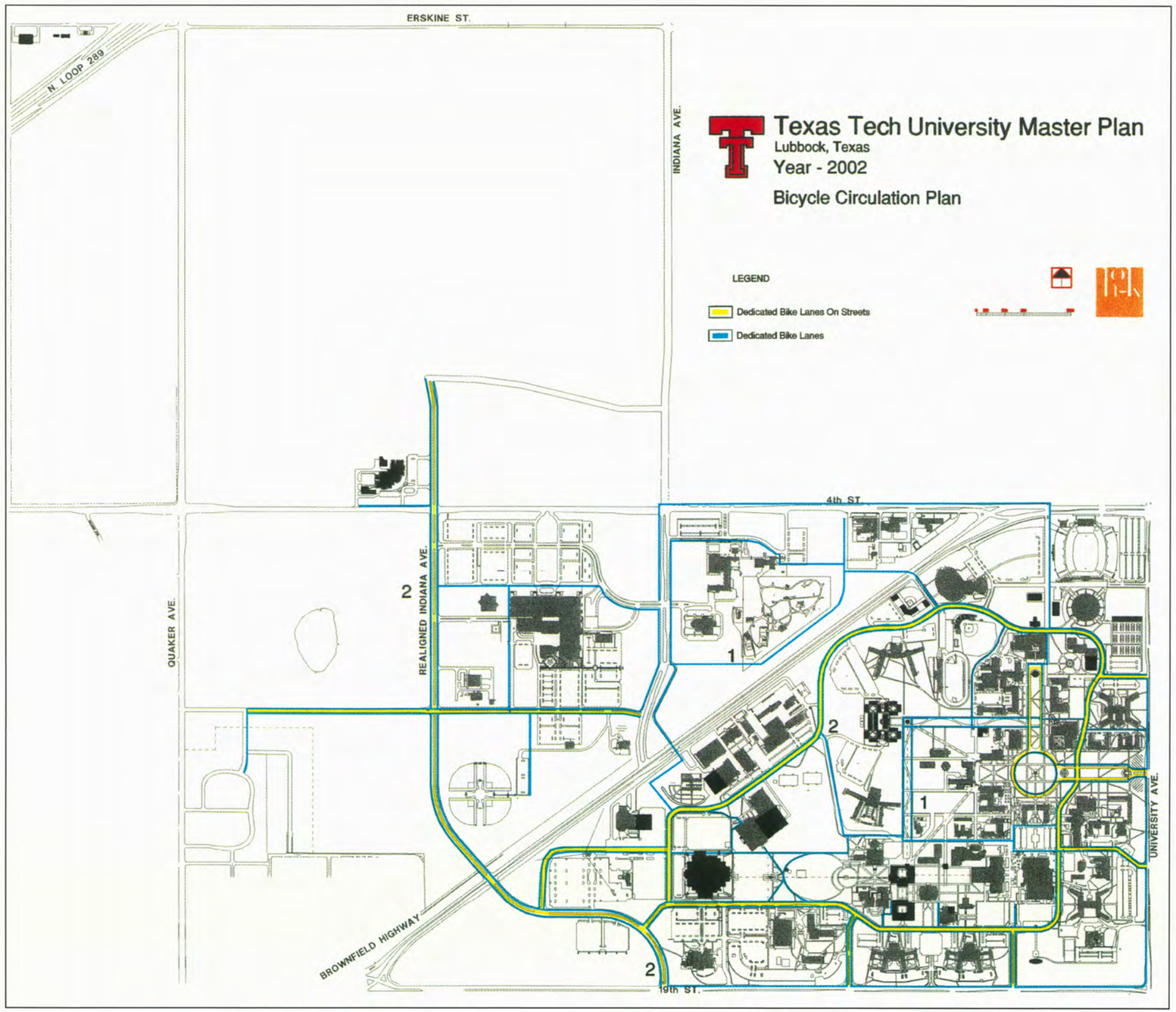
3. Pedestrian bridges and dedicated pedestrian paths on multi-use bridges which cross the East/West Freeway (Brownfield Highway).

Northwest Campus

CONSTRUCT:

4. Pedestrian linkages via golf course and open space.
5. Pedestrian linkages to developed campus.





5-YEAR PLAN - 2002

Bicycle Circulation Plan

CONSTRUCT:

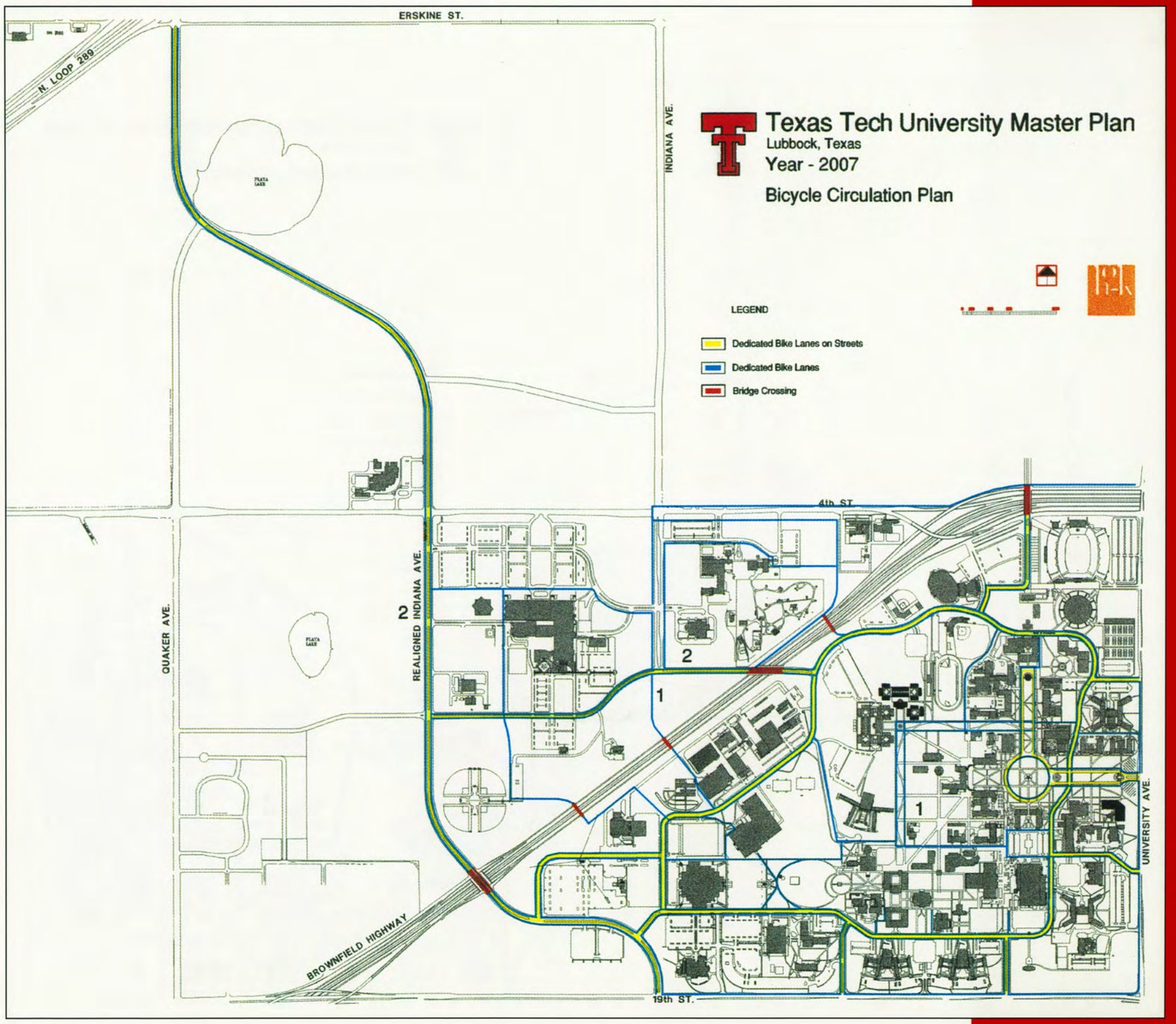
1. Bicycle-only circulation system.
2. Bicycle lanes on designated streets.

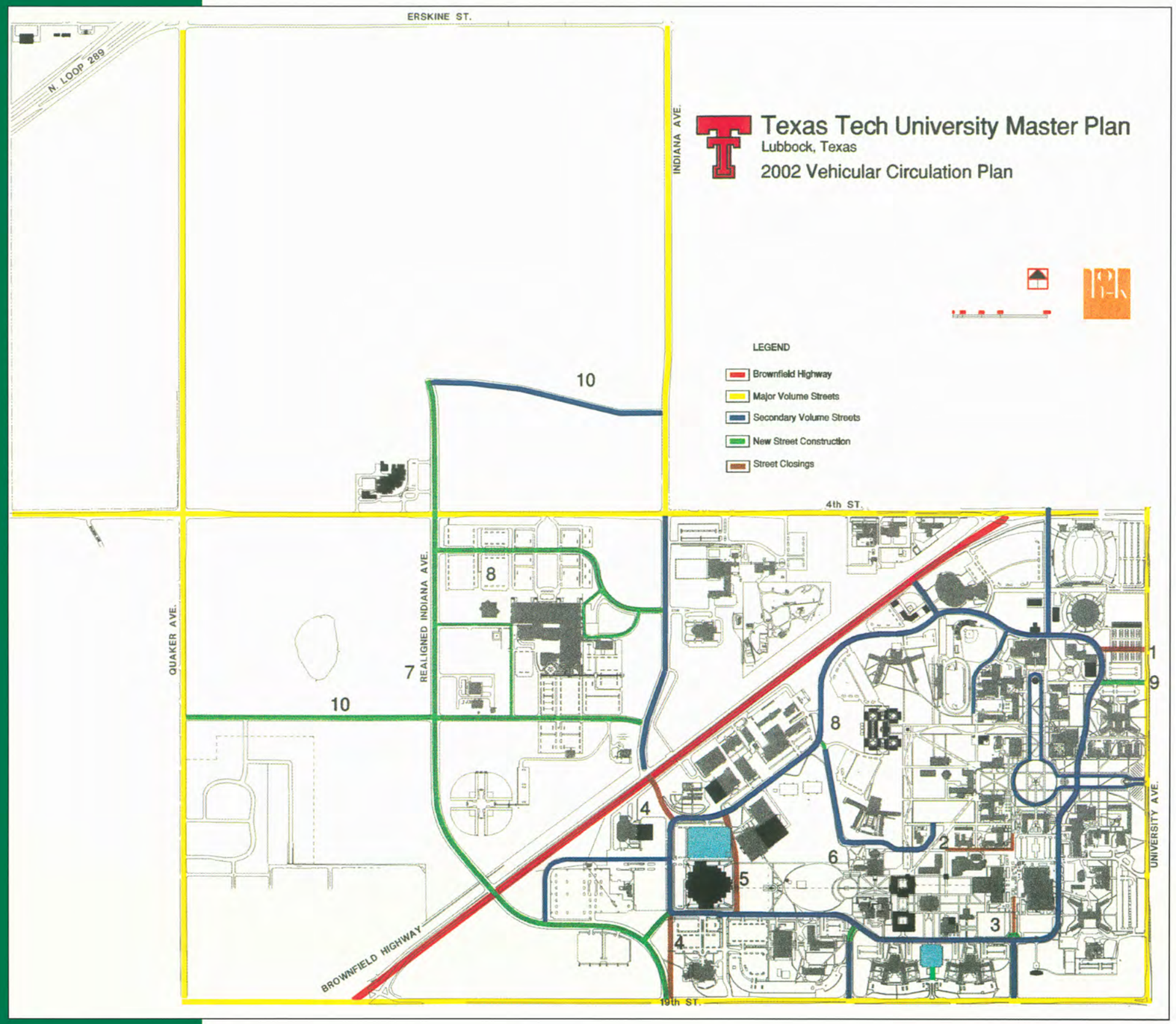
10-YEAR PLAN - 2007

Bicycle Circulation Plan

CONSTRUCT:

1. Bicycle-only circulation system.
2. Bicycle lanes on designated streets.





5-YEAR PLAN - 2002

Vehicular Circulation and Transit

Developed Campus

CLOSE the following streets:

1. 8th Street between campus loop road and University Avenue.
2. 15th Street between Detroit Avenue and Boston Avenue.
3. Boston Avenue between library and new campus loop road.
4. Indiana Avenue from 19th Street to 18th Street and Main Street to 9th Street.
5. Hartford Avenue from 18th Street to Main Street.
6. Flint Avenue from 18th Street to Detroit Avenue.

CONSTRUCT the following streets:

7. Realigned Indiana Avenue from 19th Street west to the Memphis Avenue alignment to half mile north of 4th Street.
8. Medical and general academic campus loop road system.
9. 9th Street from campus loop road to University Avenue.

Northwest Campus

CONSTRUCT the following streets:

10. East/west street half mile north of 4th street from realigned Indiana Avenue to existing Indiana Avenue.
11. East/west street from Quaker Avenue to existing Indiana Avenue.

10-YEAR PLAN - 2007

Vehicular Circulation and Transit

Developed Campus

CLOSE the following street:

1. Red Raider Avenue from 4th Street to campus loop road.

CONSTRUCT the following streets:

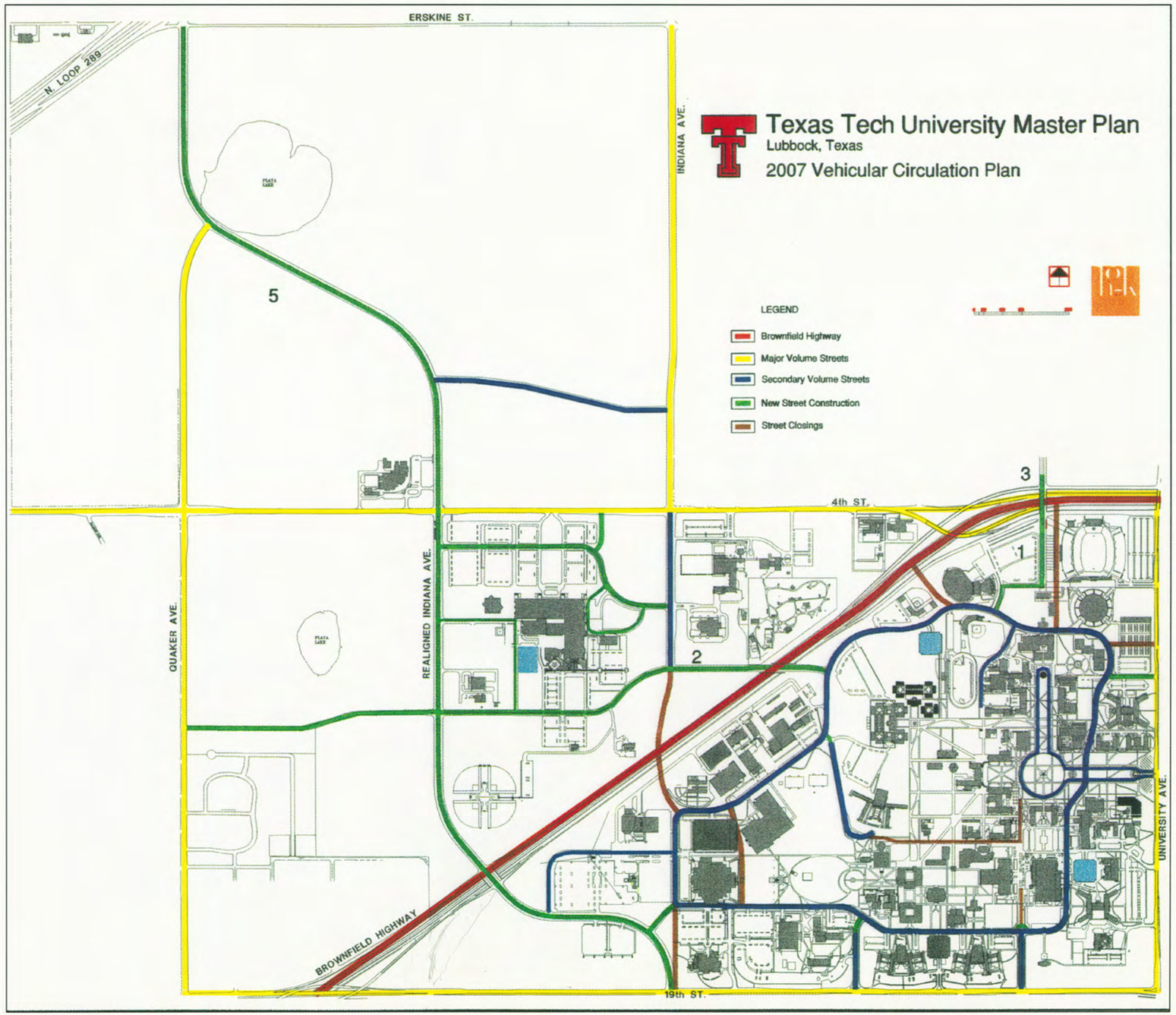
2. Mid-connector artery at 9th Street from medical academic campus loop road to the general academic campus loop road.

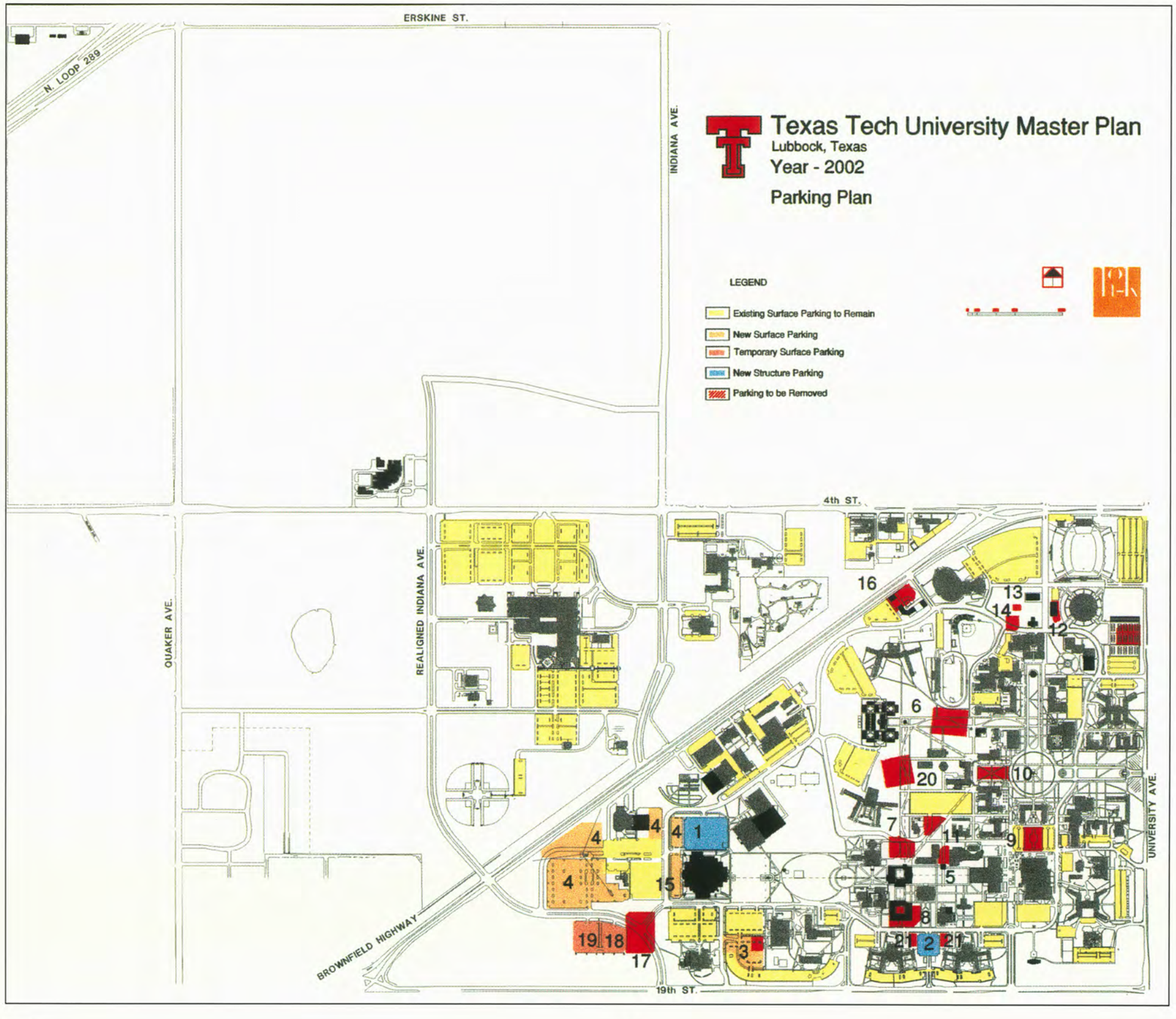
3. Red Raider Avenue realignment (to be coordinated with TxDOT with the construction of Brownfield Highway).

Northwest Campus

CONSTRUCT the following street:

4. Indiana Avenue realignment from half mile north of 4th Street to North Loop 289 (Quaker Interchange).





5-YEAR PLAN - 2002

Parking

Developed Campus

CONSTRUCT:

1. Parking structure north of new arena.
2. Parking structure south of 18th Street.
3. Surface parking for Wiggens Complex (R-23 lot to be realigned with new Wiggens parking lot).
4. Surface parking for commuter and arena parking.

CLOSE the following surface parking lots:

5. Southwest Collection lot.
6. R-2 / English.
7. R-5 / Business Administration.
8. R-6 / Foreign Language.
9. R-7 / Administration (maintain 164 spaces).
10. R-8 / Science Quadrangle.
11. R-9 Agriculture.
12. R-15 Athletics.
13. R-17 Industrial Engineering.
14. R-22 Tow Yard.
15. C-4 Commuter.
16. C-5 Commuter.
17. C-7 Commuter.
18. C-8 Commuter.•
19. C-9 Commuter.•
20. Z–5 Residence Hall.
21. Z-3 Residence Hall.

• Remaining portions of parking areas not impacted by Indiana Avenue realignment to be maintained for temporary overflow use until redevelopment of area.

10-YEAR PLAN – 2007

Parking

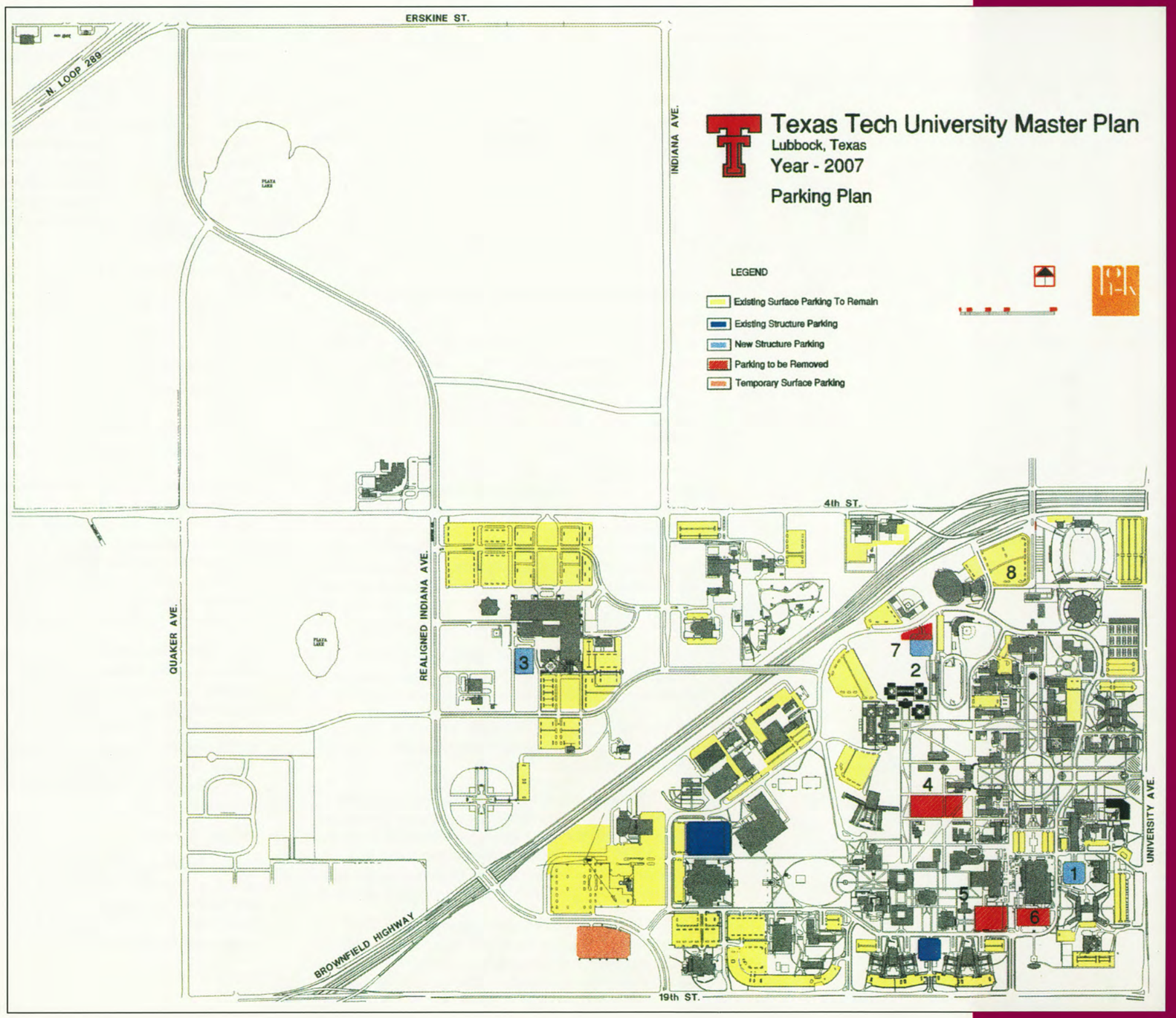
Developed Campus

CONSTRUCT:

1. Parking structure west of Drane Hall.
2. Parking structure west of Dan Law Field.
3. Parking structure at Health Sciences Center.

CLOSE the following surface parking areas:

4. R-1 Chemistry.
5. R-3 Library.
6. R-11 Band Practice.
7. R-25 Thompson Hall.
8. C-1 Realignment of existing parking.



INFRASTRUCTURE

Infrastructure

The campus infrastructure, while typically less visible than architectural and site elements, is essential to the efficiency, safety, and comfort of the University's operations. The following sections of the report describe the existing condition of the campus infrastructure, the principles which will govern future infrastructure planning, and the specific 5 and 10 year recommendations of the Master Plan.

EXISTING CAMPUS CONDITIONS

Central Heating and Cooling Plants (CHACP)

Raw energy purchased in the form of natural gas must be refined into steam and chilled water before it can be used to create the conditioned environment. This is essentially a manufacturing process using boilers and compressors. There are compelling, obvious reasons for manufacturing these refined utilities at central locations, remote from the served buildings.

The most significant factor, however, is the University's energy options. The competitive wholesale natural gas contracts, the electrical cogeneration plant at CHACP 1, and the use of well water in cooling towers at both plants would have been hard to predict 30 years ago. The options for other economies, such as thermal storage, free cooling economizers, and alternate energy sources are kept open with the central plants. In addition, both plants have been incredibly reliable, with down-time only for scheduled maintenance.

Previous studies have anticipated needs beyond the 10-year period covered in this Master Plan. Projects to implement the recommendations are under consideration.

Steam: District steam was an integral concept of the original master plan. Steam provides winter heat and drives refrigeration equipment for cooling.

The University produces steam at two central plants with natural gas fueled boilers and purchases steam, a by-product of power cogeneration on campus, from Lubbock Power and Light (LP&L). This symbiotic relationship saves the University about two-thirds the cost of producing this steam while discounting Texas Tech's purchase of LP&L electricity.

Chilled Water: Early air conditioning systems began to appear on the campus by the 1950's. Loud and unsightly by today's standards, they successfully raised the expectations for relief from hot summer days. The issue of improving the learning environment by air conditioning was settled by this time. But, as the number of compressors multiplied, so increased the difficulty of maintaining them.

The University soon opted to replace a multitude of split-systems with fewer, more centrally located steam-absorption chillers. Underground steam distribution was already in place. The new units were silent with few moving parts, and produced chilled water that cooled surrounding buildings using small pipes. But absorption chillers were inefficient in the use of energy and they required cooling towers with associated problems of water drift, which landed on passing pedestrians and parked cars.

In 1967, the University built a new plant (CHACP 1) for producing steam and chilled water. A single machine could now provide all the chilled water for campus cooling. Efficiency was increased by two-thirds, cooling tower pollution was eliminated, and maintenance traffic on the campus was dramatically reduced. As the campus grew, Texas Tech subsequently built an addition to CHACP 1, which doubled its capacity, and included a second plant (CHACP 2) to serve the Health Sciences Center when it was constructed.

Utility Distribution Tunnels

Faculty and students engage in their respective missions of teaching and learning, oblivious to the streams of refined energy flowing in arteries through the miles of subterranean tunnels beneath them. As new buildings have appeared, tunnels have been extended to them. Architectural design has evolved unencumbered by the problems of combustion, pollution, noise, space requirements, unsightly appearance and invasive maintenance of individual heating and cooling systems.

Planning for utility tunnels is more critical than for other utilities because of their size and cost. They are also very difficult to change if they prove to be inadequate. Fortunately, the main tunnel system at Tech was designed at a sufficient size to accommodate future growth in all areas of the developed campus west of Akron Avenue and east of Indiana Avenue. Extending new tunnels from existing mains is the only measure required for most of the proposed construction.

Electrical Service

When campus demand outgrew the capacity of the original private underground electric service, it was replaced with a new underground primary distribution system owned and maintained by Lubbock Power and Light. Responsibility for anticipating future demand inside the campus thus shifted to the utility company, a task appropriate to their global perspective. The distribution system has redundancy in the substation transformers and primary loops to isolate outages. Summer air conditioning is served by a central plant, so seasonal demand peaks for individual buildings are minimized. Billing is accomplished with meters located at each building with the meter readings combined by zones to simulate a single meter per zone.

As a consequence of the negotiations that culminated in the building of a cogeneration plant in the early 90's, LP&L was awarded a 20-year contract to serve the entire campus. Recently, the contract was extended an additional 10 years.

Lubbock Power and Light owns and operates the 20 megawatt cogeneration plant at CHACP 1 which provides low cost steam to the University and electricity to the LP&L grid. The cogeneration plant and distribution system are relatively new, well maintained, and in good condition. Discussions are in progress with LP&L for an additional cogeneration unit to be installed at CHACP 1.

Computing

Fiber optics for data transmission currently represents the state of the art for this volatile technology. A fiber optics ring has been installed in the utility tunnels around the campus. This ring terminates in 25 of the buildings and is used primarily for building automation and distance learning purposes. An additional fiber optics system is being installed and would connect the Advance Technical Learning Center (ATLC) in the basement of the Library to the various buildings and dorms providing e-mail capability and Internet access. The fiber optics cables installed will provide sufficient capacity for anticipated growth.

Exterior Lighting

This is the subject of an intense ongoing internal study by the University. General exterior area lighting is now accomplished with over 800 150-watt high pressure sodium fixtures on 14' poles. All parking lots are lighted with high pressure sodium fixtures on higher poles for large area coverage. The lighting in some older parking lots has deteriorated due to the age of the fixtures and is in need of upgrading. The newer parking lots associated with new construction utilize 40' poles with 400-watt high pressure sodium floodlights meeting or exceeding the Illuminating Engineering Society recommended levels.

It is the University's intention to replace, over time, the existing 40' poles with lower, pedestrian-scale poles except along roadways where 40' poles will be maintained.

Building facade lighting has not been utilized in older buildings except at entrances. The newer buildings incorporate metal halide facade lighting to accent the architectural features.

Potable Water

The main campus water distribution system at Texas Tech is in reality a sub-system of the City of Lubbock's water distribution system. Two city water mains extend across the campus at two locations. A 16-inch main extends north-south through the central part of the campus generally along an alignment that parallels Detroit Avenue. A 30-inch main also extends north-south parallel to Indiana Avenue. Approximately 13 primary connections to the City's system are found along 19th Street, University Avenue, and near the Health Sciences Center. Even though these mains are on the Texas Tech campus, they are owned and maintained by the City of Lubbock. There are no elevated or ground storage tanks on campus and no pump stations for potable water except for some that are explicitly used for irrigation.

In addition to providing drinking water, the potable water system also provides much of the irrigation system water and all of the fire protection system water. Approximately nine irrigation booster pump stations are located throughout the irrigation system to supplement pressure available from the potable water system.

Adequate water pressure and fire-flow are two key issues that will have to be addressed as the Texas Tech campus develops and increased water demands are placed on the existing water distribution system. Many of the existing water lines are old and some are undersized to meet any increased water demands. Much of the pipe network dead-ends and does not loop back into the system. Installation of new water lines to proposed buildings and facilities should be properly analyzed and monitored to ensure that water pressure and adequate fire flows are maintained. The pipe network should be looped to create a closed system which will enhance the system's performance.

Sanitary Sewer Lines

The campus sanitary sewer system at Texas Tech is a subsystem of the City of Lubbock's wastewater collection system. Three main sewer lines extend across the campus. An 18-inch main line from the Law School extends north and crosses under Brownfield Highway to Indiana Avenue and connects to a lift station located near the intersection of 4th Street and Indiana Avenue. A 15-inch main line extends from Coleman Hall to just northwest of Murdough Hall and connects to the 18-inch line that parallels Indiana Avenue. A 12-inch main line from the Administration building runs parallel to Boston Avenue and extends south to Canton Avenue. Another 12-inch main line located between the Animal Sciences and Fisheries and Wildlife buildings extends south and also connects at Canton Avenue.

These two lines connect to the City's wastewater collection system. Two other main lines located at 16th Street and University Avenue and another at 9th Street and University Avenue connect to the City's wastewater collection system. Sewer drawings dated July 1970 show a network of sanitary sewer lines that connect to the main lines previously mentioned. The sanitary sewer lines vary in pipe sizes and pipe materials.

Many of the older lines are made of vitrified clay tile. Overall the sanitary system is dated and in questionable condition. Connecting sanitary sewer lines to the proposed buildings and facilities does not appear to present any problems. Pipe diameters should be sized to meet the predicted flow capacities during peak flow periods as well as low flow periods to maintain proper flow velocities.

Natural Gas

There is one 20-inch High Intermediate Pressure (HIP) gas line that extends north and south between Brownfield Highway and 4th Street. Gas lines branch off from the main HIP creating a pipe network. These lines are mainly for laboratory use and cooking in residence halls and other buildings. Except for the 20-inch main line, most of the gas lines are between 3-inches to 4-inches in diameter and are buried approximately two feet below the ground surface.

Storm Water

Surface runoff is conveyed by overland runoff, street flow, and drainage flumes that drain to undersized storm drainage systems located along the periphery of the campus. Overland runoff was acceptable in the early stages of campus development. As the campus expanded with more buildings, parking lots, and sidewalks, the impervious area grew as well, resulting in large volumes of runoff from even small, more frequent event storms. Street flooding has become more and more of a problem that must be addressed. Depression areas at various locations on campus create ponding problems that are a nuisance for pedestrian traffic.

Existing campus storm drainage systems primarily handle roof runoff. Very little surface runoff drains into these systems, the exception being the storm drain that is along Boston Avenue that collects surface runoff from in front of the Library and University Center areas. These campus storm drainage systems connect to the City of Lubbock and Texas Department of Transportation (TxDOT) storm drainage systems found at the intersection of 4th Street and University Avenue, 19th Street and University Avenue and Indiana Avenue and 19th Street. Storm water from the main campus, either via storm drains or overland, eventually ends up entering the City's and TxDOT's storm drainage systems noted above.

Underground utilities (mainly utility tunnels) on the campus make it very difficult to upgrade existing storm drain systems or to install new storm drain systems. Future development and increased impervious area will only serve to overload the existing storm drain system. An alternate method such as storm water detention/retention ponds may need to be considered as one possible solution. Detention/retention ponds not only provide a means of directing storm water away from buildings, parking lots, sidewalks and pedestrian traffic areas, but they also can be used to enhance the beauty of the campus by providing a permanent water feature.

INFRASTRUCTURE

Principles

The Master Plan is based on the following planning principles for infrastructure:

Central Cooling And Heating Plants - Steam

- Maintain the integrity of steam systems at each central plant while including enough redundancy to guarantee continuous service.

Central Cooling And Heating Plants - Chilled Water

- Maintain cooling capacity to ensure continuous operation during the hottest days.
- Modify equipment to comply with new refrigerant regulations.
- Incorporate new technology to maximize performance.
- Incorporate use of cheaper purchased steam when feasible.

Utility Distribution Tunnels

- Where possible, serve new construction with utilities from the tunnels.

Electrical Services

- Lubbock Power and Light is a virtual partner in the campus development planning for the next three decades and will not be a limiting factor.

Computing

- Continuously monitor this technology and ensure a quick response to avoid obsolescence.

Exterior Lighting

- With new construction of parking lots, pedestrian plazas, and walkways, maintain high pressure sodium lighting. Phase in pedestrian-scale poles and eventually replace all 40' poles in these areas of the campus.
- With new construction of roadways, maintain high pressure sodium lighting and 40' poles.
- Install fixtures as required to illuminate all pedestrian areas, walkways, bike trails, roadways, and open areas for security and safety.
- Ensure that parking lots and high traffic areas are well lit utilizing high pressure sodium fixtures on pedestrian-scale poles (except along roadways) and spacing to avoid dark areas.

Potable Water

- Potable Use – Connect dead-end lines together to create a mini-looped system.
- Fire – Provide additional fire hydrants to areas lacking fire coverage protection.
- Irrigation – Greatly reduce potable water as irrigation source. Develop wells and a separate irrigation system loop.
- Utilize old Indiana Avenue alignment as a future utility corridor.

Drainage

- Improve stormwater drainage on campus.
- Construct drainage improvements to intercept street flow and alleviate street ponding due to closing of 8th Street near Athletic Complex.
- Construct detention/retention ponds to collect surface runoff during small storm events.

Sanitary Sewer

- Maintain current system.
- Replace older mains to avoid development conflicts.
- Develop northwest campus system.

Gas

- Maintain current gas distribution system.
- Replace older branch lines to avoid development conflicts.
- Develop northwest campus gas distribution system.

Recommendations

Based on the planning principles, the following are the specific five and ten year Master Plan recommendations for infrastructure:

5-YEAR PLAN - 2002

Central Heating And Cooling Plants - Steam

Developed Campus

1. Retire the oldest boiler and refurbish the remaining two boilers at CHACP I.

Central Heating And Cooling Plants - Chilled Water

Developed Campus

2. Install a new 6000 ton, steam driven centrifugal water chiller at CHACP I.
3. Convert existing CFC-12 chillers at CHACP I and CHACP 2 to HFC-R134A refrigerant.
4. Upgrade control systems at both CHACP I and CHACP 2.

10-YEAR PLAN - 2007

Central Heating And Cooling Plants - Steam

Developed Campus

1. Add a boiler at CHACP I to meet increased demand on the developed campus, or acquire steam from an additional LP&L cogeneration plant.
2. Install a new deaerator and steam header at CHACP I.

Central Heating And Cooling Plants - Chilled Water

Developed Campus

3. Add cooling capacity at CHACP I with larger machines and chilled water storage.

5-YEAR PLAN - 2002

Utility Distribution Tunnels

Developed Campus

1. Extend tunnels to serve new construction between Akron and Indiana Avenues, except for the Texas Tech House.
2. Modify existing tunnels to serve additions to existing buildings.

10-YEAR PLAN - 2007

Utility Distribution Tunnels

Developed Campus

1. Modify existing tunnels to serve new buildings at the Broadway entrance.

5-YEAR PLAN - 2002/10-YEAR PLAN - 2007

Electrical Service

Developed Campus

1. The LP&L distribution system has sufficient capacity to serve the needs anticipated in the Master Plan.

5-YEAR PLAN - 2002/10-YEAR PLAN - 2007

Computing

Developed Campus

1. Extend the fiber optics network to serve the proposed buildings.

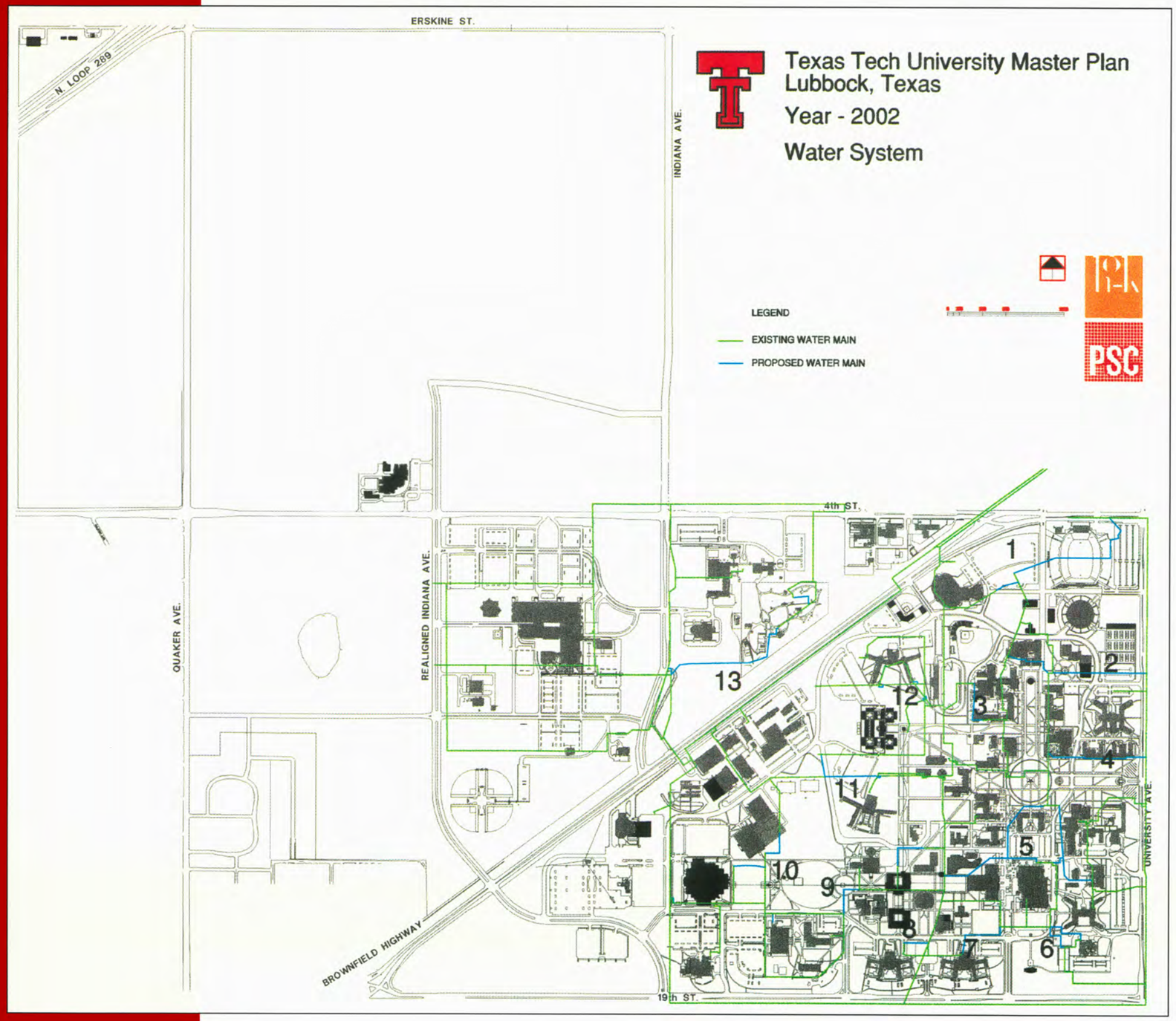
5-YEAR PLAN - 2002/10-YEAR PLAN - 2007

Exterior Lighting

Developed Campus

1 Use high pressure sodium fixtures on pedestrian-scale poles in all new construction, except along roadways where high pressure sodium fixtures on 40' poles will be used.

2. As existing 40' poles age, replace with pedestrian-scale poles except along roadways where 40' poles will continue to be used.



5-YEAR PLAN - 2002

Water Distribution System

Developed Campus

CONSTRUCT:

1. Interior loop from Municipal Coliseum to Jones Stadium.
2. Interior loop south of Mechanical Engineering.
3. Interior loop south of Electrical Engineering to Fuller Track.
4. Interior loop south of West Hall.
5. Interior loop north of University Center.
6. Interior loop northeast of Women's Gym.
7. Interior loop from Gates Hall to south of Library.
8. Interior loop north of Hulen Hall.
9. Interior loop from Chitwood-Weymouth to Business Administration.
10. Interior loop from Hartford Avenue to Student Recreation Center.
11. Interior loop north of Murdough Hall.
12. Water line connections by Thompson Hall.
13. Interior loop at Ranching Heritage Center.

10-YEAR PLAN - 2007

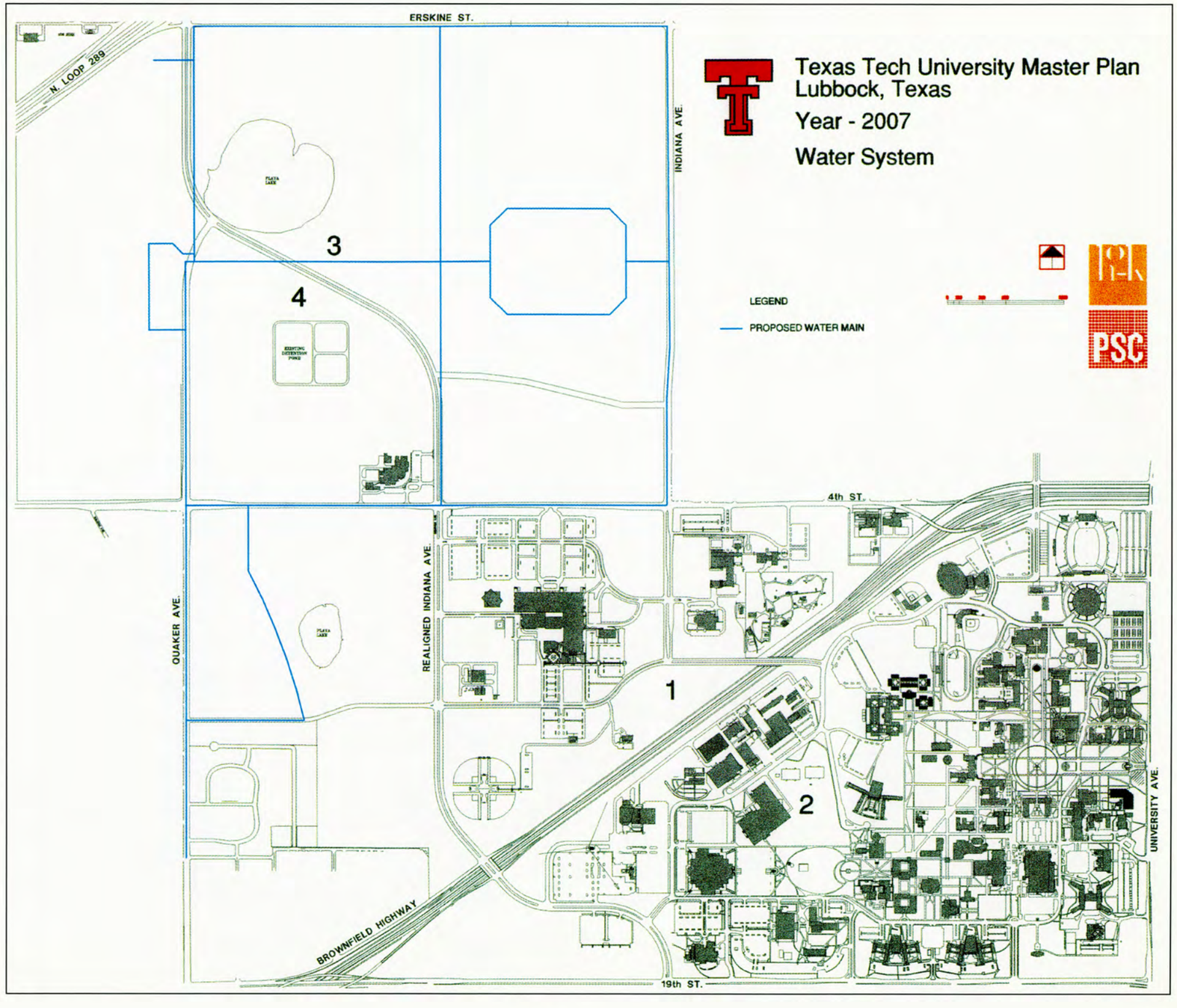
Water Distribution System

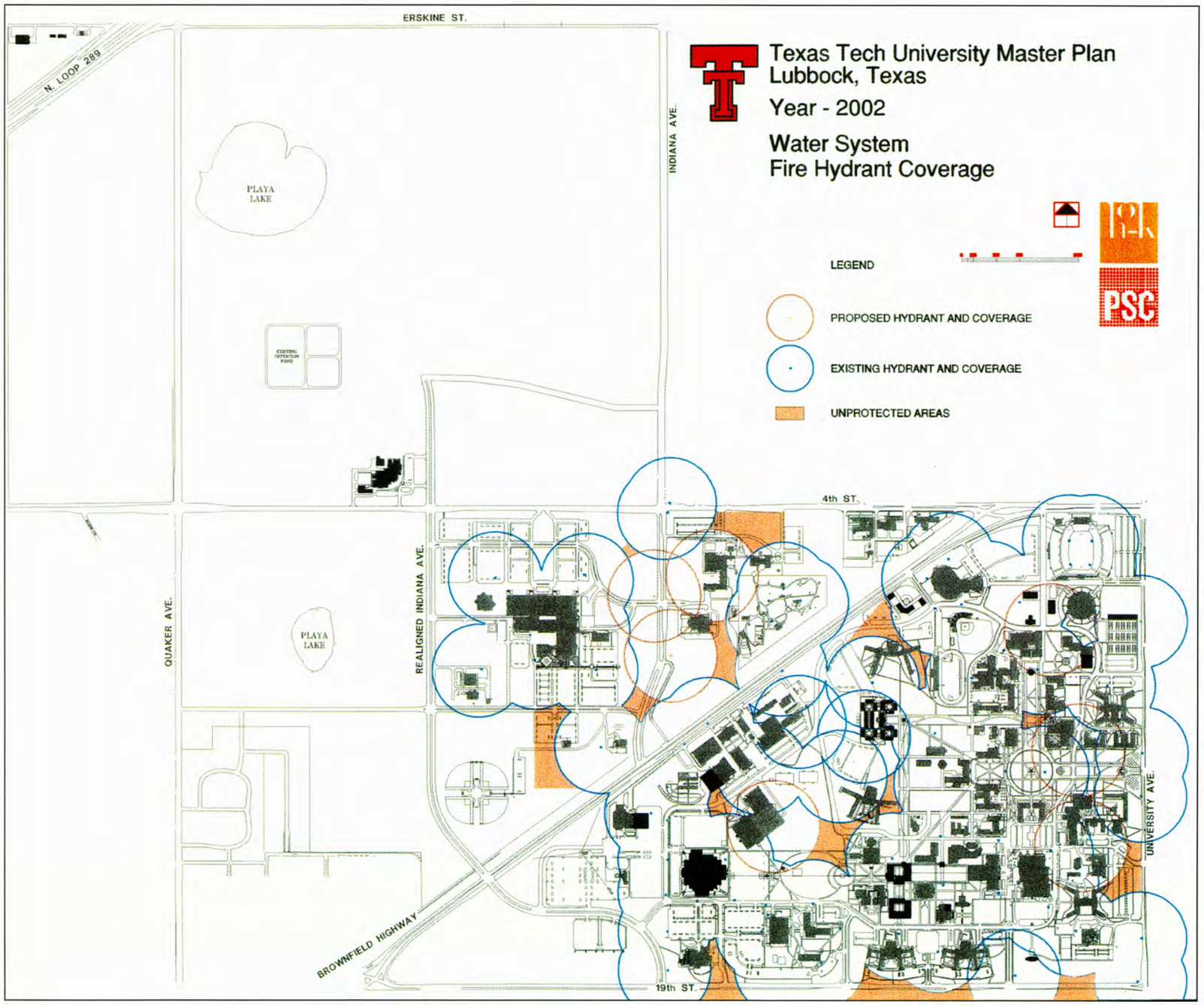
Developed Campus

1. Complete interior looped system.
2. Complete separate irrigation system loop.

Northwest Campus

3. Construct looped main potable water around northwest campus to serve new development.
4. Develop ground water well system and create separate loop irrigation system.





Fire Hydrants

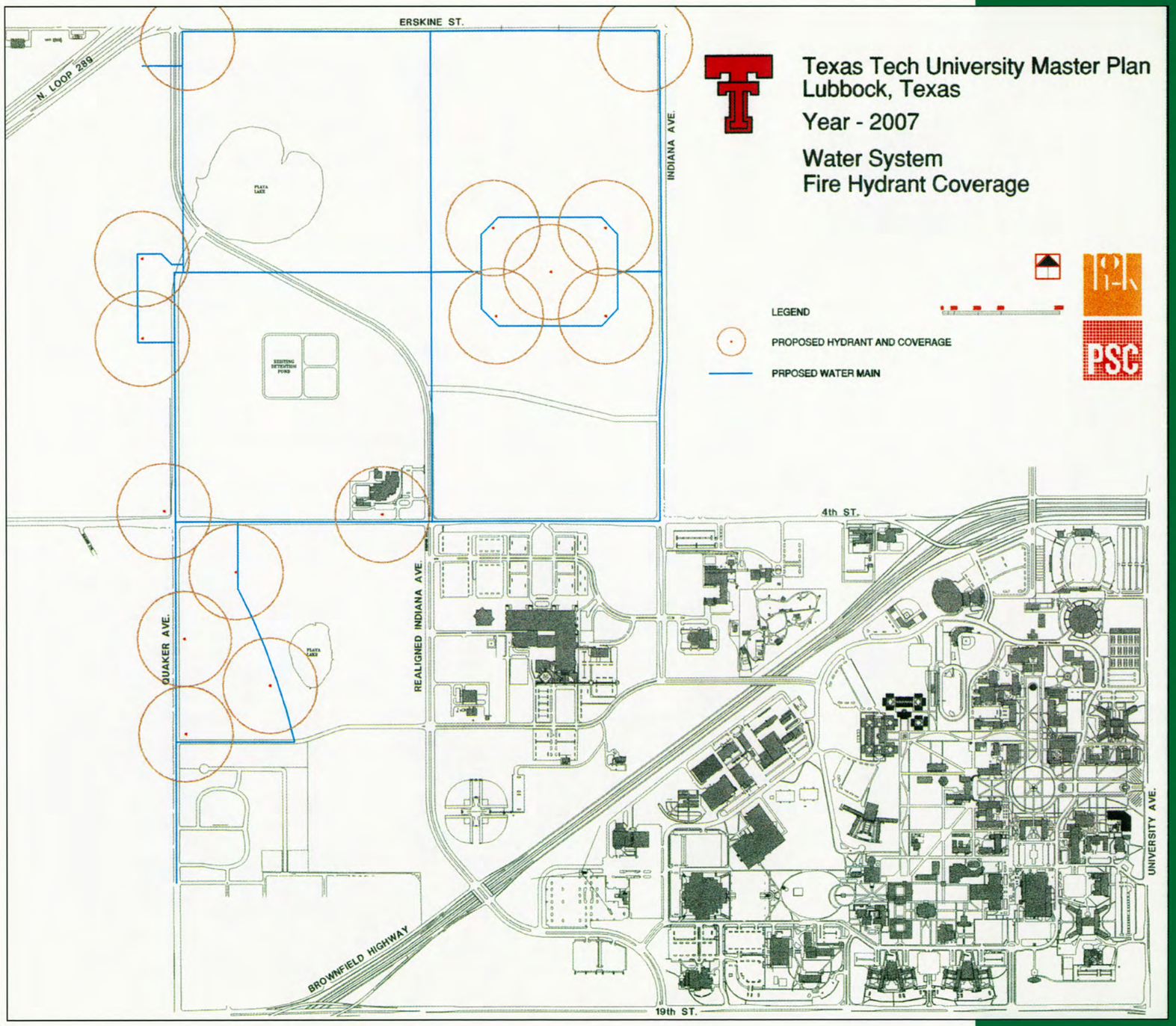
Developed Campus

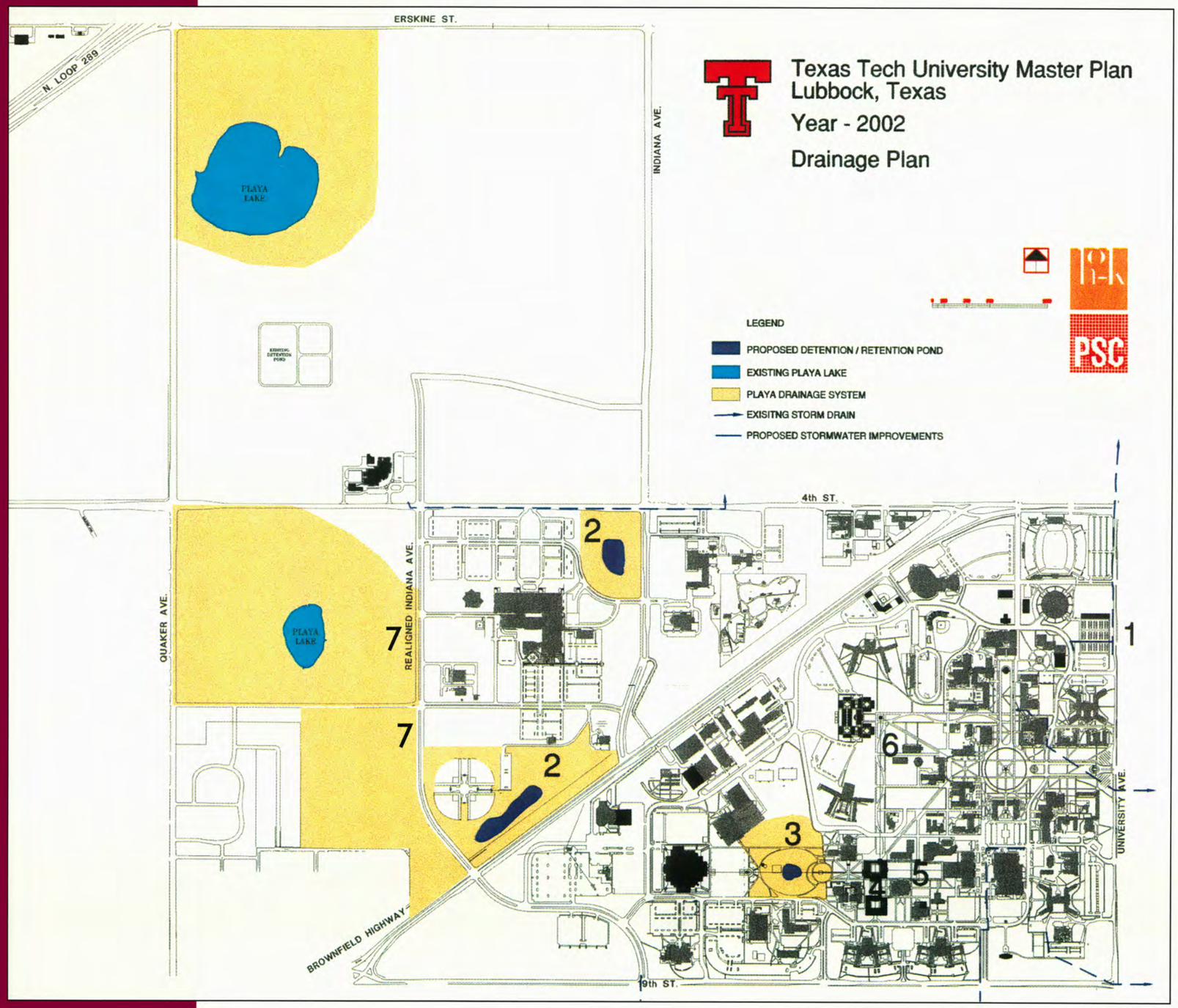
1. Complete fire protection coverage by increasing number of fire hydrants on main campus.

Fire Hydrants

Northwest Campus

1. Provide fire protection coverage by installing fire hydrants in developed areas of the northwest campus.





5-YEAR PLAN - 2002

Drainage

Developed Campus

1. Construct storm drain inlets and storm drain line, and saw tooth curb and gutter at the Athletic Complex open space areas between the tennis courts and the football practice field.
2. Construct detention/retention pond at Fitness Park. Construct detention/retention pond at Intramural sport field north of Brownfield Highway to collect surface runoff and provide an esthetically pleasing water feature.
3. Construct shallow pond at Urbanovsky Park to collect surface runoff.
4. Set finish floor elevations of new buildings at minimum of 18" above top of curb. Fill and regrade area to alleviate ponding problem.
5. Fill area and regrade to alleviate ponding problem. Use grass swales to drain runoff to nearby streets and parking lots.
6. Fill area and regrade to alleviate ponding problem.
7. Construct saw tooth curb and gutter to allow flow across roadway.

- Final hydrological and hydraulic calculations are to be based on actual field topographic survey.

Northwest Campus

- Preserve existing playa lake and ponds.

10-YEAR PLAN - 2007

Drainage

Developed Campus

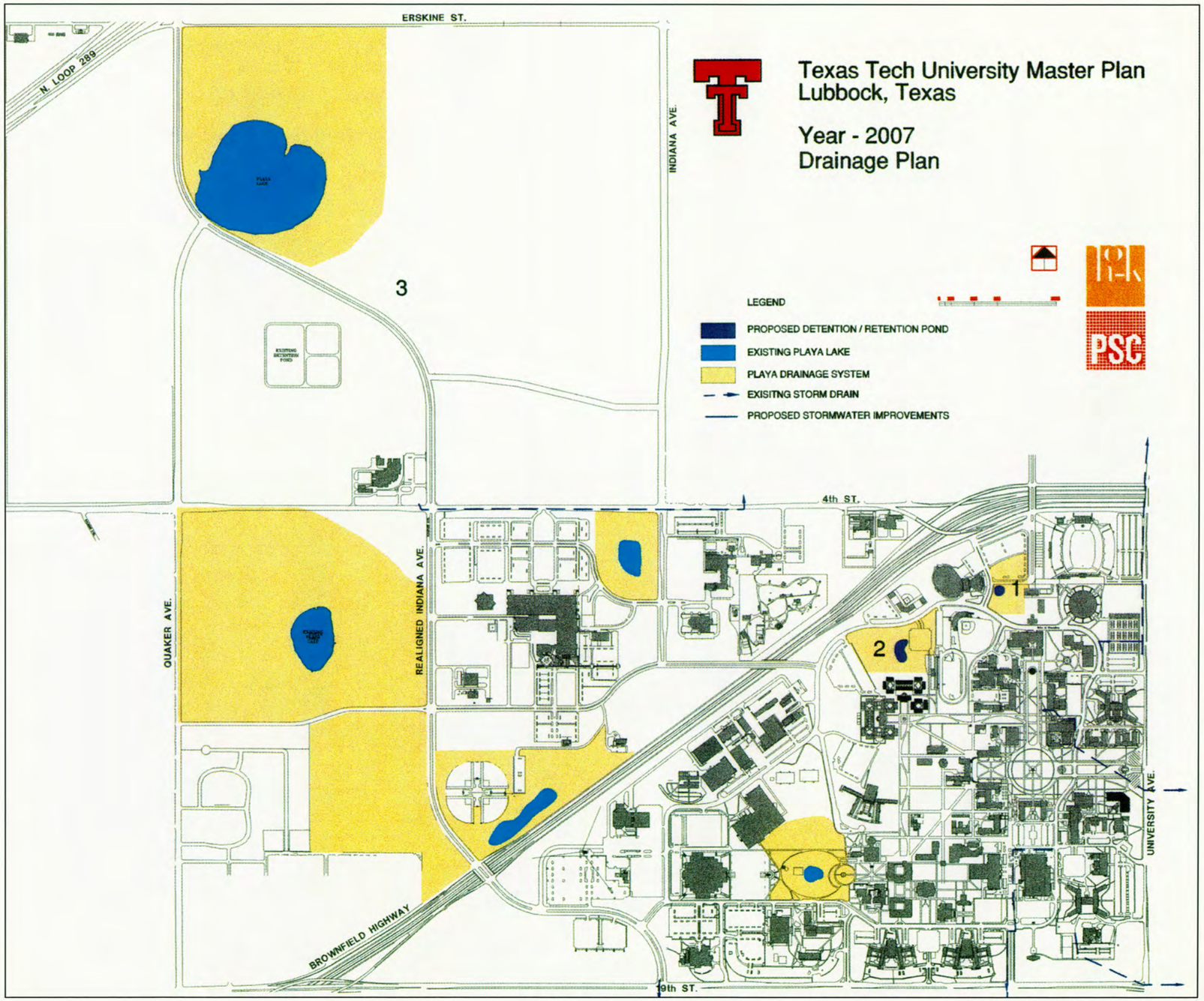
1. Construct detention/retention ponds located near Fuller Track to collect surface runoff and provide an esthetically pleasing water feature.

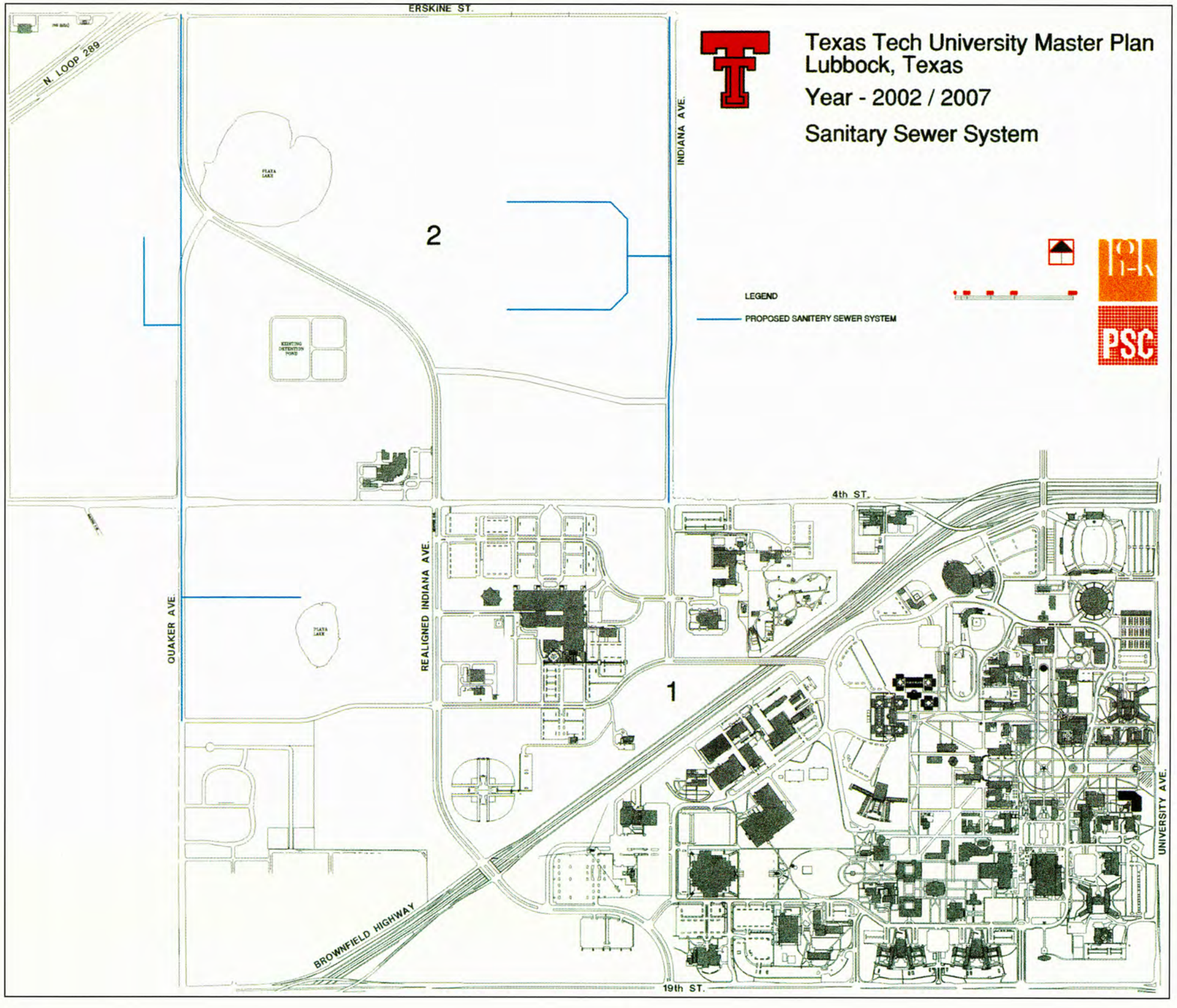
2. Construct detention/retention pond located at Red Raider Alley to collect surface runoff and provide an esthetically pleasing water feature.

Northwest Campus

3. Set roadway elevation above playa lake's 100-year peak water surface elevation. Construct saw tooth curb and gutter to allow flow across roadway.

- Final hydrological and hydraulic calculations are to be based on actual field topographic survey.
- Preserve existing playa lake and ponds.





5-YEAR PLAN - 2002

Sanitary Sewer System

Developed Campus

1. Maintain current system. Replace older mains as required to avoid development conflicts.

10-YEAR PLAN - 2007

Sanitary Sewer System

Developed Campus

1. Maintain current sewer system and replace older mains as required to avoid development conflicts. .

Northwest Campus

2. Extend sanitary sewer system to Northwest Campus to serve new development.

As members of the Master Planning Team, the following groups played an essential role in the development of this plan.

Texas Tech University and Texas Tech University Health Sciences Center

Board of Regents
Office of the Chancellor
Office of the President, Texas Tech University
Office of the President,
Texas Tech University Health Sciences Center
Office of the Provost
Office of the General Counsel
Office of Development
Office of Facilities Planning and Construction
Office of the Campus Landscape Architect
College of Agricultural Sciences
and Natural Resources
College of Architecture
College of Arts and Sciences
College of Business Administration
College of Human Sciences
College of Education
College of Engineering
Graduate School
School of Law

Academic Computing Services Group
Academic Facilities
Admissions and Records
Atmospheric Science
Communication Services
Dean of Students
Ex-Student's Association
Facilities Information and Reports
Faculty Senate
Greek Life
Grounds Maintenance
Housing and Dining Services
Intercollegiate Athletics
KTXT-FM
KTXT-TV
KOHM-FM
Library
Museum
News and Publications
Physical Plant, Texas Tech University
Physical Plant,
Texas Tech University Health Sciences Center
Ranching Heritage Association
Recreational Sports
Red Raider Club
Research and Graduate Studies
Southwest Collection/Special Collections Library
Student Affairs
Student Association
Texas Tech Foundation
The University Daily
Traffic and Parking
University Police
West Texas Museum Association

Texas Department of Transportation

Lubbock District

City of Lubbock

City Council
Mayor's Office
Planning Department
Traffic Engineering Department

Lubbock Chamber of Commerce

Lubbock Community at large

High Plains Underground Water Conservation District Number One

University Medical Center

Consultant Team

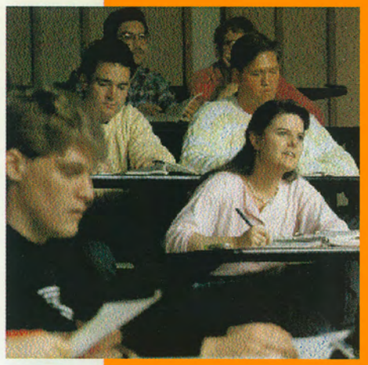
Hellmuth, Obata + Kassabaum
Dallas and San Francisco
Project Leader and Campus Planners

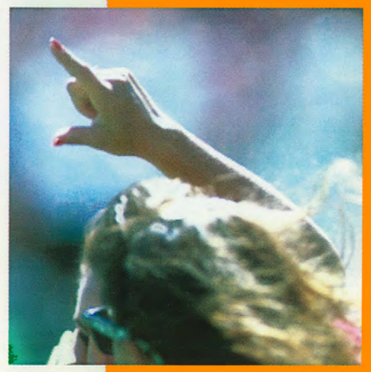
AAA Architects
Building and ADA Evaluation

Parkhill, Smith & Cooper
Drainage and Utilities

Barton-Aschman Associates
Transportation, Transit and Parking

Leland Consulting
Market Analysis






TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER
SEAL OF TEXAS TECH UNIVERSITY

Campus Master Plan

Appendix

Texas Tech University and Texas Tech University Health Sciences Center

February 6, 1998

2007

CAMPUS

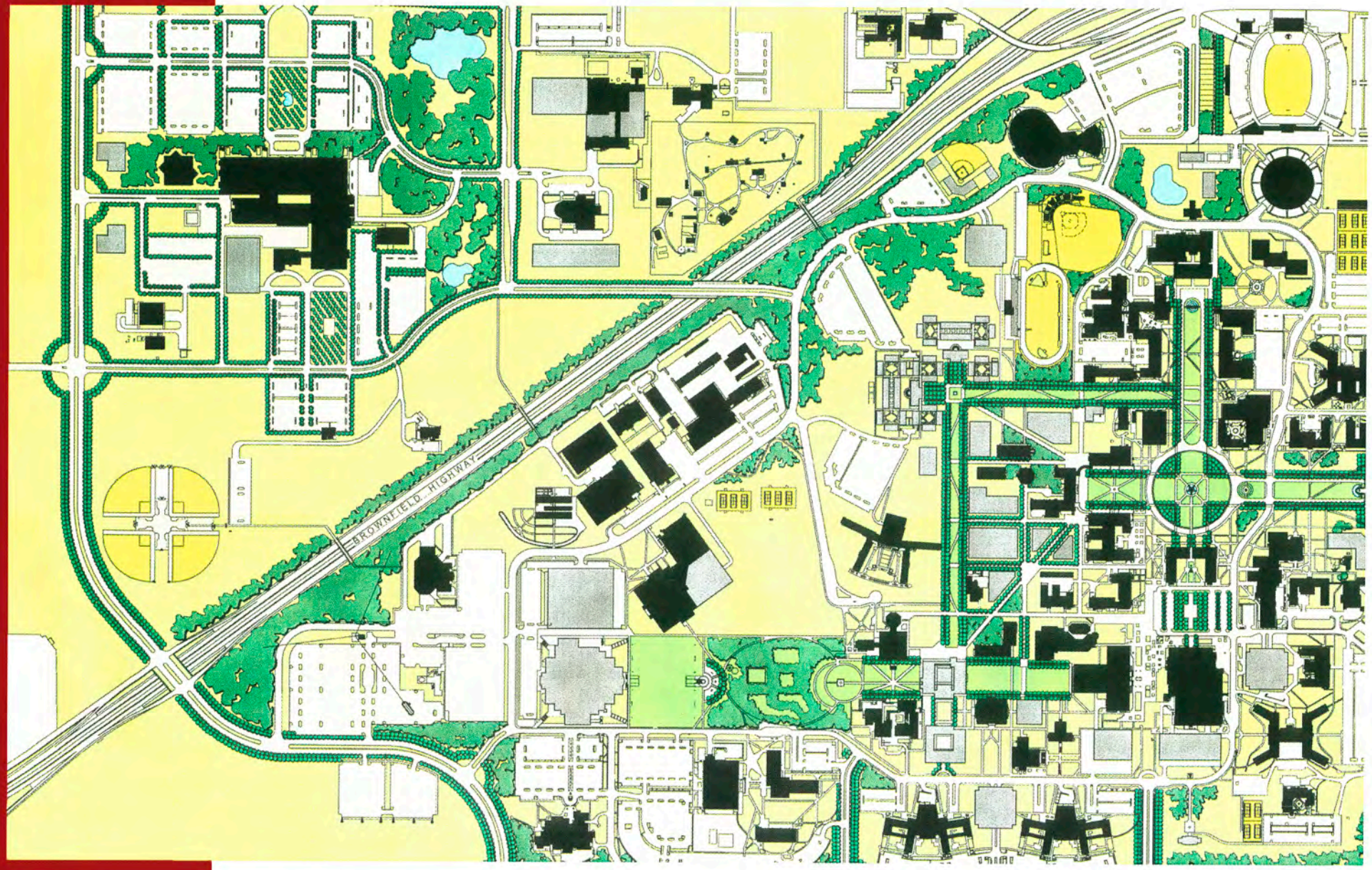


TABLE OF CONTENTS

I.

CAMPUS MASTER PLAN PRESENTATIONS

TEXAS TECH UNIVERSITY AND

TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER

CAMPUS MASTERPLAN PRESENTATIONS

Hellmuth, Obata + Kassabaum, Inc.
Dallas & San Francisco

Texas Tech University
Campus Master Plan Presentations
March 11 - 14, 1997

The following are summaries of the first set of presentations and discussions of the proposed Campus Master Plan which were held with faculty and staff of the Colleges of Agricultural Sciences and Natural Resources, Architecture, Arts and Science, Business Administration, Education, and Human Sciences, and the School of Law. The summaries were taken from videotapes of these sessions and were prepared by HOK San Francisco.

Presentations were also made to the College of Engineering, the Student Senate, and the larger Lubbock community at a community forum held on campus. Videotapes of these sessions are not available.

Texas Tech University
Campus Master Plan Presentations
October 7 - 9, 1997

The following are summaries of the second set of presentations and discussions of the proposed Campus Master Plan held with faculty and staff of the Colleges of Architecture, Arts and Science, Business Administration, Engineering, and Human Sciences and with the Faculty and Student Senates. The summaries are based on notes taken at these sessions and were prepared by HOK San Francisco.

College of Agricultural Sciences and Natural Resources
Summary - Master Plan Presentation
3/11/97
Tapes No. 1 and 2

The following is a summary of questions and comments raised during the Master Plan presentation:

Needs of the College of Agricultural Sciences and Natural Resources

There was concern that plans were being developed for agricultural land without considering the needs of the College of Agricultural Sciences and Natural Resources or recognizing its importance to the University. One person commented, "I'm concerned that the current administration has no use for agriculture on this campus."

Dairy Barn

There was concern about the possible relocation of the Dairy Barn. The historical significance of the Dairy Barn and the time and energy devoted to its preservation were emphasized. Doubt was expressed about the ability of the Dairy Barn to survive a move.

Plant Stress Lab

There was concern that the proposed relocation of the Plant Stress Lab might jeopardize funding from the U. S. Department of Agriculture.

Outdoor Classrooms/Unplowed Range Land as Unique Resource

There was concern that the area of high plains native range land is irreplaceable as an outdoor classroom and should be preserved as virgin land for its "biotic uniqueness." It was felt that even if the quantity of land could be replaced, the quality - untouched range land - could not. The comment was made that the piece of land at 4th and Quaker is currently used for research involving both graduate and undergraduate students from three colleges. If the site were relocated to a remote location, it would not be possible to serve as many students at as low a cost.

Expense and Inefficiency of Relocating Agriculture

There was concern that the expense for vehicles and the time needed to reach a more remote outdoor classroom location would not be cost-efficient. The question was asked where funds would come from to pay for the relocation of agriculture research land and outdoor classrooms.

Suggestions for Alternative Development

Plans for a residential golf community were questioned: "What is the focus of the market research? Does it also look at the benefit of developing a first rate academic facility using a native plant community?" A suggestion was made that the wetland area contained within the agricultural lands be developed as an "outdoor tool for the whole community."

Vacant Land

The comment was made that other Big 12 schools have natural resource areas and what makes Texas Tech appealing is its openness. Another comment was, "Vacant

adjoining land is one of Texas Tech's biggest resources. Why get rid of it and put the University in a space crunch?"

Establishment of Agricultural Subcommittee

In light of the concerns expressed, it was suggested that an Agricultural Subcommittee be set up to determine which functions of the College could be moved from their present location and what time-frame would be appropriate.

College of Architecture
Summary - Master Plan Presentation
3/13/97
Tape No. 4

The following is a summary of questions and comments raised during the two sessions of the Master Plan presentation:

Session 1

Brownfield Highway
Concerns were expressed about the scale and impact of Brownfield Highway on the campus. The comment was made that, "Pedestrian bridges are not good enough. Brownfield Highway was not meant to be a depressed highway. It was meant to be a parkway."

Circulation
The question was asked how emergency vehicles would be routed. The intention of the Master Plan is to keep through-traffic on 4th, 19th, University, and Indiana. Major north-south routes will be outside rather than inside campus.

Bicycles
Comments were made about the "extraordinary inattention to bicycles" on campus and the need to "educate students to get out of their cars." There was strong interest in having a bicycle system as part of the Master Plan.

Public Art
It was suggested that the lack of attention given to public art at Texas Tech be addressed by making a public art program part of the Master Plan. The comment was made that the only public art on campus is "white guys on horses." The need to educate the university community on the importance of public art and the integral role it plays on other campuses was emphasized.

Dairy Barn
There was concern about the fate of the Dairy Barn. The comment was made that students have contributed to its preservation and that the Dairy Barn has become part of the University's institutional memory. Another comment was that the Dairy Barn helps to give pedestrian scale to the campus.

Planning Process
Concern was expressed about the planning process, itself - that decisions appeared to have been made without all members of the university community being "enrolled" in the process. The comment was made that although the planning process was supposed to seek input from all members of the community through consensus-building workshops, the plan as proposed already seemed "too finished ," a "fait accompli." A further comment was made that "the administration should know that there are concerns about the process."

The question was asked how the proposed Master Plan was linked to the University's academic mission, to teaching, to

research, to the University's need for increased technology, and to the University's strategic plan. The comment was made that the Master Plan should be a catalyst to inquiry and discussion about where the University is going and how it might change.

Session 2

Campus Structure

There was sentiment in favor of the proposed infill concept and the plan to consolidate parking. One person commented, "The infill concept seems the way to go but I'm skeptical about getting parking lots out of key places on campus." A further comment was, "What attract students is first impression. Parking lots work against that." Another comment about the proposed plan was, "I like what you've done with the roads. It provides an opportunity for the Architecture building to have a front door."

Indiana Avenue

Concern was expressed that rerouting Indiana Avenue would isolate the campus from the city and turn the campus into a "superblock." The comment was made that Indiana Avenue is one of the most enjoyable drives through Lubbock and provides a way for people to feel connected to and have a sense of pride in the University.

Golf Course Community/Development

Several questions were asked about the proposed golf course community and the University's ability to develop land for other than academic purposes. The question was asked where the idea for a residential golf course community came from. Other questions were whether the proposed housing is intended for students and faculty and how they would benefit from this development. Another question was whether the University can develop land on its own. The University can lease land but would have to go back to the state to approve a sale.

Planning Process

Concerns were raised about the planning process, itself, and whether decisions had been made before involving the entire university community in the process. One comment was that "conceptual alternatives" were missing from the discussion. Someone asked, "Have the Regents approved a plan we've never seen?" The plan has been approved in concept only.

College of Architecture
Summary - Master Plan Presentation
10/9/97

The following is a summary of questions and comments raised during the Master Plan presentation:

Master Plan Vision
The question was asked, "What is the big vision [of the Master Plan] for the campus?" and whether there was a "compelling vision" underlying the Master Plan. A further comment was that traffic planning seemed to be driving the plan.

Future Building Sites
The question was asked why the proposed English/Philosophy building is sited in the middle of the library mall and whether it could be shifted north.

Campus Structure
The question was asked what defines the edges of the proposed North/South pedestrian mall shown in green on the 2007 plan and whether the pedestrian malls would be as clearly discernible in reality as they appear on the plan.

Open Space
The question was asked what the quality of the proposed "green spaces" on campus would be.

Pedestrian Circulation
The question was asked what pedestrian links were proposed between the campus and the Museum and Ranching Heritage Center.

Dairy Barn
The comment was made that the Dairy Barn is a unique feature of the Texas Tech campus and there needs to be a good argument for moving it.

Parking
The question was asked what the proposed parking structures would look like and whether they could be combined with other uses.

Bicycle Circulation
The comment was made that linkages between bicycle and pedestrian circulation within and outside the campus should be shown.

Housing
The question was asked how future student housing needs would be determined. The comment was made that more apartment-style housing is needed.

Planning Process
The question was asked whether the master planning team would be willing meet with a committee to discuss in more detail concerns/ideas regarding the proposed Master Plan, to which the answer was yes.

College of Arts and Sciences
Summary - Master Plan Presentation
3/13/97
Tape No. 6

The following is a summary of questions and comments raised during the Master Plan presentation:

Residential Golf Course Community
The question was asked why such a large area had been devoted to a golf course. 175 acres is required for a golf course. The golf course was proposed as an alternative land use which would add value to the surrounding land, making it more capable of generating income for the University.

Image
Questions were raised about the kind of image the proposed development might create for the University: "What kind of approach image does this plan create?" and "How does retail add to the image of the University?"

Creating a new road provides the opportunity to start over and get away from the typical uses and image associated with major north-south and east-west roads in Lubbock. Strict CC&R's will be used to control the quality of retail and other development .

R & D
The question was asked whether the forty acres allocated on the plan for Research and Development would be enough to accommodate future research.

Women's Gym
The question was asked what would happen to the Women's Gym.

College of Arts and Sciences
Summary - Master Plan Presentation
10/10/97

The following is a summary of questions and comments raised during the Master Plan presentation:

Master Plan/Facilities
The question was asked whether there were plans for a new Art building and why the proposed English/Philosophy building was sited where it was since there was a desire to consolidate the fine arts departments - art, music, and theater - in one location. There was concern that the concept of a fine arts complex was not part of the Master Plan.

Another question asked was whether basic renovations could be made to the existing Art Building if a new building is not planned in the near future and whether deficiencies in current buildings - i.e., Art - would be documented as part of the Master Plan. Another question was what the Board of Regents would be approving and whether, as needs change, there would be an opportunity to make adjustments to the plan.

Planning Process
Concern was raised about how, as facilities needs arise, colleges/departments will have a voice in the planning process. Dean Winer commented that the site selection and design process for the English/Philosophy building had been very responsive to the users.

Phasing of New Construction
The question was asked how demolition and new construction will be phased - e.g., what will replace the existing Women's Gym and when? The question was also asked how parking will be accommodated as parking lots are replaced with other uses - e.g., will a parking garage be in place when the new English/Philosophy building is complete.

Parking Structures
Concern was raised about the safety of parking structures. Several comments stressed the need to design safety features into the proposed structures in order to dispel the common perception that parking garages are unsafe.

The question was asked how all parking could be accommodated in structures and whether any surface parking would remain. Some surface lots will remain and, in the ultimate build-out, there will be a net gain of 1,500 spaces. Another question was how tall parking structures would be. They will be a maximum of 3 ½ levels.

Bicycles
The question was asked whether bicycle routes were coordinated with the City and they were. Another question was what was meant by the proposed "bicycle-free zone."

Drainage
It was requested that drainage be improved at Flint and 19th.

Enrollment Growth

The question was asked why the campus is being "revamped" at a time when admissions standards are being raised and enrollment is likely to level off or decline.

College of Business Administration
Summary - Master Plan Presentation
3/11/97
Tape No. 2

The following is a summary of questions and comments raised during the Master Plan presentation:

Goals

A goal of the College is to establish a "marquee" graduate business school to be competitive with UT Austin and others. The hope is to find a donor to fund a "high tech, state-of-the-art" graduate business center.

When asked who nationally the College of Business Administration would like to emulate, the response was that the College would like to accomplish the following:

- achieve national recognition
- become one of the top 50 business schools nationally
- achieve uniqueness through collaboration by developing programs which make use of the University's varied resources
- be responsive to a changing economy
- develop an international thrust
- use technology to teach and to provide students with skills

Growth - Space Needs

When asked how the College sees itself growing, the response was that faculty resources and not space are the limiting factor and that it was hard to predict from where the pressures for growth would come - graduate or undergraduate.

When asked how a new graduate center would affect the College's current graduate program, the response was that the College would like to grow at the Masters and not Ph.D. level. More emphasis would be given to MBA's. The hope would be to have a graduate center which could accommodate 600 - 700 Masters students.

When asked what the College would want the relationship of the graduate center to be to the existing building, the response was, "What is shown on the [master] plan is perfect."

Technology

When asked if technology created a need for more space, the response was that technology creates a need for a different kind of space. The current building is deficient with respect to technology because technology is not integrated into the building design.

Parking and Circulation

Questions were asked about whether the proposed arena parking structure would be built at the same time as the arena and what the height of the proposed parking structure south of the Chemistry Quad would be.

The question was asked whether drop-off zones would be provided.

Bicycles
There was interest in developing a bicycle path system as part of the Master Plan. It was suggested that people drive with their bikes on their cars to a central parking lot and then bike from there to destinations on campus.

Phasing
The question was asked whether the Master Plan would recommend phasing.

Coliseum and International Cultural Center
There was interest in the fate of the Coliseum. Concern was expressed that, in the proposed plan, the International Cultural Center will be more isolated than it is now.

College of Business Administration
Summary - Master Plan Presentation
10/9/97

The following is a summary of questions and comments raised during the Master Plan presentation:

Parking
The question was asked when the proposed parking structures would be available. It was explained that in the case of English/Philosophy/Education, the goal was to have the parking structure completed before construction began on the buildings. Concern was expressed about the safety of parking structures. The comment was made that by placing structures on the outside of the proposed campus loop road, potential conflicts might arise between pedestrians and automobiles as people cross the street. The question was asked whether parking structures could be moved further into the core campus so that people would not have to walk so far.

The comment was made that parking is one of the benefits of teaching at Texas Tech and that students would benefit more than faculty from the proposed changes in the Master Plan. Another comment was that, in recruiting new faculty, higher salaries would have to be paid to compensate for the inconvenience of having to walk further to and from parking. Another comment was that, in the Master Plan, "aesthetics seem to outweigh the practical benefit of parking."

The response from the master planning team was that the Master Plan is adding more parking spaces to campus, eliminating vehicular and pedestrian conflicts, and creating parking structures which are safe. As elements of the plan are designed in detail, provisions will be made for reserved parking spaces and drop-off areas.

Drainage
The question was asked how flooding would be addressed.

Chapel
The question was asked whether the Master Plan includes plans for locating a chapel on campus.

Service Access
It was asked whether better access could be provided at the Business Administration building for large trucks in order to offload palettes of paper and equipment.

Bonfire
The question was asked why an area is being designed around the bonfire when it is a once-a-year event. It was explained that other elements are included in the design that work at all times.

College of Education
Summary - Master Plan Presentation
3/12/97
Tape No. 3

The following is a summary of questions and comments raised during the two sessions of the Master Plan presentation:

Session 1

Parking and Vehicular Circulation
The question was asked whether most faculty and staff would be able to park close to their building. Although there is reluctance to give up the convenience of the current situation, there is recognition that people will have to adapt to a different building location and parking arrangement than what they have currently.

The need for convenient parking for loading and unloading materials was emphasized as was the need for secure evening parking. Classes have large evening enrollments from 4:30 to 6:00 and students have difficulty parking during this time. The need for the proposed parking structure to be secure, especially for evening use, was emphasized.

The question was asked whether there were plans to have other significant entrances to campus besides Broadway. Another question was whether shuttle buses would be part of the proposed plan.

Bicycles
There was interest in having a bicycle path system be part of the Master Plan.

Pedestrian Mall
There was a positive response to the proposed campus structure and its pedestrian emphasis. The "greening" of the campus - benches and other landscape amenities - was seen as a real benefit.

Golf Course
There was a positive response to the proposed golf course and the integration of the community and campus.

Session 2

Parking and Vehicular Circulation
It was emphasized that, in the course of the day, COE students come and go between the campus and schools and need convenient parking to facilitate movement on and off campus. The question was asked whether parking would be in place when the new Education building opens.

Coliseum
There was interest in knowing what will happen to the existing Coliseum and auditorium.

College of Engineering
Summary - Master Plan Presentation
10/10/97

The following is a summary of questions and comments raised during the Master Plan presentation:

Northwest Campus
The master planning team was asked to comment on the purpose and objective of the golf course. Its primary purpose is to add value to the land in the northwest campus for development. Secondarily, the golf course will provide Plant and Soil Science with a turfgrass research site.

Another question asked was what kind of housing is proposed and how much money will be generated. Different scenarios will be explored. Another question was why it was a good idea to move Wind Engineering.

It was suggested that information be published which explains the financial thinking behind the proposed development - i.e., the amount of money expected to be generated. The Market Analysis is available.

Agriculture
The comment was made that it is difficult to move agricultural sites because it takes a year for plants to grow.

Dairy Barn
The question was asked what the plans were for the Dairy Barn. It will be moved but the location has not yet been decided.

Drainage
The question was asked how drainage would be handled. Ways to reuse storm water runoff are being explored. Another question was whether lakes had been considered for storm water retention and they have.

Facilities
Questions were asked about where the new Police building would be located and what would happen to the old Power Plant. Another question asked was when would the English/Philosophy/Education complex be complete.

Transit
The question was asked whether there still would be a bus route in the academic core and there will be.

Vehicular Transportation and Access

The question was asked how service trucks would gain access to the interior of the campus. Routes have been planned.

Faculty Senate
Summary - Master Plan Presentation
10/8/97

The following is a summary of questions and comments raised during the Master Plan presentation:

Parking/Drop-off
The question was asked where parking would be located for those people who teach in the campus core and why no parking structure had been located near Holden Hall. The response from the master planning team was that parking structures are located where the greatest number of people are and that the move to structured parking may, in some cases, cause walking distances to increase. Another question asked was whether provisions would be made to load and unload materials at the Architecture building.

Transit
The question was asked whether shuttle buses would be used and the response was that Citibus has been an important part of plan

Marketing Study
The question was asked whether the marketing study for the golf course was available to the public, and it is.

Northwest Campus Development
The question was asked whether land proposed for residential use would be sold or leased. Options will be presented to the Board of Regents. Another question was what kind of controls would be applied to development. Land, in most cases, is likely to be leased and strict CC & R's will be enforced. Another question was whether, in addition to leasing land, developers might contribute some percentage of their income to the University. This is a policy issue which has not yet been decided.

Irrigation
The question was asked how irrigation would be handled. There is study currently underway looking at potential non-potable water sources. A further question was whether water would come from the Ogalalla acquifer. It has been confirmed that here is enough water to support the proposed level of development. Another question was whether water could be recovered from Brownfield Highway. There is a gravity flow system which will take water to the Yellowhouse canyon. The irrigation study is looking at ways to harvest storm water run-off from Brownfield Highway.

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College of Human Sciences
Summary - Master Plan Presentation
3/12/97
Tapes No. 3 and 4

The following is a summary of questions and comments raised during the two sessions of the Master Plan presentation:

Session 1

Space Needs
There is a need for space to house the Child Development Research Center. Weeks Hall was suggested as a location. There is also a need for a hotel on or near campus to provide conference space.

Parking and Circulation
There was concern about current access to Weeks Hall and how parents will drop off their children if Weeks Hall becomes the site of the Child Development Research Center. Other issues raised were the need for pedestrian crossings for students at busy roads, the need for student parking, and the availability of parking within close proximity since people often carry heavy briefcases. The question was asked whether spaces in the parking garage would be reserved or open.

Golf Course
Concern was expressed about the proposed plan to develop a golf course on University land not only because of possible conflicts with Agriculture but because it "contradicts the idea of serious, hard-working faculty."

Session 2

Space Needs
There is a crisis in meeting the need for lab space and space for child care for faculty, staff, and students. There is also a need for conference space. The College of Human Sciences has lost out on hosting conferences due to lack of space. The need for a hotel with conference space and up to date technology was reiterated.

Parking and Circulation
Concern was expressed about having to walk greater distances to and from parking once the Administration parking lot is changed. Someone commented, "Parking is part of the quality of life [at Texas Tech]."

There was also concern about the loss of time in having to walk longer distances to and from parking. Someone commented, "It impacts leaving campus for lunch or going to pick someone up at the airport. It impacts time management." Concerns also were expressed about security if parking is moved further away.

There was also concern that student parking is currently too far from the central campus. The question was asked how the proposed pedestrian mall would affect the bus system for students. Bus drop-off and pick-up areas are planned all along

the proposed loop road. Another issue raised was the a need for legal drop-off areas

Other questions asked were whether parking structures would be up before eliminating other parking to avoid disruption; how egress from the proposed parking structure would be handled during peak hours; and whether the reconfigured road system would add time to entering and driving through campus.

The question was asked if it was possible to use the existing tunnel system for circulation. The tunnels will be used for running fiber optic cable but they are not suitable for circulation.

Golf Course

The question was asked whether the purpose of the golf course was to generate revenue. The golf course, itself, is not intended to generate revenue but rather to provide a focus and value to the residential development around it. The intention was to have a golf course development company lease the land and finance the golf course. The University, itself, was not expected to expend any funds.

The question was asked whether the portion of untilled agricultural land could be preserved within the proposed development.

Retail

The question was asked whether Texas Tech would control the proposed retail development. While it is still undecided, if leasing does not attract an investor, strict CC&R's will be established to control signage and the overall character of the retail development.

Concern was expressed about the location of the proposed retail development at the intersection of Brownfield Highway and Indiana in that it seems to create ambiguity about whether one is at Texas Tech or in a commercial area.

Hotel

The question was asked why an outside developer rather than Texas Tech would build the proposed hotel. A hotel developer could build the hotel without Texas Tech having to provide any capital and the University would receive revenues from leasing the land on which the hotel is built.

Student Input

The question was asked how much impact students would have on the decision-making process for the Master Plan.

College of Human Sciences
Summary - Master Plan Presentation
10/7/97

The following is a summary of questions and comments raised during the Master Plan presentation:

Vehicular Circulation and Parking
Concern was expressed about removing parking spaces from the R7 lot before the parking structure is built. Parking will be phased. There was also concern that people will have to walk further to and from their parking spaces. Another comment was, "I don't mind green [open space] but only after the blue [parking structure] is in place." The comment was made that parking was needed near the theater. The question was asked how access to the Child Development Research Center would be handled.

Another question was whether there would be increased traffic congestion with cars going in and out of the parking garages. Parking garages will be located on the edges of campus near access points to reduce conflicts. Another question was how the Broadway entrance will be handled. There will be open access tying into the new loop road system.

Transit
The question was asked whether buses would continue to be used.

Facilities
The question was asked whether Weeks Hall would be demolished. Another question was whether the bookstore would be available for use by Human Sciences. Another question was whether some of the space within the parking structures could be used for other purposes than parking.

Pedestrian Access
The question was asked how pedestrian access to the campus from outside the University would be handled to improve safety. A suggestion was made to eliminate parking along 19th Street. Another comment was that Lubbock streets were "pedestrian-unfriendly."

Bicycle Circulation
The suggestion was made to extend the bike route west to Quaker Avenue.

Law School
Summary - Master Plan Presentation
3/14/97
Tape No. 7

The following is a summary of questions and comments raised during the two sessions of the Master Plan presentation.

Session 1

Parking

A number of questions related to parking were raised. Questions were asked about upcoming work on the Law School parking lot - when work would begin and whether spaces would be lost. When told that the loss would not be appreciable and would affect commuter spaces only, one person commented, "I have never worked on a campus where I could park so close to my office. We're a little bit spoiled."

Questions were also asked about the height and appearance of the proposed arena parking garage and whether its design would blend with the campus architecture, specifically with the brick used throughout campus. Questions were also raised about security.

Another question asked was whether the proposed arena parking structure would be available for use by the Rec. Center and whether any possible conflicts might arise.

Circulation

It was asked whether any alternative alignments had been considered for Brownfield Highway. Discussion followed regarding the obstacles to moving Brownfield Highway from its present location and proposed measures to mitigate its impact on the campus.

Bicycles

The need for improved bicycle circulation on campus was emphasized and the wish expressed to include a bicycle system as part of the Master Plan.

Proximity to the Arena and Proposed Mixed Use Development

The arena location was seen as a benefit to the Law School. Comments were, "This [the location of the arena] brings us into the campus more." and "The choice of the arena site is student-friendly. You can walk to everything."

The question was asked whether there would be a food court at the new arena. Several franchise vendors are planned.

The proximity of the proposed mixed use development was also seen as a potential benefit. The was a desire to see the development include a hotel with conference rooms and room for continuing education that could be used by the Law School.

***Golf* Course**
Questions were asked about financing the golf course - whether it would be a partnership or a lease agreement and whether a lease agreement would be enticing to a developer. Another question raised was whether Texas Tech faculty and students would have access to the golf course.

Signage
The question was asked whether, with the proposed realignment of Indiana Avenue, there would be a sign announcing the entrance into campus and the Law School from Indiana. Wayfinding and signage will a major element of the Master Plan.

Coliseum
There was interest in the fate of the Municipal Coliseum.

Session 2

Parking
There was concern about how arena parking would be handled.

Circulation
There was interest in how the realignment of Indiana would affect the entrance to the Law School.

Rec. Center
The question was asked whether the Rec. Center would be expanded?

Student Senate
Summary - Master Plan Presentation
10/9/97

The following is a summary of questions and comments raised during the Master Plan presentation:

Development of Northwest Campus

The question was asked whether agricultural land in the northwest campus would be allocated elsewhere or lost. Within the northwest campus, 160 acres of virgin, untilled range land have been preserved for Range and Wildlife and 75 acres have been relocated for Plant and Soil Science. A committee from the College of Agricultural Sciences and Natural Resources is compiling a list of impacts on their programs so that a determination can be made whether to relocate research and/or outdoor classroom areas or to reimburse the College for the loss of resources.

The question was asked whether there were other development possibilities besides a golf course and residential community. A market survey has recommended the proposed uses as the most viable in generating a steady income stream for funding academic programs.

Brownfield Highway

The question was asked whether Brownfield Highway will be relocated underground. It will be depressed.

Vehicular Circulation and Parking

The question was asked how parking at Murdough-Stangel residence hall will be replaced. The parking structure will relieve some of the parking demand and new building projects will be phased so that as parking is taken from one area, it is replaced in another. Another question was whether there would be increased traffic congestion with cars going in and out of the parking garages. Parking garages will be located on the edges of campus to reduce conflicts. Another question was whether there was a greater cost in building parking structures versus using surface parking. The cost is greater but it is the price that has to be paid to keep future buildings within the academic core.

Master Plan

Questions were asked what would happen to the Master Plan proposals if there was no money to implement them and what the time frame would be. The Master Plan is a 10-year strategic plan and not an implementation plan.

II.

BUILDING INVENTORY

TEXAS TECH UNIVERSITY AND
TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER

BUILDING INVENTORY

AAA Architects
Dallas, Texas

Building Number	Name	Gross Area	Assign Area	Bldg. Perim	E&G SQ. FT.	Capital Investment	Occup Date	Floors	Condition	Ownership	Location	Type	Construction
1	HUMAN SCIENCES	175,428	106,827	1,288	93,358	7,415,429	1925	7	2	1	1	1	5
2	ADMINISTRATION	113,975	71,561	1,165	69,758	4,702,512	1925	4	2	1	1	1	5
3	INDUSTRIAL ENGINEERING	28,130	24,498	525	24,498	2,204,897	1925	2	2	1	1	1	5
4	ELECTRICAL ENGINEERING	98,734	54,885	1,767	54,571	5,109,344	1928	3	1	1	1	1	5
5	CHEMISTRY	192,980	99,463	1,811	99,463	11,754,556	1929	5	2	1	1	1	5
6	MATHEMATICAL SCIENCES	67,203	38,963	741	38,963	1,593,870	1938	4	3	1	1	1	5
7	AGRICULTURAL SCIENCES	43,902	27,314	835	24,501	1,745,210	1942	3	2	1	1	1	5
8	SCIENCE	118,544	68,684	1,273	68,505	4,083,005	1951	4	2	1	1	1	5
9	CIVIL & AGRICULTURAL ENGINEERING	91,094	50,221	1,116	49,812	4,939,284	1951	3	2	1	1	1	5
10	UNVIERSITY CENTER	153,409	94,262	1,109	0	6,632,458	1953	3	2	1	1	3	5
11	MUSIC	106,430	47,662	656	47,662	6,104,708	1951	3	2	1	1	1	5
12	HOLDEN HALL	178,442	97,906	1,734	97,675	5,845,832	1949	3	2	1	1	1	5
13	JOURNALISM	19,245	11,779	385	9,833	478,573	1941	3	2	1	1	1	5
16	PETROLEUM ENGINEERING	69,892	52,280	1,416	50,696	4,467,225	1950	2	2	1	1	1	5
17	BOOKSTORE	32,123	25,671	639	0	610,292	1926	3	1	1	1	3	5
18	DEVELOPMENT OFFICE	6,594	51,115	356	5,115	422,188	1944	1	2	1	1	1	5
24	AGRICULTURAL PAVILION	7,263	6,087	335	6,087	161,678	1924	1	3	1	1	3	5
25	LEN & HARRIET MCCLELLAN MEMORIAL	14,062	6,280	425	5,883	600,160	1956	2	3	1	1	1	5
26	EX-STUDENTS ASSOCIATION BLDG	6,232	11,054	405	0	135,057	1924	3	2	1	1	8	5
27	DOAK HALL	72,292	43,375	1,062	3,097	2,175,759	1934	3	2	1	1	6	5
28	DRANE HALL	75,358	49,936	1,106	49,936	2,105,465	1939	3	3	1	1	1	5
29	HORN HALL	83,486	50,092	1,151	0	2,738,490	1947	3	2	1	1	6	5
30	KNAPP HALL	83,486	50,092	1,154	0	1,330,020	1947	3	2	1	1	6	5
31	CHILD DEVELOPMENT RSRCH CTR BLDG	3,900	2,412	226	2,412	37,441	1927	2	3	1	1	1	3
33	WEST HALL	74,388	41,628	1,016	40,297	2,192,950	1934	3	2	1	1	1	5
34	SNEED HALL	73,956	44,374	1,239	0	1,329,998	1938	3	2	1	1	6	5
35	BLEDSOE HALL	17,996	52,798	1,240	0	2,500,212	1947	3	2	1	1	6	5
36	GORDON HALL	91,398	54,839	1,345	0	5,910,426	1947	3	1	1	1	6	5
40	JONES STADIUM	59,485	15,707	1,057	0	3,219,694	1960	2	1	1	1	3	5
41	TICKET OFFICE JONES STADIUM	11,482	4,929	622	0	861,389	1979	2	1	1	1	3	5
42	UNIVERSITY POLICE ANNEX	255	225	70	225	1,000	1961	1	2	1	1	1	5
43	ENGINEERING RESEARCH	9,926	1,523	406	1,523	710,555	1934	2	4	1	1	1	3
48	UNIVERSITY POLICE	6,400	5,300	328	5,300	188,887	1947	1	2	1	1	1	5
58	SEISMOLOGICAL OBSERVATORY	1,253	849	126	849	14,667	1946	1	2	1	1	1	
81	ANIMAL SCIENCE	16,244	9,458	853	9,086	296,595	1951	1	3	1	1	1	
125	EDUCATIONAL T.V. STATION	7,784	5,263	431	5,263	479,735	1951	2	3	1	1	1	5

Building Number	Name	Gross Area	Assign Area	Bldg. Perim	E&G SQ. FT.	Capital Investment	Occup Date	Floors	Condition	Ownership	Location	Type	Construction
133	AGRICULTURAL ED & COMMUICATIONS	25,204	15,599	871	15,599	727,743	1951	2	3	1	1	1	3
141	DOUBLE T SHOPPE	2,500	2,170	248	0	217,109	1991	1	1	1	1	1	5
155	ENVIRONMENTAL HLTH & SAFETY STOR	580	510	124	510	3,088	1953	1	2	1	1	1	4
190	GYMNASIUM AND NATARIUM	47,837	30,791	1,037	28,341	1,271,945	1958	2	2	1	1	6	7
191	WEEKS HALL	84,373	50,624	1,916	0	2,002,482	1957	3	4	1	1	6	5
193	GASTON HALL	66,350	39,810	1,401	0	835,231	1958	4	3	1	1	6	5
194	WELLS HALL	74,675	44,805	1,422	0	1,847,866	1958	4	4	1	1	6	5
195	CARPENTER HALL	74,675	44,805	1,362	0	1,847,866	1958	4	4	1	1	6	5
199	ENGLISH AND PHILOSOPHY	68,100	30,798	1,148	30,798	1,133,475	1960	5	3	1	1	1	5
205	LIBRARY	303,150	244,609	1,531	244,273	10,381,945	1962	5	2	1	1	1	5
206	ENGINEERING CENTER	57,665	37,200	1,184	37,200	1,886,108	1962	4	3	1	1	1	5
207	CHEMICAL ENGINEERING	18,776	11,166	289	11,166	495,047	1961	3	2	1	1	1	5
208	WOMEN'S GYMNASIUM	24,264	17,904	791	17,904	392,736	1961	2	3	1	1	1	5
209	AGRICULTURAL PLANT SCIENCES	26,725	15,911	583	15,897	496,667	1961	3	2	2	1	1	5
210	ENGINEERING & TECHNOLOGY LABS	21,657	16,411	770	16,411	380,149	1961	1	3	1	1	1	5
211	FISHERIES & WILDLIFE	8,486	6,723	686	0	2,231,418	1961	1	4	1	1	8	5
212	PHYSICAL PLANT	106,326	82,981	3,537	82,793	5,392,543	1961	2	4	1	1	4	5
218	RECREATION ANNEX	3,473	2,410	272	953	60,103	1961	1	2	1	1	1	3
223	PRINTECH	42,224	29,683	576	29,683	920,082	1961	1	1	1	1	3	7
226	WALL HALL	92,732	55,639	1,331	0	1,804,450	1963	6	2	1	1	6	4
227	GATES HALL	92,733	55,640	1,331	0	1,804,450	1963	6	2	1	1	6	4
230	PSYCHOLOGY	39,221	22,387	519	19,457	847,182	1964	5	2	1	1	1	5
231	UNIVERSITY THEATER & SPEECH CLINIC	32,958	19,645	771	17,687	1,110,202	1964	3	2	1	1	1	5
232	STANGEL HALL	1,117,510	70,506	1,242	0	3,274,954	1964	7	1	1	1	6	4
233	MURDOUCH HALL	1,117,510	70,506	1,327	0	3,274,954	1964	7	1	1	1	6	4
234	HULEN HALL	92,732	55,639	1,331	0	2,067,124	1964	6	2	1	1	6	4
235	CLEMENT HALL	92,732	55,639	1,331	0	2,067,124	1964	6	2	1	1	6	4
236	ANTENNA FACILITIES	468	427	111	427	5,638	1963	1	2	1	1	1	3
237	CENTRAL FOOD FACILITIES	33,905	29,023	914	0	2,863,130	1964	2	1	1	1	3	5
239	ATHLETIC DEPARTMENT STORAGE	289	225	69	0	534	1964	1	1	1	1	3	7
242	FOREIGN LANGUAGE	66,858	33,463	667	31,241	1,422,418	1967	3	2	1	1	1	5
245	MUSEUM	158,266	113,207	2,486	39,203	3,506,260	1970	3	2	1	1	1	3
246	BUSINESS ADMINISTRATION	204,495	117,383	1,231	113,024	5,944,949	1969	14	2	1	1	1	5
264	CHITWOOD HALL	134,816	80,890	603	0	4,691,304	1967	13	2	1	1	6	4
265	COLEMAN HALL	132,968	79,781	621	0	4,691,304	1967	13	2	1	1	6	4

Building Number	Name	Gross Area	Assign Area	Bldg. Perim	E&G SQ. FT.	Capital Investment	Occup Date	Floors	Condition	Ownership	Location	Type	Construction
266	WEYMOUTH HALL	134,816	80,890	603	0	4,691,304	1967	13	2	1	1	6	4
267	COMPLEX DINING FACILITIES	78,875	58,676	1,081	2,014	1,032,547	1967	2	1	1	1	6	4
271	BIOLOGY	156,219	93,652	1,610	93,299	7,520,916	1969	9	2	1	1	1	5
272	ARCHITECTURE	175,562	91,224	700	91,224	3,657,622	1970	11	2	1	1	1	5
273	CENTRAL HTG & COOLING PLANT 1	80,766	2,290	833	2,290	12,573,582	1968	3	2	1	1	4	5
274	LAW BUILDING	129,043	86,010	1,528	86,010	6,394,559	1969	5	2	1	1	1	5
276	X-46	3,670	2,648	221	2,648	55,151	1968	2	3	1	1	1	1
297	PORT OF ENTRY STATION-15TH & FLINT	19	18	20	18	3,222	1967	1	2	1	1	3	4
298	PORT OF ENTRY STATION-S BOSTON	19	18	20	18	3,222	1967	1	2	1	1	3	4
299	PORT OF ENTRY STATION-15TH & UNIVERS	19	18	20	18	3,222	1967	1	2	1	1	3	4
300	PORT OF ENTRY STATION-BROADWAY	19	18	20	18	3,222	1967	1	2	1	1	3	4
301	PORT OF ENTRY STATION-N. BOSTON	19	18	20	18	3,222	1967	1	2	1	1	3	4
305	TRAFFIC AND PARKING SERVICE	2,611	1,919	217	1,919	115,500	1969	1	2	1	1	1	4
310	TRACK DRESSING ROOM	3,089	2,165	244	0	86,631	1971	1	1	1	1	3	5
314	AG ENG RESEARCH & TESTING LAB	3,600	3,569	329	3,569	3,479	1972	1	2	1	1	5	7
319	UNIVERSITY GREENHOUSE	21,464	19,032	1,548	19,032	484,218	1973	1	2	1	1	1	8
320	ENTOMOLOGY GREENHOUSE	149	148	51	148	1,475	1973	1	2	1	1	1	8
321	GODDARD RANGE & WILDLIFE MGT	27,625	15,361	385	15,234	1,144,455	1975	3	2	1	1	1	4
322	MASS COMMUNICATION	78,586	47,104	909	47,104	3,738,774	1976	3	2	1	1	1	5
323	RECREATIONAL AQUATIC FACILITIES	46,610	34,918	844	12,220	940,610	1976	2	2	1	1	3	3
324	CENTRAL HTG & COOLING PLANT	60,143	445	1,127	445	11,688,440	1976	1	2	1	1	4	3
325	FOOD TECHNOLOGY	17,400	10,819	250	10,522	887,802	1976	2	2	1	1	1	5
326	DEVITT & MALLET RANCH BUILDING	20,633	13,044	666	0	795,234	1976	1	2	1	1	1	2
333	PRESIDENT'S RESIDENCE	6,598	5,354	594	0	434,383	1977	1	2	1	1	7	2
335	ART	61,392	39,182	960	39,182	2,405,775	1970	3	2	1	1	1	5
340	TTU WAREHOUSE	15,000	14,716	500	14,716	109,760	1978	1	1	1	1	4	7
342	LIVESTOCK ARENA & MEAT LAB	43,931	36,423	1,018	33,412	1,679,046	1978	1	2	1	1	1	4
343	STUDENT RECREATION CENTER	130,546	77,298	2,006	27,412	5,639,254	1980	3	2	1	1	3	5
345	HAZARDOUS CHEMICAL STORAGE	1,789	1,303	187	1,303	130,204	1979	1	2	1	1	1	5
347	BASEBALL STORAGE	150	148	50	0	1,632	1980	1	1	1	1	3	3
348	PORT OF ENTRY STATION/W. OF GORD	19	18	20	18	3,222	1967	1	2	1	1	3	5
356	KTXT TRANSMITTER BLDG	875	783	120	0	51,367	1982	1	2	1	1	1	5
357	GROUNDS MAINT/REC CENTER	420	165	86	165	11,503	1982	1	2	1	1	4	5
359	RANGE & WILDLIFE/ERSKINE	4,800	4,624	281	4,624	26,082	1983	1	2	1	1	5	7
360	AGRONOMY/ERSKINE	3,655	3,365	241	3,365	24,678	1983	1	1	1	1	5	7

Building Number	Name	Gross Area	Assign Area	Bldg. Perim	E&G SQ. FT.	Capital Investment	Occup Date	Floors	Condition	Ownership	Location	Type	Construction
361	ENTOMOLOGY/ERSKINE	3,123	2,398	201	2,398	24,958	1983	1	2	1	1	5	7
362	GRANTHAM PLANT	18,889	15,675	1,006	15,675	101,085	1983	1	2	1	1	4	3
367	EAST RESEARCH CENTER	109,376	72,405	1,219	72,405	6,046,751	1984	1	2	1	3	1	4
368	GROUNDS MAINTENANCE/ENGLISH	326	269	90	269	4,357	1960	1	2	1	1	4	3
371	ATHLETICS TRAINING CENTER	97,388	62,747	958	31,370	4,843,968	1986	2	1	1	1	3	5
372	HOUSING SERVICES	24,917	19,971	694	0	269,562	1985	1	1	1	1	3	3
373	GROUNDS MAIGROUNDS MAINT/MC HALL	326	269	68	269	4,357	1960	1	1	1	1	4	3
374	MECHANICAL ENGINEERING	88,748	55,092	1,279	55,092	5,451,364	1960	3	2	1	1	1	5
375	CHEMICAL STORAGE/ERC	261	219	67	219	3,431	1987	1	2	1	2	1	3
376	WIND ENGINEERING RESEARCH	1,369	1,360	151	1,360	35,256	1987	1	1	1	1	1	7
377	PYRAMID PLAZA	103,377	0	663	0	7,037,634	1989	7	1	1	3	9	4
378	LUBBOCK LAKE LANDMARK RSRCH BLDG	3,595	2,415	292	2,415	232,424	1990	1	1	5	3	1	4
380	PRESTON F GOTT SKYVIEW OBSV	669	435	86	435	25,431	1992	2	1	1	3	1	7
381	CONCESSIONS - DAN LAW FIELD	300	0	111	0	211,700	1993	1	1	1	1	3	3
382	RANGE & WILDLIFE FIELD ALB ANNEX	3,000	2,797	260	2,234	53,000	1994	1	1	1	3	1	7
383	EAST LOCKER ROOM DAN LAW FIELD	1,054	831	97	0	11,112	1994	1	1	1	1	3	3
384	WEST LOCKER ROOM DAN LAW FIELD	2,013	1,653	137	0	15,189	1994	1	1	1	1	3	3
386	LUBBOCK LAKE LANDMARK PREFAB	893	658	128	658	1,000	1994	1	2	1	3	1	1
801	FEEDMILL	18,258	14,110	545	14,110	3,159,635	1976	1	1	1	2	5	5
802	RESEARCH CENTER	7,550	6,150	361	6,150	205,071	1978	1	1	1	2	5	5
803	FERTILIZER STORAGE	3,232	3,151	242	3,151	47,008	1978	1	1	1	2	5	5
804	AGRONOMY/JORTICULTURE	4,583	41,456	320	4,156	83,068	1978	1	1	1	2	5	5
805	DAIRY CENTER	2,056	1,362	218	1,362	400,272	1978	1	2	1	2	5	5
806	BEEF CATTLE CENTER	609	423	331	423	146,782	1978	1	2	1	2	5	5
808	BABY PIG BLDG	4,038	3,203	281	3,203	223,487	1978	1	2	1	2	5	5
809	FARROWING/NURSERY	6,313	5,263	595	5,263	202,747	1978	1	1	1	2	5	5
810	GROWING & FINISHING	8,332	7,764	627	7,764	200,187	1978	1	1	1	2	5	5
811	SOW/BOAR	3,537	3,216	271	3,216	201,858	1978	1	2	1	2	5	5
812	HORSE CENTER	9,887	8,544	545	8,544	197,563	1978	1	2	1	2	5	5
813	SHEEP & GOAT CENTER	1,838	1,027	1,071	1,027	169,583	1978	1	2	1	2	5	5
814	FARM SHOP	5,041	4,446	310	4,446	117,862	1978	1	1	1	2	5	5
815	NECROPSY	1,188	891	169	891	63,256	1978	1	1	1	2	5	5
816	PUMP HOUSE	200	0	81	0	6,082	1978	1	1	1	2	5	5
817	WATER STORAGE TANK	300	0	63	0	64,000	1979	1	1	1	2	5	5
818	MOBILE HOME-CRAFTSMAN	768	461	152	0	9,474	1979	1	1	1	2	7	5

Building Number	Name	Gross Area	Assign Area	Bldg. Perim	E&G SQ. FT.	Capital Investment	Occup Date	Floors	Condition	Ownership	Location	Type	Construction
819	BOAR HOUSE	300	293	80	293	9,935	1979	1	1	1	2	5	5
820	FARM MGR RESIDENCE	1,512	907	169	0	26,321	1981	1	1	1	2	7	1
821	ROUGHAGE BARN	3,720	3,445	244	3,445	12,500	1984	1	1	1	2	5	5
822	SCALE HOUSE	389	256	86	256	12,500	1985	1	1	1	2	5	3
823	IDLER BLDG NORTHEAST	135	0	47	0	3,500	1985	1	1	1	2	5	3
824	PIT CONTROL BLDG	190	0	55	0	6,000	1985	1	1	1	2	5	3
825	IDLER BLDG NORTHWEST	168	0	52	0	2,500	1985	1	1	1	2	5	3
826	IDLERBLDG SOUTHWEST	144	0	48	0	2,500	1958	1	1	1	2	5	3
957	CABIN #1	536	322	96	0	134,823	1950	1	2	1	3	6	4
958	CABIN #2	536	322	96	0	2,690	1950	1	2	1	3	6	4
959	CABIN #3 AND #4	1,834	1,604	621	644	7,323	1950	1	2	1	3	2	3
961	CABIN #5	536	322	96	0	1,494	1950	1	2	1	3	6	4
962	CABIN #6	536	322	96	0	1,494	1950	1	2	1	3	6	4
963	CABIN #7 AND #8	1,834	1,604	621	644	8,206	1950	1	2	1	3	2	3
965	CABIN #9	536	522	96	522	1,605	1950	1	2	1	3	1	4
966	CABIN #10	536	522	96	522	1,494	1950	1	2	1	3	1	4
967	CABIN #11	536	322	96	0	1,494	1950	1	2	1	3	6	4
968	CABIN #12	1,834	1,100	277	0	1,523	1950	1	2	1	3	6	3
970	CABIN #13 AND #14	1,834	1,604	621	644	1,494	1950	1	2	1	3	2	4
971	CABIN #15	536	322	96	0	1,494	1950	1	2	1	3	6	4
972	CABIN #16	536	322	96	0	1,494	1950	1	2	1	3	6	4
973	CABIN #17 AND #18	1,834	1,604	621	644	36,662	1950	1	2	1	3	2	3
975	CABIN #19	536	322	96	0	2,780	1950	1	2	1	3	6	4
976	CABIN #20	536	322	96	0	2,780	1950	1	2	1	3	6	4
977	COOKS HOUSE	1,200	998	193	231	11,107	1970	1	2	1	3	2	3
978	LECTURE HALL	5,815	5,198	356	0	146,254	1970	1	3	1	3	3	3
979	TOILET BUILDING	1,455	0	178	0	36,898	1970	1	2	1	3	1	3
980	WAREHOUSE	1,344	1,278	150	0	2,400	1970	1	1	1	3	4	7
982	SEMINAR HOUSE	1,160	1,020	172	252	34,585	1970	1	2	1	3	2	3
983	ACADEMIC BUILDING	5,796	4,641	360	4,641	103,905	1970	1	3	1	3	1	3
984	ADMINISTRATIVE BUILDING	6,100	4,026	380	4,026	97,425	1970	1	3	1	3	1	3
986	RIECK TRACT RESIDENCE	1,600	1,521	273	0	12,583	1950	1	1	1	3	7	2
987	SEISMOGRAPH	1,000	812	140	812	18,316	1970	1	1	1	3	1	1
988	TOOL & EQUIPMENT STORAGE	100	98	40	98	262	1970	1	1	1	3	3	7
989	CHLORINATOR SHED	100	97	40	0	669	1970	1	1	1	3	1	3

Building Number	Name	Gross Area	Assign Area	Bldg. Perim	E&G SQ. FT.	Capital Investment	Occup Date	Floors	Condition	Ownership	Location	Type	Construction
990	STUDY UNIT	4,300	3,521	341	1,409	76,255	1978	1	1	1	2	2	1
991	MAINTENANCE	6,300	6,263	380	6,263	124,644	1978	1	1	1	2	4	7
992	SUP STUDY UNIT	7,450	5,577	433	3,294	189,071	1979	2	1	1	2	2	7
		8,592,833	**4,103,675**		**2,406,045**	**264,353,950**							

BUILDING DATA DEFINITIONS AND CODES

The following except from TTU Board of Regents Policy was supplied by the Facilities and Construction Department

BUILDING DATA DEFINITIONS AND CODES*

* This appendix has been copied in part from NCHEMS "Higher Education Facilities Inventory and Classification Manual," Technical Report 36.

BUILDING DATA DEFINITIONS AND CODES CONTINUED

1. BUILDING CONDITION

A. Definition: The physical status and quality of the building at the time of the inventory, based on the best judgement of those responsible for campus development.

B. Description: This building characteristic has the following categories:

Code 1: Satisfactory

Suitable for continued use with normal maintenance.

Code 2: Remodeling – A

Requires restoration to present acceptable standards without major room changes, alterations, or modernization. The approximate cost of "Remodeling – A" is not greater than 25% of the estimated replacement cost of the building.

Code 3: Remodeling – B

Requires major physical updating and/or modernization of the building. The approximate cost of "Remodeling B" is greater than 25%, but not greater than 50% of the estimated replacement cost of the building.

Code 4: Remodeling – C

Requires major remodeling of the building. The approximate cost of "Remodeling – C" is greater than 50% of the estimated replacement cost of the building.

Code 5: Demolition

Should be demolished or abandoned because the building is unsafe or structurally unsound, irrespective or the need for the space or the availability of funds for a replacement. This code takes precedence over codes 1, 2, 3, and 4. If a building is scheduled for demolition, its condition is recorded as "Demolition," regardless of its physical condition.

Code 6: Termination

Planned termination or relinquishment of occupancy of the building for reasons other than unsafeness or structural unsoundness, such as abandonment of temporary units or vacation of leased space. This code takes precedence over codes 1, 2, 3, and 4. If a building is scheduled for termination, its condition is recorded as "termination," regardless of its physical condition.

BUILDING DATA DEFINITIONS AND CODES CONTINUED

2. BUILDING OWNERSHIP

A. Definition: The agency with which the title to the building rests.

B. Description: Use the following categories:

Code 1: Owned in fee simple by the institution (i.e., institution has full, debt-fee title).

Code 2: Title vested in the institution and being paid for on an amortization schedule (regardless of whether or not the building is shared* with another institution or organization).

Code 3: Title vested in a holding company or building corporation to which payments are being made by the institution; title will ultimately pass to the institution. (Includes lease-purchase agreements).

Code 4: Not owned by the institution, but leased or rented to the institution at a typical local rate.

Code 5: Not owned by the institution, but made available to the institution either at no cost or at a nominal rate.

Code 6: Not owned by the institution, but shared* with an educational organization that is not a post-secondary institution.

Code 7: Not owned by the institution, but shared* with another post-secondary educational institution.

Code 8: Other (e.g., not owned by the institution, but shared* with a non-educational institution).

BUILDING DATA DEFINITIONS AND CODES CONTINUED

3. BUILDING LOCATION

Code 1: On the main campus

Code 2: On a branch or specialized campus.

Code 3: At a remote or isolated location (i.e., any location not contiguous with a portion of the main campus, but not a separate, specialized "campus" as such).

NOTE: Codes #2 and #3 should be used for buildings included in the "main campus" inventory (see Glossary) only if such buildings are used by students whose semester credit hours are included in the institution's primary SCH-Enrollment report to the Coordinating Board. All other space should be included in a separate inventory file (see Glossary).

* The word "shared" in 2, 6, 7, and 8 refers to any significant degree of "sharing" that affects ownership according to the definitions of these codes.

BUILDING DATA DEFINITIONS AND CODES CONTINUED

4. BUILDING TYPE

Code 1: General Purpose Buildings: This code is to include classroom, laboratory, office, and research buildings and any buildings related to the administration of these functions.

Code 2: Academic/Residence Buildings: This code is to include those buildings which are a combination of classroom and/or laboratory and residence space.

Code 3: Auxiliary Services: This code is to include student unions, infirmaries, bookstores, intercollegiate athletics buildings, etc.

Code 4: Physical Plant Buildings: This code is to include power plants, maintenance facilities, and all buildings related to the physical plant.

Code 5: Agricultural Services Buildings: This code is to include chicken houses, hog pens, barns, silos, etc.

Code 6: Residence, Single: This class is to include dorms, fraternity houses, etc. THIS DOES NOT PERTAIN TO "RENTAL PROPERTY", CODE 9.

Code 7: Residence, Family: This is to include apartments, family houses, etc. THIS DOES NOT PERTAIN TO "RENTAL PROPERTY:, CODE 9.

Code 8: Non-Institutional Agency Buildings: This is to include those buildings which are college-owned but are leased or otherwise provided to another public agency as a service.

Code 9: Rental Property: This code is to include those buildings which are college-owned, but are rented for profit.

BUILDING DATA DEFINITIONS AND CODES CONTINUED

5. BUILDING CONSTRUCTION:

Code 1: Wood frame

Code 2: Wood frame with brick

Code 3: Load bearing masonry walls

Code 4: Steel frame

Code 5: Reinforced concrete frames

Code 6: Reinforced concrete walls

Code 7: Building with lightweight metal walls

Code 8: Glass building (greenhouse)

NOTE: If a building is a combination of two or more of the above construction types, choose the one that reflects its dominant structural characteristic.

EXAMPLE: A building which has a wood frame and lightweight metal walls would be coded #7 in favor of the latter feature, which is dominant in terms of appearance and fireproofing qualities. In every case, choose one code which best matches the dominant structural characteristic of the building.

CONSTRUCTION CODE REQUIREMENTS

The following excerpt from TTU Board of Regents Policy was supplied by the Facilities Planning & Construction Department

03.15 – Construction Code Requirements

1. It is the policy of the Board of Regents to make construction/renovation projects conform to the most current edition of the following codes:

   a. Uniform Building Code

   b. National Electrical Code

   c. Uniform Plumbing Code

   d. NFPA 101, Life Safety Code

   e. National Fire Protection Association Codes and Standards

   f. ANSI/ASME A17.1 Safety Code for Elevators and Escalators

   g. ANSI Z136.1 Standards for Safe Use of Lasers

   h. State Insurance Board requirements governing fire sprinkler systems

   i. U.S. Environmental Protection Agency regulations

   j. ASHRAE Standard 90A, B & C-Energy Conservation in New Building Design

   k. U.S. Department of Health, Public Health Service regulations and guidelines

CONSTRUCTION CODE REQUIREMENTS CONTINUED

l. State statutes regulating, but not limited to, the following:

(1) Asbestos

(2) Boilers

(3) Control of Radiation

(4) Energy Consumption

(5) Fire Escapes

(6) Fire Alarms

(7) Plumbing Fixtures

m. Texas Accessibility Standards of the Architectural Barriers Act, Article 9102, Texas Civil Statutes

n. Americans with Disabilities Act (ADA) – Accessibility Guidelines for Buildings and Facilities

o. U.S. Department of Labor Occupational Safety and Health Administration (OSHA) regulations

p. In those cases where more than one agency or code has set forth regulations and those regulations are in conflict, the more stringent or more detailed code or regulation shall apply.

2. In those cases where more than once agency or code has set forth regulations and those regulations are in conflict, the more stringent or more detailed code or regulation shall apply.

III.

PRELIMINARY ADA SURVEY CHECKLIST

TEXAS TECH UNIVERSITY AND
TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER

PRELIMINARY ADA SURVEY CHECKLIST

July, 1996

AAA Architects
Dallas, Texas

PRELIMINARY ADA SURVEY CHECKLIST

the following checklist is developed from the
Texas Accessibility Standards (TAS) as it relates
to the exterior site areas of the Main Campus

CATEGORY: PARKING

ITEM: Number required — 4.1.2 (5) (a) (b) [Table]
REQUIREMENTS:
1. Refer to attached table. Note: Based on spaces provided.

ITEM: Applicability: Passenger Loading Zone — 4.1.2 (5) (c) (e)
REQUIREMENTS:
1. If provided.
2. Required if valet service provided.

ITEM: Location — 4.6.2., 4.1.2. (5) (b)
REQUIREMENTS:
1. Shortest route to accessible entrances, dispersed if multiple entrances.

ITEM: Accessible Space Size — 4.1.2 (5) (a) , 4.6.3.[Figure 9]
REQUIREMENTS:
1. Minimum dimensions:
   * 96" space width
   * 60" aisle width (can be shared)
   * 80" vertical clearance

ITEM: Van Accessible Space Size — 4.1.2 (5) (b), 4.6.5 [Figure 9]
REQUIREMENTS:
1. Minimum dimensions:
   * 96" space width
   * 96" aisle width (can be shared)
   * 98" vertical clearance for space and drive lane
2. Alternate "Universal Accessible Space":
   * 132" space width
   * 60" aisle width (can be shared)
   * 98" vertical clearance for space and drive lane

ITEM: Passenger Loading Zone — 4.6.5, 4.6.6 [Figure 10]
REQUIREMENTS:
1. Minimum dimensions:
   * 60" access aisle width
   * 20" access aisle length
   * 114" vertical clearance for space and drive lane

ITEM: Slope — 4.6.3, 4.6.6
REQUIREMENTS:
1. Maximum 2% (1:50) in all directions.
   Note: Curb ramps not permitted within aisles and loading zones.

ITEM: Signage — 4.1.2 (7) (d), 4.6.4
REQUIREMENTS:
1. "International Symbol of Accessibility" at spaces and loading zones.
2. Van spaces also to have additional "Van Accessible" sign.
3. Cannot be visually obscured by parked vehicle.

CATEGORY: EXTERIOR ROUTE

ITEM: Applicability — 4.1.2 (1), 4.1.2 (2), 4.3.2 (1)

REQUIREMENTS:

1. Minimum of one route connecting accessible building to:
   - a. Accessible facilities (if provided)
   - b. Passenger loading zone (if provided)
   - c. Public transportation stops
   - d. Public streets and sidewalks
   - e. Accessible parking stalls

   Note: Should, if practical, coincide with General Public Route.

ITEM: Width — 4.3.3 [Figure 1]

REQUIREMENTS:

1. 36" minimum clear width (except at doors)

ITEM: Width at Turns — 4.3.3 [Figures 7a & 7b]

REQUIREMENTS:

1. 36" minimum if >/= 48" run available
2. 42" / 48" req. if < 48" run
3. 48" at switchback

ITEM: Passing space (width less then 60") — 4.3.4 [Figure 3]

REQUIREMENTS:

1. 60" x 60" or T intersection required at maximum 200' o.c.

ITEM: Headroom — 4.3.5, 4.4.2 [Figure 8c-1]

REQUIREMENTS:

1. 80"minimum
2. Note: Barrier to be installed at adjoining areas < 80".

ITEM: Level Changes — 4.3.8, 4.5.2 [Figures 7c & 7d]

REQUIREMENTS:

1. If </= 1/4", vertical edge permitted
2. If > 1/4", but </= 1/2", beleved edge at 1:2
3. If > 1/2", refer to Slope or Curbs

CATEGORY: EXTERIOR ROUTE, CONT'D

ITEM: Slope — 4.3.7
REQUIREMENTS:
1. 1:20 maximum running slope (new)
2. 1:50 maximum cross slope (new)

ITEM: Walking Surface — 4.3.6, 4,5
REQUIREMENTS:
1. Firm, stable, slip resistant

ITEM: Vehicular Crossings — 4.29.5 [Figure 15]
REQUIREMENTS:
1. Non-isolated areas to have detectable warning domes (re: specific requirements.)

ITEM: Reflecting Pools — 4.29.6
REQUIREMENTS:
1. Railings, walls, curbs or detectable warning domes (re: specific requirements).

ITEM: Gratings — 4.5.4 [Figures 8g & 8h]
REQUIREMENTS:
1. Maximum 1/2" spacing perpendicular to traffic.

ITEM: Protruding Objects — 4.1.2. (3), 4.4.1 [Figures 8a thru 8e]
REQUIREMENTS:
1. If object >/= 27" and </= 80" then maximum wall protrusion is 4" into walk or corridor.
2. If object </= 27", then no restriction.
3. Free standing objects from post or pylons within 27" - 80" AFF, then maximum protrusion is 12".

Note: Protrusions may not reduce required clear width.

CATEGORY: CURB RAMPS

ITEM: Applicability — 4.7.1 [Figure 15]
REQUIREMENTS:
1. Where access route crosses curb.

ITEM: Slope — 4.7.2, 4.8.2, 4.1.6 (3) (a) [Figure 16]
REQUIREMENTS:
1. Recommended: 1:12 maximum
2. Flush transitions
3. Adjacent Slope 1:20 maximum.
4. At existing condition
   * 1:10 maximum
   * 1:8 maximum for </= 3" rise

ITEM: Clear Width — 4.7.4, 4.5
REQUIREMENTS:
1. 36" minimum

ITEM: Surface — 4.7.4, 4.5
REQUIREMENTS:
1. Firm, stable, slip resistant

ITEM: Sides — 4.7.5 [Figures 12a & 12b]
REQUIREMENTS:
1. Maximum slope of 1:10 at pedestrian crosswalk (walk >/= 48")
2. Maximum slope of 1:12 at pedestrian crosswalk (walk < 48")
3. Vertical curbs acceptable only at non-pedestrian walks

ITEM: Built-Up Curb Ramps — 4.7.6 [Figure 13]
REQUIREMENTS:
1. Use only where not projecting into traffic lanes

ITEM: Detectable Warnings — 4.7.7, 4.29.2
REQUIREMENTS:
1. Required for full width and depth of ramp. (Refer to technical requirements.)

ITEM: Location at Marked Crossings — 4.7.9, 4.7.10 [Figure 15]
REQUIREMENTS:
1. Straight ramp must be contained within markings (excluding flared sides)
2. Diagonal ramps must contain minimum of 48" within crossing

ITEM: Islands in Crossings — 4.7.11 [Figures 15a & 15b]
REQUIREMENTS: Either:
1. Cut through level with street
2. Curb ramps (re: above) with minimum 48" level center area

CATEGORY: RAMPS

ITEM: Slope — 4.8.2, 4.1.6 (3) (a), 4.1.7 (3) (a) [Figure 16]

REQUIREMENTS:

1. Maximum slope = 1:12 for 30' run max.
2. Maximum slope of adjacent surface = 1:20
3. Note: Minimum slope at exterior: no ponding of water.

Note: exceptions for existing facilities:

(a) Rise </= 6": 1:10 slope
(b) Rise </= 3": 1:8 slope

ITEM: Clear Width — 4.8.3

REQUIREMENTS:

1. 36" minimum

ITEM: Landings — 4.8.4

REQUIREMENTS:

Required at top and bottom of each run:

1. Minimum width = ramp width.
2. Minimum length = 60".
3. If direction change at landing, then minimum dimensions = 60" x 60".
4. If doorway at landing, re: Door maneuvering space.

ITEM: Handrails Required — 4.8.5

REQUIREMENTS:

1. Required if rise > 6" or run > 72".

ITEM: Handrails 4.8.5 (1)

REQUIREMENTS:

1. Location on both sides.
2. Inside rail continuous at turns.

ITEM: Handrails — 4.8.5 (2) [Figure 17]

REQUIREMENTS:

1. Non-continuous rails shall extend minimum of 12" beyond top and bottom.
2. Extension should be parallel to surface.

ITEM: Handrails — 4.8.5 (3)
REQUIREMENTS:
1. Clearance at wall: 1 - 1/2"

ITEM: Handrails — 4.8.6 (4)
REQUIREMENTS:
1. Gripping surface uninterrupted.

ITEM: Handrails — 4.8.5 (5)
REQUIREMENTS:
1. Height: 34" - 38" AFF.

ITEM: Handrails — 4.8.6 (6)
REQUIREMENTS:
1. Ends rounded or returned to floor, wall or post.

ITEM: Handrails — 4.8.6 (7)
REQUIREMENTS:
1. Handrail shall not rotate.

ITEM: Handrails — 4.26.2 [Figure 39a,b,c,e]
REQUIREMENTS:
1. Diameter: 1-1/4" - 1-1/2"

ITEM: Handrail — 4.26.4
REQUIREMENTS:
1. Rails and adjacent surface free from abrasive or sharp elements. (radius >/= 1/8")

ITEM: Recessed Handrail — 4.26.2 [Figure 39d]
REQUIREMENTS:
1. If recess </= 3" and extends >/= 18" above rail.

ITEM: Cross Slope — 4.8.6
REQUIREMENTS: Maximum 1:50

ITEM: Surfaces — 4.8.6, 4.5
REQUIREMENTS: Re: Accessible route.

ITEM: Edge Protection — 4.8.7 [Figure 17]
REQUIREMENTS: If vertical side drops:
1. Wall, railings or min 2" curb to prevent slipping off.

CATEGORY: PUBLIC TELEPHONES

ITEM: Applicability — 4.1.3 (17) (a) thru 4.1.3 (17) (d), 4.1.6 (1) (e)

REQUIREMENTS:

1. If public phones provided, then:
   (a) one or more single phones provided per floor: minimum 1
   (b) one bank (2+) provided: minimum 1 phone
   (c) 2 or more banks provided: minimum 1 phone per bank (forward reach requirements)
   Note: Forward or side access OK except for (c).
2. Accessible phones to have volume control and International Signage
3. 25% (not less than one) of balance of phones must have volume control

ITEM: Text Telephones Applicability — 4.1.3 (17) (c), 4.1.3 (17) (d), 4.1.6 (1) (e)

REQUIREMENTS:

1. Existing Facilities: Alterations to or increase to phone banks of 4 or more phones: minimum 1
2. New: If 4 or more public pay phones (total#): minimum one
3. New: If 3 or more public pay phones (total#): shelf and outlet required

ITEM: Clear Floor Space — 4.31.2 [Figure 44]

REQUIREMENTS:

1. Minimum 30" x 48" forward or parallel approach.

ITEM: Mounting Height — 4.31.3 [Figure 44]

REQUIREMENTS:

1. Highest operable part of telephone </= 48" AFF at forward reach, </= 54" AFF at side reach
2. Forward reach over obstruction 20"-25" deep: 44" AFF maximum
3. Forward reach over obstruction < 20" deep: 48" AFF maximum
4. Side reach over maximum 34" high and 24" deep obstruction: 46" AFF maximum

CATEGORY: PUBLIC TELEPHONES, CONT'D

ITEM: Protruding Objects — 4.31.4, 4.4.1 [Figure 44]

REQUIREMENTS:

1. Maximum protrusion of 4" into walks or corridors if between 27"-80" AFF
2. No restriction on protruding objects (except required clear width) if below 27" AFF
3. Pylon or post mounted free standing objects may overhang 12" maximum from 27"-80" AFF

ITEM: Hearing Aid Compatible & Volume Control Telephones — 4.31.5

REQUIREMENTS:

1. All should be hearing aid compatible
2. Volume controls 12 dba - 18dba increase

ITEM: Controls — 4.31.6

REQUIREMENTS:

1. Pushbutton controls

ITEM: Telephone Books — 4.31.7

REQUIREMENTS:

1. If provided must comply with reach ranges above

ITEM: Cord Length — 4.31.8

REQUIREMENTS:

1. 29" minimum length

ITEM: Text Telephone — 4.31.9

REQUIREMENTS:

1. Portable text telephone may be made available upon request (location adjacent phone back) or;
2. Permanently affixed within or adjacent pay telephone enclosure
3. Pay telephone designed to accommodate TDD's must have shelf with power outlet and have minimum 6" clear space between phone and shelf

CATEGORY: DRINKING FOUNTAINS

ITEM: Applicability — 4.1.3 (10) (a), 4.1.3 (10) (b)

REQUIREMENTS:

1. If more than one fountain per floor, then 50% (round down) must be wheelchair height
2. If only one, then either:
   (a) Hi-lo fountain
   (b) Provide drinking cups

ITEM: Spout Height — 4.15.2 [Figure 27a]

REQUIREMENTS:

1. </= 36" AFF to spout outlet

ITEM: Spout Location — 4.15.3

REQUIREMENTS:

1. At front of unit with flow parallel to front
2. Round or oval bowls can have flow within 3" of front
3. Water flow >/= 4" high

ITEM: Controls — 4.15.4, 4.27.4

REQUIREMENTS:

1. Location on front or on side near front
2. Operable with on hand without tight grasping, pinching, or twisting
3. Force to operate </= 5 lbf.

ITEM: Clearances — 4.15.5 [Figure 27]

REQUIREMENTS:

1. Cantilevered fountains shall have minimum knee space:
   (a) 30" wide
   (b) 27" wide
   (c) 17"-19" deep
2. Minimum 30" x 48" clear floor
3. Built-in units/non-knee space units must have minimum 30" x 48" clear floor space for parallel approach.

IV.

INDIANA AVENUE RE-ALIGNMENT STUDY

INDIANA AVENUE REALIGNMENT STUDY

Prepared for:

Texas Tech University
Lubbock, Texas

Prepared by:

Parsons Transportation Group, Inc.
Dallas, Texas

May, 1997

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INTRODUCTION

Texas Tech University is in the process of designing a Master Plan for the campus which will guide development over the next several years. As a part of this effort, the existing traffic circulation system has been evaluated in order to identify potential improvements which could facilitate traffic flow, improve access, and enhance pedestrian safety.

In recognition of the fact that the campus roadway system is an integral component of the City of Lubbock roadway system, the University has directed the Parsons Transportation Group to evaluate the impact of all proposed roadway improvements within the campus on the roadway system off the campus. The objective of this study is to ensure that a campus circulation system is implemented which will be beneficial to both Texas Tech University and to City of Lubbock residents.

STUDY AREA

Texas Tech University is situated in northwestern Lubbock, west of the central business district and south of Loop 289. The core campus area is bordered by four arterial roadways, including 19th Street on the south, 4th Street on the north, University Avenue on the east, and Quaker Avenue on the west. The campus is also bisected by two other arterials: Brownfield Highway and Indiana Avenue.

At the present time, the campus can be accessed via any of these six arterials. However, there is no direct access from Loop 289. Several local streets within the campus connect this arterial system to the various campus buildings and parking lots. Figure 1 displays the existing roadway system on, and in the vicinity of, the campus.

TRAFFIC CIRCULATION ISSUES

Due to the layout of the existing roadway system, traffic destined to and from the University on either Indiana Avenue or Brownfield Highway is intermingled with traffic destined for other locations within Lubbock. This "pass-through" traffic, particularly on Indiana Avenue, conflicts with traffic destined for the various campus parking lots, as well as with significant pedestrian activity.

Current plans call for Brownfield Highway to be upgraded to an east-west freeway throughout Lubbock. The intersection of Brownfield with Indiana Avenue would be designed as a freeway interchange. Although the freeway would be constructed as a depressed facility with no frontage roads through the campus, the proposed interchange with Indiana Avenue could potentially worsen the conflict between University-bound traffic and through traffic.

A second major traffic circulation issue concerns the layout of the roadway system within the campus. These local streets currently function primarily as a series of accessways, rather than as an internal circulation system independent of the surrounding arterial system. As a result, many trips from one location within the campus to another can be more easily made via the surrounding arterials than via the campus roadway system. This has the effect of increasing traffic volumes on the surrounding arterials, and therefore the conflict between University traffic and other traffic.

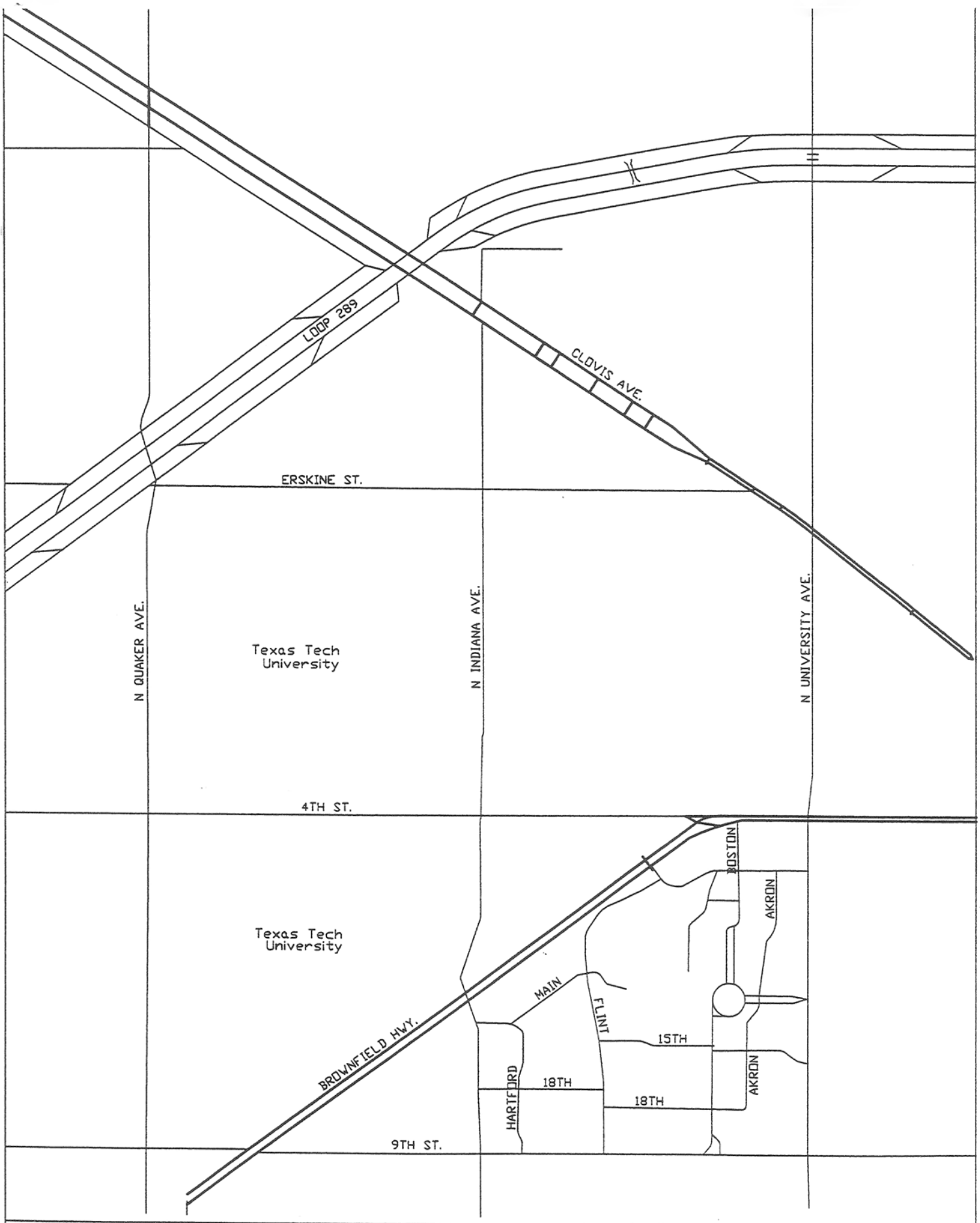


FIGURE 1

EXISTING ROADWAY SYSTEM

PROPOSED TRAFFIC CIRCULATION SYSTEM

In an effort to address these issues, the proposed Texas Tech University Master Plan includes a traffic circulation element. Upon approval, this Plan would create a fully functional loop system internal to the campus. It would also realign Indiana Avenue to the west in order to provide a bypass to the campus core area, as well as a direct access to Loop 289.

This realigned Indiana would still interchange with the east-west freeway, and intersect with both 4th and 19th Streets. However, the intersection with 4th Street would be at a location approximately 1/2 mile west of the current 4th Street intersection. At this point, the roadway would extend north and west to the Quaker Avenue alignment and then directly interchange with Loop 289.

The existing section of Indiana Avenue entering the campus at 4th Street would connect with a new east-west collector road on campus. This road would provide direct access across the freeway from the Health Sciences Center to Flint Avenue in the core campus area. Flint Avenue would be opened to traffic throughout the day to provide access to the internal loop system Consequently, it would now be possible to pass-through the University on Flint Avenue, if desired, to access 19th Street. Figure 2 displays the proposed Texas Tech University traffic circulation system.

DATA COLLECTION

The first step in evaluating the impact of the proposed improvements to the University roadway system on existing travel patterns off the campus involved the collection of data relative to existing traffic operations. Three types of data were collected in order to analyze operations at all major intersections and roadways surrounding the campus. These were:

1. Origin and destination data relative to existing traffic on Indiana Avenue.

2. 24-hour daily directional traffic counts on Indiana Avenue, as well as on the four major roadways surrounding the campus.

3. Peak-hour turning movement counts at the major intersections surrounding the campus.

A license plate survey was conducted to determine the origins and destinations of the vehicles on Indiana Avenue from Clovis Avenue to 19th Street. The primary objective of this survey was to estimate the number of vehicles from the Arnett-Benson neighborhood north of campus which currently use Indiana Avenue to travel to destinations within the campus, as opposed to the number of vehicles on this roadway which are passing through campus to destinations off campus. This survey was conducted between the hours of 7:00 A.M. and 1:00 P.M. at the following five locations on Indiana Avenue:

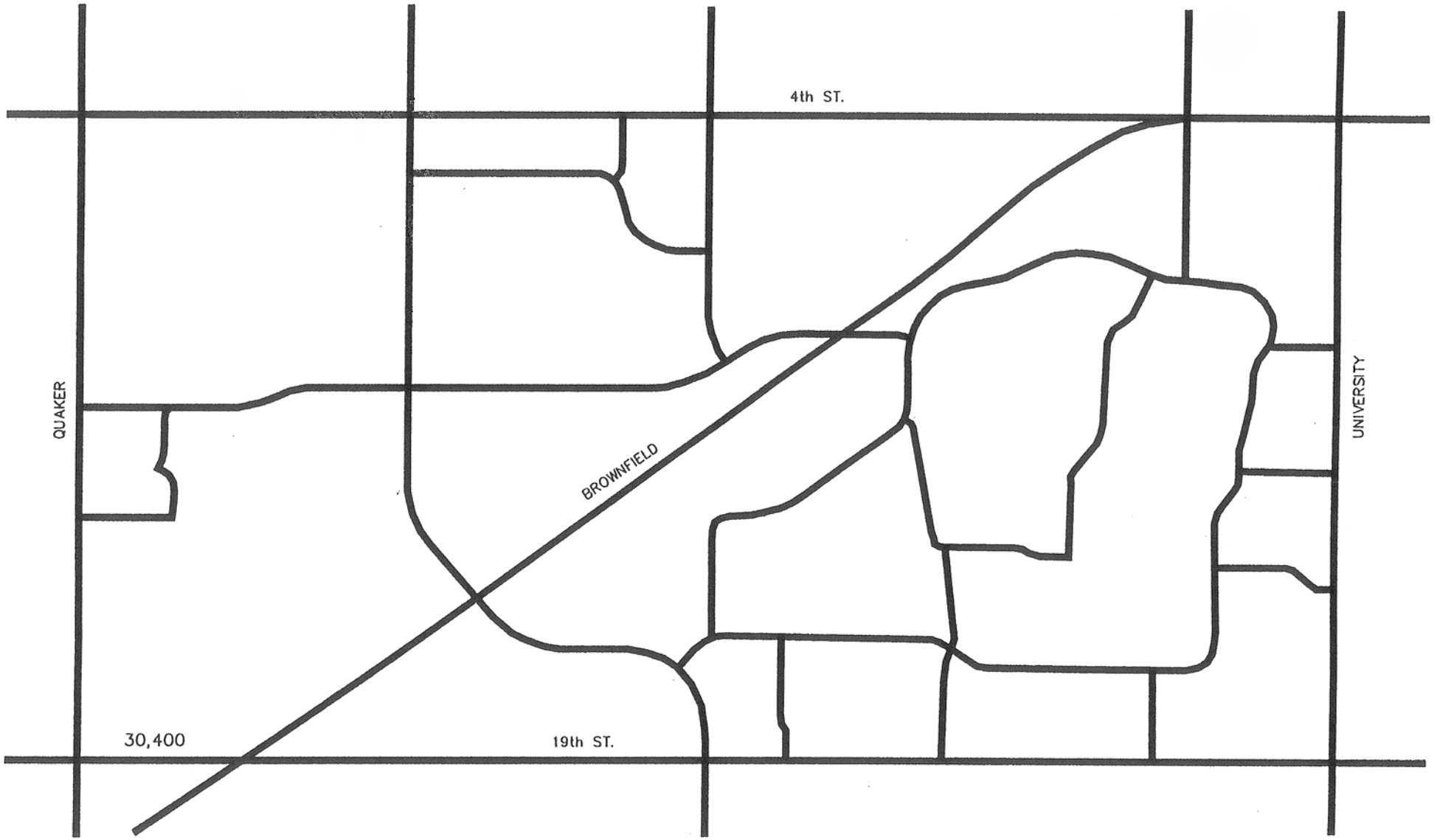


FIGURE 2

PROPOSED TEXAS TECH UNIVERSITY
TRAFFIC CIRCULATION SYSTEM

- South of Clovis Avenue in the southbound direction
- South of 4th Street in the southbound direction
- South of 4th Street in the northbound direction
- North of 19th Street in the southbound direction
- North of 19th Street in the northbound direction

Daily directional traffic counts, in 15-minute intervals, were collected at 10 different locations near the campus. These locations were as follows:

- Indiana Avenue, between Erskine Street and 4th Street
- Indiana Avenue, between Brownfield Highway and 19th Street
- Indiana Avenue, just south of 19th Street
- University Avenue, between 4th Street and 19th Street
- Quaker Avenue, between Erskine Street and 4th Street
- Quaker Avenue, between 4th Street and 19th Street
- 4th Street, between Quaker Avenue and Indiana Avenue
- 4th Street, between Indiana Avenue and University Avenue
- 19th Street, between Quaker Avenue and Indiana Avenue
- 19th Street, between Indiana Avenue and University Avenue

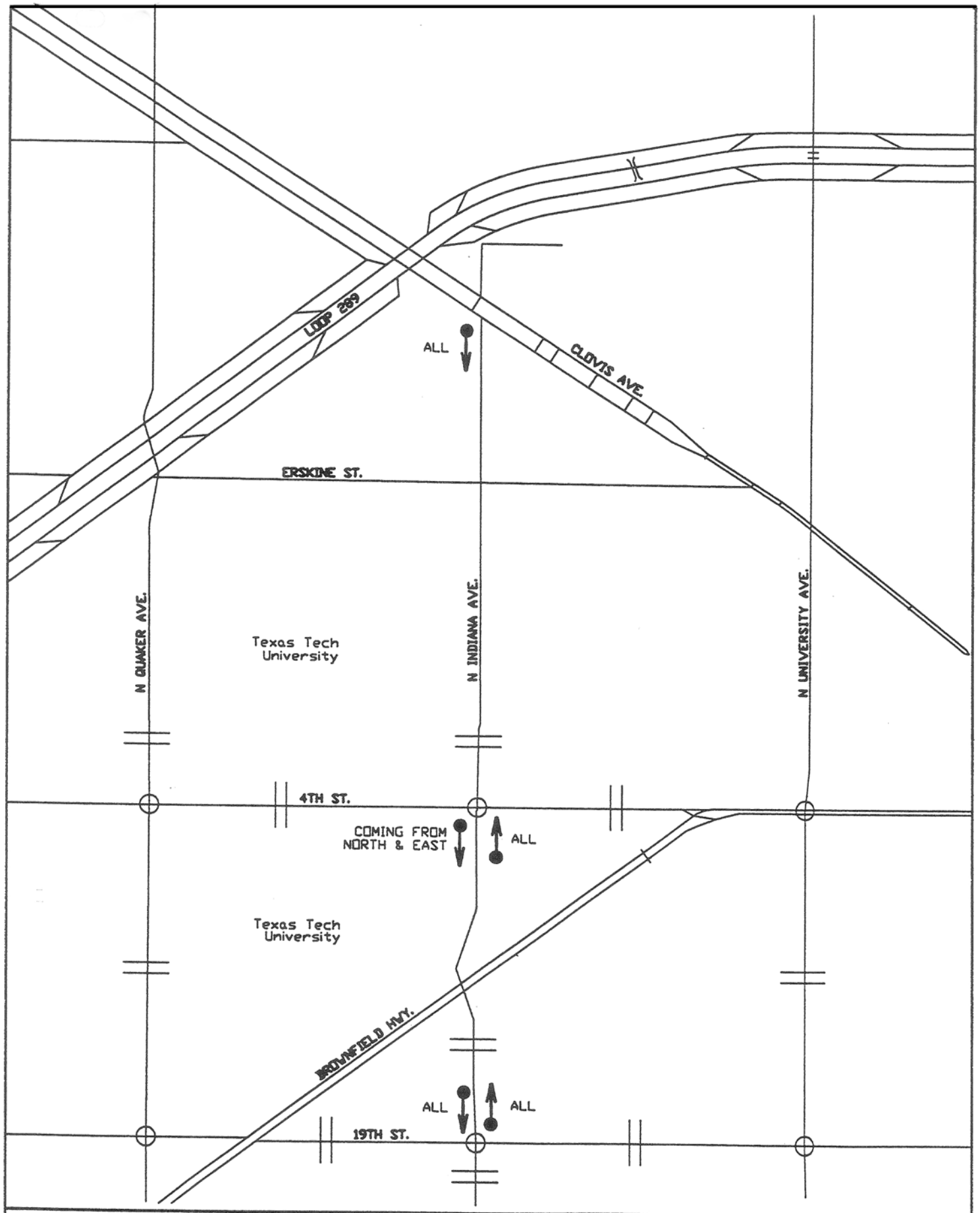
A.M. and P.M. peak hour turning movement counts were collected at the following six intersections:

- Indiana Avenue at 4th Street
- Indiana Avenue at 19th Street
- Quaker Avenue at 4th Street
- Quaker Avenue at 19th Street
- University Avenue at 4th Street
- University Avenue at 19th Street

The license plate survey and all traffic counts were performed on a typical weekday in May when school was in session. Figure 3 displays the location of all data collection activities, whereas the traffic count data collected are shown on Figure 4.

ANALYSIS OF EXISTING CONDITIONS

Following the collection of the license plate survey data, all information was entered into a software program developed by the Parsons Transportation Group to identify matching plate numbers at multiple locations. These data were then tabulated on an hourly basis, as well as the average for the six-hour period, for each roadway segment under study.

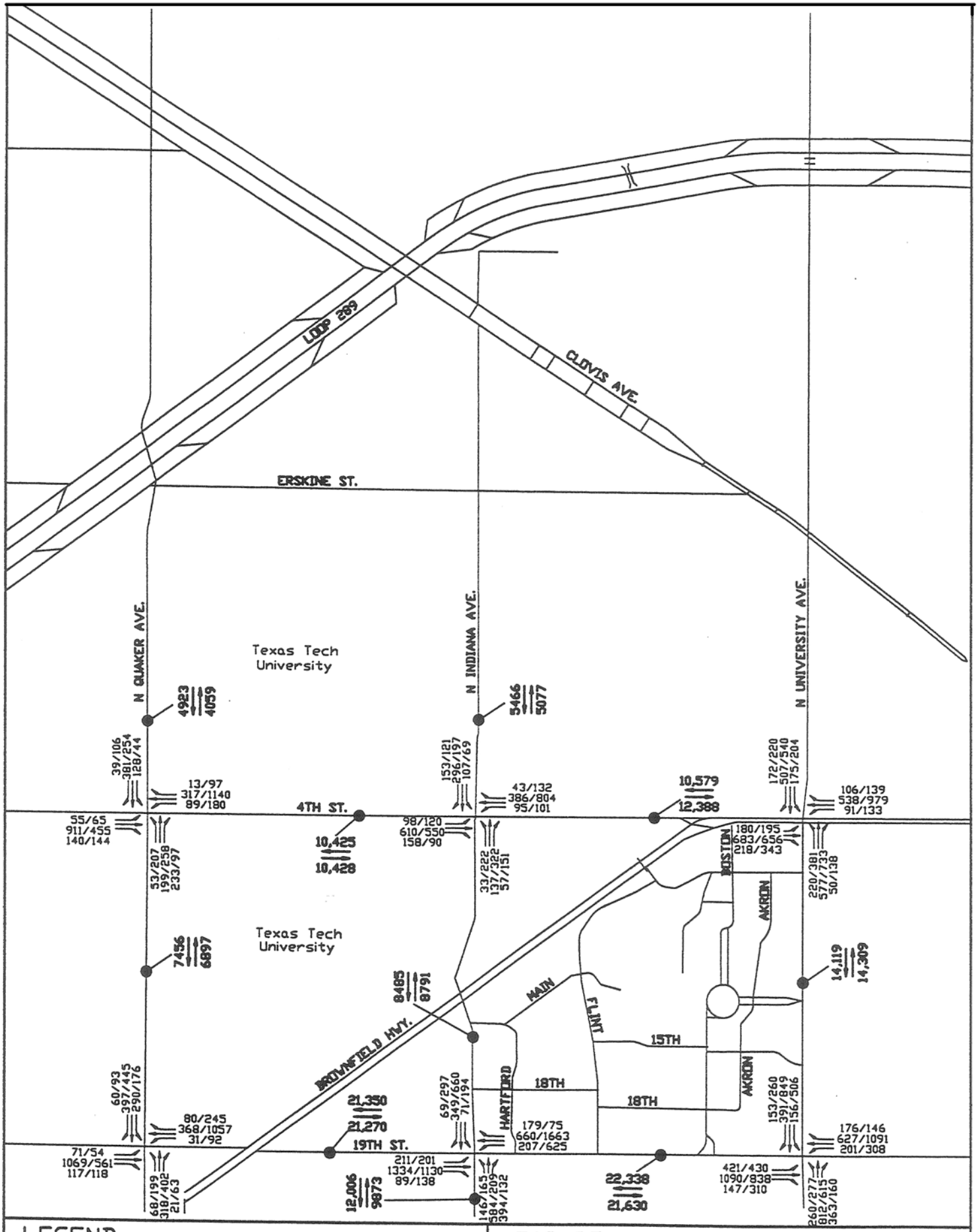


LEGEND:

- TURN MOVEMENT COUNT LOCATION
- 24-HOUR VOLUME COUNT LOCATION
- LICENSE PLATE SURVEY LOCATION

FIGURE 3

TRAFFIC COUNT LOCATIONS



LEGEND:

XXX/XXX — A.M. PEAK HOUR VOLUME / P.M. PEAK HOUR VOLUME

XX,XXX-24-HOUR VOLUME

FIGURE 4

EXISTING TRAFFIC VOLUMES

The key findings of this survey were as follows:

1. 32.1% of the southbound vehicles on Indiana Avenue between Erskine Street and 4th Street use this roadway to pass through the campus.

2. 44.3% of the southbound vehicles on Indiana Avenue between 4th Street and 19th Street use this roadway to pass through the campus.

3. Of the southbound traffic on Indiana Avenue between 4th Street and 19th Street, 28.8% originates in the Arnett-Benson neighborhood.

4. 22.9% of the northbound vehicles on Indiana Avenue between 19th Street and 4th Street use this roadway to pass through the campus.

In summary, this survey has shown that the majority of traffic in both the northbound and southbound directions on Indiana Avenue between 4th and 19th Streets is using this facility to directly access the campus. Table 1 displays the complete results of the license plate survey.

The next step in this evaluation of traffic operations involved performing capacity analyses at each of the major intersections and roadway segments surrounding the campus to determine existing Levels of Service (LOS). These analyses were based on existing roadway and intersection geometrics (Figure 5), as well as existing signal timing and interconnect plans provided by the City of Lubbock for each of the six signalized intersections under study.

The principal findings of these capacity analyses were as follows:

1. Each of the major intersections surrounding the campus currently operates at LOS C, with the exception of the intersection of University Avenue and 19th Street which currently operates at LOS D.

2. Each of the roadway segments connecting these six intersections currently operates at LOS C.

In summary, existing traffic operations in the vicinity of the campus are, for the most part, in compliance with the City's service level standard of LOS C. Under these operating conditions, there may be moderate delays, but there will be no significant congestion. Figure 6 graphically displays the results of these analyses.

TRAVEL DEMAND FORECASTING

In order to assess the impact of the proposed Texas Tech University Master Plan on future traffic operations, the City of Lubbock TRANPLAN travel demand forecasting model was used. This model was initially developed by TxDOT in order to evaluate future travel demand for all roadways within Lubbock, as well as to determine the impact of any proposed roadway change on projected 2015 traffic conditions. It reflects the population and employment projected for the Lubbock area for the year 2015, as well as the major roadway system anticipated to be in place by that time.

TABLE 1
INDIANA AVENUE REALIGNMENT STUDY
LICENSE PLATE SURVEY RESULTS

SB Indiana Avenue from Erskine Street to 4th Street

Begin Hour	End Hour	No. of Matches	SB Indiana @ Erskine	SB Indiana @ 4th St.	% thru @ Erskine	
07:00 AM	08:00 AM	82	199	330	41.2%	**6-hour average: 32.1%**
08:00 AM	09:00 AM	66	193	224	34.2%	
09:00 AM	10:00 AM	47	154	186	30.5%	
10:00 AM	11:00 AM	60	164	180	36.6%	
11:00 AM	12:00 PM	36	154	143	23.4%	
12:00 PM	01:00 PM	56	211	186	26.5%	

SB Indiana Avenue from 4th Street to 19th Street

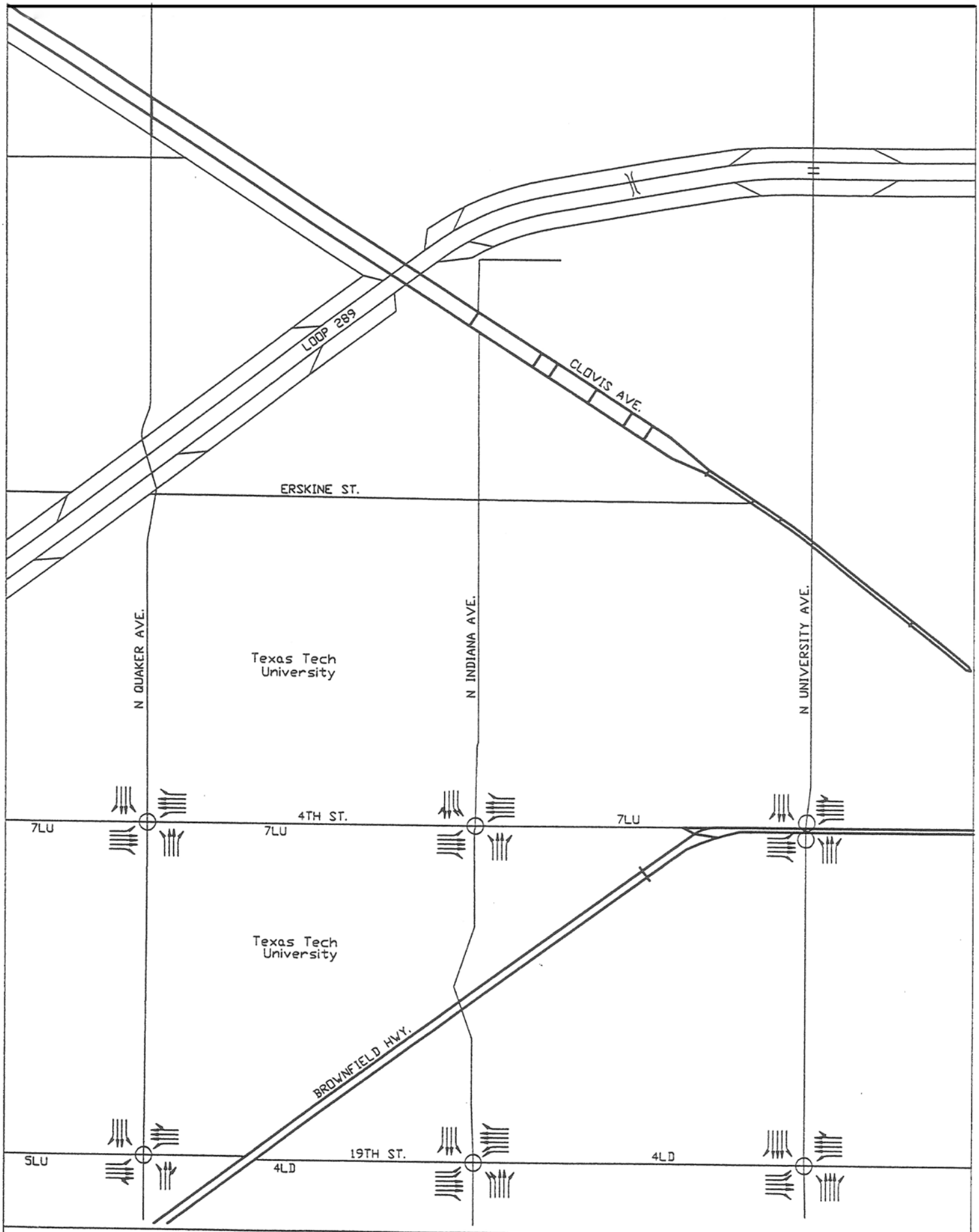
Begin Hour	End Hour	No. of Matches	SB Indiana @ 4th St.	SB Indiana @ 19th St.	% thru @ 4th St.	
07:00 AM	08:00 AM	111	282	425	39.4%	**6-hour average: 44.3%**
08:00 AM	09:00 AM	98	193	651	50.8%	
09:00 AM	10:00 AM	71	151	552	47.0%	
10:00 AM	11:00 AM	68	157	477	43.3%	
11:00 AM	12:00 PM	67	143	721	46.9%	
12:00 PM	01:00 PM	72	186	524	38.7%	

WB 4th Street at Indiana Avenue SB to 19th Street

Begin Hour	End Hour	No. of Matches	WB 4th @ Indiana	SB Indiana @ 19th St.	% left @ Indiana	
07:00 AM	08:00 AM	20	76	425	26.3%	**6-hour average: 29.1%**
08:00 AM	09:00 AM	21	63	651	33.3%	
09:00 AM	10:00 AM	24	82	552	29.3%	
10:00 AM	11:00 AM	25	93	477	26.9%	
11:00 AM	12:00 PM	27	80	721	33.8%	
12:00 PM	01:00 PM	26	104	524	25.0%	

NB Indiana Avenue from 19th Street to 4th Street

Begin Hour	End Hour	No. of Matches	NB Indiana @ 19th St.	NB Indiana @ 4th St.	% thru @ 19th St.	
07:00 AM	08:00 AM	158	976	250	16.2%	**6-hour average: 22.9%**
08:00 AM	09:00 AM	108	628	317	17.2%	
09:00 AM	10:00 AM	95	497	282	19.1%	
10:00 AM	11:00 AM	136	495	299	27.5%	
11:00 AM	12:00 PM	139	448	479	31.0%	
12:00 PM	01:00 PM	191	724	412	26.4%	

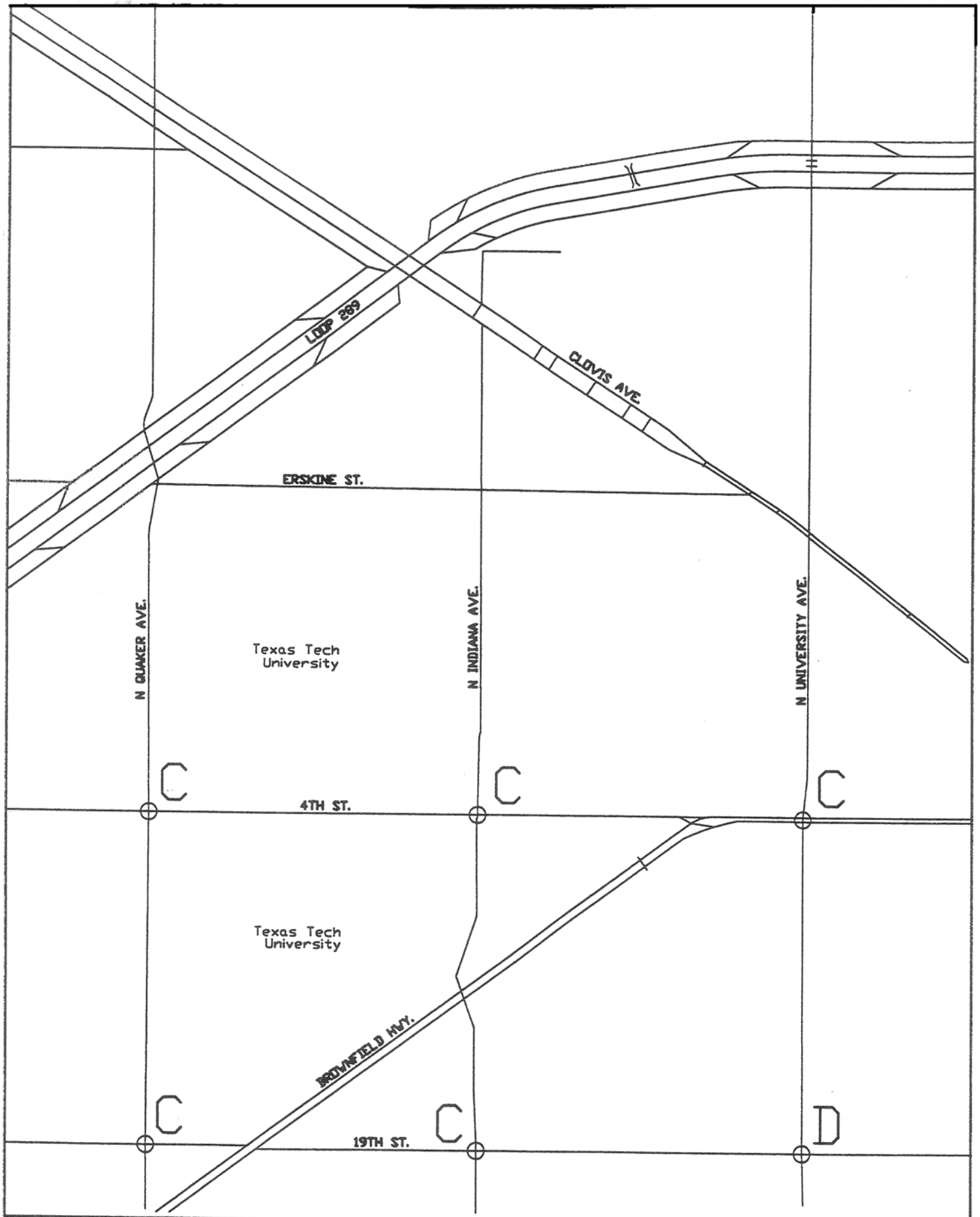


LEVEL-OF-SERVICE

A&B FREE FLOW
C MODERATE DELAYS
D SIGNIFICANT CONGESTION BUT FUNCTIONAL
E NO PROGRESSION; BLOCKAGE PROBABLE
F FORCED FLOW

FIGURE 5

EXISTING INTERSECTION GEOMETRICS
W/ INDIANA AVENUE ON EXISTING ALIGNMENT



LEVEL-OF-SERVICE

A&B	FREE FLOW
C	MODERATE DELAYS
D	SIGNIFICANT CONGESTION BUT FUNCTIONAL
E	NO PROGRESSION; BLOCKAGE PROBABLE
F	FORCED FLOW

FIGURE 6

EXISTING LEVELS OF SERVICE

As a part of the initial development of the proposed Master Plan, the Parsons Transportation Group modified this TRANPLAN model network to include the circulation system proposed for the campus. This involved the following:

1. Adding network links for all principal campus roads identified in the Master Plan;

2. Coding network attributes, such as speed, capacity, length, and direction, for each of these network links; and

3. Establishing approach link loadings to this roadway network from the traffic analysis zones in the model which comprise the campus.

Upon completion of these tasks, a traffic assignment was performed to project 2015 demand for all roadways within the campus, as well as for those outside the campus. The resulting volumes were then compared with the corresponding capacities for each roadway link on campus to determine the number of lanes that would be required to accommodate the projected demand. This approach provided the mechanism to ensure the development of a campus circulation system which would adequately serve the needs of the University and would also facilitate the movement of traffic destined through, rather than to, the campus.

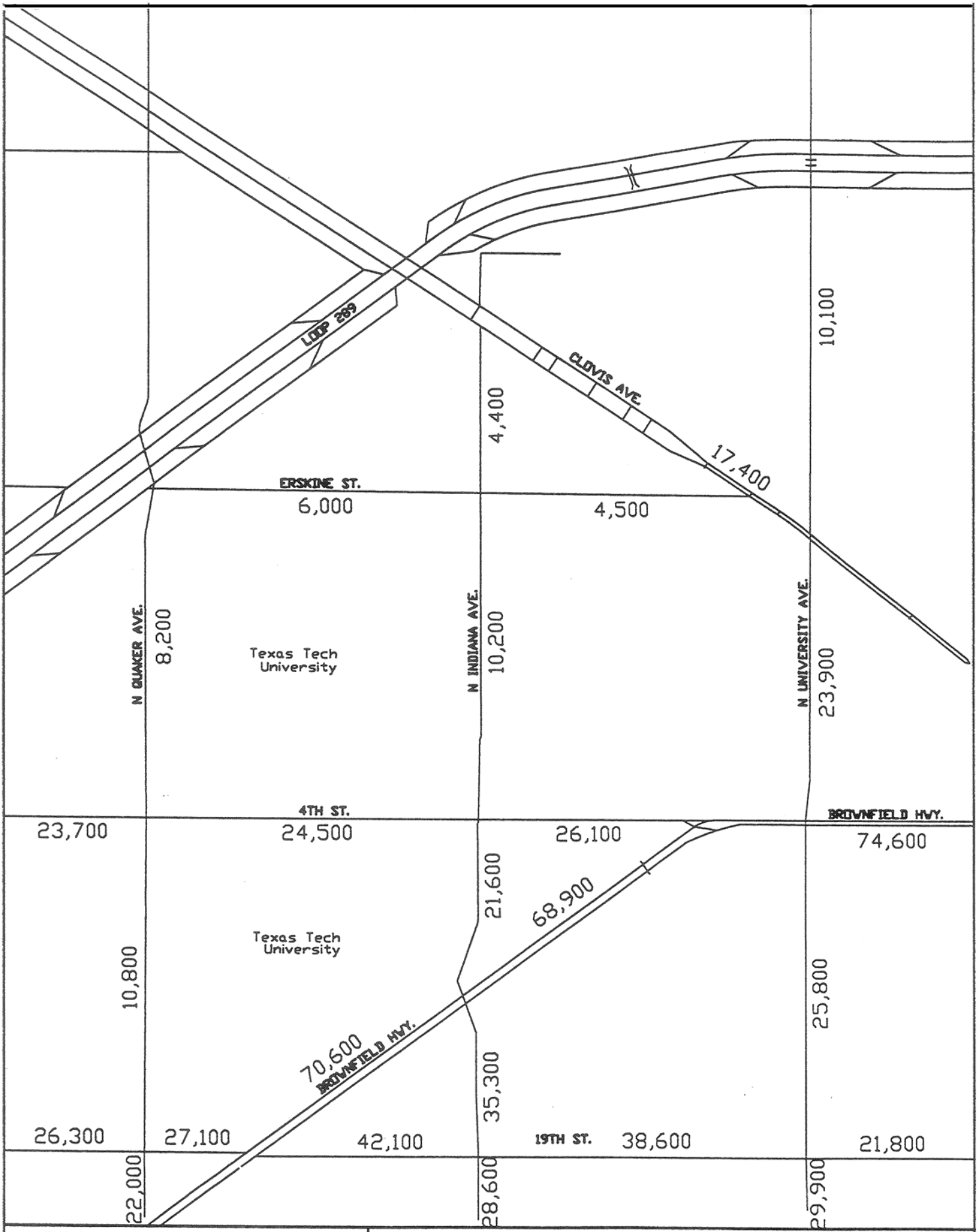
As previously stated, one of the key elements of the proposed Master Plan is the realignment of Indiana Avenue through the campus. In order to assess the impact of this proposed change on surrounding neighborhoods, the following methodology was followed:

1. Remodel the campus with Indiana Avenue on the existing alignment.

2. Identify the principal origins and destinations of the traffic assigned by the model to Indiana Avenue.

3. Compare the 2015 volumes and service levels for all major roads and intersections in the vicinity of campus for these two scenarios, i.e. Indiana Avenue on the existing alignment versus Indiana Avenue on the proposed alignment.

Figures 7 and 8 display the projected 2015 daily traffic volumes for all major arterials in the vicinity of the campus pursuant to the two scenarios. The projected volumes for the proposed campus loop system and the other campus collector roads pursuant to each alignment option for Indiana Avenue are shown on Figures 9 and 10.

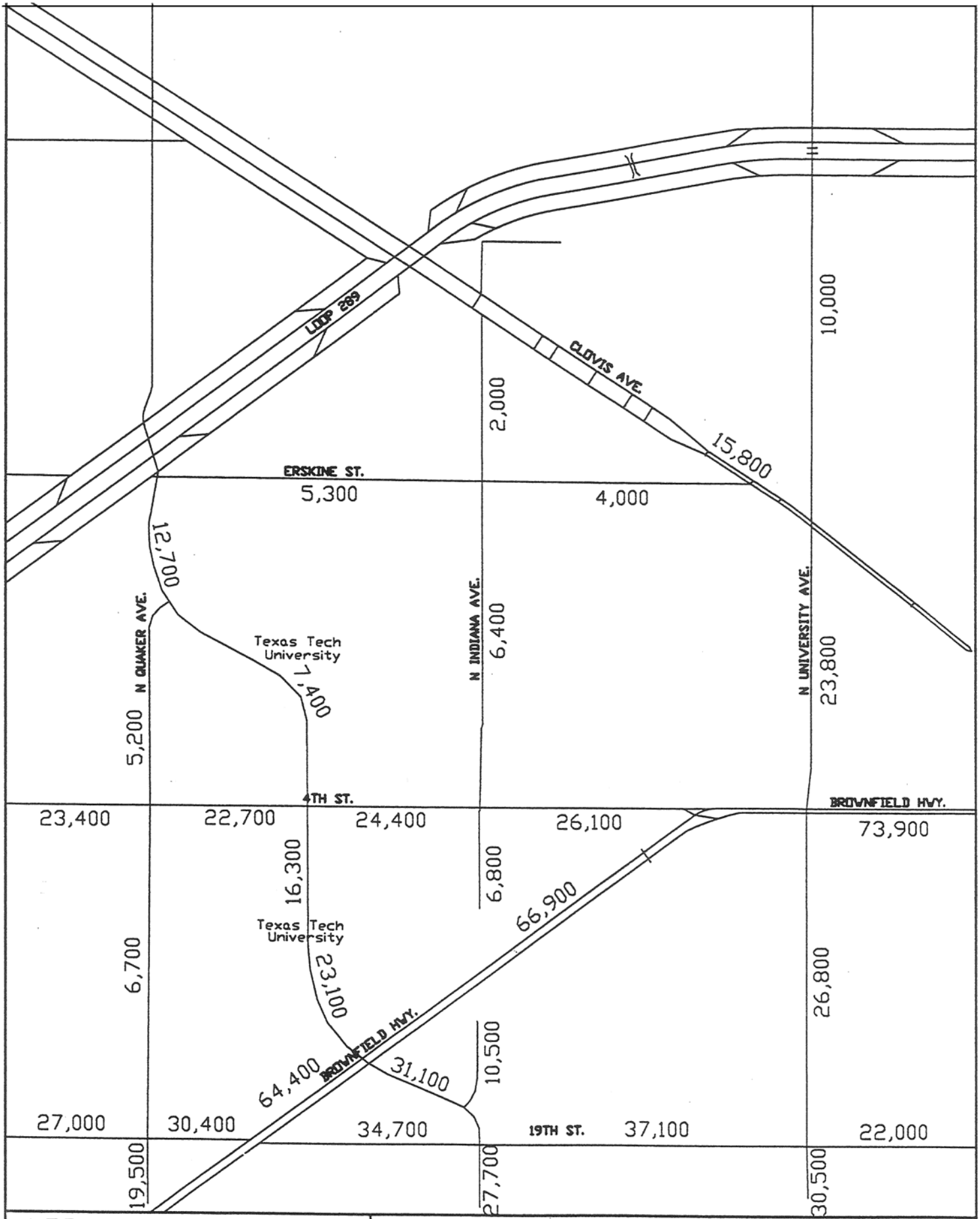


LEGEND:

XX,XXX-24-HOUR VOLUME

FIGURE 7

2015 PROJECTED DAILY TRAFFIC
WITH INDIANA AVE. ON EXISTING ALIGNMENT
AND INTERCHANGE WITH FREEWAY



LEGEND:

XX,XXX-24-HOUR VOLUME

FIGURE 8

2015 PROJECTED DAILY TRAFFIC
WITH INDIANA AVE. REALIGNED

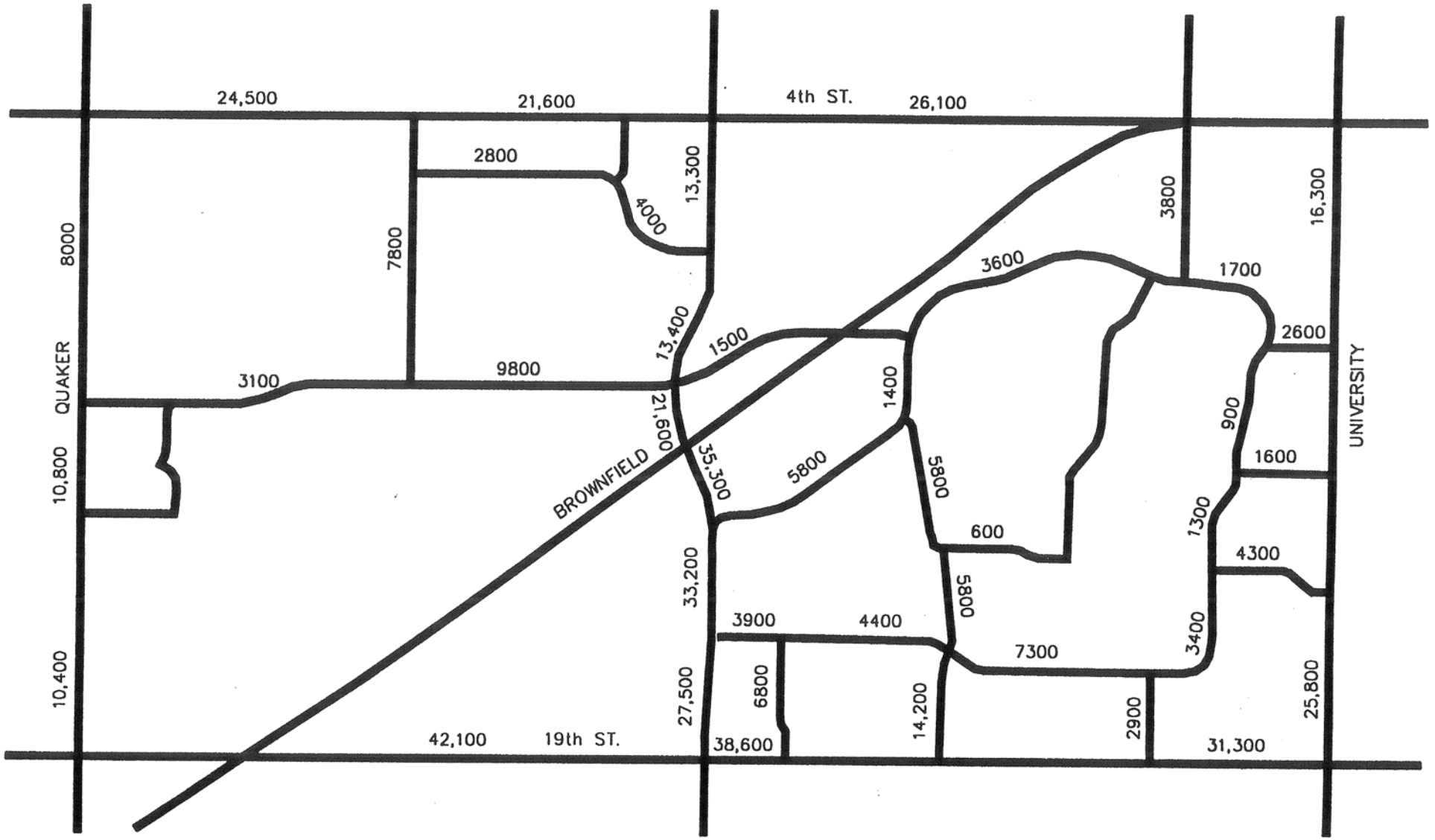


FIGURE 9

2015 PROJECTED DAILY TRAFFIC
WITH INDIANA AVE. ON EXISTING ALIGNMENT

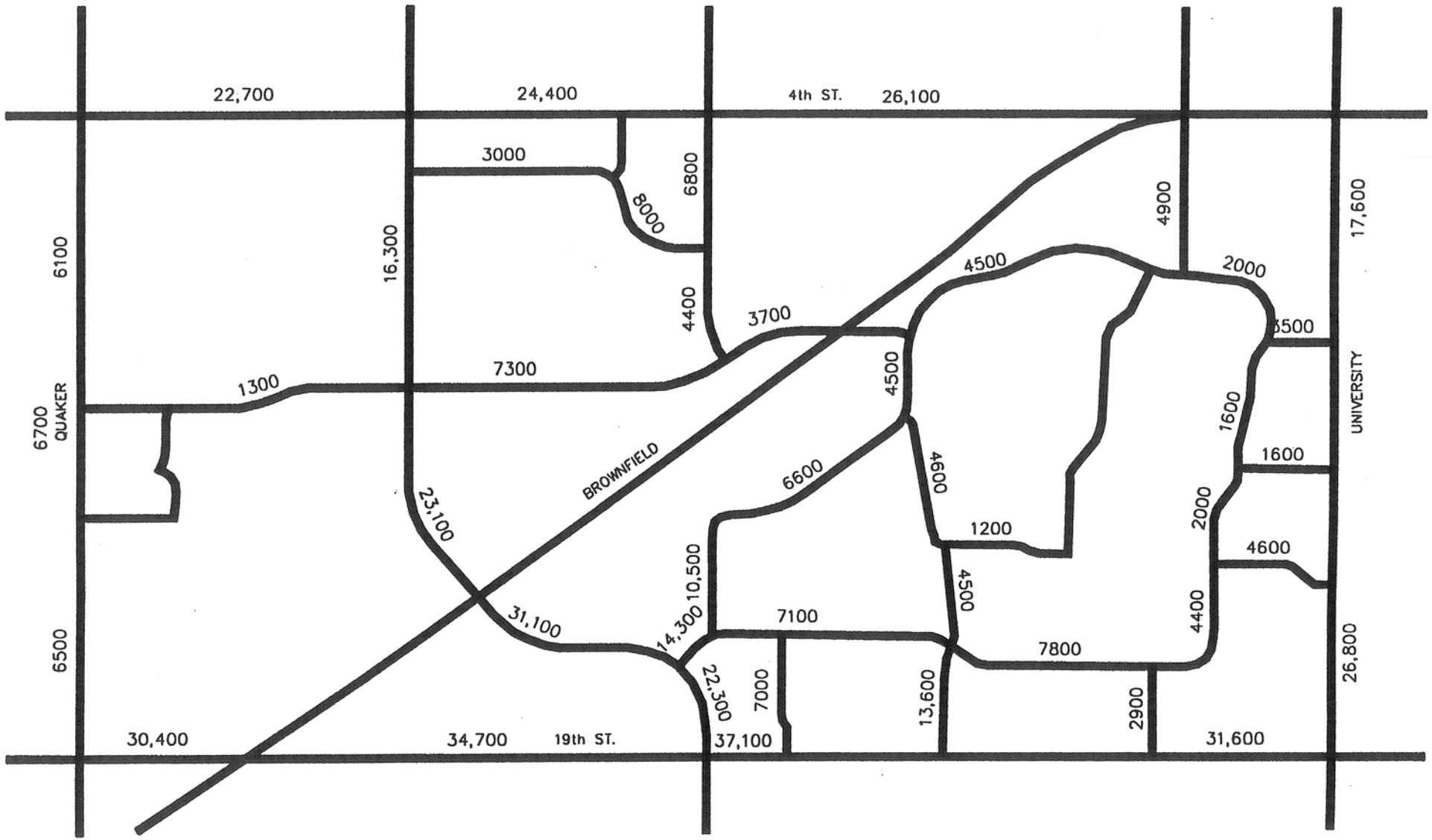


FIGURE 10

2015 PROJECTED DAILY TRAFFIC
WITH INDIANA AVE. REALIGNED

ANALYSIS OF FUTURE CONDITIONS

Using the projected volumes for 2015 and the anticipated intersection geometrics (as displayed in Figures 11 and 12), capacity analyses were performed to determine 2015 service levels for each scenario. The results of these evaluations are displayed on Figures 13 and 14.

By review of these Figures it is revealed that all intersections and roadways surrounding the campus would operate at acceptable service levels in 2015 whether Indiana Avenue remains on the existing alignment or if it is realigned. However, there would be a significant difference in traffic operations at the intersection of Indiana Avenue with the east-west freeway depending on which scenario were to be implemented. For example, if Indiana Avenue were to remain on the existing alignment through campus, and if it were to directly interchange with the freeway, then both the northbound and southbound approaches to the freeway would operate at LOS F. In other words, major delays and congestion would occur under this scenario. To alleviate this situation, Indiana Avenue would need to be widened from four to six lanes from 19th Street to just north of the freeway.

If Indiana Avenue were to be realigned, it would also require six travel lanes from 19th Street to north of the freeway in order to accommodate the traffic demand. However, this new facility would have a number of advantages over the existing alignment, such as:

1. It would function as a bypass to campus and effectively separate through-traffic from that destined for the campus core area.

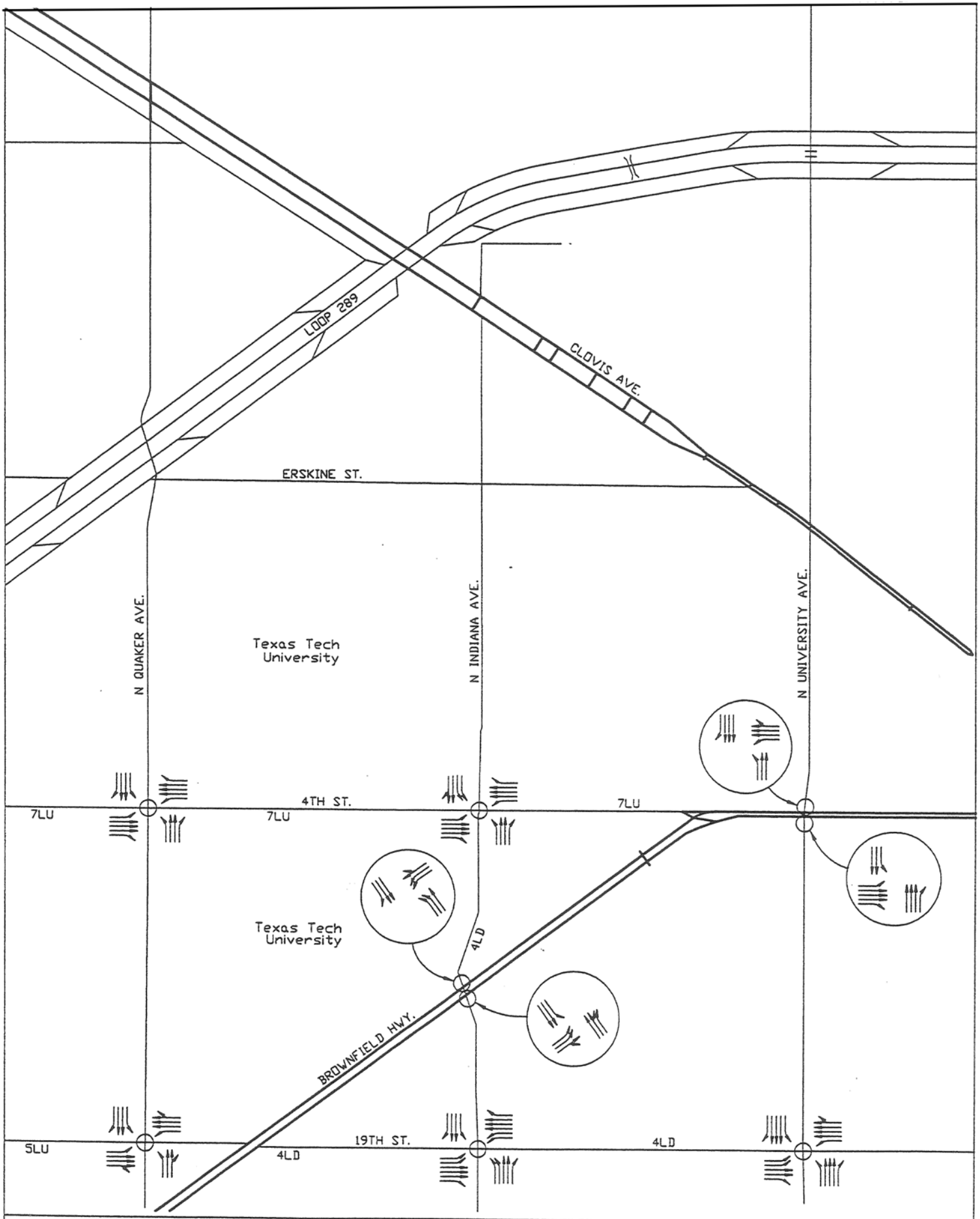
2. It would lessen vehicular/pedestrian conflicts on campus since this revised alignment would run west of the main commuter lots in the area and thereby eliminate the need for pedestrians to cross the roadway to reach the campus core area.

3. It would facilitate traffic flow on the proposed internal loop system, since the loop would become a totally separate facility from all of the major arterials providing access to the campus.

4. It would provide direct access to the University from Loop 289.

The required 2015 roadway lane configurations for each of the alignment options for Indiana Avenue are displayed on Figures 15 and 16.

This analysis has shown that traffic operations on the major arterials surrounding the campus would not be negatively impacted due to the realignment of Indiana Avenue. However, in order to further assess this proposed realignment on the projected 2015 travel patterns of the neighborhoods immediately north and south of the campus, the TRANPLAN model was used to perform a "select link analysis". Through this procedure, the origins and destinations of all vehicles assigned by the model to a particular roadway segment can be identified. As a result, the number of vehicles that would likely be diverted by the realignment of an existing facility can be estimated.

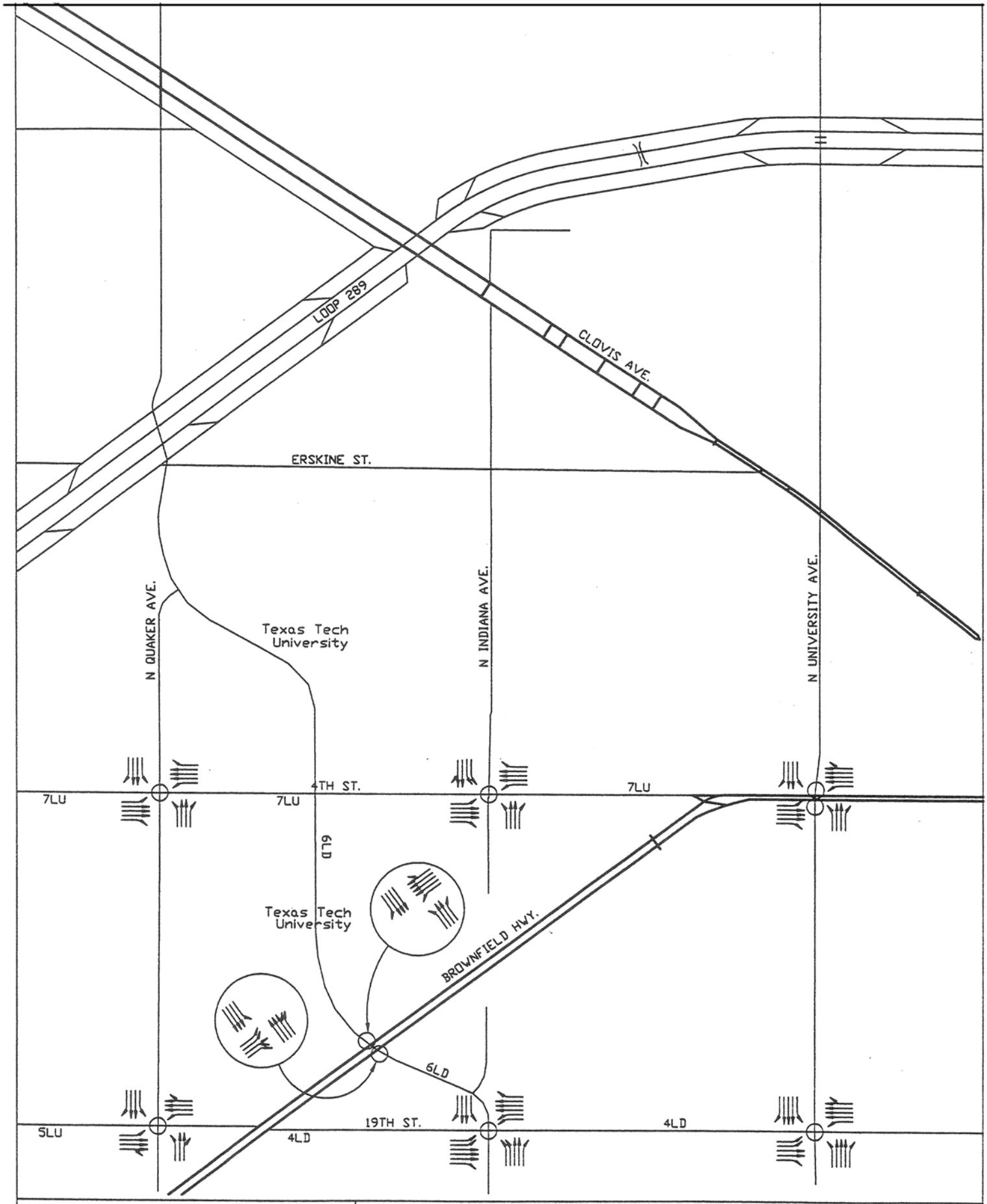


LEVEL-OF-SERVICE

A&B	FREE FLOW
C	MODERATE DELAYS
D	SIGNIFICANT CONGESTION BUT FUNCTIONAL
E	NO PROGRESSION; BLOCKAGE PROBABLE
F	FORCED FLOW

FIGURE 11

2015 INTERSECTION GEOMETRICS
W/ INDIANA AVENUE ON EXISTING ALIGNMENT

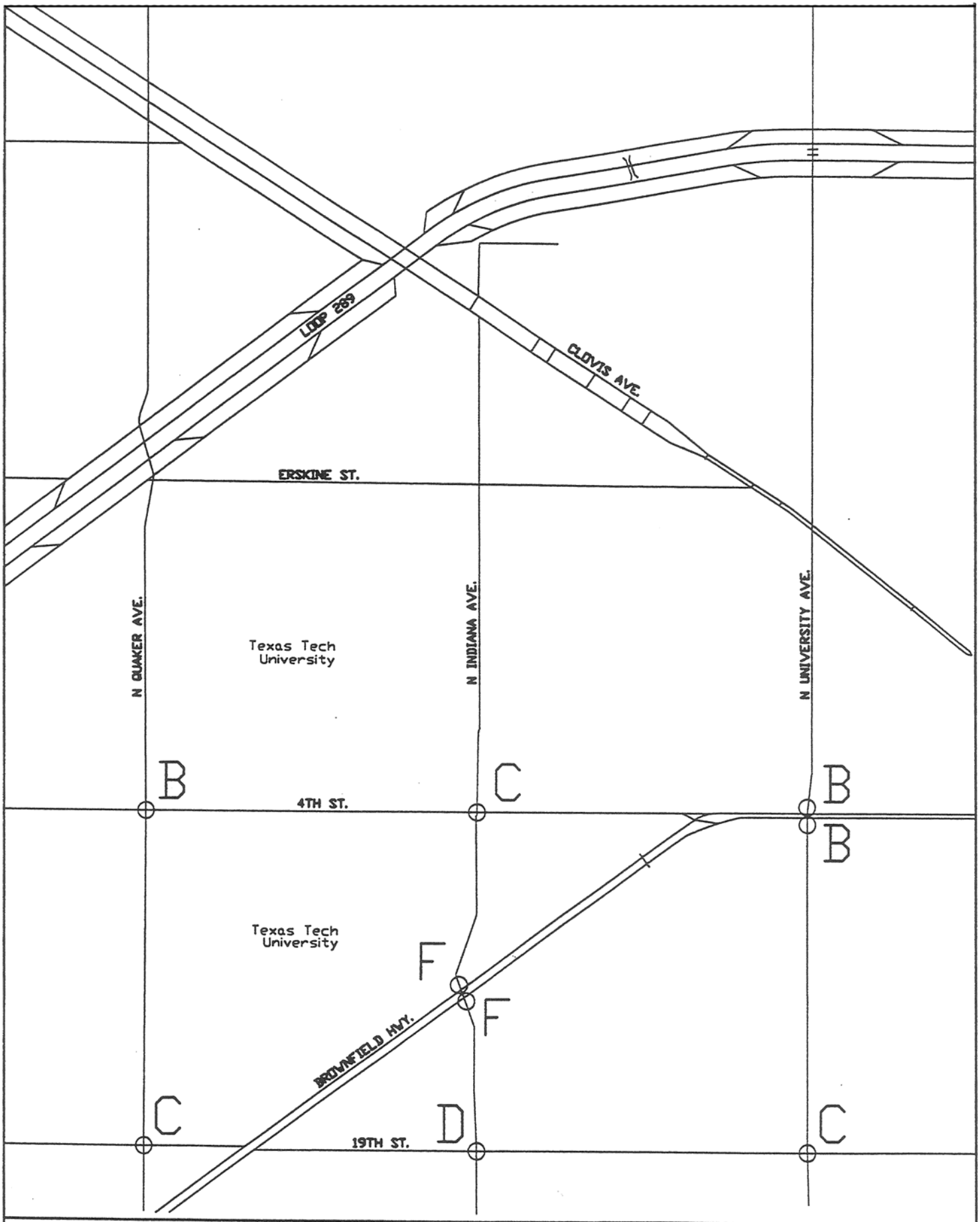


LEVEL-OF-SERVICE

A&B	FREE FLOW
C	MODERATE DELAYS
D	SIGNIFICANT CONGESTION BUT FUNCTIONAL
E	NO PROGRESSION; BLOCKAGE PROBABLE
F	FORCED FLOW

FIGURE 12

INTERSECTION GEOMETRICS W/ INDIANA AVENUE REALIGNMED

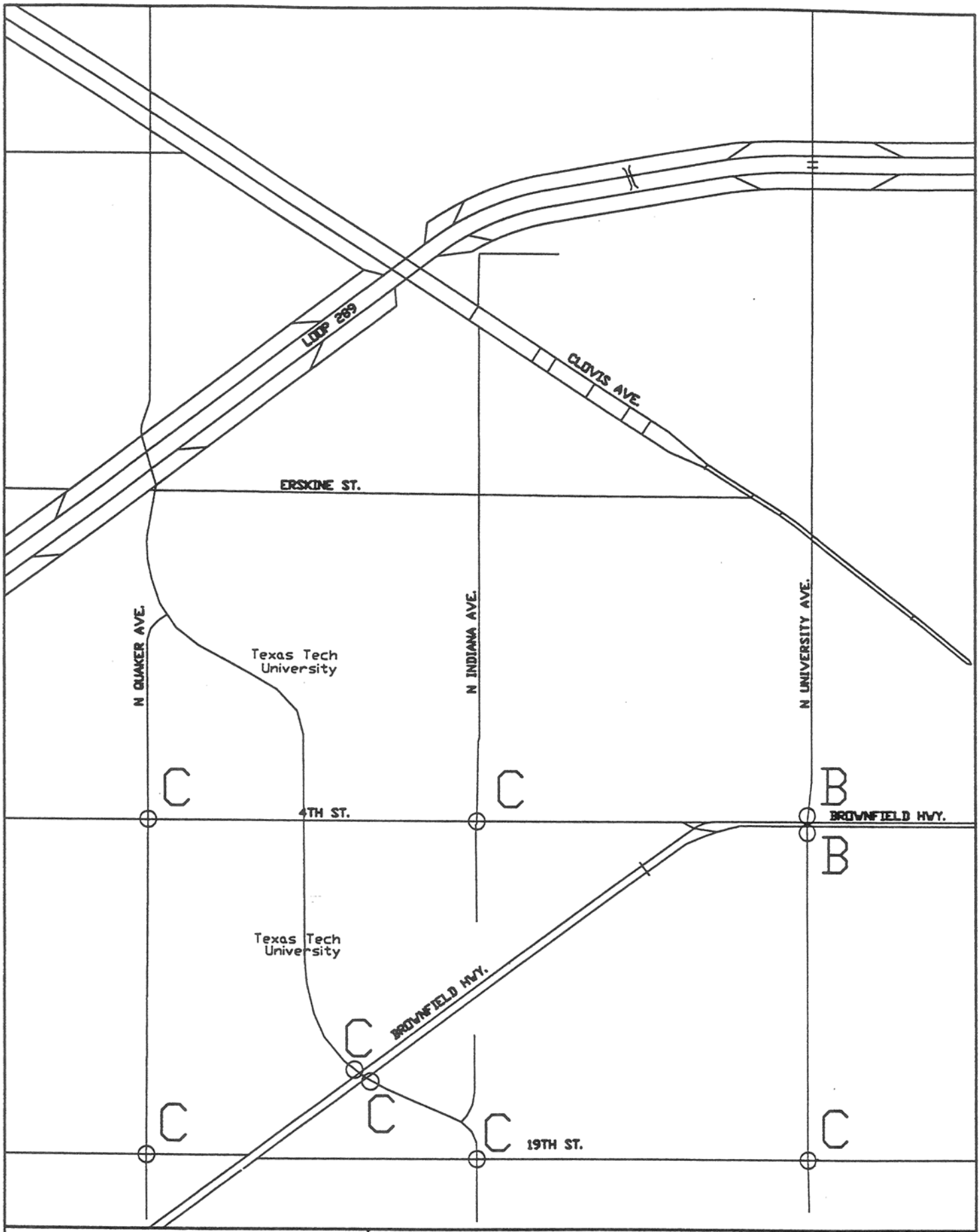


LEVEL-OF-SERVICE

A&B	FREE FLOW
C	MODERATE DELAYS
D	SIGNIFICANT CONGESTION BUT FUNCTIONAL
E	NO PROGRESSION; BLOCKAGE PROBABLE
F	FORCED FLOW

FIGURE 13

2015 LEVELS OF SERVICE W/ INDIANA AVENUE ON EXISTING ALIGNMENT



LEVEL-OF-SERVICE

A&B	FREE FLOW
C	MODERATE DELAYS
D	SIGNIFICANT CONGESTION BUT FUNCTIONAL
E	NO PROGRESSION; BLOCKAGE PROBABLE
F	FORCED FLOW

FIGURE 14

2015 LEVELS OF SERVICE
W/ INDIANA AVENUE REALIGNED

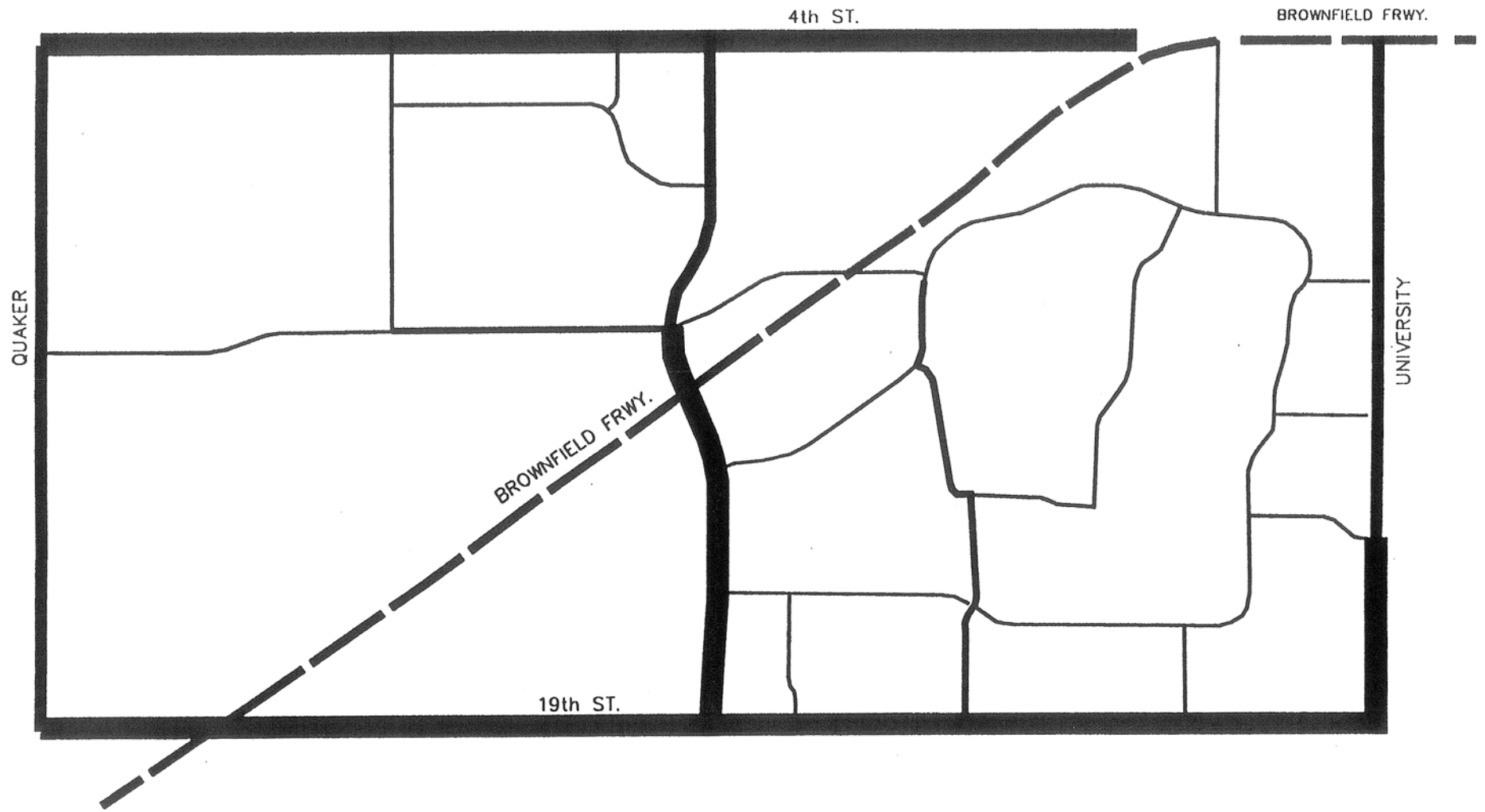


FIGURE 15

2015 LANE CONFIGURATIONS
WITH INDIANA AVE. ON EXISTING ALIGNMENT

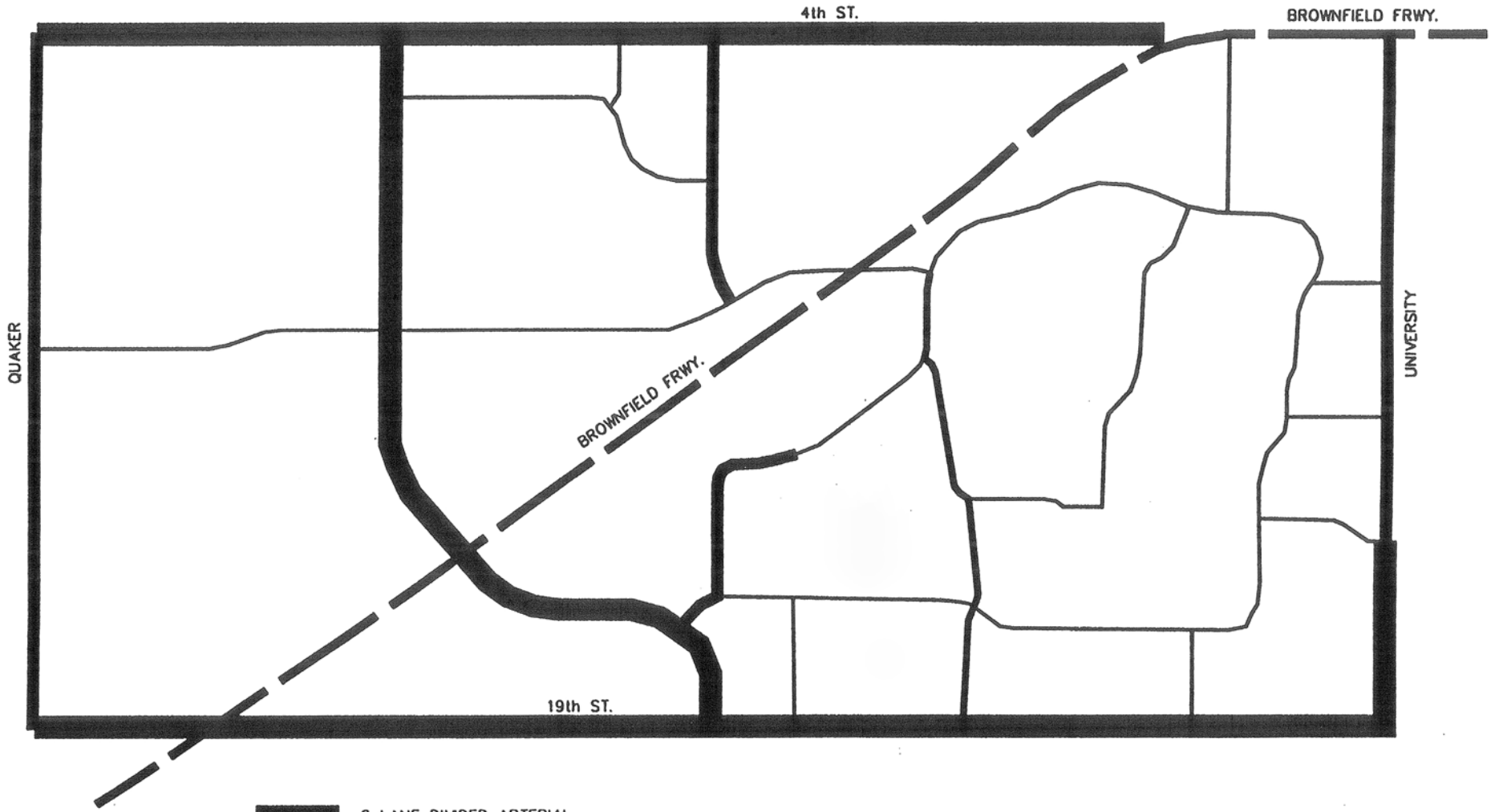


FIGURE 16

2015 LANE CONFIGURATIONS
WITH INDIANA AVE. REALIGNED

The land area comprising the University and the neighborhoods to the north and to the south of campus is represented by over 20 traffic analysis zones in the City's TRANPLAN model. However, to facilitate subsequent analyses, these were aggregated into four main study zones:

1. South of Loop 289 and north of Erskine Street.
2. South of Erskine Street and north of 4th Street.
3. South of 4th Street and north of 19th Street.
4. South of 19th Street and north of 34th Street.

The eastern and western boundaries for each of these four study zones were designated as University Avenue and Quaker Avenue, respectively. Figure 17 graphically displays the study zones for the origin and destination analysis.

According to the 2015 traffic assignment for the alternative with Indiana Avenue on the existing alignment, there will be 6,350 vehicles traveling southbound on Indiana Avenue south of the intersection with 4th Street. Of these vehicles, 13.7 % will originate from study zone #1, and 37.3% will originate from study zone #2. The remaining 49.0% will originate from elsewhere in the City of Lubbock.

Of the 13,450 vehicles projected to enter the campus on Indiana Avenue north of 19th Street, 36.0% will originate from study zone #4, and 64.0% will originate from elsewhere in Lubbock. In other words, the majority of the 2015 traffic on Indiana Avenue through the campus will originate from areas of Lubbock beyond the adjacent neighborhoods.

This same "select link analysis" methodology can be used to determine the destinations of the 2015 traffic volumes projected for Indiana Avenue. Based on this analysis, 45.9% of the vehicles traveling on Indiana Avenue south of the intersection with 4th Street will be destined for the University. In the northbound direction on Indiana Avenue just north of the intersection with 19th Street, 43.0% will be destined for the University. Therefore, this analysis indicates that the majority of the 2015 traffic on Indiana Avenue, if it were to remain on the same alignment, and if it were to interchange with the east-west freeway, will be passing through the campus to destinations off the campus.

In addition to this finding that residents of Lubbock are likely to continue using Indiana Avenue to pass through the campus if given the opportunity, it is important to note that virtually all of this traffic could use an alternative route with no increase in travel time. For example, only 11.3% of the southbound traffic on Indiana Avenue, just south of the intersection with 4th Street, is destined for study zone #4, and only 11.8% of the northbound traffic on Indiana Avenue, just north of the intersection with 19th Street, is destined for study zone #2. These are the only trips which could potentially experience greater travel times due to the realignment of Indiana Avenue.

However, the percentage of trips impacted by the realignment of Indiana Avenue would likely be far less than this estimate of 11-12% for the following two reasons:

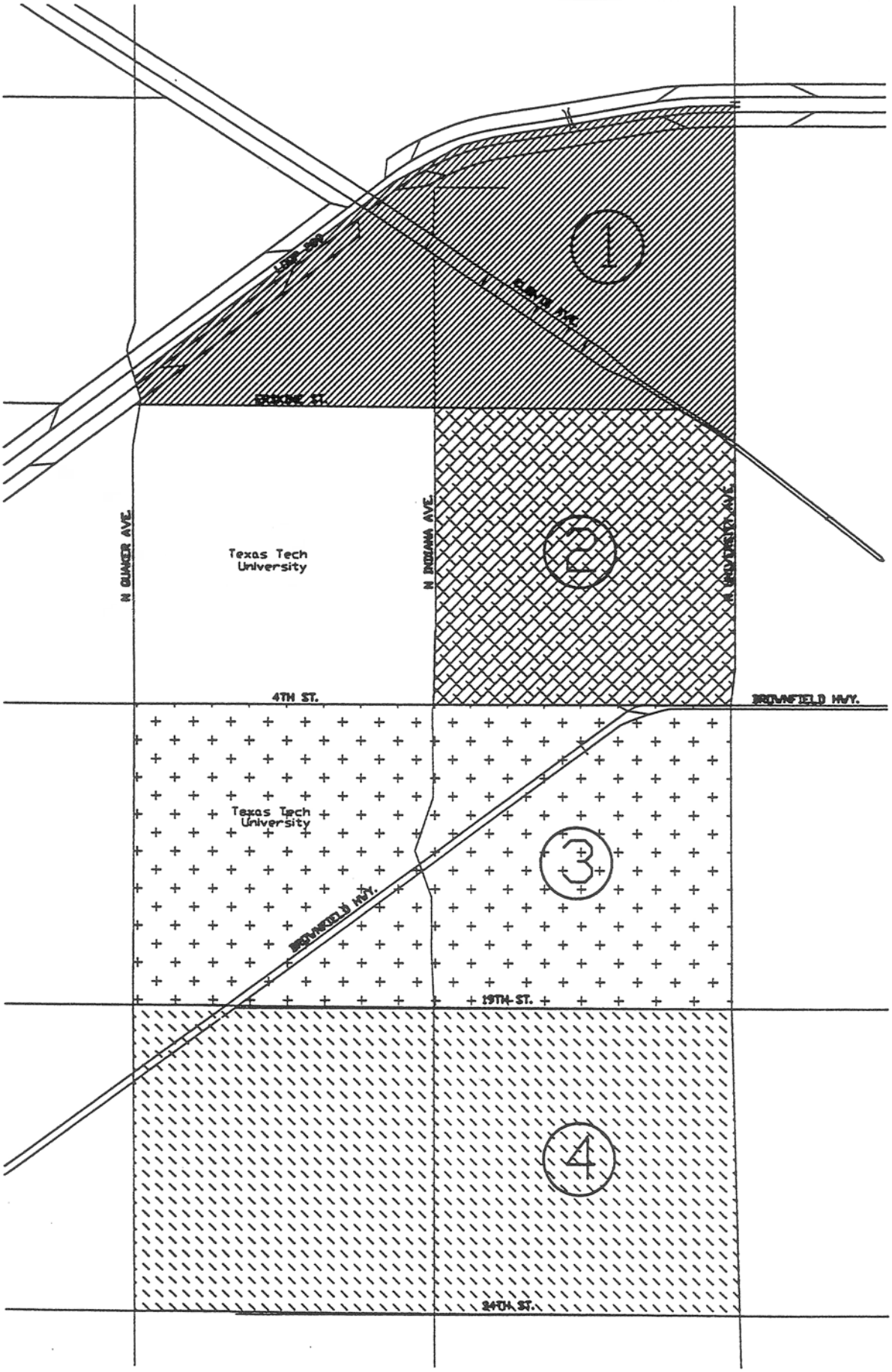


FIGURE 17

ORIGIN AND DESTINATION STUDY ZONES

1. All traffic from these two study zones to destinations along University Avenue or Quaker Avenue could just as easily access these two roads via 4th Street or 19th Street rather than first pass through the campus.

2. Indiana Avenue is currently posted with a speed limit of 20 mph. In addition, the timing of the traffic signals has deliberately been set at less than the optimal timing to minimize pedestrian/vehicle conflicts and to discourage through traffic. If Indiana Avenue were to be realigned to the west, the speed limit could be raised to 40-45 mph and the signal timing could be optimized since pedestrian/vehicle conflicts would be less of an issue at this new location.

Figures 18 and 19 display the results of this 2015 origin and destination analysis.

CONCLUSIONS AND RECOMMENDATIONS

Listed below are the main conclusions of this study:

1. Slightly over one-half of the existing traffic entering the campus from the north on Indiana Avenue is destined for the University.

2. Less than 29% of this traffic originates from the Arnett-Benson neighborhood.

3. Slightly less than 1/2 of the projected 2015 traffic entering the campus from the north on Indiana Avenue will be destined for the University, if it remains on the existing alignment and interchanges with the planned east-west freeway.

4. In order to operate at the City of Lubbock service level standard of LOS C, the section of Indiana Avenue from 19th Street to just north of the planned east-west freeway will need to be a six lane divided arterial, whether the roadway remains on the existing alignment or if it is realigned to the west.

5. All main intersections surrounding the campus will operate at LOS C or better, whether the roadway remains on the existing alignment or if it is realigned to the west.

6. 88% or more of the 2015 traffic projected for Indiana Avenue through the campus would not experience an increase in travel time if the roadway were to be realigned to the west.

Given the above results, it is recommended that the traffic circulation system proposed as part of the Texas Tech University Master Plan be implemented as designed. However, the existing alignment of Indiana Avenue from 4th Street to 19th Street should remain as is until the realigned Indiana Avenue is in place.

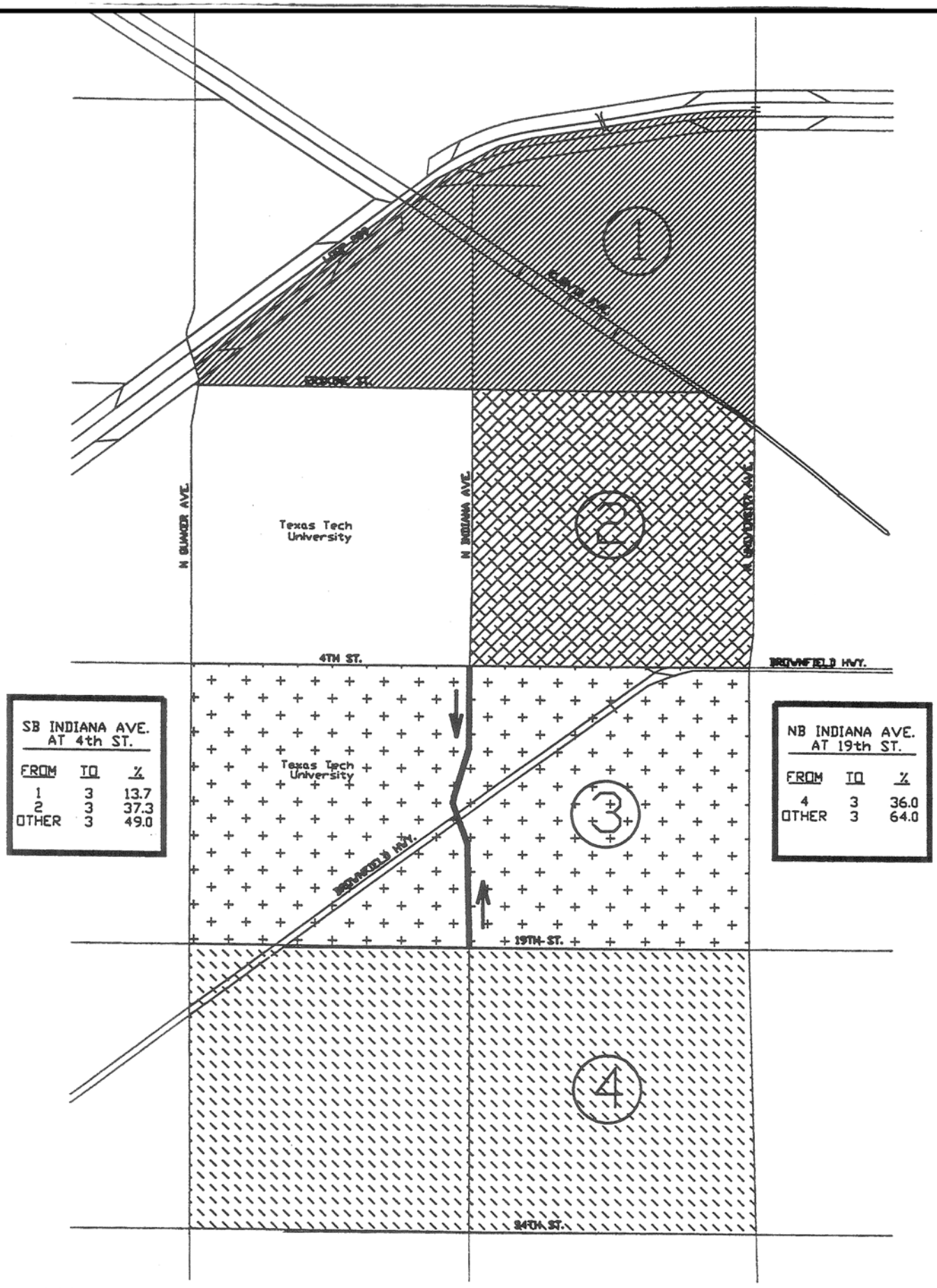


FIGURE 18

ORIGINS OF PROJECTED 2015 TRAFFIC

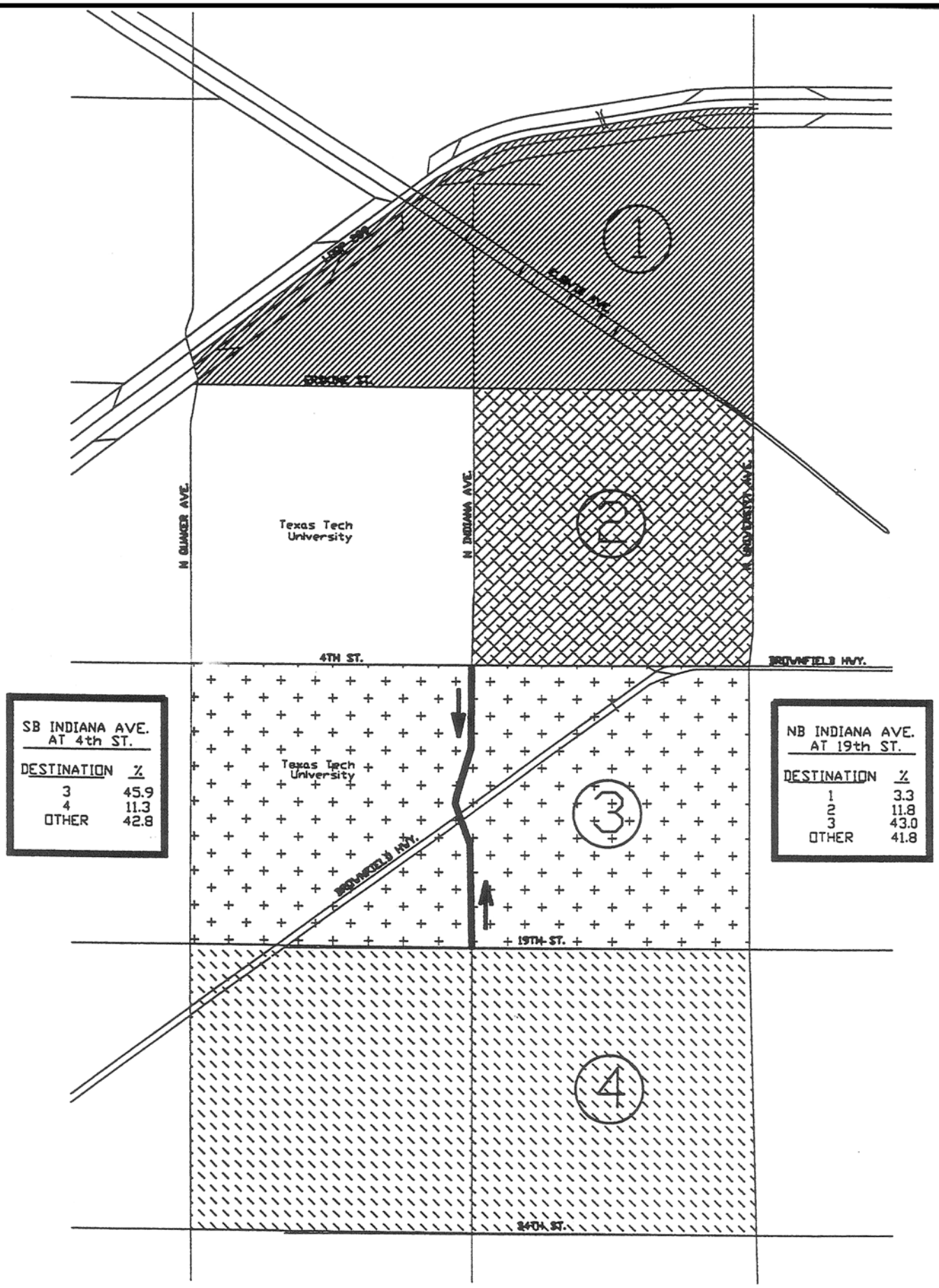


FIGURE 19

DESTINATIONS OF PROJECTED 2015 TRAFFIC

V.

PRELIMINARY MARKET FINDINGS

8 OCTOBER 1997

PRESENTATION

TEXAS TECH PROPERTY
PRELIMINARY MARKET FINDINGS

PRESENTED TO:

FACILITY PLANNING & CONSTRUCTION DEPT.
TEXAS TECH UNIVERSITY
LUBBOCK, TEXAS

LELAND CONSULTING GROUP

REAL ESTATE ECONOMISTS, DEVELOPMENT ADVISORS & PROJECT MANAGERS
DENVER • PORTLAND

DRAFT AS OF 30 SEPTEMBER 1997; SUBJECT TO REVISION

PRESENTATION OUTLINE

8 October 1997

Market Context

Trade Area Definitions and Determinants

Market Area Indicators

Market Demand Analysis By Segment

- Golf Course Residential:
  - Luxury Single Family
  - Standard Single Family
  - High-Density Single Family
  - Multi-Family
- Office/R&D
- Retail

Project Absorption Estimates

University Business Park Characteristics

Data Tables

MARKET CONTEXT

- Northwest Lubbock Markets:
  - Golf Course Residential
  - Multi-Family Residential
  - Office/R&D
  - Retail
- Market Factors:
  - Demand Segments:
    - Trade area residents (city, metropolitan area and outlying areas)
    - Texas Tech and Northwest Lubbock students/employees
    - Tourists/visitors
  - Supply:
    - Limited new residential development and speculative non-residential construction in Northwest Lubbock submarket
    - Significant golf course residential development limited to Lakeridge and Shadow Hills projects
    - Overall market stability in office and retail sectors, with declining vacancy rates (~13% to 14%) and steady absorption, but limited rent inflation
    - Northwest Lubbock's most significant competition -- for both residential and commercial development -- is the Southwest Lubbock submarket

TRADE AREA DEFINITION AND DETERMINANTS

Primary Trade Area Definition

- The Primary Trade Area for the Texas Tech property, which includes the neighborhoods within and surrounding Texas Tech University, is generally bounded by:

  - East: Frankford Road
  - West: Avenue Q
  - South: 34th Street
  - North: Clovis Highway/Ursuline Road

Primary Trade Area Determinants

- Current and future development patterns in the immediate Texas Tech area and surrounding neighborhoods
- Physical and psychological barriers such as the University, Clovis Highway, Loop 289, and neighborhood boundaries
- Employment and residential concentrations
- Influence of competitive projects

Secondary Trade Area Definition

The Secondary Trade Area for the Texas Tech property includes the remainder of the Lubbock Metropolitan Area and the Lubbock Retail Trade Area (for non-residential uses)

Secondary Trade Area Determinants

- Lubbock's current and future position as a regional employment/service center

MARKET AREA INDICATORS

Demand Factors

Factor	*Texas Tech Trade Area*	*Lubbock MSA**	*Lubbock Retail Trade Area***
1990 Population	51,772	222,636	539,894
1996 Population	52,966	234,273	556,700
2000 Population	53,645	240,900	565,100
2010 Population	54,190	258,300	583,800
1990-1996 Average Annual Change	0.38%	0.85%	0.51%
1996-2000 Average Annual Change	0.32%	0.70%	0.38%
2001-2010 Average Annual Change	0.10%	0.70%	0.33%
1990 Households	18,521	81,534	191,480
1996 Households	19,133	86,247	197,900
2000 Households	19,400	89,000	201,600
2010 Households	19,600	96,400	210,500
1990-1996 Average Annual Change	0.54%	0.94%	0.55%
1996-2000 Average Annual Change	0.35%	0.80%	0.46%
2001-2010 Average Annual Change	0.11%	0.80%	0.43%
1990 Household Size	2.80	2.73	2.73
1996 Household Size	2.77	2.72	2.81
2000 Household Size	2.75	2.70	2.80
2010 Household Size	2.72	2.68	2.77

* *Metropolitan Statistical Area; includes Lubbock County*

** *Includes the following Texas counties: Lubbock, Parmer, Bailey, Lamb, Hale, Floyd, Motley, Cottle, Cochran, Hockley, Crosby, Dickens, King, Yoakum, Terry, Lynn, Garza, Kent, Stonewall, Gaines, Dawson, Borden, Scurry, and Curry, Roosevelt and Lea Counties in New Mexico*

MARKET AREA INDICATORS

Demand Factors

Factor	*Texas Tech Trade Area*	*Lubbock MSA**	*Lubbock Retail Trade Area***
1990 Employment	17,400	98,500	180,000
1996 Employment	18,200	109,600	195,000
2000 Employment	19,300	112,700	200,000
2010 Employment	23,500	121,300	213,000
1990-1996 Average Annual Change	0.75%	1.78%	1.34%
1996-2000 Average Annual Change	1.50%	0.70%	0.63%
2001-2010 Average Annual Change	2.00%	0.74%	0.63%
1989 Median Household Income	--	$24,353	$22,306
1997 Median Household Income	--	$29,946	$28,734
2000 Median Household Income	--	$32,100	$31,200
2010 Median Household Income	--	$40,700	$41,000
1989-1997 Average Annual Change	--	2.62%	3.22%
1997-2000 Average Annual Change	--	2.39%	2.78%
2001-2010 Average Annual Change	--	2.39%	2.77%

* *Metropolitan Statistical Area; includes Lubbock County*

** *Includes the following Texas counties: Lubbock, Parmer, Bailey, Lamb, Hale, Floyd, Motley, Cottle, Cochran, Hockley, Crosby, Dickens, King, Yoakum, Terry, Lynn, Garza, Kent, Stonewall, Gaines, Dawson, Borden, Scurry, and Curry, Roosevelt and Lea Counties in New Mexico*

Source: U.S. Census Bureau; City of Lubbock Planning Dept.; Texas Workforce Commission; Claritas, Inc.; and Leland Consulting Group.

MARKET AREA INDICATORS

Supply Factors

Single Family Residential

- Majority of new residential construction occurring in Southwest Lubbock (south of Loop 289)
- New development in Northwest Lubbock concentrated in larger projects (Whisperwood, Shadow Hills)
- Since 1990, Northwest Lubbock has captured approximately 13% of Lubbock residential market (~100 units per year)
- Northwest Lubbock "standard" single family market concentrated in $100,000 to $125,000 price range; luxury market starts at $150,000+

Multi-Family Residential

- Overall Lubbock market area: ~14,000 units; 10.2 percent vacancy rate
- Newer, higher-quality projects: ~9,400 units; 5.2 percent vacancy rate
- Northwest Lubbock submarket: ~4,100 units; 10.3 percent vacancy rate (~30% of total market)
- Limited new construction (Ashton Pointe) in Northwest Lubbock
- Overall Lubbock market area rents range between $0.53 and $0.72 per square foot; newer projects in Northwest Lubbock are in $0.85 and $0.90 per square foot range

Office/R&D

- Overall Lubbock market area contains 2.1 million square feet; 13.6 percent vacancy rate
- Office market rents generally range between $8.00 and $12.00 per square foot (full service)
- No new recent multi-tenant office space construction in the past few years
- Highest vacancy rates are found in the Central Business District (18%); lowest vacancy rates are in the Southwest submarket (9%); Texas Tech Trade Area is located in the Loop 289 submarket (15%)
- Medical office space concentrated in Northwest around St. Mary, Methodist, and University Medical Centers
- Very limited office/R&D space in Lubbock market -- hybrid of office and industrial space

Retail

- Overall Lubbock market area contains 3.3 million square feet; 13.9 percent vacancy rate
- Retail market rents generally range between $6.00 and $12.00 per square foot (net)
- Highest vacancy rates are found in the area north of 50th Street (25%); lowest vacancy rates are in the Southwest submarket (7%); Texas Tech Trade Area is located in the north of 50th Street submarket (25%)

MARKET DEMAND ANALYSIS BY SEGMENT

Residential Demand: Standard Single Family

Resident Profile

Age:	25 to 54 Years
Annual Household Income:	$35,000 to $75,000
Average Household Size:	2 to 4 People Per HH
Employment Status:	Professional, Semi-Professional

Lubbock MSA Demand Analysis

1997 Total Age and Income-Qualified* Households:	19,674
* *Age:* *25 to 54 Years*	
Household Income : *$35,000 to $75,000*	
2010 Total Age and Income-Qualified Households:	23,624
Total New Age and Income-Qualified Households:	3,950
Estimated Percent of New Standard Single Family Housing Units:	60%
Total Demand for New Standard Single Family Housing Units (1997 to 2010):	2,370
Annual Demand for New Standard Single Family Housing Units (1997 to 2010):	182
Estimated Texas Tech Property Capture Rate:	10% to 15%
Achievable Annual Project Absorption (1997 to 2010):	20 to 25 Units

MARKET DEMAND ANALYSIS BY SEGMENT

Residential Demand: Luxury Single Family

Resident Profile

Age:	35 to 54 Years
Annual Household Income:	$50,000 or greater
Average Household Size:	3 to 4 People Per HH
Employment Status:	Professional, Semi-Professional

Lubbock MSA Demand Analysis

1997 Total Age and Income-Qualified* Households:	12,655
2010 Total Age and Income-Qualified Households:	23,360
Total New Age and Income-Qualified Households:	10,705
Estimated Percent of New Luxury Single Family Housing Units:	60%
Total Demand for New Luxury Single Family Housing Units (1997 to 2010):	6,423
Annual Demand for New Luxury Single Family Housing Units (1997 to 2010):	494
Estimated Texas Tech Property Capture Rate:	5% to 10%
Achievable Annual Project Absorption (1997 to 2010):	25 to 50 Units

* *Age:* *35 to 54 Years*
Household Income : *$50,000 or greater*

MARKET DEMAND ANALYSIS BY SEGMENT

Residential Demand: High-Density Single Family

Resident Profile

Age:	25 to 34 Years and 55 to 74 Years
Annual Household Income:	$35,000 to $75,000
Average Household Size:	1 to 2 People Per HH
Employment Status:	Young Professional, Semi-Professional, Retired

Lubbock MSA Demand Analysis

1997 Total Age and Income-Qualified* Households:	11,880
2010 Total Age and Income-Qualified Households:	14,260
Total New Age and Income-Qualified Households:	2,380
Estimated Percent of New High-Density Single Family Housing Units:	60%
Total Demand for New High-Density Single Family Housing Units (1997 to 2010):	1,428
Annual Demand for New High-Density Single Family Housing Units (1997 to 2010):	110
Estimated Texas Tech Property Capture Rate:	15% to 20%
Achievable Annual Project Absorption (1997 to 2010):	15 to 20 Units

* *Age:* *25 to 34 Years and 55 to 74 Years*
Household Income : *$35,000 to $75,000*

MARKET DEMAND ANALYSIS BY SEGMENT

Residential Demand: Luxury Multi-Family Rental

Resident Profile

Age:	20 to 34 Years
Annual Household Income:	$25,000 to $50,000
Average Household Size:	1 to 2 People Per HH
Employment Status:	Young Professional, Semi-Professional

Lubbock MSA Demand Analysis

1997 Total Age and Income-Qualified* Households:	8,430
2010 Total Age and Income-Qualified Households:	11,020
Total New Age and Income-Qualified Households:	2,590
Estimated Percent of New Luxury Multi-Family Rental Housing Units:	80%
Total Demand for New Luxury Multi-Family Rental Housing Units (1997 to 2010):	2,072
Annual Demand for New Luxury Multi-Family Rental Housing Units (1997 to 2010):	160
Estimated Texas Tech Property Capture Rate:	30% to 40%
Achievable Annual Project Absorption (1997 to 2010):	50 to 60 Units

* *Age:* *20 to 34 Years*
Household Income : *$25,000 to $50,000*

DRAFT AS OF 30 SEPTEMBER 1997; SUBJECT TO REVISION

MARKET DEMAND ANALYSIS BY SEGMENT

Office/R&D Demand

Lubbock MSA Demand

1997 Trade Area Office/R&D Sector* Employees:	56,100
2010 Trade Area Office/R&D Sector Employees:	64,000
1997 To 2010 Office/R&D Employment Growth (Demand For New Space):	7,900
Estimated Square Feet Per Office/R&D Employee:	300
Demand For New Office/R&D Space (1997 To 2010):	2,370,000 SF
Average Annual Demand For New Office/R&D Space (1997 To 2010):	182,300 SF
Estimated Texas Tech Property Capture Rate:	30% to 40%
Achievable Annual Project Absorption (1997 to 2010):	55,000 to 73,000 SF

* *Primarily includes employees in Manufacturing, Service, Government/Institutional and FIRE (Finance, Insurance and Real Estate) industry sectors*

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MARKET DEMAND ANALYSIS BY SEGMENT

Retail Demand

Demand from Lubbock Retail Trade Area Residents*

Household Expenditure Method:

Total Households (1997):	198,800
Total Households (2010):	210,500
Total New Households 1997 To 2010:	11,700
Estimated Average Annual Household Retail Expenditures In 2010:	$25,700
Estimated Retail Expenditures From New Residents:	$300,690,000
Estimated Retail Expenditures From Outside Trade Area (25%):	$75,172,500
Estimated Total New Trade Area Retail Expenditures:	$375,862,500
Supportable New Square Feet At Sales Of $225 Per Square Foot (1997 to 2010):	1,670,500 SF
Supportable Average Annual New Square Feet (1997 to 2010):	128,500 SF
Estimated Texas Tech Property Capture Rate:	20% to 25%
Achievable Annual Project Absorption (1997 to 2010):	25,000 to 30,000 SF

PROJECT ABSORPTION ESTIMATES

Summary of Demand by Market Segment

Project Component	Total Acres Planned	Average Annual Demand (1997 to 2010)	Estimated Capture Capture Rate	Achievable Annual Project Absorption (Units/SF)	Achievable Annual Project Absorption (Acres)	Estimated Years To Absorb
Standard Single Family	--	182 Units	10 to 15%	20 to 25	5 to 6	--
Luxury Single Family	--	494 Units	5 to 10%	25 to 50	8 to 16	--
High-Density Single	--	110 Units	15 to 20%	15 to 20	2 to 3	--
Luxury Multi-Family	--	160 Units	30 to 40%	50 to 60	3 to 4	--
Residential Golf Total	200	--	--	75 to 100	15 to 25	10 to 15
Office/R&D	159	182,300 SF	30 to 40%	55,000 to 73,000	6 to 8	20 to 25
Retail	28	128,500 SF	20 to 25%	25,000 to 30,000	2 to 3	10 to 15

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UNIVERSITY BUSINESS PARK CHARACTERISTICS

MISSION OF UNITED STATES UNIVERSITIES

Historically

- Education
- Research
- Public Service

Today

- Support for New Business
- Participate in Regional Economic Development
- Encourage the Commercialization of Their Research

UNIVERSITY TECHNOLOGY BUSINESS INCUBATORS - SALIENT FACTS

Objectives

- ~ Participation in Economic Development
- ~ Technology Transfer
- ~ Commercialization of University Research
- ~ Laboratory for Entrepreneurial Skills

Organizational Design

- ~ Special Studies Program of University
- ~ Stand-Alone Non-Profit

University Services

- ~ Faculty Consultants
- ~ Student Employees
- ~ University Image
- ~ Library Sciences
- ~ Labs and Workshops
- ~ Mainframe Computers
- ~ Related R&D Activity
- ~ Technology Transfer Programs
- ~ Employee Education and Training
- ~ Sports and Social Activity

Funding Sources

- ~ Sponsoring University (Monetary or in-kind)
- ~ State Grants
- ~ Local Private Sector Contributors
- ~ Corporate Sponsorship
- ~ Venture Capital Funds

UNIVERSITY TECHNOLOGY BUSINESS INCUBATORS - SALIENT FACTS (CONTINUED)

Target Technologies

- Software / Information Technology
- Bio-technology / Medical
- Electronics
- Instrumentation
- Telecommunications
- Specialty Chemicals
- Materials
- Robotics / Automation
- Food / Nutrition
- Energy / Environmental
- Aerospace
- Photonics / Optics

Survival and Growth of Tenant Firms

Sales Growth

- 45% to 400% Per Year
- 166% Average *

Employment Growth

- 11% to 79% Per Year
- 49% Average

Source: Technovation, Elsevier Science and Leland Consulting Group.

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CHANGING LANDSCAPE OF U.S. R&D SYSTEM

Underlying Factors

- Industry stressing importance of participation with universities
- Universities seeking increased ties with industry
- Increased interaction between industry and federal research establishments
- Growing number of alliances between companies for shared R&D
- Politics biggest drain on potentially successful applications

Forecasts for U.S. R&D System

- 1997 R&D expenditures - $192 billion, 4.2% increase
- 1996 R&D expenditures - $184 billion
- 1990 R&D expenditures - $151.57 billion
- 1989 R&D expenditures - $154.31 billion

- Federal spending will increase modestly - $62.2 billion in 1997, up 0.5% from 1996
- Industry will increase its commitment to $120.5 billion in 1997, up 6.0% from 1996, $77.8 billion in 1990, and $78.8 billion in 1989
- Universities and non-profits will provide the balance of $9.2 billion
- Industry will continue outsourcing R&D through collaboration with universities

Sources: Jules J. Duga, Batelle-R&D Magazine and National Science Foundation

BUSINESS PARK PRODUCTS, TYPES AND AMENITIES

Park Facility Types

- Industrial Parks
- Office Parks
- Mixed-Use Parks
- Science Parks
- Fly-In Parks

Product Types

- Build-To-Suit
- Speculative Office
- Flex Office / Class A Industrial
- Office / Industrial Condominiums
- Speculative Industrial Buildings
- Warehouse Units
- Manufacturing
- University Campus
- Business Incubators *

Amenities

- Advanced Telecommunications Infrastructure **
- Upgraded Water and Wastewater Capacity
- Meeting and Conference Rooms
- Sandwich Shops/Full-Service Restaurants
- Jogging Trails
- Day Care Facilities

* *Definition: Buildings set aside, at minimum rents, for fledgling companies that are trying to commercialize the new technologies.*

** *In a 1995 survey conducted by Site Selection Magazine, 25 percent of respondents representing business parks expanded or improved their telecommunications infrastructure in 1994. However, fewer than five percent of business parks offer the telecommuting and integrated workplace alternatives required by companies today.*

CURRENT TRENDS IN PARK DEVELOPMENT

Growth and Development by Park Type

- 39% of mixed-use parks
- 35% of science parks
- 25% of office parks

Sources: Site Selection, December 1995 and Leland Consulting Group.

Land Prices Among Park Developments

Cost by Park Type

~ Science / Research Parks	$173,200 per acre
~ Office Parks	$110,900 per acre
~ Mixed-Use Parks	$76,900 per acre
~ Industrial Parks	$46,200 per acre
~ Fly-In Parks	$15,000 per acre

Cost by Location

High

~ California	$365,000 per acre
~ Maryland	$130,167 per acre
~ New Jersey	$109,500 per acre

CURRENT TRENDS IN PARK DEVELOPMENT (CONTINUED)

Land Prices Among Park Developments

Cost by Location

Low

~ Oklahoma	$5,500 per acre
~ Arkansas	$13,000 per acre
~ Alabama	$12,214 per acre
~ Mississippi	$10,786 per acre

- ~ Typical business park lease - 5 years
- ~ Free rent concession - 3 months
- ~ Rental rates $4.25 - $4.50 per square foot

Sources: Site Selection, December 1995 and Leland Consulting Group.

Concentrations of Park Development

- ~ Florida 862
- ~ California 603
- ~ Ohio 489
- ~ Illinois 457
- ~ **Texas 429**

Sources: Conway Data Survey and Leland Consulting Group.

CONDITIONS WHICH WILL CONTRIBUTE TO SUCCESS

- Good Location
- Freeway Access
- Attractive, Yet Efficient Environment
- Functional Space
- Large Blocks of Space (Office and Industrial)
- Strong Design and Operating Controls
- Streamlined Approval Process
- Subordinated Lease Agreements (if possible)
- Strong University Involvement
- Research Strength of University
- Size of University's Research Budget and its Rate of Growth
- Effective Marketing
- Long-Term Commitment
- Support from Industry, Politics and Education

UNIVERSITY-RELATED RESEARCH PARKS

Conditions of Supply

- 309 worldwide
- 25 in planning stages
- 155,563,168 square feet
- 88 million in North America
- 11,222 companies within parks
- 435,759 employees

Historical Growth

- 1950 to 1959 - 4
- 1960 to 1969 - 6 more
- 1970 to 1979 - 10 more
- Since 1983 - 109 more

Sources: Association of University Related Research Parks (AURP).

Appeal

- Parks Value-Added Benefits
- Proximity to University, Medical Center and Research Facilities
- Interaction with Faculty and Graduate Students
- Access to Ground-Breaking Research
- Applications for Technology Transfer
- The "Total Environment"

> *"As Americans become more and more upset about our position in the world and the fact that our industries are not being competitive, they're going to realize that there are tremendous technological resources in our universities and in the research parks that contain the outlets for new technology."*

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FUNDING SOURCES FOR UNIVERSITY-RELATED RESEARCH PARKS

- Sponsoring University
- State Grants
- Local Private Sector Contributors
- Corporate Sponsorship
- Venture Capital Funds
- Sallie Mae, the Student Loan Marketing Association
- Union Pension Funds

MARKETING STRATEGIES FOR RESEARCH PARKS

- Identify those potential tenants whose research complements that of the host university
- Identify tenants who have supported the university's research
- Identify executives who are alumni of the university
- Identify a key strength that will differentiate the park from commercial real estate developments
- Retain a public relations firm to increase the park's exposure through trade and general news media
- Establish a technology enterprise zone

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DATA TABLES

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TABLE 1
HISTORICAL AND PROJECTED POPULATION
SELECT GEOGRAPHIC AREAS

Area	1990	1996	2000	2010	2020	'90 to '96 CAAGR	'96 to '20 CAAGR
Texas Tech Trade Area	51,772	52,966	53,645	54,190	54,800	0.38%	0.14%
City of Lubbock	186,206	195,367	197,412	210,256	220,256	0.80%	0.50%
Lubbock MSA	222,636	234,273	240,900	258,300	277,000	0.85%	0.70%
Lubbock Retail Trade Area	539,894	556,700	565,100	583,800	603,600	0.51%	0.34%

Note: The Texas Tech Trade Area is bound by Avenue Q to the east, Clovis Highway and Ursuline to the North, Frankford and Slide Road to the west, and 4th and 19th to the south.

The Retail Trade Area includes the following: Lubbock, Parmer, Bailey, Lamb, Hale, Floyd, Motley, Cottle, Cochran, Hockley, Crosby, Dickens, King, Yoakum, Terry, Lynn, Garza, Kent, Stonewall, Gaines, Dawson, Borden, and Scurry Counties in Texas and Curry, Roosevelt, and Lea Counties in New Mexico.

CAAGR is Compound Average Annual Growth Rate.

Source: City of Lubbock Community Development Department, CACI, Claritas Inc., and Leland Consulting Group.

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TABLE 2
HISTORICAL AND PROJECTED EMPLOYMENT
LUBBOCK MSA
(000's of Employees)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	2000	2010	'87 to '96 CAAGR	'96 to '10 CAAGR
Mining & Manu.	7.5	7.5	7.6	7.4	7.4	7.3	7.5	7.9	7.9	7.5	7.7	8.2	0.00%	0.61%
Construction	3.4	3.2	3.1	3.3	3.2	3.3	3.6	3.8	4.1	4.0	4.1	4.3	1.82%	0.53%
TPU	4.9	4.8	5.1	5.7	5.5	5.6	5.4	5.6	5.6	5.8	5.9	6.2	1.89%	0.52%
Trade	27.1	27.8	27.6	28.7	27.9	27.7	28.4	29.4	31.2	31.5	32.0	33.3	1.69%	0.39%
FIRE	5.5	5.4	5.3	5.3	4.7	4.7	4.5	4.7	4.8	5.2	5.3	5.6	-0.62%	0.47%
Services	21.9	23.3	24.0	25.3	25.6	27.2	28.7	28.9	30.5	31.3	33.3	38.9	4.05%	1.57%
Government	21.4	21.4	21.9	22.8	23.1	23.7	24.0	23.2	23.5	24.3	24.4	24.8	1.42%	0.14%
Total	91.7	93.4	94.6	98.5	97.4	99.5	102.1	103.5	107.6	109.6	112.7	121.3	2.00%	0.74%

Note: TPU is Telecommunications and Public Utilities. FIRE is Finance, Insurance, and Real Estate.

CAAGR is Compound Average Annual Growth Rate.

Source: City of Lubbock Community Development Department, Texas Workforce Commission, and Leland Consulting Group.

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TABLE 3
GROSS RETAIL SALES BY INDUSTRY ($MILLIONS)
LUBBOCK MSA

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	CAAGR 87 TO 96
Building Materials	97.1	115.7	124.5	117.5	125.0	143.1	168.0	185.7	188.2	202.4	7.63%
General Merchandise	247.2	264.5	286.9	308.1	326.0	341.3	356.9	363.3	385.4	412.5	5.25%
Food Stores	320.8	309.2	328.6	361.9	361.8	368.6	376.8	384.7	382.1	377.5	1.64%
Automotive	490.9	523.8	558.6	556.8	516.8	572.6	653.6	746.6	702.0	860.6	5.77%
Clothing	89.9	95.4	101.1	106.1	108.7	119.5	130.8	128.1	127.7	124.1	3.28%
Home Furnishings	55.0	93.1	93.3	95.1	104.9	112.2	136.4	171.0	182.3	174.0	12.21%
Restaurants	160.2	175.1	181.9	191.0	205.5	219.2	236.6	253.8	267.1	282.4	5.84%
Drug Stores	27.9	28.2	29.7	32.1	39.5	39.9	45.2	47.4	49.8	51.4	6.31%
Liquor Stores	19.9	36.4	36.7	37.2	42.1	44.2	45.0	47.7	49.3	52.2	10.15%
Misc. Retail	287.5	171.0	176.1	172.6	183.1	200.8	236.3	265.8	300.8	291.6	0.14%
Total Retail	1796.4	1812.3	1917.4	1978.7	2013.3	2160.3	2385.6	2595.0	2634.6	2828.8	4.65%

Note; CAAGR is Compound Average Annual Growth Rate.

Source: Texas State Comptroller of Public Accounts and Leland Consulting Group.

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TABLE 4
RETAIL SALES CAPTURE ANALYSIS ($000S)
LUBBOCK MSA

	Annual Aggregate Expenditures	1996 Est. Taxable Retail Sales	Estimated Leakage or Surplus
Building Materials	$ 21,729	$ 202,425	$ 180,696
General Merchandise	$ 260,289	$ 412,471	$ 152,182
Food Stores	$ 315,315	$ 377,462	$ 62,147
Automotive	$ 435,406	$ 860,620	$ 425,214
Clothing	$ 172,968	$ 124,142	$ (48,826)
Home Furnishings	$ 63,339	$ 174,025	$ 110,686
Restaurants	$ 213,124	$ 282,438	$ 69,314
Misc. Retail	$ 92,765	$ 395,189	$ 302,424
Total Retail	$ 1,574,935	$ 2,828,771	$ 1,253,836
Retail Sales Capture Rate			179.61%

Note: Taxable retail sales in excess of aggregate expenditures indicates the area is drawing customers from outside its boundaries. Taxable retail sales lower than aggregate annual expenditures indicates that residents are purchasing goods outside of the area.

Sources: Texas State Comptroller of Public Accounts, Claritas, Inc., and Leland Consulting Group.

Texas Tech University and Texas Tech University Health Sciences Center

Master Plan Consultants

Hellmuth, Obata + Kassabaum
Dallas and San Francisco
Project Leader and Campus Planners

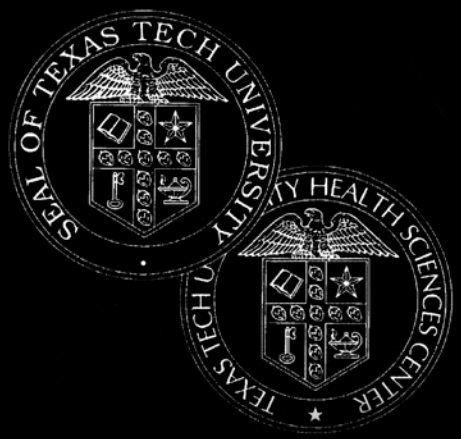
Hellmuth, Obata + Kassabaum (HOK Sport)
Kansas City
Sports Facilities Planning

AAA Architects
Building and ADA Evaluation

Parkhill, Smith & Cooper
Drainage and Utilities

Barton-Aschman Associates
Transportation, Transit and Parking

Leland Consulting
Market Analysis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