The Campus Master Plan is organized as three separately bound volumes: a *Summary*, the full *Campus Master Plan*, and the *Academic Space Plan*. The intent of the three volumes is:

**SUMMARY**
This volume is an executive summary of the whole plan. It describes the goals, objectives, background, and strategies. It is intended to give a general understanding and overview of the Campus Master Plan and its major components.

**THE CAMPUS MASTER PLAN**
This volume contains the complete detailed Campus Master Plan. There are four main sections: the *Long Range Plan*, with *Policies*; the *Landscape Plan*, with *Principles and Guidelines*; the *Architecture Plan*, with *Principles and Guidelines*; and the *Process* for implementation and monitoring. There is also an *Appendix* containing technical data and summaries of the Academic Space Plan.

**ACADEMIC SPACE PLAN**
This volume contains full versions of the two academic space reports: *A Benchmarking Study of Peer and Comparative Analysis*, and the *Academic Space Needs Analysis*, prepared by Paulien & Associates, Inc.
SUMMARY

CAMPUS MASTER PLAN  2004

TEXAS A&M UNIVERSITY

July, 2004

Campus Master Plan Steering Committee

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Dr. Bryce Jordan
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LETTER FROM THE PRESIDENT

Dear Members of the Texas A&M Family,

A university’s excellence is and always will be measured, first and foremost, by the quality of its programs, students and faculty. Its built environment—from buildings and other structures to the space that surrounds and contains them—must be their equal. The quality of Texas A&M University’s facilities must reflect the quality of the people and programs they house.

Additionally, research indicates that the physical appearance of a campus can be a “make-or-break” factor for prospective students when selecting a college or university. Our culture of excellence requires an infrastructure of excellence.

Since its founding, Texas A&M has distinguished itself by producing great leaders, scholars and citizens for our world while extending the boundaries of knowledge and understanding through excellence in teaching, research and innovation. We now aspire to a higher level of excellence, with Vision 2020 our guide for achieving recognition among the nation’s top 10 public universities by the end of the next decade.

For roughly the first half of Texas A&M’s history, its campus and buildings were a visual representation of both the academic heritage it had inherited and the excellence to which it aspired and subsequently achieved. But the rapid population growth of recent decades necessitated equally rapid expansion of facilities, usually without benefit of any logical, strategic or comprehensive plan for campus development.

Texas A&M has come a long way in 127 years, but the long-term sustainability of its distinctive culture and traditions, its spirit and its reputation for excellence depends, at least in part, upon a well-planned, high quality campus.

Developed by and for the Texas A&M community, this Campus Master Plan will guide the development of our campus for at least the next half century. It aims to give meaning to spaces and structures, to encourage and facilitate connectivity among people, places and programs; and to restore the aesthetic link between the heritage we inherit and the excellence to which we continually aspire.

Sincerely,
Robert M. Gates
President
LETTER FROM THE VICE PRESIDENT

Greetings to the Campus Community:

As Texas A&M University was approaching its Sesquicentennial celebration in 2001, it became apparent that we were in need of a Campus Master Plan. Substantial growth in student body size over the past thirty to forty years required concurrent growth in facilities beyond anything previously envisioned. In 1962, there were 7,000 students attending Texas A&M, and our campus proper (omitting farms, etc.) consisted of 4,580,000 sf of building space. In recent years, the student population has held steady at approximately 45,000 students; today’s campus includes 15,123,000 sf of buildings.

The future holds more growth. Vision 2020 calls for increasing the graduate student population, and President Gates has made a commitment to greatly increase the number of faculty over the next five years. In addition, the number of Texas high school graduates entering higher education will continue to increase. These factors dictate that the number of campus buildings must grow. Some new facilities will house incoming faculty; others are needed to house non-academic functions that will be displaced from the heart of campus to accommodate the new faculty.

Many of our campus buildings are maintenance-intensive, and our deferred maintenance is high. Some buildings that require considerable renovation have historical significance and the investment should be made. Others should eventually be demolished. Decisions need to be made regarding the distinction between the two.

During the past few decades, the siting of new buildings has resulted in unnecessary campus sprawl, thus increasing travel distance to classes and other activities—moving away from the pedestrian-friendly campus we desire. In addition, because architectural and landscape standards were limited, the exterior appearance of most new buildings is inconsistent and unattractive when compared with the older buildings on campus.

Our intent now is to build a university campus we will be proud of long into the future, a campus that reflects our vision, mission, and strategic plans. The urgency of the moment often causes us to want to deviate from our standards because it is expedient. We must strongly resist the tendency to site and design facilities to satisfy an immediate short-term requirement at the expense of the long-term quality of the campus. A campus is space and buildings, but it is the people who make a university great. The campus must support their efforts through its quality facilities and its pleasant and functional surroundings.

Thus, in May 2001, I appointed a Steering Committee to develop a new master plan. The purpose of the committee was to create a Statement of Work for a planning consultant firm, select the firm, and oversee the development of the plan. Hundreds of campus constituents have been involved in the design of this new plan, which we anticipate will serve us well for fifty years.

The document that follows includes a civic structure plan that defines outdoor spaces as well as building opportunities; a fifty-year demolition plan; architectural principles and guidelines; landscape principles and guidelines; and a process to ensure that future decisions regarding campus growth conform to this Campus Master Plan. Following this plan will ensure that the campus of Texas A&M will be attractive, supportive, user-friendly, and will enhance the quality of life for generations to come.

Sincerely,
Charles A. Sippial, Sr.
Vice President for Administration
RELATIONSHIP OF CAMPUS PLANNING TO STRATEGIC PLANNING

Campus planning and strategic planning express the aspirations of the University in concrete terms. They provide a vision for the institution, although one relates specifically to the quality of the built environment, and the other relates to the quality of the institution as a whole. Both seek to:

- establish goals for the University;
- enhance the institution’s stature; and
- establish a basis and demonstrate a need for a capital campaign to support the campus plan and the strategic plan.

These thoughts could be applied to either campus planning or strategic planning. The important distinction is that the intent of the Campus Master Plan is to support the strategic plan. While the goals listed above could apply to campus planning, they do so only in the sense that they are also goals of strategic planning. Practically speaking, the campus plan should be a representation of the strategic plan in its physical environment.

Texas A&M University has set forth its intent to be considered one of the top ten public universities in America through its strategic plan, Vision 2020. To attain its goals, the University will utilize not only the institutional strategic plan, and those of the individual colleges, but also an effective campus plan. Vision 2020 states twelve imperatives to aid Texas A&M in its quest to gain consideration as a top ten public university.

The Twelve Imperatives:

1. Elevate our faculty and their teaching, research, and scholarship.
2. Strengthen our graduate programs.
3. Enhance the undergraduate academic experience.
4. Build the letters, arts, and sciences core.
5. Build on the tradition of professional education.
6. Diversify and globalize the A&M community.
7. Increase access to knowledge resources.
8. Enrich our campus.
10. Demand enlightened governance and leadership.
11. Attain resource parity with the best public universities.
12. Meet our commitment to Texas.
Upon assuming the Office of the President in 2002, Dr. Robert M. Gates, in an effort to develop immediate progress toward the goals set forth in Vision 2020, distilled these imperatives down to four broad goals:

1. **enhance our faculty;**
2. **enhance the graduate/undergraduate experience;**
3. **focus on diversity;** and
4. **enhance the quality of our physical environment.**

Clearly, the Campus Master Plan most directly affects those goals that relate to the enhancement of the quality of the physical environment. The question, then, is how can a campus plan support the other goals of the Strategic Plan?

The ability to attract and retain world-class faculty depends on many factors. With a competitive, merit-based compensation structure comparable to peer institutions, first-class facilities that provide ample opportunity to conduct teaching and research activities become more important. The opportunity to engage in faculty-to-faculty and faculty-to-student scholarly exchange in a variety of settings—in short, the sense of an academic community—is a major consideration. Such exchanges take place in classrooms and labs, but they also frequently take place in the indoor and outdoor public spaces that describe the true nature of the campus community. It is these public areas in conjunction with the physical proximity of departments that begin to make interdisciplinary teaching and research possible on campus. The public realm is the portion of campus most effectively addressed by the Campus Master Plan and monitored by a design authority whose major responsibility is that realm.

The relationship between the institution and its surrounding metropolitan community plays a role not only in the recruiting and retaining of faculty and students, but in the ability to enhance their experience at the university as well. Because Texas A&M University is relatively isolated from major metropolitan centers (Houston being two hours away by automobile), the University must develop that sense of community first within itself, then with the towns of Bryan and College Station, and then with other metropolitan areas. The Campus Master Plan explores opportunities to reinforce the sense of community both on the campus and through its physical relationship to the surrounding community.

Evaluation of space, both for teaching and research, is essential to ensure that it is being appropriately utilized and that the spaces provided are equal to the teaching and research mission of the campus. Through comparison of space utilization data from other institutions that are already considered top ten public universities (benchmarking), and conducting a space needs analysis based on the individual colleges, the University can ascertain what steps are necessary to ensure parity with those institutions. Space utilization and needs analysis also aid in the evaluation of requests for implementation of specific projects and the ability to substantiate requests for funding of those projects.

The quality of the campus environment, its relationship with its surrounding community, and the effectiveness of its teaching and research facilities all have a direct link to the strategic vision of an institution. The Campus Master Plan is a manifestation of that vision reflected in its physical environment. Perhaps the greatest attribute that a university must have to enable the Campus Master Plan to fully support its Strategic Plan is leadership: leadership that understands the vision of both plans, and how they are related, as well as a commitment to developing a process that will ensure the success of both the Campus Master Plan and Strategic Plan.
I. INTRODUCTION

PURPOSE OF THE PLAN

The Campus Master Plan is intended as a strategic and tactical guide for the physical development of the campus over the next fifty years. It is a hierarchical, comprehensive plan that proposes a radical reorientation of campus development policy in order to bring the physical environment into alignment with the academic and social mission of the University. It is intended to achieve the ideals of Vision 2020 and to enhance the quality of campus life.

Planning Process

During the academic year 2002–2003 the campus planning team developed the Campus Master Plan in collaboration with representatives of the University and continued to meet with stakeholder groups for both information and presentations. Status presentations were made in two public forums, and over one hundred stakeholder meetings were held. Enthusiasm and participation increased as the plan developed. Thus, the plan is the University’s plan—one that actualizes the University’s goals.

GOALS OF THE PLAN

During the initial part of the campus planning process a series of eight goals were articulated by the campus community. A repetitive theme heard by the planning team was that “the quality of the campus’s physical environment should reflect the spirit and quality of the students and faculty.” In other words, there was a sense of misfit between the physical environment and the socio-academic environment. The eight goals were the following:

1. Reinforce campus identity

Most of the positive physical contributions to campus identity were associated with the buildings, spaces, and sculptures of the east core of the campus: the Administration Building, the Academic Building, Albritton Tower, Military Walk and the Academic Quad, the Drill Field, and so on. Campus identity should be reinforced by further positive contributions.

2. Reinforce campus community

The remarkable sense of community on campus is not reinforced by the physical setting. In fact, it is made more difficult to maintain. The physical setting should enhance and promote a greater sense of community. Proximity is important to facilitating a feeling of community; dispersal is a barrier. The campus should be a compact, cohesive environment in order to achieve this goal.
3. Establish connectivity
Interdisciplinary activity is essential to research and knowledge today. This is difficult on the Texas A&M campus because sprawl has created excessive discontinuity. Connectivity needs to be reestablished between places, academic and research activities, faculty and students, and the community.

4. Create architecture that contributes positively to the campus community
Too many recent buildings are isolated objects that contribute little to the campus community. Buildings should be better neighbors through their siting, exterior design, interior public space design, and landscape. The Master Plan should mandate this. The renovation of existing buildings should consider their relationship to the community.

5. Promote spatial equity and appropriateness
Recurrent themes in workshop discussions were spatial inadequacy, inappropriateness, and location. Equitable spatial standards need to be developed, as well as a space allocation system that also considers the reuse of existing space.

6. Establish an accessible, pedestrian campus
Approximately 42,000 people commute to the Texas A&M campus—many by car. There are also numerous service vehicles, buses, and so on. The goal is to rationalize the circulation patterns, keep private cars to the periphery, and make the campus an accessible, pedestrian one.

7. Promote sustainability
The campus has finite land and resources. The goal is to promote sustainability by teaching, planning, and acting in an environmentally sustainable manner.

8. Develop a supportive process
The aim is to develop a process that enables the attainment of the above goals in a transparent, inclusive, and efficient manner.
COMMUNITY AND THE CAMPUS MASTER PLAN

The development of a campus master plan is an important event in the life of any institution. The 2004 Campus Master Plan for Texas A&M University is especially so, coming as it does at a pause between a forty-year period of “crisis growth” and an uncertain future of “planned growth.”

A master plan requires the involvement of a large cross section of the university in a cooperative and interdisciplinary collaboration, thereby offering a unique opportunity for an extended period of reflection, assessment, and renewal. Most people within a large university lead busy, focused lives, and few have the time or opportunity for a larger cross-sectional view of the whole. The development of a master plan provides that opportunity for a wide variety of people. In short, the production of a master plan is a community-enhancing experience, and, like most things of true value, a good plan must come from the inside—from the community—not from the outside. In other words, to be truly effective a master plan should grow out of the culture of the place to make a better functioning, more attractive, and more welcoming campus—one that is more what the community wants it to be.

Texas A&M University is a very special place, but it is also part of a larger context of American educational institutions. Indeed, there is a long tradition of both American campuses and American campus planning, and it is useful to consider Texas A&M within the context of that larger framework.

THE AMERICAN UNIVERSITY CAMPUS

Universities are among Western civilization’s most revered and important institutions. Fewer than one hundred institutions have survived since the fourteenth century, and the majority of those are universities. The persistence of this tradition gives some indication of the depth of meaning universities have to our culture.

American universities are more open and more engaged with the landscape than their European predecessors; and they reflect the enlightenment ideals of the new world. Our best campuses are neither purely urban nor purely pastoral, but a rich blend of buildings, landscape, and civic space. Like physical mirrors of the United States Constitution, our campuses project an image of balance between the public and private realms, between the ideal and the circumstantial. Indeed, the university campus is one of America’s most unique and poignant models of civic form.

Campus design is the design and management of the public realm—i.e., public spaces—rather more than the private realm of individual buildings. Therefore, the most important lesson of campus planning is that precise control of public space allows for flexibility and change in individual buildings and hence should be the principal instrument of physical planning. In other words, it is the pattern of campus open spaces—quadrangles, courts, walks, and streets—that provides the civic setting for individual buildings and for our most evocative memories of campus life.
THE TEXAS AGGIE COMMUNITY

The most profound of the many Texas A&M traditions is surely that of the “Aggie Community.” Despite being one of the largest campuses in the country, the genuine sense of community expressed by former students, students, staff, and faculty is without parallel among American universities. Transcending time, this sense of community unites generations and provides a civic dimension as an honorable measure of individual contributions. The tradition of community was once reflected in the place and physical setting of the A&M campus. This should again be the case.

There have been two major periods of university expansion in America: one before World War II; the other after. The A&M campus reflects these periods.
THE HISTORIC TEXAS A&M CAMPUS

During the first period of American university expansion, before World War II, buildings and landscape were organized to define and shape the civic spaces of the campus, i.e., streets, courts, and quadrangles. Typically, there was a compact core of academic buildings arranged around a street and/or quadrangle. This period provided the quintessential image we associate with the American “campus.” The historic core of Texas A&M is an example of such a composition, providing the “postcards” that express memories of the place.

After this period, around 1960, there were still only about 7,000 students at Texas A&M. The main campus consisted of ca. 4.5 million square feet of buildings and occupied ca. 375 acres to the east of Wellborn Road and the railroad. The campus was compact and could be traversed easily on foot in fifteen minutes. The density was not high, but buildings aligned on the streets and defined a series of quadrangles organized along an east-west axis established by the Academic Building and the Administration Building. This is the campus that generations of Aggies remember.
THE MODERN TEXAS A&M CAMPUS

After World War II, American campuses expanded rapidly in ever wider rings of new, often odd, buildings around their historic cores.

Most buildings from this period do not define and shape open space. Rather, they sit in the middle of their sites, like suburban buildings. Profuse landscape provides a futile attempt to relate them because there is no legible pattern of civic space: streets, courts, and quadrangles.

The postwar parts of the Texas A&M campus are examples of this kind of growth. The original urban pattern on which the campus developed has been significantly weakened, and in some cases erased, thereby contributing to a sense of placelessness.

Today, there are 45,000 students, and the campus extends west, beyond Wellborn Road and the railroad, to FM 2818. This extended area is over 1,100 acres and requires almost 45 minutes to traverse on foot from east to west.

During the past forty years, the building area of Texas A&M has increased by 10.5 million square feet—from 4.5 million to over 15 million. The density of the historic core to the east is normal by campus standards, and the civic sequence of open spaces in this area has been maintained. West of Wellborn, however, the density is low—a density normally associated with suburban sprawl: buildings do not define spaces, and the landscape has no structure, and no intent.
FIGURE 1
Aerial photo of the campus in 2003 looking west.
The compactness of East Campus in the foreground—where there is an integral relationship between buildings, landscape, and open space—contrasts with the sprawl of West Campus in the background. Extensive surface parking also contributes to the negative effect of sprawl.
SUMMARY

FIGURE 2
Aerial photo of the campus in 2003 looking east. Sprawl of West Campus in the foreground contrasts with relative compactness of East Campus in the background. West Campus has no legible relationship between buildings, landscape, and open space.
The Academic Building, built in 1912, has a clearly defined entrance that many later buildings lack.

The mature landscape of Main Campus is an integral part of the quality of the environment. The “Century Oak” is an excellent example of the mature landscape and is one of the oldest live oaks in the area.

Detail plan of the historic core of the campus. The buildings define the Academic Quad and Military Walk as well as the Library Quad and Diversity Plaza.

THE TEXAS A&M CAMPUS TODAY

We are now poised on the edge of a third period of university expansion, with a unique set of issues. Most American campuses find themselves facing the need for significant new expansion, but they have finite, nonexpandable boundaries and large areas of incoherent buildings and spaces. This is forcing a broad reassessment of how to plan and build.

Fortunately, the historic core of the Texas A&M campus comprises most of the lessons required for the future. Adherence to the principles of the core will sustain development of a high quality campus environment well into the twenty first century.

Positive attributes of the campus

1. The historic part of the campus has an intact civic structure (streets, paths, quads, and plazas) that provides a framework for the buildings.
2. There is a sustainable, compact core that supports efficient and enjoyable pedestrian travel.
3. There is a rich and varied architectural heritage on which to build, and from which to draw inspiration.
4. There is substantial undeveloped open space.
5. There is a rich and varied landscape heritage that reinforces the civic structure.
6. There are numerous tradition-rich places on campus that people revere.
Negative attributes of the campus

1. There is a disconnection between East Campus and West Campus caused by Wellborn Road and the railroad, and reinforced by the differences in buildings and landscape.

2. The civic structure that exists on East Campus has not been extended to West Campus.

3. There are several isolated buildings that do not reinforce a sense of community or campus identity.

4. Degradation of the campus architectural heritage exists in the form of insensitive additions and renovations to historic buildings and construction of newer buildings whose quality is not commensurate with the older ones.

5. Excessive vehicular access to virtually all parts of the campus conflicts with use by pedestrians.

6. Large amounts of surface parking utilize valuable land and do not contribute to the campus environment.

7. Campus development at inadequate density consumes open space and contributes to sprawl.

8. There is a gradual erosion of open space, without defining new spaces.

9. Lack of a defined edge on University Drive weakens the physical connection to the community.

10. There is a perception that there is a lack of space on campus when compared to other institutions.

11. The process for site selection and design approval has failed to produce high-quality buildings or a high-quality campus environment.

Massive and rapid growth over the last forty years has created a number of problematic conditions for the Texas A&M campus. With careful attention, however, these conditions can be corrected.
II. A VISION FOR THE FUTURE: THE LONG RANGE PLAN

OVERVIEW

The Campus Master Plan for Texas A&M University is intended as a strategic and tactical guide for the physical development of the campus over the next fifty years. It is a hierarchical, comprehensive plan that proposes a radical reorientation of campus development policy in order to bring the physical environment into alignment with the academic and social mission of the University, achieve the ideals of Vision 2020, and enhance the quality of campus life. The plan seeks to accomplish this through two primary means: growth management and improved quality of the physical environment.

The main parts of the Campus Master Plan are the Long Range Plan and Policies, the Landscape Plan and Principles, the Architectural Plan and Principles, and the Process. The Summary comprises excerpts from each.

Major Recommendations of the Plan:

- Extend the existing civic and landscape structure of the historic core through to West Campus;
- Unite East and West into one campus by building development along the campus’s central axis;
- Increase the building density of Mid-and West Campus;
- Create new quadrangles in Mid-and West Campus;
- Redevelop Wellborn Road as a tree-lined boulevard framed by buildings;
- Develop two underpasses under Wellborn Road and the railroad;
- Redevelop University Drive as a safe, pedestrian-friendly tree-lined boulevard;
- Replace surface parking with green spaces, buildings, and garages, and limit private vehicles to the perimeter of campus; and
- Improve the quality of architecture and landscape.

Major Components of the Plan:

1. New Main Drive;
2. The Administration Building East Lawn area;
3. The East Quad;
4. The pedestrian walks on the north and south side of the East Quad and Library;
5. The Library Quad and Diversity Plaza;
6. The Academic Quad and Military Walk;
7. The Drill Field area and new underpasses at Jones and West Lamar;
8. The new West Quad and Wellborn Road;
9. The West Campus Extension of Old Main; and
10. The White Creek Greenway.
CIVIC STRUCTURE

The Civic Structure is the primary sequence of public spaces and buildings that forms the anatomy of the campus. The sequence of outdoor rooms is connected by streets and paths, and both are defined by the surrounding campus fabric. This is probably the most important element of the Plan, as the organization of public space is more important than the particulars of buildings and their functions. It is literally the spine that connects the urban east to the rural west along the central axis of the campus. It is the precision of this sequence that provides its legibility; and it is the legibility that allows for variation and change around it.

In general, buildings define the streets and quadrangles that make up the civic structure, giving life, scale, and dimension to the spaces. Building massing and density are therefore an important aspect of civic structure. Secondary quadrangles, courts, and streets are also important in connecting the various districts to the primary structure and to each other, but these should be developed as part of the district plans since they are conditioned more by local circumstance.

The proposed civic structure is not a new invention. Rather, it is an extension of the existing spatial pattern in the historic core of the campus, which needs to be conserved and enhanced. The proposed structure aims to integrate the campus into a unified whole, from New Main, the Administration Building, and the dense historic core; through the middle campus zone of the Drill Field, Wellborn Road, and the West Campus buildings; to the far West Campus of the Bush School and the Research Park. It is also intended to emphasize the distinct “personalities” of these three areas through variations of landscape and ecological form.

In the eastern part of the campus—from New Main to the YMCA Building—the major quadrangles and streets already exist and are quite beautiful; they need only to be conserved, renovated, and enhanced. In the middle part of the campus some existing spaces such as the Drill Field and Wellborn Road need to be reinterpreted and defined, while other spaces must be created—such as the proposed West Campus Quadrangle. Beyond this, the far West Campus needs to be reinterpreted, emphasized, and connected to the structure of the main campus.

Distinctive buildings also form an inseparable part of the existing civic structure: the Administration Building, the History Building, and the Academic Building, as well as Albritton Tower, are major icons within the historic core. The proposed new quadrangles also need distinctive buildings associated with them. The anticipated Life Sciences Building may provide such an opportunity within the proposed extension of the campus structure.

GREEN RESERVE

The Green Reserve serves two main purposes. One is as a broad extension of the campus’s civic structure; i.e., as a system of open spaces that should be preserved indefinitely, and around which the campus will develop. The other is to establish an interconnected ecological system. The Green Reserve includes a variety of open spaces, from highly maintained formal ones in the east part of the campus to natural ones further west.

Conservation of the University’s extensive, but finite, land resources is one of the most important elements of the Long Range Plan. Indeed, the university’s land holdings are so vast that it is difficult to imagine that they are finite and thus have great value. But without a proactive policy to control growth, the majority of the University’s land could be consumed by sprawl within the foreseeable future, and ecological connections could be irreparably broken.

SUMMARY

FIGURE 1
The proposed Campus Civic Structure Plan.
1. New Main Drive
2. East Lawn
3. East Quad
4. Pedestrian walks
5. Library Quad
6. Academic Quad
7. Simpson Drill Field
8. West Quad & Wellborn Rd.
9. Old Main Extension
10. White Creek Greenway

FIGURE 2
Central part of the plan of the Green Reserve.
Zone 1
No buildings may be built in this area except small pavilion-like structures.
Zone 2
Detached farm buildings may be built in this area but large buildings must have design approval.
DENSITY AND DEVELOPMENT ZONES

The intent of the Density and Development Zones is to support the open space structure of the campus by limiting building development to prescribed areas, or development zones, and at prescribed densities. The reasons for this are to provide for growth management and to improve the quality of the physical environment. These two issues are central to the Long Range Plan and are intimately related.

Growth

The average rate of facilities growth, the density at which that growth takes place, and the identification of development areas are fundamental to growth management. Growth is historically quantifiable, and historic trends provide valuable parameters for planning for the future. Growth is quantifiable by three factors:

1. Amount of building area (gross square feet)
2. Amount of land occupied by the building area (square feet)
3. Period of time in which the building takes place (years)

Most universities have grown at an average annual rate of about one percent over the last forty years, and have consumed larger and larger quantities of land in the process.

Growth at Texas A&M

During this same time period, however, the central portion of the Texas A&M campus has grown at three times the typical rate and has consumed vast amounts of land in the process. Between 1962 and 2002, the central campus grew at an average rate of approximately 3 percent per year: from 4,580,388 gross square feet in 1962, to 15,122,529 gross square feet in 2002—an addition of 10,543,141 gross square feet in 40 years. The land area of the built campus tripled during this period, and the number of students rose from 7,000 to 45,000.

Many reasons can be assigned to this explosive growth period, and there is no sound reason to believe that it will be repeated. Nevertheless, since 1920 there has never been a decade in which Texas A&M did not build at least 1,000,000 gross square feet. The Long Range Plan neither advocates nor projects the continuation of this rate of growth, but there are indications that facilities growth could continue at a significant level well into the future.

One plausible way to speculate about future growth is to use the historic trend of an average rate of 1 percent for annual facilities growth. If this rate is applied to the central, academic part of the campus, today’s building area of about 15,000,000 gross square feet would increase by approximately 1,600,000 gsf in 10 years, 4,000,000 gsf in 25 years, and nearly 10,000,000 gsf in 50 years. This may or may not happen, but it projects a known historic pattern into the future, gives a snapshot of one plausible scenario, and helps frame the magnitude of the issue.

Another plausible scenario is outlined in a recently completed “Academic Space Needs Analysis,” by Paulien & Associates. This study indicates that if the University’s increased research objectives are to be achieved, the facilities increase over the next 10 years could be between 3,000,000 and 4,500,000 gross square feet—thus extending the 3 percent per annum growth trend of the last 40 years at Texas A&M.

The possibility of the continuation of this growth pattern has very serious implications for the management of the University’s resources and for the physical development of the campus. The Long Range Plan therefore seeks to establish strict parameters and limits within which planned growth may occur. The density and location of development will have to be rigorously managed if the University’s academic mission is to be achieved and maintained.

Environmental Quality versus Sprawl

The sprawl produced by uncontrolled growth at low density has taken the University to the limits of its contiguous land and degraded the quality of the campus environment. Radical reorientation of campus planning policy must be implemented if growth and density are to be brought under control and the University is to have the required flexibility to respond to future needs.

The hypothetical plan shown here illustrates the extent and chaos that would ensue if present low-density development patterns were to be continued.

It is clear that the university can no longer afford to have development occur at low “suburban” densities. Rather, future facilities will have to be planned at higher densities and integrated with established areas of the campus. This will at once reinforce the sense of community, facilitate interdisciplinary activity, and improve the quality of the campus environment.
In the beginning of the master planning process, various stakeholder groups were canvassed for their feelings regarding the better and worse parts of the A&M campus. The most revered parts of the campus were almost entirely within the historic core. This is the most dense and compact part of the campus, with an FAR of about 1.0 and a coverage of about 30 percent. This density and coverage allows for a “community” of buildings and for a coherent, climatically appropriate, pedestrian-scaled open space structure between buildings. The evaluations of these focus groups form a qualitative basis for prescriptions of density.

Indeed, the Long Range Plan illustrates that if future growth is limited to the prescribed development areas and accomplished at an FAR of 1.0, then the projection of 10,000,000 square feet—theoretically, 50 years of growth—can be accommodated within the central campus area and will result in an improved campus environment.
MAJOR COMPONENTS OF THE PLAN

1. Improvements to New Main Drive.

The intent is to provide an appropriate ceremonial main entry to the Campus.

Recommendations for this area are limited due to the completion of improvements made in 2002. Consideration should be given to the health of trees that line the drive, particularly those in the Western one-third.

2. Redevelopment of the Administration Building/East Lawn area.

The intent is to eliminate surface parking in the east lawn area, provide additional building space to support functions in that area, and strengthen the main entry to campus.

The recommendation is to construct two new parking garages as shown to absorb surface parking in that area. Each garage should be wrapped on two sides with occupied space of architecture that is both subservient to and complementary of the Administration Building. By aligning the facade of these buildings with the predominant facades on the east-west pedestrian walk, the walk is extended to the east side of the Administration Building. Walkways east of the Administration Building should be reconfigured to pull the complex together and strengthen the dominant position of the Administration Building.
3. **Redevelopment of the East Quad.**

The intent of this component is to return the East Quad to its original configuration, which will make it more useful as a space and will strengthen the relationship between the Administration Building and History Building.

The berm at the west end of the quad should be removed to make the quad more useful for both formal and informal activities. Additionally, it will enhance the drainage characteristics of the space. The live oaks on the north side should be replaced after the quad is regraded. It is recommended that vehicles be prohibited from using Spence Street from the Chemistry Building to the north face of the Central Campus Garage.

4. **Redevelopment of East-West Pedestrian Walks.**

The intent of this component is to reinforce the concept of the walk as a unifying element in the fabric of the civic structure.

The recommendation is that each east-west path along the walk should be planted with a double row of trees to establish a continuous walk from the Administration Building westward to the Academic Building. Proposed additions to the History Building should reinforce the center line as well as better define the western edge of Spence Street. Consistent ADA-compliant paving should be installed along the entire length using interlocking pavers with crossings marked by either contrasting pavers or concrete.
5. Redevelopment of the Library Quad and Diversity Plaza.

The intent of this component is to clarify and strengthen the relationship between the Academic Building and Cushing Library; to establish a stronger edge to the north and south of this space; and to make the quad more of a gathering place rather than simply a “pass through” space.

Recommendations for this space are to continue the double row of trees on the east-west walk to the east face of the Academic Building and add at least one row on the interior of each double row that extends from the addition to Cushing westward to the Academic Building. Paving patterns should be configured to form a small, formal, central lawn that allows for a strong visual connection between Cushing and the Academic Building. The contemplated Diversity Plaza should be a part of the Library Quad and support its overall goals. Small seating areas could be incorporated in such a way that they do not obstruct pedestrian traffic. Any new buildings contemplated for the area (such as possible replacements for the Biological Sciences Building West and the Biological Sciences Building East) should honor the north-south build-to lines of the mall. Given the generally open feel of the south-southwest corner of the quad, consideration should be given to a vertical element at the southeast corner (in the event of replacement of the Biological Sciences Building West) to provide it with an anchor.
6. Redevelopment of the Academic Quad and Military Walk.

The intent of this element is to enhance an already beautiful space with minor intervention and to return Military Walk to its former status as a processional, pedestrian street.

The recommendations are to eliminate the small parking areas (Lots 44 & 28) and replace Lot 44 with landscaping that maintains the vista of the Academic Building from Old Main Drive. Lot 28 should be replaced in the future by a structure similar in scale to the YMCA Building or Bizzell Hall. Eventual replacement of the Beutel Health Center should be considered, with replacement structure(s) also being similar in scale to the YMCA Building. All new buildings should follow build-to lines that address Military Walk.

There has been much discussion in workshops regarding Military Walk, with many people expressing a desire to return it to a processional pathway. The Master Plan agrees with this proposal. It is recommended that a broad central path be developed, and the concrete seating areas at the north and south ends be removed to allow the path to terminate at Sbisa and the Rudder Plaza. This path should not be used for vehicular traffic. Care should be used to protect existing trees that define the path in its current state.
7. Redevelopment of the Simpson Drill Field Area and the New Underpasses at Jones and Lamar.

Given the westward growth of the campus, and considering the proposed connections under Wellborn Road and the railroad, the Simpson Drill Field area is projected to become the geographic center of campus in the future. The intent of this element is to provide space for anticipated growth in this area, to reverse the trend of sprawl, and to better define the Drill Field by maintaining a closer relationship to both existing and future buildings.

Recommendations for this area are to construct two new underpasses under Wellborn Road and the railroad to accommodate all modes of traffic. The south and north underpasses should be equidistant from the centerline of Old Main Drive. Benefits of this alignment include the possibility to accommodate future growth in the University Center area, the redevelopment of the Cain Hall site, and the provision of strong south and west edges of the Drill Field.

Clark Street should be realigned to be on a north-south axis with the Albritton Bell Tower. This will provide a more defined western edge of the Drill Field and allow for development between Clark Street and Wellborn Road. The buildings should be developed with their Jones Street and West Lamar Street edges containing at least partial floors that extend to the lowest level of the underpass. These floors should be given a use that supports and requires pedestrian traffic.
The area north of Old Main Drive across from the Drill Field, between realigned Clark and Houston Streets, should be redeveloped at the prescribed density with the major facades of new buildings aligning along Old Main. The buildings should also contain potential entry facades along their north face to accommodate pedestrian traffic utilizing the north underpass. Landscaping should be enhanced by preserving existing trees where possible and planting new ones that define the edges of spaces and paths.

**FIGURE 3**
Existing conditions along Old Main Drive looking west, with Albritton Tower visible behind the trees.

**FIGURE 4**
View looking west on Old Main Drive showing proposed development north of Simpson Drill Field.

**FIGURE 5**
View from the southeast corner of the Drill Field looking northwest.
8. Development of Wellborn Road and the new West Quadrangle

The intent is to increase the connectivity between the east and west parts of the campus by incorporating the new underpasses at Jones Street and West Lamar Street, to provide structured open space for West Campus by developing the area between the Heep and Kleberg Centers and the railroad tracks, and to reduce the distance, both perceived and actual, between the east and west parts of the campus. It is also a desire for the new development to provide an enhanced presence to the campus from Wellborn Road.

Recommendations are to redevelop Wellborn Road as a seam, or boulevard, rather than a divider, and to extend the civic structure of the eastern part of the campus across Wellborn Road by providing a major new quadrangle for the west part of the campus.

Buildings to the north of the Jones Street underpass and the south of the West Lamar Street underpass should address the lowest level of the underpasses and align to define Wellborn Road and the new West Quad.

Future buildings to be developed between the Jones and West Lamar Street underpasses should be aligned to address each underpass. The buildings should be configured so that their long dimension defines the western edge of the new quadrangle, and screens the Heep and Kleberg Centers. Vertical elements are appropriate at the corners adjacent to Old Main Drive, to imply a gateway to the west and extend the central axis of the campus.
SUMMARY

FIGURE 1
Aerial perspective showing proposed improvements to Wellborn Road including the proposed underpasses and the West Quad.

FIGURE 2
Aerial photo showing the existing conditions on Wellborn Road.

FIGURE 3
Photo from the top of Albritton Tower showing the existing conditions of Wellborn Road and West Campus.

FIGURE 4
Proposed West Quadrangle looking west from Wellborn Road at Old Main Drive.
9. Development of the West Campus extension of Old Main Drive.

The intent of this component is to connect the axial civic structure about the centerline of Old Main Drive to the more rural character of the Texas Landscape typified by the White Creek Greenway.

The recommendation is to continue the axial line of Old Main Drive westward between the Heep and Kleberg buildings. While Old Main as a street should terminate at Olsen Drive just west of the West Quad, the line of its axis should continue as a walk defined by a double row of trees between Heep and Kleberg. The walk will turn northwest at the southwest corner of Biochemistry/Biophysics and terminate at the headwaters of the White Creek Greenway. Paving should distinguish the extension of Old Main Drive from streets and other sidewalks.

It is recommended that the turn from a westerly heading to that of northwesterly occur at a pavilion, or gazebo type structure. The structure serves several purposes. It provides a three-dimensional visual termination of the east-west axis, and also signifies a change to the rural landscape.
10. Development of the White Creek Greenway.

The intent of this component of the plan is to build on an existing natural feature, incorporate it as a portion of the civic structure, and root the campus firmly in the natural landscape. The Greenway could become a laboratory for the study of native Texas Riparian Landscape.

The recommendation is to restore the area to a natural state. Native Riparian Landscape should be incorporated utilizing guidelines described in the Landscape Plan under the Texas Landscape heading. The guidelines describe three distinct zones referred to as Inner, Middle, and Outer Core and suggest a three-hundred-foot-wide Riparian buffer.

These components represent not the entire plan but its major parts. They form the spine of the campus, and much like the spine in human anatomy, provide an armature about which other members are supported. Development of the campus edges and selective infill are also important, but they are secondary to a clear central sequence.
POLICIES

The following statements of policy establish the terms by which the University adopts the basic parts of the Campus Master Plan: the Long Range Plan, the Landscape Plan, the Architectural Plan, and the Process for implementing and managing the Plan.

Policy 1: Mission and Goals
The University acknowledges the importance of the relationship between the campus environment and the academic mission of the institution, as well as the relationship to the surrounding community. To achieve this, the University endorses and affirms the eight goals articulated by the Master Plan Steering Committee:

1. reinforce campus identity;
2. reinforce campus community;
3. establish connectivity;
4. create architecture that contributes positively to the campus community;
5. promote spatial equity and appropriateness;
6. establish an accessible, pedestrian campus;
7. promote sustainability; and
8. develop a supportive process.

Policy 2: Community and Resources
The University will support a compact, resource-efficient campus community through endorsement of the Campus Master Plan and its constituent elements.

Policy 3: Civic Structure
The existing pattern of quadrangles and open spaces will be preserved, enhanced, and extended along the central axis toward the west. These spaces will be kept free of buildings and surface parking. The anatomy of this landscape sequence is the spine of the campus and will be reinforced and further defined by buildings. To ensure conformance to the intent of the civic structure, the University adopts the Regulating Plan element as illustrated in the Long Range Plan.

Policy 4: Green Reserve
The University will protect existing open spaces by adopting a permanent Green Reserve as identified in the Long Range Plan. This Reserve will remain free of major building development.

Policy 5: Development Densities and Zones
When locating facilities, the University will abide by the densities and development zone provisions described and illustrated in the Long Range Plan. Building development will be limited to the indicated zones and mandated at the prescribed densities and coverage: an approximate FAR of 1.0 and a building coverage of 27 to 35 percent in the central campus area.

Policy 6: Land Use
The University will abide by the land use provisions described and illustrated in the Long Range Plan. The land use provisions may be amended from time to time, but must be reviewed and approved by the Design Review Board.

Policy 7: Circulation
The University supports the concept of a pedestrian-oriented campus and the gradual reduction of surface parking. Private cars will be limited to the periphery of the campus as much as possible; and buses, bicycles, and service vehicles will conform to the routes indicated in the Long Range Plan. Central to the concept of vehicular circulation is the loop resulting from the double underpasses.
Policy 8: Parking
The University will develop structure parking integral with the building development plan. Where possible, small parking structures should be considered and should be wrapped with functional uses. Ground floors should also be occupied by such uses. The University does not support an increase in the ratio of car spaces to people.

Policy 9: Wellborn Road/Railroad
To unite the east and west parts of the central campus, the University will develop two east/west underpasses under Wellborn Road and the Railroad: one north of the main axis (which will remain an on-grade intersection), and one to the south. These will be for buses, bicycles, pedestrians, service vehicles, and possibly private cars. This will permit an inner campus loop connecting the east and west campuses.

Policy 10: On-campus Housing
The number of undergraduate students housed on campus is affirmed by the University, but the expansion of housing amenities is encouraged. The University will also address the graduate student housing implications of Vision 2020.

Policy 11: Assignable Space
Space management is acknowledged as an issue of major importance on campus. Spatial equity, efficiency, and appropriateness are supported, and the University will develop a management system to ensure this through the recycling, renovation, and addition of space.

Policy 12: Community Interface—Campus Edges
Texas A&M and the surrounding community have an interdependent relationship. The University acknowledges the importance of this relationship, and will cooperate in joint initiatives to enhance it. In particular, the University will adopt and support the redevelopment and “traffic calming” concept that is being developed for University Drive.

Policy 13: Landscape
The University acknowledges the importance of the campus landscape as a resource, as an element of civic structure, as an ecological system, and as a “teaching laboratory.” Toward this end, the university adopts and supports the Landscape Plan, and will develop a proactive landscape development program in conformance with the landscape principles and guidelines of the Campus Master Plan. A landscape strategy that is resource-efficient and regionally consistent will be supported.

Policy 14: Architecture
The University acknowledges that the quality of architecture at Texas A&M is a public statement of its aspirations to excellence and a permanent expression of commitment to the quality of the public realm in which education occurs. Therefore, the University adopts and supports the Architecture Plan, and will conform to the planning and architectural principles and guidelines of the Campus Master Plan.

Policy 15: Planning
The University will seek to establish and nurture a cooperative culture of planning on campus. As part of a revised process and new planning culture, the University will develop specific District Plans from time to time in order to expand the Campus Master Plan and to guide decision making.

Policy 16: Process
The University acknowledges that current management systems and processes are not sufficient to implement, monitor, and achieve the Campus Master Plan and its policies. Therefore, the University will develop and adopt revised processes for implementing and monitoring the Plan. This includes the establishment of a Design Review Board, and revised procedures for architect selection, project initiation (including site selection and budgeting), and space allocation and utilization.
III. THE LANDSCAPE PLAN

THE LANDSCAPE PLAN

The Landscape Plan defines the form and character of the campus landscape and open space. It provides specific parameters for the development of the campus's open space structure, circulation, and environmental character. The Landscape Plan and the Architectural Plan are intended to be consistent and complementary but there are fundamental differences between them. Because future building uses, sizes, and configurations are impossible to predict, the Architectural Plan relies heavily on principles and guidelines to ensure appropriate architectural development, rather than on specific building recommendations and configurations. In contrast, the Landscape Plan—augmented and extended by principles and guidelines—provides a stable, precise configuration within which architecture can vary and change.

Indeed, major parts of the Landscape Plan could be implemented immediately, to be infilled by buildings and developed in more detail over time. In this sense, the Landscape Plan is a bridge between the Long Range Plan and the Architectural Plan—at once connected and independent.

The Regional Context

The Texas A&M campus was conceived and executed at the monumental scale of its original open landscape, and its founders’ intentions may still be seen in the grandeur and clarity of its street patterns, its buildings, and its public open spaces. The magnitude of A&M’s scale and the potential of its institutional role are more evident now that College Station has grown up around the University.

The University is an important component of the regional landscape—the central figure linking and mediating between town and country. This serves the mission of the University by placing education and research at the juncture of “nature” and “culture,” and suggests that the academic world partakes of both, seeks to understand the relationships between them, and tries to transform them in the light of knowledge and invention.

The campus itself is heterogeneous, with aspects of both town and country: huge open spaces and woodlots on the one hand, and heavily occupied and built-up areas on the other. This presents the University with a remarkable opportunity.

The Landscape Plan aims to link and mediate between town and country by preserving and strengthening the campus’s three landscapes—the urban, suburban, and Texas landscapes. All of the constituent elements to accomplish connection and differentiation already exist on the campus; they only need to be emphasized and related.

Major Recommendations of the Landscape Plan

The Landscape Plan makes connections, provides continuity, defines open spaces, and complements the architectural form of the campus through the following recommendations:

1. Create a hierarchy of tree-lined streets and pedestrian ways;
2. Expand and improve the pattern of quadrangles;
3. Expand the pattern of courtyards; and
4. Improve and expand the campus’s naturalistic park spaces.

Together, these recommendations support the Long Range Plan as well as the specific landscape goals.
**LANDSCAPE PRINCIPLES**

**Introduction**

The Landscape Principles are the guiding ethic underlying the Landscape Plan. The intent of the principles is to produce landscape design that supports the civic structure of the campus by defining outdoor public spaces, i.e., landscape design that complements and reinforces the spatial framework of the Architectural Plan. Adherence to the principles will guide the completion and repair of the pattern of landscape on the campus.

The collegiate experience is enhanced by the sense that the campus environment is fundamentally continuous. Public outdoor spaces and the interiors of buildings are differentiated parts of a larger whole, rather than separate, isolated realms. This feeling of permeability and interconnectedness makes the experience of being on the campus rich and varied, and it encourages social interaction. The campus may be conceived as a porous matrix of interconnected spaces of varying size, shape, character, and use. These interconnections ensure that the campus is both literally and symbolically accessible and are fundamental to the way a campus promotes its institution’s academic, social, and cultural missions.

At the same time, a gradated series of legible distinctions between various levels of privacy and publicity promotes a sense of ownership, differentiates the campus into places of varied character, and is necessary for the conduct of daily activities.

It is the combination of these two complementary themes—the theme of interconnectedness and the theme of differentiation according to a gradated series of private/public distinctions—that gives a college campus and its buildings much of their experiential richness and allows them to accommodate so many different users and meanings, linking them together functionally and symbolically.

The goal of a differentiated but more or less continuous fabric of both outdoor and indoor public space has profound implications for the design of campus landscape and buildings. It affects the:

- pattern of pedestrian and vehicular circulation;
- distribution of open spaces at various scales throughout the campus—streets, quadrangles, courtyards, and greens;
- specific landscape design of these spaces;
- overall form of buildings and their arrangement as related groups to define outdoor spaces;
- design of building facades;
- design of interior and exterior spaces to gracefully accommodate formal and informal meeting and exchange; and
- landscape and architectural design of building entrances.
The Landscape Principles

The landscape principles are general. They are expanded in the next section by the more detailed Landscape Guidelines. They should also be augmented in the future in specific District Plans and Site Development Plans. The principles, and the guidelines that flow from them, are intended to promote an extended and gracious public realm of harmonious scale and character, and to reestablish a positive relationship between landscape and architecture. Variants for specific projects may be discussed as part of the design review process, and will be evaluated in terms of their contributions to the project and to the University as a whole.

Landscape Principle 1: Campus Streets
The campus’s circulation pattern should be improved by extending the urban grid of tree-lined streets and by creating a hierarchy of tree-lined streets and pedestrian ways. This will strengthen the pedestrian and vehicular interconnections between campus spaces and buildings, and help unite East and West Campuses.

Landscape Principle 2: Campus Edges
The connections between the campus and College Station should be reinforced. Texas Avenue and George Bush Drive need little attention but University Drive needs major renovation—from a state highway that is dangerous for pedestrians to a tree-lined boulevard. The transformation of Wellborn Road is especially important.

Landscape Principle 3: Campus Spaces
The campus’s civic structure should be enhanced by clarifying and improving the pattern of campus open spaces. Existing quadrangles, courts, parks, and gardens should be conserved and renovated, and new ones should be created. Courtyards should be especially encouraged as there is insufficient tradition of this landscape type on campus.

Landscape Principle 4: Architectural Connections
The landscape structure of streets, courts, and quads should complement and reinforce the spatial intentions of the architecture. In addition to the pattern of major spaces, landscape transitions and connections need to be made to the buildings—especially entrances and ground floor public spaces. The space immediately outside the building entrance is often a significant meeting and socializing place.

Landscape Principle 5: Native Landscape
The connection between the campus and the surrounding regional landscape should be reinforced. This is both a formal transformation—from an urban landscape to a picturesque rural landscape—as well as an ecological transformation—from a highly maintained synthetic landscape to a resource-efficient native one.

Landscape Principle 6: Identity and Variety
The identity of the campus should be reinforced and emphasized by an extensive variety of open spaces, planting, paving, and sculpture. Strong traditions exist on campus, and these should be celebrated by the physical manifestation of ceremonial or cultural spaces.

Landscape Principle 7: Ecological Constraints
The constraints of campus soil, vegetation, and hydrology are knowledge that should be incorporated into campus landscape design to improve the environment. Information regarding campus conditions, and approved plant lists are included in the appendix.

Landscape Principle 8: Resource Efficiency
A sustainable, water-and energy-efficient landscape should be promoted by incorporating diverse vegetation with an emphasis on native and well-adapted plants. Approved plant lists are included in the appendix.

Landscape Principle 9: Maintenance
A maintenance strategy should be devised that concentrates resources in the most significant and/or visible locations. See “Landscape Maintenance” later in this chapter.
IV. THE ARCHITECTURAL PLAN

The Architectural Plan is one of the three main parts of the Campus Master Plan. It is consistent with the Long Range Plan and supports the Landscape Plan, but for clarity and convenience, it is articulated as a stand-alone element.

The plan illustrates the location, configuration, and urban intentions of future buildings. It increases the functionality, legibility, and beauty of the Texas A&M campus by arranging buildings so as to reinforce the campus’s civic structure. The Plan will guide the growth of the campus by establishing its long-range density, coverage, and building capacity.

The Architectural Plan depicts specific shapes for building footprints. However, it is impossible to precisely predict future functional and area needs: the uses and configurations of individual buildings must be able to change without destroying the larger idea of the Plan. In other words, the building shapes are illustrative only. The primary building facades are fixed, however, and must adhere to the build-to lines of the “Regulating Plan” illustrated in the Long Range Plan chapter of the Campus Master Plan. This is to help ensure that each building fulfills its public role by defining public space and relating to the larger community of buildings. As buildings are designed, they may deviate in small ways from the plan, but they may not significantly alter the spatial configuration of the civic structure.

The areas of the proposed buildings are implicit, given the plan configurations and an assumed average of three to five floors. This is, of course, approximate. No functional uses have been assigned to individual buildings.

The plan indicates that the building area of the central campus can be increased by approximately 9,000,000 gross square feet: from ca. 15,000,000 gross square feet of existing space to ca. 24,000,000. This additional building area would accommodate about 50 years of growth at an average rate of one percent per year—the average of most universities over the last 40 years.

The plan, and the square footage figures above, are based on the assumption that the new buildings will be in the range of 3 to 5 floors in height. Buildings of this height will be compatible with the traditional buildings of the campus core and will generate a similar density. They will produce a better physical environment than would high-rises, an environment that will reflect the mission of the University.
ARCHITECTURAL PRINCIPLES

Introduction

Campus buildings are formal public statements of Texas A&M University’s aspirations to excellence. They are permanent expressions of the University’s commitment to the quality of the public realm in which education occurs. They are representations of what that public realm is and ought to be like.

The buildings of the campus core, particularly those by S. C. P. Vosper and Frederick Ernst Giesecke in the early part of the twentieth century, establish a standard of high architectural quality and a vocabulary of architectural elements, and do much to make the campus core a memorable and beautiful place. Their siting and massing, the design of their facades, their materials and colors, and their references to the region’s agriculture, landscape, and economy all evoke a sense of community and shared purpose, and place them in a positive relationship with outdoor campus spaces and neighboring buildings. These buildings respond to and contribute to the civic structure of the campus, establishing a connection between architecture and landscape, and in a larger sense between the natural environment and the man-made. The principles underlying their architecture should guide the design of new buildings at Texas A&M University.

The architectural vocabulary of new buildings should be compatible with that of the buildings of the campus’s historic core. The elements of this language include masonry construction, vertical punched windows, and loggias and arcades. Entrances and lobbies are often elaborate and inventive and provide important places for chance meetings. This architectural language is capable of great variety, from historic representation to more abstract modern reinterpretations. The design of new buildings should be inspired by this language, incorporating and reinterpreting its elements.

Each building on the campus should have its own identity, but should also contribute to the larger community by reflecting shared architectural and urban conventions. Architectural style is the least important characteristic of buildings. Architectural type and the compatibility of materials and colors are far more important.

The architectural principles, and the more detailed guidelines that follow them, are not meant so much to limit an architect’s invention as to guide it—reminding the architect that buildings have both public and private responsibilities. The best buildings on the Texas A&M campus—whether old or new—illustrate these ideas.

The principles are intended to be general—on the level of the Architectural Plan. They are expanded upon in the next section by the more detailed Architectural Guidelines. These will be augmented in the future by the more detailed guidelines in District Plans and Site Development Plans for specific sites. The principles and the guidelines are intended to give the campus a harmonious scale and character, to reestablish a positive relationship between its architecture and its landscape design, and to enrich its sense of place.

The first nine of the principles pertain in general to all architecture on campus, but are particularly keyed to academic, administration, and student services buildings. Other building types—parking garages, private research buildings, physical plant support buildings, agricultural buildings, etc.—are addressed in the tenth principle.
The Architectural Principles convey the general intent of the master plan. Possible variations for specific projects on specific sites will be discussed as part of the design review process, and will be evaluated in terms of their contributions to the project and to the campus as a whole.

Architectural Principle 1: Urban Buildings
Buildings are to be “urban buildings,” designed in support of the civic structure of the campus. Buildings must engage and define the streets, quadrangles, courtyards, and parks of the campus. This requirement affects the siting, massing, and typology of buildings, the alignment of their facades relative to outdoor spaces and other buildings, the composition of their facades, and the location and form of their entrances. Existing suburban building types—buildings that do not engage and support outdoor space—should be transformed.

Architectural Principle 2: Building Heights
Buildings are to be compatible in height with the buildings of the historic core of campus. To adequately define the public spaces of the campus, maximize the limited remaining building site opportunities, and preserve the quality of outdoor spaces, buildings should generally be no less than three stories and no more than five stories in height.

Architectural Principle 3: Facades
Building facades are to be articulated into constituent parts in order to mediate between the pedestrian scale and the scale of the building, provide visual continuity with neighboring buildings, and engage the landscape design of campus open spaces. Buildings should have a base, middle, and top. An articulate ground floor is especially important, as it reinforces the building’s connection with the street or quadrangle on which it fronts.

Architectural Principle 4: Building Entrances
Building entrances are to be places to meet and rest, as well as graceful transitions between outdoors and indoors. They are to be clearly visible and recognizable, and should have a direct relationship to the public open space on which the building fronts. Primary lobby and circulation spaces inside the building should be designed as extensions of the campus spaces outside.

Architectural Principle 5: Identity and Variety
The identity of the campus, and of individual buildings, should be reinforced by expressive architectural detail.

Architectural Principle 6: Building Materials
Buildings are to be of masonry construction, with punched windows. Colors of exterior materials are to be compatible with those of the campus’s historic core.

Architectural Principle 7: Additions to Buildings
Additions are to be compatible with good existing buildings, and are to transform buildings that suffer from weak relationships to outdoor public space.

Architectural Principle 8: Building Services
Mechanical equipment and loading docks are to be hidden from pedestrian view.

Architectural Principle 9: Sustainability
Buildings are to be designed with environmentally sustainable features to minimize the environmental damage caused by their construction, and to minimize operational energy use. Qualification for a LEED silver rating should be a goal.

Architectural Principle 10: Nonacademic Buildings
Nonacademic buildings, such as parking garages, physical plant buildings, private research buildings, etc., are to adhere to these principles and guidelines as appropriate to their function and location on campus.
FIGURES 1 TO 7
These images were part of the diagnostic phase presentation. They illustrated the goals developed by the Campus Master Plan Steering Committee.
V. PROCESS: IMPLEMENTATION & MONITORING

INTRODUCTION

There is a relationship between the quality of an institution’s physical environment and its intellectual mission. The intent of the Texas A&M Campus Master Plan is to bring the campus into alignment with the University’s mission through growth management and an improved physical environment. Achievement of this goal will require an enlightened and effective process for campus planning, design, and management. Indeed, it will require a radical augmentation and reorientation of current practice at Texas A&M.

To be effective, any process must address both public and private interests. There was a time when this was a simpler task; a time when there was consensus about what was right, and when two or three central figures had the power and judgment to manage campus development effectively. That world no longer exists. A more comprehensive model is required today, especially for large universities. Most universities need a vision, a plan, a process, and design control as a framework for decisionmaking. A good master plan consists of a plan, guidelines, and a process. This section addresses the process for implementation and management of the Campus Master Plan and presumes the ideal of a long range plan, a series of district plans, and architectural and landscape guidelines.

There are three major process issues: (1) architect selection; (2) project definition and feasibility; and (3) design control.

ARCHITECT SELECTION

Architect selection may be the single most important factor in the successful implementation of the Campus Master Plan. Simply put, better architects (generally) make better buildings, and the best ones make buildings that relate to others to form a community of buildings. Any architect working on the campus should have an acutely developed understanding of both public and private issues. Many architectural firms are “service firms”—firms that are adept at serving the client, but may not be adept at designing buildings and spaces for the public realm. Other firms promote themselves as “specialists” in a particular building type. This has an understandable appeal to users of that building type, and yet such firms may have no credentials at all in the design of buildings in context. Special effort should be made to solicit good architects, and the actual selection should be made by people qualified to evaluate them. This means that user-representatives should play a role in the selection process, but the decision should not be made by them alone. This aspect of the selection process will be discussed below.

The terms of the architect–institution relationship are also crucial to success. Even the best architects cannot produce good work in a failure-prone relationship. The crucial factors are: adequate fees; appropriate budgets and schedules; and a cooperative, supportive process.

PROJECT DEFINITION AND FEASIBILITY

This is the most important phase of any project. The first big step after project initiation, it involves the definition of the proposed facility’s program, site, guidelines, budget, and design concept. Project feasibility is determined during this phase.

Because of its fundamental nature, this phase also determines whether the future project will be success prone, or failure prone. As such it should be careful, considered, and rational. Unfortunately, however, this is often the most arbitrary and ill-considered phase of the project. Time and care should be devoted to this effort.

Programming, site selection, project-specific guidelines, budget/cost estimating, and conceptual design are interrelated activities and should be developed in an integral and cyclical manner, rather than as a linear sequence of independent tasks, in order to achieve a balance of value. Most projects are either “budget driven” or “mission driven.” With budget-driven projects, the size and quality of the facility are derived from a fixed amount of money available for the project cost. With mission-driven projects, the project cost is derived from the size and quality of the facility that is required. Most people have heard of mission-driven projects, but few have actually seen one. Therefore, an adequate process should be developed to allow a balance to be achieved between cost, size, and value. The work of this phase may be done “in-house,” or by outside consultants.
Site Selection

Each potential site should be studied for its characteristics and capacity before any specific program is identified for it. The major development guidelines may then be identified and made part of whatever program is identified for the site. The specific program can then be developed and tested on the site.

Typically, site-selection criteria include unencumbered availability, lack of underground utility complications, adequate area to accommodate program volume, and proximity to related facilities. Rarely is the potential for the building’s contribution to enhancing the public realm a consideration; and rarely does any of the site’s potential have an effect on the program.

Site requirements, however, are as important as functional requirements in the development of a facility program if an individual building’s contribution to a good physical environment is to be achieved. Indeed, a building’s civic role should be a fundamental part of the facility program and should not be reduced in order to enhance private requirements. For each new project, a siting study should be done, not only to determine feasibility, but also to determine the guidelines for the building’s civic role that should be written into the building program.

Program

The modern, specialized field of programming has its roots in mid-eighteenth-century France. This was a period in which architectural competitions were held for an expanding array of large institutional buildings, each of which required a functional program of spaces. This period was also the beginning of the quantification of knowledge, of structural calculations, and a radical change in the way architecture was conceived and designed. For the first time buildings were conceived “from the inside-out,” rather than “from the outside-in.” The “private” role of the building became dominant over its “public” role and more and more buildings were designed as detached, freestanding objects. This system was continued throughout the nineteenth century under the French architectural education system of the Ecole des Beaux Arts. The most important lesson students learned was that “the most important spaces (the public space of circulation, etc.) are never in the program.”

In modern times, programming has become ever more mechanistically and mathematically sophisticated. The typical modern program focuses on the development of a highly particularized and defined schedule of “net assignable functional areas,” controlled and maximized by the users of the facility. The interior public spaces of the building—“the most important spaces”—are now expressed as a mathematical expression of efficiency called the “net-to-gross ratio.” In other words, the net areas are totaled and multiplied by a ratio in order to determine the projected gross area of the facility. There is a tendency to maximize the net area and minimize the gross area by making the net-to-gross ratio as low as possible.

For all its positive characteristics, however, this modern notion of program is flawed: too often its emphasis on the private role of the building produces isolated, cheap-looking, bad neighbors, with little or no interior or exterior social space. Indeed, one of the most common and compelling requests from faculty during the early master planning workshops was for more public space that would allow chance encounters between faculty, and between faculty and students. To make matters worse, if cost reductions are required, they are inevitably taken from the exterior and the public spaces—in order to preserve “net assignable square feet.” Thus, these kinds of programs address only half of the programmatic issues: the private half. The typical site-selection process is complicit in this conundrum as well.
Budget

If buildings are to fulfill their civic role as described in the Campus Master Plan, both the programming and funding must accommodate this by including landscape and public space requirements in a proposed building’s program and budget. Unfortunately, the establishment of a budget for a facility is usually the least rational factor in a project. Often it is completely arbitrary, with no relationship to mission, program, etc. Even when it is derived from the program, it is often failure-prone because it is based on an unrealistically low net-to-gross multiplier to determine gross area, and this area is then multiplied by an inadequately low value of dollars per gross square feet ($/GSF). If site criteria are absent, the projected construction cost is even more inadequate. Finally, an inadequately low ratio of construction cost to project cost may exacerbate the problem.

Cost estimating is a combination of guessing and measuring. In the beginning of a project, it is mostly guessing; toward the end of documentation there is more measuring (quantification), but there is still a lot of guessing. Experience helps make better guesses, but contingencies and contingency management are crucial to cost control. Conventional wisdom holds that the first time the construction cost of a building can be predicted accurately is at the end of the preliminary design phase, as this is the first time the project can reasonably be accurately quantified. Before that point, success-prone factors should be used.

Some useful budget projection guidelines during programming include:

- Use a generous net-to-gross multiplier to estimate the gross area of the building (1.65 or better).
- Use a generous value per gross square foot (indexed to a year of construction) to arrive at the projected building construction cost.
- Use a generous allowance for site work.
- Use an adequate multiplier for construction-to-project cost (typically about 1.33).

A better system, however, is to include site-development guidelines as part of the program, do a conceptual design, and then do a “take-off” estimate with proper contingencies (20% for site work, 15% for design). The 15 percent design contingency should be carried in the concept design estimate as well. At the end of preliminary design this can be 10 percent. Toward the end of detailed design, the design contingency can be reduced to 5 percent. (N.B.: These design contingencies are separate from any estimating, construction, or owner’s reserve contingencies.)

In other words, the best approach is to perform programming, site selection, budgeting, and conceptual design as an integral process. The goal should be to make the best possible campus architecture. This means that the exteriors and public spaces of buildings need to be adequately designed and funded.

Conceptual Design

A conceptual design does several things: it tests the program’s ability to perform a civic as well as a private role; it enables more accurate budgeting; and it tests the functional implications of the site.

Without an actual design, the program and budget are simply mathematical constructs, and the site guidelines are simply theoretical constructs. A conceptual design is a useful tool for determining realistic programs and budgets as well as for demonstrating the potential for the building’s civic role.
DESIGN CONTROL

Strong design control is required to achieve a high-quality campus environment and implement the intent of the Campus Master Plan. Design authority vested in a University Architect/Campus Planner and a Design Review Board are important elements in achieving this.

To be effective, any process must address both private and public interests. In the recent past, this balance has been difficult to achieve owing to the hegemony of private interests that result from a lack of cohesive plan and design authority. To maintain a balance, active participation and cooperation is required from four institutional entities: the Users, Facilities Planning and Construction (FP&C), a Design Authority, and the Architect. While each of these participants has a more focused role or agenda, each must be involved with all phases and accept responsibility for the implications and effects of their individual agendas. For example, it is not enough for a University Architect and a Design Review Board to make requirements in the early (design) phases of a project and then be absent in the later phases when budget considerations threaten to undermine those requirements.

Users have a largely “private” agenda. They are primarily concerned with getting the most square feet possible and the best functional arrangement. This is especially true of technical facilities as opposed to more symbolic public buildings such as performing arts buildings. Every user group’s special requirements must be acknowledged, but their needs must also be put in the context of the larger whole—financially, formally, and socially. For example, the exterior of the building and the site development should be subject to appropriate budgetary attention in order to fulfill the facility’s responsibilities to the public realm.

Facilities Planning and Construction also typically has a largely “private” agenda, as they are concerned primarily with budget and schedule. To the degree that they are also a planning authority, they may also be concerned with the long-term viability of the project and with engineering and maintenance. It is in this last sense that they also have a public agenda.

The Design Authority of a university, in contrast to the Users and FP&C, has an almost completely “public” agenda. Like FP&C, the Design Authority is concerned with the long-term viability of a project, but primarily it is concerned with the promotion, development, and maintenance of the quality of the public realm. It thus plays a large role in the development of plans and guidelines, in architect selection, and in the design review of individual projects. Design Authority may be an individual, a group of individuals, or a Design Review Board. Typically, it is composed of a University Architect and a Design Review Board. Its power or authority—and therefore its effectiveness—may be delegated from the top down, or developed from the bottom up. Both are desirable, but without support from the top, the effectiveness of design control is drastically diminished.

The Architect should have an acutely developed understanding of both public and private obligations.

University Architect/Campus Planner

The University Architect/Campus Planner is professionally responsible for the qualitative development of the campus, and for the implementation, monitoring, and evolution of the Campus Master Plan. This requires vested authority by the university, and knowledgeable acute design judgment. The most important duties of the University Architect/Campus Planner are: to sponsor and guide the program/site/budget/conceptual design phase; to participate in, and guide, architect solicitation and selection; and to be a leading member of the Design Review Board.

Design Review Board

The Design Review Board (DRB) reviews project designs on behalf of the university with two primary goals:

1. To monitor and ensure that all design projects comply with the intent of the Campus Master Plan; to interpret the plan and guidelines; to grant exceptions when appropriate; and to recommend modification or development of the Campus Master Plan as required.

2. To evaluate projects to ensure that they meet the highest qualitative standards.

The DRB is the guardian of campus development, and its recommendations to the administration should be taken seriously.
Authority and Membership
To fulfill its mission, the Design Review Board must be granted authority and judgment. The members of the DRB should be appointed by the president of the university, and the DRB should be vested with the authority to review projects on the university’s behalf and advise the proper university parties. The president should appoint as chair a person of professional judgment, diplomacy, and conviction. This person could be the University Architect/Campus Planner.

The DRB, typically, should consist of the University Architect/Campus Planner, two faculty from the College of Architecture, two practicing design professionals (who are precluded from university work during their term on the Board), two at-large faculty with an interest in the design of the campus (to be appointed by the Provost), the Vice President for Administration (ex-officio), and the Physical Plant Assistant Vice President (ex-officio). Terms might be for two years, but staggered for continuity. Other members of the university community might attend the deliberations of the board as resources, but as nonvoting members. The University Architect/Campus Planner and one professional member of the Design Review Board should sit on each Architect Selection Committee.

Procedures
The Board should have formal, regular (e.g., monthly) meetings with set procedures and agenda. Projects are presented to the Board by the Project Committee and the Design Team. After every project review, clear instructions from the Board’s deliberations should be provided.

The sequence of actions/reviews should include but are not limited to the following:

1. Review the Campus Master Plan with each design team and provide them with a copy of the relevant parts of the Campus Master Plan;
2. require an initial meeting with the design team to clarify the university’s intent;
3. require formal reviews at the level of Program/Concept Design, Preliminary Design, and Detailed Design; and
4. provide a postconstruction project assessment report.

Project Review Criteria
All major planning, landscape, and architectural projects should be reviewed. Smaller projects should also be considered for review, although the process could be abbreviated. The accumulation of small projects can add up to serious degradation of the physical environment. These projects may also be an opportunity to initiate the transformation of an existing condition. The basic criterion that triggers design review should be whether the project affects or changes the public spaces of the university, including lobbies of buildings.

Administrative Integration
The design review process should be carefully integrated into the existing university administration, especially as it relates to campus development and project initiation. Care must be taken, however, not to counteract or dilute the authority of the campus Design Review Board.