Western Michigan University
Campus Master Plan Update 2008-09
SUSTAINABILITY and ENVIRONMENTAL ISSUES

INTRODUCTION

In October 2008 David Dakin, Director of Campus Planning at Western Michigan University, conducted a set of public workshops to present, review and discuss the 2000 Campus Master Plan. The topics and concerns expressed in the workshops were very similar to the main issues that emerged from the 1999-2000 Master Planning workshops. There was one notable exception. Interest in sustainability and environmental issues has increased significantly among the campus community. This not unique to WMU – the same increased interest and awareness is evident at local, state, and even global levels: WMU President Dunn created the President's Universitywide Sustainability Committee (PUSC) in 2008; the State of Michigan has initiated Energy Star purchasing guidelines, and requires all capital and renovation projects over one million dollars to be LEED®-certified; former Vice President Albert Gore received a Nobel Prize for his environmental activism.

The topics mentioned by the workshop participants can be roughly organized into categories:

- Resource management
  - Groundwater and stormwater management
  - Recycling
  - Protection of green space
- Healthful living
  - Resident communities
  - Exercise and recreation opportunities
- Buildings and grounds
  - Re-use of aging facilities
  - Sustainable practices for new projects
- Alternatives and new ideas: energies, transportation, etc.

The university has updated the Campus Master Plan to reflect the new focus and priorities. It should be recognized, however, that the 2000 Master Plan directly addressed many issues now collected under the "sustainability" label: maximizing green space while minimizing the impact of buildings and surfaces on the campus environment, minimizing vehicular traffic on and to campus, landscaping with indigenous species, promoting alternative transportation and bicycle use, and others. These original planning goals and recommendations remain, although

some are updated or modified. The attached document contains those sections of the 2000 Master Plan Technical Report that have been modified, deleted, or added to.

As always, the purpose of the WMU Campus Master Plan is to support the academic and institutional goals of the university. The recommendations of the Master Plan are to be used as guidelines for development. The details of implementation will vary with each situation, with decisions based on the university's goals and commitments.

- Update Format:
  - Deletions are ~~crossed out~~.
  - Additions and revisions are in blue.

MASTER PLAN TECHNICAL REPORT

MASTER PLAN GOALS Volume I: Section II.C

1. **Create a Sense of Place**
   - Identify, emphasize, renew, and build on the special features that constitute the Western Michigan University campus.
2. **Develop Academic Communities**
   - Develop a unified campus with viable parts. Create West, Oakland Drive, and East Campus "communities".
3. **Organize the Campus Districts**
   - Assure a people-friendly campus. Simplify the campus into districts that are easily identifiable, accessible, and manageable for pedestrians and vehicles.
4. **Plan a Four-Season Campus**
   - Aim for a friendly, year-round campus that imparts a different vital spirit with each season change.
5. **Develop the Campus Edges**
   - Design the campus edges to be physically identifiable, yet friendly and sensitive to the urban fabric. Make the campus "front door" a positive experience.
6. **Think Ahead**
   - Plan for and protect future development opportunities, anticipating the demands and changes faced by educational institutions in the 21st century.
   - Plan for and support the university's mission to create a safe, healthy, aesthetically pleasing, and sustainable campus, to advance responsible environmental stewardship, and to practice sustainable design in facility and physical development.

MASTER PLAN TECHNICAL REPORT

FUNDAMENTAL CONCEPTS Volume I: Section II.D

These concepts communicate the fundamental philosophy upon which the Master Plan recommendations are based and provide a framework for considering individual implementation projects.

1. **Protect the Valleys**
   - Preserve and enhance the open space character of Goldsworth and Arcadia Valleys. Restrict building development and enhance natural features, landscaping, and maintenance levels within these corridors. Practice sustainability in landscaping, maintenance, and stormwater detention.
     - Site future development outside the valleys and preserve and strengthen their existing open spaces and wooded slopes.
     - Upgrade landscape quality by treating natural areas as special, not leftover, areas. Introduce special and sustainable landscape elements, including indigenous plants and water features, and improve maintenance levels to achieve an image consistent with the University's institutional quality.
     - Maintain Goldsworth Valley as an active and passive recreation area.
     - Protect the potential of the Arcadia Valley as an active and passive recreation area.
     - Plan for and protect the Valleys' role in the Arcadia Creek Sub-Watershed and the Kalamazoo River Watershed, collecting and filtering runoff waters where possible.

2. **Develop Campus Edges and Entrances**
   - The University is to be easily identifiable. Establish visually distinctive and significant campus approaches, arrival areas, entries, and edges.
     - Create distinctive campus arrival zones through site amenities, road alignment, landscape features, and architectural definition.
     - Locate major entries along major community travel routes (Stadium Drive, Howard Street, Oakland Drive, and Michigan Avenue).
     - Vary treatment levels to clearly communicate the relative significance of the campus entries (primary and secondary).
     - Link the entries to internal travel corridors, particularly the loop roads, but also with open space, parking, pedestrian, bicycle, and transit corridors.

3. **Ensure Wayfinding and Accessibility**
   - Create a friendlier campus with upgraded signage, informational kiosks, and improved vehicular and pedestrian circulation, particularly at entrances and approaches to the University. Plan compliance with ADA accessibility guidelines and four-season access to all campus areas.

4. **Plan Alternate Forms of Transportation**
   - Place greater emphasis on safe and efficient transit, bicycle, and pedestrian circulation on and off campus.
   - Plan for and promote the use of non-traditional, environmentally sustainable vehicles and transit systems.

5. **Distribute Parking**
   - Position parking around the campus perimeter to be easily accessible from main roads and near principal center of use. Coordinate transit and pedestrian interface in order to facilitate access to major destinations.

6. **Connect the Campuses**
   - Maintain and enhance visual and physical connections between the West, Oakland Drive, and East Campus areas. Improve inter-campus circulation and accessibility. Protect potential bridging points connecting the campuses.
     - Use bridges (accommodating vehicles, bicycles, and pedestrians) to provide direct on-campus access over Oakland Drive (linking the two portions of East Campus) and over Stadium Drive (linking West and Oakland Drive Campuses).
     - Create inter-campus bicycle, pedestrian, and transit routes that connect with the city transit system and provide access within and between the subcampus districts.
     - Upgrade perimeter circulations. Complete and improve the West Campus Loop Road; create loop road and circulation systems for Oakland Drive and East Campuses.

7. **Preserve Open Space**
   - Plan future development to preserve and optimize the use of open space to achieve a sense of community and distinctive settings.
   - Practice sustainability in landscaping, maintenance, and stormwater management.

8. **Develop Districts**
   - Identify and develop districts that reflect a distinct identity, share a common function, or are relatively self-contained. District buildings should relate to one another, both physically and through similar functions. Consistently maintain building massing, patterns or grids, density, and heights appropriate to each district.
   - To the greatest extent possible, plan to contain and manage within each district the stormwater runoff created by the district's buildings and surfaces, minimizing water quality impacts on the Goldsworth and Arcadia Valleys.

9. **Create Campus Activity Hubs**
   - Create pedestrian-scale activity centers that are centrally located and visually distinct, with facilities clustered around a core open space that attracts students and visitors.
     - Utilize the highest quality of design, materials, and construction techniques.
     - Edge the featured space with facilities and activities that attract high volumes of students, faculty, staff, and visitors to the area.

- Create “people places” that reflect a pedestrian scale where vehicular traffic is restricted and congregation and interaction are encouraged.
- Create pedestrian and bicycle links between core open spaces and other campus districts.

10. Distribute Housing

- Locate housing throughout the campuses; serve a variety of housing needs and markets.

MASTER PLAN TECHNICAL REPORT

CAMPUS-WIDE RECOMMENDATIONS: BUILDINGS

Volume I: Section V.B.1
Refer to Fundamental Concepts 7, 8, 9, and 10

Overview:

Building patterns shown on the Illustrative Master Plan propose opportunities for accommodating growth within the existing campus boundaries. This framework for growth is intended to be flexible, so that the University can make refinements as specific needs are defined. Future campus development will incorporate principles of sustainability and environmental stewardship in the planning, design, and construction of projects.

The opportunities, and capacity, for growth illustrated in the Master Plan are not tied to a specific time frame or specific projections for new programs or increasing enrollments. Instead, they represent a capacity model for full campus build-out based on:

- Support for the ultimate replacement of existing buildings that have reached the end of their useful life and cannot be renovated cost effectively and/or use a critical site inefficiently. These building replacements will allow the University to grow in the 21st century, while clarifying the structure of the campus.
- An understanding of the importance of respecting the placement and scale of existing buildings that will remain and of creating a well-defined open space structure.
- The ability to balance parking demand and supply in a changing transportation environment that places increased emphasis on transit, bicycle, and pedestrian alternatives to automobile use.
- The feasibility of increasing the operational capacity of key roadway intersections to handle increased traffic, both on and off campus.
- A commitment to protect wooded areas across the campus and to respect the development constraints and open space character of the Goldsworth and Arcadia Valleys.
- The capacity to accommodate increased stormwater runoff in an attractive and environmentally responsible manner.

Recommendations concerning the relationship between academic and non-academic campus functions are structured to improve convenience and enhance orientation by creating hubs of activity and defining logical groupings of uses within districts. The placement of new infill buildings can also play an important role in clarifying campus organization. The manner in which buildings related to open spaces, pedestrian corridors, and to one another should establish a visible, understandable campus structure and a sense of human scale. Architectural treatments, including building height, massing, fenestration, and roof forms, can also help to define campus districts and landmarks.

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CAMPUS-WIDE RECOMMENDATIONS:
OPEN SPACE Volume I: Section V.B.2
Refer to Fundamental Concepts 1, 2, 7, and 9

Overview:

An integrated and continuous open space pattern is needed to connect key areas of the campus and to create an understandable open space system. Academic quadrangles, plazas, athletic and recreational fields, perimeter buffers, stormwater detention areas, and wooded hillsides all make important contributions to the campus open space pattern. These areas, however, must be inter-related and treated in such a way that they convey a unified and positive impression, rather that appearing as isolated leftovers.

The creation of this integrated system can begin with the definition of an open space core on each subcampus (West, Oakland Drive and East campuses). These core spaces can then be linked by open space corridors that connect across the campus.

The design treatment of open spaces has a significant impact on the campus image and the level of amenity it offers to users. Open space treatments on campus edges and in major entry areas can establish a positive campus identity. Open space also provide important opportunities for informal recreation and social interaction. These "people places" are most successful when they are located at a cross roads of activity and when they establish a human scale and provide for the comfort and enjoyment of users.

Recommendations: Stormwater Management

As new buildings and related parking are constructed, greater volumes of stormwater runoff will occur. These increased runoff volumes have been estimated to ensure that the Master Plan includes adequate detention ponds to avoid contributing to downstream flooding.

The Arcadia and Goldsworth Valleys are part of the Arcadia Creek Sub-Watershed that drains the runoff from major storms. Future planning must focus on reducing the volume and the pollutant load of stormwater discharges to protect the campus' and regions water resources. Each new building site, and/or site modification must include a plan to improve the stormwater management in that area, minimizing the affect of runoff on the other campus areas. ~~The majority of the stormwater detention capacity that will be needed in the future is proposed to be located in the Arcadia Valley. As a result, it is important that areas be set aside for that purpose.~~ Major detention ~~These~~ ponds should be designed to fit into the existing topography and landscaped to provide a permanent 25-foot-wide buffer of natural vegetation. ~~Additional stormwater detention capacity is also available in Goldsworth Pond~~.

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CAMPUS-WIDE RECOMMENDATIONS: BICYCLE CIRCULATION

Volume I: Section V.B.4
Refer to Fundamental Concepts 2, 4, 6, and 9

Overview:

Bicycles are convenient and inexpensive to operate. They also require less costly infrastructure and much less space for parking than automobiles. As a result, the University is committed to promoting increased bicycle use – as well as encouraging walking and improving transit service – to reduce vehicular congestion, parking demand, and the land and financial resources devoted to roadways and parking. The Student Survey, conducted in conjunction with the Master Plan, showed that 22% of the students surveyed currently ride bikes, with 46% reporting a willingness to do so if bicycle paths were provided.

Recommendations: Commuters

The bike routes recommended in the Master Plan link the campus to Kalamazoo's planned municipal bikeway system, which follows Stadium Drive from Lowell Street up to Drake Road, and includes a fenced, paved path from W. Michigan Ave. to Howard Street on the WMU campus. This coordination should continue as the two systems develop to encourage bicycle commuting to campus. Bicycle use should also be considered as an option for linking commuter parking lots (located near Howard Street, north of Valley Drive and south Stadium Drive) to the West Campus academic core and the East and Oakland Drive Campuses.

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SUBCAMPUS / DISTRICT RECOMMENDATIONS: OAKLAND DRIVE CAMPUS Volume I: Section V.C.3

The Oakland Drive Campus is located north of Howard Street and east of Stadium Drive and contains the Kalamazoo Regional Psychiatric Hospital (KRPH) and the Kalamazoo Center for Medical Studies (KCMS). Wile some KRPH facilities are lease to the State of Michigan, the University's ownership of the Oakland Drive Campus offers significant opportunities for accommodating future growth. Because much of the subcampus is undeveloped, it is important to define the basic patterns that should guide future growth and connect the new Oakland Drive Campus to the West and East Campuses.

Recommendations: Open Space

Primary Open Spaces: The primary open spaces on the Oakland Drive Campus include Arcadia Valley, which forms its western edge, the Oakland Drive frontage on the east and the open space/pedestrian corridor that will form the organizing spine for future development within the proposed loop road.

- The Master Plan recommends that the wooded hillsides defining Arcadia Valley be protected and that Oakland Drive Campus development be located on the plateau above the valley. Improvements to the valley landscape are also recommended, including the reservation of land for detention ponds needed to manage future increases in stormwater runoff, the relocation of the car impoundment lot and remnant coal piles, and the addition of low-maintenance, indigenous plantings. The creation of a boulevard cross-section on Stadium Drive south of Oliver Street is also proposed.
- A generous 300-foot open space setback is recommended along Oakland Drive to protect the wooded area that establishes a positive image on the eastern edge of the campus. As in Arcadia Valley, informal, indigenous plantings should be used along the Oakland Drive edge to reinforce its natural landscape character, while framing important views and screening less desirable ones.
- A proposed north-south open space/pedestrian spine that aligns with the historic Water Tower will function as the organizing element for the Oakland Drive Campus. This primary corridor forms a central mall and provides access to and through the existing KRPH quadrangle and new quadrangles to the north and south. (It should be noted that the Master Plan recommends that small building sections on the north and south edges of the KRPH quadrangle be removed to accommodate the pedestrian spine, allowing all campus users to pass through this space.) In contrast to the more informal landscape character of Arcadia Valley and the Oakland Drive setback, the landscape treatment along the spine may be more formal.

The proposed quadrangle at the south end of the open space/pedestrian spine is framed by buildings on only three sides. The Master Plan recommends that the Oakland Drive edge of this

quadrangle remain open so that it will be visible as motorists enter the subcampus (from the southernmost entry on Oakland Drive). In addition, the placement of buildings framing the west edge of this new quadrangle should be carefully located to maintain an open space link (and view corridor) to the proposed bridge across Arcadia Valley to West Campus.

Secondary Open Spaces: The proposed quadrangle located at the northern end of the central open space/pedestrian spine can function as the visual and functional focal point of the health and human services portion of the Oakland Drive Campus. Canopy trees planted along the edges of this open space should screen and soften the façade of the proposed parking deck that forms the quadrangle's northern edge.

It is recommended that development of campus housing include planning for playing fields and/or buffer/transition zones that can accommodate passive and active recreation. There may also be opportunities to develop parts of the Valley floor for passive and active recreation fields for future campus residents, mirroring the Goldsworth Valley playing fields or the municipal bikeway system installed in the Valley on the west side of Stadium Drive.