

Dickinson College

Campus Master Plan

Draft Final
April 2008

zimmer gunsul frasca architects llp
andropogon associates

NORWICH, ENGLAND
3,500 mi-5,640 km

BONN, GERMANY
LONDON, ENGLAND
3,500 mi-5,640 km

TOULOUSE, FRANCE
DURHAM, ENGLAND
3,500 mi-5,640 km

MADRASI, INDIA
5,900 mi-9,500 km

BEIJING, CHINA
7,400 mi-11,900 km

BRISBANE, AUSTRALIA
11,000 mi-17,700 km

NAGOYA, JAPAN
6,800 mi-10,950 km

SEOUL, KOREA
7,000 mi-11,270 km

SAN JOSÉ, COSTA RICA
2,100 mi-3,380 km

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Preface

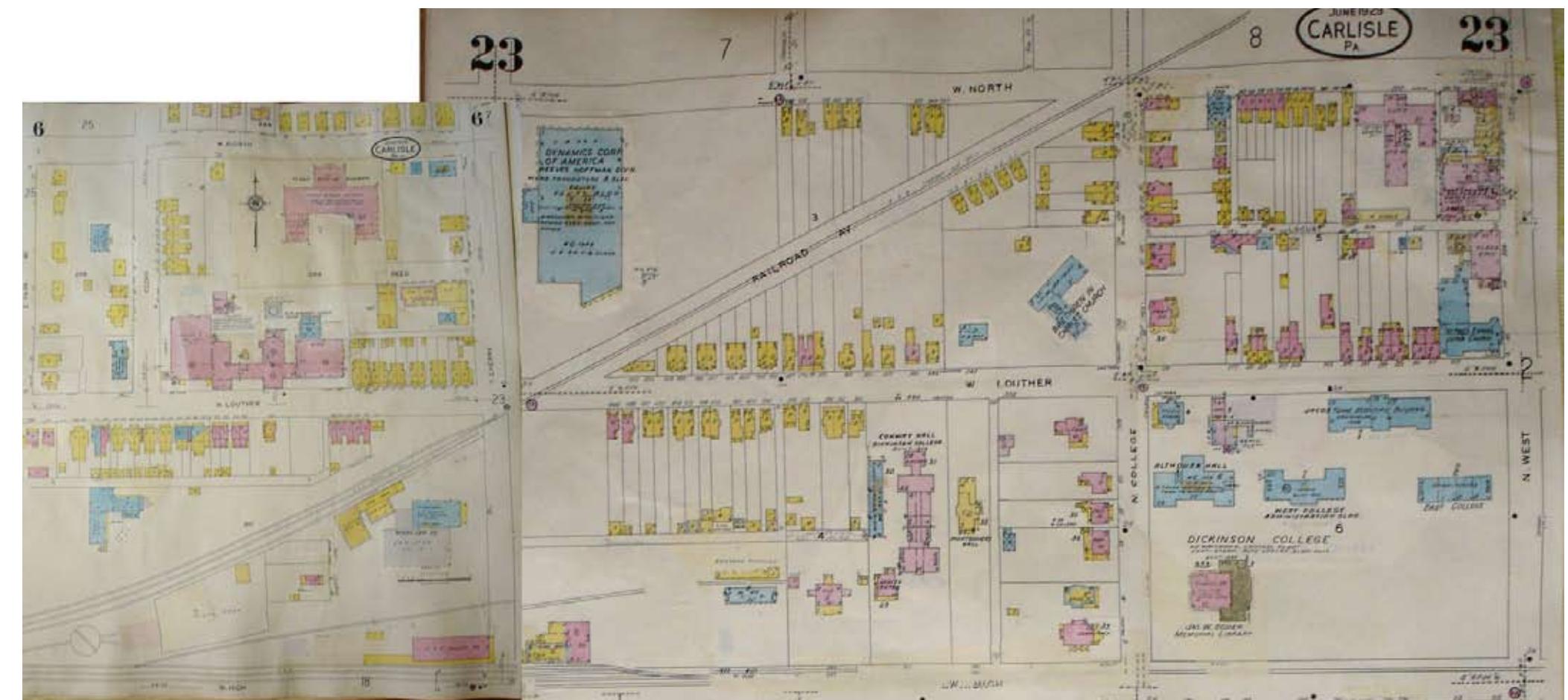
The objective is to distill the qualities that distinguish Dickinson College and the facilities that it will need in the next decade and beyond into an inspiring yet practical plan for campus improvements. Recommendations in the campus facilities master plan must be mindful of influences across the boundaries that connect the campus with adjacent communities as well as addressing the fabric and community of the College itself. The master plan will be a manual for campus decision-makers, enabling them to move forward with confidence into a partially known future, keeping the qualities and traditions of Dickinson College intact. A pervasive objective is improvement of the quality of life of all who use the campus.

Development of such a master plan requires close attention to matters that span historical perspective, academic accomplishment and aspiration, sustainable design and practices, community, diversity and mutual respect, and many other things. The bridges between these - and their reflection in the recommendations of the master plan - depend upon clear and effective communication. The Campus Master Plan Steering Committee was constituted to represent every constituency in the College, and has been the primary point of contact between the consultant team and the College community as a whole. The committee has been instrumental in development of goals and objectives for the master plan, and in ensuring that each initiative has been in step with the ethos of Dickinson College.

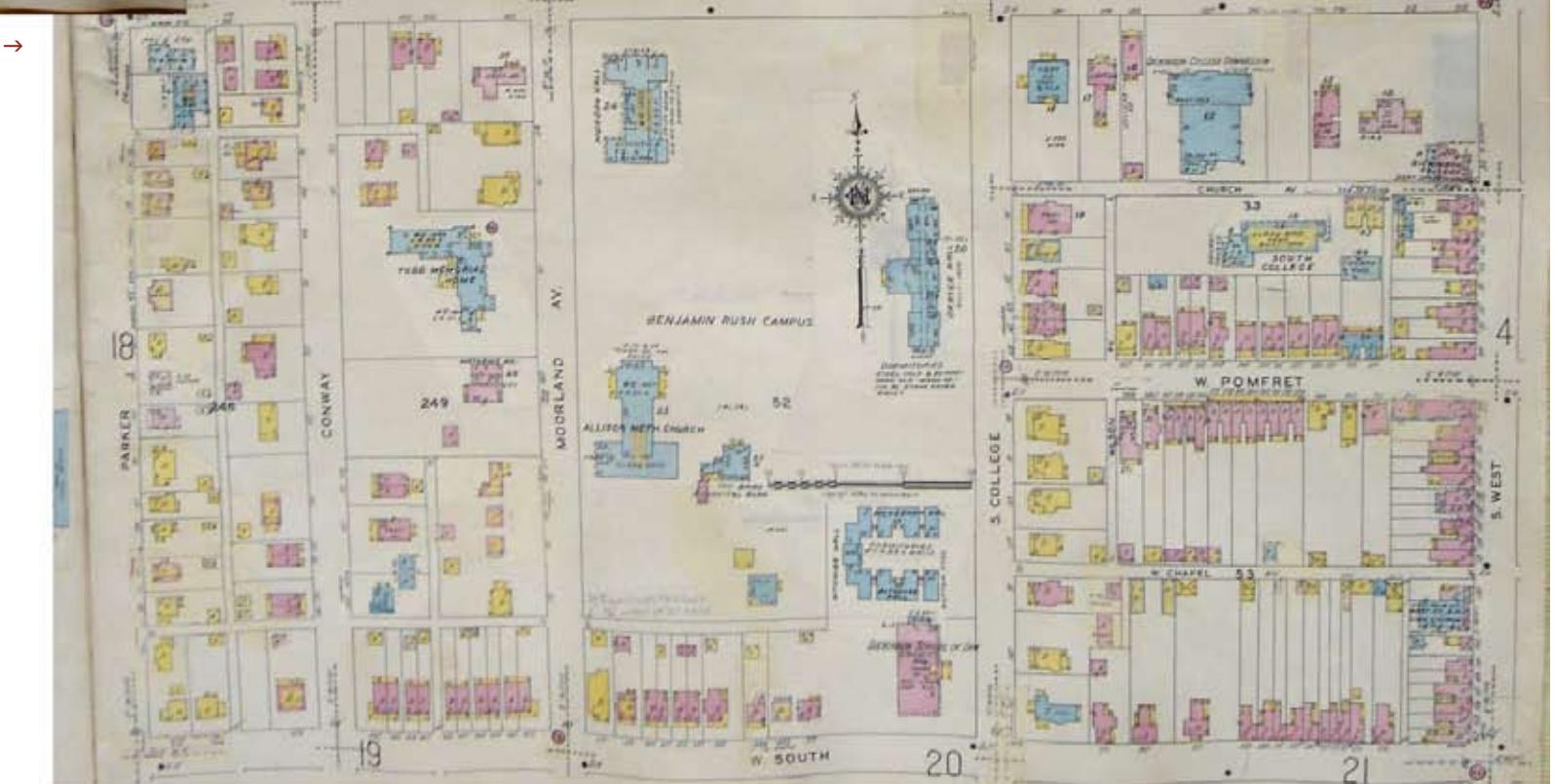


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Dickinson Values



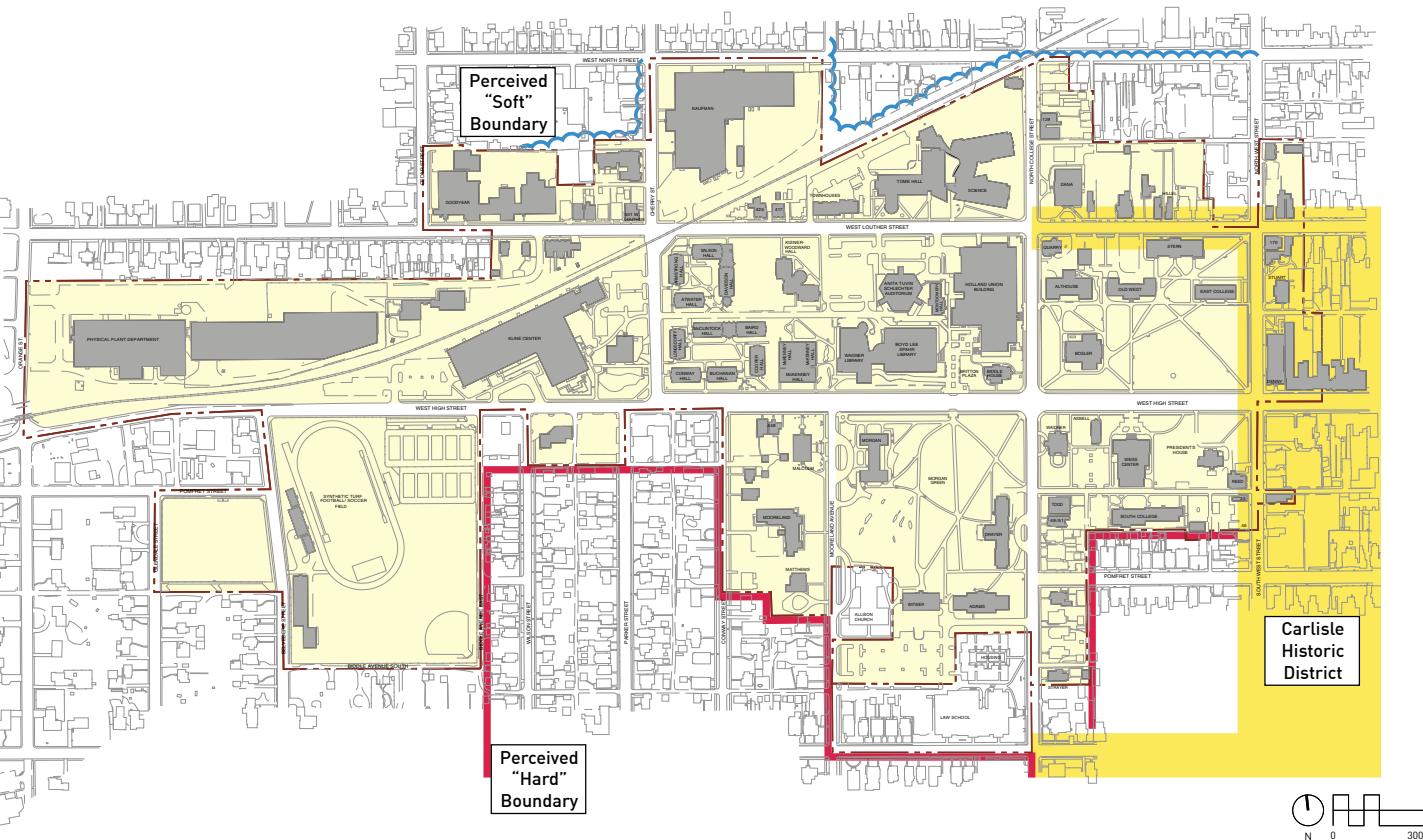
Sanborn Fire Insurance Map - 1929 —



Introduction



Historic view of Old West
across High Street ↑
Diagram of Historic District Boundary ↗



Campus History

The Charter for Dickinson College was prepared by Benjamin Rush in 1783, inspired by his passion for freedom of thought and action, and his belief that a nation worthy of its newfound liberty must be led by well-educated citizens. One week after the signing of the Treaty of Paris, a Latin school in Carlisle was transformed into Dickinson College – the first of its kind in the United States. It was named for the governor of Pennsylvania, 'the penman of the Revolution'. Dickinson College was dedicated to provide useful and progressive education in the Arts and Sciences, grounding students in a strong sense of civic duty to become citizen leaders.

Proximity of the College to the County Courthouse was important, so that students could see the practice of law in action. Equally important were field studies in the natural sciences conducted in the surrounding countryside. In its early days, the College was housed in adapted buildings, but in 1799 began construction of New College – a building which was destroyed by fire before it could be occupied. It was replaced by Old West, which was occupied in 1805. Next came East College in 1836, followed in 1885 by Tome Scientific Hall (now Stern), in 1886 by Bosler Hall. Fire struck again shortly after completion of Denny Hall in 1896; it was rebuilt and occupied in 1905. Thus more than a century of college life revolved around the green that faces High Street and West Street. It is here that the character and reputation of the College was forged, and here that a fresh master plan for the campus should begin.

Dickinson Dispositions

The intention of Dickinson College's founder to educate a citizenry fit to lead a newly liberated nation has been revisited and re-interpreted by scholars over many generations. Today those intentions are concisely presented in the Dickinson Disposition, a breviary on the values to be embraced by every student. A more comprehensive application of these values to the needs of the College today are embodied in the Strategic Plan, and from it are derived the goals and objectives that should guide the campus master planning process. The intention is to achieve congruence between the philosophical basis of the College and the campus facilities that house it.



What sets Dickinsonians apart from others? It's the habits of mind and action that are learned here and in life beyond the limestone walls. Your actions are cumulative—they add up to define who you are. We hope this list of dispositions—derived from the writings of college founder Dr. Benjamin Rush and from the reflections of Dickinson graduates—will take on meaning during your education at Dickinson ... and beyond.

DICKINSON DISPOSITIONS

DEVELOP GLOBAL SENSIBILITY

- Build a deep appreciation of languages and cultures
- Associate confidently in unfamiliar environments
- Pursue intellectual interests in the context of global affairs
- Seek to understand others and to be understood by building bridges of communication with people you meet
- Demonstrate commitment to inclusiveness, pluralism and democracy

ENGAGE THE WORLD

- Seize learning opportunities through travel, internships and volunteerism
- Move beyond that which is comfortable to embrace intellectual risk and gain self-knowledge
- Practice leadership in useful service to society—locally, nationally and globally
- Work to build a just, compassionate and economically viable society

SEEK CONNECTIONS

- Use the energy created by these connections to generate meaningful action
- Exert intellectual flexibility and innovation
- Discover new knowledge to shape the future

PRACTICE CIVILITY

- Find your distinct "voice" and speak out on issues of importance
- Search out facts to support opinion
- Approach challenges and adverse situations with determination and confidence
- Employ active empathy to establish substantive communication

STRIVE FOR ACCOUNTABILITY

- Contribute through high accomplishment driven by integrity and tempered by modesty
- Think independently but objectively, and act responsibly
- Work to develop lifelong habits of mind and action that are critical characteristics of personal success
- Remain mindful of the ecological, financial and social consequences of actions, supporting global sustainability

Goals & Objectives to Guide the Campus Master Plan Process

Mission (Goal 1)

Our mission is to prepare young people, by means of a useful education in liberal arts and sciences, for engaged lives of citizenship and leadership in the service of society.

Objectives:

- Plan for facilities that are designed around Dickinson education; an education that crosses boundaries between academic fields and between the classroom and the college community and beyond.
- Sustain organization and targeted innovation that will maintain Dickinson's position as a leading liberal arts college.
- Become operationally organized and ready to act on opportunities as they occur.
- Include art pieces throughout the campus that are relevant to the mission of the College.

Goal 2

Create a global campus that is infused with internationalism.

Objectives:

- Plan a campus that will enable the College community to act as responsible and effective global citizens.
- Demonstrate through the design and configuration of facilities the Dickinson commitment to inclusiveness, pluralism and democracy.
- Demonstrate through details of buildings and signage the connections that exist between activities on campus and elsewhere: locally and around the world.

Goal 3

Provide facilities with the flexibility necessary to meet changing needs of the College.

Objectives:

- Plan for reconfiguration or expansion of existing facilities and for new construction to accommodate current and anticipated growth in College space and equipment needs.

- Plan facilities improvements that will enrich and expand existing educational and recreational opportunities.
- Invest in a consistently high quality of architecture that embodies the College's values in liberal arts. Avoid architectural uniformity and encourage innovation.
- Build spaces that are amenable to different furniture layouts and uses.
- Address deferred maintenance in order to take full advantage of existing facilities.

Goal 4

Foster good citizenship.

Objectives:

- Include opportunities within and beyond the limestone walls that connect students with the wider world.
- Develop and expand ties beyond campus that are reflective, reciprocal and helpful to the community at large.
- Provide for an improved intercollegiate and athletics program. Plan facilities to propel sports for men and women to greater competitive success and recognition, and provide opportunities for all of the Dickinson community to participate.

Goal 5

Continue to increase the quality and breadth of the resident learning experience on campus.

Objectives:

- Provide housing opportunities that offer students venues for living-learning and appropriate self-governance.
- Maintain a balance of traditional and non-traditional housing which provide opportunities to build community skills.
- Maintain and upgrade residential facilities that provide students with progressively more independent living opportunities while continuing to interact with the community of the College.
- Encourage interaction between students of diverse age, perspectives and experience.

- Provide creative student life spaces that both instigate and support an integrated educational experience, while offering flexibility of use to support self-expression.
- Create indoor and outdoor spaces that harbor and encourage purposeful conversation and interaction.

Goal 6

Create a campus culture that is committed to ecological sustainability, both operationally and academically. Make Dickinson known for the quality of its environmental stewardship.

Objectives:

- Continue to integrate environmental accountability into decision-making and planning across all college functions.
- Through visible application of sustainable practices, educate students, faculty and staff about the environmental impact of their actions and life-styles.
- Demonstrate environmental awareness in residence halls.
- Involve all community members in the process of achieving campus sustainability.
- Encourage awareness and assistance in attainment of the President's Climate Commitment (ACUPCC) by all of the campus community.

Goal 7

Instill a culture of prudent use of resources and respect for the natural world that supports civilized society.

Objectives:

- Practice environmental accountability and make the campus a living example of sustainability.
- Consider the life-cycle benefits and 'true costs' including the health consequences implicit in each decision concerning campus improvement.
- Implement sustainable initiatives that result in monetary savings.
- Enable transition to environmentally healthy options through decisions on buildings, landscape, maintenance and resources.

- Throughout the campus, identify appropriate uses for land so that open and enclosed spaces complement one-another functionally and aesthetically.
- Complete each project before initiating another so that the College environment is always whole. Avoid the use of temporary structures.
- Include funding with each new building to endow its proper maintenance.

Goal 8

Strengthen the qualities of the Dickinson campus that will nurture lifelong affiliations.

Objectives:

- Strengthen campus identity and keep the Dickinson story at the forefront as improvements are made.
- Respect the history of the campus while encouraging innovation.
- Capitalize on the place of the College in the Borough and communities of Carlisle.
- Achieve a consistently high quality of buildings and landscape throughout the campus that strengthen the identity of Dickinson College.
- Minimize the interruption by streets of free, interactive movement of pedestrians throughout the campus.
- Reconcile the orientation of buildings with changing functions and surroundings.
- Re-connect facilities that appear detached from the campus.
- Make activities to, from and within buildings visible to the campus to strengthen interaction among the College community.
- Strengthen the sense of arrival at each approach to campus.
- Uphold aesthetic values established by the most valued features of the campus with new and vibrant additions to buildings and grounds.

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Campus Framework Plans

Campus Framework Plans

Campus framework plans are used to examine one aspect of the campus at a time. This dis-aggregation of systems reveals inconsistencies and deficiencies in each, and enables rational expansion to accommodate future needs. For example, separate analysis of pedestrian circulation, service access and general vehicular circulation reveals existing and potential conflicts, and enables design of intrinsically safe systems. The analyses that follow begin with the regional context of the College before examining particulars of the campus.



The Framework Plans provide an evaluation of the campus environment and facilities.

The Campus and Context

Located centrally in the Borough of Carlisle, Dickinson College has many services and much housing within walking distance. However, this urban setting limits opportunities to enlarge the campus, so that most additions to facilities must be achieved through infill or replacement.

The regional context is particularly relevant to landscape design: to the characteristics of soil and climate and the consequences for hydrology and vegetation.

Campus Walking Distances



The majority of the campus facilities are within a short walking distance from the HUB though parts of the campus feel disconnected.

Regional Context - Cumberland Valley, The Campus, Forest Station and Farm



Carlisle lies to the west of the intersection of Interstates 81 & 76



The Campus, Forest Station and Farm



The Cumberland Valley

The Appalachian Flyway- a major bird migration corridor- follows the northern edge of the Great Valley, along the Kittanny Ridge of the Blue Mountain. The Appalachian Flyway is a critical part of the Eastern Flyway, with over 150 species of migrating birds. Since this region is also one of the largest contiguous blocks of forest remaining in SE Pennsylvania it is a critical bird feeding and nesting area. This very large, contiguous forest has distinctive characteristics not easily replicated in suburban and urban environments.



The Campus and Farm

- (1) The Carlisle Campus
- (2) Reineman Wildlife Sanctuary & Field Lab
- (3) The Farm

The Great Valley

The borough of Carlisle lies within the Great Valley (Cumberland Valley) section of the Ridge & Valley Province. More specifically, it is found in the Northern Limestone and Dolomite Valley ecoregion within this larger physiographic province. The area has a geology, physiography, soils, climate, and vegetation distinctive to this location. These natural systems together with the culture that has developed over time, creates a place unique to Carlisle, and to Dickinson College. Understanding these relationships will help orient the campus to the surrounding community and to larger ecosystem processes.

Geology & Physiography

- » Underlying the Great Valley are largely sedimentary rocks - sandstone, shale, limestone and dolomite.
- » Mountain building forces folded and faulted the rock when the Appalachians were formed creating the characteristic ridges and valleys.
- » The limestone and dolomite rocks form broad undulating hills. Because these rocks are soluble in acidic water, they can form sinkholes, underground streams, and other karst features.
- » As a result of the karstic geology, surface drainage can directly pass into groundwater systems creating a high potential for groundwater contamination.
- » Occasionally, a harder rock type that is more resistant to erosion will form higher hills such as the Morgan rocks on the Campus.



Hydrology

- » This area contains some of the highest volume springs in the state.
- » Spring fed streams tend to have gentle gradients and flow plentifully year round.
- » As underground streams and other karst features are common, much of the drainage is sub-surface. Surface drainage can pass directly into groundwater systems, creating a high potential for groundwater contamination.
- » Stormwater in this area needs to be managed carefully to avoid accelerating sinkhole development.



LeTort Spring Run,
Internationally recognized trout
stream

Vegetation

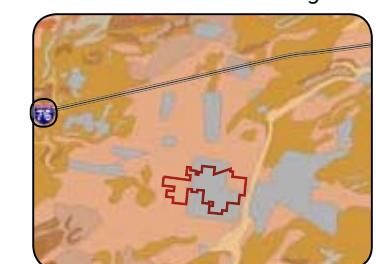
- » The general regional forest type is Appalachian mix Oak community (Kuchler 1964).
- » Hemlock (*Tsuga canadensis*), along with a mixture of white pine (*Pinus strobus*), beech (*Fagus grandifolia*), and other hardwoods also occurred locally. (Brenner, 1985, p.13).



Appalachian Oak Forest,
Remnants left on steep mountain
slopes

Soils

- » Soils are deep and well drained, formed in situ from nearly pure limestone.
- » Hagerstown soils are common locally, very productive and well suited to agriculture.



HaA Hagerstown Silt Loam 0 - 3%

HaB Hagerstown Silt Loam 3 - 8%

Ub Urban Land

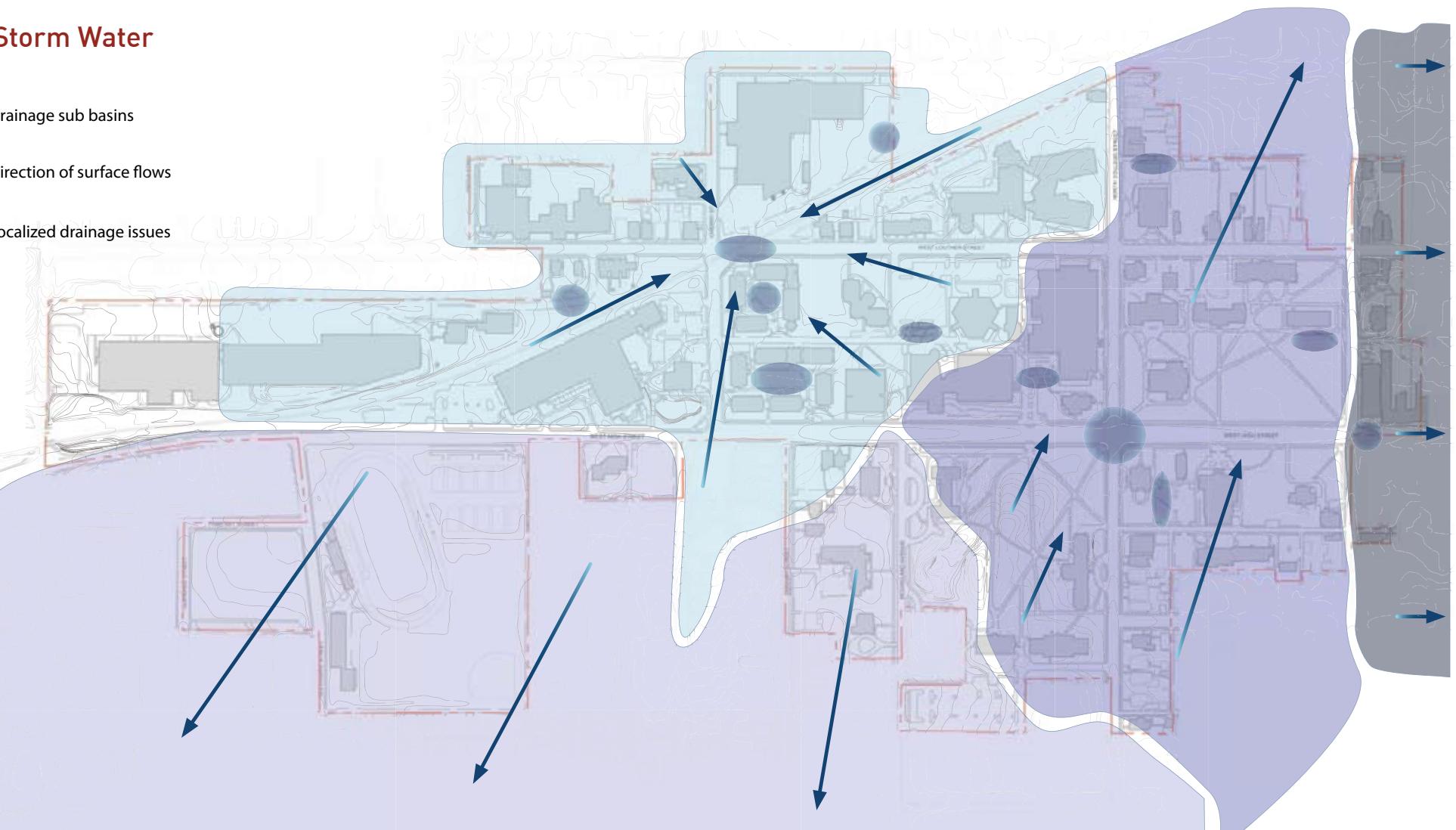
Campus Environment

Hydrology

Although the campus is fairly flat, storm water drains predictably towards a low point near the convergence of Louther Street and Cherry Street. This is one of four drainage basins upon which the campus is located. Landscape design must necessarily work with these natural inclines, intercepting, detaining, treating and piping water as appropriate. Rainwater is a resource like any other on campus, to be used and re-used to sustain campus vegetation and for other purposes. Precipitation and subsequent disposal of snow and storm runoff are important determinants of microclimates throughout the campus. Their management to optimize climate within each habitable place on campus is a challenge of the landscape architect. Understanding the hydrology, together with the behavior of underlying soils, is where answering that challenge begins.

Hydrology and Storm Water

- Drainage sub basins
- Direction of surface flows
- Localized drainage issues



Subsheds

- Based on available topographic data, the Campus can be divided into four mini watersheds or drainage sub-basins.
- Collection and surface flow within these sub-basins are managed by the existing storm sewer systems. In many cases, structures and landscape elements added later have altered the existing drainage patterns and resulted in localized flooding.



Localized Issues

- Numerous visits to the campus supplemented by interviews with Facilities Department have highlighted various areas with severe drainage issues. These areas are indicated on the map.
- These areas represent future opportunities to demonstrate creative and sustainable ways of dealing with stormwater.
- The intersection at Cherry and W. Louther has drainage issues that can be converted into an opportunity by locating a sustainable Stormwater demonstration site.



Pervious & Impervious Surfaces

- 55% of Dickinson's campus is covered with impervious surfaces.
- 45% of the Campus area has "soft" land cover types with varying degrees of permeability.
- Lawn is a dominant ground cover with very limited permeability. Lawn generally has a runoff coefficient between 80%-90% approaching hard surfaces as a result of compaction from mowing operations and active use.

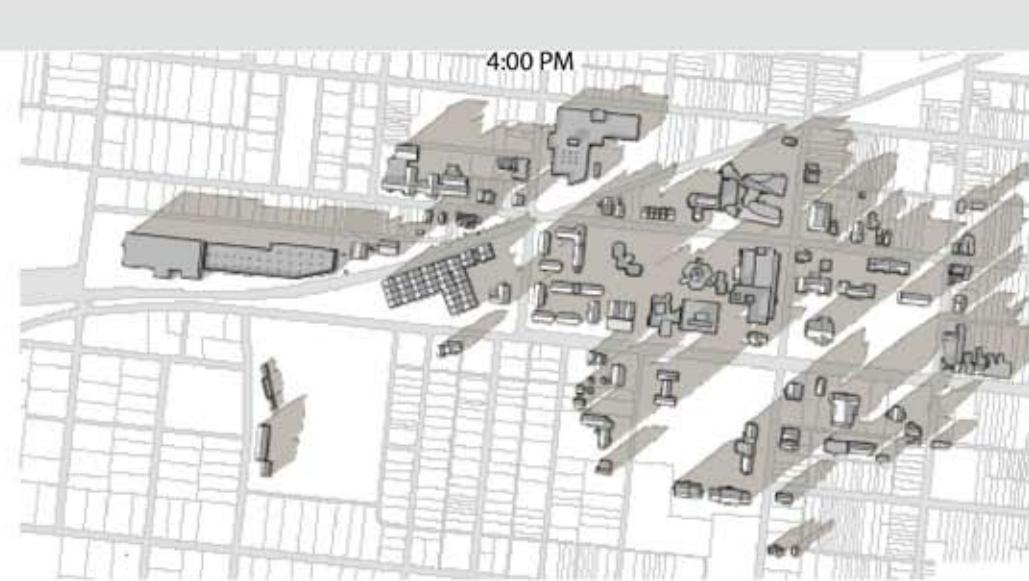
Sun and Wind

December 21



8:00 AM

4:00 PM



June 21

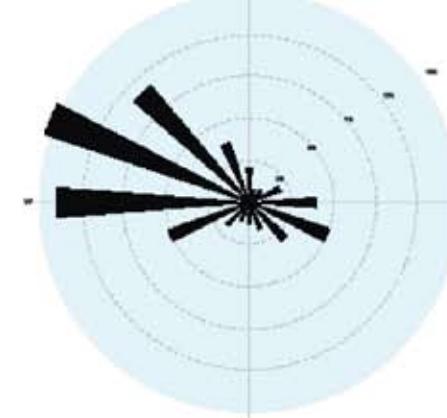


8:00 AM

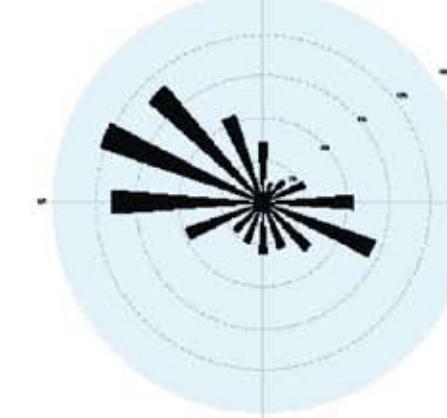
4:00 PM



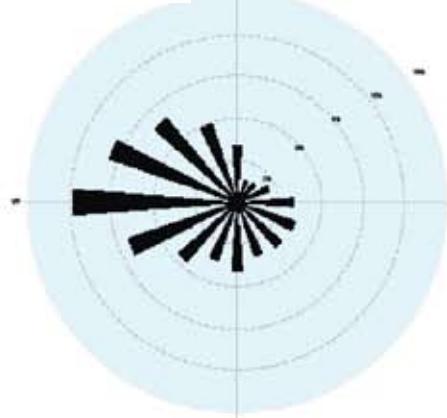
Winter Winds



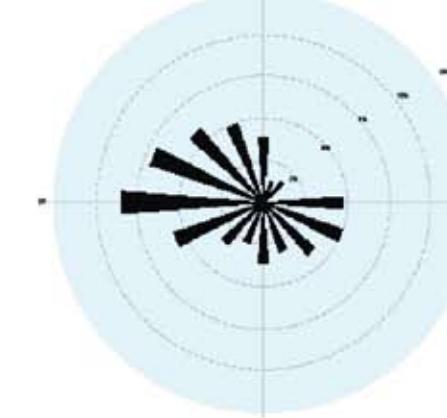
Spring Winds



Summer Winds



Fall Winds



Building shadows are often welcome in the summer, but less so in the cold of winter. They influence the desirability of a footpath and influence the choice of plant species. The long shadows of winter keep paths and driveways from thawing. More significant is the effect of solar access on the energy use of each building. Cooling loads exceed heating in many buildings today, so it is important to reduce heat gain resulting from direct exposure of windows to the sun, especially in summer. By orienting buildings with their narrow elevations facing east and west, the area of window glass exposed to low angle rays of the sun in the morning and evening will be minimized. Good insulation and reflective roof finishes also aid in reducing heat gain, and thus the energy used in cooling. Deciduous trees on the south and west of buildings screen them from such heating in the summer, yet admit heating rays in the winter, when they are welcome. At present, buildings provide little shade in the summer because of the high sun angle, while they shade the major pedestrian paths in the winter because of low sun angle.

The wind roses for each season show that winds from the west and northwest predominate year-round. Breezes from the south are fairly common, except in winter. Northeasterly winds are rare. This information is important in enabling natural ventilation of buildings, and in creation of comfortable microclimates outdoors. It informs planting patterns and locations to create windbreaks where necessary.