#### D. CAMPUS PATTERNS

The University of Michigan campus is made up of layer upon layer of complex patterns -- of landscapes, activities and structures of varying ages, qualities and materials; of systems and infrastructures; and of relationships. An understanding of these patterns will be basic to any attempt to add to or change the physical campus.

In Phase I we have combined maps from different sources to convey information on all campuses and about a range of urban and campus variables -- land use, transportation, landscape and open space, natural systems and others. By illustrating some patterns -- land use and campus activities, for example -- layer by layer we hope to perceive new relationships, understand the rules that guide or should guide their growth, and thereby make well-based recommendations.

On the following pages are maps illustrating patterns of:

- 1. Land Use
- Land Use: Ann Arbor (p. 38), shows the University in the larger context of the city and adjacent areas. Together, the campus and Huron River form a cruciform dividing the City into quadrants.
- Land Use: Campus and Surrounding Areas (p. 40), illustrates on one map University and off-campus activities.
- Land uses are shown disaggregated on pages 41 to 48:
- Land Use: Sciences (p. 41)
- Land Use: Housing (p. 42)
- Land Use: Religious Institutions (p. 43)
- Land Use: UM Administration (p. 44)
- University Buildings: Classrooms and Laboratory Space (p. 45) illustrates the density of classrooms and classroom and research laboratories. By this measure, parts of North Campus appear as dense as Central Campus.
- *Land Use: Arts* (p. 46)
- Land Use: Recreation (p. 47)
- Land Use Patterns Disagreggated (p. 48) includes individual diagrams for Open Space, Libraries, Parking and Industry.
- 2. Open Space
- Components of Open Space (p. 49)
- Open Space System: Activities and Access (p. 50)
- Landscape Types: Aesthetic and Spatial Quality (p. 51) categorizes the type and character of campus open space.
- $\bullet \quad Open \ Space \ Quality \ diagrams (pp. 52-53)$  characterize campus open space.

#### 3. Transportation

- Transportation: Ann Arbor (p. 54) shows the University within the context of regional transportation systems.
- Transportation: Campus and Surrounding Areas (p. 55) overlays on one map major roads, parking lots and transit hubs.
- University and Ann Arbor Transit Routes (p. 56)
- *Bicycle Routes* (p. 57) shows Ann Arbor Bicycle routes overlaid on City and University recreational uses.
- Freshmen Path Diagram: Residence to First Class (p. 58).
- Senior Path Diagram: Residence to First Class (p. 59).
- Scale Comparisons: Walking Distances (pp. 60-61) illustrates walks between UM campuses and equivalent distances in well-known cities. What makes some walks more imageable and manageable than others? Walking from landmark to landmark? Along a line or easily defined path? Activities along the way?

#### 4. Interdisciplinary Linkages

• Interdisciplinary Linkages as Reported by the Deans (p. 63) was prepared in 1994 by Patricia S. Whitesell, Office of the Vice President for Research.

We have been working on other maps -- learning channels, public safety, regional land uses, and other campus scale comparisons, for example. These are in draft form for discussion with the Advisory Committee, and will be included in future reports. As we learn more about other patterns, systems and relationships -- archaeological sites, for example -- we will map those too.



- UM Health System
- College of Pharmacy, Division of Kinesiology, School of Dentistry, School of Nursing, School of Public Health, & the Medical School
- **UM** Libraries
- College of Architecture & Urban Planning,
  Law School, College of Literature, Science &
  the Arts, Officer Education Program, Rackham
  Graduate School, School of Art & Design,
  School of Business Administration, School of
  Education, School of Information & Library
  Studies, School of Music, School of Public
  Policy Studies, & the School of Social Work
- LS&A Sciences, College of Engineering, & the School of Natural Resources & Environment
- **UM** Institutes
- UM Athletics
- **UM Recreation**
- UM Student Housing
- **UM Student Services**
- UM Museums
- UM Administration
- **UM Performing Arts**
- UM Facilities

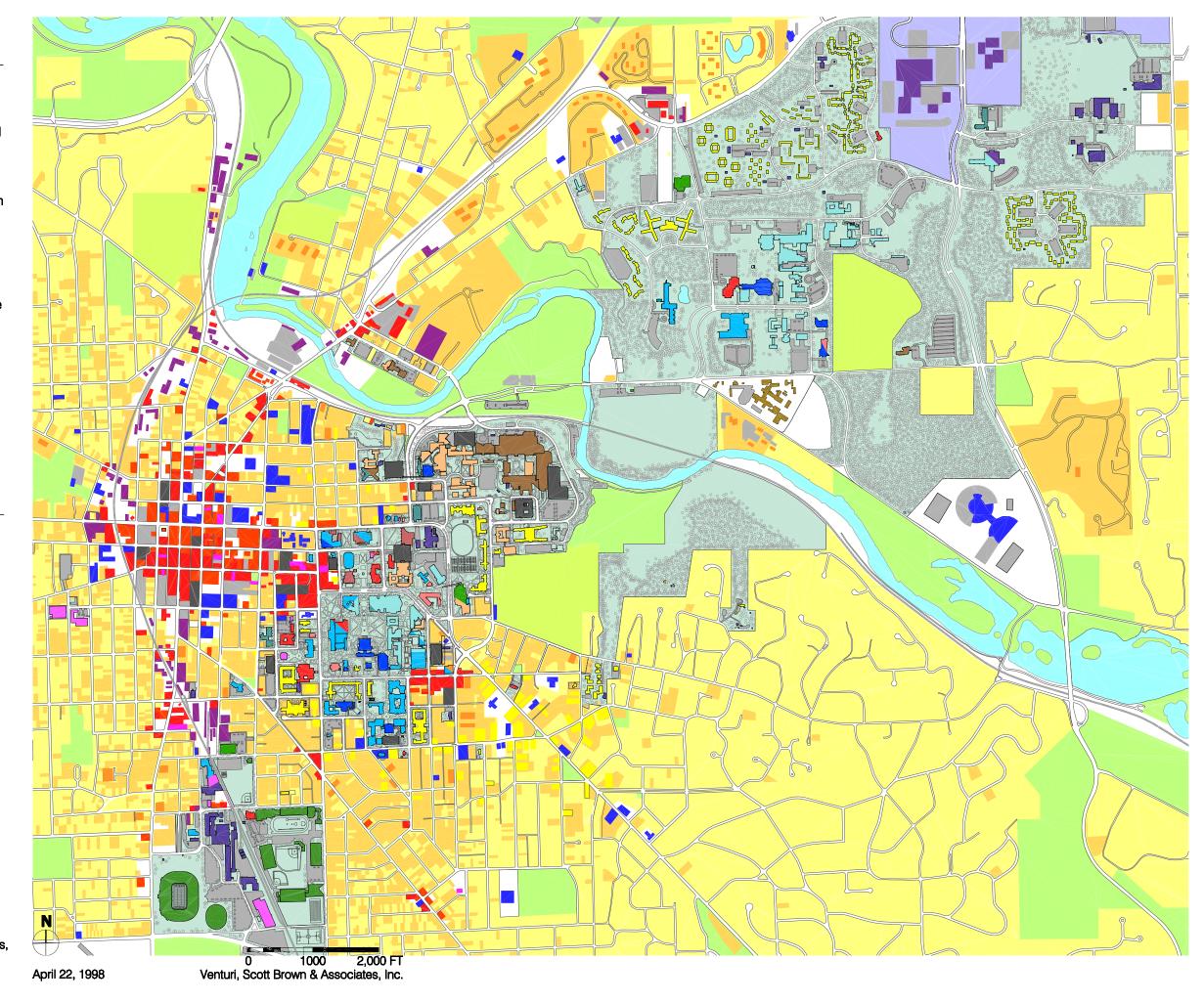
#### **OTHER LAND USES**

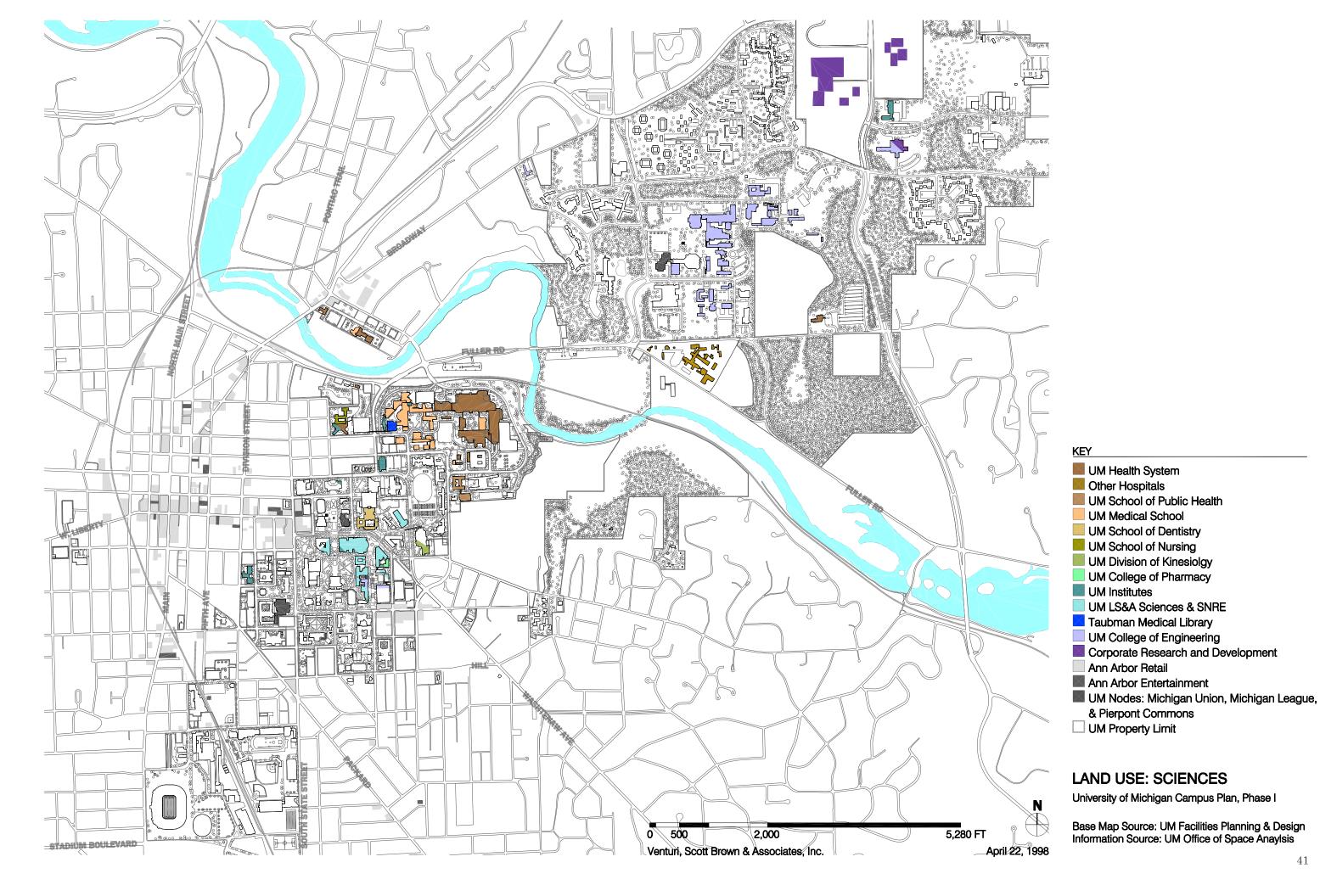
- Medical Hospitals & Clinics
- Industrial
- Corporate Complexes, Research
  - & Development Offices
- Corporate Properties
- Institutional
- Other Colleges and Universities
- Public Open Space
- Cemeteries
- Housing
- Multi-Unit Housing
- Offices
- Retail
- **Entertainment**
- Parking Lots
- Parking Garages

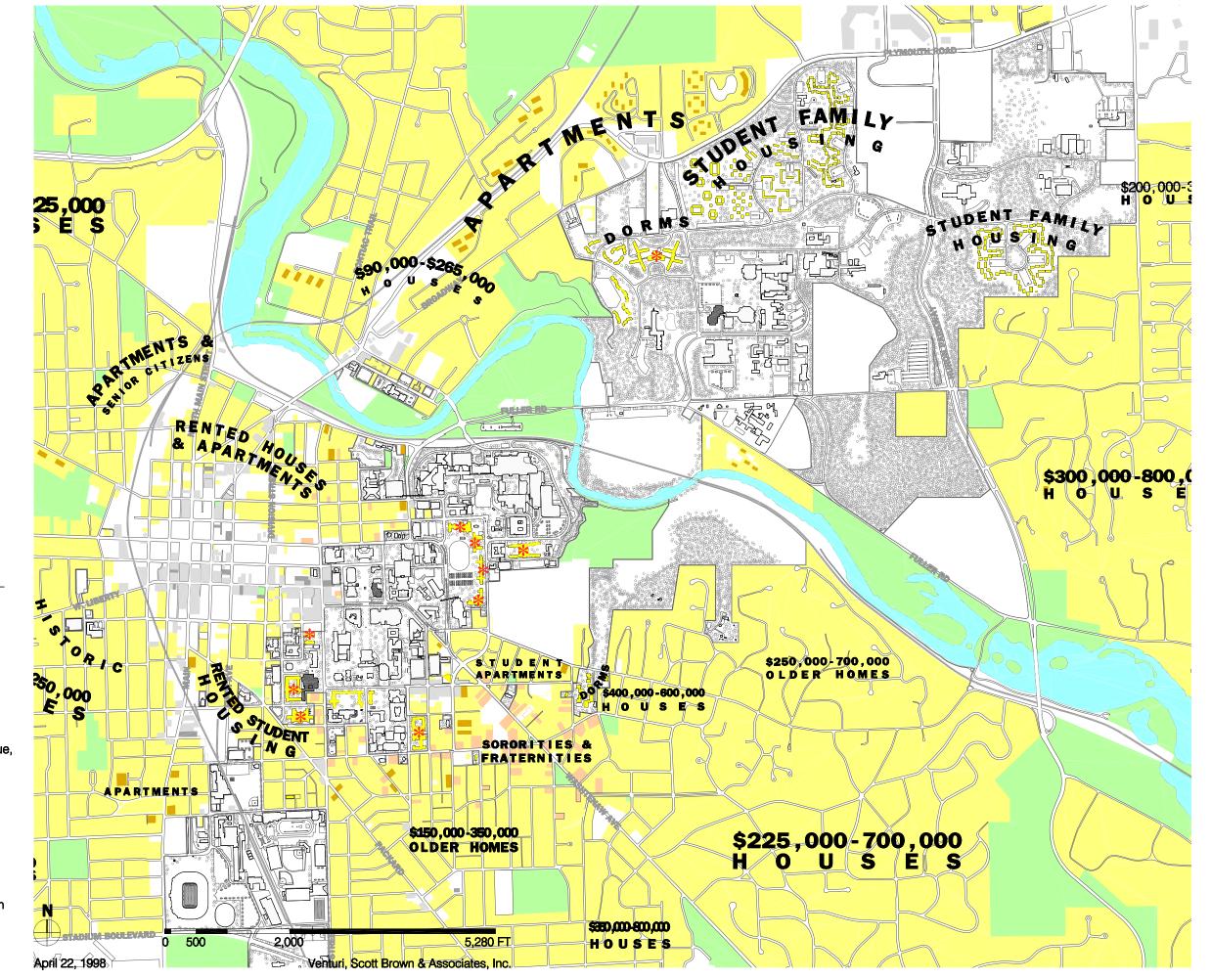
# LAND USE: CAMPUS & SURROUNDING AREAS

University of Michigan Campus Plan, Phase I

Base Map: UM Facilities Planning & Design Information Source: UM Office of Space Analysis, Hedberg Maps, Inc.





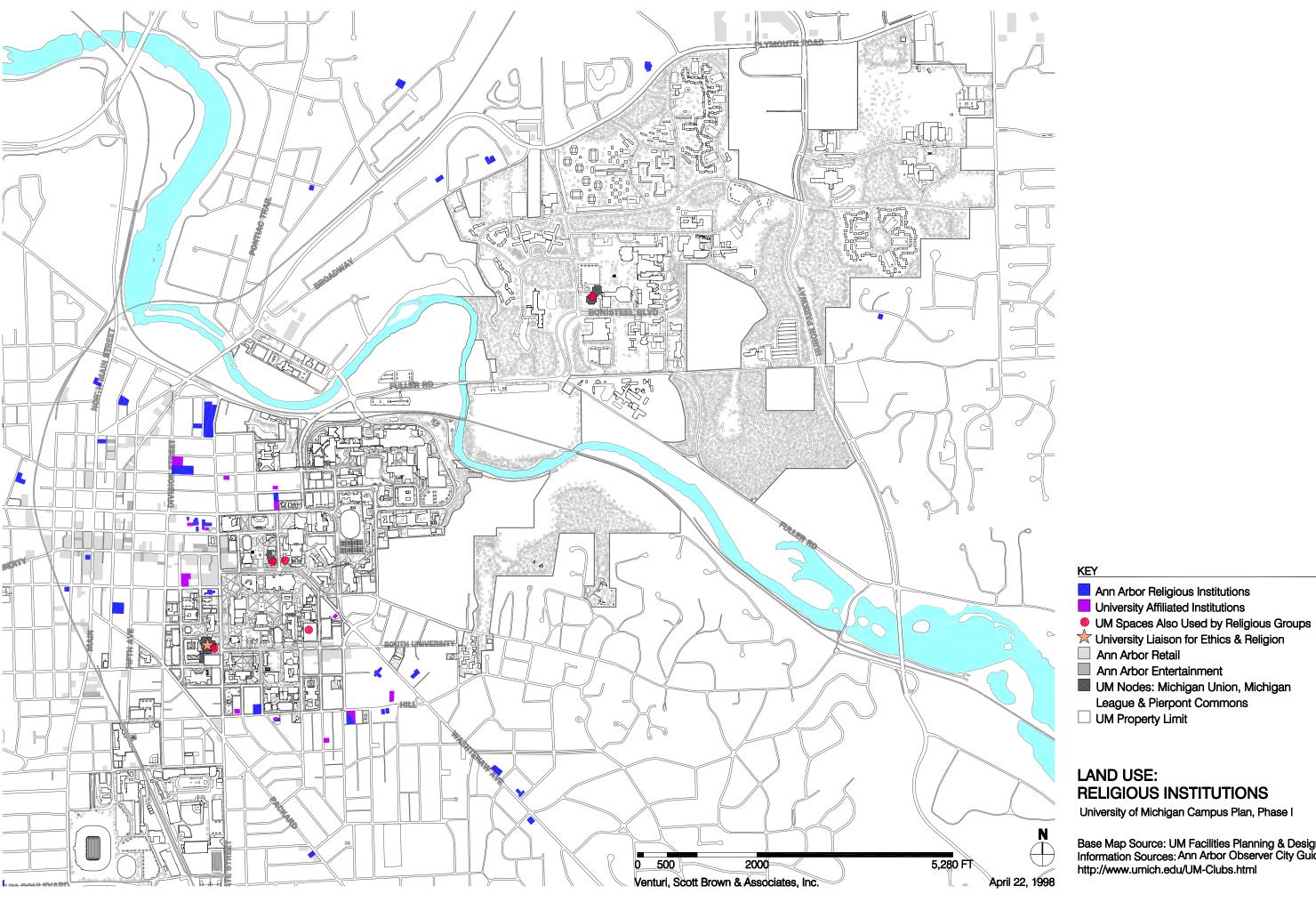


KEY
\* UM Dining in Residential Halls
UM Student Housing
UM Fraternities, Sororities, & Co-ops
Single Family Housing
Multi Family Housing
Ann Arbor Parks & Golf Courses
Ann Arbor Retail
Ann Arbor Entertainment
UM Nodes: Michigan Union, Michigan League, & Pierpont Commons
UM Property

#### LAND USE: HOUSING

University of Michigan Campus Plan, Phase I

Base Map Source: UM Facilities Planning & Design Information Source: Discover the Ann Arbor & Ypsilanti Area Magazine, UM Office of Space Analysis, Hedberg Maps, Inc.

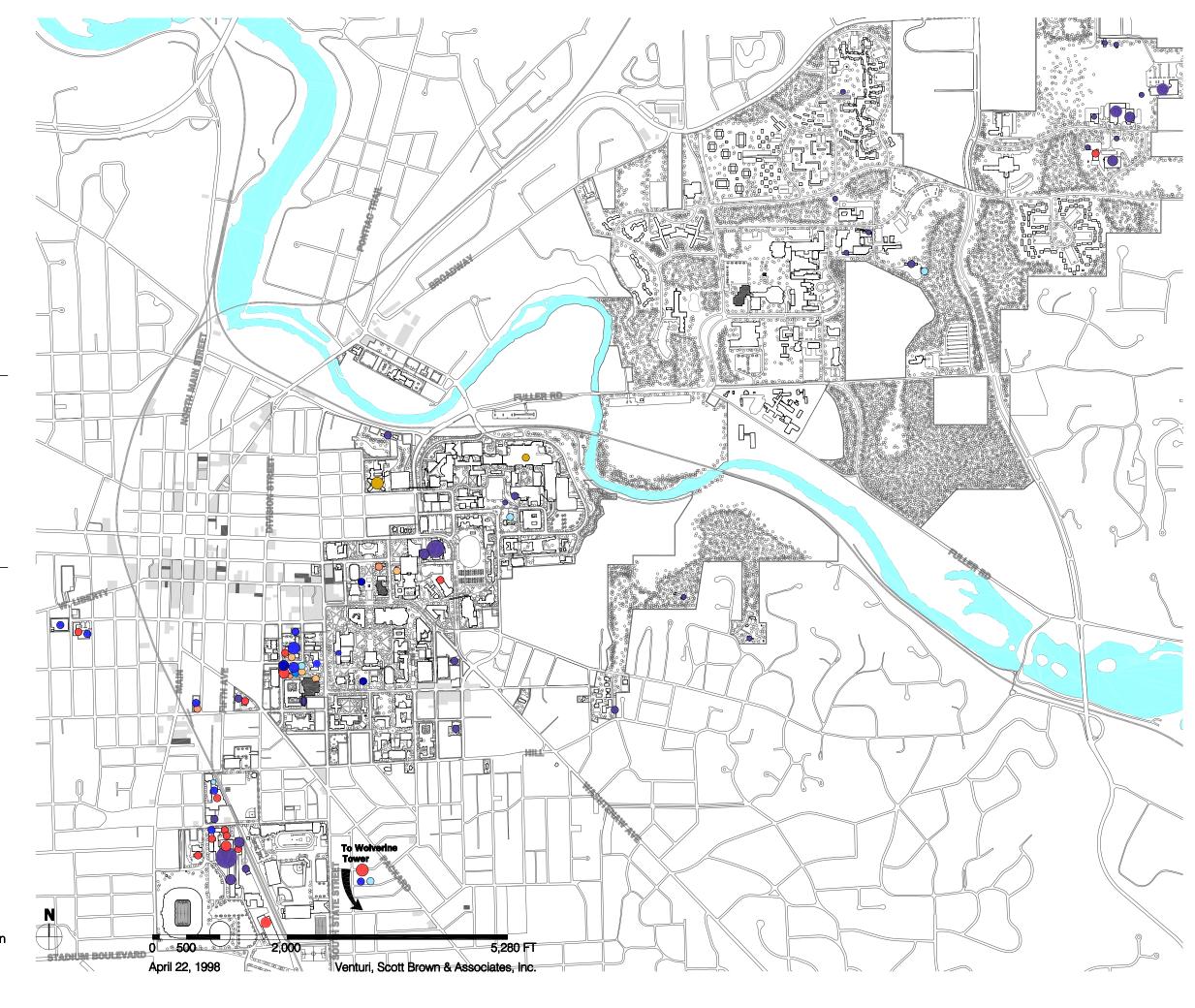


# LAND USE: **RELIGIOUS INSTITUTIONS**

League & Pierpont Commons

University of Michigan Campus Plan, Phase I

Base Map Source: UM Facilities Planning & Design Information Sources: Ann Arbor Observer City Guide http://www.umich.edu/UM-Clubs.html



# Over 50,000 sq. ft.

SQUARE FOOTAGE OF OFFICE SPACE

40,000 - 49,999 sq. ft.

30,000 - 39,999 sq. ft.

20,000 - 29,999 sq. ft. 10,000 - 19,999 sq. ft.

1,000 - 9,999 sq. ft.

Under 1,000 sq. ft.

#### KEY

President's Offices

University Relations Offices

Academic Affairs Offices

Research Offices

Student Affairs Offices

Medical Affairs Offices

Development Offices

Business and Finance Offices

UM Facilities
Ann Arbor Retail

Ann Arbor Entertainment

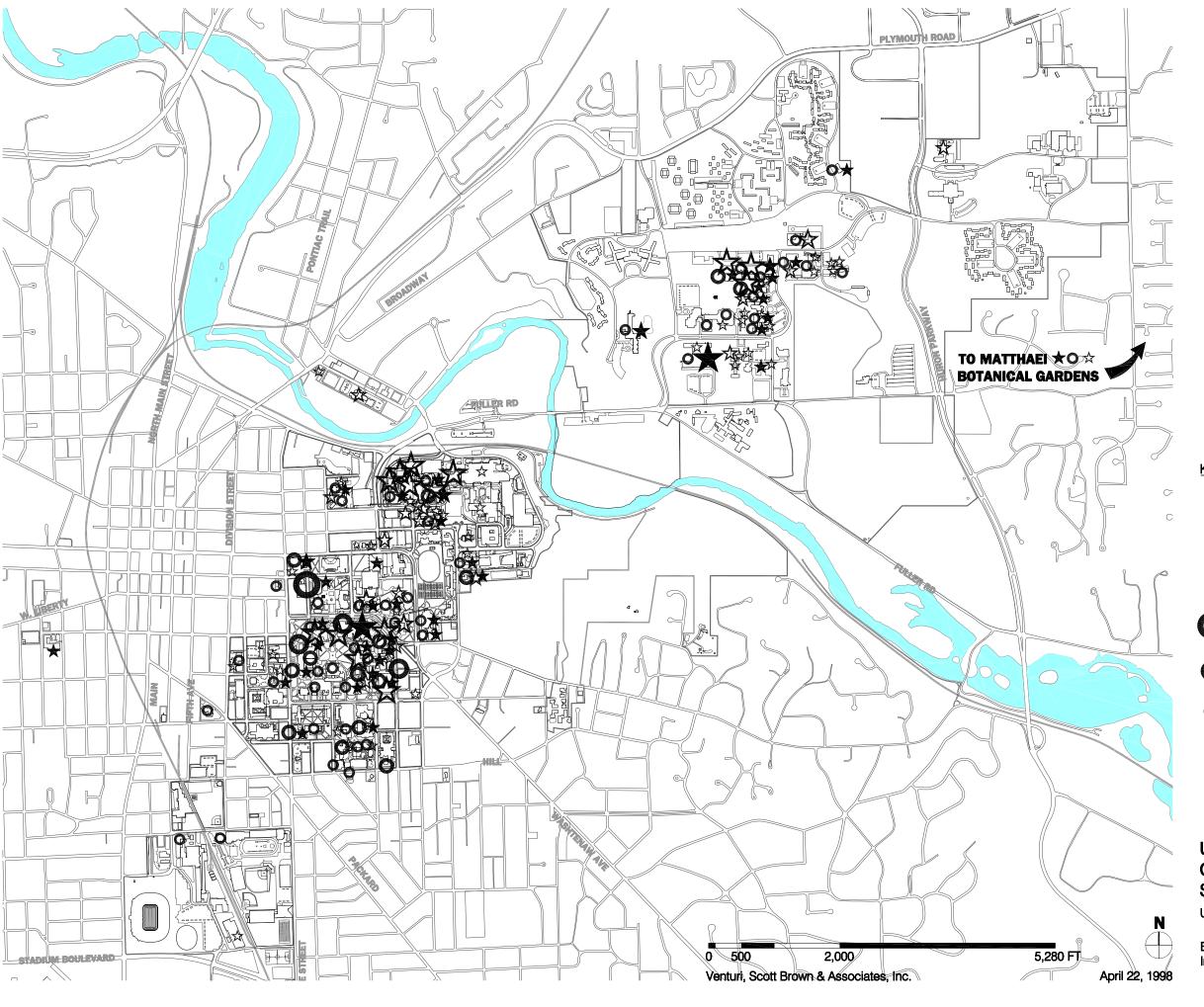
UM Nodes: Michigan Union, Michigan League & Pierpont Commons

UM Property Limit

# LAND USE: UM ADMINISTRATION

University of Michigan Campus Plan, Phase I

Base Map Source: UM Facilities Planning & Design Information Source: UM Office of Space Anaylsis



 KEY

 WESHOOM

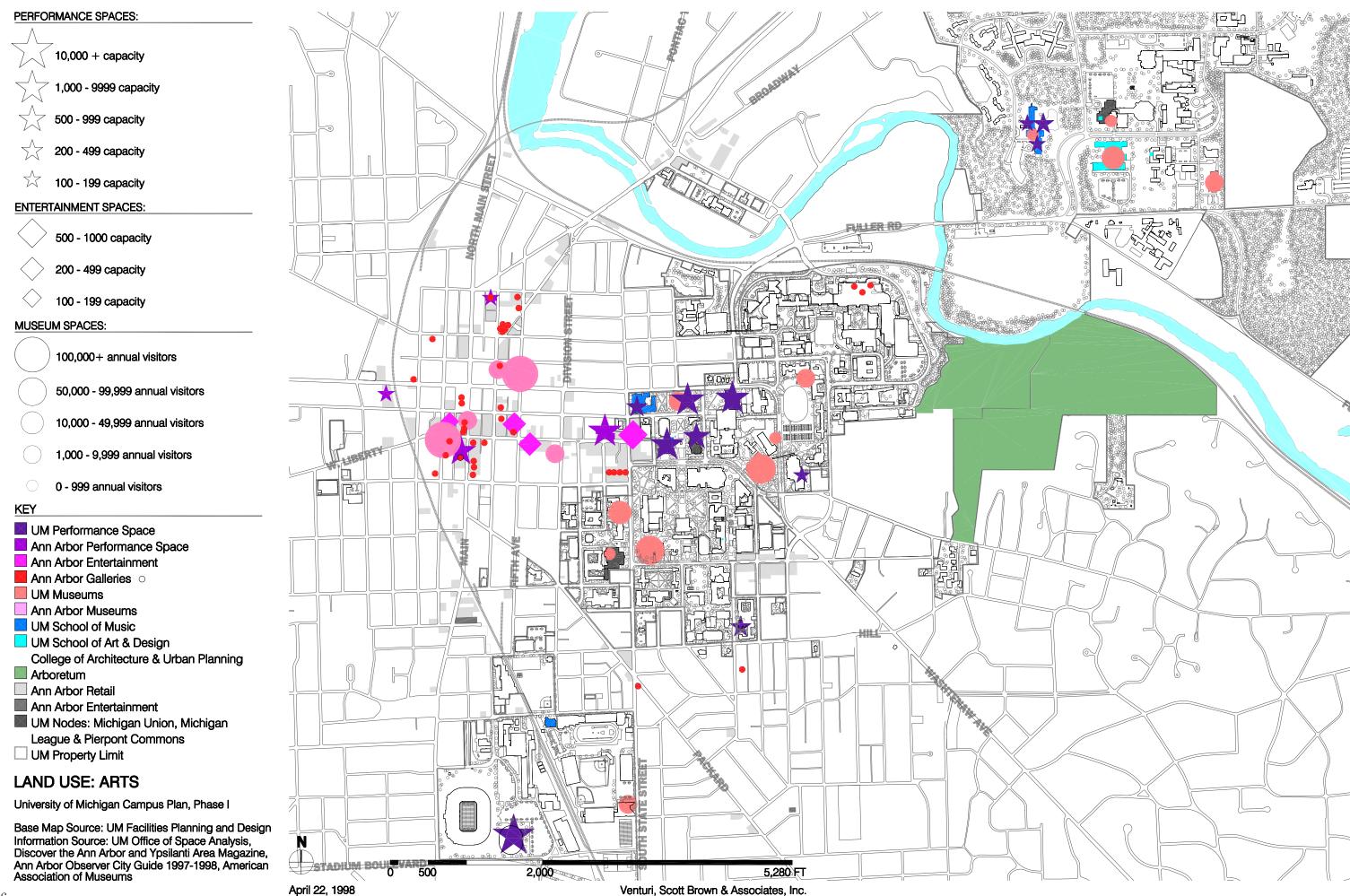
 COVER 30,000 SF

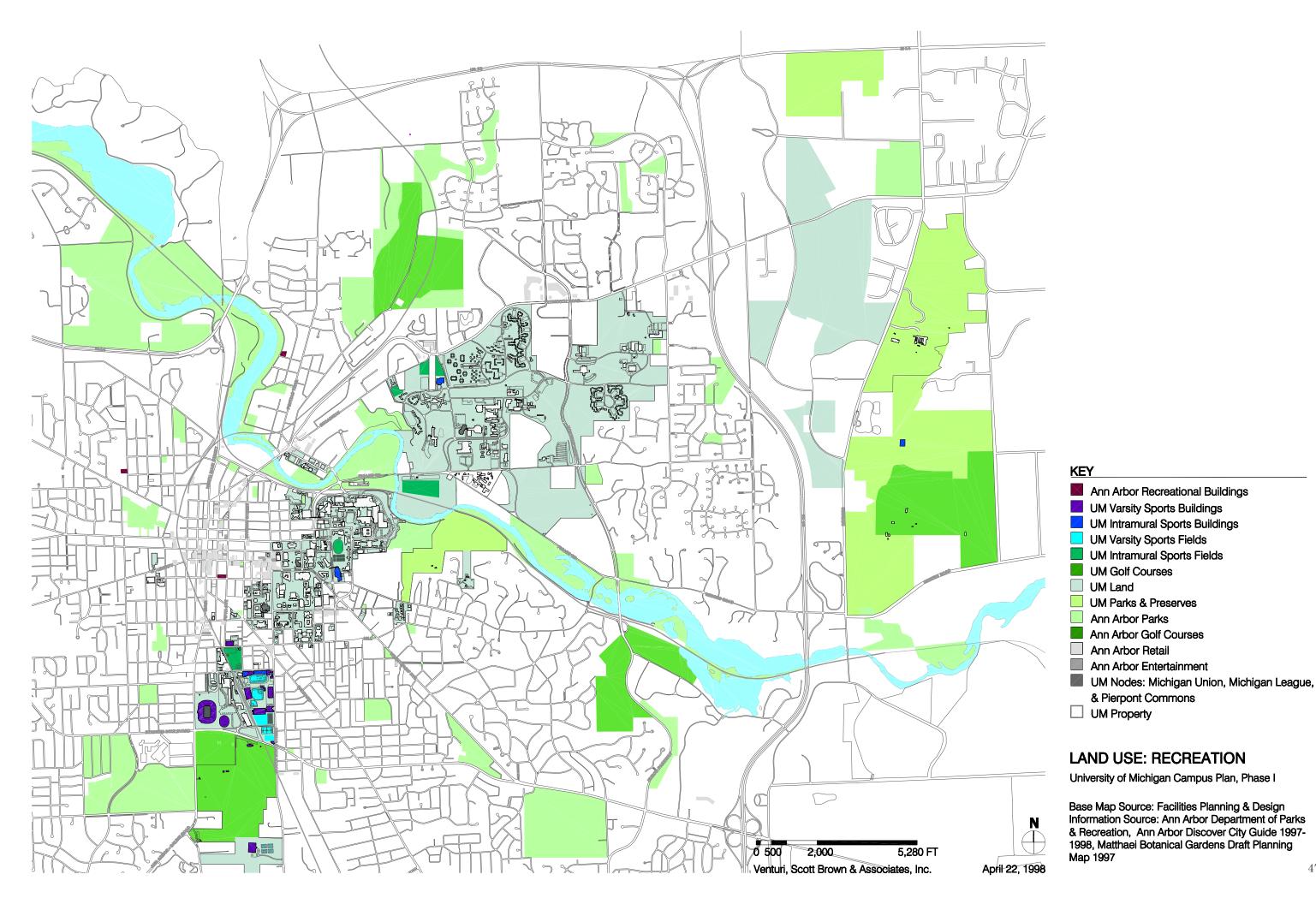
 COVER 30,000 SF

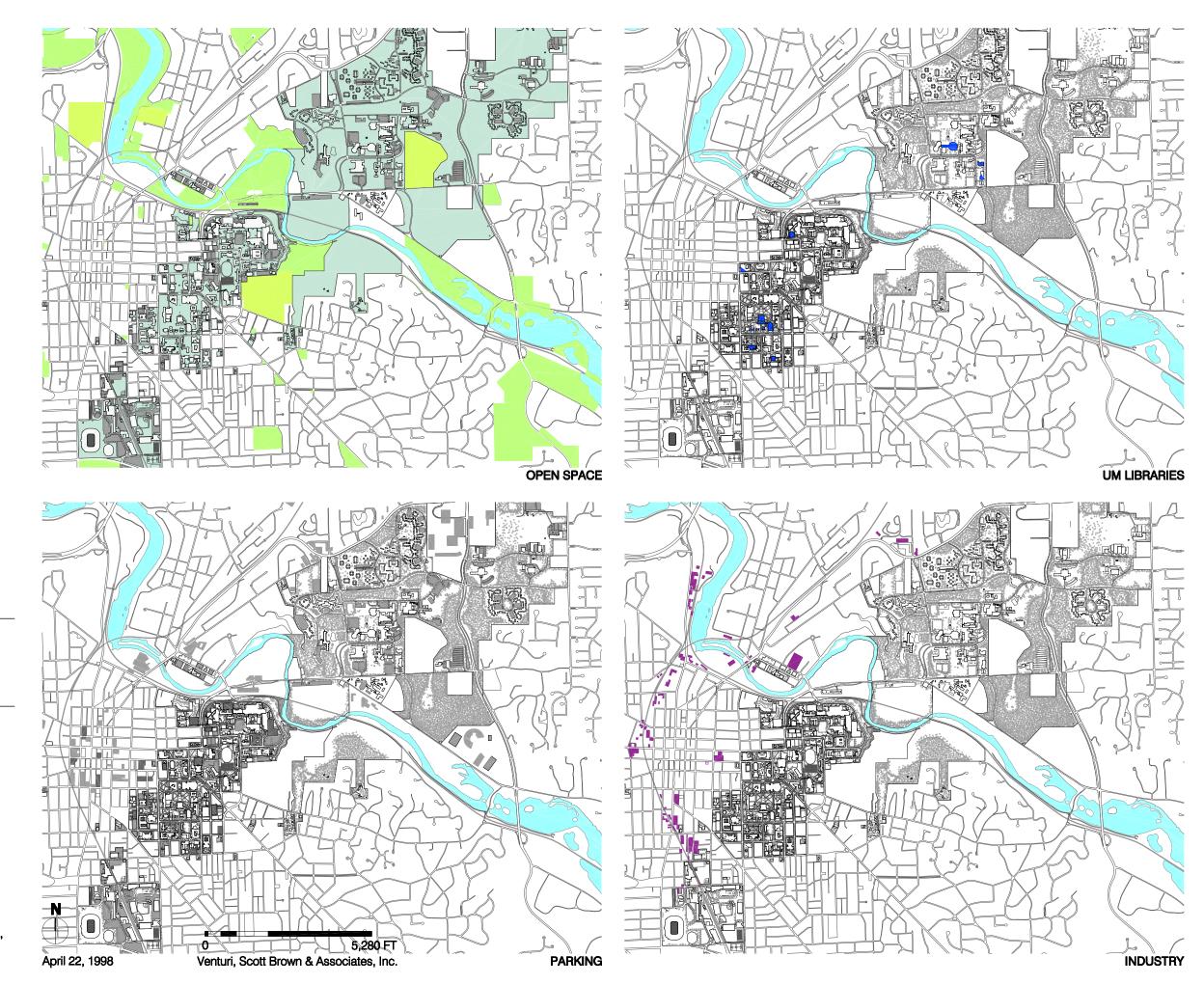
## UNIVERSITY BUILDINGS: CLASSROOM & LABORATORY SPACE

University of Michigan Campus Plan, Phase I

Base Map Source: UM Facilities Planning & Design Information Source: UM Office of Space Analysis







## UNIVERSITY OF MICHIGAN LAND USES

UM Libraries

Parking Lots
Parking Garages

### OTHER LAND USES

Industry

Public Open Space

Cemeteries

Parking Lots

Parking Garages

# LAND USE: PATTERNS DISAGGREGATED

University of Michigan Campus Plan, Phase I

Base Map Source: Facilities Planning & Design Information Source: UM Office of Space Analysis, Hedberg Maps, Inc.

"Open space provides resources supporting the quality of life, human health, psychological, water quality, air quality, soil erosion, aesthetic/scenic quality, and wildlife impacts". (Washtenaw County Metropolitan Planning Commission, 1997)

"In the natural world, everything is interdependent. As the landscape is crissed-crossed with a network of roads, storm sewers, and drainage ditches...(n)ature's important, cost-free controls have been by-passed...By maintaining landscape patterns of large woodlands and wetlands (nodes) and wooded stream valley and drainage-ways, significant natural functions are protected." (Robert Coughlin, et al. 1993)

What opportunities exist for the University to tie into regional landscape patterns? How does University open space fit into the larger picture. By planning cooperatively with municipal and regulatory agencies, the University build an open space system that links to a regional network, provides a wider range of recreational opportunities and is ecologically more resilent. The following landscape types represent possible candidates for part of a future open space system:

- 1. Agricultural Lands (top right): These should be preserved both as a future agricultural resource and for their scenic and cultural values.
- 2. Fragile Lands (bottom left): Fragile lands are environmentally sensitive areas that are ecologically significant. They should be preserved to provide a representation of regional ecosystems, for educational purposes and for their scenic and cultural values.
- Traditional Recreational Space (bottom right): These areas are an important component of any open space system and should be included to provide a variety of active recreational opportunities.
- 4. Cultural Sites (not mapped): These sites are an important part of a cultural heritage and are often important for their educational and scenic value.
- 5. Brownfields (not mapped): Old industrial sites, abandonned railway right-of-ways, former landfills and other wastelands present a major opprtunity for new open space in dense urban areas.

#### COMPONENTS OF OPEN SPACE

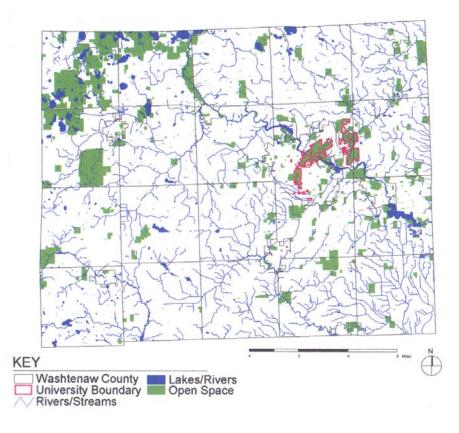
University of Michigan Campus Plan, Phase I

Sources: Facilities Planning & Design Ann Arbor Department of Parks & Recreation, Ann Arbor Discover City Guide 1997-1998

Robert Coughlin et al. Guiding Growth. 3rd Ed. Pennsylvania Environmental

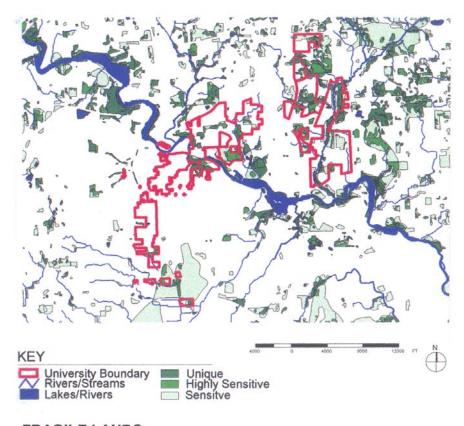
Council, Inc. 1993.

Washtenaw County Metropolitan Planning Commission
Wastenaw County Agricultural Lands and Open Space
Preservation Plan Final Report December 1977 Geographical Information
Systems maps for Regional Open Space, Agricultural Lands and Fragile Lands



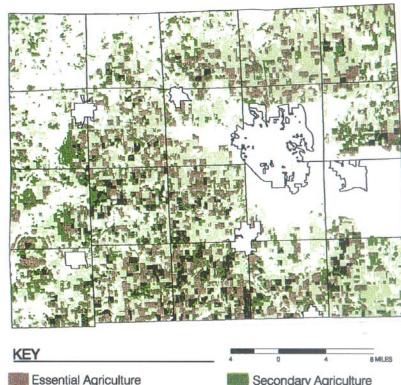
### REGIONAL OPEN SPACE

Source: Weshtenew County Metropolitan Planning Commission 1



#### FRAGILE LANDS

Source: Weshtenaw County Metropolitan Planning Commission 1977

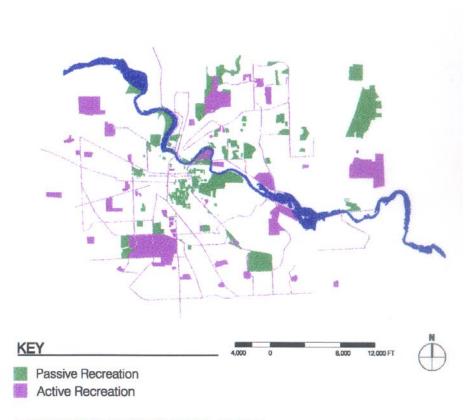


# Essential Agriculture participating in PA116

Secondary Agriculture
Reserve Agriculture

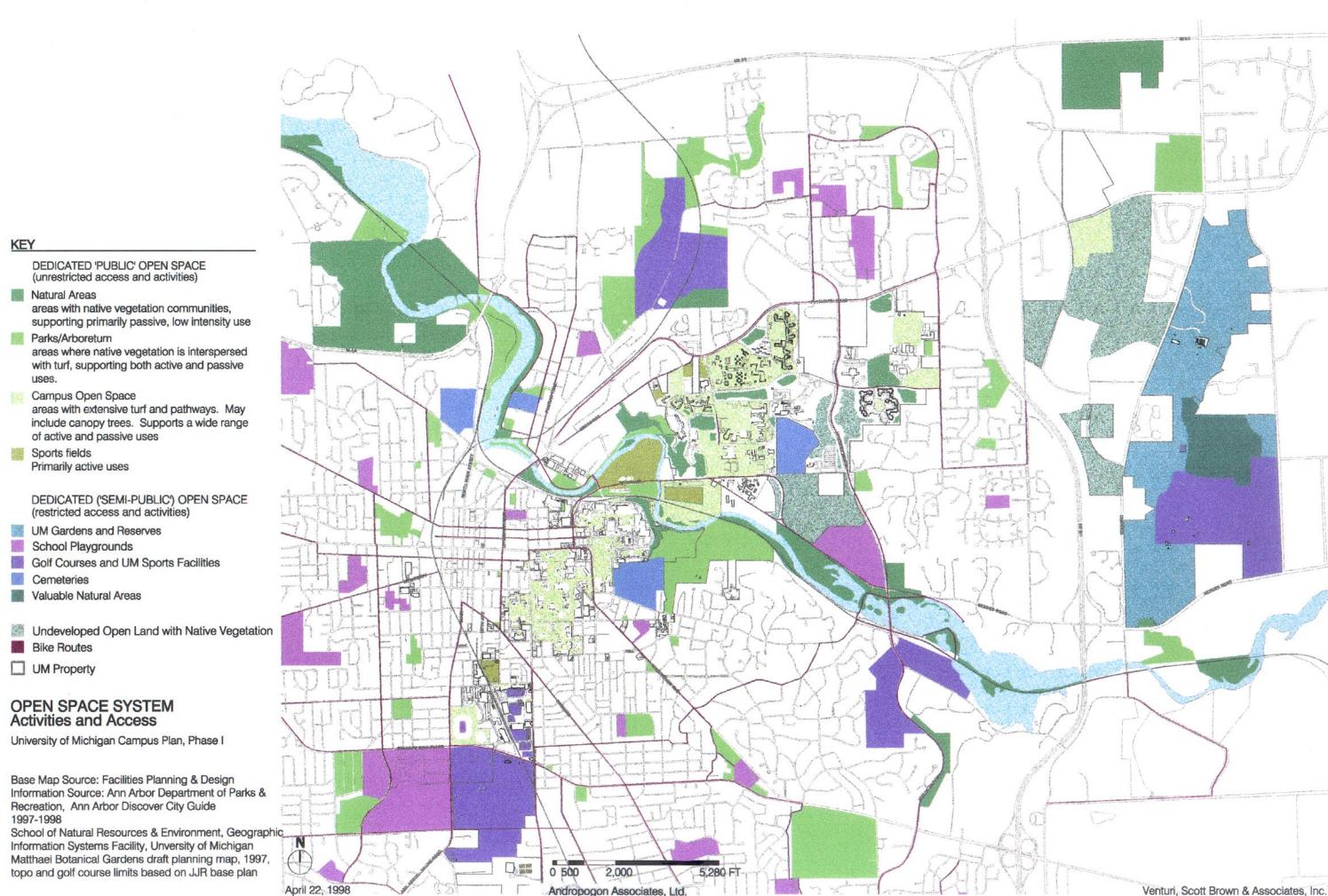
#### AGRICULTURAL LANDS

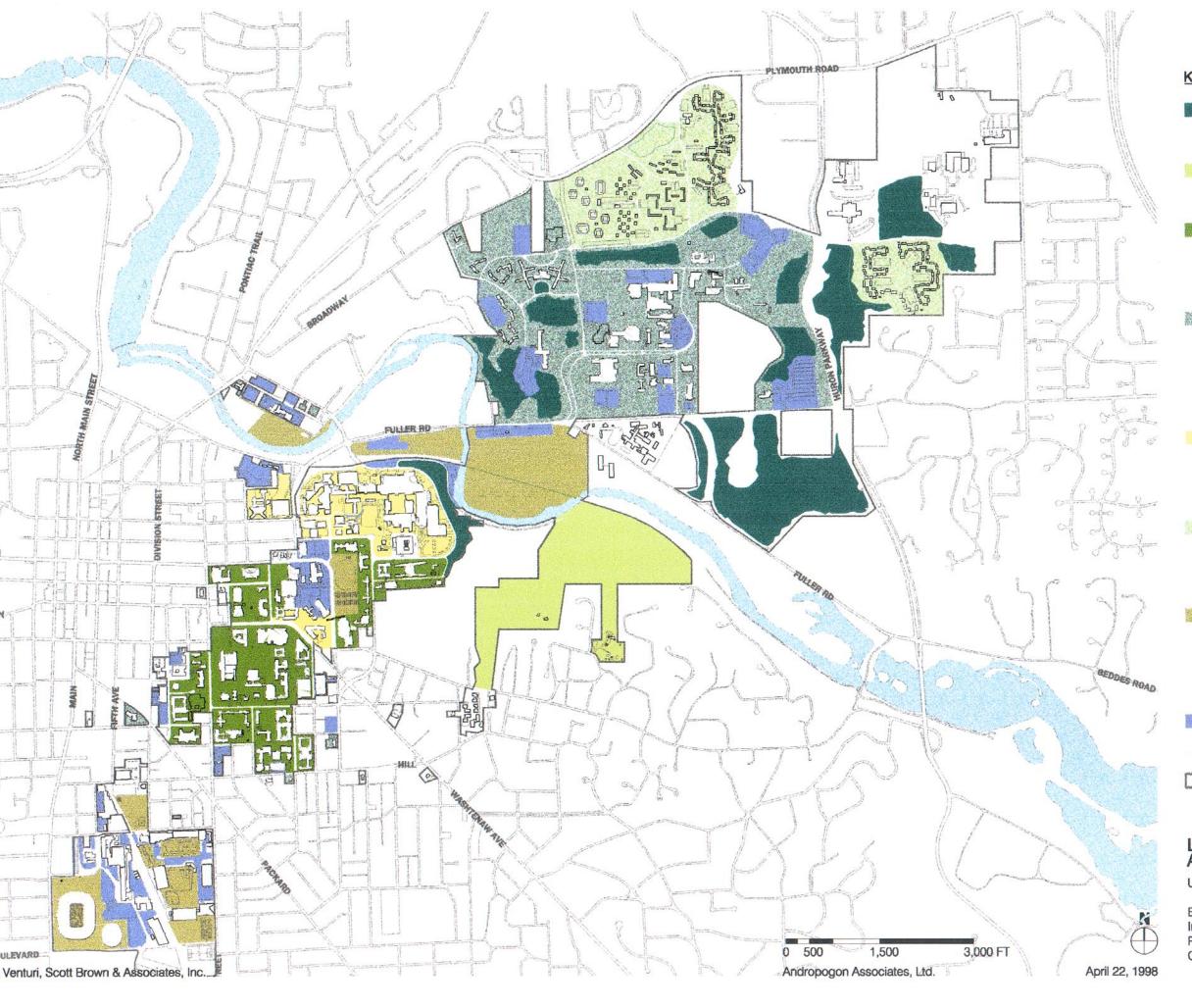
Source: Washtenaw County Metropolitan Planning Commission 1977



#### TRADITIONAL RECREATIONAL SPACE

Source: Ann Arbor Department of Parks & Recreation, 1997-1998





#### KEY

Natural Areas

Native vegetation which retains its original structure and species composition.

Parkland

Wooded areas with lawn below mature canopy trees, both coniferous and deciduous.

- Traditional Collegiate Campus
  Spaces, largely enclosed by buildings, form a
  unified landscape. Plantings are mostly mature
  deciduous canopy trees, grouped informally
  in lawns.
- Suburban Campus
  Individual modern buildings are surrounded by
  large lawns with scattered specimen trees.
  Remnant stands of hardwood forest and
  conifer plantations accentuate outer edges.
  In the core, large scale buildings enclose wide,
  central greens and subsidiary spaces.
- Modern Urban Campus
  Large scale buildings surround interior
  courtyards with scattered trees and minimal
  plantings. Vehicular spaces and paved plazas
  predominate.
- Residential: Suburban Apartments
  Low residential buildings are placed between
  parking lots and wide lawns. Plantings include
  scattered canopy trees and foundation
  plantings.
- Athletic Fields and Recreational Turf
  Very large, flat, open areas of closely mown
  grass, punctuated by athletic equipment,
  utilitarian fencing and hedge-like plantings.
  Some spaces are defined by large buildings,
  mostly athletic facilities.
- Services and Parking
  Campus areas largely paved, mostly devoid of planting and dominated by vehicular use.
- UM Property

### LANDSCAPE TYPES: Aesthetic and Spatial Quality

University of Michigan Campus Plan, Phase I

Base Map Source: Facilities Planning & Design Information Source: Hedburg Maps, Inc.: Professor Pathfinder's University of Michigan and Central Ann Arbor Map Looking at the "voids" in the landscape which are used by people, these maps show the quality and pattern of those spaces. Like outdoor rooms, the shaped, contained sequence of spaces offer a vivid contrast to the free-flowing spaces of North and South Campuses. Note the prevalence of auto-dominated spaces at the periphery and on North and South Campuses.

### KEY

- Campus Green Type Spaces: shaped, contained spaces which are primarily planted
- Plaza or Mall Type Spaces: shaped, contained spaces which are primarily hard surfaced
- Open lawns, lawn extensions, soft planted surfaces, playing fields
- Parking and auto-associated spaces
- Connector spacesSpecial outdoor places

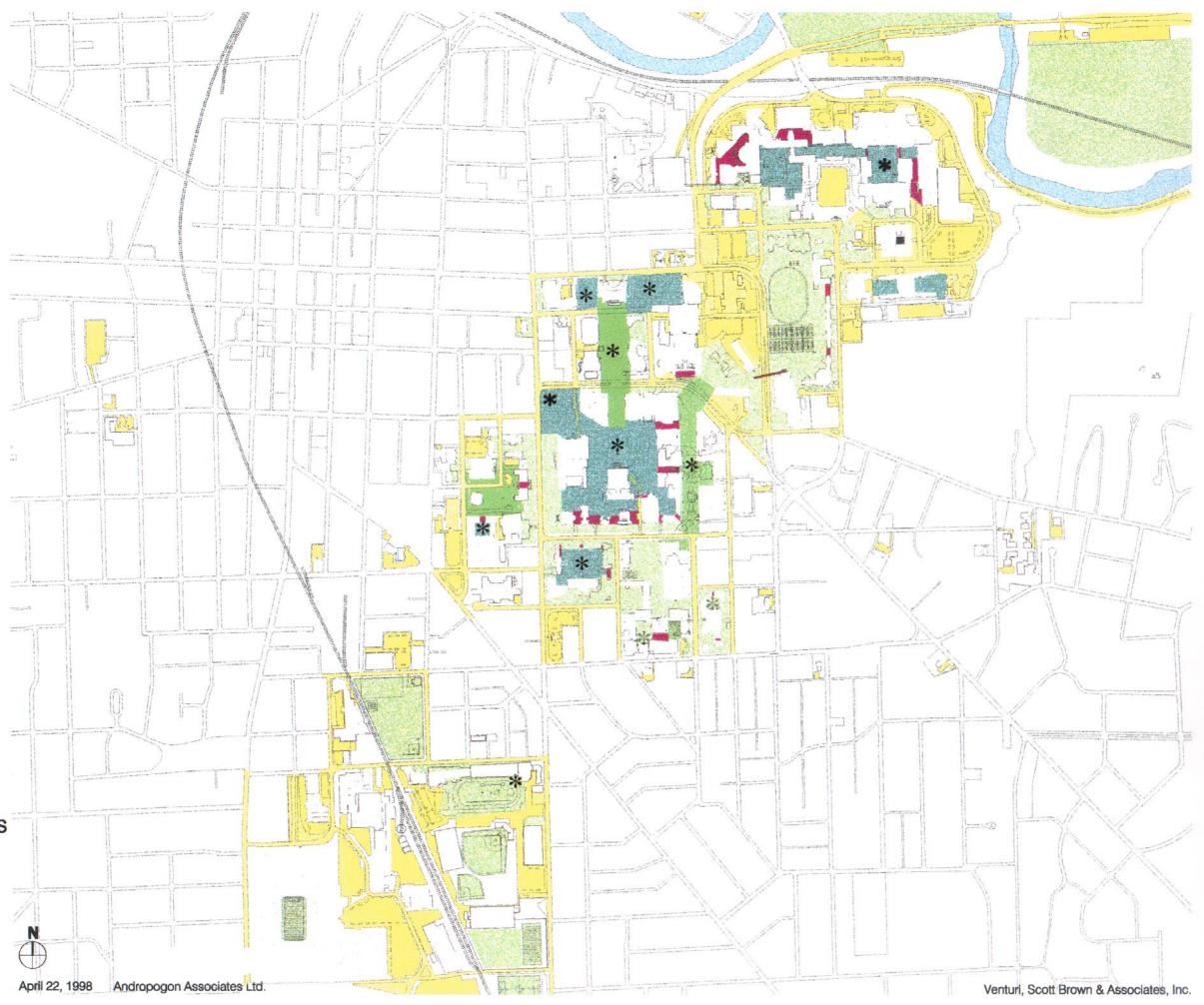
Alumni Center Space towards Mich. League Assembly Hall (Business School Oak) The Diag East Quadrangle Courtyard East University Walkway Ferry Field Track Ingalls Mall Law Quad Rackham Graduate School Gardens School of Education Courtyard University Hospital Center Gardens West Quadrangle Courtyard

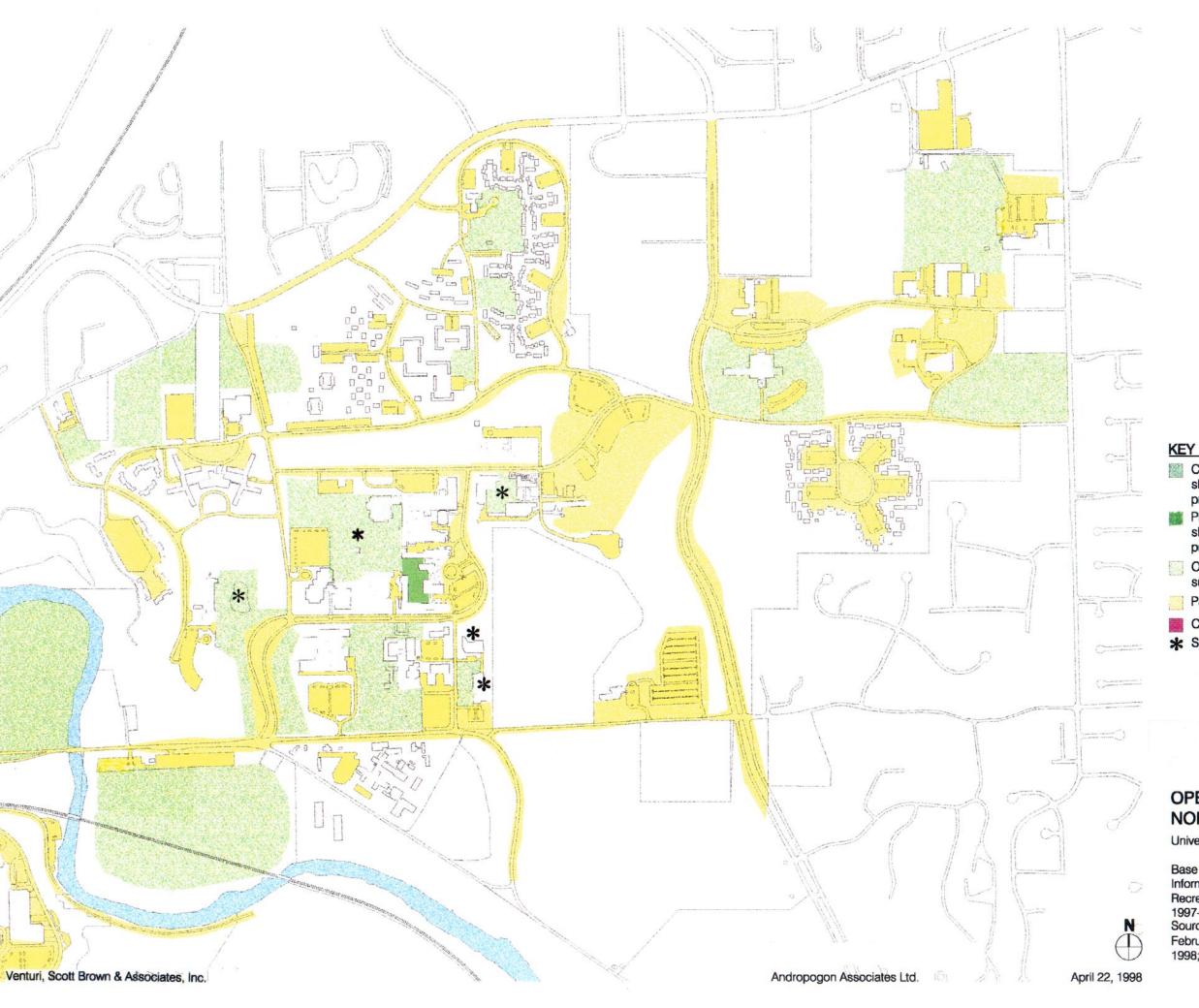
# OPEN SPACE QUALITY: CENTRAL, MEDICAL & ATHLETIC CAMPUS

University of Michigan Campus Plan, Phase I Draft

Base Map Source: Facilities Planning & Design Information Source: Ann Arbor Department of Parks & Recreation, Ann Arbor Discover City Guide 1997-1998
Sources of special places: Frederick Mayer letter

Sources of special places: Frederick Mayer letter February 27, 1998; Donna Erickson email March 5, 1998; Ann Knott email March 5, 1998





- Campus Green Type Spaces: shaped, contained spaces which are primarily planted
- Plaza or Mall Type Spaces: shaped, contained spaces which are primarily hard surfaced
- Open lawns, lawn extensions, soft planted surfaces, playing fields
- Parking and auto-associated spaces
- Connector spaces
- \* Special outdoor places

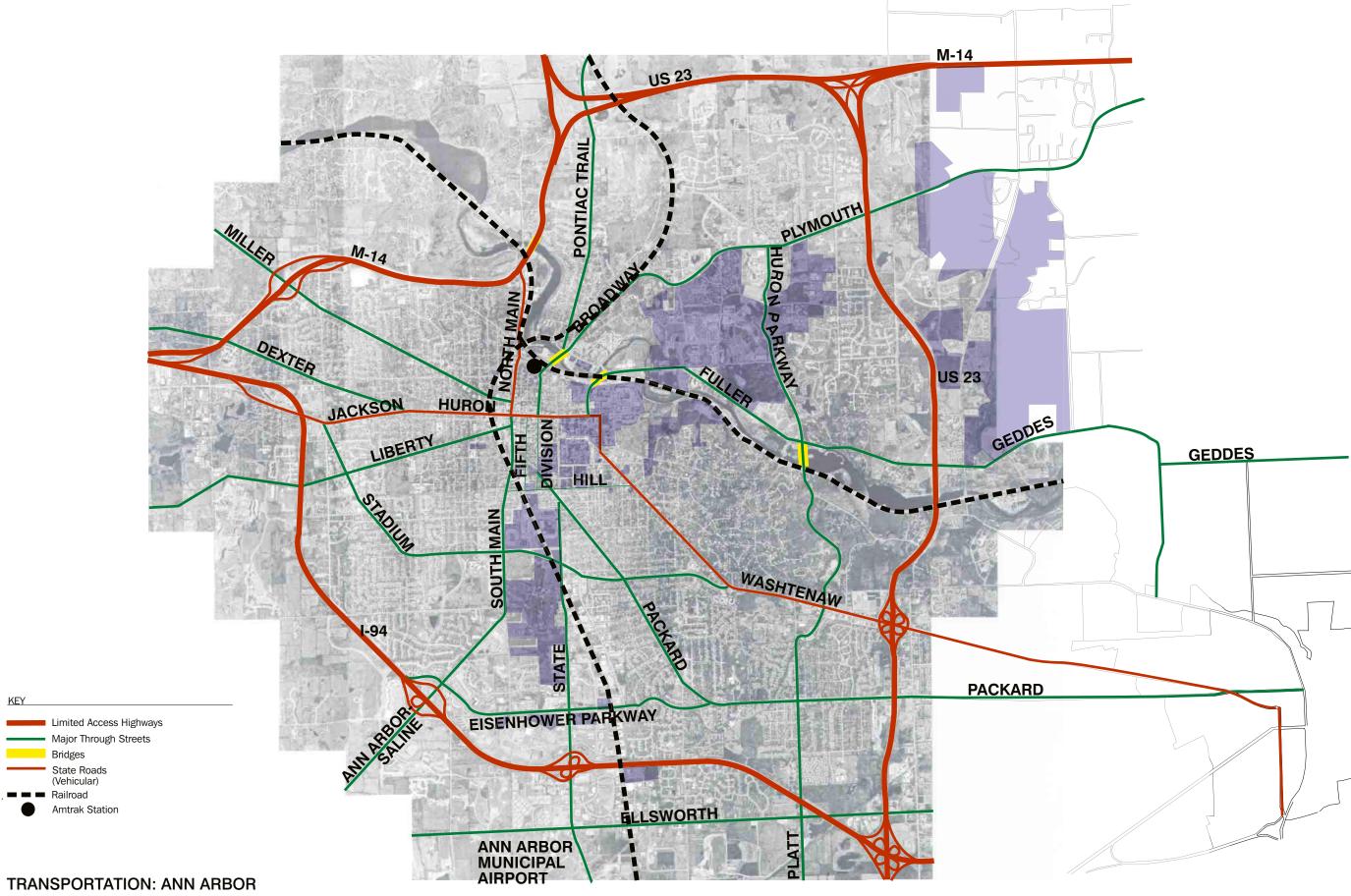
Bentley Historical Library Courtyard Gerald Ford Library Courtyard Moore School of Music Building Pond '47E Reflecting Pool Courtyard Wave Field

## **OPEN SPACE QUALITY NORTH CAMPUS**

University of Michigan Campus Plan, Phase I Draft

Base Map Source: Facilities Planning & Design Information Source: Ann Arbor Department of Parks & Recreation, Ann Arbor Discover City Guide

Sources of special places: Frederick Mayer letter February 27, 1998; Donna Erickson email March 5, 1998; Ann Knott email March 5, 1998



University of Michigan Campus Plan, Phase I

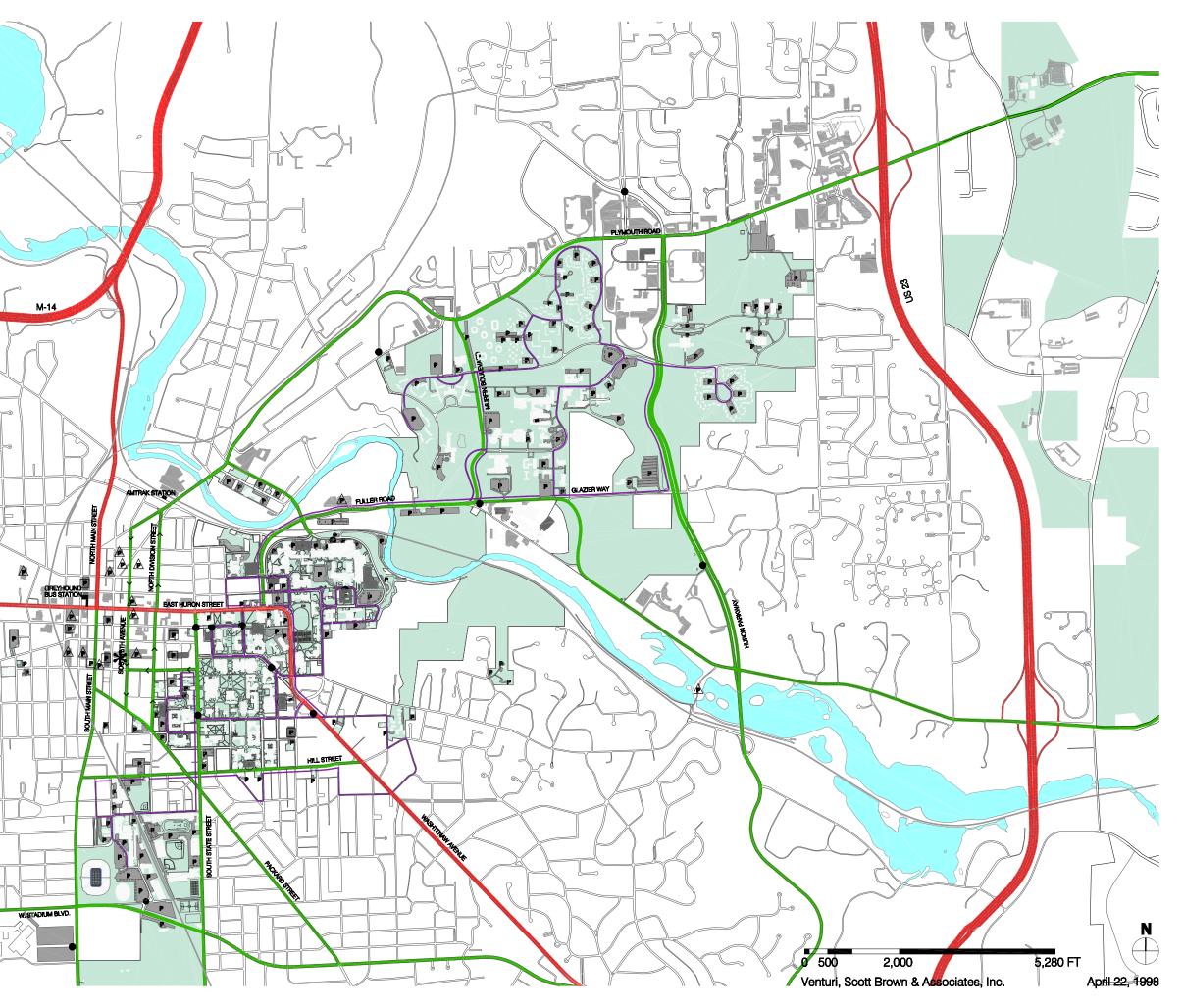
Bridges State Roads (Vehicular) Railroad

Base Map Source: City of Ann Arbor Information Source: Hatcher Graduate Library Map Room

April 22, 1998

0 500 2,000 5,280 FT

Venturi, Scott Brown & Associates,Inc.



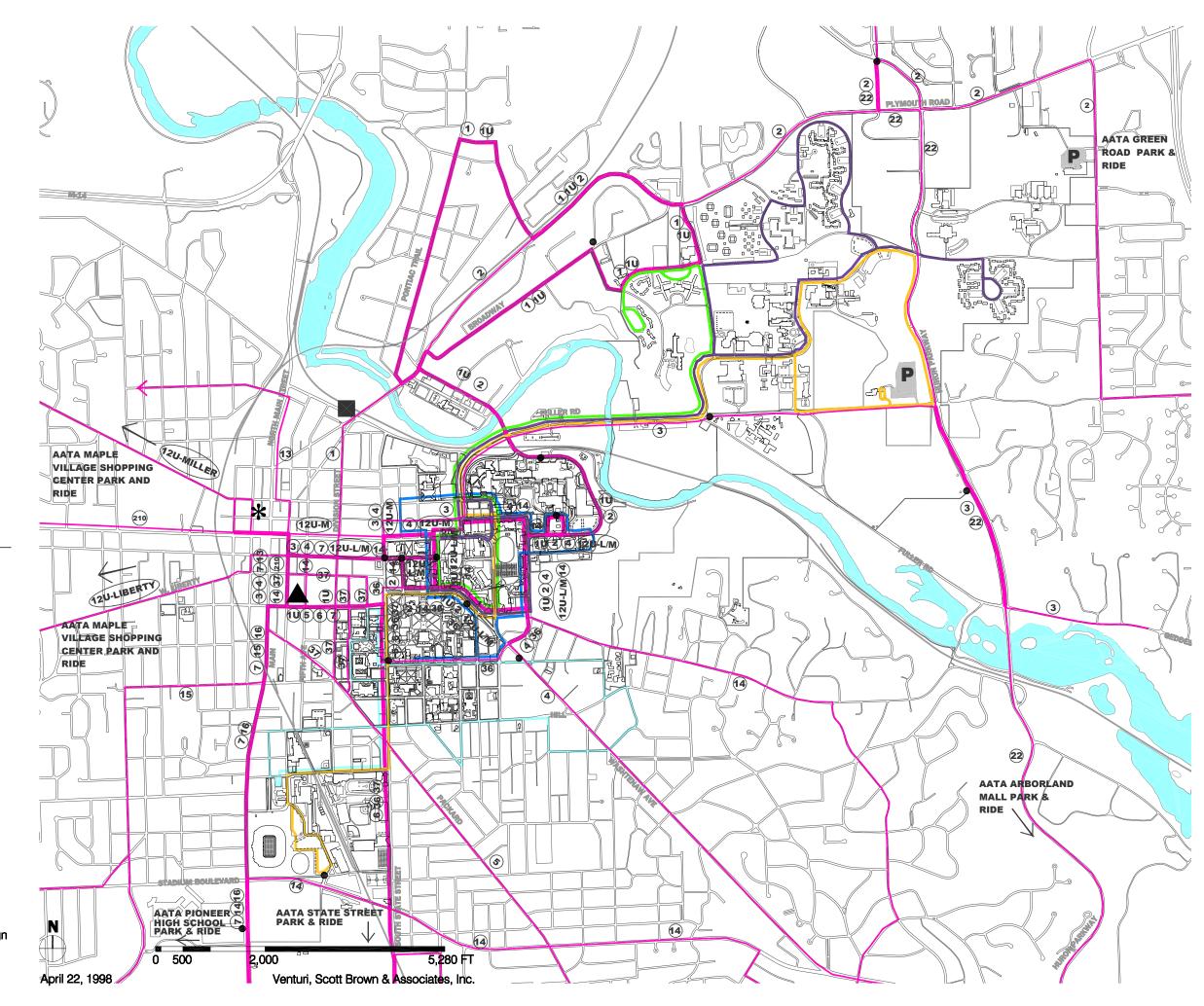
#### KEY

- ♠ CITY PARKING LOT
- P CITY PARKING GARAGE
- P UNIVERSITY PARKING GARAGE
- P UNIVERSITY PARKING LOT
- AATA BUS STOP
- \* BLAKE TRANSIT CENTER
- LIMITED ACCESS HIGHWAY
- STATE ROADS
- MAJOR THROUGH STREETS
- UNIVERSITY BUS SYSTEM
- RAILROAD

# **TRANSPORTATION: CAMPUS & SURROUNDING AREAS**

University of Michigan Campus Plan, Phase I

Base Map Source: UM Facilities Planning & Design Information Sources: Ann Arbor Transportation Authority, UM Bus Schedule Map, & Universal Map



UM Northwood Route
UM Commuter Route
UM Bursley-Baits Route
UM Night Owl North Route
UM Night Owl South Route
AA Single Bus Route
AA Multiple Bus Route
Blake Transfer Center
Terminus for all AA routes except:
1U, 12U-Liberty, 12U-Miller, 22, 38
Greyhound Bus Station
AATA Primary Stops
Amtrak Station

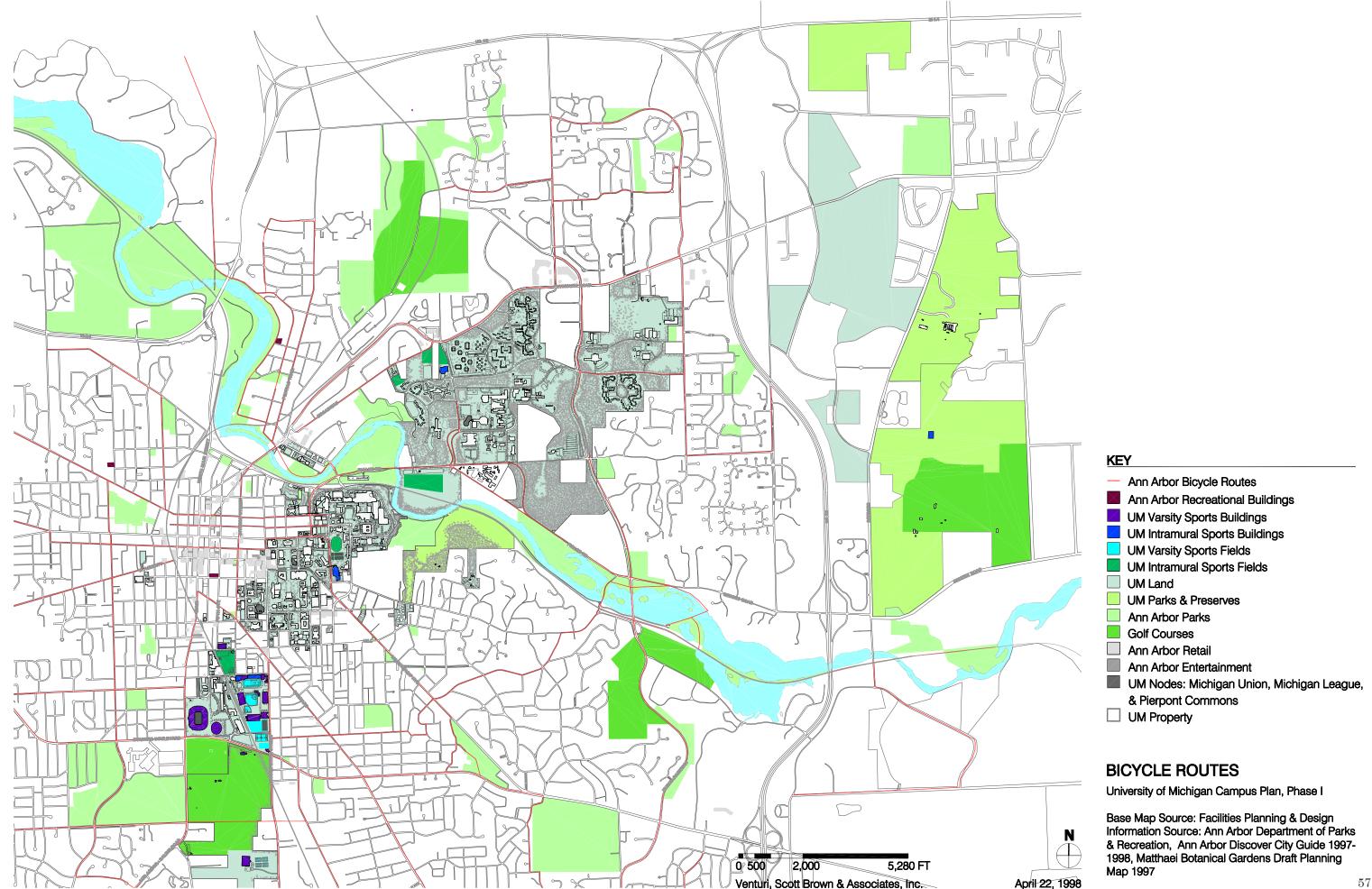
# UNIVERSITY AND ANN ARBOR TRANSIT ROUTES

AATA Commuter Parking Lot

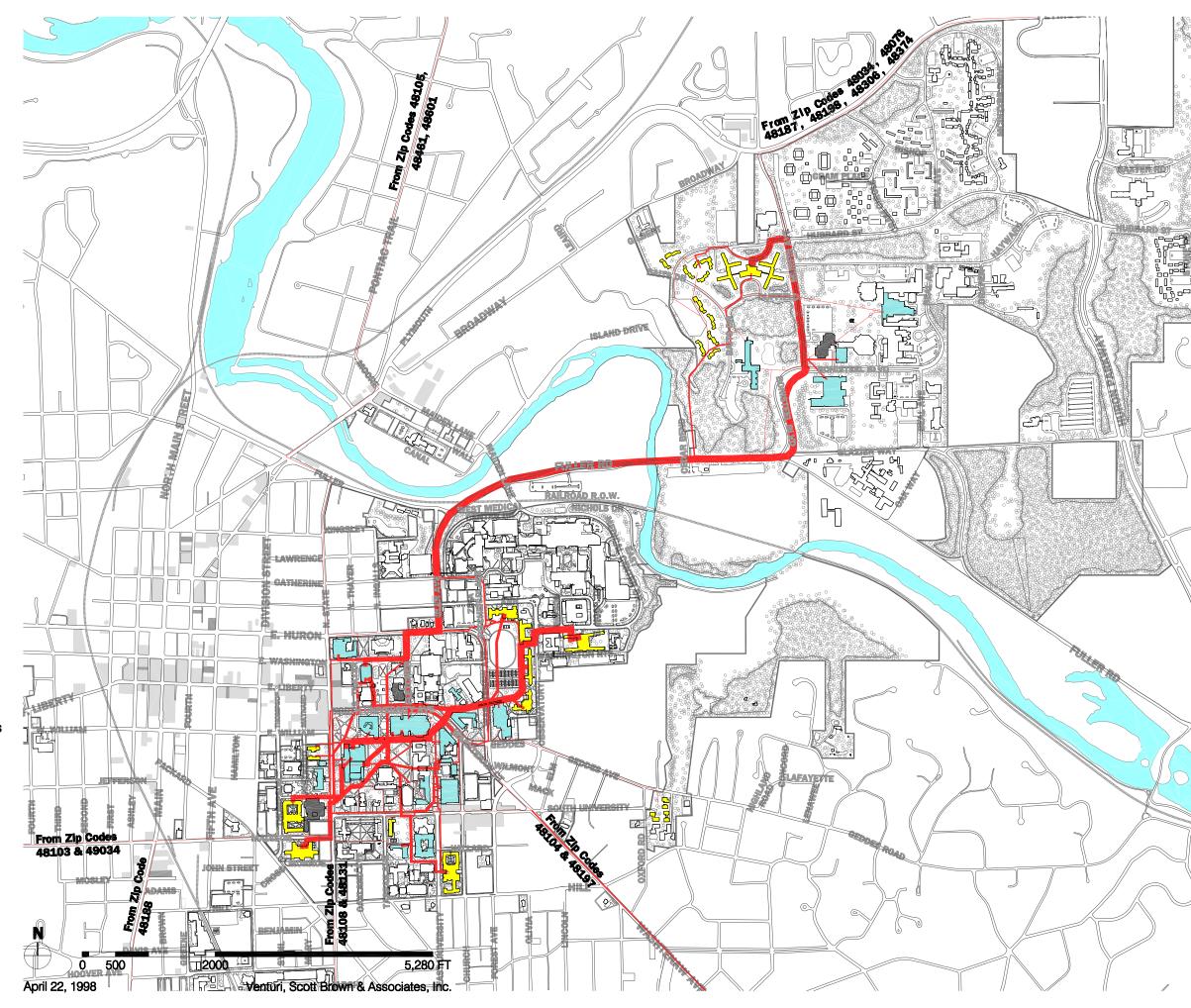
**UM Property Limit** 

University of Michigan Campus Plan, Phase I

Base Map Source: UM Facilities Planning & Design Information Sources: Ann Arbor Transportation Authority, UM Bus Schedule Map



Venturi, Scott Brown & Associates, Inc.



### From a Sample of 1000 Freshmen Residence to Wednesday First Class

- 1 9 Students
- 10 29 Students
- = 30 59 Students
- 60 99 Students
- 100 + Students

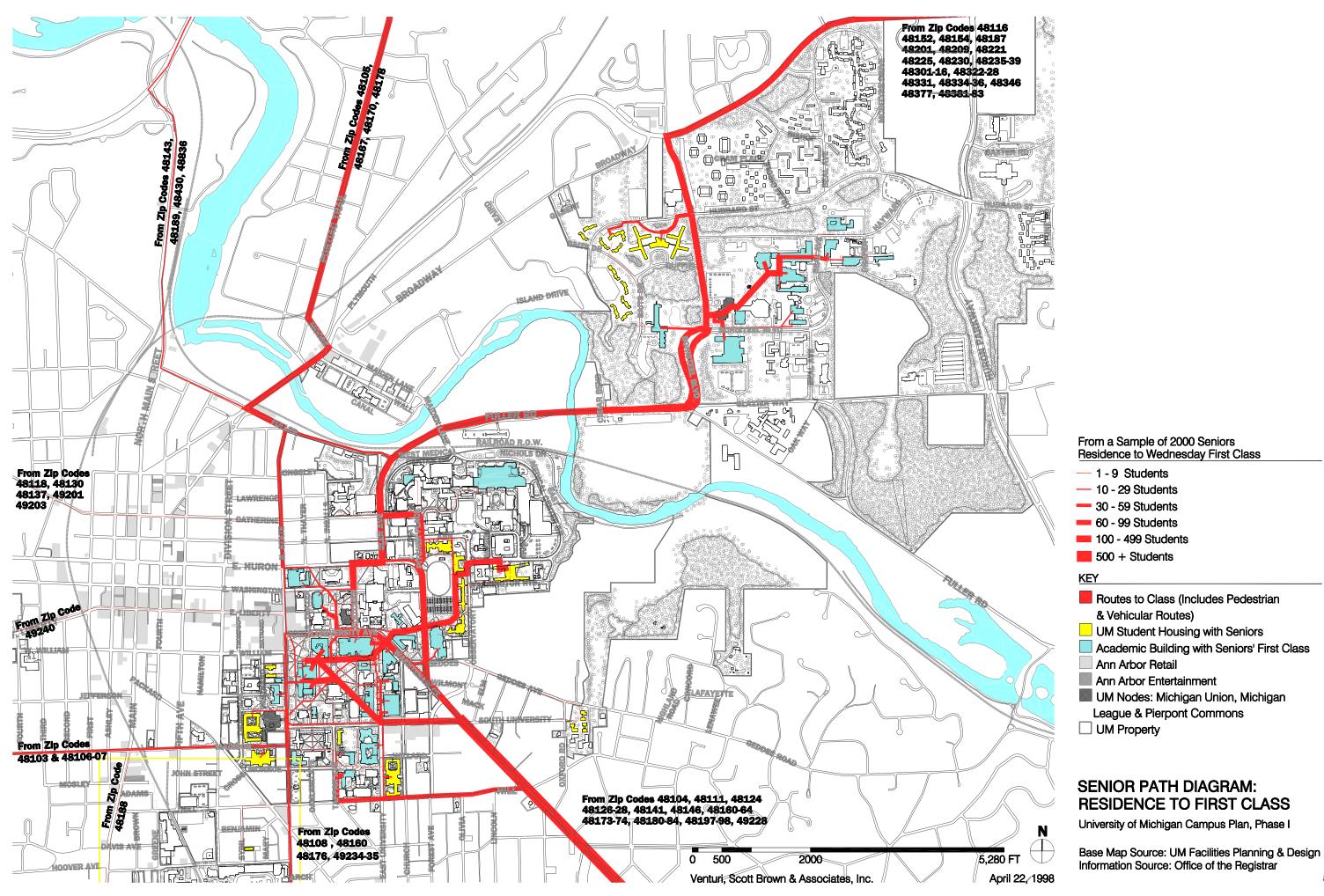
#### **KEY**

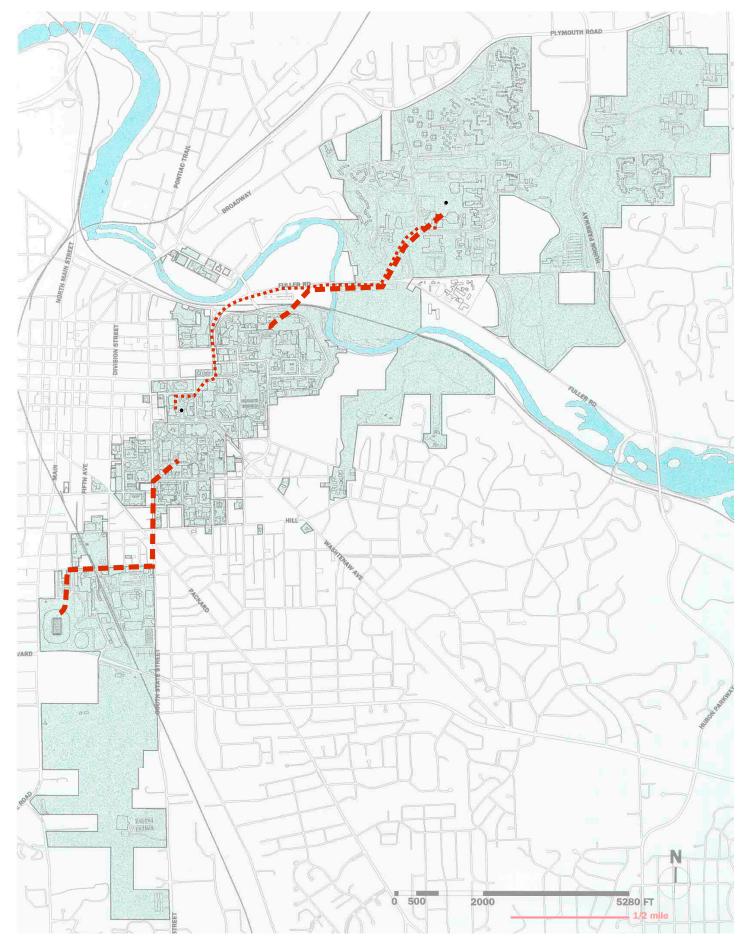
- Routes to Class (Includes Pedestrian
- & Vehicular Routes)
- UM Student Housing with Freshmen
- Academic Building with Freshmen's First Class
- Ann Arbor Retail
- Ann Arbor Entertainment
- UM Nodes: Michigan Union, Michigan
- League & Pierpont Commons
- ☐ UM Property

# FRESHMEN PATH DIAGRAM: RESIDENCE TO FIRST CLASS

University of Michigan Campus Plan, Phase I

Base Map Source: UM Facilities Planning & Design Information Source: Office of the Registrar





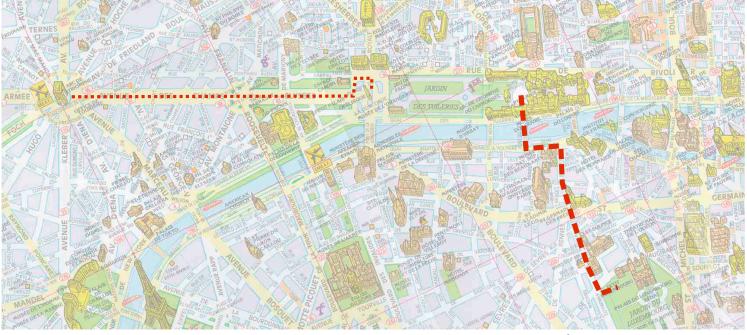
**Ann Arbor**: from Central Campus to Michigan Stadium (approx. 1 mi.); Burton Bell Tower to Lurie Bell Tower (approx. 1 ½ mi.); From Medical Campus to Lurie Bell Tower (approx. 1 mi. illegally crossing railroad tracks)



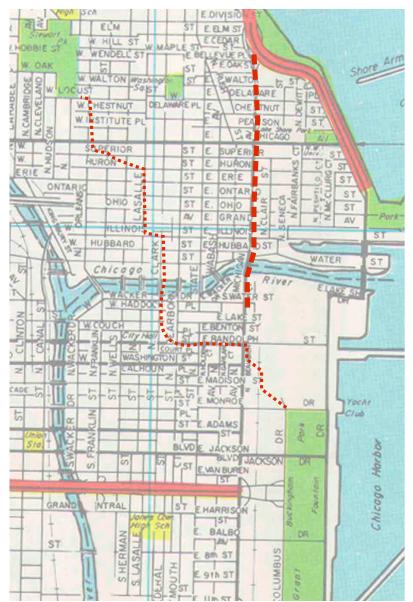
**Washington, DC**: from Union Station to National Air and Space Museum (approx. 1 mi.); White House to Capitol (approx. 1 ½ mi.) <sup>L</sup>



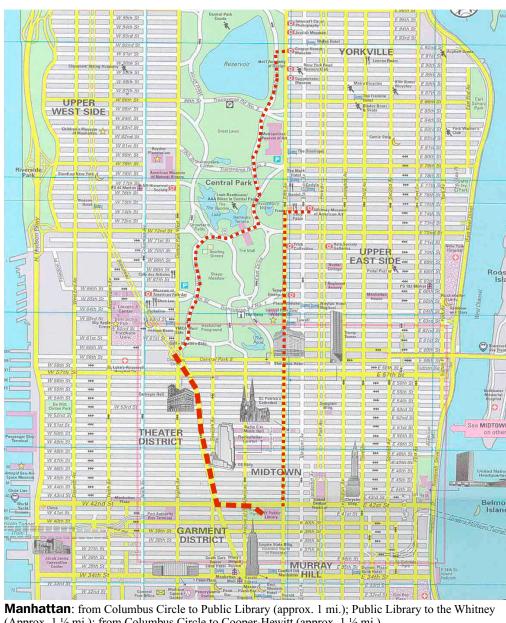
**London**: from Regent's Park to Picadilly Circus (approx. 1 mi.); Marble Arch to Holborn (approx. 1 ½ mi.).



Paris: from Luxembourg Palace to the Louvre (approx. 1 mi.); L Árc de Triomphe to the Obelisk (approx. 1 ½ mi.)



Chicago: Magnificent Mile; from Stewart Park to Grant Park (approx. 1 ½ mi.).



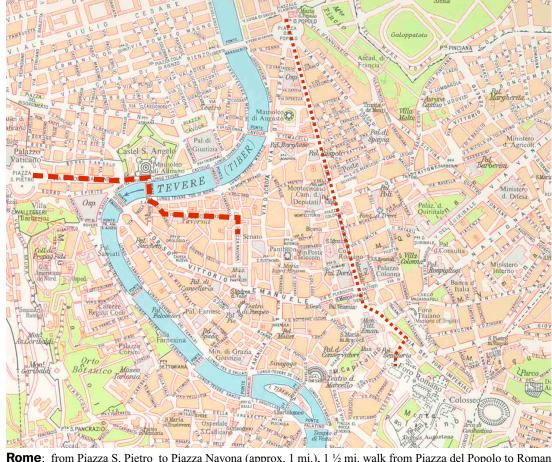
(Approx. 1 ½ mi.); from Columbus Circle to Cooper-Hewitt (approx. 1 ½ mi.)



Venice: from Accademia Bridge to Campo dei S.S. Giovanni e Paolo (approx. 1 mi.)



Philadelphia: from Rittenhouse Square to Washington Square (approx. 1 mi.); City Hall to Penn s Landing (approx. 1 ½ mi.)



Rome: from Piazza S. Pietro to Piazza Navona (approx. 1 mi.), 1 ½ mi. walk from Piazza del Popolo to Roman



Detroit: from Renaissance Center to Grand Circus Park (approx. 1 mi.); Tiger Stadium to the Music Hall (approx. 1 ½ mi.)



### **SCALE COMPARISONS:** WALKING DISTANCES

University of Michigan Campus Plan, Phase I



Map Source: \*Rand McNally; □Hallwag; △ADC; °Gabelli; \*Septa

# Interdisciplinary Linkages

As Reported by the Deans

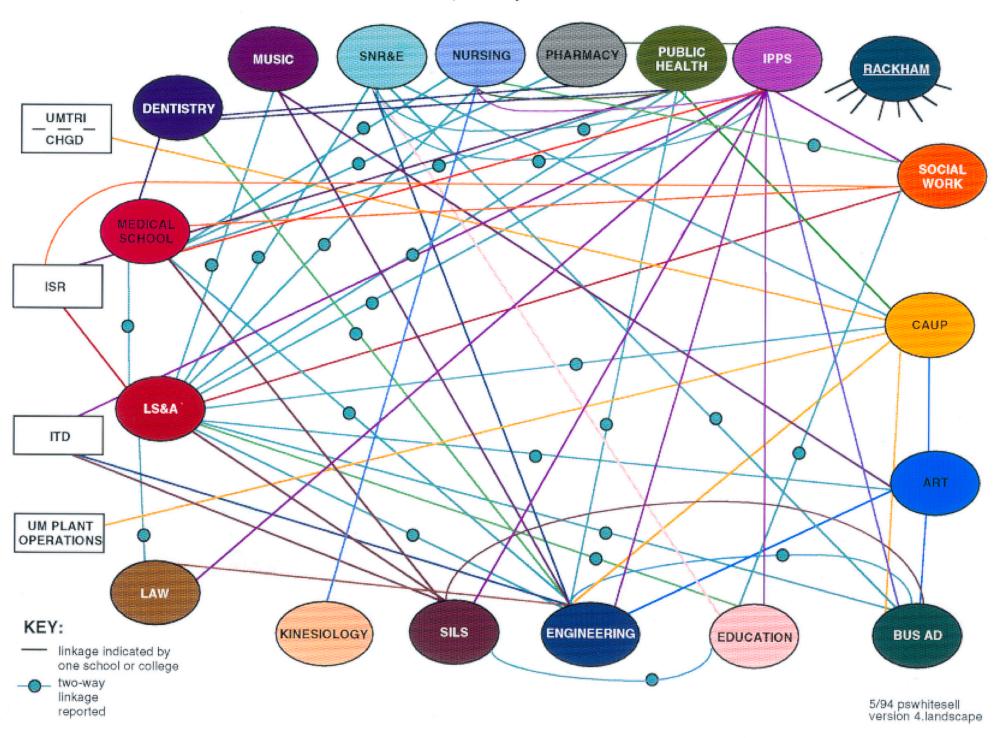
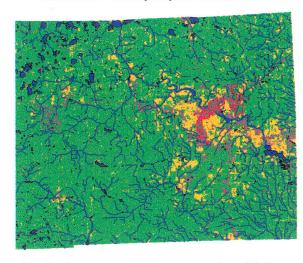


Diagram: Patricia S. Whitesell, UM Office of the Vice President for Research 1994

#### **Washtenaw County Impervious Surfaces**



This classification scheme, provided by SEMCOG, for urban stream water quality potential is based on imperviousness (Schueler 1994). Impervious surfaces include roads, parking lots, rooftops, and other impermeable surfaces usually associated with urban landscapes.

Increases in impervious surfaces have negative effects on the hydrologic cycle. The impacts that may ensue include: increased flooding and stream bank erosion, greatly diminished water quality, degraded habitat, reduced groundwater recharge and reduced baseflow, and the addition of pollutant loads from stormwater runoff.

(Tom Schueler, The Importance of Imperviousness, Watershed Protection Techniques, Vol.1, No.3, Fall 1994.)

### **KEY**

Highways
County Roads
University Boundary
Rivers/Streams
Lakes/Rivers

#### 1995 Percent Impervious Cover

Low Impervious Area (0%-10%)
Potentially sensitive streams

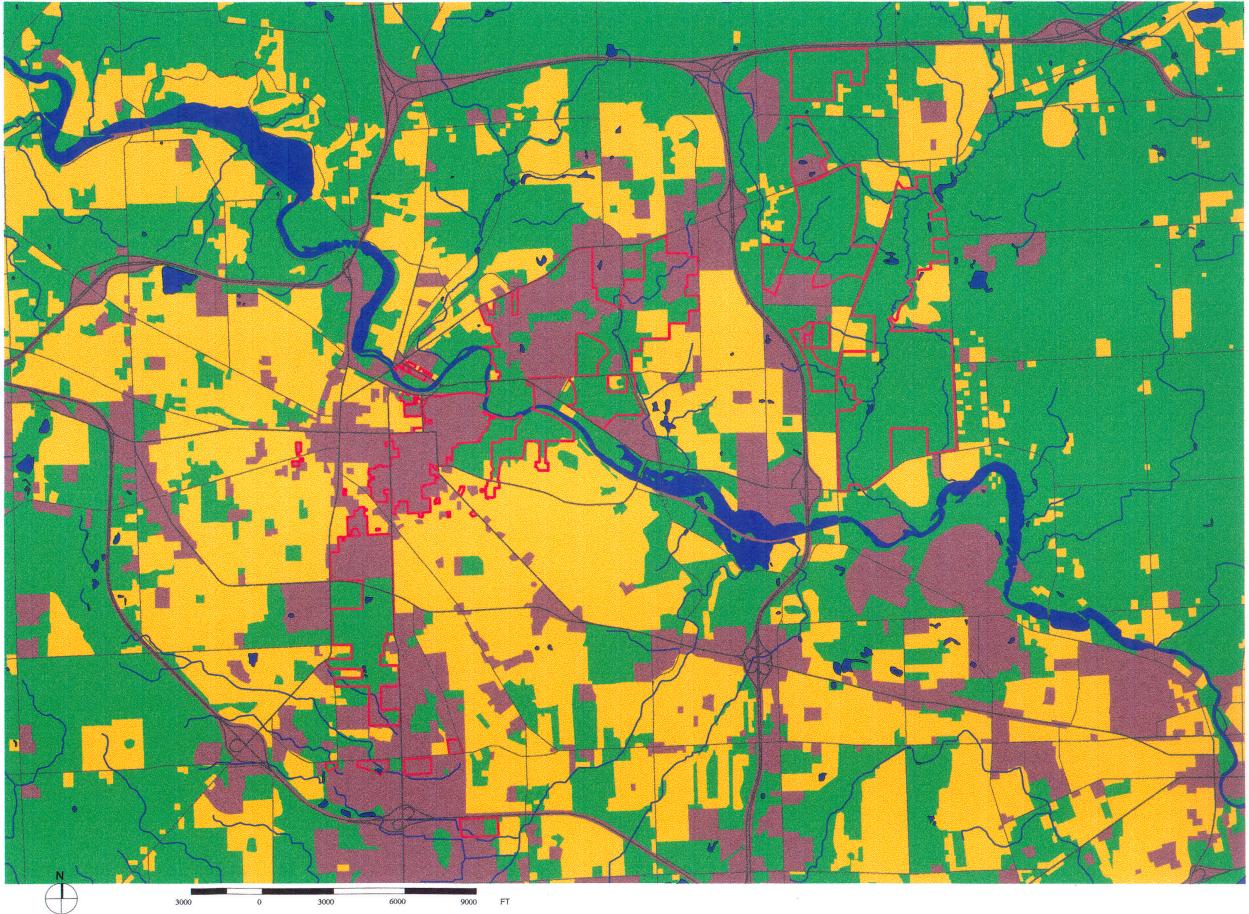
Moderate Impervious Area (11%-25%)
Potentially impacted streams

High Impervious Area (26% or greater)
Potentially severely impacted streams

#### **DRAINAGE AND IMPERVIOUS SURFACES**

University of Michigan Campus Plan, Phase I

Base Map Source: UM Facilities, Planning and Design Information Source: Southeastern Michigan Council of Governments



Andropogon Associates

April 22, 1998 Cahill Associates

Venturi, Scott Brown & Associates