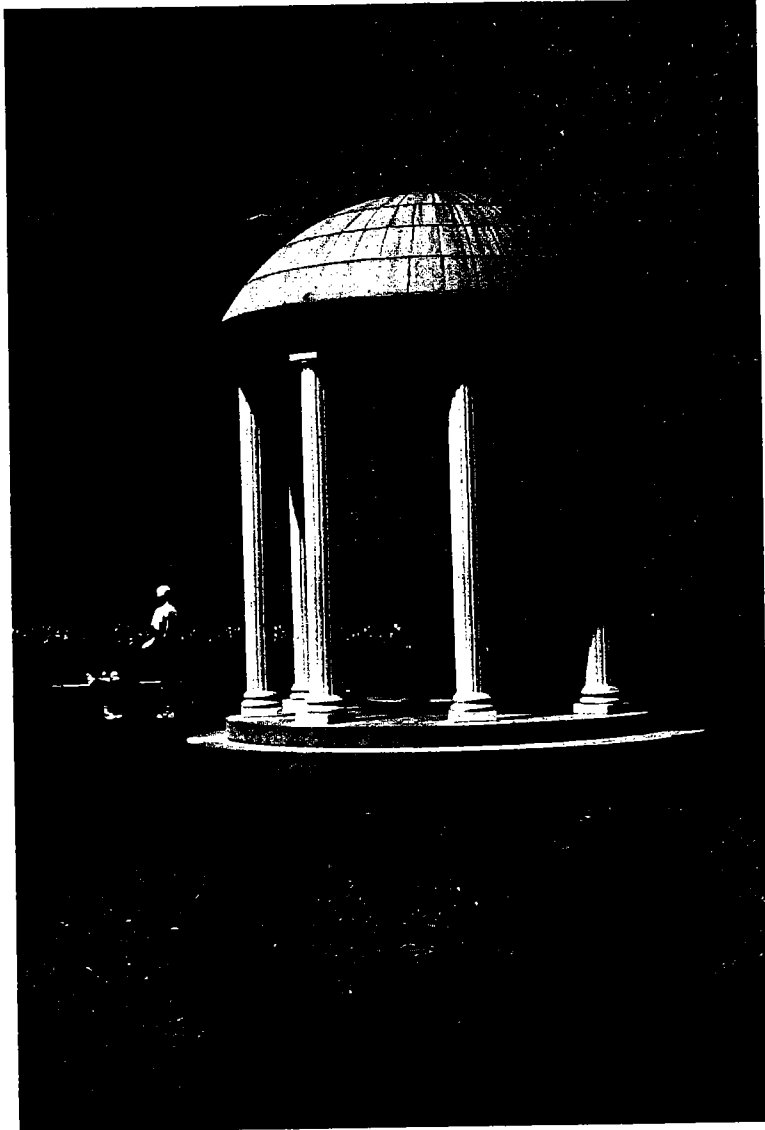


OUTLYING PARCELS LAND USE PLANS
TECHNICAL REPORT



THE UNIVERSITY OF NORTH CAROLINA
at CHAPEL HILL

prepared by
JJR INCORPORATED
PARSONS BRINCKERHOFF

OUTLYING PARCELS LAND USE PLANS
TECHNICAL REPORT

TABLE OF CONTENTS

SECTION 1	SPECIAL ACKNOWLEDGMENTS	
SECTION 2	EXECUTIVE SUMMARY	
	Introduction.....	2-1
	Project Approach.....	2-3
	Planning Context.....	2-6
	Community Land Use Policy Goals.....	2-6
	University Planning Principles.....	2-7
	Horace Williams Property.....	2-9
	The Site.....	2-9
	Development Framework.....	2-9
	Potential Uses.....	2-10
	Alternatives.....	2-11
	Recommended Land Use Plan.....	2-13
	Mason Farm Property.....	2-18
	The Site.....	2-18
	Alternatives.....	2-19
	Recommended Friday Center Area Plan.....	2-19
SECTION 3	HORACE WILLIAMS PROPERTY	
	Introduction.....	3-1
	The Site.....	3-1
	Section Organization.....	3-1
	Development Opportunities and Constraints.....	3-3
	Adjacent Land Use.....	3-3
	Traffic and Circulation Patterns.....	3-3
	Roadways.....	3-3
	Transit.....	3-5
	Bikeways and Sidewalks.....	3-6
	On-Site Land Use.....	3-6
	The Horace Williams Airport.....	3-6
	UNC Physical Plant and Other Buildings.....	3-7
	Park-and-Ride Lot.....	3-7
	City of Chapel Hill Municipal Operations.....	3-7
	Landfill sites.....	3-7
	Old Mill Site.....	3-7
	Community Gardens.....	3-8
	Open Space.....	3-8
	Natural Features.....	3-8
	Topography and Slope.....	3-8
	Drainage and Hydrology.....	3-8
	Vegetation.....	3-9

OUTLYING PARCELS LAND USE PLANS
TECHNICAL REPORT

The Planning Framework	3-10
Proposed Uses	3-10
Environmental Characteristics	3-13
Level 1: Highly Sensitive Environmental Areas/ Committed Uses	3-13
Level 2: Environmental Buffers	3-13
Level 3: Low Intensity Development Areas	3-13
Level 4: Sloping/Vegetated Development Areas	3-14
Level 5: Flat/Open Development Areas	3-14
Site Suitability for Proposed Uses	3-14
Development Options	3-17
Introduction	3-17
Land Use and Circulation Alternatives	3-17
Common Features	3-17
Alternatives Comparison	3-18
Density and Transportation Management Alternatives	3-21
Estimated Build Out Capacity: Standard Approaches	3-22
Traffic Generation Threshold: A Performance-based Approach	3-23
Findings	3-29
Recommended Land Use Plan	3-31
Planning Principles	3-31
Development Patterns	3-33
Density and Transportation	3-35
Conclusion	3-36

SECTION 4 MASON FARM PROPERTY

Introduction	4-1
Friday Center Area	4-1
Parker Property	4-1
Planning Approach	4-1
Section Organization	4-2
Development Opportunities and Constraints	4-3
Current Land Use	4-3
Natural Resource Areas	4-3
Recreation	4-3
Developed Areas	4-3
Parker Property	4-4
Natural and Cultural Features	4-4
Topography and Slope	4-4
Drainage and Hydrology	4-4
Vegetation	4-4
Adjacent Land Use	4-5
Traffic and Circulation	4-5
Roadways	4-5
Transit	4-6

OUTLYING PARCELS LAND USE PLANS
TECHNICAL REPORT

Bicycle Routes	4-7
Planning Framework	4-8
Development and Non-Development Areas	4-8
Prior Committed Areas	4-8
Sensitive Environmental Areas.....	4-8
Development Area.....	4-8
Proposed Uses.....	4-9
Development Options.....	4-10
Introduction.....	4-10
Common Features.....	4-10
Alternatives Comparison	4-11
Alternative A: Surface Parking	4-11
Alternative B: Deck Parking.....	4-12
Recommended Plan.....	4-14
Friday Center Area Development Patterns.....	4-14
Site Layout and Open Space	4-14
Density	4-15
Parking.....	4-16
Access	4-16
Conclusion	4-18

FIGURES

SECTION 2

- 2.1 Approach Diagram
- 2.2 Community Analysis
- 2.3 Final Land Use Plan - Horace Williams
- 2.4 Final Framework Plan - Mason Farm
- 2.5 Parker Property Plan

SECTION 3

- 3.1 Horace Williams Property Analysis
- 3.2 Environmental Summary Horace Williams Property
- 3.3 Site Suitability Horace Williams Property
- 3.4 Alternative A Horace Williams Property
- 3.5 Alternative B Horace Williams Property
- 3.6 Alternative C Horace Williams Property
- 3.7 Final Land Use Plan Horace Williams Property

SECTION 4

- 4.1 Mason Farm Property Analysis
- 4.2 Road Network
- 4.3 Final Framework Plan Mason Farm Property
- 4.4 Alternative A Mason Farm Property Analysis
- 4.5 Alternative B Mason Farm Property Analysis
- 4.6 Parker Property Mason Farm Property Analysis

OUTLYING PARCELS LAND USE PLANS
TECHNICAL REPORT

TABLES

SECTION 2

Table 2-1	Alternatives Comparative Evaluation	2-12
Table 2-2	Horace Williams Property Site Development Summary	2-14
Table 2-3	Development Summary.....	2-21

SECTION 3

Table 3-1	Summary of Key Trip Reduction Policies	3-28
Table 3-2	Trip Reduction Impacts on Build-out Capacity	3-30
Table 3-3	Horace Williams Property Site Development Summary	3-34

SECTION 4

Table 4-1	Development Summary.....	4-15
-----------	--------------------------	------

OUTLYING PARCELS LAND USE PLANS
TECHNICAL REPORT

APPENDIX

- A Horace Williams Airport Study
- B Environmental Concerns Information Survey
- C Faculty Committee Recommendations
- D Final Community Advisory Committee

OUTLYING PARCELS LAND USE PLANS
TECHNICAL REPORT

SECTION 1 – SPECIAL ACKNOWLEDGMENTS

PROJECT TEAM

Because of the highly interactive nature of this study, the recommendations presented in this report reflect not only those offered by the consultants, but also many put forth by faculty, staff and community participants. Recognition is due to a number of key players including; *Elson Floyd* for offering administrative insight and direction, *Bruce Runberg* for his patience and honesty in bringing the communities into the planning process; *David Godschalk* for sharing his insight and vast knowledge of planning issues and strategies; *Tom Clegg* who lead the Faculty Committee in attempting to understand and define future University growth needs; and *Ted Hoskins* for his perceptive guidance and unflagging efforts as the University Project Manager. The chairs of the two Community Advisory Committees, *Rosemary Waldorf* and *Jay Bryan* also deserve special recognition.

The Consultant Team wishes to express sincere thanks to the many people who contributed so much of their time, interest and energy to the planning process. Their thoughts and concerns are reflected in the resulting plans.

University Staff:

Paula Gee Davis
Edward Hoskins
Ray Magyar
Charlotte Jones-Roe

Bruce Runberg
Gordon Rutherford
Janet Soares
Celeste Winston
Beth Wright

Facilities Planning Committee:

Wayne R. Jones, Chair
Donald A. Boulton
David D. Dill
Robin Ellis
David R. Godschalk
Harry Gooder
Elson S. Floyd
H. Garland Hershey
Susan Kitchen
Richard L. McCormick

Thomas J. Meyer
Eric B. Munson
Aaron M. Nelson, Jr.
Wayne L. Rash, Jr.
Richard Richardson
Bruce L. Runberg
John L. Sanders
C. Edward Teague, III
Edith M. Wiggins

OUTLYING PARCELS LAND USE PLANS
TECHNICAL REPORT

Faculty Committee:

Thomas B. Clegg, Chair
Margaret P. Balcom
Joseph M. Flora
Laura N. Gasaway
David J. Hartzell
William H. Glaze
Larry M. Hicks
William D. Huffines

Kevin Hunter
Steven Hoffman
Carol G. Jenkins
Gerald J. Postema
Matthew Preston
William W. McLendon
Linda L. Spremulli
Frank Wilson, Jr.

Technical Committee:

Bruce L. Runberg, Chair
Mary A. Beck
Edward Brooks
Kathryn R. Kalb
Michael T. Klein
Jeff Matkins
James T. Mergner

Sherry B. Morrison
Kathleen F. McGaughey
Roger Waldon
Peter S. White
Roy Willford
Marilyn V. Yarbrough
D. J. Zerman

Buildings and Grounds Committee:

David R. Godschalk, Chair
Thomas A. Bowers
Elizabeth A. Chenault
Thomas B. Clegg
JoAnn B. Dalton
John Davies
Rachel A. Fuerst
Steven Hoffman
Norris B. Johnson

Kristin Komives
William D. Mattern
F. Thomas McIver
James L. Murphy
David W. Owens
A. Wayne Pittman
Carol Reuss
Lawrence M. Smar, Jr.
Sharon P. Turner

OUTLYING PARCELS LAND USE PLANS
TECHNICAL REPORT

Special thanks are also due the following citizens for being partners in the planning process. They committed their time and extensive talents and to this effort.

Carrboro Community Advisory Committee:

Jay Bryan, Chair
Carla Ball
Keith Burwell
Gary Giles
Carol Ann Greenslade
Tom High

Robin Lackey
Doris Murrell
Mike Nelson
Brian Taylor
Sam Thompson
Roy Williford (staff)
Kenneth Withrow (staff)

Chapel Hill Community Advisory Committee:

Rosemary Waldorf, Chair
Flicka Bateman
John Bell
Joe Capowski
Nancy Gabriel
Alice Gordon
Josh Gurlitz
Alice Ingram
Lee Pavao

Scott Radway
Larry Reid
Alan Rimer
Pearson Stewart
James Ward
William Whitehead
Don Weisenstein
Rachel Willis
Bob Woodruff
Chris Berndt (staff)
Lori Tekiele (staff)

Other Participants

Our thanks to the many faculty, staff, community leaders, residents and media representatives who attended the open campus and community sessions.

Consultant Team

JJR
Tammy Burke
Jim Christman
Connie Dimond
Dick Rigterink
Karl Steavenson

Parsons Brinckerhof
George Alexiou

SECTION 2 - EXECUTIVE SUMMARY

INTRODUCTION

The Impetus: Undertaking the Planning Study

In 1994, the University of North Carolina at Chapel Hill began an evaluation of its two major outlying properties, Horace Williams and Mason Farm, to identify potential land use patterns and densities and to ensure a coordinated development approach as future needs arise. The preparation of a planning framework for the two outlying properties was undertaken in response to several critical issues.

Protecting Central Campus. Only limited opportunities for additional development remain on the University's Central Campus if current boundaries and existing densities are maintained. Nevertheless, pressures for accommodating new facilities in this area continue to grow. As a result, the University needed to take a careful look at recent growth patterns, projected future needs, broad options for accommodating growth and the desired future roles of the Central Campus, the Horace Williams Property and Mason Farm.

Avoiding Piecemeal Development. An increasing number of building projects (WUNC radio station, Principal's Executive Program, and daycare center) was being proposed for the remaining developable area surrounding the Friday Continuing Education Center at Mason Farm. This increased interest in locating support functions at Mason Farm is a logical result of the shortage of sites on Central Campus, as well as the increasing appeal and activity created by the completion of the Friday Center, the University's primary conference and training facility. To avoid the risk of using the valuable land resources at Mason Farm and the Horace Williams Property inefficiently, clear plans for the two outlying properties were needed.

Addressing Community Concerns. In anticipation of the University's need to initiate development on the Horace Williams Property, and in the absence of a plan for its future use, the Town of Chapel Hill began to discuss re-zoning alternatives which would improve control over the type, density and pattern of future development. A cooperative planning process was needed to ensure that new development regulations would give the University the flexibility needed to make good use of the property in achieving its mission while responding to community goals.

The Opportunity: Initiating an Interactive Process

The greatest opportunity in preparing plans for the University's outlying properties was to demonstrate how the University and the community could work together more effectively on issues of mutual concern. In Chapel Hill and Carrboro, as in other college towns, tension often exists between the university and the surrounding community. This tension usually centers on areas of interdependence, such as housing, transportation and parking. In the

OUTLYING PARCELS LAND USE PLANS
TECHNICAL REPORT

past, the most common approach has been to simply ignore these difficulties. Over the last decade, however, as problems have become more complex and the lack of resolution more painful, universities and communities have started to join forces to better understand and resolve confrontational issues. The University of North Carolina at Chapel Hill decided to pursue this cooperative model in undertaking the development of long-range plans for the Horace Williams and Mason Farm properties.

The University invited the active participation of advisory committees from Chapel Hill and Carrboro, as well as the University community. These committees helped to define critical planning issues and to evaluate the trade-offs raised by alternative plan and policy approaches. To ensure that the committees had ample opportunity for input and review, over 30 meetings and workshops were held throughout the planning process. Open campus and community meetings were also held at critical points to solicit input and provide an opportunity to discuss key issues. In addition, local media representatives were briefed at the beginning and end of each scheduled consultant visit to campus.

This interactive planning approach represented a significant commitment of time from University, community and local government representatives over the course of the 24-month planning study. Because the majority of these meetings was conducted by the consultant team, this approach also required a significant financial commitment from the University.

The results of this collaborative approach were outstanding. Community participants made significant contributions to the content of the recommended plans by taking a proactive approach in offering planning data, principles and priorities, as well as formulating alternative solutions to important planning issues. Time spent in exchanging ideas, challenging assumptions and clarifying points of view helped all participants to see the issues from a variety of perspectives and led to new ways of thinking about the future of the outlying properties. As a result, the recommended plans establish new models for campus development, just as the collaborative planning approach promises a new level of cooperation, respect and communication as those plans move forward towards refinement and implementation.

The Challenge: Balancing Flexibility and Certainty

The Horace Williams and Mason Farm properties presented very different situations and called for different planning approaches. On the Mason Farm Property, the area suitable for future development is very limited and, because of its proximity to the Friday Center, the future land use focus could be easily established. In contrast, 550 acres of developable land are available on the Horace Williams Property; no use focus has been established and no development projects are on the drawing board. The challenge in planning for the Horace Williams Property was to provide meaningful guidance for long-term decision-making even though it is impossible to predict the specific programs and projects the University may need to accommodate there over the next 30 - 50 years.

As a result, the recommended plan for the Horace Williams Property must balance flexibility for the University with certainty for the community. To accomplish this, the plan maintains flexibility by including broadly defined use districts (including a transit-supportive, mixed-use University Village district) and a performance-based approach to establishing site build out capacity that encourages the University to pursue community-supported policies for reducing automobile trips and encouraging transit use. This performance-based approach proposes a limit on the number of week day car trips to and from the Horace Williams site to give the community a clear and certain measure of future traffic impact.

PROJECT APPROACH

The project was undertaken in five phases.

Phases 1 and 2

During the first two phases issues and priorities were established and the site's physical features evaluated. Two findings significantly shaped how the two sites would be dealt with in the later phases of the planning process.

- Although it had been anticipated that the University would arrive at a fairly detailed list of potential uses for the two outlying parcels, it proved difficult to define the specific uses which might be needed at the Horace Williams Property over the next 30 – 50 years. As a result, it was determined that general use districts should be defined, each containing a range of similar possible uses, to maintain the necessary flexibility for future University decision-making.
- Approximately 60% of the Mason Farm Property is currently committed to uses that will be retained, leaving only 128 acres adjacent to the Friday Center to be planned for future University development. As a result, it was determined that future land use at Mason Farm should complement the Friday Center and that, because of the smaller developable area, planning products could be more detailed than at the Horace Williams. The portion of the Parker Property which is suited to development (55 acres) can be sold to a private developer, with the remaining area preserved as a buffer to Mason Farm's Biological Reserve.

Phase 3

During the third study phase, the consultant team prepared a series of alternative land use plans for the Horace Williams Property to generate discussion and highlight key planning issues. A range of long-term build out capacities was also identified under alternative transit/trip reduction scenarios, given a maximum threshold for site-generated weekday automobile traffic.

OUTLYING PARCELS LAND USE PLANS
TECHNICAL REPORT

At Mason Farm, a land use approach was identified for the Parker Property; however, given the agreed upon focus for future land use in the area surrounding the Friday Center, two more detailed, alternative framework plans were developed to illustrate potential building and parking layouts.

After the alternatives were presented to the University and community groups, additional meetings were conducted with the Carrboro and Chapel Hill Advisory Committees, Orange County representatives and the general public to promote a clear understanding of each group's concerns and priorities. After several months of discussion, the University and Community Advisory Committees presented their comments and concerns to the consultant team.

Phase 4

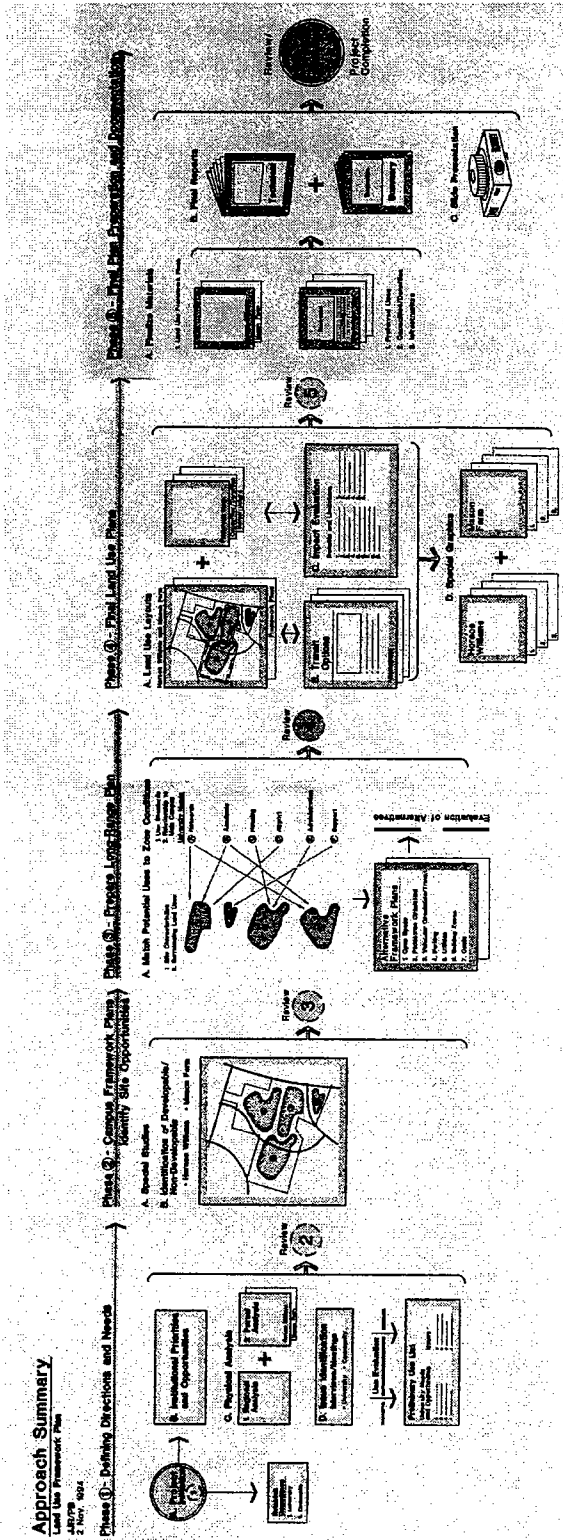
During the fourth phase of the planning process the consultant team modified the plans for both sites to resolve as many outstanding issues as possible. In addition, basic planning principles to guide future development on the Horace Williams Property were summarized and the use of a performance standard for setting site build out capacity was proposed.

Phase 5

The last phase of the planning process consisted of preparing final reports and graphic presentation materials.

The proposed plans for the Horace Williams Property and Mason Farm respond to each site's environmental characteristics, existing uses and surrounding land use and circulation context. As a result of extensive University and community participation in the planning process, the resulting plans provide the flexibility the University needs to achieve its mission while supporting important community goals. Because both University and community participants have a solid understanding of the intent and rationale of the final recommendations, support for the plans is substantial. These plans can now serve as an agreed upon framework within which updating and refinement can occur.

OUTLYING PARCELS LAND USE PLANS TECHNICAL REPORT



PLANNING CONTEXT

Community Land Use Policy Goals

Early in the planning process the Chapel Hill and Carrboro Advisory Committees identified planning goals that highlight priority community issues.

Chapel Hill. Chapel Hill's comments addressed both the Mason Farm and Horace Williams properties and suggested the following goals:

- Encourage a mix of land uses on the Horace Williams Property with an emphasis on research including academic, housing, support services and limited commercial uses.
- Promote compact clusters of higher density development to increase transit feasibility to minimize traffic impacts on the roadways linking campus areas and provide for links to the regional transit system, recommend transit corridor alignments that (1) avoid Mason Farm's Botanical Garden and Biological Reserve and (2) use the existing rail right-of-way on the Horace Williams Property.
- Protect residential neighborhoods on the site's edges.
- Protect critical environmental features and conserve sensitive environmental areas; incorporate protected areas into an open space system which accommodates pedestrian/bike linkages and recreation opportunities.
- Address hazardous material disposal issues (especially ground water) and site-wide storm water management.
- Establish a policy framework which can serve as the basis for future negotiated agreements on service extensions and cost allocations.

Carrboro. The Carrboro Committee offered the following goals for planning the future development of the Horace Williams Property.

- Protect the Bolin Creek corridor and minimize fragmentation of hardwood forests to protect wildlife habitat; incorporate protected areas into an open space system used for passive recreation.
- Cluster development close to existing roads.
- Provide for a park-like use at the Old Mill site.
- Capitalize on the existing rail right-of-way as a transit corridor to Central Campus.

- Consider the need for improved east-west and north-south roadway connections through the Horace Williams site.
- Protect the integrity of existing neighborhoods.
- Promote sustainable, energy efficient development.

University Planning Principles

As planning progressed, University representatives also identified planning principles to guide future development. While these principles were developed with specific reference to the Horace Williams Property, the majority also apply to the development area adjacent to the Friday Center on the Mason Farm Property.

1. Preserve significant environmental resources (consistent with the existing RCD ordinance) and concentrate development in the least environmentally sensitive areas.
2. Promote sustainable development by:
 - Mitigating adverse environmental impacts;
 - Conserving non-renewable energy and materials resources;
 - Designing for energy conservation; and
 - Cooperating in planning for regional stormwater management and maintaining stormwater discharge quantities from these sites at pre-development levels.
3. Promote the use of mass transit and other alternatives to automobile trips by:
 - Designating and preserving future transit corridors and stops;
 - Clustering a mix of uses and the highest densities of development within a 5-minute walk of transit stops;
 - Working in partnership with the surrounding communities (and other agencies) to promote mass transit investments and land use patterns that promote its feasibility; and
 - Providing pedestrian and bikeway linkages to the larger community.
4. Link overall development intensity to the traffic carrying capacity of the transportation system. Promote a variety of trip reduction strategies.
5. Provide the flexibility to accommodate unforeseen University needs and to avoid foreclosing future options.

OUTLYING PARCELS LAND USE PLANS
TECHNICAL REPORT

6. Promote a mix of uses across the site to:
 - Support the daily needs of campus residents, students and employees; and
 - Reduce the need for off-site vehicle trips.
7. Especially in the University Village Use District, encourage a density and scale of development similar in character to the older portion of central campus.
 - Create public outdoor spaces as development focal points.
 - Foster a clear pedestrian and transit orientation.
8. Foster visual continuity in the siting and design of buildings to create a consistent, harmonious campus context.
9. Encourage the development of housing affordable to faculty, staff and students.
10. Continue a dialogue with the community on opportunities for shared facilities.
11. Promote compatibility between existing off-site uses and on-site development; provide buffers adequate to protect adjacent neighborhoods from noise, lighting, and visual impacts, where appropriate.
12. Enhance the visual character of community entranceways and project a positive campus identity.
13. Encourage traffic distribution and avoid congestion by providing multiple campus entrances. Avoid channeling increased traffic volumes onto the neighborhood streets.



Figure 2-2
September 1, 1998
Community Analysis