SHIPPENSBURG UNIVERSITY

CAMPUS MASTER PLAN

APRIL 2008

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Old Main

1. Executive Summary

Shippensburg University continues to evolve and develop to meet long-term goals defined in its strategic plan. This Campus Master Plan will assist the campus community in accomplishing well-defined objectives which are steps toward meeting these goals.

The University appreciates the value of planning. This Master Plan is an update of the 1998 Facilities Master Plan. The process of planning has been collaborative. Students, faculty, staff, and community representatives worked with the consultant team in a process guided by the Council of Trustees and University administration.

A.1 BACKGROUND FOR PLANNING

Goals for the Master Plan were agreed upon early in the process:

- Campus Master Plan
  - oUpdate 1998 Facilities Master Plan
  - oIntegrate with the Shippensburg University Strategic Plan
  - oShow the development of the campus in ways that are consistent with and support the University's values
- Housing Master Plan
  - oImprove residential life and enhance community
  - oProvide living/learning options
  - oAttract and retain students
- Assess academic spaces and plan for incremental growth
- Build on the relationship with the Shippensburg University Foundation
- Strengthen Shippensburg University's position locally and regionally
- Support Shippensburg University's marketing and branding initiatives

Planning would be based on the following assumptions:

- The master plan should show the development of the Shippensburg University campus over three phases: 0 to 5 years, 5 to 15 years, and 15 to 25 years.
- The master plan should assume incremental growth in student population: 100 students per year over the life of the plan. Faculty and staff population will grow commensurately: about 14% of student population.
- The master planning process should engage all parts of the campus community, and key stakeholders from the community of Shippensburg, Cumberland and Franklin counties.
- The master plan should illustrate optimal development within the University's boundaries, including property controlled by the Shippensburg University Foundation.
- Programmatic and curricular changes will be minimal over the life of the plan. There is the potential for the expansion of programs for engineering and social sciences.

Shippensburg University organized the Campus Master Plan process into six Tasks:

Task 1: Orientation
Introduction of the consultant and university teams, confirmation of schedule and process, orientation to the University's mission and vision, understanding of campus culture and community.

Task 2: Inventory Existing Conditions—Investigation of existing conditions of buildings and grounds, photography of the campus, research of existing documentation, analysis and definition of needs.

Task 3: Program Development—Investigation of existing data, analysis of program needs particularly considering population growth, development of options, identification of solutions, accommodation of solutions in existing and future campus structures.

Task 4: MP Concept Development—Development of conceptual master plan solutions for open space, building siting, a comprehensive housing approach, pedestrian and vehicular circulation.

Task 5: MP Development—Development and refinement of a comprehensive master plan.

Task 6: Final Report—Documentation and illustration of the master plan, and compilation of supporting documents.

The history of the University illuminates our current planning efforts.

Shippensburg University was established in 1871 as the Cumberland Valley State Normal School. Like many of the early land grant colleges, the Cumberland Valley State Normal School was originally built as a single large structure which included all functions for the new institution from classrooms to living quarters. For twenty years Old Main was the Normal School's only building. In the last decade of the 19th century and first decade of the 20th the remaining buildings of the campus on the hill were constructed. The mall between Henderson and Memorial Hall was established in the 1930s. The 1950s and '60s saw the build-out of the two residential quads and the Lehman Library academic quad. After another hiatus, construction activity re-commenced in the late '90s with the new academic buildings, a conference center, a performing arts center and a recreation center.

The campus has expanded northward from its original hilltop with spurts of growth in the 1930s, in the post-war era, and in recent years—each time with a logical plan that reflected the needs of the institution and the values of its time.

A.2 ANALYSIS OF EXISTING CONDITIONS

Shippensburg University is located in the heart of the Cumberland Valley on high land just outside the town of Shippensburg.

The town is advantageously located between Interstates 81 and 76. Route 696 connects the two interstates and forms the west boundary of the University. Route 81 runs the length of the Great Valley and connects the important commercial and government centers of Hagerstown and Harrisburg.

The Hagerstown to Harrisburg corridor is experiencing considerable economic expansion. Shippensburg University is poised to be a key player in providing intellectual capital, and in workforce and business development. This Master Plan can serve as a tool to inform regional leaders in business and government about the University's plans. The Master Plan should also encourage continuing dialogue about the University's evolving role in regional development.

Shippensburg University covers approximately 200 acres of gently rolling land. The campus slopes from the high point at Old Main northward towards the remaining portions of campus.

Shippensburg University owns and operates nearly 2 million square feet of buildings on approximately 200 acres of gently rolling land outside the town of Shippensburg. Distribution of building uses across the campus is coherent and logical.

Academic life in the nineteenth century was centered in the vicinity of Old Main. Today's academic quad revolves around the Lehman Library. Buildings around the library contain all the primary classrooms, laboratories, and associated teaching spaces. Some academic spaces remain in the historic district.

The two residential quads lie to the east and west of the Lehman quad. Each cluster of dormitories is supported by a dining hall. Additional apartment-style housing is on Foundation property west of Heiges Field House.

Three athletic zones support varsity and recreational activities. North of the Lehman quad is Heiges Field House and the newly opened Recreation Center. Further north are Seth Grove Stadium and varsity practice fields. To the east are recreation fields. In the southwest portion of the campus are fields and tennis courts supported by Henderson

Gymnasium.

Campus green space is the defining feature of the Shippensburg University campus. The lawns, trees, and other landscape features provide a peaceful, scholarly sense of place. Distant views beyond the lawns and between the buildings are of the Central Pennsylvania agricultural landscape and the Blue Ridge Mountains. The University has a well maintained campus landscape made up of large mature deciduous trees, small deciduous/flowering trees, evergreen trees, shrubs, ground covers and accent plantings comprised of both annuals and perennials.

There are architectural piers with signs marking three campus gateways, but two other campus entrances are minimally identified. There is not one single main entrance to the Shippensburg campus, even though most respondents in focus groups identified the Prince Street entrance as the main entrance. There are safety/security implications in this lack of perception that one is moving from public space to campus property.

Pedestrian movement is primarily focused in the Lehman Library quad district. Many of the most heavily used daily destinations for pedestrians are in or around the quad. While Police report few pedestrian/vehicle accidents, walking outside of the quad can feel hazardous or unpleasant for pedestrians crossing busy campus streets. Based on distances alone, the campus is walkable. It is approximately a half mile from the west edge of the west residential quad to the east edge of east residential quad, and a half mile from Seth Grove Stadium to the Spiritual Center across the Rails to Trails path.

University faculty, staff, and commuter students travel to Shippensburg by vehicle using the greater Shippensburg transportation network. The University Campus is essentially bounded by Newburg Road (Route 696) on the west/northwest, Adams Drive on the south, and Fogelsonger Road on the east. Access points are: Lancaster Drive and Old Main Drive off of Newburg Road; North Prince Street to Adams Drive, with Dauphin Drive and Cumberland Drive off Adams Drive; and Burd Run Road off Fogelsonger Road. The Burd Run Road access is limited in value due to the one-lane bridge over Burd Run. Other traffic circulation issues occur along Adams Drive. Of concern are the pedestrian/vehicular traffic conflicts along interior campus roadways, due largely to the volumes of pedestrian traffic, which tends to cross roadways where convenient, rather than at marked crosswalks.

Parking on campus is located both inside and outside the perimeter vehicular loop road around the campus core. The various current internal parking places and building service needs generate traffic that creates pedestrian/vehicle conflicts. In general there is an adequate quantity of parking spaces on campus—3,683 spaces—but there is a perceived inconvenience in some instances where the parking space location in relation to the user's desired point of designation requires walking.

The utility infrastructure is generally well-maintained but some systems are in need of replacement. The coal-fired steam plant has outlived its useful life, including the steam line distribution system. There is presently no central chilled water system which serves the campus. There are 18 chillers of various ages which serve 13 buildings. Much of the electrical main feeder cabling is aged and should be replaced to ensure reliability. Telecommunications requirements will increase with technology as more modern buildings are added to the campus. The water tower in the east part of campus was constructed in 1987 to serve as a third source of water supply for fire fighting to supplement the two existing connections to the Borough system.

A.3 THE CAMPUS MASTER PLAN

Concepts for the development of the campus grew out of analysis of existing conditions and program needs, consideration of population growth over time, and an understanding of the unique culture and qualities of Shippensburg University.

- Strengthen the academic core of campus
- Transform the residential environment
- Improve vehicle circulation and parking
- Improve campus identity and sense of place
- Remove specific buildings and renovate others to meet changing programs
- Improve facilities for athletics and recreation
- Improve utility generation and distribution to meet sustainable goals
- Encourage interaction between University and region

The primary changes to campus roadways recommended by the Master Plan are:

1. Convert portions of two roadways to pedestrian streets with limited vehicle access. These areas would be marked for primarily pedestrian use with signs and special paving, but they would be constructed to carry truck loads. The pedestrian streets would be available for use by police and fire emergency vehicles and for daily trash pick-up. Under campus police control, the pedestrian streets would be open to vehicles for move-in days, and for entering and exiting major campus events.
    a. Dauphin Drive between the north corner of Shearer Hall and Lancaster Drive.
    b. Cumberland Drive between the north corner of the Franklin Science Center and Bucks Drive.
2. Construct a roadway extension of Cumberland Drive from Bucks Drive to the Shippensburg University Foundation Conference Center and on to Route 696.
3. Remove the single lane bridge at Burd Run and replace with a two lane bridge to allow for a two lane roadway connection between Adams Drive and Fogelsonger Road.
4. Re-align York Drive following the removal of Reed Operations Center to allow for the construction of the west student Residential Quad.
5. Connect Queen Street to Adams Drive in alignment with Dauphin Drive.

The Master Plan recommends that **parking** should generally be located outside of the perimeter vehicular circulation loop with pleasant pedestrian walkways connecting to destination points within the campus core. ADA parking, service and special event parking are the exception and are acceptable within the campus core as needed. Population growth will increase parking demand, but the current surplus of approximately 1,000 spaces will absorb that demand.

The Master Plan recommends a graphically unified system of **signs** for campus gateways, wayfinding/directional signs, roadway signs, traffic and parking signs, and building identification. Signs which incorporate the Shippensburg University graphic standards emphasize the University's brand and quality. An effective campus-wide sign system is an essential component of the overall safety and security of the University.

The Recreation Center is an important new addition to the **athletic facilities** at Shippensburg University. Existing facilities—Heiges Field House and Henderson Gymnasium—are in need of renovation. The Master Plan proposes additions and improvements to Seth Grove Stadium including artificial turf for the field. Night lighting is recommended for the Stadium and the baseball and softball venues. A new field house is recommended that will allow for growth and relieve congestion in Heiges.

The University's current calculated ASF need is 388,267 ASF, with a space deficit of about 22,893 assignable square feet (6% of the total space). With the 35% planned enrollment growth, the future space needs for the Academic units could require 115,150 additional assignable square feet or about 31% additional space. Among the academic units, the College of Arts and Sciences has the greatest space deficit, both currently and in each enrollment growth projection, followed by the College of Education and Human Services. The John L Grove College of Business and the School of Academic Programs and Services have modest space needs.

As the projected enrollment growth scenarios are factored in there will be areas of significant need specifically in offices and labs. Future aggregate campus space needs based on the planned enrollment growth scenarios indicate total needs of approximately 412,300 ASF (7.5%% growth); to 443,500 ASF (20% growth); to 480,500 ASF (35% growth).

With the planned enrollment growth, the future space needs for the Academic units could require 115,150 additional assignable square feet or about 31% additional space. Classroom space is adequate to address the current and up to the 20% enrollment growth scenario with improvements to existing scheduling and utilization practices.

The University should reduce its **classroom supply** to remove rooms in poor condition. The Master Plan recommends that the 18 classrooms in Horton Hall, Gilbert Hall, Stewart Hall, the Faculty Office Building and Wright Hall be removed from service and made available for other uses. Besides being determined as most deficient, Horton Hall, Gilbert Hall and Stewart are remote from the academic core and the Faculty Office Building and Wright Hall are being considered for future demolition.

The Master Plan recommends the demolition of some structures and the construction of new buildings with a net add of new area to more than meet the requirements for academic growth.

Nearly all of the **residential facilities** on the Shippensburg campus are traditional dormitory halls with two person shared bedrooms with common toilets located at the corridor. All of these outdated facilities are in need of significant upgrades as well as reconfiguration to meet the demands of today's students. Such upgrade costs will be similar to the cost of replacing these structures with new low-rise student housing facilities. In addition, the ability to create warm and inviting exterior spaces would be limited by the existing layouts, structural systems and exterior materials.

The Master Plan recommends the replacement all of the outdated existing housing with new low-rise living/learning centers featuring suite style beds. The proposed student housing master plan will allow for future housing growth, both on-campus as well as off-campus.

The Shippensburg community has expressed a strong interest in sustainable living/learning facilities with a variety of living options. The new facilities will include proven "green" technology that is cost conscious and user friendly, with the feasibility of achieving LEED (Leadership in Energy and Environmental Design) also being further evaluated. The facilities are envisioned to be four stories tall, with basements that include windows to be created at sites with sloping grades. Basements would include amenities that would further enhance the living/learning community, such as wellness, multicultural, residential and academic related uses. The facilities will incorporate responsive technology

Proposed Master Plan

- Existing Buildings
- Proposed Residential Buildings
- Proposed Academic Buildings
- Proposed Support Buildings

(including cabling and wired/wireless access), security systems with monitoring/card access, air conditioning/energy management, sprinklers and sound attenuated construction systems. The exterior of the buildings will feature masonry facades with well proportioned windows and sloping roof elements, in keeping with the much loved traditional architecture of the campus.

A **safety and security** assessment of the campus resulted in the following Master Plan recommendations:
defined gateways at each campus entrance, wayfinding signage throughout campus, comprehensive outdoor lighting, removal of the circular drive in front of Old Main, reducing the number of pedestrian/vehicle conflicts, and collecting and defining pedestrian crosswalks. Improvements to the Public Safety facilities and procedures are also recommended.

The primary Master Plan **infrastructure** recommendation is for an new energy efficient central hot water/chilled water generating plant with the potential to use multiple fuels. Upgrades of the electrical and telecommunication systems are recommended. The demolition of the water tower is desired to allow a better housing plan, but a final decision requires further evaluation.

B. MISSION, VISION, GOALS, AND ASSUMPTIONS

Tree grove near Lackhove Hall

Old Main Fountain

View of Shippensburg from Old Main

1. Mission of the University

(from the Shippensburg University website)

Shippensburg University of Pennsylvania is a regional state-supported institution. It is part of the State System of Higher Education of Pennsylvania, which is made up of 14 universities located in various geographic regions throughout the Commonwealth. Founded in 1871, Shippensburg University serves the educational, social, and cultural needs of students primarily from southcentral Pennsylvania. The university enrolls students from throughout the Commonwealth of Pennsylvania, the Mid-Atlantic region, the United States, and various foreign countries as well.

Shippensburg is a comprehensive university offering bachelor's and master's degree programs in the colleges of arts and sciences, business, and education and human services. The curricula are organized to enable students both to develop their intellectual abilities and to obtain professional training in a variety of fields. The foundation of the undergraduate curriculum is a required core of courses in the arts and sciences. These courses prepare students to think logically, read critically, write clearly, and verbalize ideas in a succinct and articulate manner; they also broaden students' knowledge of the world, past and present.

The university's primary commitment is to student learning and personal development through effective and innovative teaching and a wide variety of high-quality out-of-class experiences. The ultimate goal is to have students develop to their utmost the intellectual, personal, and social capabilities they need to perform as competent citizens prepared to embark on a career immediately upon graduation or after advanced study. The personal attention given each student at Shippensburg is reflective of the strong sense of community that exists on campus and the centrality of students within it. The university encourages and supports activities which give students many opportunities to apply the theories and methods learned in the classroom to real or practical situations, such as faculty-student research and student internships. Student life programs and activities complement the academic mission and further assist students in their personal, social, and ethical development.

Committed to public service and community-centered in its relationships to the region, the university works closely and collaboratively with other organizations at institutional, programmatic and individual levels to develop common goals, share resources and invest cooperatively in the future of the region.

2. The Shippensburg University Vision Statement

(from the Shippensburg University 2005 Strategic Plan)

Shippensburg University will make clear progress toward providing an increasingly diverse, student-focused learning environment that is guided by historic values and commitments, while remaining sensitive to the changing environment. To accomplish this, Shippensburg University will:

Eight action items are listed, including:
7. To the extent that on-campus growth occurs, expand the University and community infrastructure supports necessary to serve a larger and more diverse student population, including facilities, classrooms, housing, safety, and transportation needs.

3. Goals of the Master Plan

- Campus Master Plan
  - Update 1998 Facilities Master Plan
  - Integrate with the Shippensburg University Strategic Plan
  - Show the development of the campus in ways that are consistent with and support the University's values
- Housing Master Plan
  - Improve residential life and enhance community
  - Provide living/learning options
  - Attract and retain students
- Assess academic spaces and plan for incremental growth
- Build on the relationship with the Shippensburg University Foundation
- Strengthen Shippensburg University's position locally and regionally
- Support Shippensburg University's marketing and branding initiatives

4. Master Plan Assumptions

The master plan should show the development of the Shippensburg University campus over three phases: 0 to 5 years, 5 to 15 years, and 15 to 25 years.

The master plan should assume incremental growth in student population: 100 students per year over the life of the plan. Faculty and staff population will grow commensurately: about 14% of student population.

The master planning process should engage all parts of the campus community, and key stakeholders from the community of Shippensburg, Cumberland and Franklin counties.

The master plan should illustrate optimal development within the University's boundaries, including property controlled by the Shippensburg University Foundation.

Programmatic and curricular changes will be minimal over the life of the plan. There is the potential for the expansion of programs for engineering and social sciences.

Old Main

1. The Master Plan Team

The master planning process was highly interactive with all parts of the campus community providing input and feedback. The President's Cabinet provided regular review of the progress of master planning work. The President's Executive Management Team was the decision authority. The Council of Trustees provided invaluable insight and prompted long term vision and approval for the direction of the plan.

Council of Trustees

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Glen Grell	
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Kimberly Miller	Student
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President's Cabinet

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Curtis Berry	Professor, Political Science
Lance Bryson	Executive Director for Facilities
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Thomas Speakman	Dean of Enrollment Services
David Topper	Assoc. Vice President, Administration & Finance
Melodye Wehrung	Equity Office, Executive Director, Social Equity

The staff of Facilities Management and Planning managed the Master Plan project and the consultant contract.

Lance Bryson	Executive Director for Facilities
Bruce Herring	Assistant Director, Planning & Engineering

Consultant Team

- WTW Architects—Master Plan Coordination, Housing Master Plan
- Ellerbe Becket—Master Plan Visioning and Strategies
- Brailsford & Dunlavey—Housing Master Plan, Housing Financial Plan
- Comprehensive Facilities Planning (CFP)—Academic Space, Safety and Security
- Entech Engineering—Campus Utilities Assessment
- Pennoni Associates—Land Use Planning, Parking/ Transportation, Landscape

2. The Master Plan Process

Shippensburg University organized the Campus Master Plan process into six Tasks:

Task 1: Orientation
August 10 - September 14, 2007
Introduction of the consultant and university teams, confirmation of schedule and process, orientation to the University's mission and vision, understanding of campus culture and community.

Task 2: Inventory Existing Conditions
August 10 - September 14, 2007
Investigation of existing conditions of buildings and grounds, photography of the campus, research of existing documentation, analysis and definition of needs.

Task 3: Program Development
September 14—October 26, 2007
Investigation of existing data, analysis of program needs particularly considering population growth, development of options, identification of solutions, accommodation of solutions in existing and future campus structures.

Task 4: MP Concept Development
October 26—December 6, 2007
Development of conceptual master plan solutions for open space, building siting, a comprehensive housing approach, pedestrian and vehicular circulation.

Task 5: MP Development
December 6, 2007—February 1, 2008
Development and refinement of a comprehensive master plan.

Task 6: Final Report
February 1—April 2008
Documentation and illustration of the master plan, and compilation of supporting documents.

Two weeks prior to the end date of each Task period, the consultant team submitted the work products of that Task—both hard copy and posted to an ftp site. Each Task submission included an Executive Summary of the work of that Task, the work products created since the previous Task, and meeting minutes of the Task period.

Please see the Appendix for:

1. Master Plan Schedule: on-campus visits, significant presentations, Task submission dates, etc.
2. Meeting Chronology: Meeting dates, topics, University and stakeholder attendees

3. History of the Development of the Campus

3.1 EARLY YEARS

Shippensburg University was established in 1871 as the Cumberland Valley State Normal School. The origin of the school was closely related to the normal school movement as it grew and developed throughout the Commonwealth of Pennsylvania. Prior to the second half of the nineteenth century there was no systematic education or certification for teachers. "For the most part, teachers in the common schools were untrained, and had as their only training such education as they had received in the schools in which they afterward taught." (Hubley, Hilltop Heritage, 5)

In May, 1857, Pennsylvania Governor James Pollack signed a bill which divided the state in to thirteen normal school districts. The normal schools were to be private institutions approved by the state with certifications given to graduates. The turmoil of the Civil War delayed implementation of the plan for normal schools.

Following the War the citizens of Shippensburg were interested in establishing a normal school in their vicinity. A public meeting was called on February 1, 1870, and State Superintendent Wickersham was invited to speak. It was encouraging to the people of Shippensburg to hear Wickersham say that "of all the places in this valley, Shippensburg, in many respects, was the most desirable." A letter to the editor in the Shippensburg News stated "The Professor made choice of our pleasant little village, as it is surrounded by a beautiful country, pure water in abundance, good society, and in short everything calculated to make the locality healthy, wealthy, and attractive. . ." (Hubley, Hilltop Heritage, 7) Citizens elected a board of trustees whose first task was to secure subscriptions to the capital stock of the school. When this effort proved successful, the trustees felt warranted to begin a site selection process. A committee investigated seven alternative sites for what would be the Cumberland Valley State Normal School, and a majority of the stockholders voted to locate the school on a hill overlooking the town.

Shippensburg viewed from Old Main lawn

This relationship of town to school is consistent with educational trends in the post-Civil War era. Frederick Law Olmsted was a noted 19th century campus planner and is considered the father of American landscape architecture. He was involved in the design of at least twenty schools over the course of his career from the 1860s to the 1890s. Prior to Olmsted, colleges were often planned as places apart from cities and towns. In his plan for the Berkley, California campus, Olmsted argued that colleges should be located neither in the country (divorced from "domestic life" and "civilization," and producing "the barrenness of monastic study"), nor in the midst of a city, with its distractions. The proper location was just outside of a city or town. Olmsted believed that human habitation should be integrated with nature and this influenced his many park plans. (Turner, Campus, 141, 150)

Olmsted advocated college buildings of modest size including a "cottage system" of housing. But, like many of the early land grant colleges, the Cumberland Valley State Normal School was originally built as a single large structure which included classrooms, offices, and living quarters for men, women, and faculty. It also contained dining facilities, a library, and an auditorium. After considerable discussion about the appropriate size of the building, now known as Old Main, the cornerstone was laid on May 31, 1871 and was completed in 1873. (Wilkens, A Photographic Survey, 10)

Between 1896 and 1898 Old Main's profile was altered to its present appearance. (Wilkens, A Photographic Survey, 10) Up to 1896 Old Main was distinctly Victorian in Style. The fourth floor windows were in dormers within a Mansard roof. The central tower was topped with a steep pyramidal roof with dormers. Decorative cupolas were set back from the east and west mansards. A porch extended in front of the central tower with steps from what is today the second floor down to grade. Prior to 1896 the second floor was the "principal story" or piano nobile. (Loucks, Nomination Form for the National Register of Historic Places) The alterations of the late 1890s changed the appearance from Victorian to today's Federal style, which was popular on college campuses from the late 19th to the mid-20th centuries. The cupolas were removed and the mansard roofs were replaced with steep gable roofs. The central tower was built higher in brick and topped with a painted wood Federalist cupola (recently replaced in aluminum). The Victorian porch at the front of the tower was replaced with a gable roofed porch with the central entrance to the first floor. These major architectural changes were made to remedy the habitually leaking flat top of the original, and now out-of-fashion, Mansard roof. (Loucks, Nomination Form for the National Register of Historic Places)

For twenty years Old Main was the Normal School's only building. In the last decade of the 19th century and first decade of the 20th the remaining buildings of the campus on the hill were constructed: Stewart Hall (1893), Horton

Original Old Main ca. 1879

Old Main 1971

Hall (1894), Martin House (1908) and Gilbert Hall (1912). In 1901 a bridge was erected to connect Old Main to Horton Hall, a ladies' dormitory. Beginning in the 1870s improvements to the grounds were realized with planting of trees and landscaping, and the construction of tennis courts and ball fields. The Class of 1896 contributed funds for the fountain in front of Old Main. A steam plant was constructed in 1898 on a site across the railroad tracks (today's Rails to Trails right-of-way). Eckels Field was in use by 1904.

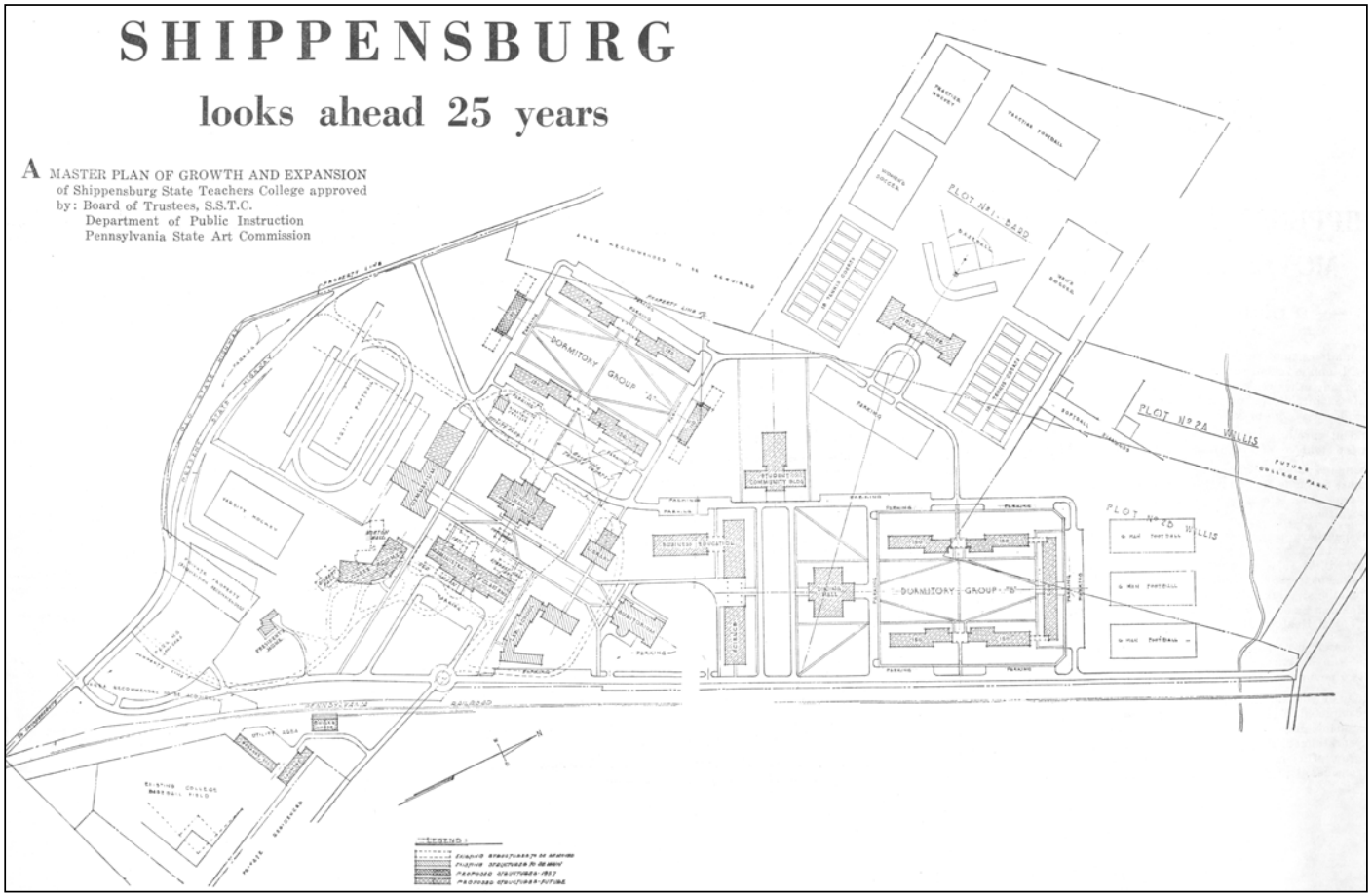
Bridge connecting Old Main and Horton Hall

The fountain, gift of the Class of 1896

3.2 BETWEEN THE WARS

There was a pause in the development of the campus during World War I and the 1920s. Following the Depression, a new quad was established in the 1930s for the growing institution. The rear of Old Main and Stewart Hall established the south side of the quad, and a Library (1931, now the Huber Arts Center) marked the north side. Henderson Gymnasium (1937) was the terminus at the west end. The year 1937 saw the completion of Rowland and Shearer Halls on the south of the quad. Two buildings in the 1950s completed the quad: Memorial Hall (1950) at the west end and Kriner Dining Hall (1957) on the north. The architecture of the buildings reflected the national trend between the wars toward a restrained classicism for university buildings. Henderson features an arched portico, Memorial Hall a columned portico, and Kriner Dining Hall a simplified Federalist central tower.

Kriner Dining Hall



1957 Master Plan

3.3 POST-WAR EXPANSION

A 1957 campus plan showed the growth of student housing on two formal, axial quadrangles in the approximate location of today's residential districts. The demolitions of the Old Main and other older buildings on the hill were called for to be replaced by administration and classroom buildings. The student dormitories in the west campus were completed in the 1950s and 1960s but not in the formal arrangement proposed in this plan: Wright Hall (1958),

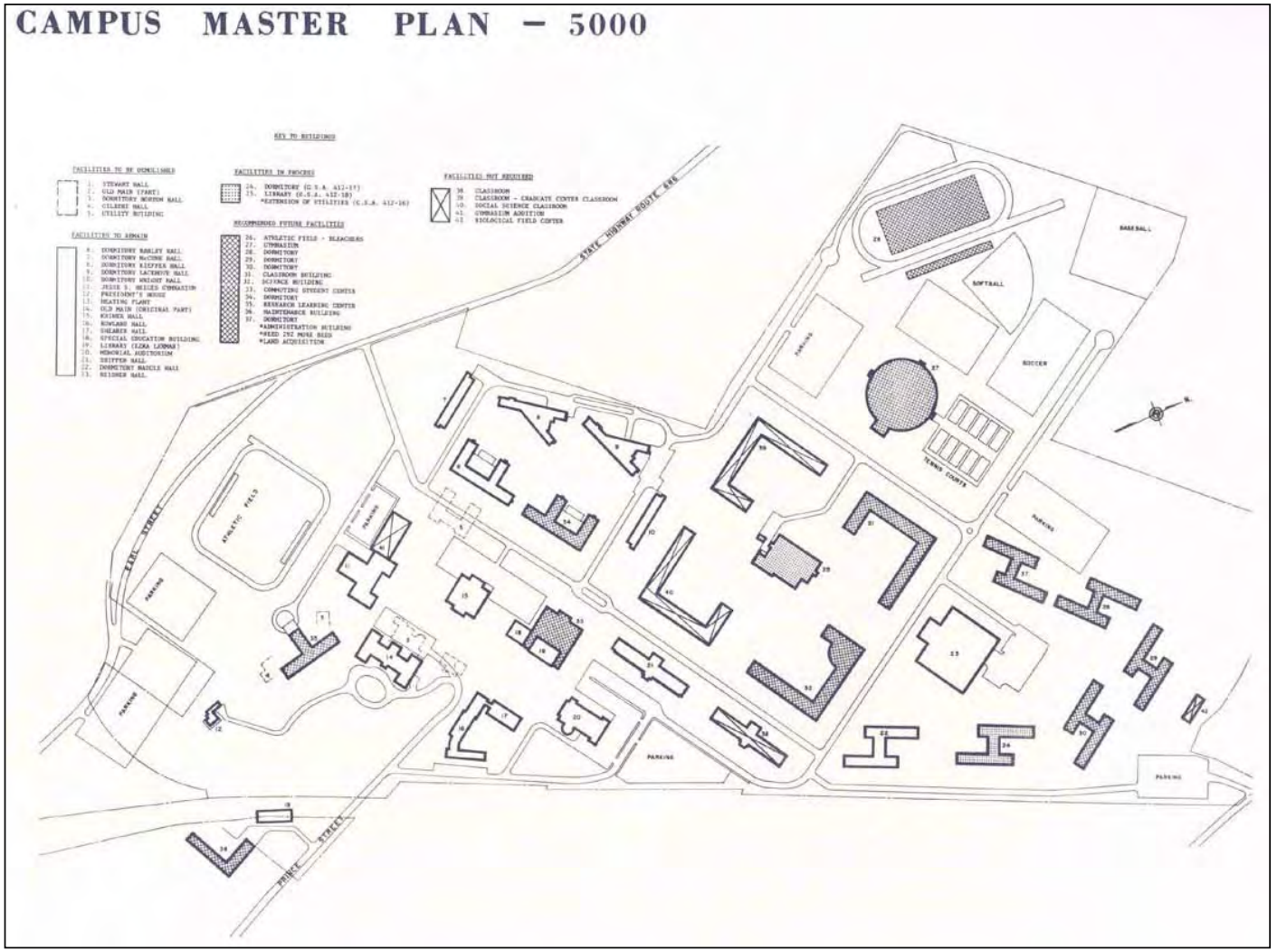
McCune Hall (1959), and Harley, Kieffer, and Lackhove Halls (all 1964). The 1957 plan proposes 36 tennis courts symmetrically arranged on either side of a small field house.

A 1965 campus plan shows the campus that is familiar to us today. The linear quadrangles of the 1952 plan were abandoned, as was the demolition of the hilltop historic buildings. A square academic quadrangle was proposed with a library at its center. The centerpiece of the new quad, the Ezra Lehman Memorial Library, was constructed in 1967. Academic buildings were positioned to form the edges of the Library quad: Dauphin Hall (1970), Franklin Science Center (1970), and, much later, the MCT Building (1996) and Luhrs Elementary School (2001). The Cumberland (now Ceddia) Union Building (1970) was built closely adjacent to the Library on the northeast corner of the quad.

The 1965 plan proposed five new dormitories, all in the same configuration as the recently completed Naugle Hall, in the east student housing area. Reisner Dining Hall and Naugle Hall were both constructed in 1965. Completing the east residential quad were McLean Hall (1967) as shown in the plan, and Mowrey Hall (1971), and Seavers Hall (1976) in different configurations.

Expansion of athletic facilities was shown in the 1965 plan. Heiges Field House (1971) and Seth Grove Stadium (1972) were constructed along with athletic fields in the north and west parts of campus.

The architecture of the post-war buildings of the Library Quad and the new residential districts were "modern" in the sense that they followed no historic style and were not imitative of the buildings around them. The contextual relationship among buildings was limited to a consistent massing (flat roofs, 3 to 4 stories) and the use of brick masonry. The buildings generally formed the edges of open spaces of various configurations which, when supplemented with landscaping and artwork, provided the unity and identity desired by the growing University.



1965 Master Plan

3.4 THE CONTEMPORARY CAMPUS

Following a twenty year building hiatus, construction re-commenced in the late 1990s. The Shippensburg University Foundation developed needed amenities in constructing Stone Ridge Commons apartments (1999) and the Conference Center (2006). New academic buildings are the Grove College of Business (1997) and the Luhrs Elementary School (2005).

New facilities that enhance the quality of life for the Shippensburg community are the Performing Arts Center (2005) and the Recreation Center (2008).

Shippensburg University has evolved from a single building normal school in 1873 to a leading Pennsylvania university for the 21st century, with nearly two million square feet of buildings on 200 acres. The campus expanded northward from its original hilltop with spurts of growth in the 1930s, in the post-war era, and in recent years—each time with a logical plan that reflected the needs of the institution and the values of its time. The current campus master plan builds on the successes of the past with optimism for the future.

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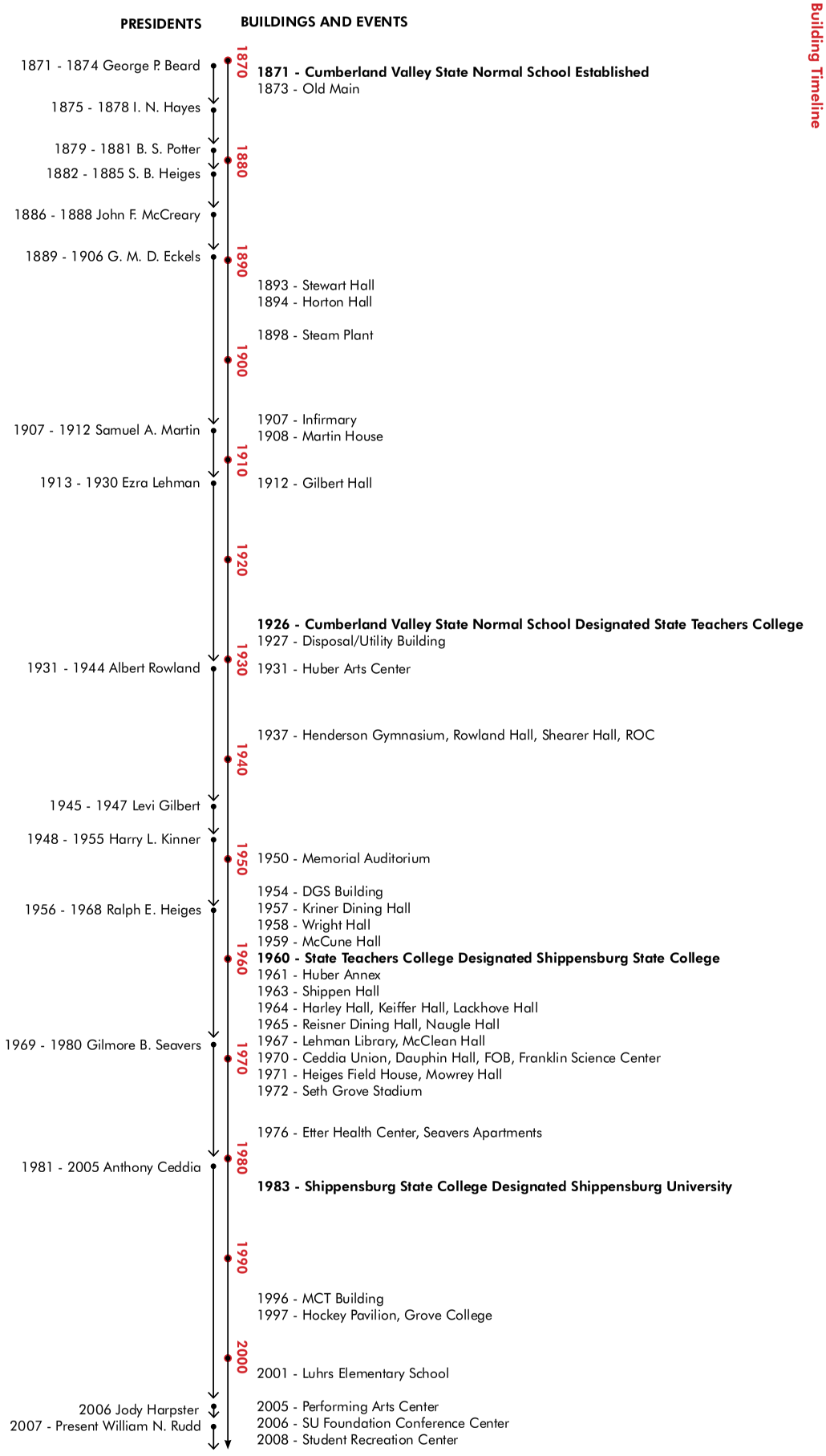
Building Chronology

Name	Date	History	Current Use
Old Main	1871	classrooms, living quarters for male and female students, faculty, administration, dining, and library	administration
Fountain	*1877*		*demolished*
Stewart Hall	1893	Originally a gymnasium, later a Student Center. Dedicated as Stewart Hall 1950.	classrooms, storage
Horton Hall	1894	Women's Dormitory. Science labs until Shearer was built in 1941. Bridge to Old Main 1901.	classrooms, offices
Fountain	1896	gift of the Class of 1896	fountain
Steam Plant	*1898*	*Replaced by current Steam Plant 1952.*	*demolished 1957*
Infirmary	*1907*		*demolished*
Martin House	1908	Principal's Residence	President's Residence
Gilbert Hall	1912	Named for President Levi Gilbert 1947. Model (Training) School. Adult and Business Education 1942-1964.	classrooms, offices
Disposal Plant	*1927*	*Replaced by Utility Building (ROC) 1937*	*demolished*
Utility Building	*1927*	*Replaced by Utility Building (ROC) 1937*	*demolished*
Ezra Lehman Memorial Library (Huber Art Center)	1931	Library. Named for President Lehman. Became Huber Art Center, Kauffman Gallery, 1971	art center, gallery
Alumni Gymnasium (Henderson Gymnasium)	1937	Dedicated to Esther Henderson 1969	gymnasium, pool, lockers
Rowland Laboratory School	1937	Elementary school. Dedicated to Pres. Rowland 1941	Communications/ Journalism Department
Shearer Hall	1937	Dedicated to Simon S. Shearer 1941	Science, Geography Dept.
Utility building (Reed Operations Center)	1937	Dedicated to Kenneth O. Reed 1976	Facilities Management and Planning, Police, Safety, Duplicating Services
Memorial Auditorium	1951		auditorium, classrooms
Steam Plant	1952		steam plant
Reisinger House	1954	Career Development Center, Frehn Center	Dept. of General Services, Custodial Services
Kriner Hall	1957		dining
Wright Hall	1958	dormitory	offices
McCune Hall	1959		dormitory
Huber Arts Center Annex	1961	Counselor education	arts
Shippen Hall	1963	classrooms, offices—business, foreign languages, art, math	College of Education and Human Services
Harley Hall	1964		dormitory, Fashion Archives
Kieffer Hall	1964		dormitory
Lackhove Hall	1964		dormitory
Naugle Hall	1965		dormitory
Reisner Dining Hall	1965	dining, classroom/lecture hall	dining
Ezra Lehman Memorial Library	1967		library, Instructional Design, Learning Center
McLean Hall	1967	dormitory, Learning Assistance Center	dormitory
Cumberland Union Building	1970	renamed Ceddia Union Building 2005	Student Union
Dauphin Humanities Center	1970	Humanities Depts.	under renovation 2007
Faculty Office Building	1970		offices
Franklin Science Center	1970	Natural Science/Computer Science	Natural Science, Psychology
Little Red School House	1970	school house originally constructed 1865, moved to campus	demonstration
Heiges Field House	1971		Athletics
Mowrey Hall	1971		dormitory
Seth Grove Stadium	1972		inter-collegiate sports
Etter Health Center	1976		health center
Seavers Apartments	1976		dormitory
Math Computer Technologies Building	1996		Classrooms, Math Dept., Computer Center
Hockey Pavilion	1997		hockey
John L. Grove College of Business	1997		College of Business, Sociology, Media Services
Grace B. Luhrs Elementary School	2001		elementary school
H. Ric Luhrs Performing Arts Center	2005		auditorium/performance, Music/Theater Arts Dept.
Shippensburg University Foundation Conference Center	2006		Foundation Offices and Conference Center
Student Recreation Center	2008		student recreation


PRESIDENTS
BUILDINGS AND EVENTS
1870
1871 - 1874 George P. Beard
1871 - Cumberland Valley State Normal School Established
1873 - Old Main
1875 - 1878 I. N. Hayes
1879 - 1881 B. S. Potter
1880
1882 - 1885 S. B. Heiges
1886 - 1888 John F. McCreary
1889 - 1906 G. M. D. Eckels
1890
1893 - Stewart Hall
1894 - Horton Hall
1898 - Steam Plant
1900
1907 - 1912 Samuel A. Martin
1907 - Infirmary
1908 - Martin House
1910
1913 - 1930 Ezra Lehman
1912 - Gilbert Hall
1920
1926 - Cumberland Valley State Normal School Designated State Teachers College
1927 - Disposal/Utility Building
1930
1931 - 1944 Albert Rowland
1931 - Huber Arts Center
1937 - Henderson Gymnasium, Rowland Hall, Shearer Hall, ROC
1940
1945 - 1947 Levi Gilbert
1948 - 1955 Harry L. Kinner
1950
1950 - Memorial Auditorium
1954 - DGS Building
1956 - 1968 Ralph E. Heiges
1957 - Kriner Dining Hall
1958 - Wright Hall
1959 - McCune Hall
1960
1960 - State Teachers College Designated Shippensburg State College
1961 - Huber Annex
1963 - Shippen Hall
1964 - Harley Hall, Keiffer Hall, Lackhove Hall
1965 - Reisner Dining Hall, Naugle Hall
1967 - Lehman Library, McClean Hall
1969 - 1980 Gilmore B. Seavers
1970
1970 - Ceddia Union, Dauphin Hall, FOB, Franklin Science Center
1971 - Heiges Field House, Mowrey Hall
1972 - Seth Grove Stadium
1976 - Etter Health Center, Seavers Apartments
1980
1981 - 2005 Anthony Ceddia
1983 - Shippensburg State College Designated Shippensburg University
1990
1996 - MCT Building
1997 - Hockey Pavilion, Grove College
2000
2001 - Luhrs Elementary School
2006 Jody Harpster
2005 - Performing Arts Center
2007 - Present William N. Rudd
2006 - SU Foundation Conference Center
2008 - Student Recreation Center

D. ANALYSIS OF EXISTING CONDITIONS

1. Shippensburg University's Location and Significance

Shippensburg University is located in the heart of the Cumberland Valley with Blue Mountain to the northwest and South Mountain to the southeast. The Cumberland Valley is a particularly lush portion of the Great Valley that runs from Eastern Pennsylvania to Alabama. The University is situated on high land just outside the town of Shippensburg.

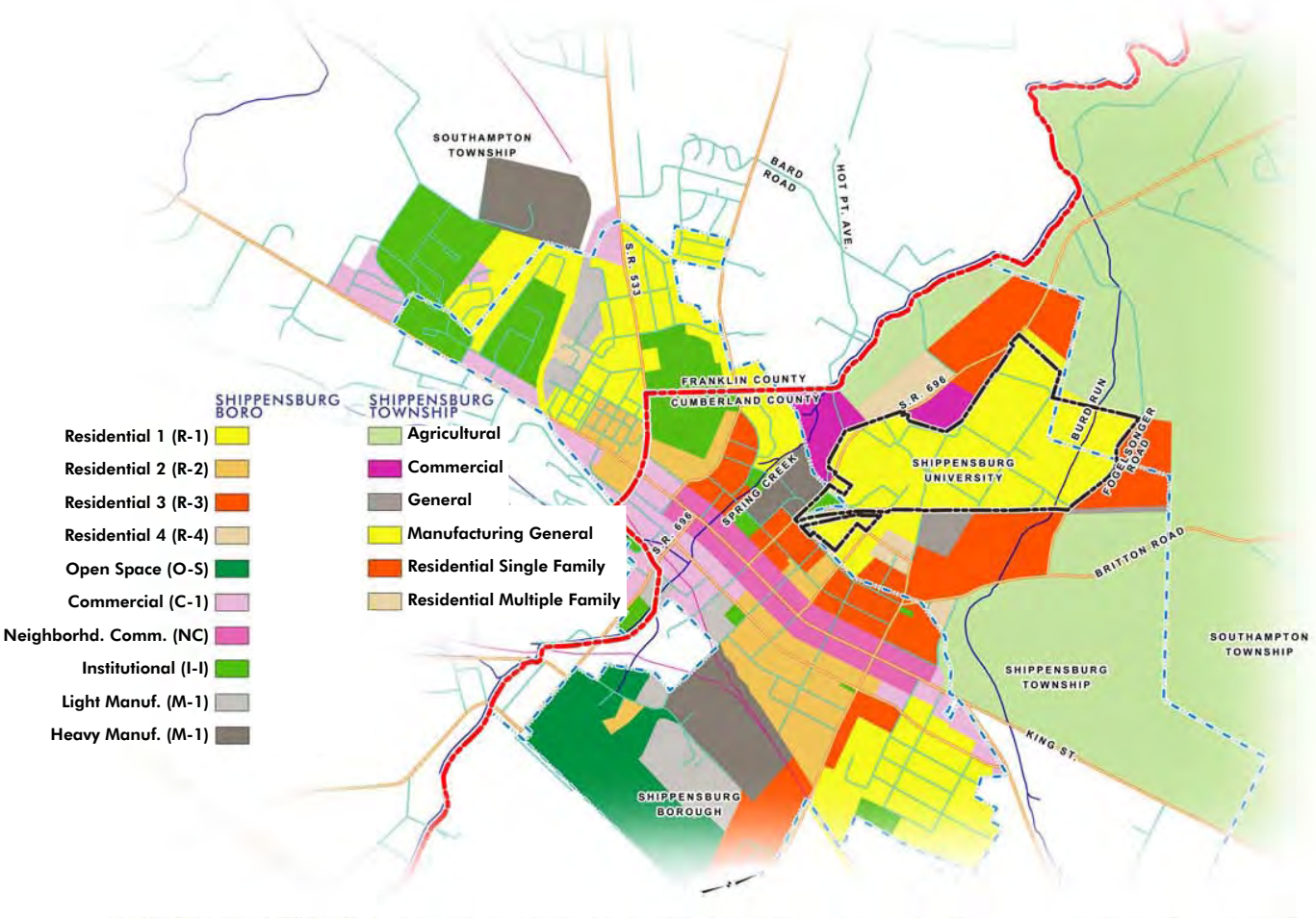
The town is advantageously located between Interstates 81 and 76. Route 696 connects the two interstates and forms the west boundary of the University. Route 81 runs the length of the Great Valley and connects the important commercial and government centers of Hagerstown and Harrisburg.

Shippensburg University is located in Shippensburg Township in Cumberland County. The Cumberland County/Franklin County boundary is just to the west of the University. The Shippensburg Borough is just to the south.

The Hagerstown to Harrisburg corridor is experiencing considerable economic expansion, and Shippensburg University is poised to be a key player in providing intellectual capital, and in workforce and business development. Regional input was sought during the planning process so that this Master Plan can serve as a tool to inform regional leaders in business and government about the University's plans. The Master Plan should also encourage continuing dialogue about the University's evolving role in regional development.

Downtown Shippensburg

Surrounding Land Use Analysis



2. Regional Transportation

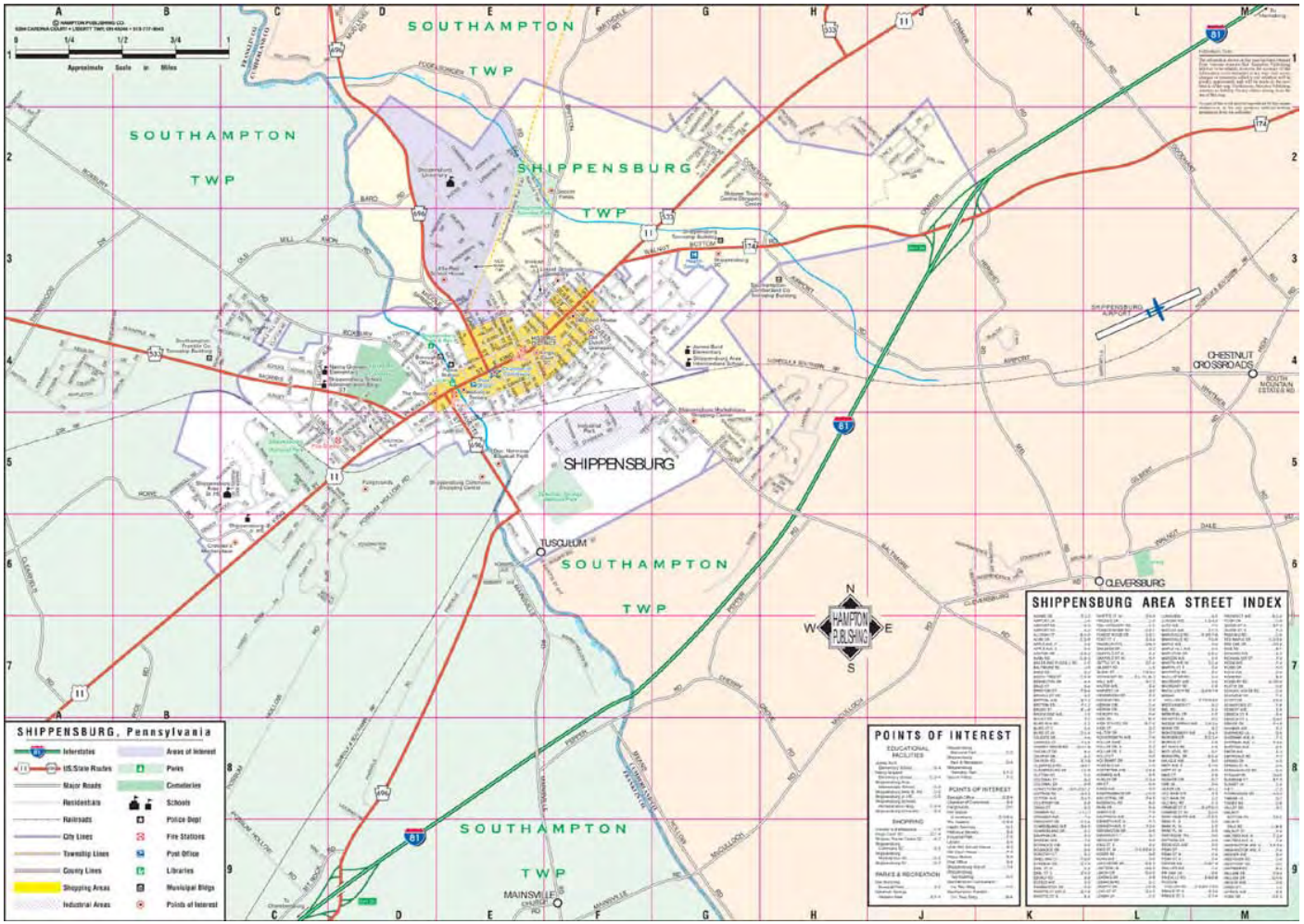
2.1 Regional Transportation

The greater Shippensburg region is anticipating significant residential and commercial growth, which will be largely driven by the nearby Interstate 81 (I-81) corridor. Approximately 2,600 new houses are in the land development process in Southampton Township, which surrounds Shippensburg. CSX Railroad has built an intermodal center in Chambersburg, spawning the potential development of large distribution centers along I-81 near Exits 24 and 29. Three potential distribution centers of one million square feet each near I-81 Exit 29 are currently in the land development process. Exit 24 lies at the intersection of Olde Scotland Road (SR 0696) with I-81 just south of Shippensburg, and Exit 29 lies at the intersection of Walnut Bottom Road (SR 0174) with I-81 just east of Shippensburg.

Shippensburg University intends to increase its student enrollment by 2,500 persons over the next 25 years. How these additional students will impact the sufficiency of the transportation network on campus and beyond will largely be determined by the location of housing for those students. If those students are housed on-campus, or off-campus but in an area near the campus such as downtown Shippensburg, then the additional student census should have minimal impact to the transportation network at peak hours. However, if students are unable to be housed on-campus or near campus, then those additional students will be commuting to the University, effectively adding their trips to the greater Shippensburg transportation network and the demands on its capacity.

The potential growth from these combined sources – residential, commercial, and Shippensburg University – will significantly impact the transportation network around and within Shippensburg. The Preliminary Traffic Plan for Shippensburg Area (Plan), prepared for the Shippensburg Area Chamber of Commerce's Long Rang Planning Committee by Carl Bert & Associates in October, 2002, describes the existing roadway network. That document suggests that at the time of its writing the transportation network around and through Shippensburg was essentially adequate, except for the occasional diversion of traffic from I-81 onto King Street due to emergencies, and special events held at Shippensburg University. It may well be that the higher traffic volumes produced by these special events demonstrated the inadequacies of the transportation network and revealed a potential future condition if normal volumes were to increase significantly.

According to the Chamber of Commerce's Plan, the foundational characteristic of the greater Shippensburg area transportation network is the location and function of King Street in Shippensburg. This particular street acts as a central hub, with streets radiating out from it. Also, the roads that intersect with I-81 at Exits 24 and 29 essentially



Township Map

function to bring traffic from I-81 into King Street. Other than township roads and alleys known by locals, most traffic coming into or passing through Shippensburg will most likely use at least some portion of King Street.

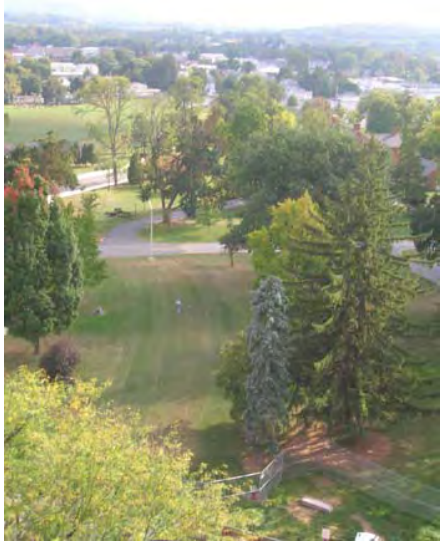
Route 11 - King Street

Further complicating the layout of the transportation network in the greater Shippensburg area is the inadequate capacity due to all streets and roadways in the region, other than I-81, being a single lane in each direction. This combined with constraints due to residential and commercial driveways on roadways without turn lanes, intersection radii inadequate for truck traffic, and bridges with height or weight restrictions, further limit the capacity of the network. As traffic volumes increase because of development, the limitations of the network will become increasingly apparent.

Recommendations for improving the greater Shippensburg area transportation network were suggested in the Chamber of Commerce Plan, and in The Shippensburg University Transportation Study, prepared by Pennoni Associates Inc. for Shippensburg University in July 2005. Specific recommendations may be found in these documents, and in the letter to file dated November 20, 2007, which presented a comparison and contrast of the two planning documents.

Generally, the planning documents suggested short, mid, and long-term recommendations to the transportation network needs. The prioritization of potential improvements depended upon such factors as the urgency of the needs, funding, and applicability of the improvements to the growing inadequacies. For example, signing improvements and signal coordination and timing for events were suggested first, with roadway extensions and bridge rehabilitations/replacements following next, and a potential new interchange with I-81 and new roadways around Shippensburg projected later in the plan.

More recently, cursory analysis of placing a new interchange on I-81 at its intersection with Baltimore Road suggests that the interchange may not be feasible due to interchange spacing and other factors, costs would far outweigh the benefits, and that this particular component of a larger transportation network remediation plan should not be pursued.



View from Old Main

3. Topography and Geology

3.1 TOPOGRAPHY

Shippensburg University covers approximately 200 acres of gently rolling land. The campus slopes from the high point at Old Main northward towards the remaining portions of campus. Landscape topography is the result of the structure and weathering characteristics of the underlying bedrock. The more weather-resistant rock is responsible for areas of higher elevation, while less resistant rock, such as limestone, tends to erode to form low-lying valleys. The topography of the Campus does not place constraints on development.

3.2 FLOOD PLAIN

A 100-year flood plain is located along Burd Run Creek on the eastern portion of Campus. An additional flood plain is located off site, along Middle Spring Creek (locally known as "Branch Creek") on the west side of Route 696. A 100 year-flood plain is designated by the Federal Emergency Management Agency (FEMA) and is defined as the part of a valley floor over which a river spreads during seasonal or short term floods at least once every 100 years. Buildings constructed on flood plains are subject to flooding and new development should be sited elsewhere if possible.

3.3 AQUIFER RECHARGE AREAS

An aquifer recharge area is an area that transmits groundwater to the water table. Preliminary research of existing documents has not located any aquifer recharge areas on the University Campus; however, due to the limestone base that is prevalent on campus a geotechnical survey would be needed to confirm this assumption.

3.4 WETLANDS

A wetland is defined as transitional lands between terrestrial and aquatic systems where the water table is usually at or near the surface or land is covered by shallow water. To be classified a wetland in Pennsylvania the following three attributes must be present: 1) sufficient water to saturate or cover the ground, 2) hydric soils, and 3) hydrophytic vegetation.

The Office of Biological Services, U.S. Fish and Wildlife Service, National Wetland Inventory, has identified only one wetland on campus. This wetland is indentified as a Biological Pond located between Burd Run Creek and Fogelsonger Road north of the Britton Road. The National Wetland Inventory has classified this wetland as PUBHh (Palustrine System, Unconsolidated Bottom Class, Permanently Flooded, Diked/Impounded).

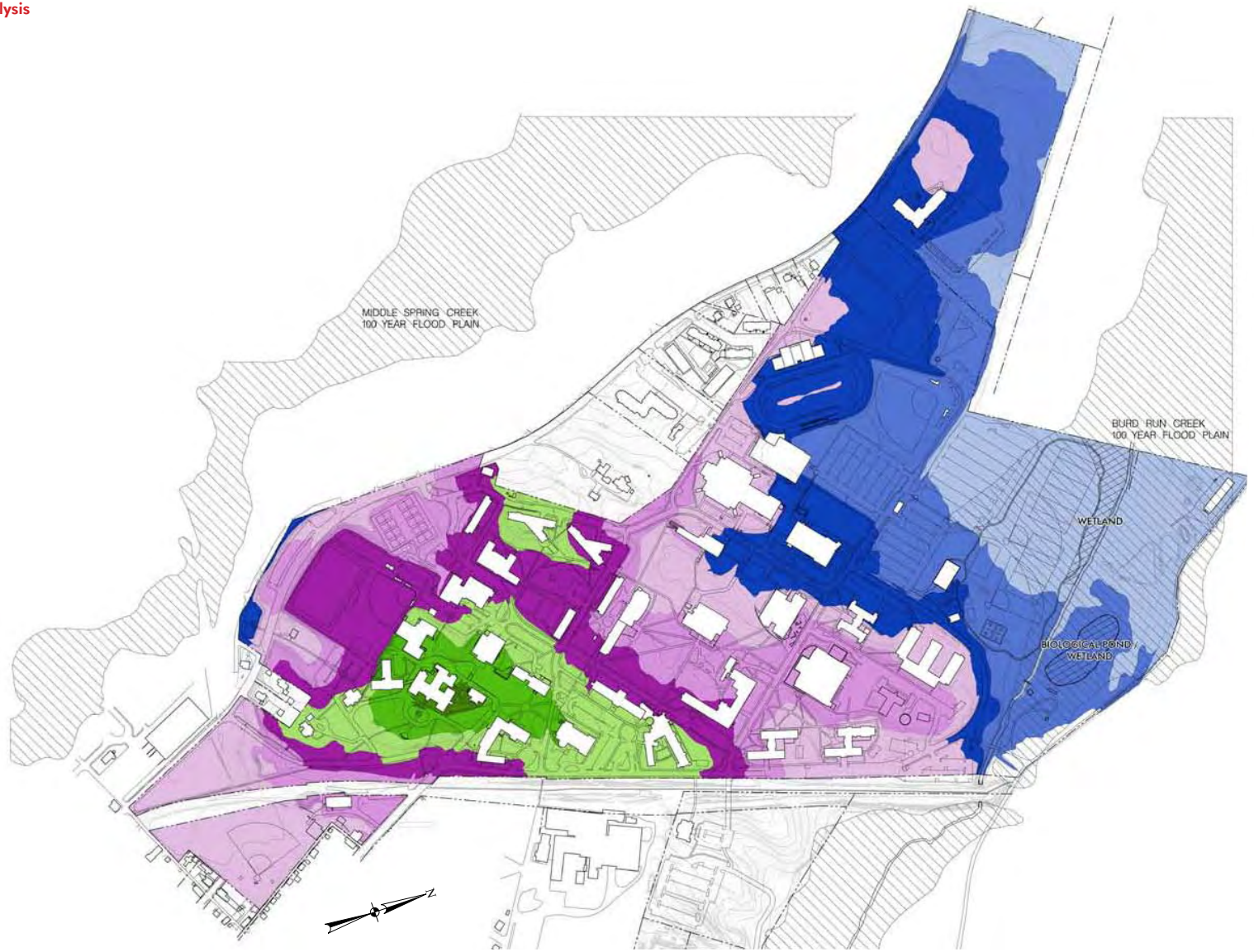
A Jurisdictional Determination (JD) of additional wetlands was delineated in a report dated February 28, 1995 by TETHYS Consultants Inc. for the area between the intramural fields/jogging path and Burd Run. The 1995 wetland delineation report needs to be updated.

The wetlands are likely to be a constraint to development on the University Campus. To develop any proposed activity in the vicinity of the identified wetlands an updated wetland delineation study would need to be conducted to clearly determine the potential impacts. Avoidance of the wetlands, if possible, or mitigation of impacts, would be required, as would U.S. Army Corps of Engineers and Pennsylvania Department of Environmental Protection permits.

Topographic and Flood Plain Analysis

Note: Numbers are feet of elevation

- 610-620
- 620-630
- 630-640
- 640-650
- 650-660
- 660-670
- 670-680
- 680-690
- 690



3.5 GEOLOGY

The Shippensburg Region is influenced by its location in the Ridge and Valley physiographic province. The mountains forming the northern and southern borders of Cumberland County are part of the ridge portion of this province. Quartzite, sandstones, and conglomerates are characteristic of this portion of the region. These rocks are generally tightly cemented with low porosity, but they also tend to be brittle, so numerous joints have developed. These joint openings produce a secondary porosity, which increases the permeability of the rock. In general, the number and size of joint openings decrease with depth. The other dominant rock types in the Region are the limestone and dolomite. Although limestone is particularly associated with high groundwater yield, this formation is also susceptible to sinkholes, surface subsidence, and groundwater contamination due to high porosity.

Bedrock underlying the University includes the Rockdale Run formation of the Ordovician Age. The carbonate bedrock at the site is moderately solution-prone, highly calcareous and weathers differently to produce a pinnacled or sawtooth top of rock profile. Therefore, very pronounced rock pinnacles would be anticipated in this region. Common features associated with such "karst" terrain includes caves, internal drainage, lack of surface streams, solution channels and topographic features such as sinkholes. These features are the result of the dissolution of soluble bedrock, such as limestone or dolomite, over geologic time by groundwater and/or infiltration of surface water. Cassions or micropiles may be required for new structures.

3.6 SOILS

In Pennsylvania, soils information is maintained at the County level, typically by individual County Conservation Districts. Soil surveys prepared by the conservation districts are entered into a statewide Soils Survey Geographic Database, which is then certified and managed by the United States Department of Agriculture, Natural Resources Conservation Service, and National Survey Center. The information was developed using a database called "SURGO." SURGO is the most up-to-date soil survey information available at the time this Plan. The Existing Soils Map indicates the soil types and slopes. A majority of the Campus and surrounding area possess soils with some type of moderate or severe development constraints. The Natural Resources Conservation Service defines constraints as being:

- Slight - soil properties and site features that are generally favorable for the indicated use and limitations are minor and easily overcome;
- Moderate - soil properties and site features that are not favorable for the indicated use and special planning, design or maintenance are needed to overcome or minimize the limitations; and
- Severe - soil properties or site features that are so unfavorable or so difficult to overcome that special design, significant increases in construction costs and possibly increased maintenance are required. Special feasibility studies may be required where the soil limitations are severe.

Types of soil constraints include the potential for shrink swell, severe slopes, flooding, wetness and low strength. To overcome the soil constraints, the following actions are required to make a site suitable for development:

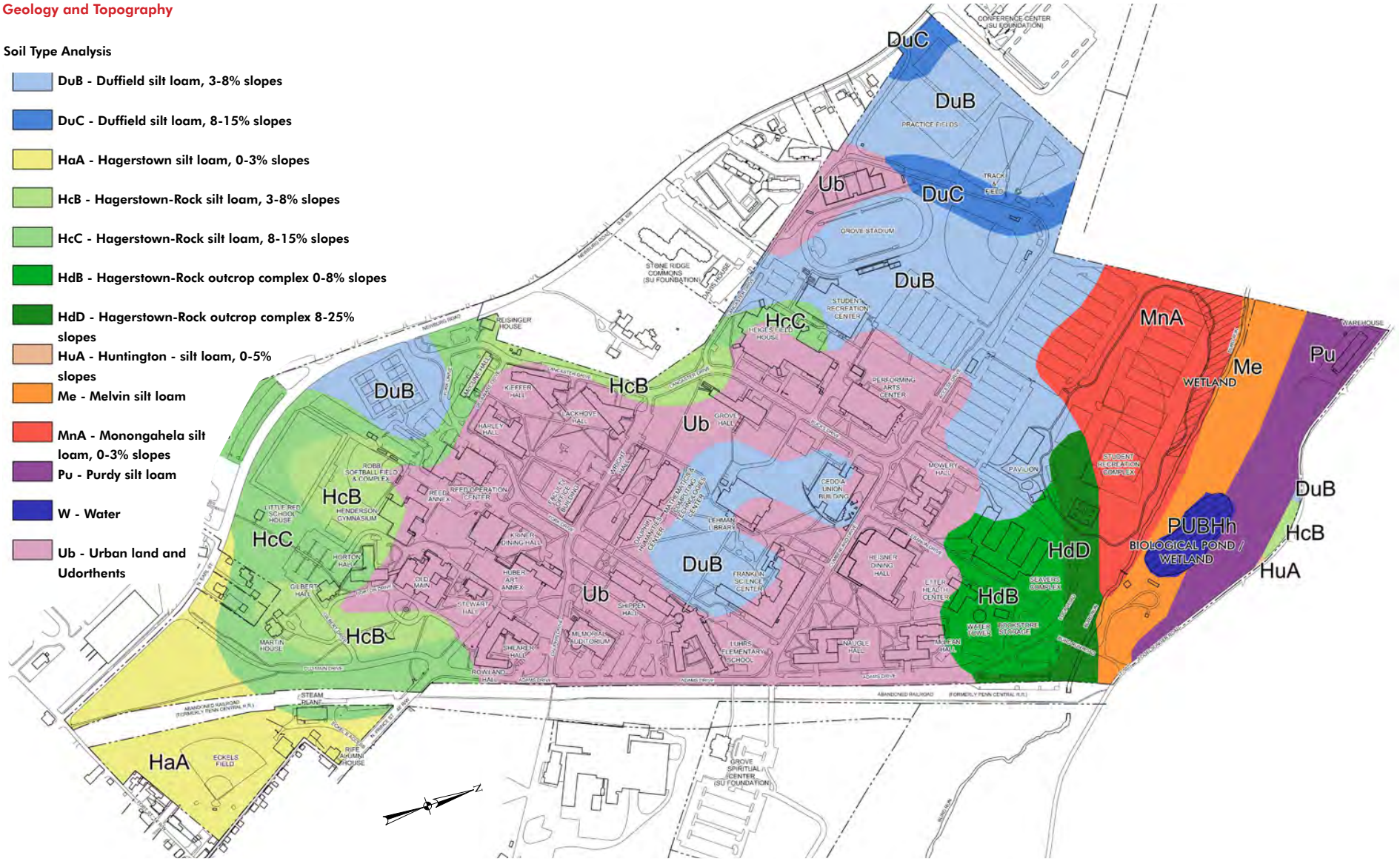
- Shrink Swell - Sealing off or complete removal of affected soils and construction of carton forms and deep foundations;
- Severe Slopes - Excessive excavation activities and the construction of retaining walls;
- Flooding / Wetness - Dewatering of the site and changing the hydraulics of the site; and
- Low Strength - Selection of foundations that optimize the site conditions i.e. stone columns, deep foundations.

The only soil types on the Shippensburg Campus that do not represent a development constraint is the Ub, Urban land and Udorthents soil type.

Geology and Topography

Soil Type Analysis

- DuB - Duffield silt loam, 3-8% slopes
- DuC - Duffield silt loam, 8-15% slopes
- HaA - Hagerstown silt loam, 0-3% slopes
- HcB - Hagerstown-Rock silt loam, 3-8% slopes
- HcC - Hagerstown-Rock silt loam, 8-15% slopes
- HdB - Hagerstown-Rock outcrop complex 0-8% slopes
- HdD - Hagerstown-Rock outcrop complex 8-25% slopes
- HuA - Huntington - silt loam, 0-5% slopes
- Me - Melvin silt loam
- MnA - Monongahela silt loam, 0-3% slopes
- Pu - Purdy silt loam
- W - Water
- Ub - Urban land and Udorthents



4. Existing Facilities

4.1 OVERVIEW

The Physical Plant of Shippensburg University consists of nearly 50 buildings on approximately 200 acres of gently rolling land outside the town of Shippensburg. Since Old Main was completed in 1873, there has been a general northward growth of the campus, away from Shippensburg and extending into the surrounding agricultural land. Construction of new buildings has been intermittent over the 137 year history of the University with a few notable building campaigns. See Section C.3 History of the Development of the Campus for more detail.

4.2 LAND AND BUILDING USES

Shippensburg University owns and operates nearly 2 million square feet of buildings. Distribution of building uses across the campus is coherent and logical.

Academic life in the nineteenth century was centered in the vicinity of Old Main. Today's academic quad revolves around the Lehman Library. Buildings around the library contain all the primary classrooms, laboratories, and associated teaching spaces. Some academic spaces remain in the historic district.

The two residential quads lie to the east and west of the Lehman quad. Each cluster of dormitories is supported by a dining hall. Additional apartment-style housing is on Foundation property west of Heiges Field House.

Three athletic zones support varsity and recreational activities. North of the Lehman quad is Heiges Field House and the newly opened Recreation Center. Further north are Seth Grove Stadium and varsity practice fields. To the east are recreation fields. In the southwest portion of the campus are fields and tennis courts supported by Henderson Hall.

The Ceddia Union Building anchors a corner of the Lehman quad and is advantageously located in the academic zone and between the two residential zones.

A triangular lawn serves as a buffer between campus and town at the southernmost corner of campus.

Each boundary of the campus has a distinct character. The campus is bounded on the south by the town of Shippensburg, on southeast by a Rails to Trails right of way, on the west by Route 696/Earl Street, and on the north by Foundation property and agricultural land.

In general the zoning of uses on the Shippensburg campus meets the criteria of adjacency, walkability, and aesthetics.

4. 3. BUILDING CONDITIONS

A building condition inventory for the years 2007-2008 puts each University building into one of four categories. The chart below summarizes the total areas of buildings in each category.

This Master Plan particularly addresses the conditions of classrooms and teaching laboratories. Teaching spaces compare reasonably well to national standards, but many require renovation to meet changing program objectives and generally accepted comfort levels. See Section E.7 Academic Space Planning for more detail.

The condition of residence halls and a plan for their renewal are discussed in Section E.8 Student Housing Master Plan.

The historic buildings—Old Main, Gilbert Hall, Horton Hall, and Stewart Hall ore listed on the National Register of Historic Buildings.

Old Main wood cupola removed

Building Conditions Summary

Category	Definition	Gross SF Area	Percentage
Satisfactory	Suitable for continued use with normal maintenance.	652,426	31.5
Remodeling - A	Requires restoration to present acceptable standards without major room use changes, alterations, or modernization. Last restoration was 12 to 17 years.	70, 801	3.4
Remodeling - B	Requires major updating or modernization of the building. Last major updating was 18 to 34 years.	120,599	5.8
Remodeling - C	Requires major remodeling of the building. Last major remodeling was greater than 34 years.	1,227,570	59.3
TOTAL BUILDING AREA		2,071,396	100.0

New metal cupola

4.4 FACILITY DESIGN GUIDELINES

Shippensburg University seeks an energy and resource efficient approach to designing, constructing, renovating, operating, and maintaining its facilities. The University's approach includes: reducing energy consumption and costs, minimizing the quantities of waste construction and demolition materials going to landfills, improving indoor air quality, and maximizing the use of sustainable materials and resources.

Professionals selected for the design of University projects are directed to follow the key strategies and technologies used in Building Green in Pennsylvania "What is a Green Building? Fundamental Principles of Green Building and Sustainable Site Design" as a guide for the type of passive green design that the University desires.

Professionals are directed to Shippensburg University's Facilities Design Guidelines which defines the standards and technical requirements for projects to tie into the University's infrastructure. It is also a tool to expedite the design and construction process in a cooperative partnering effort.

4.5 ATHLETIC FACILITIES ANALYSIS

Following is a summary of existing conditions and issues with athletic facilities. Refer to these campus maps for additional information on indoor and outdoor athletic facilities:

- Campus Building Use Analysis
- Existing Outdoor Athletic Facilities

Outdoor Athletic Facilities

- There is an overall lack of practice field space north of Seth Grove Stadium. During periods of high demand, the fields are in continual use and some activities cannot be accommodated. There is no field lighting so use is limited to daylight hours.
- Because the Seth Grove Stadium field is grass, it is reserved for varsity games. There is no night lighting so play is limited to daytime use.
- The use of the Fairchild Baseball field and Robb Softball Field for hosting state tournaments is limited by the lack of night lighting.
- Fairchild Baseball field and Robb Softball Field lack toilet facilities so athletes and spectators have to use remote facilities. Concessions are also lacking which make the facilities less desirable for intercollegiate tournaments.
- The surfaces of the multi-use field and the tennis courts are showing signs of wear.
- Eckels Field has some use by community teams.
- Cumberland Drive will be extended to the Conference Center site, so a strip on the east edge of the practice fields will be lost. This will displace one of the batting cages and require removal of the old discus area in the southeast corner.
- Lancaster Drive to the west of the practice fields has a gravel surface which creates dust in dry conditions.

Indoor Athletic Facilities

- Facilities at the Seth Grove Stadium structure are inadequate:
  - oLocker rooms—insufficient space, poor ventilation, accommodations for home team only. Visitors use Heiges Field House which is remote from the Seth Grove field.
  - oThe back side of grandstand structure is unsightly.
  - oA recent study indicates that new functional space could accommodate a visitors' locker facility, rehab, sports medicine, strength training, record keeping, equipment storage, and laundry.
- Coaches' offices are currently in three locations: Heiges, Seth Grove, and Davis House. This makes coordination of athletic administration activities and scheduling difficult.
- Henderson Gym has one men's and one women's locker room. Non-varsity athletes are displaced when varsity teams take over. Space was renovated in Henderson allowing Exercise Science to move back from the Conference Center.
- The Heiges Field House main arena basketball court synthetic floor has recently been augmented with a removable wood floor system. A Heiges Field House Addition Study was done by Entech in 2001. Many of the functions in the addition proposed in the study were included in the recently opened Recreation Center.

Existing Campus

Campus Land Use Analysis

- Academic
- Historic Campus/Multi-use area
- Athletic/Natural
- Housing
- Student Support
- Campus Support
- Parking
- Off-Campus Housing
- Off-Campus Student Support

Campus Building Use Analysis

- Academic
- Administrative
- Athletic
- Housing
- Quasi-Public
- Student Support
- Campus Support

5. The Outdoor Campus

5. 1. OVERVIEW

Campus green space is the defining feature of the Shippensburg University campus. The lawns, trees, and other landscape features provide a peacefully, scholarly sense of place. Distant views beyond the lawns and between the buildings are of the Central Pennsylvania agricultural landscape and the Blue Ridge Mountains.

5. 2. CAMPUS LANDSCAPE

The University has a well maintained campus landscape made up of large mature deciduous trees, small deciduous/ flowering trees, evergreen trees, shrubs, ground covers and accent plantings comprised of both annuals and perennials. The trees in combination with the buildings form the perimeter of various outdoor campus spaces and quads. In the middle of several outdoor spaces on campus, masses of evergreen trees weaken the sense of place and visual connection between buildings. Plantings of evergreen trees function as visual buffers at services areas and along some of the campus property.

5.3. DESIGN APPROACH

The campus landscape should create well defined outdoor spaces with clear sight lines from building to building. The existing evergreen trees in the center of outdoor spaces should be removed and replaced with either lawn or shade trees as appropriate to the form and function of walkways and design concept of the space. New evergreen trees should be located to help define the perimeter of outdoor spaces, as a visual buffer, and where needed to enhance the landscape aesthetics with wintergreen. Accent planting is recommended for high profile areas such as at the campus entrances.

5. 4. PRINCIPAL OPEN SPACES

The most iconic open space on campus is the sloped lawn in front of Old Main and the arc of the other historic buildings. This is a view that is cherished by the entire campus community, particularly alumni and first-time visitors. The lofty trees generally enhance the view, but the density of foliage can impair the view from some vantage points. Consideration should be given to remove selected trees as they age and become difficult to maintain to allow more open views. The fountain in front of Old Main is one of the most memorable spots on campus. The fountain should be restored and surrounding landscaping re-designed when the circular drive is removed. See Section E.3 Roadways and Parking for more detail.

The quad surrounding the Ezra Lehman Memorial Library is the heart of the academic campus. Lawns, trees, public art, and radiating walks both separate the Library from the perimeter academic buildings and connect the composition of buildings and grounds into a unified whole. In addition to the master plan proposals in Section 6, consideration should be given to the following: The axial relationship between the Library entrance and the entrance to Luhrs Elementary School could be enhanced with the planting of tree rows and the placement of benches on either side of the sidewalk. New trees in the quad itself should be evergreens framing the corners of the quad, and trees with high canopies within the quad.

The lawn between Henderson Gymnasium and Memorial Hall has the potential to become an important campus quadrangle. It has the characteristics of a quad: a visual relationship between significant building entrances at the short ends of the rectangle, and building facades facing both of the long sides. The linearity of the space can be enhanced by the removal of the vehicle drive on the north side of Old Main and its replacement with lawn/ landscaping. The reconfiguration of walkways and the planting of trees and landscaping will further enhance the space.

Principal walkways should be lined with trees to frame axial views—within the Lehman Library quad, and connecting the east and west residential quads to the Library quad.

The rec fields in the Burd Run watershed serve an important recreational function, but they are prone to intermittent flooding.

Trail construction in the Rails to Trails right-of-way has not been completed. This right-of-way is owned by the Rails to Trails Council and is not leased from the railroad. This is the final mile in the trail between Shippensburg and Newville. The completion of the trail could provide an economic stimulus to Shippensburg and an additional recreational opportunity for the University community. In addition to the construction of the actual trail, a bridge is needed over Fogelonger Road at the north end of campus, and a trailhead development at the south end.

Trees in front of Horton Hall

Stone sculpture near Memorial Hall

Lawn in front of Luhrs Elementary School

Lawn near Lackhove Hall

Outdoor social space near Shippen Hall

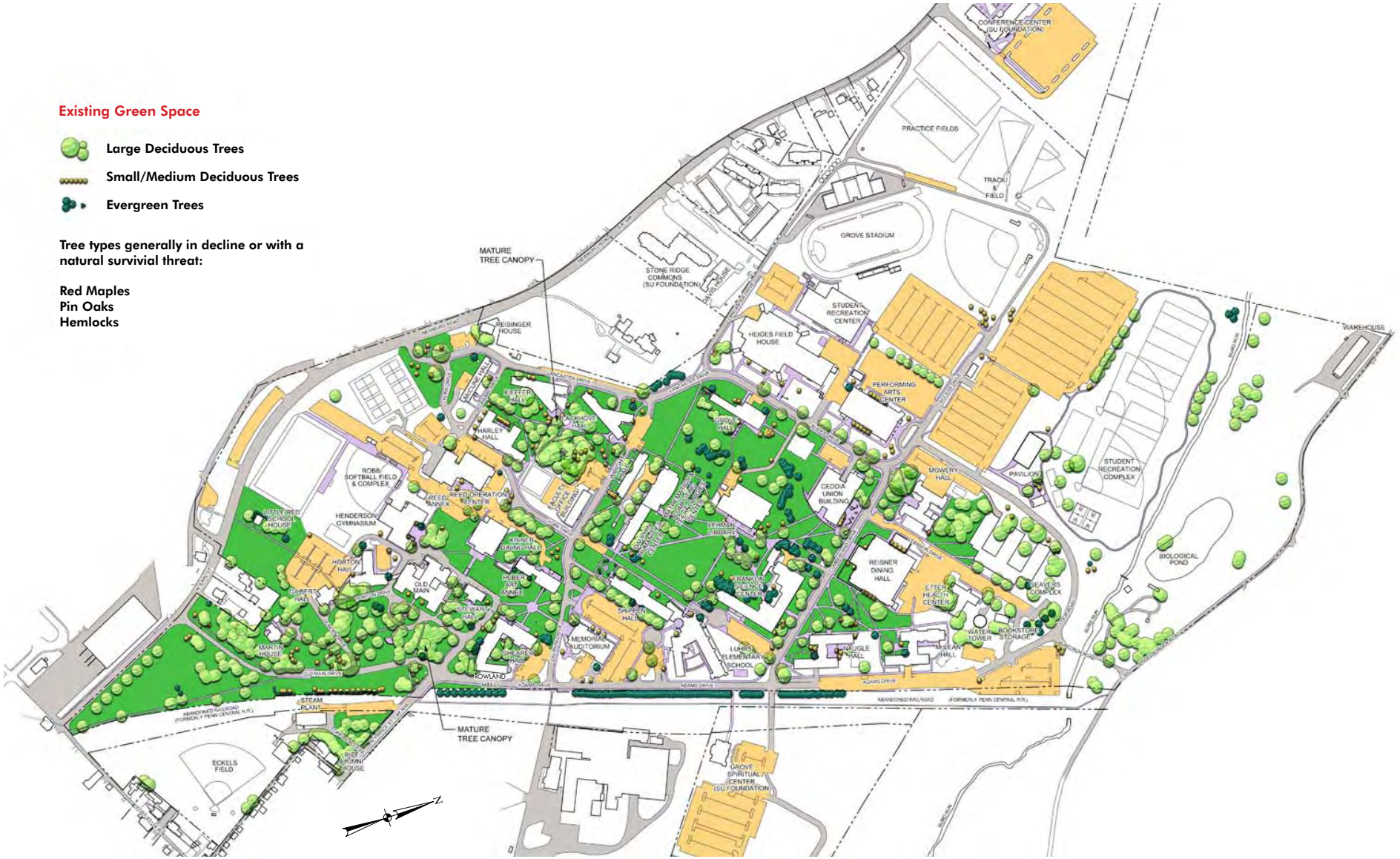
Lehman Library Quad

Existing Green Space

- **Large Deciduous Trees**
- **Small/Medium Deciduous Trees**
- **Evergreen Trees**

Tree types generally in decline or with a natural survivial threat:

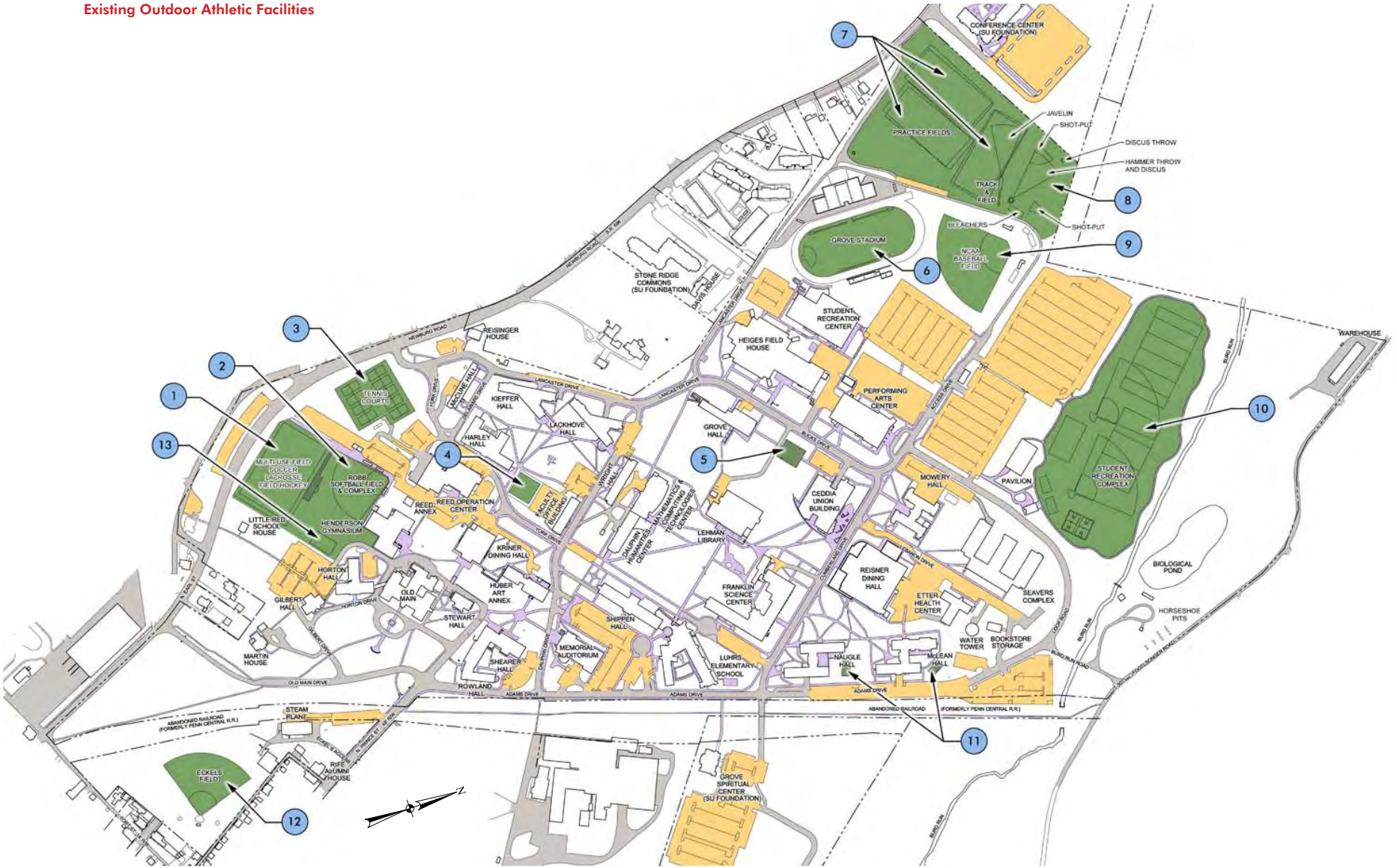
Red Maples
Pin Oaks
Hemlocks



Outdoor Athletic Facilities Notes

1. Lighted artificial turf multi-use field for soccer, lacrosse and field hockey programs, field is in good condition, but scheduling is reported to be difficult due to high field demands.
2. NCAA women's softball field. The field is in excellent condition but the field does not have a press box, lights or restroom facilities.
3. 9 Lighted tennis courts in good condition except for some surface flaking. The number of courts is reported to be adequate.
4. 2 Sand volleyball courts.
5. 2 Lighted asphalt paved basketball courts.
6. Natural turf varsity football field and all weather running track with steeple chase, high jump, pole vault and long jump/triple jump runways. The natural turf management is difficult because of the extensive presence of POA (annual bluegrass) which is a significant problem because it forms a weak sod that provides poor footing on athletic fields.
7. 3 Natural turf football practice fields. Fields are in good condition. The upper two fields are also used for event parking. The lower field is also the impact area for javelin field events.
8. Natural turf multi-use area for field events including shot put, javelin, discus, hammer throw and batting cages for the adjacent baseball field.
9. NCAA men's baseball field. The field is in excellent condition but the field does not have a press box, lights or restroom facilities.
10. Lighted natural turf student recreation field complex for soccer and softball. The complex also provides basketball courts and an asphalt jogging path. The facilities are in good condition, although a portion of the complex is subject to flooding. The complex is not available for use by the athletic department.
11. 2 Sand volleyball courts.
12. Existing natural turf ballfield area used for various practices and by the community with limited restroom availability.
13. Asphalt basketball court with softball batting cage and a softball practice backstop.

Existing Outdoor Athletic Facilities



5. 5. GATEWAYS AND WAYFINDING

There are architectural piers with signs marking three campus gateways: Route 696 at Old Main Drive, Route 696 at Lancaster Drive, and Prince Street at Adams Drive. The other two campus entrances are minimally identified. There is not one single main entrance to the Shippensburg campus, even though most respondents in focus groups identified the Prince Street entrance as the main entrance.

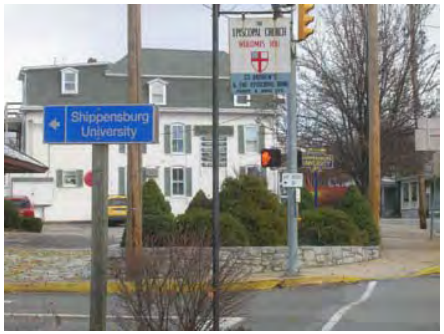
There are safety/security implications in this lack of perception that one is moving from public space to campus property. The failure to make it obvious that the user is entering the campus reduces territoriality behavior, ie., that the rules are different here, that people pay attention, and that criminal behavior is more likely to be observed. In addition, by clearly defining the property boundaries a message is conveyed to the students, faculty and staff of the University that this is their home. This sense of home turf instills a proactive propensity to report aberrant behavior, trespassers and suspicious individuals, all aiding the overall crime prevention efforts on the campus.

In conjunction with the new master plan, the University should redefine gateways to the campus. Architectural elements, signage, banners, archways, landscaping, or other distinguishing features should be used to make it clear that a user is now on campus. These passive, architectural elements should be used to direct the public into well defined access points. Specific rules for the use of the campus should be posted, and other changes should be considered, such as unique speed limits. Consideration should be given to landscape pavers or other distinguishing features to psychologically reinforce the sense of arrival on campus. For a more complete analysis of campus safety issues, see Security and Safety Assessment, Appendix F.6.

Some directional signs on campus assist visitors and new students but this signage is insufficient. Lack of orientation and confusion about wayfinding for both motorists and pedestrians is frequently reported.

Buildings are commonly identified with individual letters attached to the building. Some buildings have independent signs mounted on the ground in front of the entrance. Building-mounted letters can interfere with the architectural integrity of a building and are not always easily read.

In general, the campus perimeter is not clearly marked; there is little to distinguish "on-campus" and "off-campus." Signs have been erected or installed over time with little graphic unity. This lack of graphic coherence detracts from the Shippensburg University identity and raises safety concerns.



University Signs of Prince and King Streets Intersection

Gateway Sign at Prince Street entrance

Prince Street entrance to campus

6. Campus Circulation

6.1 PEDESTRIAN CIRCULATION

Pedestrian movement is primarily focused in the Lehman Library quad district. Many of the most heavily used daily destinations for pedestrians are in or around the quad: the Library, the CUB, the academic buildings, and Reisner Dining Hall. Early in the day and late in the afternoon there is considerable pedestrian traffic to and from the Library quad—from the east and west residential quads, from the commuter lots to the north, from off-campus housing to the west and south. The most heavily traveled pedestrian route is a diagonal through campus connecting the entrances to the Reisner Dining Hall, the CUB, the Library, and across Dauphin Drive to Memorial and Huber Halls and on to Old Main.

While Police report few pedestrian/vehicle accidents, walking outside of the quad can feel hazardous or unpleasant for pedestrians crossing busy campus streets. The two residential quads are reached by crossing Dauphin Drive to the west and Cumberland Drive to the east. Bucks Drive is crossed to reach Heiges Field House, the Luhrs Arts Center, the new Recreation Center, and the commuter lots. Students living in off-campus apartments to the west compete with high speed vehicles in crossing Route 696.

There are two campus bus lines that are operated by Capital Area Transit (CAT) – the blue line and the red line. These lines connect to off-campus locations and run through the campus. The lines are not heavily used. The majority of students living off-campus arrive on foot or by car.

Pedestrians are most comfortable and willing to walk greater distances when pathways are considered safe, where there is a variety of visual stimuli, and where there are opportunities for pausing and socializing. These conditions exist in varying degrees around the Shippensburg campus, but are absent in many places.

Based on distances alone, the campus is walkable. It is approximately a half mile from the west edge of the west residential quad to the east edge of east residential quad; and a half mile from Seth Grove Stadium to the Spiritual Center across the Rails to Trails path. Most people walk a half mile in 10 to 15 minutes. So, outside of consideration of safe crossing of roadways, topography, and weather, most campus venues are within a 10-15 minute walk.

Students crossing Dauphin Drive

Pedestrian route to the Recreation Center is past the Luhrs Center loading dock

Loading for Kriner Hall conflicts with pedestrian movement

Campus Analysis

- Academic Core
- Historic Campus
- Athletic Core
- Housing Zones
- Natural Area/Flood Plain
- Main Roadways
- Campus Entrances
- Parking
- Defined Axes
- Rails to Trails
- Steep Hillside
- Views

6.2 VEHICLE CIRCULATION

On August 28, 2007, a field view of the Shippensburg University campus was conducted by Pennoni Associates, with the observations recorded in a memo to file dated August 31, 2007. Generally, that field view revealed that the campus is a nexus of vehicular and pedestrian traffic, with the traffic control sometimes failing to give clear and safe direction to drivers or pedestrians.

University faculty, staff, and commuter students travel to Shippensburg using the greater Shippensburg transportation network. Additional vehicular traffic enters the campus during morning and afternoon hours delivering and retrieving children from the Luhr's University Elementary School located on campus. The primary roads into Shippensburg are Walnut Bottom Road and Olde Scotland Road, both intersecting with I-81, US Route 11, which becomes King Street in Shippensburg, and Newburg Road from the north.

Within Shippensburg, the primary roads to campus are North Prince Street from the south and Newburg Road from the north. North Queen Street ends just prior to entering campus at an abandoned railroad grade that parallels Adams Drive. Pedestrian steps from the end of North Queen Street to Adams Drive allow pedestrian access to the campus from North Queen Street.

Just south of the University campus North Prince Street intersects Fort Street, a one-way alley. This intersection is three-way stop-controlled; the stop signs on North Prince Street cause queuing during peak hours. A cursory analysis of the intersections suggests the stop signs on North Prince Street may not be warranted, and may have been placed to slow University traffic as it moves between the University and King Street. As these signs are off-campus, the University would have to appeal to the Borough of Shippensburg for their removal.

The University Campus is essentially bounded by Newburg Road (Route 696) on the west/northwest, Adams Drive on the south, and Fogelsonger Road on the east. Access points are: York Drive and Old Main Drive off of Newburg Road; North Prince Street to Adams Drive, with Dauphin Drive and Cumberland Drive off Adams Drive; and Burd Run Road off Fogelsonger Road.

The Burd Run Road access has been limited in its value due to the one-lane bridge over Burd Run, which lies between Fogelsonger Road and Loop Road (an extension of Adams Drive), and has been occasionally gated to limit access to the campus. That one-lane bridge is now being replaced with a two-lane bridge, which will make Burd Run Road an important campus access from the east, with traffic able to easily access the commuter parking lots, the performing arts center and the athletic facilities via Loop Road.

Another campus access has been planned off Newburg Road in the northern quadrant of the campus in the vicinity of the athletic facilities. This potential access uses the driveway adjoining the Shippensburg University Foundation Conference Center, and extends that drive to connect to Baseball Access Drive near the commuter parking lots. This driveway would allow direct access to the largest parking fields, as well as the athletic facilities from the north.

All roadways within the University campus are owned and operated by the University. While ownership has allowed the University control of speeds – posted at 15 MPH – and access, it has also used signing and pavement markings that are inconsistent with standards used by state or municipal government, with the potential of causing driver confusion.

The most notable traffic circulation issues are traffic volumes along Adams Drive, the queuing along Adams Drive at its intersection with Prince Street and Old Main Drive, and the queuing along Adams Drive at its intersection with Dauphin Drive and the nearby entrance to parking at the Auditorium and the Luhr's University Elementary School. Also of concern are the pedestrian/vehicular traffic conflicts along interior campus roadways, due largely to the volumes of pedestrian traffic, which tends to cross roadways where convenient, rather than at marked crosswalks.

The University has placed a no left turn restriction from Dauphin Drive to Adams Drive from 7:00 AM to 5:00 PM to try to relieve the congestion there. The University also reports posting an officer to assist with traffic circulation at the entrance to Luhr's University Elementary School.

Several intersections exhibit unusual traffic control. Examples include:

- At the intersection of Adams Drive with North Prince Street and Old Main drive, Adams Drive is stop-controlled heading southbound leaving campus causing queuing along Adams Drive. Consideration should be given to removing the stop sign on Adams Drive, and placing a stop sign on the extension of Prince Street to control traffic moving southwest from the Old Main, Stewart Hall area. A Stop sign with "except right turn" should be considered to control traffic entering straight into campus on North Prince Street at Adams Drive.
- There is a three-way stop at the four-legged intersection of Cumberland Drive and Adams Drive. Typically, warrants for stop-controlled intersections indicate the use of a four-way stop condition, or a two-way stop condition. This signing may not be warranted, and could be confusing to motorists expecting the northeast-bound traffic on Adams Drive to stop. Either the stop sign on Adams Drive should be considered for removal, or a stop sign added to make the intersection a four-way stop, if a four-way stop is warranted. If left-turn movements are a concern in the two-way stop condition, perhaps a left-turn lane should be considered.
- The channelized northeast-bound right turn from Lancaster Drive onto York Drive is unusual.

Commuter parking lot

Burd Run Bridge

Existing Circulation Analysis

7. Parking

Parking on the Shippensburg University Campus should meet the following criteria:

- Parking for students, faculty, and staff should be within a reasonable walking distance of destinations.
- Parking for visitors should be available for events, and should be easy to find for those unfamiliar with the campus.
- Parking should serve all members of the campus community, including those with limited mobility.
- The parking environment should not only be safe, but it should also feel safe.
- Parking should have a reasonable cost for the consumer.
- Parking should not be a visual blight and should not diminish the quality of campus open space.

The existing parking on campus is located both inside and outside the perimeter vehicular loop road around the campus core. The various current internal parking places and building service needs generate traffic that creates pedestrian/vehicle conflicts. In general there is an adequate quantity of parking spaces on campus but there is a perceived inconvenience in some instances where the parking space location in relation to the user's desired point of designation requires walking.

Shippensburg University has 3,683 existing parking spaces See Appendix 1. The quantity of parking spaces required on campus was confirmed as sufficient by two methods.

Parking Needs Calculation

P x W x A = Total Parking Space Need

P = 8837 = Total Campus Population Fall 2007 (Source: Office of Institutional Research and Planning)

Peak = 3663 = Total population on campus at peak hours Fall 2007 (Source: Office of Institutional Research and Planning)

W = (Peak/P) = 41.45% = Percentage of total population expected to arrive at peak hours

A = (Total permits, cars on campus / P) = 6104/8837 = 69.07% = Percentage of total population arriving as individual auto drivers

Total Parking Spaces Required
(P x W x A) = 8837 x 41.45% x 69.07%
= **2530 parking spaces**

Parking spaces per person
(Total Parking Spaces Required/P) = 2530/8837
= **0.2863 spaces per person**

Note: The parking space quantities considered in this master plan are only those spaces regulated by the Shippensburg University Department of Public Safety.

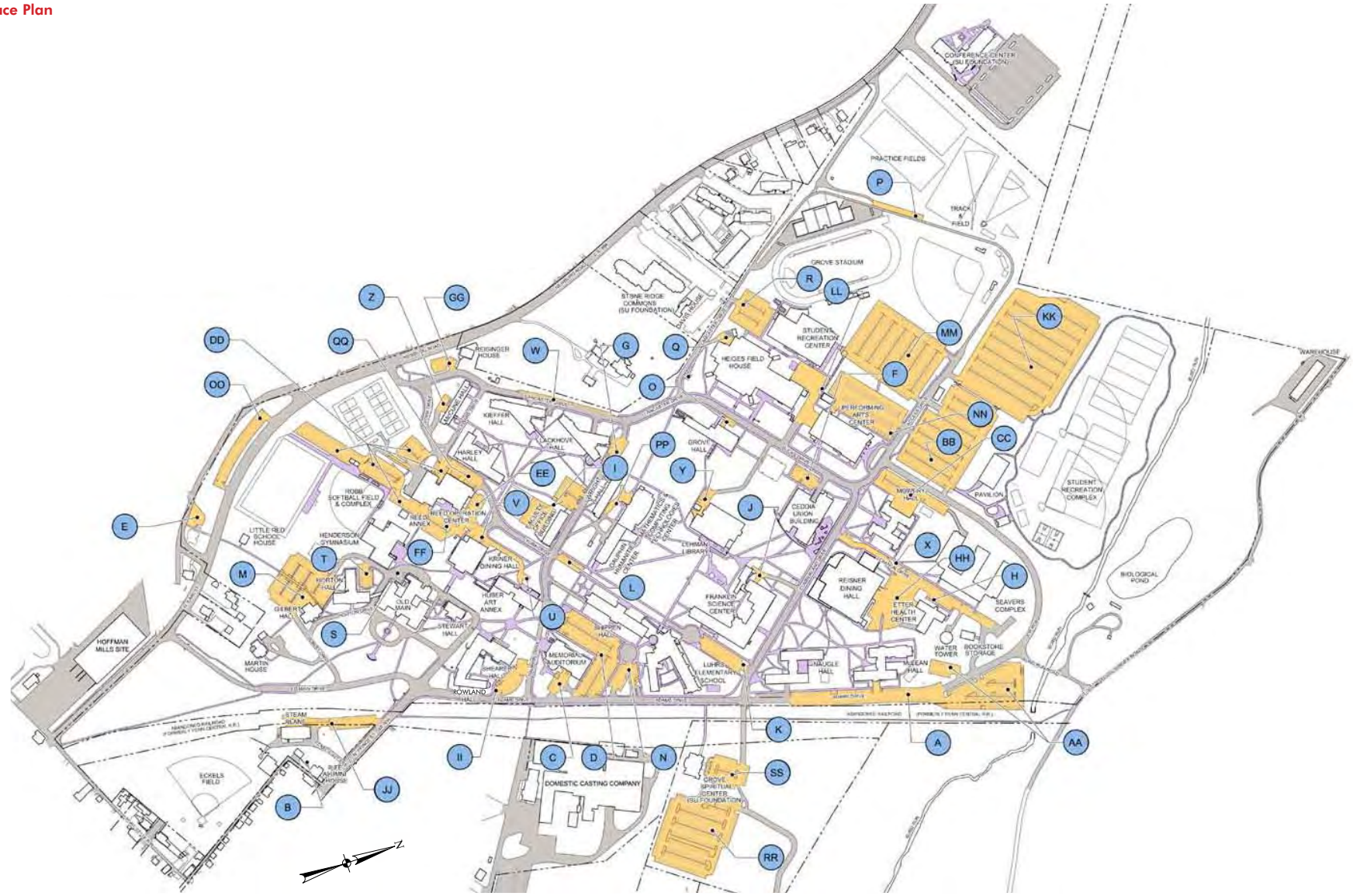
Design Standard Range: 0.15 to 0.60
Design Standard Average: 0.35
(Statistical Data Accepted by the ENO Transportation Foundation)

Design Standard Range: 0.20 to 0.50
Design Standard Average: 0.35
(Site Planning and Design Handbook)

Parking Space Numbers - 9/17/07 Department of Public Safety

KEY	LOT NAME	ADA	FACULTY	FACULTY/ STAFF	STUDENT COMMUTER	STUDENT RESIDENT	ASSIGNED	VISITOR	STORAGE	TOTAL
A	ADAMS DRIVE	1		10	128		5			144
B	ALUMNI HOUSE						7			7
C	AUDITORIUM SIDE	1	8							9
D	AUDITORIUM 1	2		171			2			175
E	BELMAR LOT				15					15
F	CUB LOT	1		23			1			25
G	DAUPHIN DRIVE	2	5		11		6			24
H	ETTER HEALTH						12			12
I	F.O.B. LOTS	5		52		32				89
J	FRANKLIN ACCESS	2					1			3
K	FRANKLIN DRIVE	2	37							39
L	FRANKLIN DRIVE OLD	11								11
M	GILBERT LOT	2		142						144
N	GRACE ELEMENTARY	1					1	24		26
O	GROVE HALL DOCK						3			3
P	GROVE STADIUM - REAR						24			24
Q	HEIGES ACCESS LOT	3					3			6
R	HEIGES MAIN LOT	2		72						74
S	HENDERSON DRIVE	3					2	9		14
T	HORTON LOT	4					14			18
U	HUBER ARTS LOT	1								1
V	KRINER DOCK						4			4
W	LANCASTER DRIVE	1			18		1			20
X	LEBANON DRIVE	4			62		14			80
Y	LIBRARY DOCK	2	5				1	2		10
Z	MCCUNE DOCK						7			7
AA	MCLEAN LOTS				26	161				187
BB	MOWREY LARGE LOT				425					425
CC	MOWREY SMALL LOT			9		32	9			50
DD	PHYSICAL PLANT	2		41	63		25			131
EE	PHYSICAL PLANT EAST		7				9			16
FF	REED LOT			26			12	6		44
GG	REISINGER HOUSE						17			17
HH	REISNER LOT	3		62			5			70
II	ROWLAND LOT	2		22			1			25
JJ	STEAM PLANT LOT							42		42
KK	STORAGE LOT								852	852
LL	PAC ACCESS						2			2
MM	PAC COMMUTER LOT				243		27			270
NN	PAC FACULTY/STAFF LOT	7		121			4			132
OO	WEST CAMPUS LOT				35	34				69
PP	WRIGHT HALL						2			2
QQ	YORK DRIVE				6		22			28
RR	SPIRITUAL CENTER UPPER LOT								287	287
SS	SPIRITUAL CENTER EMPL	2		48						50
	TOTAL	66	62	799	1032	259	243	83	1139	3683

Parking Space Plan



First, the Department of Public Safety performed a parking space count analysis during the peak hours of 10 AM to 11 AM on Tuesday March 21, 2006 that indicated of the 3683 existing parking spaces that 1187 were empty and available (See Appendix 2). Therefore the conclusion was that 2496 parking spaces are required at peak times.

Parking Space Availability

Parking spaces available on 3/21/06. Checked from 10:20 - 11:30 AM by Public Safety

KEY	LOT NAME	ADA	FAC	FAC/STAFF	COMM	RES	ASS	VIS	STO	TOTAL
A	ADAMS DRIVE				7					7
B	ALUMNI HOUSE									0
C	AUDITORIUM SIDE	1	2							3
D	AUDITORIUM 1	1		2			1			4
E	BELMAR LOT				9					9
F	CUB LOT	1					1			2
G	DAUPHIN DRIVE	2								2
H	ETTER HEALTH						3			3
I	F.O.B. LOTS	1		1		1				3
J	FRANKLIN ACCESS	2								2
K	FRANKLIN DRIVE	2	2							4
L	FRANKLIN DRIVE OLD	3								3
M	GILBERT LOT	3		5						8
N	GRACE ELEMENTARY	1						15		16
O	GROVE HALL DOCK									0
P	GROVE STADIUM REAR									0
Q	HEIGES ACCESS LOT	2								2
R	HEIGES MAIN LOT	1		21						22
S	HENDERSON DRIVE		1					1		2
T	HORTON LOT	3								3
U	HUBER ARTS LOT	1								1
V	KRINER DOCK									0
W	LANCASTER DRIVE	1			2					3
X	LEBANON DRIVE	3			6		2			11
Y	LIBRARY DOCK									0
Z	MCCUNE DOCK						3			3
AA	MCLEAN LOTS				97					97
BB	MOWREY LARGE LOT				183	37				220
CC	MOWREY SMALL LOT			1						1
DD	PHYSICAL PLANT			10	1		3			14
EE	PHYSICAL PLANT EAST		2							2
FF	REED LOT						3	4		7
GG	REISINGER HOUSE						12			12
HH	REISNER LOT	2								2
II	ROWLAND LOT	CLOSED FOR CONSTRUCTION								0
JJ	STEAM PLANT LOT							26		26
KK	STORAGE LOT								286	286
LL	PAC ACCESS									0
MM	PAC COMMUTER LOT				212					212
NN	PAC FACULTY/STAFF LOT	6		116			2			124
OO	WEST CAMPUS LOT				20	21				41
PP	WRIGHT HALL									0
QQ	YORK DRIVE						5			5
RR	SPIRITUAL CENTER UPPER LOT								2	2
SS	SPIRITUAL CENTER EMPL	2		21						23
	TOTAL	38	7	177	537	59	35	46	288	1187

Second, calculations were prepared based on a campus parking formula accepted by the ENO Transportation Foundation www.enotrans.com. (See Step 1 thru Step 4 for calculations.) Calculations indicate that the total number of parking spaces required for the Fall 2007 campus condition is 2,530 which very close to the Fall 2006 Dept of Public Safety's 2,496 total number of required parking spaces. The minor difference of 34 is justified since the campus population increased by 250 people from Fall 2007 to Fall 2008.

Job Classification Full and Part-Time for Fall 2007

Job Classification	Full-Time	Part-Time	Total
Commuter Students	3976	1161	5137
Resident Students	2619	9	2628
Faculty*	332	80	412
Professional/Non-faculty* (Staff)	127	27	154
Secretarial/Clerical* (Staff)	124	12	136
Technical/Paraprofessional* (Staff)	18	3	21
Service/Maintenance* (Staff)	96	8	104
Executive/Managerial/Administrative*	35	0	35
Skilled Crafts* (Staff)	47	0	47
Grant Funded & Dining Service Employees	161	2	163
(Includes 130 Dining Service and 31 FT			
and 2 PT Grant Funded Employees)			
Total	**7535**	**1302**	**8837**

Commuter and Resident Students include both Undergraduate and Graduate Students
*Source: Human Resources 2007/08

Classroom Enrollment Totals Fall 2007 (Based Upon Class Start Time)

Day of week:		Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
Time Slots	8 to 9	1083	1329	1166	1293	1108	32
	9 to 10	2045	**2591**	2069	2490	2003	
	10 to 11	2385	23	2385	83	2313	
	11 to 12	2064	2424	2028	2443	1865	
	12 to 1	1877	2397	1817	2392	1755	
	1 to 2	1871	284	1864	240	1660	32
	2 to 3	2215	2170	2204	2126	252	
	3 to 4	1919		1886			
	After 4 PM	2286	2415	2047	2306		

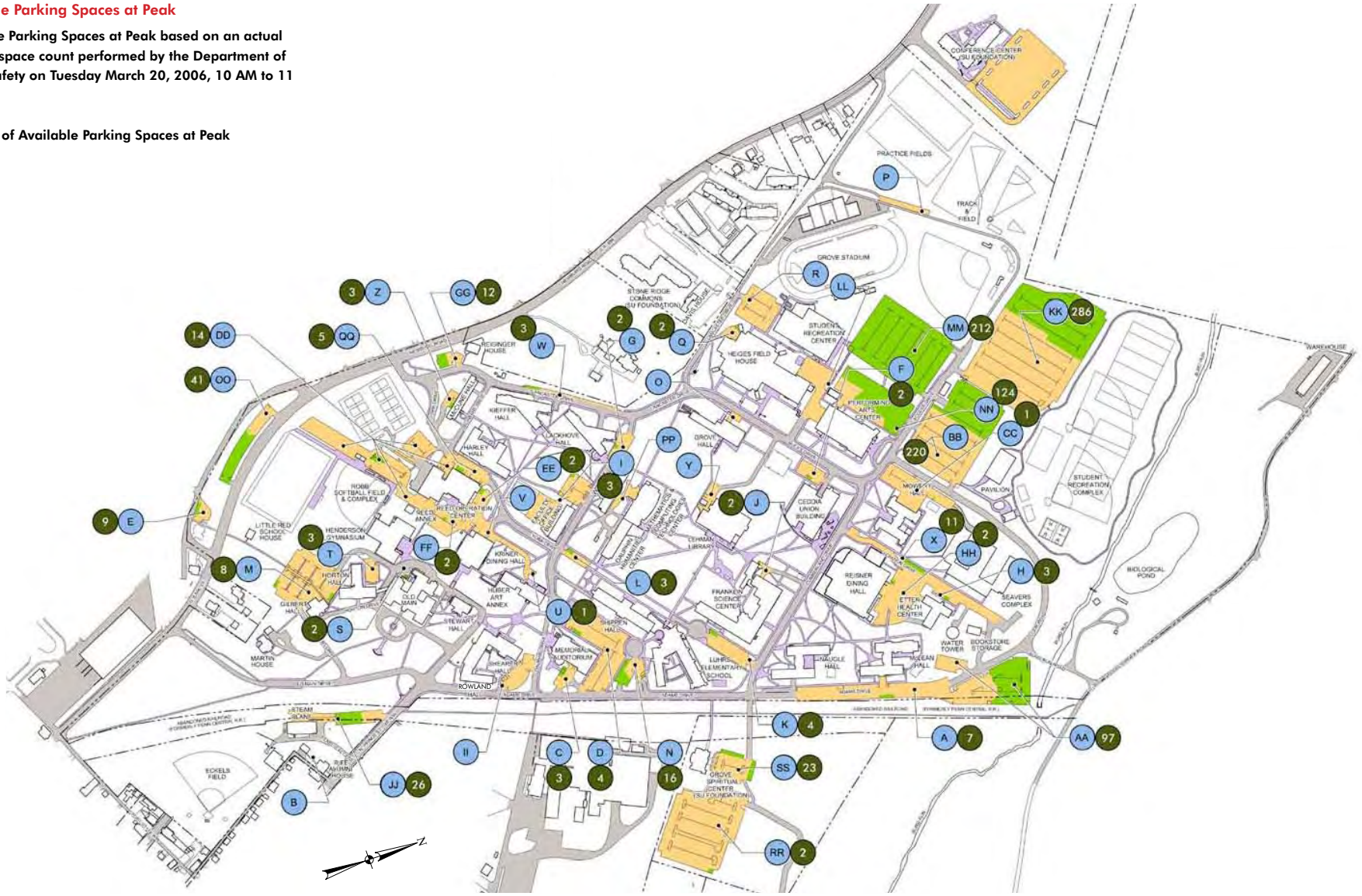
Peak Hour Calculation of Total Campus Population Fall 2007

Job Classification	Full-Time	Part-Time	Subtotal
Faculty* (Staff)	332	80	412
Professional/Non-faculty* (Staff)	127	27	154
Secretarial/Clerical* (Staff)	124	12	136
Technical/Paraprofessional* (Staff)	18	3	21
Service/Maintenance* (Staff)	96	8	104
Executive/Managerial/Administrative* (Staff)	35	0	35
Skilled Crafts* (Staff)	47	0	47
Grant Funded & Dining Service Employees *(Includes 130 Dining Service and 31 FT and 2 PT Grant Funded Employees)*	161	2	163
Students			2591
		Total	**3663**

Available Parking Spaces at Peak

Available Parking Spaces at Peak based on an actual parking space count performed by the Department of Public Safety on Tuesday March 20, 2006, 10 AM to 11 AM

Number of Available Parking Spaces at Peak



8. Utilities

For complete consultant reports on utilities, refer to the Appendix for:

- *F.7 Central Utility Plant Options*, Entech Engineering
- *F.8 Fire Flow Analysis*, Pennoni Associates, Inc.
- *F.9 Fire Flow Analysis by Building*, Pennoni Associates, Inc.

8. 1 POWER DISTRIBUTION

The existing electrical distribution system has not significantly changed since the 2004 study conducted by Entech Engineering, Inc. Since the addition of the Performing Arts Center was included in the study, the only building addition has been the Student Recreation Center, which will soon be online. Other system modifications include:

1. HVAC Upgrade at Rowland and Shearer Halls, which required an additional service to the building from the Campus System.

2. Addition of power factor correction capacitors at the main substation to correct the Campus power factor from an average value of 86% to an average value of 97%.

3. A section of feeder 1203 was replaced from manhole #43 to the Reisner Dining Hall manhole. This section of feeder was replaced due to a failure.

4. The gasket and oil leak on main transformer tap changer was repaired.

5. Feeder and transformer replacement to Dauphin Humanities Center as part of a major renovation.

As stated in both the 1998 Master Plan and the 2004 Electrical Distribution Study, much of the main feeder cabling is aged and should be replaced to ensure against future failures like the one on the Reisner feeder. Also, to add the redundancy that the University needs to maintain its customer focus, a second utility line should be bought into the main switch as a stand-by line.

The Campus demand over the past two years has varied between 3.1 and 5.1 MVA with an average demand of 3.8 MVA. Each of the main transformers is rated at up to 5.6 MVA with adequate cooling. This adds up to 11.2 MVA of total capacity to support the Campus.

Future system modifications will be driven by the overall Campus Master plan for the next several years. Along with the need for adequate normal power, the need for additional emergency and backup power will need to be assessed.

8. 2 TELECOMMUNICATIONS PATHWAYS

As with the Power distribution system, not much has changed with the telecom pathway system since the 2005 study conducted by Entech Engineering, Inc. Additional pathways were added from the Ceddia Student Union to the Performing Arts Center and then again from the Performing Arts Center to the Student Recreation Center.

As more modern buildings are added to the Campus, the telecommunications requirements will only increase with technology. Therefore, not only will additional pathways be required to connect new buildings, but also between and leading away from the telecom hubs at the Centrex Building and the Math and Computer Technology Center. Additionally, based on the plan for the next several years, redundant telecom hubs and servers may be required and additional pathways may be required to distribute from these points.

8. 3 STEAM AND CONDENSATE

In the 1998 Campus Master Plan there was little mention of the Central Heating Plant and the steam distribution system. The plan recommended replacement of the stoker for Boiler #4 and replacement of some of the underground steam distribution pipe. For the most part, none of this work has been completed.

In 2005 a more detailed study of the central steam system was completed by Abacus Engineered Systems. In their study they recommended a variety of deferred maintenance and system improvement projects.

A list of the projects identified by Abacus is listed on pages 5 – 11 of the report. Items 1,2, and 4 have been addressed. Item 3 has been partially addressed.

The following conclusions were determined based upon the review of the study, our walk-through of the heating plant, and our discussions with the University,

1. The heating plant is properly maintained, but much of the equipment and building components are reaching the end of their useful life.
2. The steam distribution system is reaching the end of their useful life. Older sections of pipe are in need of replacement. Areas of campus with pipe installed more recently (within the past ten years) are reported to have leaks because of corrosion at pipe joints due to poor pipe welds.
3. The condensate is reported to be in poor condition. Leaks have been repaired, but the condensate will continue to be a maintenance problem.
4. There are two pipe "bridges" which cross connect two sections of the steam distribution piping together. It is reported that these cross connections are very old and in poor condition.
5. On very cold days it is reported that the steam system is not sufficiently sized to provide enough steam to Seavers Apartments, and sometimes Franklin Science. If the cross connection piping between loops is out of service, the steam system is severely impacted whenever the outside temperature falls below 25 degrees.
6. In 2007 a section of steam pipe from the Central Heating Plant has been replaced with larger pipe, which should help provide more steam to the campus on cold days.
7. The boilers are large enough to handle the existing campus steam load.

8. 4 NATURAL GAS

The natural gas system is relatively new and is reported to be in good condition. The capacity of the system is presently meeting the needs of the campus.

8. 5 CHILLED WATER

There is presently no central chilled water system which serves the campus. There are 18 chillers of various ages which serve 13 buildings. The total cooling capacity of these chillers is approximately 3000 tons. Some of the chillers are more than 25 years old and are probably reaching the end of their normally expected operating life. Others are relatively new chillers installed with some of the latest buildings.

8.6 SITE LIGHTING

As new buildings are added and the Campus site is modified, site lighting should be provided along pathways and in parking areas in accordance with the new University standard and IESNA standards.

8.7 STORM SEWER

Shippensburg University operates a private stormwater conveyance system to direct Stormwater runoff to Burd Run to the north and to a public system on Newburg Road (Route 696) to the south. While the system has been expanded as the University has grown, several areas on campus exhibit problems during severe rain events as noted below:

1. Luhr's Elementary School – The conveyance system immediately to the north of Luhr's Elementary School is under capacity and has flooded the basement of Franklin Science Center in the past

2. Bucks Drive at Heiges Field House – A lack of capacity in the system has been noted in the area of Heiges Field House and the Performing Arts Center.

3. Abandoned Penn Central Railroad – Areas of ponding have been noted along the various Stormwater discharge points to the abandoned railroad bed.

8.8 SANITARY SEWER

Shippensburg University operates a private sanitary sewer conveyance system to direct sanitary sewerage flows to the public sewer collection system operated by the Shippensburg Borough Authority and CFJMA. Flows from the University are collected and conveyed to a 16" sewer main along Newburg Road (Route 696) and to a 20" main which runs through the University and passing along its western line. Recent upgrades to the private sanitary sewerage system have decreased infiltration and inflow into the system and replaced pressure sewer lines with a gravity system. Future projects should incorporate the elimination of the lift stations at Naugle and McLean Halls.

8.9 WATER

Shippensburg University operates a private fire protection and domestic water distribution system within the confines of the campus consisting of a 12" loop main and 1,000,000 gallon water tower. The private system is fed at two points from the public Shippensburg Borough Authority water system. The University consumes approximately 200,000 gallons per day on average. Areas of concern are identified below:

1. Water Tower – The 1,000,000 gallon water tower provides fire protection and a redundant domestic water back-up in case of a failure of the Shippensburg Borough Authority system. There are currently no devices or systems in place to monitor the level of the water within the tower. The tower has reached a 20 year maintenance milestone and will need refurbishment in the near future

2. Steam Plant – The water service to the Steam Plant is fed directly from the Shippensburg Authority system and is not tied into the campus fire protection loop. The existing water service back-up is well fed and is not adequate to operate the steam plant at 100% capacity in the event of a failure of the primary water service.

Water Tower

8.10 WATER SYSTEM FIRE FLOW ANALYSIS

The water tower in the east part of campus was constructed in 1987 to serve as a third source of water supply for fire fighting to supplement the two existing connections to the Borough system.

The existing facilities on campus were analyzed in accordance with Appendix B of the 2006 International Fire Code to determine the maximum required fire flow for fire protection purposes in order to determine the feasibility of the removal of the existing 1,000,000 gallon water tower. Shippensburg University provided approximate gross floor area values for each building on campus as well as an approximation of the Type of Construction in accordance with the 2006 International Building Code.

A discussion with Steve Hunsinger at CET, Inc., the Shippensburg Borough Water Authority Engineer, revealed their modeling predicted an available capacity of 1700 to 2240 gpm at the campus connection points. Actual hydrant flow testing increased the calculated value to 2200 to 2800 gpm. Variation within the water system is normal given the total system demand. CET was comfortable with providing a number of 2000 gpm as a minimum available flow from the Borough system at the campus connection points. Total volume of water available in the Borough reservoir is 1.5 million gallons, therefore supplying the duration of flow is not an issue.

Given this, the 2000 gpm is under our predicted value of 2500 gpm for a required on-campus fire flow demand. The following options are recommended:

- Option #1 - Complete a more detailed investigation to further refine the fire flow demand by investigating maximum floor areas within fire-rated assemblies for critical occupancies on campus. The scope of an engineering feasibility study should include the following:

  A. Flow testing of critical hydrants on the main 12" campus fire protection loop and within the distribution network.
  B. Computer modeling of the existing private domestic water system on campus based on the results of hydrant testing and modeling provided by the Shippensburg Borough Authority Engineer.
  C. An evaluation of existing building plans and field view of all facilities to refine the areas used in determining the required fire flow.
  D. A meeting with the Shippensburg Borough Authority and their Engineer to discuss future capital improvement projects to the Borough system and the future growth within the system to determine the effect of the public water feed to the University Campus.
  E. A meeting with the Authority Having Jurisdiction (AHJ) to determine any requirements that the removal of the water tower may have on future projects on campus and the ability of the AHJ to provide adequate fire protection.
  F. Evaluation of the effect of removal of the water tower on the existing system
  G. Completion of an engineering feasibility study which documents the results of scope items A-E
  H. Submission of the feasibility study to the Department of General Services and their excess insurance carrier for their review and comment.

- Option #2 - Demolish the water tower and work with the Authority to upgrade the main feed to campus.

- Option #3 - Demolish the water tower and sprinkler key occupancies, thus reducing the total required demand.

- Option #4 - Maintain the water tower in some form in the current location or relocate/reconstruct at a different location.

Maintaining the water tower in its current location is not without disadvantages. The tower is approaching 20 years of age and is due for a interior and exterior coating renovation. During this renovation, it is recommended that automated monitoring systems be installed to determine the level of water within the tower and the flow rate and timing of water flows in and out of the tower. Finally, valve automation integrated in the building management system should be considered to allow for the regular cycling of water within the tower to prevent stagnation and potential dechlorination.

With the available data and without a more detailed study, an absolute determination for the need for the water tower cannot be made. At this point, it is reasonable that options be considered that maintain the water tower in its current location until a detailed engineering evaluation be performed to determine the feasibility of removal. Based on the preliminary data available and the analysis performed a part of the master plan, it is reasonable to assume that removal of the water tower is at the least a viable option.

8.11 OLD MAIN

1. Basement: Fire barrier can be completed separating mechanical and storage space.

   Mechanical (SF) = 8,132
   Storage (SF) = 18,736

2. First – Third Floor: Fire barrier can be completed by adding 90 minute doors separating the center annex from the remainder of the building. Each floor is also a separate fire area giving two (2) fire areas per floor.

	Center Annex (SF)	Remainder (SF)
First	5,463	15,263
Second	5,560	15,260
Third	3,124	15,264

8.12 LEHMAN LIBRARY

1. Building has no separation and is interconnected between floors with an open stairway. The only means of separation would be between floors by enclosing the stairway and consequently dividing each floor into a fire area.

8.13 HEIGES FIELD HOUSE

1. Ground Floor: No separation.

2. First Floor: Three (3) separate existing areas requiring only the doors entering the pool area from the corridor and locker room to be upgraded to 90 minute doors.

   Gym (SF) = 41,385
   Office/Lockers (SF) = 11,046
   Pool (SF) = 7,164

3. Second Floor: No separation.

8.14 REISNER DINING ROOM

1. The new building will be fully sprinklered and will not have any interior fire barriers.

8.15 HORTON HALL

1. Ground Floor – Third Floor: On each floor, the wall separating the center annex and the stair wells can serve as a fire barrier by adding 90 minute doors to all openings.

	Front (SF)	Center Annex (SF)
Ground	6,598	3,915
First	6,994	3,894
Second	7,019	3,894
Third	7,019	3,894

Feeder 1201				
Transformer Tag	Rated kVA	Amps @ 12,470V	Feeder	Building Served
TR1-1	112.5	5	1201	McCune Hall
TR1-2	150	7	1201	Reed Operations Center
TR1-3	150	7	1201	Henderson Gym
TR1-4	500	23	1201	Horton Hall
TR1-5	300	14	1201	Kriner Hall
TR1-6	300	14	1201	Huber Art Center
TR1-7	300	14	1201	Memorial Hall
TR1-8	150	7	1201	Faculty Office Building
TR1-9	300	14	1201	Tennis Courts & Multi -Use Field
TR1-10	150	7	1201	Shearer & Rowland
TR1-11	300	14	1201	Steam Plant
TR1-12	150	7	1201	Gilbert Hall
Totals =	2862.5	133	(Connected)	

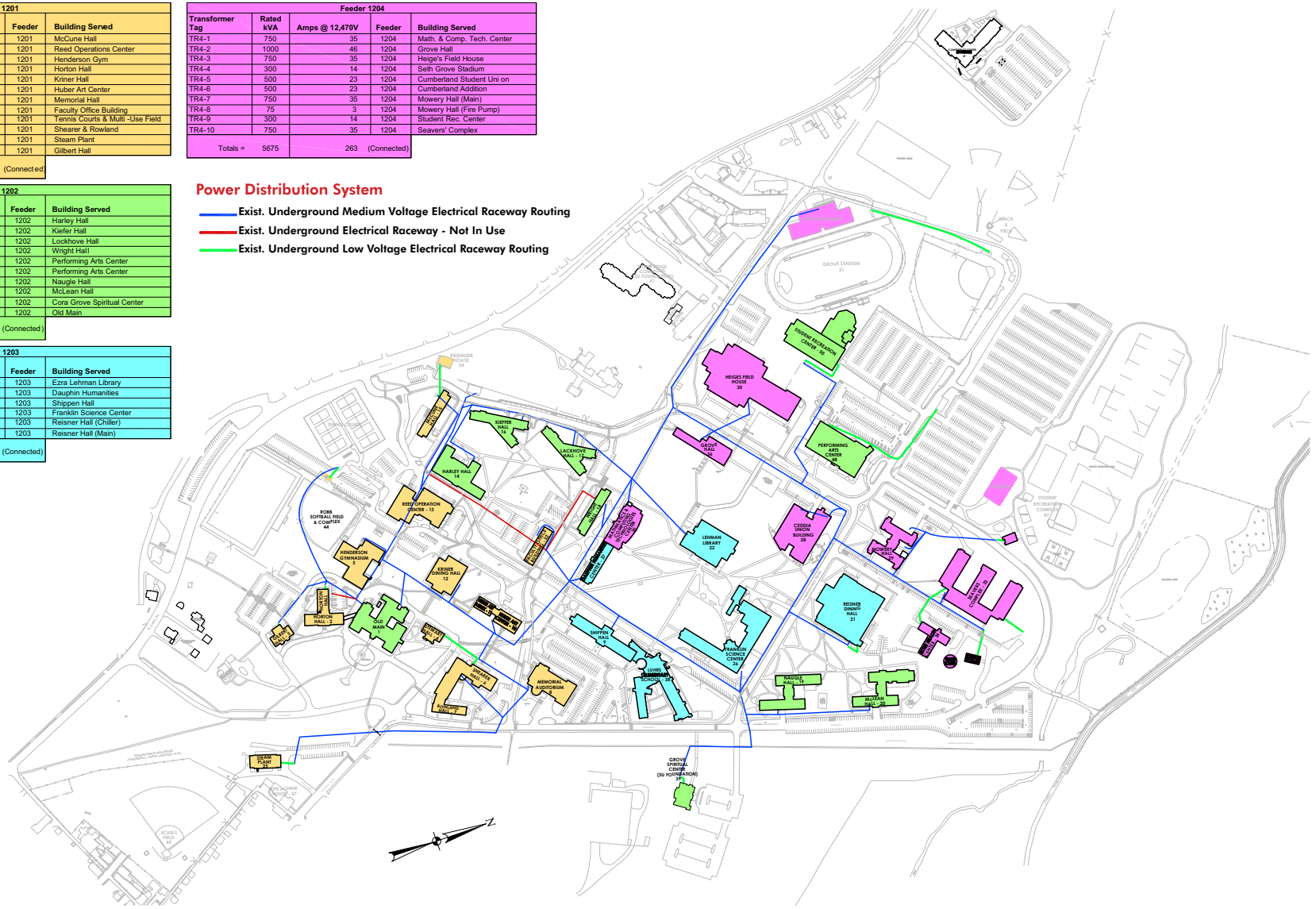
Feeder 1202				
Transformer Tag	Rated kVA	Amps @ 12,470V	Feeder	Building Served
TR2-1	300	14	1202	Harley Hall
TR2-2	300	14	1202	Kiefer Hall
TR2-3	300	14	1202	Lockhove Hall
TR2-4	112.5	5	1202	Wright Hall
TR2-5A	1000	46	1202	Performing Arts Center
TR2-5B	1000	46	1202	Performing Arts Center
TR2-6	500	23	1202	Naugle Hall
TR2-7	750	35	1202	McLean Hall
TR2-8	225	10	1202	Cora Grove Spiritual Center
TR2-9	750	35	1202	Old Main
Totals =	5237.5	242	(Connected)	

Feeder 1203				
Transformer Tag	Rated kVA	Amps @ 12,470V	Feeder	Building Served
TR3-1	750	35	1203	Ezra Lehman Library
TR3-2	750	35	1203	Dauphin Humanities
TR3-3	750	35	1203	Shippen Hall
TR3-4	2000	93	1203	Franklin Science Center
TR3-5	225	10	1203	Reisner Hall (Chiller)
TR3-6	750	35	1203	Reisner Hall (Main)
Totals =	5225	242	(Connected)	

Feeder 1204				
Transformer Tag	Rated kVA	Amps @ 12,470V	Feeder	Building Served
TR4-1	750	35	1204	Math. & Comp. Tech. Center
TR4-2	1000	46	1204	Grove Hall
TR4-3	750	35	1204	Heige's Field House
TR4-4	300	14	1204	Seth Grove Stadium
TR4-5	500	23	1204	Cumberland Student Uni on
TR4-6	500	23	1204	Cumberland Addition
TR4-7	750	35	1204	Mowery Hall (Main)
TR4-8	75	3	1204	Mowery Hall (Fire Pump)
TR4-9	300	14	1204	Student Rec. Center
TR4-10	750	35	1204	Seavers' Complex
Totals =	5675	263	(Connected)	

Power Distribution System

- Exist. Underground Medium Voltage Electrical Raceway Routing
- Exist. Underground Electrical Raceway - Not In Use
- Exist. Underground Low Voltage Electrical Raceway Routing

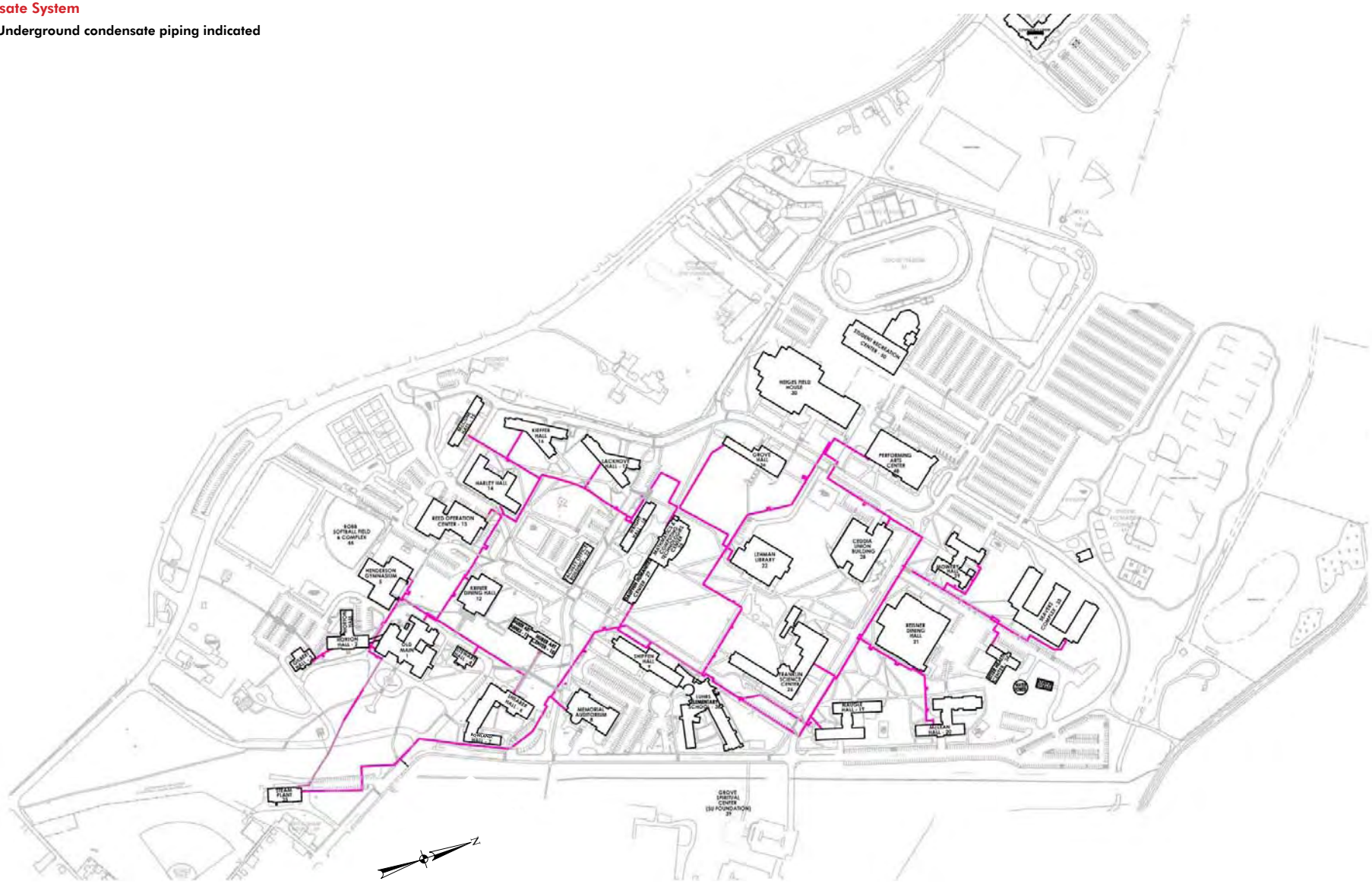


Telecommunications System

= Existing Underground Telecommunications Ductbank

Condensate System

— = Underground condensate piping indicated



Steam System

- Existing steam cross connect bridge
- Underground steam piping

SHIPPENSBURG UNIVERSITY EXISTING CHILLER SCHEDULE

BUILDING	MANUFACTURER	MODEL NUMBER	YEAR	TONAGE	REFRIGERANTS	CHILLER TYPE
NEW - CEDDIA UNION BUILDING	YORK	YCAJ55STB/46PA	1991	30	R-22	AIR COOLED
OLD - CEDDIA UNION BUILDING	TRANE	CG125C		120	R-22	CENTRIFUGAL
HEIGES FIELD HOUSE	TRANE	LWU-124680-U	2000		R-22	CENTRIFUGAL
OLD MAIN	YORK	LCH75A-17PB	1980	70	R-22	AIR COOLED
OLD MAIN	YORK	LCH75A-17PB	1980	70	R-22	AIR COOLED
MEMORIAL AUDITORIUM	MCQUAY	WHR080E-A	1996	80	R-22	AIR COOLED
HUBER ART CENTER	TRANE	CG50D	1960'S	80	R-22	AIR COOLED
MATH/COMPUTING TECH CEN	TRANE	RTWA10044A01D1D2W	1995	100	R-22	CENTRIFUGAL
GROVE HALL	CARRIER	30GT-290A--610--	1995	190	R-22	AIR COOLED
GROVE HALL	CARRIER	30GT-290B--610--	1995	110	R-22	AIR COOLED
OLD DAUPHIN HUMANITES CEN	MCQUAY	PHEH087	1996	395	R-134A	CENTRIFUGAL
REISNER DINNING HALL	YORK	YTA1AD81-CFE	1980	150	R-123	CENTRIFUGAL
FRANKLIN SCIENCE CENTER	TRANE	RTHCIDIFOHOF1L2F2LFVQUOO	2000	350	R-134A	CENTRIFUGAL
FRANKLIN SCIENCE CENTER	TRANE	RTHCIDIFOHOF1L2F2LFVQUOO	2000	350	R-134A	CENTRIFUGAL
LEHMAN LIBRARY	YORK	YTD101C2-CKE	1990	240	R-123	CENTRIFUGAL
ROWLAND/SHEARER HALL	TRANE	RTAC 1854 UKON UAFN NANX IDDL NNOE NIIA ROEX N	2006	185	R-134A	AIR COOLED
PERFORMING ARTS CENTER	MCQUAY	WGS170AW27-ER10	2004	170	R-134A	AIR COOLED
PERFORMING ARTS CENTER	MCQUAY	WGS170AW27-ER10	2004	170	R-134A	AIR COOLED
STUDENT REC CENTER	CARRIER	30XA-2006-05SB3	2007	192	R-134A	AIR COOLED
TOTAL TONS				2,987.80		
TOTAL BTU/HR				35,853,600		
TOTAL BTU/MIN				597,560		
1KWH=65.9BTU/MIN		TOTAL KWH / TONAGE		10,501.93		
DHC KWH		KWH/HR		1,388.40	200 BTU/MIN FOR COOLING	
DHC CHILLER COST / KWH				$74.97		

Chilled Water System

1. There is an existing chilled water loop that connects the Franklin Science Center, Shippen Hall and the Dauphin Humanities Building. The location of the existing chilled water line is shown between the Dauphin Humanities Center and Shippen Hall, however, the exact location of the line between Shippen Hall and the Franklin Science Center is unknown. The approximate location of the line is shown.

Drawing Legend:

- Underground Chilled Water Piping
- Buildings with chillers

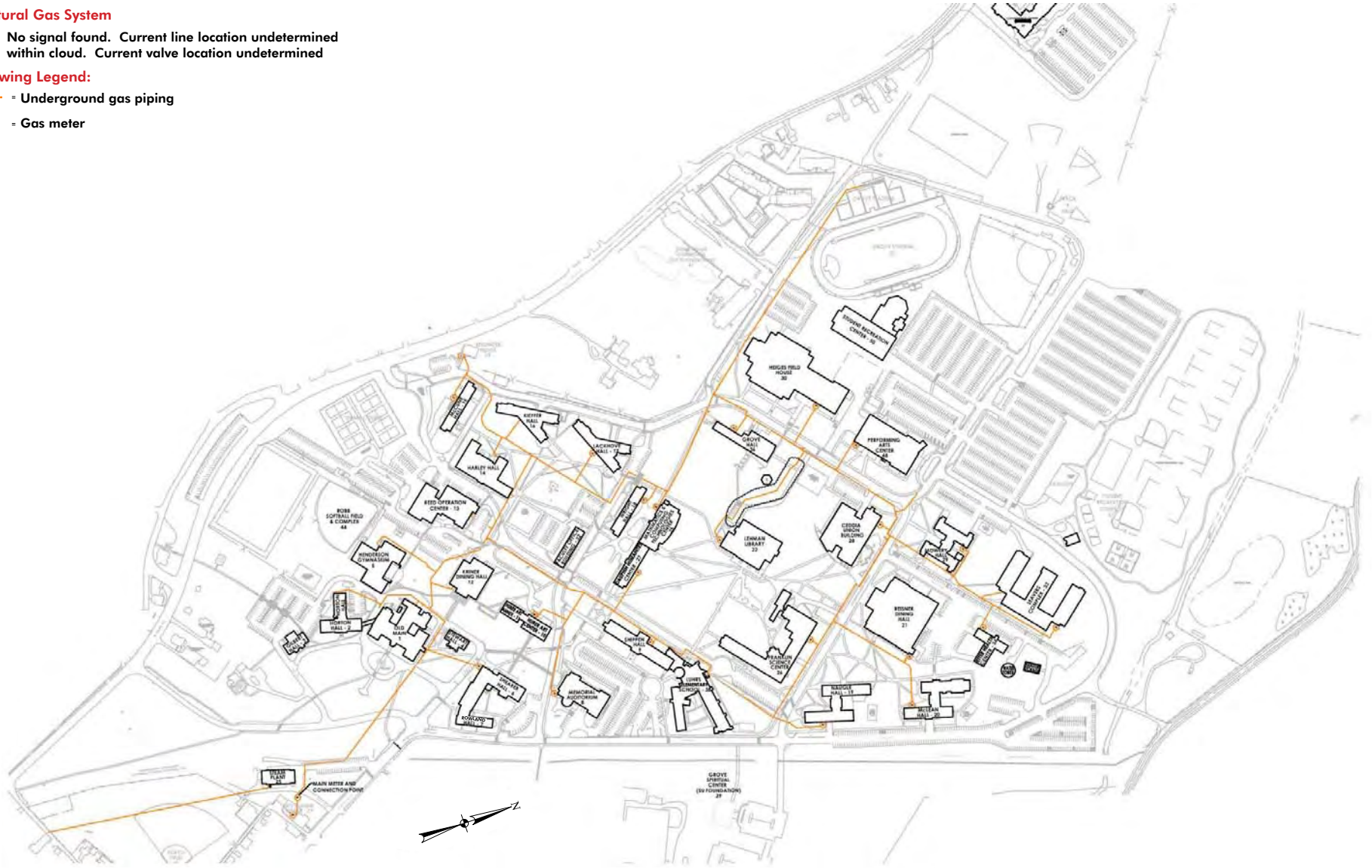
Natural Gas System

1 **No signal found. Current line location undetermined within cloud. Current valve location undetermined**

Drawing Legend:

— = **Underground gas piping**

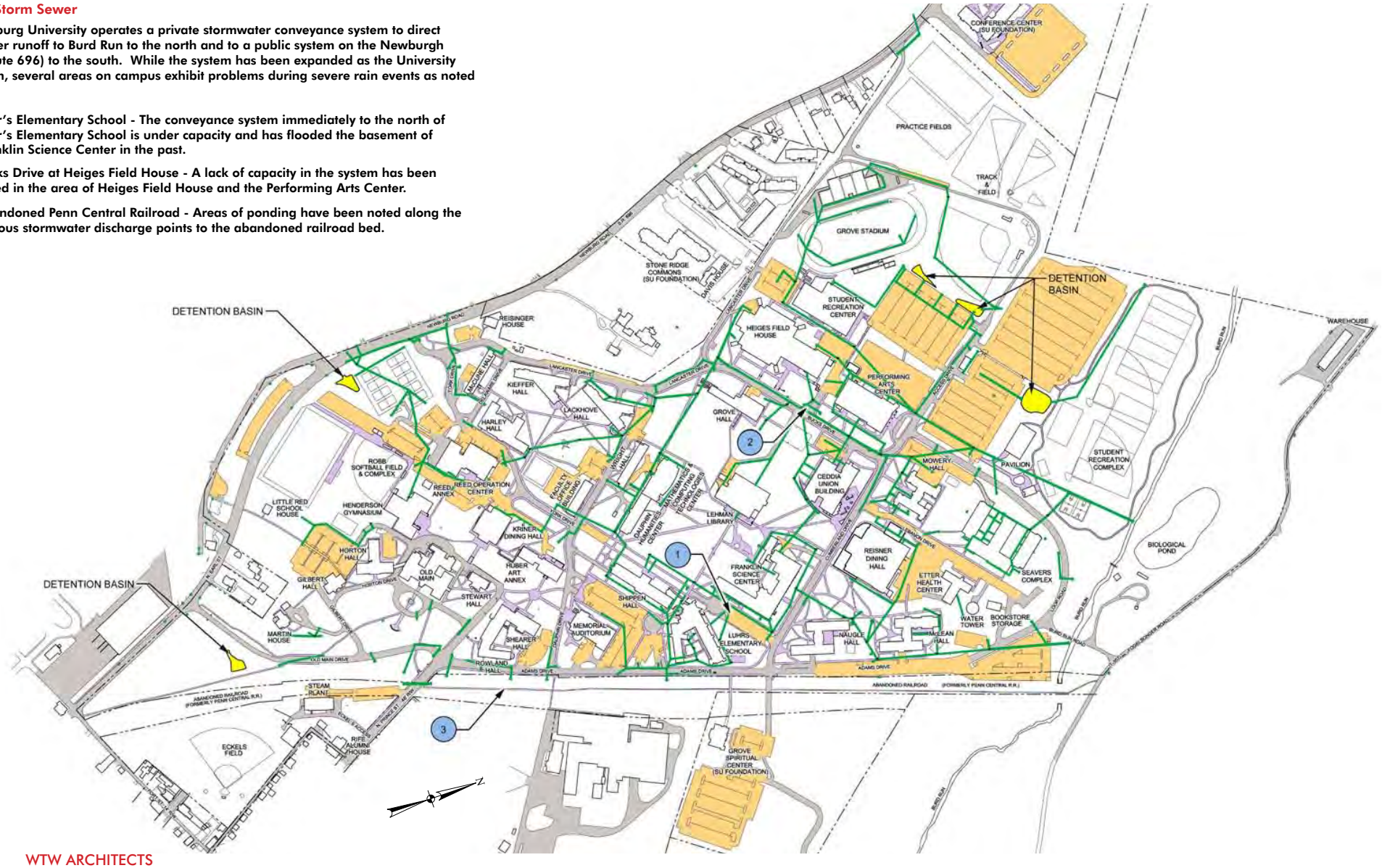
M = **Gas meter**



Existing Storm Sewer

Shippensburg University operates a private stormwater conveyance system to direct stormwater runoff to Burd Run to the north and to a public system on the Newburgh Road (Route 696) to the south. While the system has been expanded as the University has grown, several areas on campus exhibit problems during severe rain events as noted below:

1. **Luhr's Elementary School - The conveyance system immediately to the north of Luhr's Elementary School is under capacity and has flooded the basement of Franklin Science Center in the past.**
2. **Bucks Drive at Heiges Field House - A lack of capacity in the system has been noted in the area of Heiges Field House and the Performing Arts Center.**
3. **Abandoned Penn Central Railroad - Areas of ponding have been noted along the various stormwater discharge points to the abandoned railroad bed.**



Existing Sanitary Sewer System

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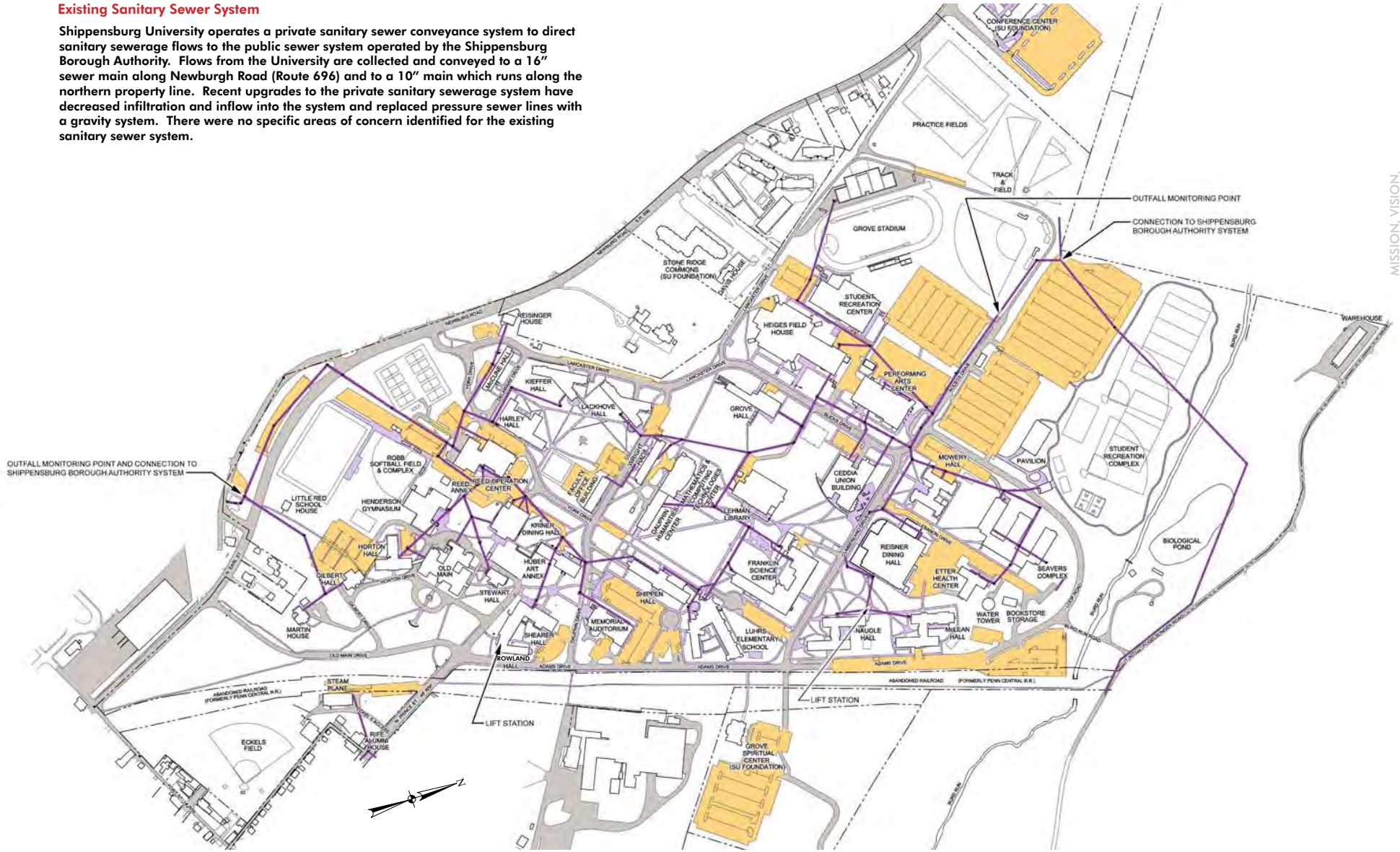
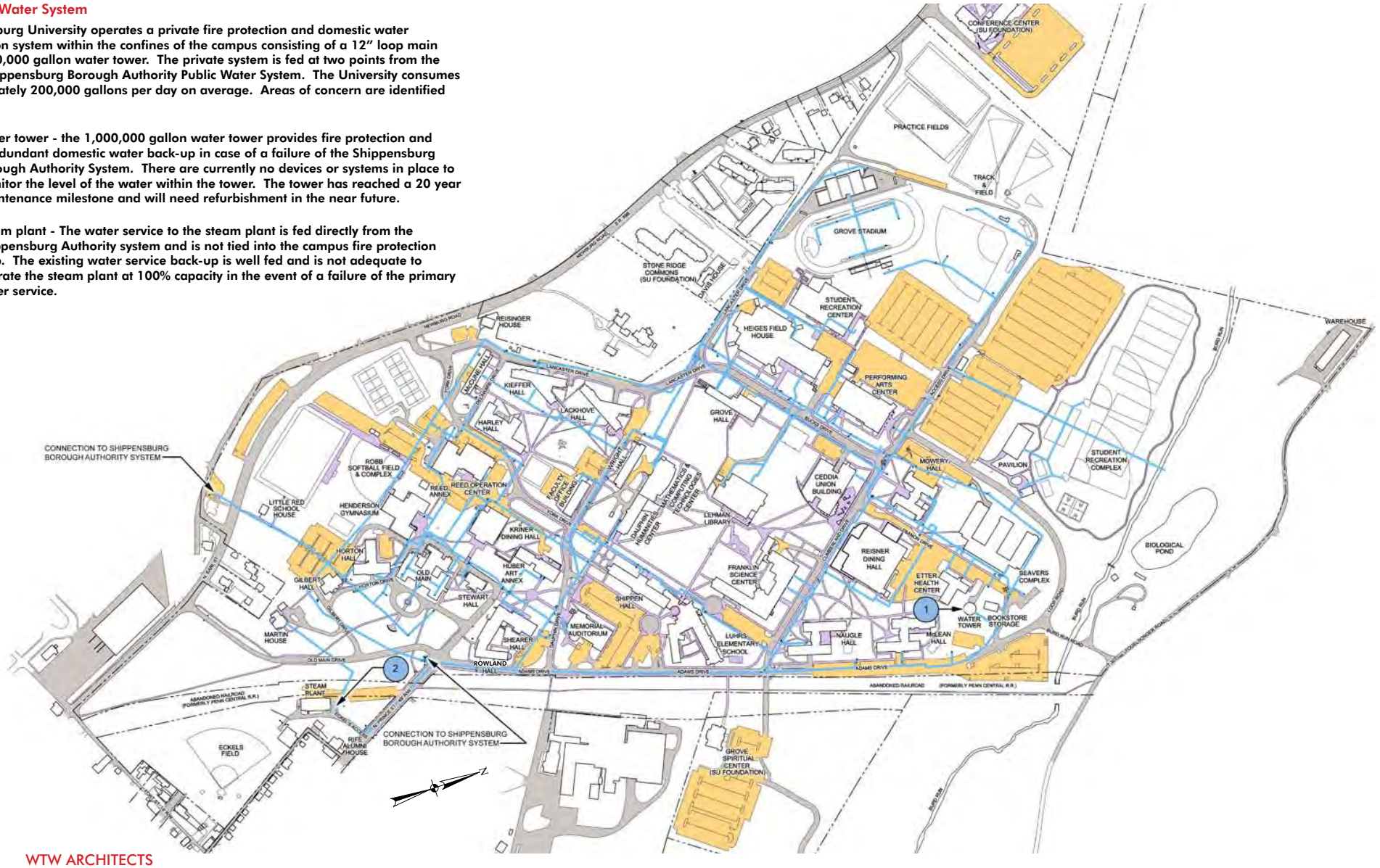


Existing Water System

Shippensburg University operates a private fire protection and domestic water distribution system within the confines of the campus consisting of a 12" loop main and 1,000,000 gallon water tower. The private system is fed at two points from the public Shippensburg Borough Authority Public Water System. The University consumes approximately 200,000 gallons per day on average. Areas of concern are identified below:

1. **Water tower - the 1,000,000 gallon water tower provides fire protection and a redundant domestic water back-up in case of a failure of the Shippensburg Borough Authority System. There are currently no devices or systems in place to monitor the level of the water within the tower. The tower has reached a 20 year maintenance milestone and will need refurbishment in the near future.**

2. **Steam plant - The water service to the steam plant is fed directly from the Shippensburg Authority system and is not tied into the campus fire protection loop. The existing water service back-up is well fed and is not adequate to operate the steam plant at 100% capacity in the event of a failure of the primary water service.**



E. THE CAMPUS MASTER PLAN

1. Master Plan Concepts

Concepts for the development of the campus grew out of analysis of existing conditions and program needs, consideration of population growth over time, and an understanding of the unique culture and qualities of Shippensburg University.

- Strengthen the academic core of campus
  - o Create a pedestrian zone by limiting vehicle use on pedestrian streets
  - o Provide outdoor social-meeting spaces enhanced with seating, landscaping, and artwork
  - o Construct new buildings as needed in locations that strengthen the pedestrian quads

- Transform the residential environment
  - o Remove existing dormitories (2,500 beds) and replace with living/learning residence halls
  - o Implement in three phases so that residential capacity is maintained
  - o Provide privacy and community by arrangement of suites around social-meeting spaces and amenities

- Improve vehicle circulation and parking
  - o Create a loop road around the pedestrian zone
  - o Provide new parking in smaller lots at strategic locations

- Improve campus identity and sense of place
  - o Create five gateways with signage, architectural, and landscape elements
  - o Implement a campus signage system to improve orientation, wayfinding, and building identification

- Remove specific buildings and renovate others to meet changing programs
  - o Focus academic activities in and around the Lehman Quad
  - o Improve historic buildings for administrative and student service functions

- Improve facilities for athletics and recreation
  - o Renovate Seth Grove Stadium for team accommodations and accessibility
  - o Improve the use of outdoor fields with lighting and turf
  - o Update Heiges Field House and Henderson Gymnasium

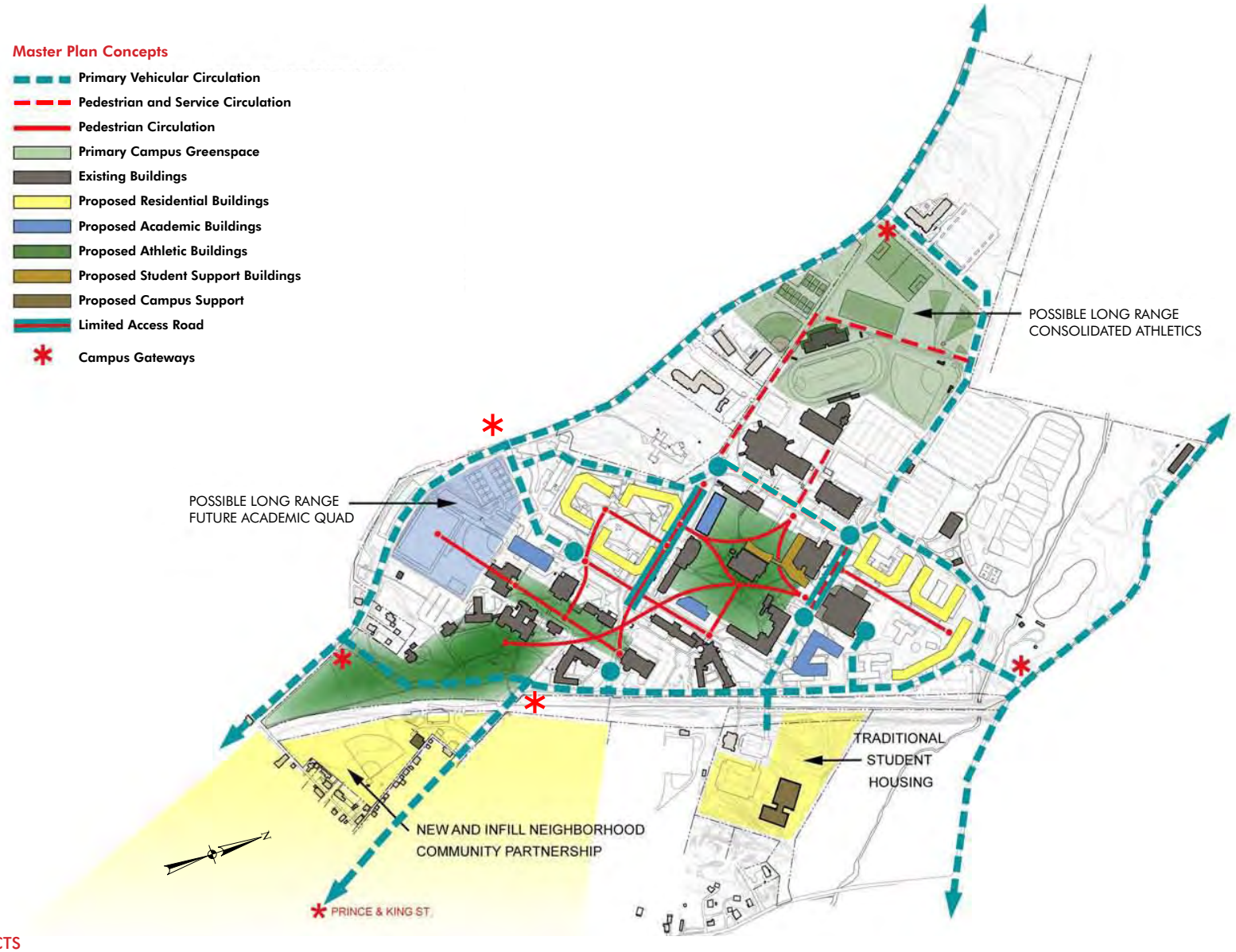
- Improve utility generation and distribution to meet sustainable goals
  - o Replace Steam Plant with new central plant with multi-fuel capacity
  - o Construct central Chilled Water Plant

- Encourage interaction between University and region
  - o Continue to improve arts and athletic attractions on campus
  - o Locate University outreach activities in Shippensburg
  - o Support business development in Shippensburg that would be used by the campus community and region
  - o Support the completion of Rails to Trails from Fogelsonger Road to Shippensburg

2. Master Plan Phases

Master Plan recommendations for the development of the campus are presented in three phases: short term, medium term, and long term. It was agreed with the Master Plan Committee that short term—Phase 1, 0 to 5 years—would include projects already in planning or in the funding stream. Medium term—Phase 2, 5 to 15 years—would include projects that would essentially accomplish all Master Plan concepts. Long term—Phase 3, 15 to 25 years—would include projects that would respond to growth and expansion initiatives. The planning for the three phases is entirely within the boundaries of the existing campus and SU Foundation property.

The consultant team was asked to envision the future beyond the third phase. What are the possibilities for Shippensburg University beyond 25 years—beyond 2033? It's difficult to speculate on the programmatic issues that could be in place that far in the future, but the possibilities for expansion can be imagined. Just as the original campus on the hill expanded northward into agricultural lands to make today's campus, further expansion to the north east and west is possible. Remaining properties between the campus northwest boundaries and Route 696 could be acquired. And additional agricultural land lies to the north. The low-lying wetlands of the Burd Run and Middles Spring Creek watersheds are natural limits to this growth. Uses in the wetlands would be practically limited to park and athletic fields. The town of Shippensburg is a limit to expansion to the south, although the integration of University uses into the town environment may be desirable.


Master Plan Concepts
Primary Vehicular Circulation
Pedestrian and Service Circulation
Pedestrian Circulation
Primary Campus Greenspace
Existing Buildings
Proposed Residential Buildings
Proposed Academic Buildings
Proposed Athletic Buildings
Proposed Student Support Buildings
Proposed Campus Support
Limited Access Road
Campus Gateways
POSSIBLE LONG RANGE
CONSOLIDATED ATHLETICS
POSSIBLE LONG RANGE
FUTURE ACADEMIC QUAD
TRADITIONAL
STUDENT
HOUSING
NEW AND INFILL NEIGHBORHOOD
COMMUNITY PARTNERSHIP
PRINCE & KING ST

Existing Campus

Phase 1 (0-5 years)

- Existing Buildings
- Proposed Residential Buildings
- Proposed Academic Buildings
- Proposed Support Buildings
- Foundation Properties

Phase 2 (5-15 Years)

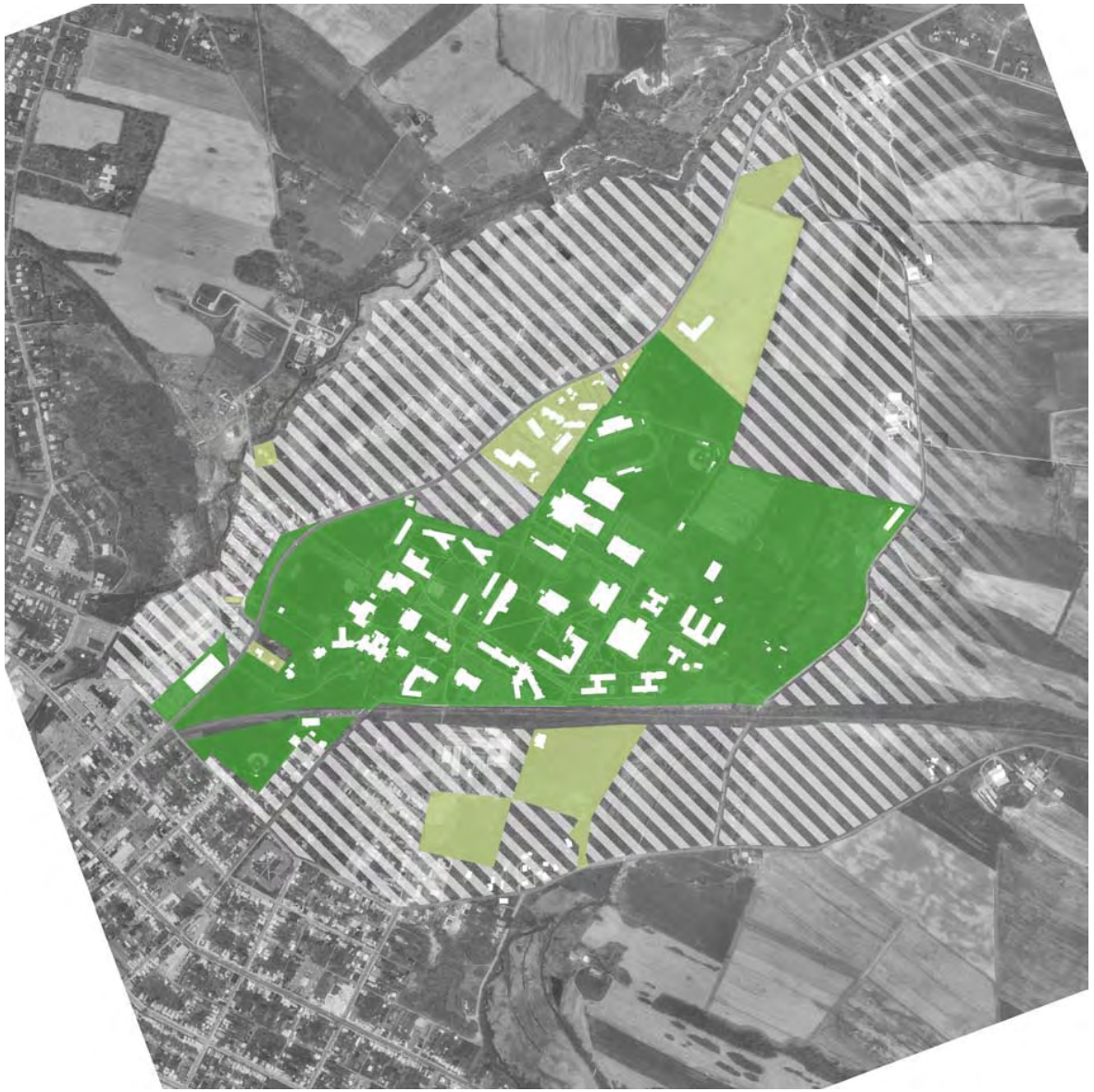
- Existing Buildings
- Proposed Residential Buildings
- Proposed Academic Buildings
- Proposed Support Buildings
- Foundation Property

Phase 3 (15-25 Years)

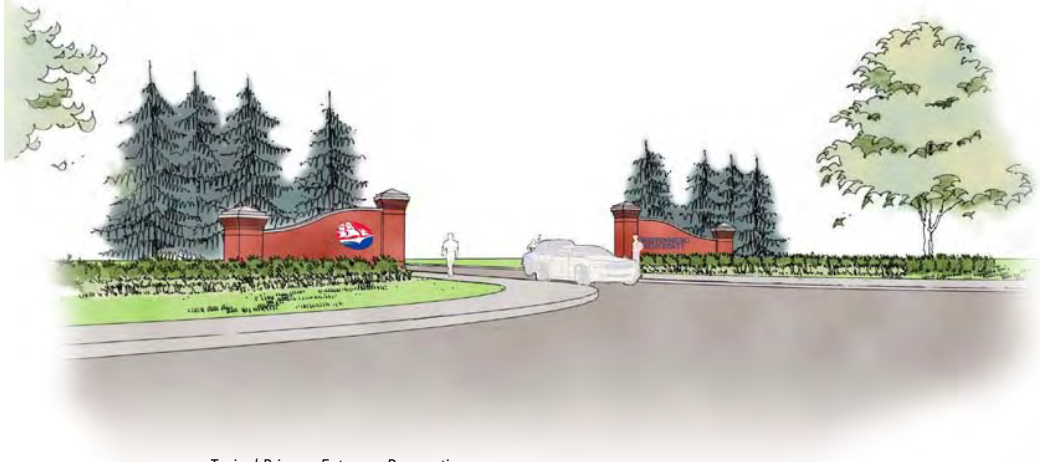
- Existing Buildings
- Proposed Residential Buildings
- Proposed Academic Buildings
- Proposed Support Buildings
- Foundation Property

Future Development Possibilities (25 + Years)

- University Property
- Foundation Property
- Possible Expansion Sites



3. Campus Gateways



Typical Primary Entrance Perspective

Conference Center Entrance (Primary)

Newburg/Lancaster Entrance (Secondary)

Prince Street Entrance (Primary)

N. Earl/Old Main Entrance (Primary)

Burd Run/Fogelsonger Entrance (Secondary)

Proposed Landscape Plan

Existing		Proposed
	Large Deciduous Trees	
	Small/Medium Deciduous Trees	
	Evergreen Trees	

3. Roadways and Parking

3.1 ROADWAYS

A number of roadway changes are proposed in the Master Plan to achieve the following objectives:

- Create a coherent pedestrian zone in the academic heart of campus where pedestrian paths cross vehicle routes as little as possible.
- Create a loop road around the pedestrian zone to allow easy vehicle access to all parts of campus, with easily understood wayfinding for visitors and university community members.
- Create new roadway connections from off-campus to the campus loop road from areas that are currently underserved.
- Mark roadway entrances to the campus with gateways with recognizable Shippensburg University identity, and orientation to campus destinations. See Section E.4 for recommendations for campus gateways.

The Master Plan recommends the following roadway changes.

1. Convert portions of two campus roadways to pedestrian streets with limited vehicle access. These areas would be marked for primarily pedestrian use with signs and special paving, but they would be constructed to carry truck loads. The pedestrian streets would be available for use by police and fire emergency vehicles and for daily trash pick-up. Under campus police control, the pedestrian streets would be open to vehicles for move-in days, and for entering and exiting major campus events. Special paving could be brick or other unit paver, or exposed aggregate concrete with special scoring. Pedestrian streets could be edged with tree rows on both sides, other landscaping, and outdoor seating to complement their pedestrian nature.
    a. Dauphin Drive between the north corner of Shearer Hall and Lancaster Drive.
    b. Cumberland Drive between the north corner of the Franklin Science Center and Bucks Drive.
2. Construct a roadway extension of Cumberland Drive from Bucks Drive to the Shippensburg University Foundation Conference Center and on to Route 696. This roadway will provide new access to the center of campus from motorists arriving from southbound Route 696.
3. Remove the single lane bridge at Burd Run and replace with a two lane bridge to allow for a two lane roadway connection between Adams Drive and Fogelsonger Road.
4. Re-align York Drive following the removal of Reed Operations Center to allow for the construction of the west student Residential Quad.
5. Remove the drop-off circle in front of Old Main. This is in response to security concerns.
6. Remove the driveway on the back (north) side of Old Main and Stewart Hall. This allows the completion of the green space for the Memorial Hall—Henderson Gym Mall.
7. Pave Lancaster Drive between Bucks Drive and the Conference Center. Re-align the Drive so that the north intersection is at the Conference Center Drive rather than at Route 696.
8. Connect Queen Street to Adams Drive in alignment with Dauphin Drive. This would allow a secondary entrance/exit from the campus loop road to/from the town. This connection crosses the Rails to Trails right-of-way and would have to be negotiated with the Council.

Concerns were expressed regarding morning and evening delays for drop-offs at the Luhrs Elementary School. Pennoni Associates performed a left-turn lane analysis along Adams Drive at the Dauphin Drive intersection and the elementary school access. Based on the analysis, a left-turn lane would not be warranted at Dauphin Drive or at the elementary school for the A.M. peak period. Traffic volumes were not obtained in the P.M. peak period and therefore could not be analyzed. However, based on observations of left-turns into the auditorium parking area and the elementary school, it does not appear that a turn lane would be warranted. Even with the increase in volumes along Adams Drive, if Dauphin Drive were permanently closed, it does not appear that a turn lane into the auditorium or elementary school parking areas would be warranted. Based on the number of left-turns (~100 in the AM and the PM) entering Dauphin Drive, a left-turn lane may be warranted under certain conditions with the existing volumes or in the future. However, while not warranted, there does appear to be sufficient area to construct a left-turn lane on Adams Drive at the elementary school.

If Dauphin Drive remains open and excessive queues are observed, consideration should given to constructing a left-turn lane on Adams Drive. The number of pedestrians crossing in this area should also play a role in the final decision, as a turn lane would increase the walking distance for pedestrians and the visibility of pedestrians will be decreased with standing left-turn queues.

3.2 PARKING

Parking should generally be located outside of the perimeter vehicular circulation loop with pleasant pedestrian walkways connecting to destination points within the campus core. ADA parking, service and special event parking are the exception and are acceptable within the campus core as needed. The designation of parking space users in each parking lot as indicated on the drawings were established to meet the user demands in general and are flexible to change. Where possible the designation of parking spaces in a single lot or area should be of the same user type for function and to help with the enforcement of parking regulations. If a mixed parking designation needs to occur within the same lot then it is recommended that an area of the lot or individual spaces be identified with signage for space availability control and enforcement of parking regulations. Specifically Resident Student parking should be located in separate lots or a signed area of a lot since the cars remain parked for days and can hinder snow removal when mixed with Commuter Student, Faculty or Staff parking.

In regard to special event days on campus, it is recommended that coordination and communication occur in the planning stages between the Departments sponsoring the events and the Public Safety Department to ensure that multiple special events requiring significant parking are not scheduled at the same time. A designated Campus Special Events Coordinator could serve as the contact person for annual campus special event scheduling.

The quantity of parking required to accommodate future campus growth can be projected mathematically by utilizing the ".2863 parking spaces per person" data. (See D Analysis, Section 7. Parking) The specifics of accommodating parking will have to be addressed with the actual implementation sequence of specific projects. As the different areas of campus are improved in a phased approach, parking spaces will generally be accommodated as follows:

Parking - East and West Student Housing Quad Development
The removal of parking spaces for the new East and West Student Housing Quad Development projects can be accommodated in nearby existing parking lots that are underutilized and in proposed new parking lots.

East
Parking removals associated with the Mowrey Small Lot, Lebanon Drive and Reisner Lot can be accommodated in the underutilized Mowrey Large Lot, PAC Facility Staff Lot and new Reisner Lot. The Etter Health parking can be accommodated in the underutilized McLean Lot.

Parking removals along Adams Drive and McLean Lots can be accommodated in the underutilized McLean Lot and new Lower Reisner Lot.

West
Parking removals associated with the Physical Plant Lots, Reed Lot, FOB Lot, York Drive Lot and Dauphin Drive Lot can be accommodated in the new Physical Plant Lot (old name probable to change), slightly underutilized/expanded Gilbert Lot, new York Drive Lot, and new Kriner Dock Lot.

Note: The parking space quantities considered in this master plan are only those spaces regulated by the Shippensburg University Department of Public Safety. The scope of this study did not include privately owned parking lots at off campus facilities i.e. SU Foundation Conference Center, Stone Ridge Apartments, College Park Commons, HotPoint Commons, parking area adjacent to the Domestic Casting Company, etc.

Parking Spaces Required per Person: 0.2863

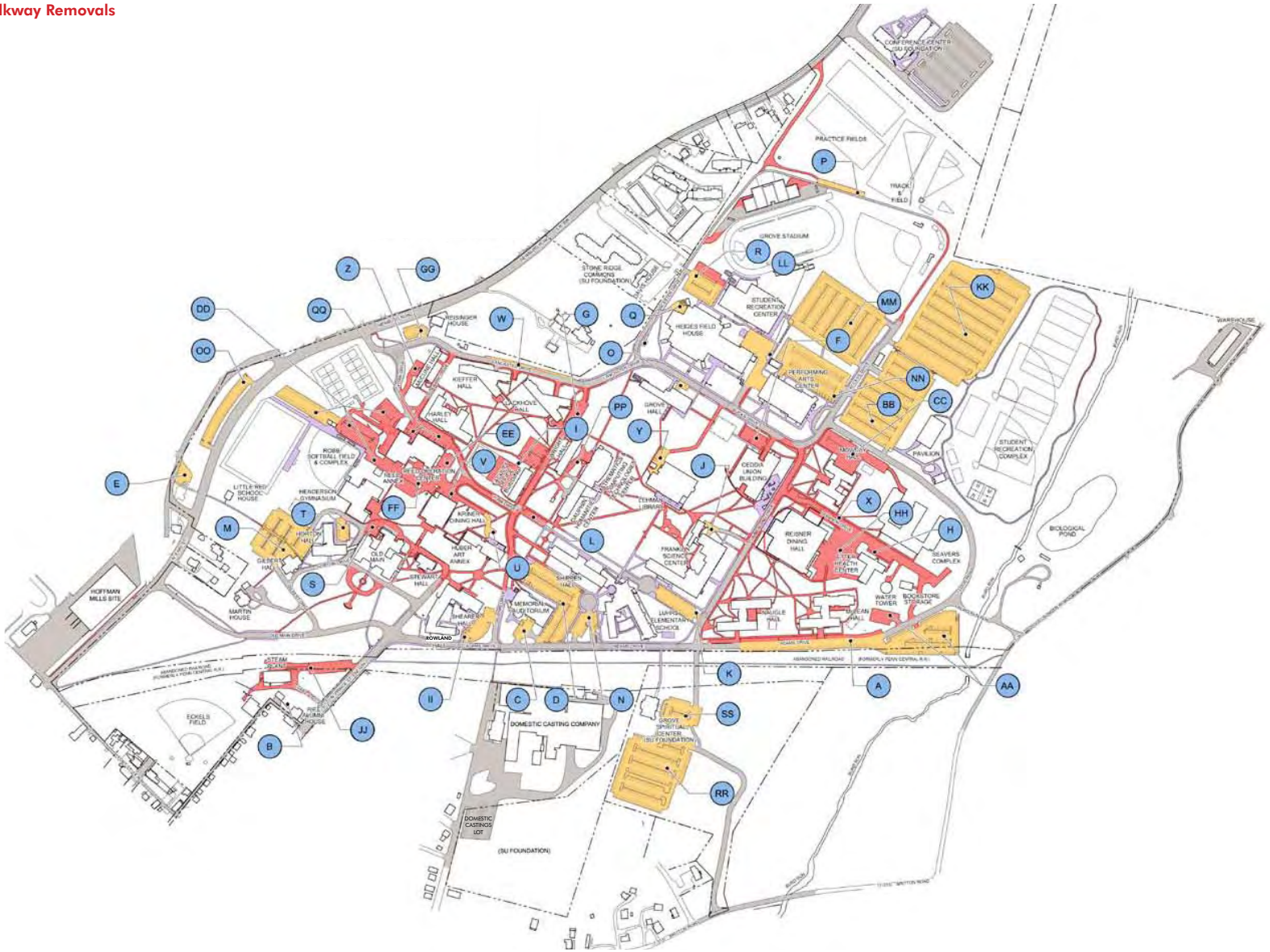
	Student Population Growth	Admin/ Fac/Staff Growth	Total Campus Population	Spaces per Person	Required Spaces	Parking Space Count	Excess Spaces
Fall 2007	Existing	NA	8837	0.2863	2530	Existing: 3683	1153
Short-term: 0 to 5 Years	500	70	9407	0.2863	2693	Proposed: 3697	1004
Mid-term: 5 to 15 Years	1,500	210	10547	0.2863	3020	Proposed: 3697	677
Long-term: 15 to 25 Years	2,500	350	11687	0.2863	3346	Proposed: 3697	351

Note: Administrative, Faculty and Staff growth is 14% of student growth

Parking Space Numbers - Proposed Removals

KEY	LOT NAME	ADA	FACULTY	FACULTY/ STAFF	STUDENT COMMUTER	STUDENT RESIDENT	ASSIGNED	VISITOR	STORAGE	TOTAL	PROPOSED REMOVALS
A	ADAMS DRIVE	1		10	128		5			144	67
B	ALUMNI HOUSE						7			7	
C	AUDITORIUM SIDE	1	8							9	
D	AUDITORIUM 1	2		171			2			175	
E	BELMAR LOT				15					15	
F	CUB LOT	1		23			1			25	25
G	DAUPHIN DRIVE	2	5		11		6			24	24
H	ETTER HEALTH						12			12	12
I	F.O.B. LOTS	5		52		32				89	89
J	FRANKLIN ACCESS	2					1			3	
K	FRANKLIN DRIVE	2	37							39	
L	FRANKLIN DRIVE OLD	11								11	11
M	GILBERT LOT	2		142						144	
N	GRACE ELEMENTARY	1					1	24		26	
O	GROVE HALL DOCK						3			3	
P	GROVE STADIUM - REAR						24			24	
Q	HEIGES ACCESS LOT	3					3			6	
R	HEIGES MAIN LOT	2		72						74	30
S	HENDERSON DRIVE	3					2	9		14	
T	HORTON LOT	4					14			18	
U	HUBER ARTS LOT	1								1	
V	KRINER DOCK						4			4	4
W	LANCASTER DRIVE	1			18		1			20	
X	LEBANON DRIVE	4			62		14			80	80
Y	LIBRARY DOCK	2	5				1	2		10	
Z	MCCUNE DOCK						7			7	7
AA	MCLEAN LOTS				26	161				187	26
BB	MOWREY LARGE LOT				425					425	
CC	MOWREY SMALL LOT			9		32	9			50	50
DD	PHYSICAL PLANT	2		41	63		25			131	68
EE	PHYSICAL PLANT EAST		7				9			16	16
FF	REED LOT			26			12	6		44	44
GG	REISINGER HOUSE						17			17	
HH	REISNER LOT	3		62			5			70	70
II	ROWLAND LOT	2		22			1			25	
JJ	STEAM PLANT LOT							42		42	42
KK	STORAGE LOT								852	852	
LL	PAC ACCESS						2			2	
MM	PAC COMMUTER LOT				243		27			270	
NN	PAC FACULTY/STAFF LOT	7		121			4			132	
OO	WEST CAMPUS LOT				35	34				69	
PP	WRIGHT HALL						2			2	
QQ	YORK DRIVE				6		22			28	28
RR	SPIRITUAL CENTER UPPER LOT								287	287	
SS	SPIRITUAL CENTER EMPL	2		48						50	
	TOTAL	66	62	799	1032	259	243	83	1139	3683	693

Road, Parking and Pedestrian Walkway Removals



West Student Housing Quad Development Parking

Parking Planning Intent: Accommodate all parking removals by designation of existing under utilized or new parking spaces

Existing Parking Space Removals

Lot Key	ADA	F	FS	CS	RS	AS	VIS	Subtotals	
DD	2		41			25		68	
EE		7				9		16	
FF			26			12	6	44	
									273
QQ				6		22		28	
V						4		4	
G	2	5		11		6		24	
I	5		52		32			89	
Subtotals	9	12	119	17	32	78	6		

Total Removals 273

Proposed Parking Space Accommodation
Existing Spaces Available per count by Public Safety at Peak Time + **New Parking Lots**

Lot Key	ADA*	F*	FS*	CS*	RS*	AS*	VIS*	Subtotals	
New DD	4		52		12	5	2	75	
New N1	6					2		8	
New N5	4		50	55				109	
M	3		5					8	
Expanded M			40					40	397
New QQ	6				20			26	
New V	4	12	24					40	
New N8	4					80	7	91	
Subtotals	31	12	171	55	32	87	9		

Total Available 397

* Designations of parking space user as indicated are intended to meet demand and are flexible to change

East Student Housing Quad Development Parking

Parking Planning Intent: Accommodate all parking removals by designation of existing under utilized or new parking spaces

Existing Parking Space Removals

Key	ADA	FS	CS	RS	AS	Subtotals	
CC		9		32	9	50	
X	4		62		14	80	212
HH	3	62			5	70	
H					12	12	
AA				26		26	93
A			67			67	
Subtotals	7	71	129	58	40		

Total Removals 305

Proposed Parking Space Accommodation
Existing Spaces Available per count by Public Safety at Peak Time + **New Parking Lots**

Key	ADA*	FS*	CS*	RS*	AS*	Subtotals	
BB			179	32	9	220	
NN	6	116			2	124	380
New HH Lot	7	10			19	36	
AA	12	11		62	12	97	157
New N6 Lot		60				60	
Subtotals	25	197	179	94	42		

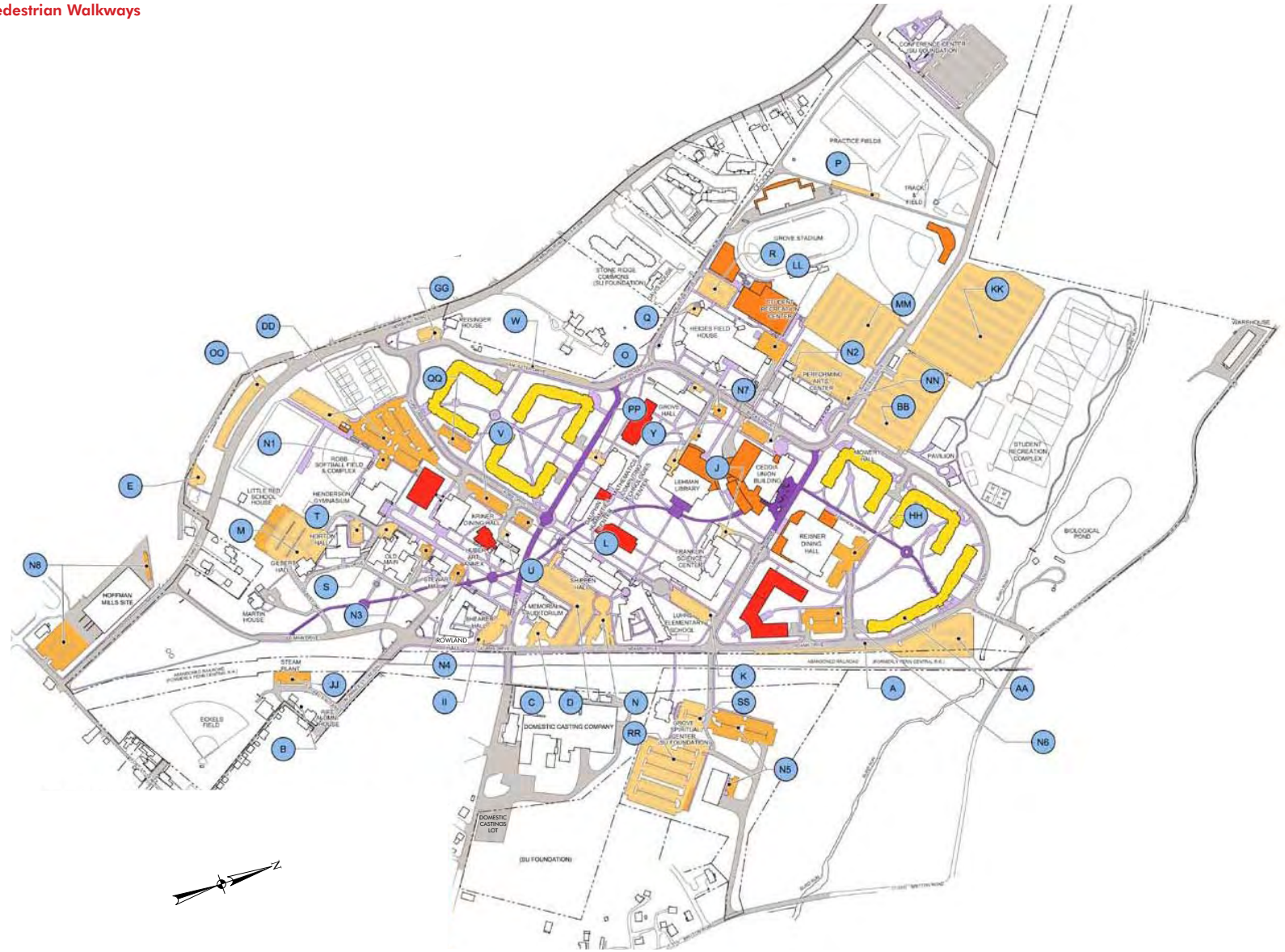
Total Available 537

* Designations of parking space user as indicated are intended to meet demand and are flexible to change

Parking Spaces - Proposed

KEY	LOT NAME	ADA	FACULTY	FACULTY/ STAFF	STUDENT COMMUTER	STUDENT RESIDENT	ASSIGNED	VISITOR	STORAGE	BUS	TOTAL
A	ADAMS DRIVE				77						77
B	ALUMNI HOUSE						7				7
C	AUDITORIUM SIDE	1	8								9
D	AUDITORIUM 1	2		171			2				175
E	BELMAR LOT				15						15
F	CUB LOT										0
G	DAUPHIN DRIVE										0
H	ETTER HEALTH										0
I	F.O.B. LOTS										0
J	FRANKLIN ACCESS	2					1				3
K	FRANKLIN DRIVE	2	37								39
L	FRANKLIN DRIVE OLD-NEW HUBER	14									14
M	GILBERT LOT	2		182							184
N	GRACE ELEMENTARY	1					1	24			26
O	GROVE HALL DOCK						3				3
P	GROVE STADIUM - REAR						24				24
Q	HEIGES ACCESS LOT	3					3				6
R	HEIGES MAIN LOT	2		42							44
S	HENDERSON DRIVE	3					2	9			14
T	HORTON LOT	4					14				18
U	HUBER ARTS LOT	1									1
V	KRINER DOCK			40			4				44
W	LANCASTER DRIVE	1			18		1				20
X	LEBANON DRIVE										0
Y	LIBRARY DOCK	2	5				1	2			10
Z	MCCUNE DOCK										0
AA	MCLEAN LOTS					161					161
BB	MOWREY LARGE LOT				425						425
CC	MOWREY SMALL LOT										0
DD	PHYSICAL PLANT	6		164	63		5			4	242
EE	PHYSICAL PLANT EAST										0
FF	REED LOT										0
GG	REISINGER HOUSE						17				17
HH	REISNER LOT	3		28			5				36
II	ROWLAND LOT	2		22			1				25
JJ	NEW VISITOR LOT	6						23			29
KK	STORAGE LOT								852		852
LL	PAC ACCESS	2		21			2				25
MM	PAC COMMUTER LOT				243		27				270
NN	PAC FACULTY/STAFF LOT	7		121			4				132
OO	WEST CAMPUS LOT				35	34					69
PP	WRIGHT HALL						2				2
QQ	YORK DRIVE	6			6		14				26
RR	SPIRITUAL CENTER UPPER LOT						13		287		300
SS	SPIRITUAL CENTER EMPL	2		48							50
N1	NORTH OF HENDERSON GYM	8									8
N2	AREA BETWEEN GROVE/CUB	2		24			1				27
N3	OLD MAIN / STEWART AREA	4					3	1			8
N4	STEWART / SHEARER	8						4			12
N5	NEW STEAM PLANT AREA	4		50	55						109
N6	LOWER REISNER LOT			30	25		5				60
N7	GROVE HALL LOT	6		7							13
N8	HOFFMAN MILLS SITE	4					80	7			91
	TOTAL	110	50	950	962	195	242	70	1139	4	3722

Proposed Roads, Parking and Pedestrian Walkways



4. University Identity

The Master Plan recommends a graphically unified system of signs for campus gateways, wayfinding/directional signs, roadway signs, traffic and parking signs, and building identification. Signs which incorporate the Shippensburg University graphic standards emphasize the University's brand and quality. The illustrations and descriptions herein describe the aesthetics, scale, and the structural character of each sign type, but are not definitive. The illustrations should serve as a departure point for discussion and an examination of options before the University commits to a single sign style.

An effective campus-wide sign system is an essential component of the overall safety and security of the University. Signage can contribute to:

- Territoriality—instilling ownership of the space by the desired users, and conveying a message to the undesired user, that people care and take notice of what happens in their environment. Posting the rules and regulations, clear definition of the transition from public to semiprivate and then private space, distinctive architectural elements and signage assist in supporting this principle.

- Natural Access Control—directing the desired users of the campus grounds and buildings to their destination, while making undesired users, possibly intent on performing a crime, become more obvious by their behavior. The proper use of architectural elements, clear access points, directional signage, fencing, shrubbery and lighting, reinforce this principle.

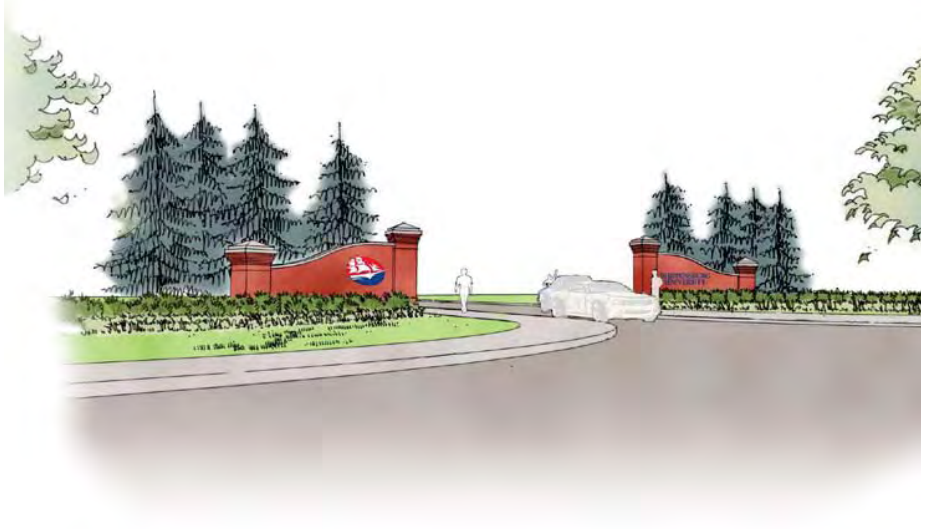
(See the Appendix: Security & Safety Assessment, November 2007, for additional security recommendations.)

4.1 CAMPUS GATEWAYS
- Purpose: A gateway provides a distinct edge to the campus. Visitors to the campus become aware that they are departing from the public realm and entering the campus realm as they pass through a gateway. Clarifying the edge of campus at gateways not only reinforces campus identity but is also an important element in campus safety.
- Structure: Gateways at Shippensburg University incorporate curved brick masonry walls with stone copings. A three dimensional University logo or sign is mounted on the walls which will is illuminated at night. Behind the walls are ornamental trees or evergreens. In front of the walls are seasonal colorful low planting beds.
- Locations: Gateways are proposed at five entry points to campus.

4.2 WAYFINDING/DIRECTIONAL SIGNS—PEDESTRIAN SCALE
- Purpose: Pedestrian wayfinding signs are the primary source for visitors seeking directional information and also reinforce the University identity that began at the gateways. There can be a hierarchy of directional signs:
  - Precinct signs direct visitors to areas of the campus, e.g., North Athletic Fields or East Residential Quad
  - Directional signs direct visitors to a specific destination or list of destinations.
- Structure: Wayfinding signs are constructed of metal (brushed aluminum finish) with silk-screened letters that can withstand weather and vandalism. Wayfinding signs incorporate the SU logo and use SU colors. Lighting is incorporated into the top panel of the sign to illuminate the directional information below. Wayfinding signs are surrounded by pedestrian-scaled landscaping.
- Locations: Wayfinding signs are located at roadway and pedestrian walkway intersections.

4.3 WAYFINDING/DIRECTIONAL SIGNS—VEHICULAR SCALE
- Purpose: Vehicular wayfinding signs are the primary source for motorists seeking directional information and also reinforce the University identity that began at the gateways.
- Structure: Wayfinding signs are constructed of metal (brushed aluminum finish) with silk-screened letters that can withstand weather and vandalism. Wayfinding signs incorporate the SU logo and use SU colors. Lighting is either incorporated into the structure of the sign or is set into the landscaping. Lighting and correct font size are critical for 24 hour visibility. Wayfinding signs are surrounded by pedestrian-scaled landscaping.
- Locations: Wayfinding signs are located at primary roadway intersections and at entrances to parking facilities.

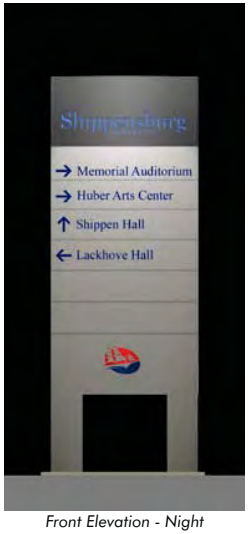
Proposed Gateway Signage



Proposed Wayfinding Signage

Front Elevation - Day

Side Elevation - Day



Front Elevation - Night

4.4 KIOSK SIGNS

- Purpose: An outdoor campus map can orient visitors to the entire campus at one time. Kiosks can provide information about campus events and exhibit the vitality of campus life.
- Structure: Maps are silkscreened onto metal panels. The maps are sloped and mounted at a height to serve a visitor seated in a wheelchair or standing. Directional information may be incorporated into the kiosk. Kiosk signs are built on a low brick wall with a stone coping at seating height. A brick pier with a stone cap supports the metal signs. The SU logo is anchored to the pier.
- Locations: Kiosks are located at primary outdoor gathering places. A map should be located in the vicinity of the Visitors Center in Old Main.

4.5 ROAD SIGNS

- Purpose: Roadway signs identify each campus road. Roadway signs could also carry SU banners
- Structure: Roadway signs are metal flag type signs mounted on tall (12'—14') poles, similar to campus light poles. Roadway signs use SU colors and incorporate the SU logo.
- Locations: Roadway signs are located at all roadway intersections.

4.6 BUILDING IDENTIFICATION

- Purpose: Building identification signs identify each campus building, since buildings are the destinations of most visitors.
- Structure: Building identification signs are cast metal letter attached to the building wall. Careful coordination with Facilities staff is essential to minimize damage to the building wall.
- Locations: Building identification signs are adjacent to each public entrance to a building.

4.7 EVENT SIGNS

- Purpose: Event signs announce cultural, arts, and athletic events of interest to the campus community and visitors to the campus. Event signs must be readily changeable.
- Structure: Event signs are electronic LED signs that can be programmed from a remote location. Event signs are constructed of metal (brushed aluminum finish) incorporating an LED screen which can be read by a passing motorist.
- Locations: Event signs could be located outside of major event venues such as the Luhrs Performing Arts Center or Heiges Field House. Signs could also be located just inside campus gateways.

Proposed Kiosk Signage

Front Elevation *Side Elevation*

Proposed Road Signage

4.8 BANNERS

- Purpose: Banners reinforce University identity and can be used to announce events. Banners can illustrate campus history or can honor prominent alumni.
- Structure: Banners are made of weatherproof semi-permanent fabric attached to struts which are attached to light poles.
- Locations: Banners could be located along any campus roadway or pedestrian path.

Proposed Banner Signage

5. Athletics and Recreation

Indoor athletic facilities at Shippensburg University are Henderson Gymnasium (1937), Heiges Field House (1971), Seth Grove Stadium (1972), and the Student Recreation Center (2008). Henderson, Heiges, and Seth Grove are outdated and in need of renovation to meet changing program needs and current standards for accessibility and comfort. A feasibility study for Heiges was completed in 2001 but some of its recommendations were superseded by the implementation of the Recreation Center project. A study for Seth Grove was completed in 2008.

Outdoor athletic facilities are the practice fields and Fairchild baseball field north of Seth Grove; the recreation fields at the east campus; Robb softball field, tennis and other fields to the west of Henderson; and Eckles Field south of Rails to Trails.

Stewart Hall - The University's first gymnasium

Recreation Fields beyond Seavers Hall

Master Plan recommendations:

5.1 CAMPUS

a. Cumberland Drive Extension: Extend Cumberland Drive at the east side of the practice fields to the Conference Center and Earl Street/Route 696. The new road will be one 12' lane in each direction plus a sidewalk. There is concern about fly balls hitting cars or pedestrians. Provide a high fence between Fairchild field and the new road for added ball control.

b. Lancaster Drive Paving: Pave Lancaster Drive to the west of the practice fields to reduce dust and improve service access to the fields. This road primarily serves pedestrians and service vehicles, except on event days. It will remain a one lane road.

c. Road Between the Stadium and Practice Fields Paving: Similarly, pave the road between Seth Grove Stadium and the practice fields. It will be a one-lane road for use by service vehicles and tail-gaters on event days.

d. Field Lighting: Provide night lighting at Fairchild baseball field and Robb softball field.

e. Toilet Rooms and Bleachers at Fairchild Field: Provide a permanent toilet room facility with utility connections for concessions under new bleachers at Fairchild Field.

f. Toilet Rooms at Robb Field: Provide a permanent toilet room facility with utility connections for concessions at Robb Field.

g. Recreation Fields Improvements: Reconfigure the jogging path around the recreation fields to accommodate an additional softball field. A report by TETHYS Consultants Inc. dated February 28, 1995 delineated a wetland in the area of the proposed softball field home plate. An updated wetland delineation study would need to be conducted to clearly determine the potential impacts.

5.2 SETH GROVE STADIUM

a. Synthetic Turf: Replace natural grass field with synthetic turf to allow practices on the field. (Tents for events will be anchored with sand bags or other means.)

b. Field Lighting: Install night lighting for 24 hour use and television capability.

c. Grandstand Structure Improvements: Renovate the grandstand structures on the west side of the field to provide space within the structure for:

1. Improved and enlarged home team facilities.
2. Football Storage.
3. Mechanical Room.
4. Renovate grandstands to provide ADA accessibility for spectators with limited mobility. Add elevator to serve the grandstands and press box.
5. Renovate and expand press box to provide ADA accessibility, media hookups, and more/ safer space for media.
6. Replace 100 seats with VIP seating with backs and armrests.
7. Provide SU identity on highway side of grandstand structure.

d. New Field House: Build a new two-story 36,000 sf Field House at the south end of Seth Grove Stadium to accommodate:

1. Visitor team facilities.
2. Football Coaches' Suite and Classrooms/ Meeting Rooms (6,000 sf).
3. Sports medicine (3,500 sf).
4. Fitness center/weight room for varsity athletes (Existing 6,015sf in Heiges).
5. Classrooms/Meeting Room (Existing 2,386sf in Heiges).
6. Storage.
7. Administrative space.
8. Social space.

5.3 HEIGES FIELD HOUSE IMPROVEMENTS

a. Relocate Football Coaches Suite, Visitors Team Facilities, Sports Medicine and Classrooms from Heiges to proposed Field House.

b. Improve and expand locker facilities to address gender issues and to separate Home and Visitors.

c. Renovate Weight Training & Fitness Center (funded at $600K).

d. Consolidate all coaches' offices (with the exception of football) in Heiges after some functions are relocated to Seth Grove Stadium.

e. Discontinue use and leasing of Davis House.

5.4 HENDERSON GYMNASIUM IMPROVEMENTS

a. Add men's and women's locker room so home and visiting teams can be accommodated.

b. Add toilet facilities with direct access from the fields. OR construct toilet facilities and concessions in the field area.

Robb Softball Field

Practice fields and Seth Grove Stadium

Bleachers at Fairchild Baseball Field

Proposed Outdoor Athletic Facilites

7. Academic Space Planning

7.1 SPACE NEEDS ANALYSIS

Project Scope

Comprehensive Facilities Planning, Inc. (CFP) in association with WTW Architects was retained by Shippensburg University to conduct a space needs analysis of its academic programs. The project involved the collection and analysis of data on a departmental level for all of the academic schools and divisions. The tasks and process involved included the following:

- Review the existing space inventory database.
- Provide base data to inform short and long term decision making, to be specifically used as part of a new campus master plan.
- Collect data and evaluate the University's current space and needs using national space guidelines modified to fit the campus culture, as well as, a comparative calculation applying the PASSHE space guidelines.
- Model future space needs based on three projected across-the board undergraduate enrollment scenarios.
- Recommend space strategies for optimizing the campus space and accommodating the space shortfalls.

This study is a critical step in developing the current space requirements (departmental space deficiencies or surpluses) and establishing planning priorities. General planning assumptions applied in the analysis are included in the report along with room type definitions and formulas. Summaries of the calculated space needs based on CFP space guidelines modified to model the academic programs at Shippensburg University are presented in the following sections of this report.

The complete report, titled Space Needs Analysis, February 27, 2008, can be found in the Appendix.

Space Needs Summary

The table below summarizes the current and projected space needs using the national space planning guidelines modified to fit the culture and operations of each department and using the applied experience of the CFP consultants.

The Calculated Need in the Table shows a space deficit of about 22,893 assignable square feet (6% of the total space) which grows to a projected deficit of about 115,150 square feet (31.5% of total space). The Calculated Need based on the PASSHE guidelines shows a space deficit of 75,388 assignable square feet which is considerably higher than the Campus model developed by CFP. This is primarily due to the Class Lab and Library space deficits. The PASSHE model projected deficit grows to 156,940 assignable square feet in the 35% enrollment growth model, which is 41,790 assignable square feet greater than the deficit identified in the CFP model.

The following space categories account for the space deficit: library space; research space and instructional lab space. The university has a significant surplus of office and office support space currently due to the 1,629 assignable square feet of vacant space in Wright Hall and 19,811 assignable square feet of swing space in the Faculty Office Building, Horton Hall, Stewart Hall, Gilbert Hall, Wright Hall and Memorial Auditorium.

Current and Projected Space Needs by Type of Space

Room Type Grouping	Current ASF	Calculated ASF Need	Diff from Current ASF	7.5% FTE Growth ASF Need	Diff from Current ASF	20% FTE Growth ASF Need	Diff from Current ASF	35% FTE Growth ASF Need	Diff from Current ASF
Classrooms	84,970	69,503	15,467	74,715	10,255	83,405	1,565	93,830	-8,860
Class Labs	75,348	83,556	-8,208	90,635	-15,287	98,711	-23,363	108,421	-33,073
Research Labs	12,611	26,821	-14,210	30,030	-17,419	32,085	-19,474	35,415	-22,804
Offices	94,858	87,537	7,321	92,700	2,158	102,343	-7,485	112,508	-17,650
Library Space	51,682	76,807	-25,125	79,178	-27,496	81,965	-30,283	85,307	-33,625
Special Use	14,420	13,898	522	14,398	22	14,398	22	14,398	22
Assembly	18,624	18,624	0	18,624	0	18,624	0	18,624	0
Exhibition	2,776	2,776	0	2,776	0	2,776	0	2,776	0
Food Facilities	988	988	0	988	0	988	0	988	0
Lounge Space	3,554	3,936	-382	4,436	-882	4,436	-882	4,436	-882
Meeting Rms.	3,615	3,639	-24	3,639	-24	3,639	-24	3,639	-24
Support	182	182	0	182	0	182	0	182	0
Vacant (Offices)	1,746	0	1,746	0	1,746	0	1,746	0	1,746
Total All Space	**365,374**	**388,267**	**-22,893**	**412,300**	**-46,927**	**443,552**	**-78,178**	**480,524**	**-115,150**

Conclusions

The University's current calculated ASF need is 388,267 ASF, with a space deficit of about 22,893 assignable square feet (6% of the total space). With the 35% planned enrollment growth, the future space needs for the Academic units could require 115,150 additional assignable square feet or about 31% additional space. Among the academic units, the College of Arts and Sciences has the greatest space deficit, both currently and in each enrollment growth projection, followed by the College of Education and Human Services. The John L Grove College of Business and the School of Academic Programs and Services have modest space needs. As the projected enrollment growth scenarios are factored in there will be areas of significant need specifically in offices and labs. Future aggregate campus space needs based on the planned enrollment growth scenarios indicate total needs of approximately 412,300 ASF (7.5% growth); to 443,500 ASF (20% growth); to 480,500 ASF (35% growth).
With the planned enrollment growth, the future space needs for the Academic units could require 115,150 additional assignable square feet or about 31% additional space. Classroom space is adequate to address the current and up to the 20% enrollment growth scenario with improvements to existing scheduling and utilization practices.

7.2 CLASSROOM AND LABORATORY CONDITION EVALUATION

Overview

Existing classrooms, lecture halls and class laboratories may fall short of meeting the requirements of well designed learning environments. CFP employed a Classroom and Class Lab Condition Evaluation System to identify deficiencies in existing rooms and determine corrective measures that may be implemented to achieve the desired design requirements known as the Model Teaching Environments.

Draft evaluation criteria were presented to faculty, students and staff who comprised the Academic Facilities Assessment Spoke. Their applicable input was included into the condition survey document and subsequent professional evaluation.

Each classroom and class laboratory on campus was evaluated based on whether it met these generally accepted classroom and class lab design criteria. For each criterion not met, deficiency points were weighted and assigned. All deficiencies for the room are then totaled and compared to the maximum deficiency points possible for that type of room. A report is generated for each room that lists each deficiency, the deficiency points, and the percent of deficiencies.

The complete report, titled Classroom and Class Lab Condition Evaluation, February 27, 2008, can be found in the Appendix.

Many deficiencies can be corrected. Improvements such as adding ADA hardware to a door, installing electrical outlets and switches, and general room condition enhancements such as painting are examples. Estimated costs were calculated for the recommended work and a report specifying the corrective actions was generated for each room. The recommended corrective work and estimated costs are not intended to provide a detailed listing, but presents an overview of work required and a budgetary level of expenditures to improve the room to an acceptable level of quality.

The analysis process permits the user to select which deficiencies to evaluate, adjust the assignment and weighting of deficiency points, and modify unit costs for deficiencies that can be corrected. The resulting database can then be used to track the institution's progress towards correcting the identified deficiencies.
Deficiencies and corrective actions are grouped into five categories for reporting:

1. ADA Requirements: These deficiencies are identified using criteria specified in the current regulations governing handicapped accessibility under the Americans with Disabilities Act.
2. Building and Structural: These deficiencies identify physical elements related to the facility that to correct will require a substantial investment usually greater than expended in a typical room improvement project. If considered for correction by the institution, these items would be implemented under a larger building renovation project and are identified as major capital expenditures for future renovations.
3. Maintenance: These deficiencies identify improvements to aesthetic elements of a room that typically are implemented through an institution's maintenance function, including such items as wall surfaces, flooring and ceilings.
4. Room Issues: These deficiencies identify physical elements within a room that by corrective action will improve the learning environment for students and the presentation of materials by instructors to expected levels of quality.
5. Technology: These deficiencies identify current technology enhancements (i.e., equipment) that will improve the transfer of instructional materials and information to students.

Classrooms Evaluated

The current space inventory indicates the Shippensburg main campus has 107 rooms classified as classrooms. An evaluation team from Comprehensive Facilities Planning walked through and evaluated 80 of these rooms. Note: rooms located in Dauphin Humanities Center (24 rooms) and Henderson Gymnasium (2 rooms) were not included in this assessment, as they are currently under renovation. It is assumed the classrooms in these buildings are being

updated to a minimal acceptable level of quality. Of the rooms assessed 78 were surveyed as general-purpose classrooms, while two rooms were determined not to be classrooms. Shearer Hall 202 is a lab and Shippen Hall 110G is a distance learning room.

Class Labs Evaluated

The current space inventory indicates the Shippensburg main campus has 45 rooms classified as class labs, 24 rooms classified as class labs with computers, 4 rooms classified as teleconference labs, 10 rooms classified as open labs, and 7 rooms classified as open labs with computers. An evaluation team from Comprehensive Facilities Planning walked through and evaluated 36 of these rooms. Note: rooms located in Henderson Gymnasium (1 room) and Performing Arts Center (4 practice rooms) and Wright Hall (2 rooms) were not included in the assessment as they were either under renovation, did not meet the survey criteria, or listed as swing space.

Summary of Results

Overall the Shippensburg classrooms compared reasonably well to the criteria for the "Model Classroom" as outlined in the Appendix. Keep in mind however, that building electrical and mechanical system evaluation is not part of this analysis, hence issues related to temperature control and other HVAC issues may make a room that has the characteristics and equipment to meet the criteria of the Model Classrooms a poor teaching environment many times during the year.
Conditions issues that impact the function of the class labs include poor lighting controls and placement in the room. Specific issues include the inability to fully darken the rooms for projecting images on the screen. Many labs are poorly configured for lecture purposes as students have limited visibility to the projection screen. Storage space is lacking and bench/table space in inadequate to accommodate the use of computers while providing space for hands on activities. Wire management is an additional issue, as the design of the room did not anticipate the increasing use of computers in the class labs.

Several classrooms had excess clutter due to duplicate or old furniture and/or equipment in the room that should be removed.

As outlined above, the classrooms and labs were evaluated in five major categories: ADA Requirements; Building or Structure Issues: General and Maintenance; Room Improvements; Technology Improvements.

The report "Summary of Room Deficiencies by Category" lists all deficiencies by category. A summary of some principal deficiencies by category are:

• ADA Requirements
These deficiencies are identified using criteria specified in the current regulations governing handicapped accessibility under the Americans with Disabilities Act.

51% (40 classrooms) and 86% (31 class labs) do not have ADA hardware
47% (37 classrooms) and 100% (35 class labs) do not have manual interior locking hardware

• Building or Structure Issues
These deficiencies identify physical elements related to the facility that to correct will require a substantial investment usually greater than expended in a typical room improvement project. If considered for correction by the institution, these items may be implemented as part of a larger building renovation project. These items are listed for information purposes to be incorporated into future capital projects. Therefore, in most cases, there are no corrective costs are assigned as part of the room condition analysis.

67% (52 classrooms) and 38% (14 class labs) had significant levels of ambient noise. In most cases the ambient noise emanates from the HVAC systems and can create a distraction for students from being able to hear the lecture or discussion. A sound meter reading of 45 db or greater was considered to be the threshold level. This condition is likely to be addressed only when a major upgrading or replacement of these systems is implemented.

60% (47 classrooms) and 86% (31 class labs) do not have proper window security egress locks. These devices are a security measure that provides occupants of the room a secondary means of egress or escape in case of an emergency

56% (44 rooms) and 27% (10 class labs) are not accessible from the side or rear. Late arriving students can be disruptive to the class. Sometimes this deficiency can be fixed by a reorientation of room. However, the best time to "fix" the problem is during initial planning and design of the facility.

33% (26 classrooms) have ceilings that are too low for the proper screen height. This is not a deficiency that can be corrected after the building is constructed so it should be viewed more as design criteria for new structures. However, in extreme cases it may be cause to convert classroom space to some other function. In most cases at SU it is not of major concern since the calculated difference and actual difference in height is small.

24% (19 classrooms) have an aspect ratio outside of the ideal. This impacts sight lines for some students when the room is filled to near capacity. Again this is more of a design issue rather something that is easily corrected once the room is constructed. In extreme cases it may be possible to convert the room into two rooms with better sight lines or to consider removing these rooms from service or converting to other uses. The aspect ratio was not measured in the class labs since the majority of the rooms are used for hands on experimentation rather than lecture.

• Maintenance Improvements
These deficiencies reflect a subjective evaluation of the visual quality of the floor, ceiling and walls of the room that may be addressed through normal maintenance operations. In general, the maintenance of the classrooms was found to be very good even in older spaces. The survey found that only 12% (9 rooms) had floor surfaces in poor condition, and 12% had wall surfaces in fair condition.

• Room Improvements
These deficiencies identify physical elements within a room that by corrective action will improve the learning environment for students and the presentation of materials by instructors to expected levels of quality.

59% (46 classrooms) and 72% (26 class labs) do not have a tack board for display of materials. Although not a critical feature, it is an attribute that provides greater flexibility of use of the room for instructors who may prefer to be able to display instructional aides.

56% (44 classrooms) and 94% (34 class labs) do not have a podium available in the room as part of the instructor's station. Although not a critical feature, it is an attribute that provides greater flexibility of use of the room for instructors who may prefer to use a podium when conducting a class.

55% (43 classrooms) have insufficient length of chalk board across the teaching wall. Guidelines call for 16 feet of chalkboard in rooms of less than 800 square feet and 20 feet for rooms 800 square feet or larger.

45% (35 classrooms) and 69% (25 class labs) have chalkboards or whiteboards that are mounted either below 36 inches off the floor or higher than 42 inches. Boards mounted outside of this height range may limit an instructor's use of most of the teaching surface.

38% (30 classrooms) and 44% (16 class labs) have lights

that cannot dimmed, banked, or split by the instructor, which may make projected presentations more difficult to see.

52% (19 class labs) have no projection screens that can be used for lecture purposes.

- Technology Improvements

The consultants noted very few technology issues. Shippensburg has done an excellent job in providing sufficient technology for most of the classrooms.

Only 9% (7 classrooms) did not have video visual equipment and controls, varied by size and type, as well as location in many rooms projection systems. Instructor stations used to accommodate audio. The University may want to develop a universal design to simplify faculty training. Wire management should be reviewed in classrooms using computers and instructional equipment that require power.

Classrooms with Highest Deficiencies

Building	Room No.	Cap	ASF	Deficiency Points	Max. Points	Percent Deficient
Stewart Hall	STW100	17	466	52	106	49.10%
Stewart Hall	STW200	53	873	51	109	46.80%
Stewart Hall	STW101	34	496	46	106	43.40%
Stewart Hall	STW209	29	403	42	106	39.60%
Horton Hall	HOR022	29	516	35	106	33.00%
Gilbert Hall	GIL110	20	420	33	103	32.00%
Library	LIB120A	24	497	33	106	31.10%
Wright Hall	WR107	34	602	32	106	30.20%
Memorial Aud.	MEM210	40	804	32	106	30.20%
Horton Hall	HOR128	26	495	32	106	30.20%
Horton Hall	HOR020	25	463	31	106	29.20%
Gilbert Hall	GIL210	46	545	30	106	28.30%
Library	LIB120B	24	534	30	106	28.30%
Library	LIB205	27	1,349	30	106	28.30%
Gilbert Hall	GIL001	20	293	27	106	25.50%

Class Labs with Highest Deficiencies

Building	Room No.	Cap	ASF	Deticiency Points	Max. Points	Percent Deficient
Huber Arts	HAC207	15	1,498	36	103	35.00%
Huber Arts	HA121	15	1,028	35	103	34.00%
Franklin Sci	FSC324	20	1,459	34	103	33.00%
Stewart Hall	STW106	10	358	33	103	32.00%
Stewart Hall	HOR022	10	395	32	103	31.10%
Huber Annex	HAA100	15	1,133	29	103	29.10%
Stewart Hall	STW204	16	617	33	103	28.20%
Huber Arts	HAC309	16	1,086	29	103	28.20%
Franklin Sci	FSC308	16	807	29	103	28.20%
Franklin Sci	FSC334	20	1,307	29	103	28.20%
Huber Arts	HAC119	5	748	29	103	28.20%
Franklin Sci	FSC318	20	545	28	103	27.20%
Franklin Sci	FSC328	16	534	28	103	27.20%
Franklin Sci	FSC316	16	1,349	27	103	26.20%
Franklin Sci	FSC206	16	293	27	103	26.20%

7.3 CLASSROOM ANALYSIS

Introduction

Shippensburg University retained the services of Comprehensive Facilities Planning, Inc. (CFP) to conduct a study of its space needs, including a comprehensive study of its classroom facilities as part of developing the campus master plan. The purpose of the study is to:

- Evaluate current conditions,
- Identify physical deficiencies,
- Analyze utilization of the classrooms,
- Determine the classroom need to meet current and projected enrollments,
- Recommend strategies for meeting these needs.

The study examined Fall 2007 semester data from the University's space inventory and class files, and analyzed classrooms to determine whether sufficient classroom space exists for the current profile of student population and course offerings. The analysis also included an investigation of whether sufficient classrooms of appropriate size ranges exist. In addition, three future enrollment growth scenarios were factored into the analysis for long-term planning.

Conclusions And Recommendations

The University should reduce its classroom supply to remove rooms in poor condition. The consultants recommend that the 18 classrooms in Horton Hall, Gilbert Hall, Stewart Hall, the Faculty Office Building and Wright Hall be removed from service and made available for other uses. Besides being determined as most deficient, Horton Hall, Gilbert Hall and Stewart are remote from the academic core and the Faculty Office Building and Wright Hall are being considered for future demolition. Removal of these rooms would bring the number of classroom to 84 rooms (Adjusted Current Supply).

The PASSHE guidelines recommend an average station size of 20 square feet (excluding service space), while the revised classroom supply averages about 18.7 square feet per station. To implement the PASSHE guideline could require adding up to about 5,000 square feet. Rather than building additional square feet just to meet this goal the consultants recommend addressing this goal over time. As classrooms are remodeled or renovated the station sizes should be increased as much as practical.

The complete report, titled Classroom Analysis, February 27, 2008, can be found in the Appendix.

- Summary of Recommended Classroom Space.
  All growth options retain the existing adjusted current supply of 84 classrooms even though the existing classroom supply is not the most efficient mix of rooms. Making changes to the current supply to improve the "fit" between classrooms and section sizes is simply not cost effective or practical. Because the current classroom supply has an average station size of 18.7 square feet as compared to the 20 square feet in the PASSHE guidelines, the recommended classroom square feet is slightly different from the optimal calculation.

- Enrollment Growth of 500 (7.5% increase)
  While this growth scenario can be met with slightly few classrooms and space than the adjusted current supply, no changes are recommended to the current supply if the larger growth options are likely to be achieved. However there is calculated shortfall of 5,770 square feet for service space.
  - Retain the current adjusted supply of 84 rooms
  - Add 5,770 square feet of service space

- Enrollment Growth of 1500 (20% increase)
  - Retain the current adjusted supply of 84 rooms
  - Add 4 rooms of capacity 50 students with a station size of 20, totaling 4,000 square feet
  - Add 6,170 square feet of service space

- Enrollment Growth of 2500 (35% increase)
  - Retain the current adjusted supply of 84 rooms
  - Add 8 rooms of capacity 50 students with a station size of 20, totaling 8,000 square feet
  - Add 7 rooms of capacity 70 students with a station size of 20, totaling 9,800 square feet
  - Add 7,550 square feet of service space

7.4 ACADEMIC SPACE GROWTH

The Master Plan shows the addition of buildings and the demolition of buildings over three phases. The table below shows that proposed buildings are more than adequate to satisfy the projected growth.

			All Buildings		Existing		0 to 5 Years		5 to 15 Years		15 to 15 Years	
	BUILDING NAME	YEAR	GSF	ASF	GSF	ASF	GSF	ASF	GSF	ASF	GSF	ASF
3	Huber Art Center	1931	19,352	11,787	19,352	11,787	19,352	11,787	19,352	11,787	19,352	11,787
4	Rowland Hall	1937	26,776	15,173	26,776	15,173	26,776	15,173	26,776	15,173	26,776	15,173
5	Shearer Hall	1937	19,520	11,345	19,520	11,345	19,520	11,345	19,520	11,345	19,520	11,345
6	Memorial Auditorium	1951	26,375	19,199	26,375	19,199	26,375	19,199	26,375	19,199	26,375	19,199
7	Wright Hall	1958	33,257	19,945	33,257	19,945	33,257	19,945				
8	Huber Art Center Annex	1961	4,854	3,009	4,854	3,009						
9	Shippen Hall	1963	48,473	28,489	48,473	28,489	48,473	28,489	48,473	28,489	48,473	28,489
10	Ezra Lehman Memorial Library	1967	74,108	61,418	74,108	61,418	74,108	61,418	74,108	61,418	74,108	61,418
11	Dauphin Humanities Center	1970	86,653	47,712			86,653	47,712	86,653	47,712	86,653	47,712
12	Franklin Science Center	1970	119,640	78,912	119,640	78,912	119,640	78,912	119,640	78,912	119,640	78,912
13	Faculty Office Building	1970	86,653	47,712	86,653	47,712						
14	John L. Grove Hall	1997	69,278	36,872	69,278	36,872	69,278	36,872	69,278	36,872	69,278	36,872
15	Dauphin Hall Addition	2008	12,000	8,000			12,000	8,000	12,000	8,000	12,000	8,000
16	Huber Arts Center Addition	2011	20,000	13,333			20,000	13,333	20,000	13,333	20,000	13,333
17	Building between Grove & MCT	2013+	68,800	45,867					68,800	45,867	68,800	45,867
18	Building on Naugle site--1	2013+	87,200	58,133					87,200	58,133	87,200	58,133
19	Library Addition	2013+	78,000	52,000					78,000	52,000	78,000	52,000
20	Building between Dauphin & Franklin	2023+	55,600	37,067							55,600	37,067
21	Building between Kriner & Henderson	2023+	75,600	50,400							75,600	50,400
22	Building on Naugle site--2	2023+	76,000	50,667							76,000	50,667
	TOTAL				**528,286**	**333,861**	**555,432**	**352,185**	**756,175**	**488,240**	**963,375**	**626,374**
	Percentage Increase Over Existing							**5.49%**		**46.24%**		**87.62%**

Naugle Hall

McLean Hall

McLean and Naugle Halls

8. Student Housing Master Plan

Our team has met with the Shippensburg University community and the Shippensburg University Foundation to review constraints/opportunities for on-campus and off-campus student housing, as well as toured existing student housing. We have reviewed the Comprehensive Housing Plan that was authored by Anderson Strickler, LLC. and the engineering study authored by Entech. The Anderson Strickler report recommended the demolition of seven existing housing facilities, the renovation of one housing facility and the construction of new beds on-campus over a period of 5 years. This study recommended that on-campus student housing be increased to approximately 3,200 revenue generating beds.

Existing outdated on-campus housing includes the following:

Building	Bed Count	Year Built	Sq. Ft.	Sq. Ft./Bed
Harley Hall	242	1964	58,979	243
Kieffer Hall	230	1964	51,529	224
Lacklove Hall	228	1964	51,215	224
McCune Hall	124	1960	33,257	268
McLean Hall	426	1967	100,340	235
Mowrey Hall	420	1971	93,793	223
Naugle Hall	426	1967	99,675	233
Seavers Suites	385	1976	114,437	297
Totals	**2,481**	**N/A**	**603,225**	**243**

With the exception of the Seavers Suites, all of the facilities listed above are traditional dormitory halls with two person shared bedrooms with common toilets located at the corridor. The Seavers Suites include two shared bedrooms with a living area. All of these outdated facilities are in need of significant upgrades as well as reconfiguration to meet the demands of today's students. Based upon our team's experience with other significant renovations/additions projects, such upgrade costs will be similar to the cost of replacing these structures with new low-rise student housing facilities. In addition, the ability to create warm and inviting exterior spaces would be limited by the existing layouts, structural systems and exterior materials.

Our proposed housing master plan provides the opportunity to replace all of the outdated existing housing with new low-rise living/learning centers featuring suite style beds. In addition, the proposed student housing master plan will allow for future housing growth, both on-campus as well as off-campus.

8.1 PROJECT GOALS

Our team has implemented a comprehensive student housing survey that tests interest and demand for a variety of living/learning arrangements. In addition to this survey, we have conducted focus groups with students and also reviewed the off-campus housing market and the competitive housing market for your peer institutions. These activities have allowed our team to develop recommendations for an integrated living/learning student housing program, which considers both on-campus and off-campus sites. These recommendations include the following key goals:

1. Provide affordable on-campus and off-campus housing options and choices that will attract, foster, and maintain students throughout the educational continuum.
2. Create sustainable living/learning communities with responsive technology and inviting, interactive indoor and outdoor amenities.
3. Create special interest and themed residential living/learning options.
4. Create an environment that will encourage students to stay connected with Shippensburg University.
5. Provide a financially viable phased plan that will minimize loss of available beds and provide flexibility in the phased plan to account for changes in market conditions.

8.2 LIVING/LEARNING COMMUNITIES

Based upon our meetings with students, faculty and staff and the comprehensive student housing survey, the Shippensburg community has expressed a strong interest in sustainable living/learning facilities with a variety of living options. The new facilities will include proven "green" technology that is cost conscious and user friendly, with the feasibility of achieving LEED (Leadership in Energy and Environmental Design) also being further evaluated. The facilities are envisioned to be four stories tall, with basements that include windows to be created at sites with sloping grades. Such basements would include amenities that would further enhance the living/learning community, such as wellness, multicultural, residential and academic related uses. The facilities will incorporate responsive technology (including cabling and wired/wireless access), security systems with monitoring/card access, air conditioning/sprinklers and sound attenuated construction systems. The exterior of the buildings will feature masonry facades with well proportioned windows and sloping roof elements, in keeping with the much loved traditional architecture of the campus. Construction systems would include a combination of one hour rated panelized wood framing and two hour rated masonry. Geothermal systems will be further evaluated for inclusion with the buildings, which will be well-insulated and include energy efficient mechanical/electrical systems. Individual heating/cooling controls will be provided for each unit. The anticipated life cycle for the facilities will be approximately 50 years, with the possibility of a longer cycle due to adequate replacement/reserve funding being incorporated with the operational budget model.

As is typical for most universities, a number of students desire off-campus living. According to the student survey, approximately 53% of the surveyed students currently live on-campus. If the floor plans and unit types that were described in the survey were available today, approximately 80% of the surveyed students would prefer on-campus living. This differential is significant and appears to indicate an untapped demand for more on-campus living/learning suite and apartment style units.
Per the student survey, the following factors are the most important for students who choose to live off-campus:

- To have more privacy (12%)
- To have a kitchen (11%)
- To have a living room space (11%)
- To live with friends (10%)
- Lower cost (8-9%)
- Better study atmosphere/less noise (6%)
- To have a washer/dryer in the unit (6%)
- More available parking (6%)
- On campus housing policies (5%)
- Physical condition of University Residence Halls (4%)

Concept floor plans and photographs of similar living/learning facilities with suite style options have been tested and well received by Shippensburg students. The floor plans contain a variety of common spaces that will encourage student interaction and foster the development of a residential community. Given the reported shortage of interaction and study spaces that occur throughout the campus, such as at the Library, Student Union and Business School, these spaces will be highly utilized by students. The floor plans can be furthered enhanced to contain other special housing amenities, such as for an Honors College, Educational or Community Service Programs, Multicultural, Wellness/Recreational, Undeclared Majors, etc.

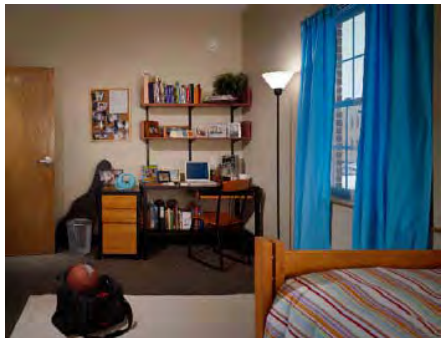
Concept Typical First Floor Plan: The First Floor is entered via a secured vestibule with an adjacent control desk, elevator and stair access to the residential floors. This floor contains lounges, study lounges, recreation, multipurpose, kitchen, mail room and trash/recycling areas. It also contains residential support staff and service areas, as well as a covered porch area. Exterior areas for interaction will be created around the facility, including lawn areas for recreation, reflection and study with wireless access, lighted walkway, benches, picnic areas, walking trails, etc.

Concept Typical Floor Plan: Each wing is accessed via an elevator as well as stairs and can accommodate approximately 50 students with a variety of suite-style living options. Common areas per wing include a lounge area, study lounge, laundry and trash/recycling areas.

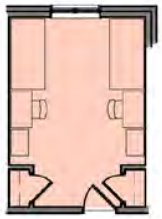
8.3 UNIT OPTIONS AND CHOICES

As noted above, approximately 80% of your students have expressed interest in on-campus living/learning communities with a variety of unit options and choices. Based upon student focus groups and student survey results, the most popular unit options for on-campus living are depicted below. All of these units are fully furnished and sprinklered, include internet and cable access, a counter area for microwave and refrigerator, and separate controls for conditioning/heating controls. Bathroom areas include an outboard sink area.

Resident Director (RD) or Professional Staff (PS) Unit – Approximately 1,105 square feet: Non-revenue generating unit with two single bedrooms, two bathrooms, living room, kitchen with dining area, washer/dryer area, fully furnished with interior and exterior entrances.



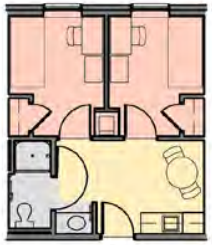
Unit Type A - Approximately 258 square feet: Existing traditional single or two person shared occupancy with centrally located bedrooms. Single Occupancy Cost per Bed: $2,250 - $2,360 per semester. Double Occupancy Cost per Bed: $2,025 to $2,140 per semester. 4.7% of students have expressed interest for this unit type. The student housing master plan has recommended that this type of unit not be included due to its low marketability.



Unit Type B - Approximately 338 square feet: Two Person Shared Semi-Suite with furniture and closets for each student with a bathroom and outboard sink. Double Occupancy Cost per Bed: $2,925 to $3,040 per semester. 8.5% of students have expressed interest for this unit type. The student housing master plan envisions that this unit type will be occupied by freshman and that the unit mix should include approximately 30% to 40% of this unit type.

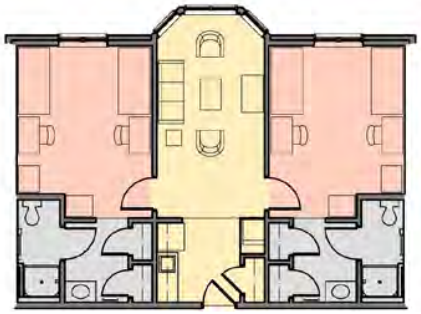
Unit Type B will also be used as a non-revenue generating Resident Advisor (RA) unit with a single occupancy.

Unit Type C - Approximately 418 square feet: Two Person Semi-Suite with single bedrooms, furniture and closets for each student with a bathroom/ outboard sink and a small kitchenette/ dinette area. Single Occupancy Cost per Bed: $3,150 to $3,260 per semester. 16.9% of students have expressed interest for this unit type. The student housing master plan envisions that this unit type will be occupied by all levels of students.



Unit Type D1 - Approximately 691 square feet: Two Person Suite with shared bedroom, furniture and closets for each student with a bathroom/ outboard sink, living room and a small kitchenette. Double Occupancy Cost per Bed: $3,260 to $3,375 per semester. 4.9% of students have expressed interest for this unit type. The student housing master plan envisions that this unit type will be occupied by all levels of students. Due to its low marketability, this unit type may or may not be included with the student housing master plan.

Unit Type D2 - Approximately 982 square feet: Four Person Suite with two shared bedrooms, furniture and closets for each student with two bathrooms/ outboard sinks, living room and a small kitchenette. Double Occupancy Cost per Bed: $3,040 to $3,150 per semester. 10.5% of students have expressed interest for this unit type. The student housing master plan envisions that this unit type will be occupied by all levels of students.



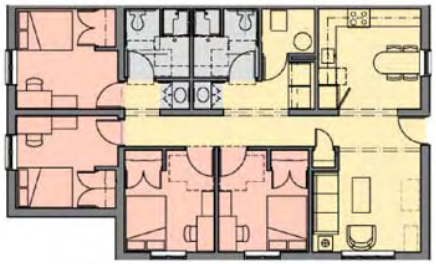
Unit Type E1 - Approximately 719 square feet: Two Person Suite with single bedrooms, furniture and closets for each student with a bathroom/ outboard sink, living room and a small kitchenette. Single Occupancy Cost per Bed: $3,490 to $3,600 per semester. 6% of students have expressed interest for this unit type. The student housing master plan envisions that this unit type will be occupied by upper class students.

Unit Type E2 - Approximately 1,148 square feet: Four Person Suite with single bedrooms, furniture and closets for each student with two bathrooms/ outboard sinks, living room and a small kitchenette. Single Occupancy Cost per Bed: $3,260 to $3,375 per semester. 12.4% of students have expressed interest for this unit type. The student housing master plan envisions that this unit type will be occupied by upper class students.

Unit Type F - Approximately 728 square feet: Two Person Apartment with single bedrooms, furniture and closets for each student with a bathroom/ outboard sink, living room, dining area, kitchen and laundry area. Single Occupancy Cost per Bed: $3,940 to $4,050 per semester. 8.7% of students have expressed interest for this unit type. The student housing master plan envisions that this unit type will be constructed by others adjacent to the campus.

Note: Per the student survey, 19.6% of students indicated that they would prefer to live off campus.

Unit Type G - Approximately 981 square feet: Four Person Apartment with single bedrooms, furniture and closets for each student with two bathrooms/ outboard sinks, living room, dining area, kitchen and laundry area. Single Occupancy Cost per Bed: $3,710 to $3,825 per semester. 7.8% of students have expressed interest for this unit type. The student housing master plan envisions that this unit type will be constructed by others adjacent to the campus.



8.4 DEVELOPMENT OF SUITE STYLE ENHANCED LIVING/ LEARNING COMMUNITIES

Development of enhanced living/learning communities at the new suite style residence halls can occur:

- Within the residential units
- Within the residential wings
- Within the typical residential floors
- Within the residential facilities
- Outside of residential facilities

Potential themed living/learning communities could include the following:

- Honors
- Information Technology
- Undeclared Major
- Diversity
- Health/Wellness
- Outreach/Community Service
- Long Distance
- Other Options to be considered

The facility will include both hard wired and wireless access. Security cameras will be provided to monitor public corridors and interaction areas.

DEVELOPMENT OF ENHANCED LIVING/LEARNING COMMUNITIES WITHIN THE RESIDENTIAL UNITS

Suite style options are provided per input from focus groups, the market survey, and the demand analysis. Card access will be provided at the entry door to each unit and to each bedroom door. Gathering area amenities that promote interaction outside of the bedroom are provided at kitchenette/dinette areas and at kitchenette/living room areas.

DEVELOPMENT OF ENHANCED LIVING/LEARNING COMMUNITIES WITHIN THE RESIDENTIAL WINGS

Residential wings will include the following central common areas that encourage interaction outside of the unit:

- A small open lounge area with seating for 6 and a TV
- An enclosed small study/lounge area with seating for 6 and glass lites at the corridor

The RA unit, secured janitorial, electrical, and teledata closets are to be located near these interaction areas. Card access will be provided at the wing entry doors.

DEVELOPMENT OF ENHANCED LIVING/LEARNING COMMUNITIES WITHIN THE TYPICAL RESIDENTIAL FLOORS

The central core area at the typical residential floor will include the following areas to promote interaction:

- An open lounge area with seating for 8 and a TV
- An enclosed study/lounge area with seating for 8 and glass lites at the corridor
- An enclosed small kitchen area with seating for 8 and glass lites at the corridor
- An enclosed laundry area with washers/dryers/tub sink/counter and glass lites at the corridor

Support functions at the central core will include:

- Two oversized elevators with 4' wide doorway, high cab and stainless steel finishes
- An enclosed trash/recycling area (to be confirmed)
- A janitor closet/storage area
- One or two firestairs per code
- An ADA accessible non-gender toilet

DEVELOPMENT OF ENHANCED LIVING/LEARNING COMMUNITIES WITHIN THE RESIDENTIAL FACILITIES

The central core area at the residential first floor will include the following areas to promote interaction:

- An open lounge area with TV, fireplace, and seating for 12
- A multipurpose room with seating for 20 classroom style with glass lites at the corridor
- A multipurpose room with a pool, ping-pong table, TV and seating for 8 with glass lites at the corridor
- A computer/lounge area with seating for 12 and glass lites at the corridor
- An enclosed study/lounge area with seating for 12 and glass lites at the corridor
- An enclosed kitchen area with TV, seating for 12 and glass lites at the corridor
- Vending Area

Support functions at the first floor central core will include:

- Two oversized elevators with 4' wide doorway, high cab and stainless steel finishes
- A janitor closet/storage area
- One or two firestairs per code
- ADA accessible men and women's toilet rooms
- One large mailroom area in one building to serve each housing complex
- An enclosed security desk area that controls entry vestibule(s) that have card access
- Residential reception, offices and a workroom area
- A break room with kitchenette

Other support functions at the first floor will include:

- Residential Director Apartment with 2 bedrooms
- A Professional Staff Apartment with 2 bedrooms for each housing complex
- Areas for mechanical/electrical/teledata infrastructure
- An enclosed receiving trash/recycling area
- A bicycle storage area

Card access will be provided at identified areas

DEVELOPMENT OF ENHANCED LIVING/LEARNING COMMUNITIES OUTSIDE OF THE RESIDENTIAL FACILITIES

Safe and well lighted landscaped walkways, drives, courtyards, and recreational areas will be provided including:

- Porch and patio areas with moveable and fixed seating, with fixed seating areas at major walkways
- Open lawn areas for recreational uses and landscaped areas for study
- Basketball courts and sand volleyball areas
- Limited areas for staff and visitor parking, with ADA accessible parking as needed
- Wireless access to be provided at identified areas

Site design layout to accommodate:

- Identified walkways to be used for move-in requirements and emergency vehicle access
- Receiving areas to be screened

FINANCIAL OVERVIEW

Our team has prepared a financial model for the implementation of the on-campus student housing master plan. This financial model utilizes inputs provided by the University regarding financial transactions related to the housing project, such as anticipated operating costs and funding of debt for any existing housing facilities that will no longer be on-line. Hard and soft costs including project fees, construction, furniture, financing costs and suggested rental rates have been developed by our team and are tested via this model. In order to secure project bond funding, the financial model or proforma must provide a minimum 1.2 ratio of revenues to expenses.

COMPARISON OF ALTERNATE MODELS FOR PUBLIC/ PRIVATE PROCUREMENT

The recommended student housing master plan for Shippensburg University allows development opportunities for both public/private partnerships and private partnerships. Based upon our team's experience with a variety of similar student housing projects within the PA State System of Higher Education (PASSHE), the public/private partnership model for on-campus student housing projects is less costly and more efficient than the public procurement process and also delivers a better quality product. The public procurement model process is hampered by PASSHE institutional procedures, policies and timeframes. The public/private partnership model, wherein a University Affiliated 501-C-3 engages a private developer to design, construct and guarantee project costs, is not hampered by such requirements. As has occurred at other PASSHE University and University Affiliated 501-C-3 Partnerships for recent successful student housing projects, formal agreements would be developed by these parties to address financial and other related legal issues regarding the implementation of the student housing master plan.

Development of on-campus student housing will require Davis-Bacon wage rates. To date, The PA Department of General Services has approved Davis-Bacon residential rates for wood framed student housing up to 4 stories. Such construction systems and related residential rates have been assumed for the Shippensburg University student housing plan.

The recommended student housing master plan for Shippensburg University also assumes that the Shippensburg University Foundation will continue to privately develop market driven apartment style housing near the campus on property that it controls. Such housing can be developed at competitive rates as construction costs, soft costs and operational costs may be lower than on-campus costs. Financing costs would likely be similar to or slightly higher than on-campus costs.

The existing outdated beds on campus that are recommended to be replaced include the following:

Existing Outdated Facilities	Beds
Harley Hall	242
McCune Hall	124
Kieffer Hall	230
Lackhove Hall	228
Mowery Hall	420
Seavers Hall	385
McLean Hall	426
Naugle Hall	426
Total Outdated Beds	**2,481**

Proposed New Beds 2,671

The recommended student housing implementation option that has been included with this report assumes that the Phase 2 new housing will be located on the Seavers and Mowery sites.
Per discussion with the client, other location options for the Phase 2 new housing are also possible, such as the Seavers site and the Lackhove/Kieffer/Harley or McCune sites.
The recommended option will be less expensive and less disruptive to campus as compared to the other potential options.

Student Housing Master Plan Implementation: Phase 1

Description	Area	Cost/s.f.	Est. Cost	Beds	Timeframe	Comments
Existing Outdated Beds	n/a	n/a	n/a	2,481	n/a	
Phase 1: 2010 Occupancy (with inflation factor included)						
Relocate uses at Bookstore Annex	2,105			n/a	5/15/2009	Assume University project
Abate/Demo Bookstore Annex	2,105	$40	$84,200	n/a	5/15/2009	
Abate/Demo Seavers	114,437	$10	$1,144,370	0	5/15/2010	
Relocate Staff Apt.					5/15/2010	Included with Res. Hall 1A
New Res. Hall 1A w/Mailroom/Storage/Staff Apt.	157,570	$145	$22,847,650	488	8/1/2010	Provides 323 s.f./bed
New Health Ctr. 1A Ground Floor w/o FFE	10,680	$160	$1,708,800	n/a	8/1/2010	Assume University will rent
New Counseling Center 1A Ground Fl. w/o FFE	3,000	$160	$480,000	n/a	8/1/2010	Assume University will rent
Unassigned Area 1A Ground Floor w/o FFE (Assume 2,000 s.f. of 1A Unassigned Area to be Student Life Multipurpose Area)	14,760	$160	$2,361,600	n/a	8/1/2010	Assume University will rent
Relocate uses at Etter Health Ctr.	8,900			n/a	7/1/2010	Assume University project
Abate/Demo Etter	8,900	$20	$178,000	n/a	8/1/2010	
Seavers Off-line	114,437			-385	5/15/2010	
Mowery Off-line	93,793			-420	5/15/2010	
Relocate uses at Faculty Office Bldg.	7,000			n/a	5/15/2009	Assume University project
Abate/Demo Faculty Office Bldg.	7,000	$20	$140,000	n/a	6/1/2009	
New Res. Hall 1B w/Mailroom/Storage/Staff Apt.	127,748	$145	$18,523,460	377	8/1/2010	Provides 339 s.f./bed; Honors FFE by Univ.
Honors College Buildout	4,560	$160	$729,600	n/a	8/1/2010	Assume University will rent
Subtotals (Area = new construction only)	**318,318**	**$151.41**	**$48,197,680**	**2,541**		**60 Net Bed Change from Exist'g**
Allowance for new residential furniture			$2,076,000	865		$2,400 /bed assumption
Subtotals (Area = new construction only)	**318,318**	**$157.94**	**$50,273,680**	**2,541**		
Totals Include Soft/Financing Costs	**318,318**	**$220.36**	**$70,146,110**	**865**	**8/1/2010**	**Cost per bed: $81,094**

Student Housing Master Plan Implementation: Phase 2

Note: This phase will commence only after the market conditions have been retested to confirm project viability

Description	Area	Cost/s.f.	Est. Cost	Beds	Timeframe	Comments
Phase 2: 2011 Occupancy						
Abate/Demo Mowery	93,793	$10	$937,930	0	5/15/2010	
Relocate Staff Apt.					5/15/2010	Included with Res. Hall 1B
Relocate Grounds Office					5/15/2010	Assume University project
New Residence Hall 2A w/ Res. Life Offices	143,073	$145	$20,745,585	438	8/1/2011	Provides 327 s.f./bed
Unassigned Area 2A Gr. Floor	6,585	$160	$1,053,600		8/1/2011	Assume University will rent
New Residence Hall 2B	138,823	$145	$20,129,335	438	8/1/2011	Provides 317 s.f./bed
Unassigned Area 2B Gr. Floor	10,335	$160	$1,653,600		8/1/2011	Assume University will rent
McCune Off-line	33,257			-124	5/15/2011	
Relocate Honors Amenities						Included with Res. Hall 1B
Relocate HRA Govt.					5/15/2011	Assume University project
Harley Off-line	58,979			-242	5/15/2011	
Relocate Fashion Archives					5/15/2011	Assume University project
Kieffer Off-line	51,529			-230	5/15/2011	
Relocate Police Workshop & Storage Area					5/15/2011	Assume University project
Relocate Physical Plant Tile Storage Area					5/15/2011	Assume University project
Lackhove Off-line	51,215			-228	5/15/2011	
Subtotals (Area = new construction only)	**298,816**	**$148.99**	**$44,520,050**	**3,458**		**917 Net Bed Change from Ph. 1**
Allowance for new residential furniture			$2,102,400	876		$2,400 /bed assumption
Adjustment for Inflation	**298,816**	**$156.44**	**$48,953,573**	**3,458**		**1.05 Inflation Factor**
Totals Include Soft/Financing Costs	**298,816**	**$230.65**	**$68,922,541**	**876**	**8/1/2011**	**Cost per bed: $78,679**

Student Housing Master Plan Implementation: Phase 3

Note: This phase will commence only after the market conditions have been retested to confirm project viability

Description	Area	Cost/s.f.	Est. Cost	Beds	Timeframe	Comments
Phase 3: 2012 Occupancy						
Demo Water Tower	n/a	n/a	$200,000	n/a	5/15/2012	To be confirmed
Abate/Demo McCune	33,257	$10	$332,570	0	5/15/2011	
Abate/Demo Harley	58,979	$10	$589,790	0	5/15/2011	
Abate/Demo Kieffer	51,529	$10	$515,290	0	5/15/2011	
Abate/Demo Lockhove	51,215	$10	$512,150	0	5/15/2011	
New Residence Hall 3A	143,312	$145	$20,780,240	447	8/1/2012	Provides 321 s.f./bed
New Residence Hall 3B	154,388	$145	$22,386,260	483	8/1/2012	Provides 320 s.f./bed
Abate/Demo McLean	93,793	$10	$937,930	-426	5/15/2012	See line item below for alt. funding
Relocate Student Life/Resnet/Linens					5/15/2012	Assume University project
Naugle Off-line	99,675	$0	$0	-426	5/15/2012	
Reloc. Theatre/Band/Glass Shop/Stor.					5/15/2012	Assume University project
Subtotals (Area = new construction only)	**297,700**	**$154.70**	**$46,054,230**	**4,412**		**954 Net Bed Change from Ph. 2**
Assume McClean costs funded w/ surplus cash or unused conting.			-$937,930			
Subtotals (Area = new construction only)			**$45,116,300**			
Allowance for new residential furniture			$2,232,000	930		$2,400 /bed assumption
Adjustment for Inflation	**297,700**	**$170.17**	**$52,083,130**	**4,412**		**1.1 Inflation Factor**
Totals Include Soft/Financing Costs	**297,700**	**$240.86**	**$73,489,600**	**930**	**8/1/2012**	**Cost per bed: $79,021**

Student Housing Master Plan Option 1 Implementation: Summary of All Phases

Description	Area	Cost/s.f.	Est. Cost	Beds	Timeframe	Comments
All Phases: 2012 Occupancy						
Totals (Area = new construction only)	914,834	$232.35	$212,558,251	2,671		Includes all ground floor uses
						Provides 326 s.f./bed for residential spaces only
						$79,580 per bed
						190 Net Bed Change from Exist'g

Notes:

1. The following programmatic issues are to be further coordinated:
   a. The above program assumes that the water tower will be removed during Phase 3, which is to be confirmed.
   b. Scope of ground floor program uses and financing to be coordinated with the University.
   c. Scope of work of projects that are noted above as "Assume University project" are to be coordinated with the University.
2. It is assumed that the SUF will continue to independently develop apartments by the campus based upon market conditions.
3. The above program allows Wright to be maintained on an interim basis.
4. If the Lyons Property is acquired prior to the start of the Phase 3 design, this phase can be adjusted with additional new beds as needed.
5. If the Naugle site is not required for academic uses it can be used for additional new beds.
6. Above costs assume limited site/utility work; infrastructure projects are funded by the University.
7. Furniture costs have not been included for ground floor non-residential uses and for Honors College programming areas.
8. Card Access system costs are included; academic equipment costs are not included.
9. Above costs assume Davis Bacon prevaling residential wage rates will be utilized
10. If housing projects are to utilize a geothermal system, funding for additional costs would be coordinated with the 501 C-3 and the University.

Student Housing Master Plan Unit Mix by Phase

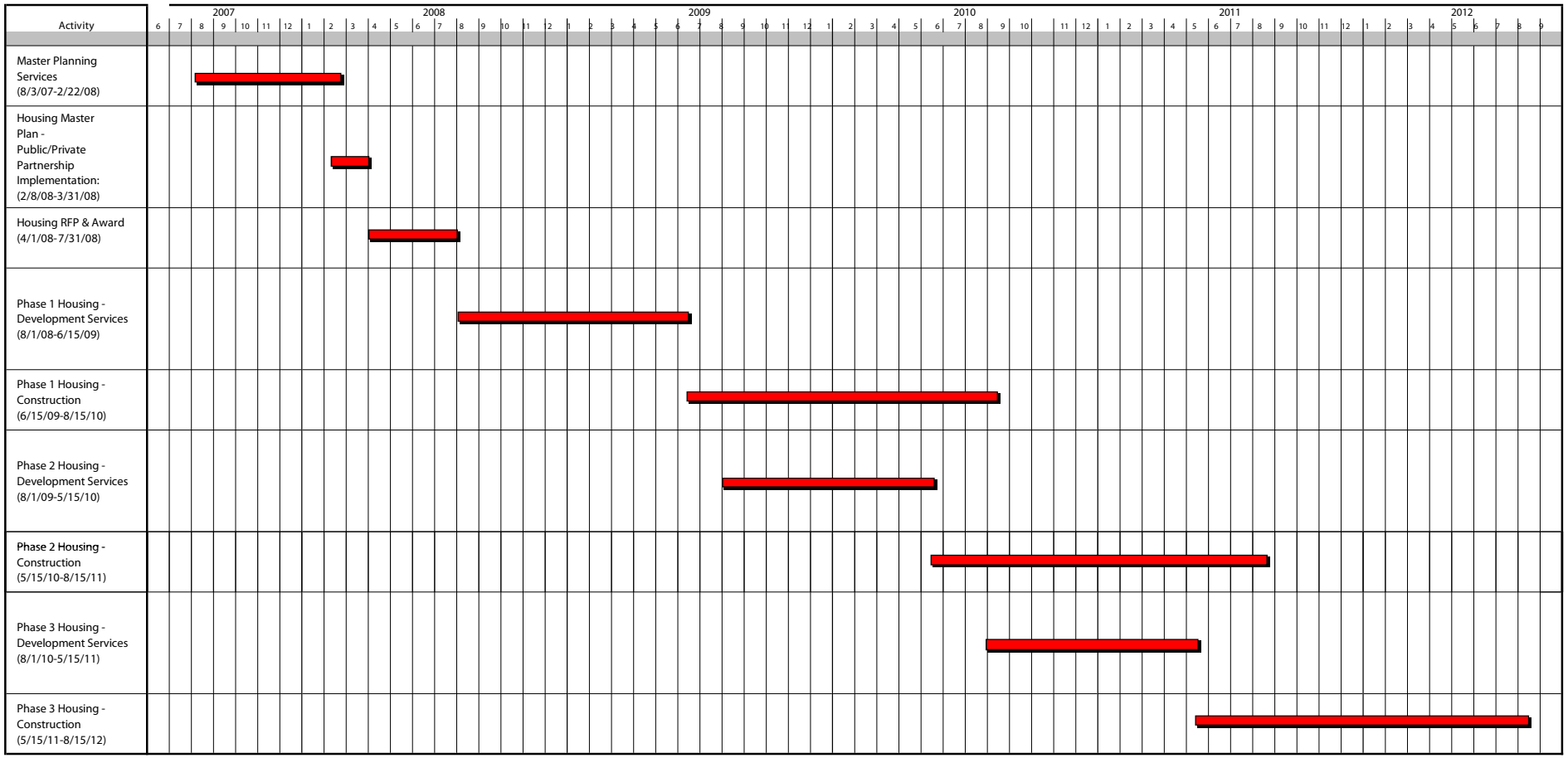
Phase 1	Units or Beds	Prof. Staff	RD	RA	Unit B Shared Semi-Suite	Unit C Private Semi-Suite	Unit D1 Two Shared Suite	Unit D2 Four Shared Suite	Unit E1 Two Private Suite	Unit E2 Four Private Suite	Subtotals
	1A Units	1	1	12	66	72	0	32	18	8	210
	1A Beds	2	2	12	132	144	0	128	36	32	488
	1B Units	1	1	7	69	46	4	14	20	8	170
	1B Beds	2	2	7	138	92	8	56	40	32	377
Phase 1 Total Units		2	2	19	135	118	4	46	38	16	380
Phase 1 Total Beds		4	4	19	270	236	8	184	76	64	865
Percentage/Beds		0.5%	0.5%	2.2%	31.2%	27.3%	0.9%	21.3%	8.8%	7.4%	100%

Phase 2	Units or Beds	Prof. Staff	RD	RA	Unit B Shared Semi-Suite	Unit C Private Semi-Suite	Unit D1 Two Shared Suite	Unit D2 Four Shared Suite	Unit E1 Two Private Suite	Unit E2 Four Private Suite	Subtotals
	2A Units	0	1	8	99	48	0	16	19	8	199
	2A Beds	0	2	8	198	96	0	64	38	32	438
	2B Units	0	1	8	99	48	0	16	19	8	199
	2B Beds	0	2	8	198	96	0	64	38	32	438
Phase 2 Total Units		0	2	16	198	96	0	32	38	16	398
Phase 2 Total Beds		0	4	16	396	192	0	128	76	64	876
Percentage/Beds		0.0%	0.5%	1.8%	45.2%	21.9%	0.0%	14.6%	8.7%	7.3%	100%

Phase 3	Units or Beds	Prof. Staff	RD	RA	Unit B Shared Semi-Suite	Unit C Private Semi-Suite	Unit D1 Two Shared Suite	Unit D2 Four Shared Suite	Unit E1 Two Private Suite	Unit E2 Four Private Suite	Subtotals
	3A Units	0	1	11	94	62	0	14	17	8	207
	3A Beds	0	2	11	188	124	0	56	34	32	447
	3B Units	0	1	11	87	72	0	14	18	15	218
	3B Beds	0	2	11	174	144	0	56	36	60	483
Phase 3 Total Units		0	2	22	181	134	0	28	35	23	425
Phase 3 Total Beds		0	4	22	362	268	0	112	70	92	930
Percentage/Beds		0.0%	0.4%	2.4%	38.9%	28.8%	0.0%	12.0%	7.5%	9.9%	100%

All Phases	PS	RD	RA	Unit B Shared Semi-Suite	Unit C Private Semi-Suite	Unit D1 Two Shared Suite	Unit D2 Four Shared Suite	Unit E1 Two Private Suite	Unit E2 Four Private Suite	Subtotals
All Phases Total Units	2	6	57	514	348	4	106	111	55	1203
All Phases Total Beds	4	12	57	1028	696	8	424	222	220	2671
Percentage/Beds	0.1%	0.4%	2.1%	38.5%	26.1%	0.3%	15.9%	8.3%	8.2%	100%

Student Housing Master Plan Implementation Schedule




NEWBURG ROAD
REISINGER HOUSE
HEIGES FIELD HOUSE
LANCASTER DRIVE
LANCASTER DRIVE
YORK DRIVE
ACCESS DRIVE
3B
3A
GROVE
PERFORMING ARTS
BUCKS DRIVE
ROBB SOFTBALL FIELD & COMPLEX
1B
MCTC
DAUPHIN
LEHMAN LIBRARY
CEDDIA UNION
2B
PAVILION
YORK DRIVE
HENDERSON
KRINER
2A
HORTON
OLD MAIN
HUBER
REISNER
HORTON DRIVE
STEWART
SHIPPEN
FRANKLIN
CUMBERLAND DRIVE
LOOP ROAD
SHEARER
MEMORIAL AUDITORIUM
LUHRS
1A
ROWLAND
DAUPHIN DRIVE
ADAMS DRIVE
ADAMS DRIVE
ADAMS DRIVE
RAILS TO TRAILS
N. PRINCE ST.

Proposed East Quad View

Proposed West Quad View

8.5 HOUSING DEVELOPMENT PHASING AND BED COUNTS

A three phase plan is recommended for replacing all existing 2,481 outdated beds on-campus with approximately 2,671 new beds as follows:

Phase 1 will achieve occupancy in 2010 of approximately 865 on-campus new beds.
Phase 2 will achieve occupancy in 2011 of approximately 876 on-campus new beds.
Phase 3 will achieve occupancy in 2012 of approximately 930 on-campus new beds.

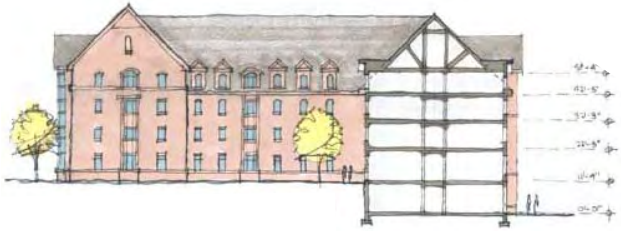
If the Lyons property would be secured by the University prior to the start of the Phase 3 design, additional beds could be accommodated on this site. Also, if additional beds are needed following the completion of Phase 3, the Naugle site could accommodate a student housing facility if it is not used for academic uses.

A concept schedule for Phase 1 implementation would include the following timeframes:

Housing Master Plan completed	8/2007 to 2/2008
University partners with 501-C-3	2/2008 to 3/2008
501-C-3 selects developer	4/2008 to 7/2008
Design/Approvals/Financing of Phase 1	7/2008 to 4/2009
Construction of Phase 1	5/2009 to 7/2010
Move-in/Occupancy of Phase 1	7/2010 to 8/2010

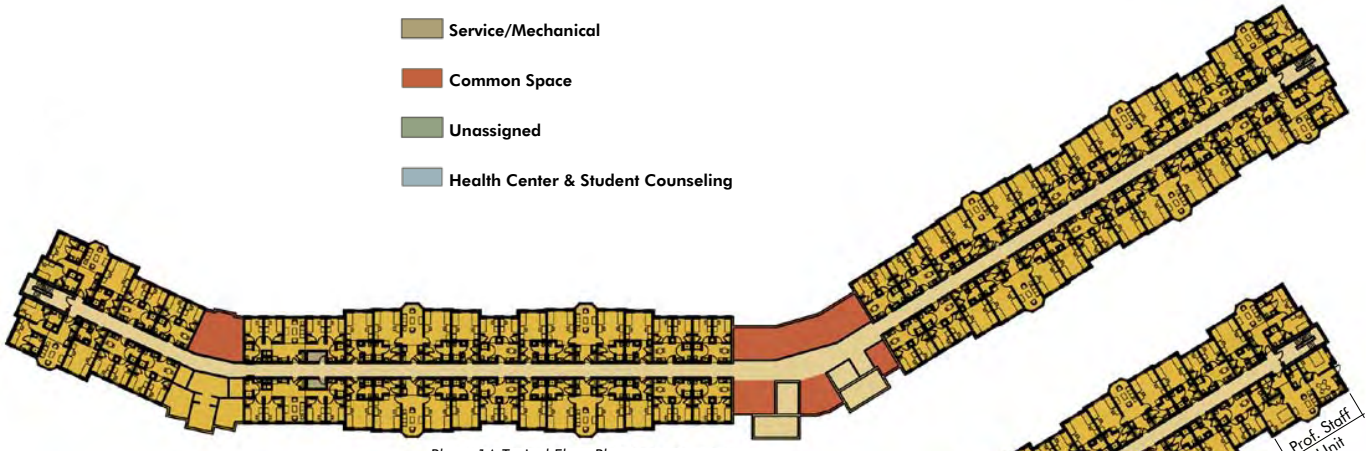
Phase 1B Section

Phase 1A Section

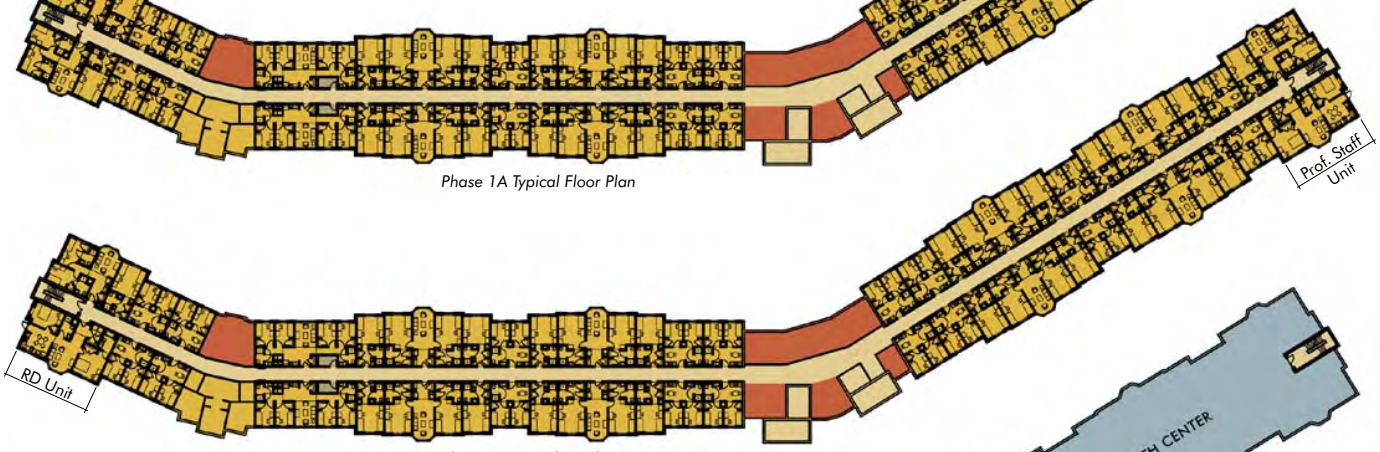


Phase 1A Floor Plans

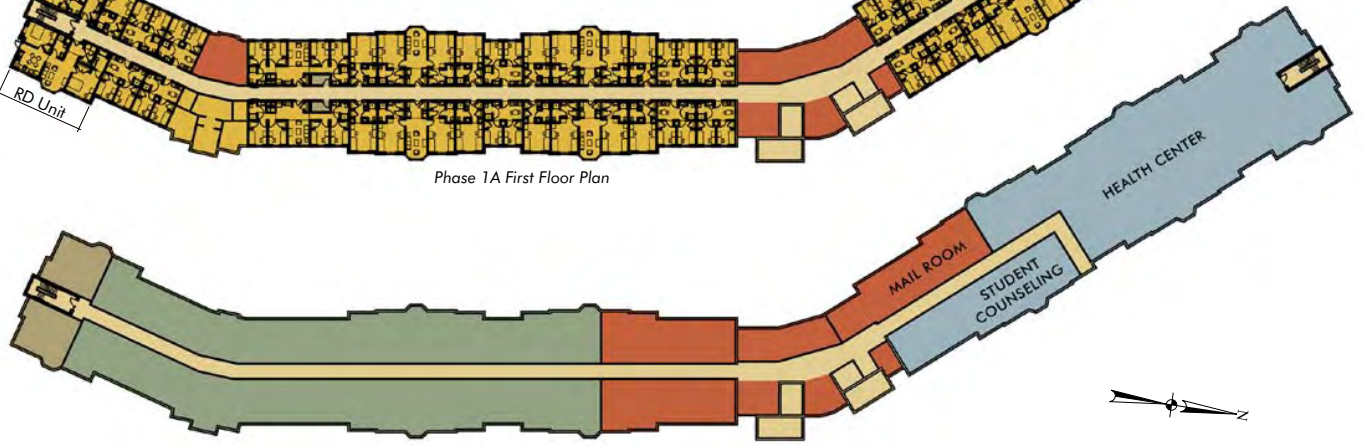
- **Residential Units**
- **Entrance/Lobby/Circulation**
- **Service/Mechanical**
- **Common Space**
- **Unassigned**
- **Health Center & Student Counseling**



Phase 1A Typical Floor Plan



Phase 1A First Floor Plan

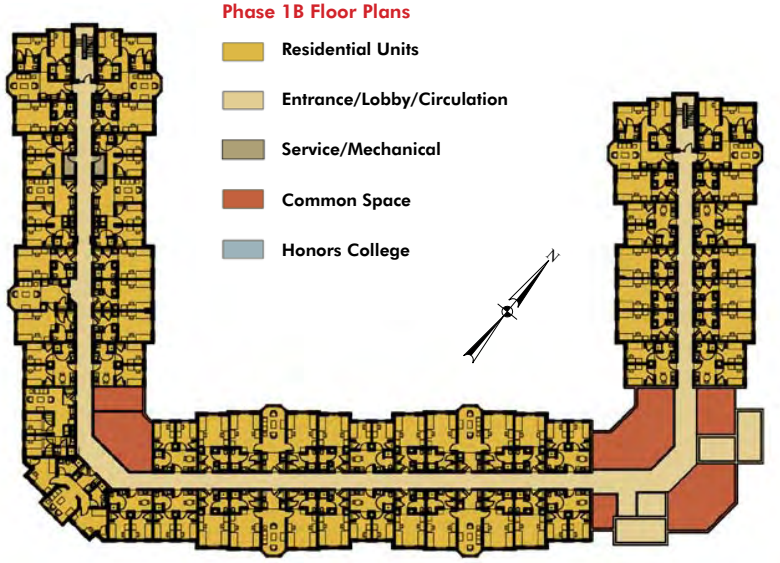


Phase 1A Basement Plan

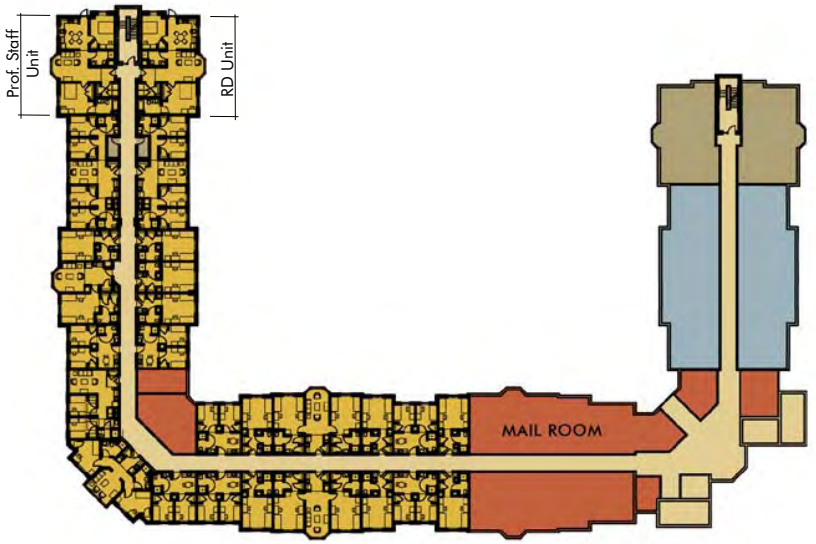
Phase 1A Site Plan

Phase 1B Site Plan

Phase 1B Floor Plans

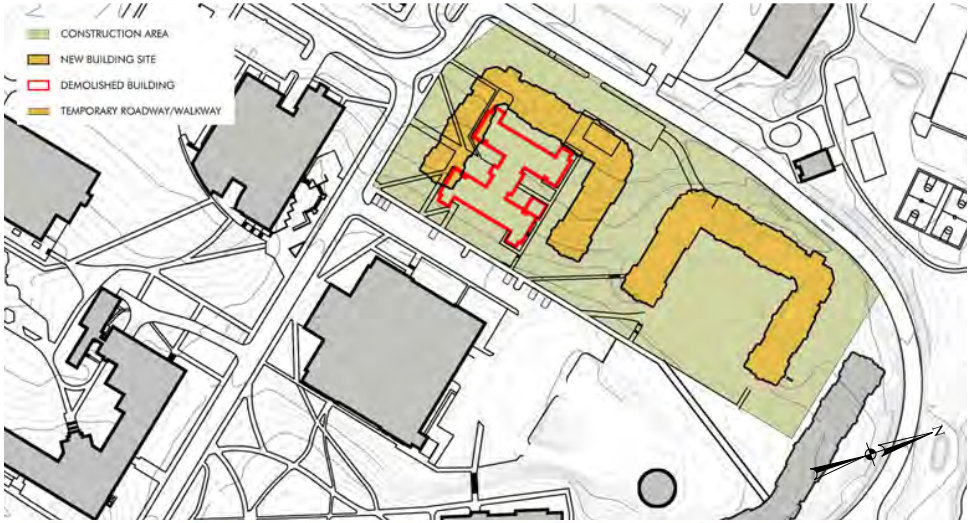


Phase 1B Typical Floor Plan



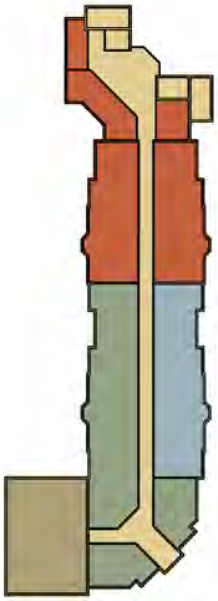
Phase 1B First Floor Plan

Phase 2 Site Plan

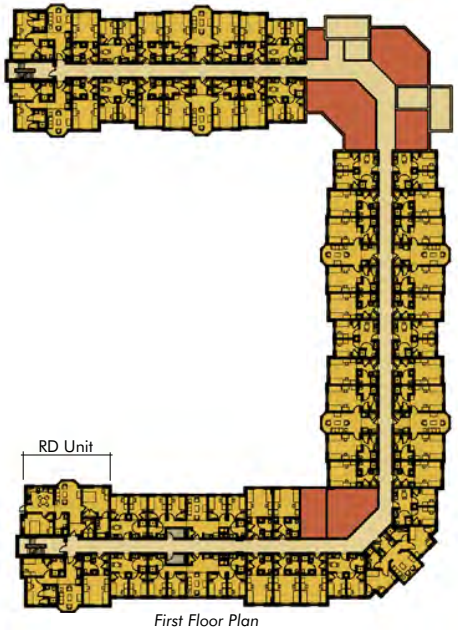


Phase 2 Plans

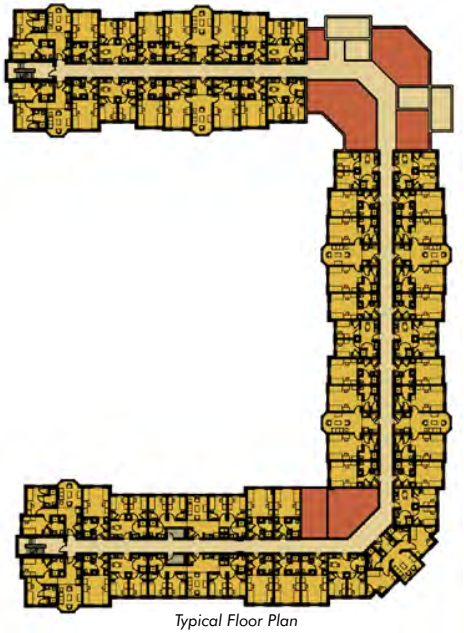
- Residential Units
- Entrance/Lobby/Circulation
- Service/Mechanical
- Common Space
- Unassigned
- Residence Life



Basement Floor Plan



First Floor Plan

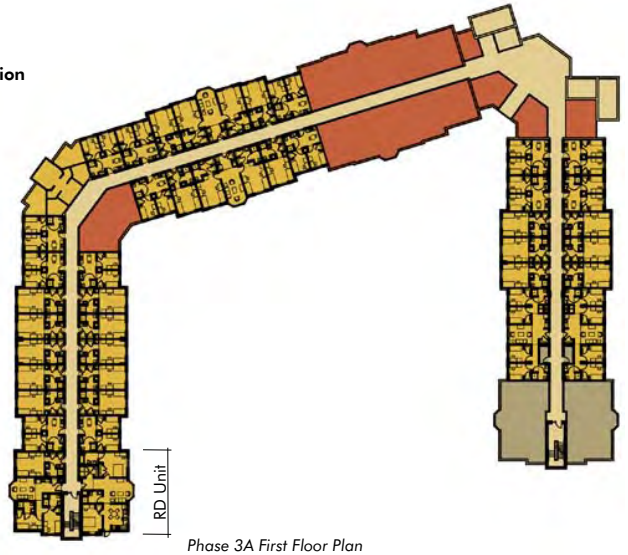


Typical Floor Plan

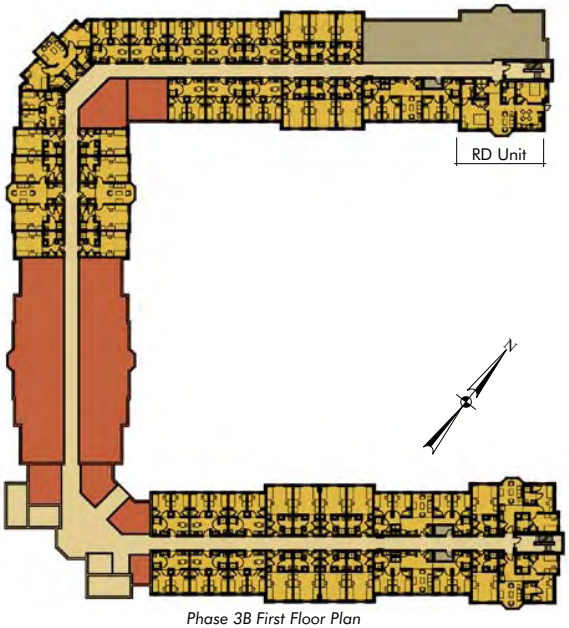
Phase 3 Site Plan

Phase 3 Floor Plans

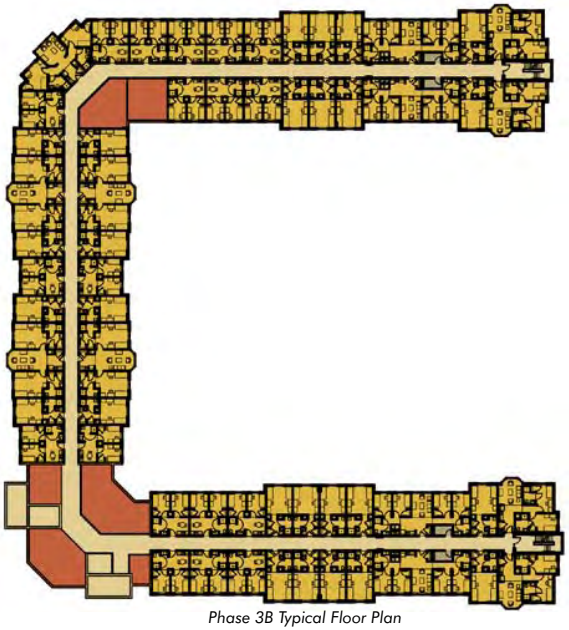
- Residential Units
- Entrance/Lobby/Circulation
- Service/Mechanical
- Common Space



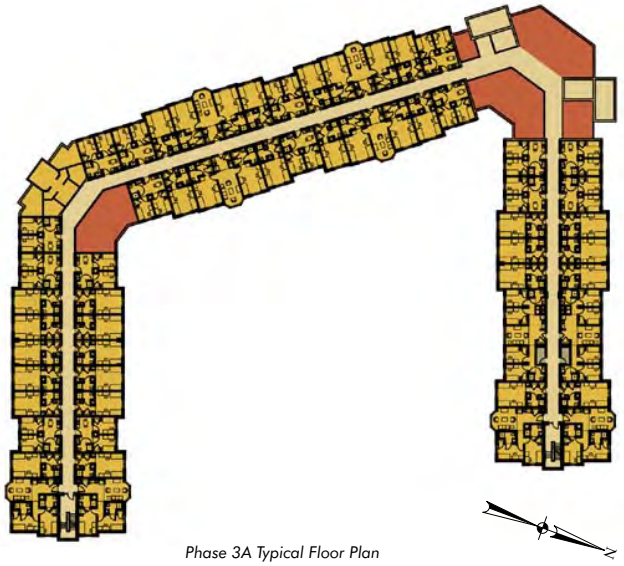
Phase 3A First Floor Plan



Phase 3B First Floor Plan



Phase 3B Typical Floor Plan



Phase 3A Typical Floor Plan

9. Infrastructure Recommendations

For complete consultant reports on utilities, refer to the Appendix for:

- Central Utility Plant Options, Entech Engineering
- Fire Flow Analysis, Pennoni Associates, Inc.
- Fire Flow Analysis by Building, Pennoni Associates, Inc.

9.1 HEATING AND COOLING PLANT AND DISTRIBUTION

After documenting and analyzing existing conditions, Entech studied options for the Heating Plant, heat distribution, and cooling. Entech investigated the pros and cons of ground source heat pumps and independent domestic hot water for residence halls. Entech evaluated alternative energy sources against sustainability criteria and for life cycle costs. Final recommendations are summarized below. For complete analysis and comparisons of options see Central Utility Plant Options in the Appendix.

Based on the current information reviewed above, the Master Plan recommends the following strategies for heating and cooling the campus:

1. Construct a new gas/oil fired heating plant with hot water boilers.
2. Replace the aging steam distribution piping with hot water heat distribution.
3. Install a central chilled water plant adjacent to the new heating plant.
4. Install central chilled water piping distribution piping system.

These strategies are recommended for the following reasons:

- The new heating plant can be highly controlled to free up operators to maintain other equipment on campus.
- The old plant can be removed or re-used for other functions.
- The Campus utility operations can be removed from the highly visible "front door" to the Campus and remove the truck traffic from the front of campus.
- The new utility plant can be designed to optimize the operations of the heating and chilled water plant rather than having compromises that will occur with trying to renovate the existing plant.
- With a new plant, it may be possible to switch to bio-fuels in the future. It is unlikely that a coal plant can be converted to other fuels.
- With new gas-fired boilers with state-of-the-art air pollution control, there will be much less, if any, concern with increased air emission regulations.
- With hot water distribution versus steam distribution, construction costs are less with the hot water distribution, the system will be more energy efficient, there will be less overheated mechanical spaces, and the piping should last longer.
- With hot water distribution, the temperature and the pump speed can be reduced in the summer to efficiently supply heat to the summer heating loads. Summer shutdown of the boiler plant is not necessary and the summer boilers can be eliminated.
- With central chilled water, cooling will be much more efficient than individual cooling equipment at each building. Very efficient chillers, variable flow towers, and pumping should be used.
- It will be much easier to replace existing chillers and add chilled water cooling to buildings when the central chilled water system is in place.
- The noise and disturbance of cooling towers will be moved off campus to the central chilled water plant.
- With the combined central heating and cooling, it will be much easier to add cogeneration in the future, if it is found to be cost effective.
- As time of day electric charges evolve, thermal storage is an opportunity that can be easily implemented at the central plant.

Rarely is there a good opportunity to install central utilities in a coordinated and efficient manner, but the University has that opportunity today. First, both the heating plant and the steam distribution pipe must be replaced at the same time. Therefore, the University can make both the plant and the piping hot water, which is more efficient and less costly to install and maintain. Second, the chilled water plant and pipe can be coordinated with the construction of the heating system. Third, there will be a large number of buildings coming online very soon that can take advantage of the central systems, decreasing the building costs and decreasing the mechanical space required within the buildings.

Steam Plant

9.2 BUILDING HEATING AND COOLING

The new buildings should be designed with energy efficient HVAC systems, and should target efficiency levels to meet LEED certification criteria. With hot water and chilled water supplied from a highly efficient central utility plant, it will be easier to attain the efficiency levels required. The HVAC systems in the residence halls should use chilled water and hot water with temperature reset. The systems should have individual space control. There should be an ability to curtail electric load to reduce electric demand on peak days. Heat recovery should be considered for exhaust, and each building should have individual electric, heat, and cooling meters so energy use can be monitored and controlled.

9.3 NATURAL GAS

The piping system for natural gas is relatively new and in good condition. The only improvements required will be to install a new supply line to the new heating plant and to extend lines to new buildings. Because it has a lower energy cost, gas appliances such as dryers, cooking equipment, etc. should be used, rather than electric appliances.

9.4 ELECTRICAL DISTRIBUTION RECOMMENDATIONS

Addition of a Standby line for Redundant Service

The University's customer focus has increased the need to provide more reliable electrical service throughout the Campus. This can be accomplished by bringing a second separate power feed from Penelec to the Campus. Three options for bringing in a new feed are discussed in Central Utility Plant Options in the Appendix.

Upgrade of Main Campus Transformers

Since the proposed new housing and other Campus buildings are to be cooled as part of the Master Plan, the overall Campus load will increase. The projected increase is around 3,000kVA. Currently, the peak load is 5,200kVA at about 95% power factor. The total projected load will be around 8,200kVA.

The two existing Campus transformers are rated at 5,600kVA each, with cooling. Once the total Campus load exceeds 5,600kVA, one transformer will no longer be able to carry the Campus without shedding load. Therefore, upgrade of both Campus main transformers to 7,500/9,975kVA is recommended. This is the next standard size transformer and, with cooling, will allow operation of the Campus on one transformer up to almost 10,000kVA. This should support the needs of the Campus beyond this Master Plan. The construction cost opinion to replace both main transformers is $1,500,000. It is recommended that both transformers are upgraded simultaneously because the initial added HVAC load will not come from the heat/chiller plant but distributed throughout the new housing buildings. This load will need to be distributed over multiple feeders along with other building loads. If the heat/chiller plant were to be completed prior to construction of the new dorms, the plant could be serviced by two feeders only and the replacement of the main transformers could be phased.

Relocate and Upgrade Campus Distribution Feeder Ductbanks

For both housing options, ductbanks will need to be relocated and extended to allow construction of the proposed housing and other Campus buildings. As these ductbanks are being relocated, the existing feeder cables throughout the Campus should be replaced. New manholes should be provided with multi-point junctions and load break elbows to facilitate replacement of cabling. In addition to upgrade of the cabling, sectionalizing equipment should be installed to allow switching of critical loads upon loss of a feeder and to facilitate future system maintenance. As the new buildings are added to the system, care should be taken to balance the load among feeders and ensure proper selective coordination of overcurrent protective devices. Construction cost and phasing for upgrade of all Campus feeder cabling and relocation of ductbanks and feeders to facilitate new buildings are discussed in Central Utility Plant Options in the Appendix.

9.5 EMERGENCY POWER RECOMMENDATIONS

Emergency generation should be provided for key buildings and loads. The proposed new heating plant should be 100% backed by emergency power so heat can be provided to the Campus in the event of an extended power outage. Other key buildings and loads include:

1. Dormitories: Egress lighting, fire alarm, security, and heating loads.
2. Central Mustering Point: Lighting, fire alarm, security, heating loads, and food storage and preparation loads.
3. The Reed Annex Building (telecommunications hub).
4. The data center in the MCT Center (data hub).
5. The proposed operations and security building.

The emergency power for new student housing buildings and the proposed operation and security building should be included with the construction cost for each building. The central mustering point is a building or buildings where students can be brought in the event of an emergency throughout Campus that will have light, heat, communications, and possibly cold food. The central mustering point has not been determined at this time, but would most likely be the dining halls or a combination of the gymnasium building and dining hall. The total cost opinion for emergency power in today's dollars is approximately $2.35 million.

9.6 SITE LIGHTING RECOMMENDATIONS

As new buildings are added and the Campus site is modified, site lighting should be provided along pathways and in parking areas in accordance with University and IESNA standards. The opinion of probable cost to provide new site lighting throughout the Campus is $950,000.

9.7 TELECOMMUNICATIONS DISTRIBUTION RECOMMENDATIONS

Telecommunications pathways will need to be extended and relocated to support the construction of the proposed housing and campus buildings. As the pathways are being relocated, additional pathways should be included within the ductbanks to allow routing of future cabling around Campus. Currently, the following services come into the Campus from State Route 696 through the pathway within the Reed operations Center to the Reed Annex Building:

1. Embarq - 600 pair telephone local telephone trunk lines and 24 strand fiber optic data cabling.
2. Level 3 – 24 strand fiber optic cabling for data network and long distance telephone trunk lines.
3. Comcast – 12 strand fiber optic and ¾" hard line cable TV service.
4. Verizon Wireless – 25 pair T1 cabling.

Within the Reed Annex building, there is a University owned Nortel Private Branch Exchange (PBX), which feeds the entire Campus telephone system. From the PBX, large count copper telephone cables are routed to the Reed Operations Center through the same pathway as incoming services. These large count cables are spliced in the Reed Operation Center and from there are distributed to Campus as follows:

1. 1800 pair routed to the north end of Campus along Delaware and Lancaster Drive past McCune Hall.
2. 1500 pair routed to the south end of Campus toward Old Main.
3. 1800 pair routed to the East side of Campus toward the Dauphin Humanities Center.

In Addition, part of the fiber optic network is distributed out of the Reed Annex and serves multiple buildings through the Reed Operations Center. A Hybrid 24/24 fiber optic cable passes through the Reed Operations Center and terminates in McCune Hall. From McCune, cabling is routed to Harley Hall, Reisner House, and the Robb Field Complex. To allow demolition of the Reed Operations Center, pathways will need to be rerouted and new cabling will need to be extended from the Reed Annex to redistribute service to Campus.

For service to new Housing Buildings 1A, 2A, and 2B, the existing pathways and telephone cabling can be used and extended. These costs should be included with the building costs. A new fiber cable will need to be routed from MCT to Housing Buildings 2A and 2B thru existing pathways.

New cabling and pathways for Housing Buildings 1B, 3A, and 3B should be extended from MCT and the Reed Annex to central point (manhole in quad area or a telecom closet in Building 1B). From that central point it can be distributed to all three new housing buildings.

Some of the existing buildings on Campus are fed from adjacent buildings. These situations are as follows:

1. Mowrey Hall serves the Seavers Apartments and the Student Recreation Pavilion.
2. Naugle Hall serves Mclean Hall and the Spiritual Center.

Operations of existing buildings supported from buildings to be demolished must be considered as the new housing construction progresses. New cabling will need to be extended as required. If a central chilled water/heat plant is constructed, new cabling and duct bank will need to be extended to it.

The fiber optic pathway and cabling between MCT and Grove hall will need to be relocated to allow construction of the future academic building proposed for that location. Installation of additional pathways and cabling should be considered beyond the new housing improvements to create system redundancy and flexibility.

The opinion of probable construction cost for Campus telecommunications upgrades is approximately $1,800,000.

9.8 FIRE ALARM AND SECURITY SYSTEM RECOMMENDATIONS

Fire alarm and security panels should be provided within each new building. Fire alarm systems within each building shall be designed in accordance with applicable codes. The security system for each building should include card access with smart card technology and cameras as required. The fire alarm and security panels should be connected to separate head-end servers in Campus security post within the proposed operations building through fiber optic lines. The systems should be fully addressable with graphic interfaces utilizing maps and building backgrounds to indicate alarms. The cost for fire alarm and building security should be included with the cost of each new building and the cost to relocate and upgrade the head-end for each system should be included with the proposed operation and security building.

9.9 ENERGY MANAGEMENT SYSTEM RECOMMENDATIONS

The existing energy management system should be expanded as new buildings are built. This will allow monitoring and control of energy usage throughout the Campus. The system is web based and head-end server is to be housed with the main IT system. The head-end would be connected to remote building panel via fiber optic lines. Cost for energy management equipment within new buildings should be included in the construction cost for each building.

9.10 CATV RECOMMENDATIONS

CATV cabling should be brought onto Campus and distributed to buildings as required using the Telecommunications pathway system. Once inside a building, it should be distributed as required. Within the dormitories, the cabling should be terminated in a patch box to facilitate service and distribution. Again, installation costs should be included with each building.

9.11 WATER SYSTEM FIRE FLOW RECOMMENDATIONS

The Master Plan proposes the demolition of the water tower to allow space for either a better configuration for the first phase residence hall or for campus green space. Further investigation is required to determine the feasibility of the demolition of the water tower. Investigation to date is described below:
Attached in the Appendix is a spreadsheet (Fire Flow Analysis by Building) that outlines the required fire flow for each building on campus based on information provided by the University. Based on past experience with required fire flows for institutions of similar size, an initial engineering estimate for a required fire flow of 2500 to 3000 gpm for a duration of 2 to 3 hours was assumed. A more in depth analysis was performed to further refine the estimate based on information provided in the Fire Code. The required fire flow is based upon the single building with the largest demand.

The total gross floor area was used for this required fire flow calculation. In accordance with the Fire Code, the required fire flow can be reduced based on the area of fire rated compartments with fire rated partitions within the structures, which we can reasonably assume that there are some in all of the occupancies. Without a detailed survey of the locations and types of these compartments, an accurate fire flow would be difficult to determine.

There are five occupancies on campus that skew the available data and are significantly above the initial estimate. These five occupancies are:

Occupancy (Year of Construction)	Fire Flow
Old Main (1871)	3000 gpm
Reisner Dining Hall (1965)	3250 gpm
Horton Hall (1894)	4250 gpm
Lehman Library (1967)	4000 gpm
Heiges Field House (1970)	5500 gpm

Reisner Dining Hall is undergoing a renovation that will including sprinklers, therefore it can be removed from the list of critical occupancies. A field survey of the other occupancies was completed on January 4, 2008 and potential areas of partitioning are identified in Appendix A. These recommendations were based on an evaluation that assumed that minor improvements, such as the addition of rated doors, partition walls, etc., could be made with minimal impact to the function of the structure. Lehman Library is the remaining facility that cannot be easily compartmentalized would likely drive the total flow calculation. As a result, we would make the recommendation that the minimum required campus fire flow be assigned at 4000 gpm for a duration of 4

hours based on current conditions. This is a reasonable engineering estimate based on the available data which will be adequate for our master planning purposes.

It should be noted that other alternatives are available to lower the required fire flow, specifically the sprinklering of buildings. Sprinklering also offers direct life safety and property protection advantages over the advantage that water tower provides alone. It may be more cost efficient to sprinkler some of the critical non-sprinkled occupancies, specifically the Library versus relocating or building a new water tower. Sprinklering of the Library, along with the addition of other fire rated assemblies will reduce the total required fire flow to approximately 2500 gpm for a 3 hour duration.

A discussion with Steve Hunsinger at CET, Inc., the Shippensburg Borough Water Authority Engineer, revealed their modeling predicted an available capacity of 1700 to 2240 gpm at the campus connection points. Actual hydrant flow testing increased the calculated value to 2200 to 2800 gpm. Variation within the water system is normal given the total system demand. Steve was comfortable with providing a number of 2000 gpm as a minimum available flow from the Borough system at the campus connection points. Total volume of water available in the Borough reservoir is 1.5 million gallons, therefore supplying the duration of flow is not an issue.

Given this, the 2000 gpm is under our predicted value of 2500 gpm for a required on-campus fire flow demand. The following options are recommended:

- Option #1 - Complete a more detailed investigation to further refine the fire flow demand by investigating maximum floor areas within fire-rated assemblies for critical occupancies on campus. The scope of an engineering feasibility study should include the following:
  - A. Flow testing of critical hydrants on the main 12" campus fire protection loop and within the distribution network.
  - B. Computer modeling of the existing private domestic water system on campus based on the results of hydrant testing and modeling provided by the Shippensburg Borough Authority Engineer.
  - C. An evaluation of existing building plans and field view of all facilities to refine the areas used in determining the required fire flow.
  - D. A meeting with the Shippensburg Borough Authority and their Engineer to discuss future capital improvement projects to the Borough system and the future growth within the system to determine the effect of the public water feed to the University Campus.
  - E. A meeting with the Authority Having Jurisdiction (AHJ) to determine any requirements that the removal of the water tower may have on future projects on campus and the ability of the AHJ to provide adequate fire protection.
  - F. Evaluation of the effect of removal of the water tower on the existing system
  - G. Completion of an engineering feasibility study which documents the results of scope items A-E
  - H. Submission of the feasibility study to the Department of General Services and their excess insurance carrier for their review and comment.

- Option #2 - Demolish the water tower and work with the Authority to upgrade the main feed to campus.

- Option #3 - Demolish the water tower and sprinkler key occupancies, thus reducing the total required demand.

- Option #4 - Maintain the water tower in some form in the current location or relocate/reconstruct at a different location.

Maintaining the water tower in its current location is not without disadvantages. The tower is approaching 20 years of age and is due for a interior and exterior coating renovation. During this renovation, it is recommended that automated monitoring systems be installed to determine the level of water within the tower and the flow rate and timing of water flows in and out of the tower. Finally, valve automation integrated in the building management system should be considered to allow for the regular cycling of water within the tower to prevent stagnation and potential dechlorination.

With the available data and without a more detailed study, an absolute determination for the need for the water tower cannot be made. At this point, it is reasonable that options be considered that maintain the water tower in its current location until a detailed engineering evaluation be performed to determine the feasibility of removal. Based on the preliminary data available and the analysis performed a part of the master plan, it is reasonable to assume that removal of the water tower is at the least a viable option.

OLD MAIN

1. Basement: Fire barrier can be completed separating mechanical and storage space.

   Mechanical (SF) = 8,132
   Storage (SF) = 18,736

2. First – Third Floor: Fire barrier can be completed by adding 90 minute doors separating the center annex from the remainder of the building. Each floor is also a separate fire area giving two (2) fire areas per floor.

	Center Annex (SF)	Remainder (SF)
First	5,463	15,263
Second	5,560	15,260
Third	3,124	15,264

LEHMAN LIBRARY

1. Building has no separation and is interconnected between floors with an open stairway. The only means of separation would be between floors by enclosing the stairway and consequently dividing each floor into a fire area.

HEIGES FIELD HOUSE

1. Ground Floor: No separation.
2. First Floor: Three (3) separate existing areas requiring only the doors entering the pool area from the corridor and locker room to be upgraded to 90 minute doors.

   Gym (SF) = 41,385
   Office/Lockers (SF) = 11,046
   Pool (SF) = 7,164

3. Second Floor: No separation.

REISNER DINING ROOM

1. The new building will be fully sprinklered and will not have any interior fire barriers.

HORTON HALL

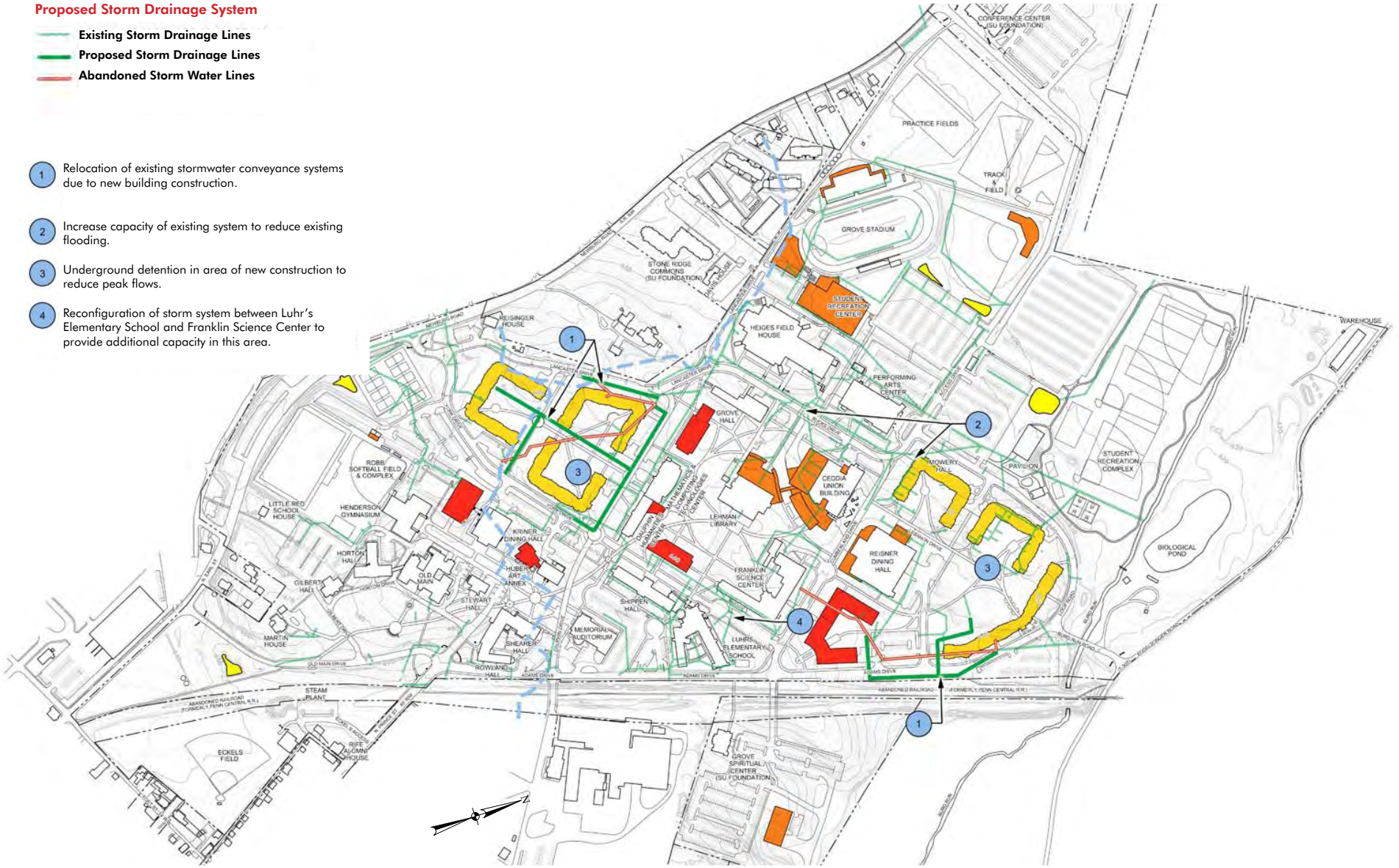
1. Ground Floor – Third Floor: On each floor, the wall separating the center annex and the stair wells can serve as a fire barrier by adding 90 minute doors to all openings.

	Front (SF)	Center Annex (SF)
Ground	6,598	3,915
First	6,994	3,894
Second	7,019	3,894
Third	7,019	3,894

Proposed Storm Drainage System

- **Existing Storm Drainage Lines**
- **Proposed Storm Drainage Lines**
- **Abandoned Storm Water Lines**

1. Relocation of existing stormwater conveyance systems due to new building construction.
2. Increase capacity of existing system to reduce existing flooding.
3. Underground detention in area of new construction to reduce peak flows.
4. Reconfiguration of storm system between Luhr's Elementary School and Franklin Science Center to provide additional capacity in this area.



Proposed Sanitary Sewer System

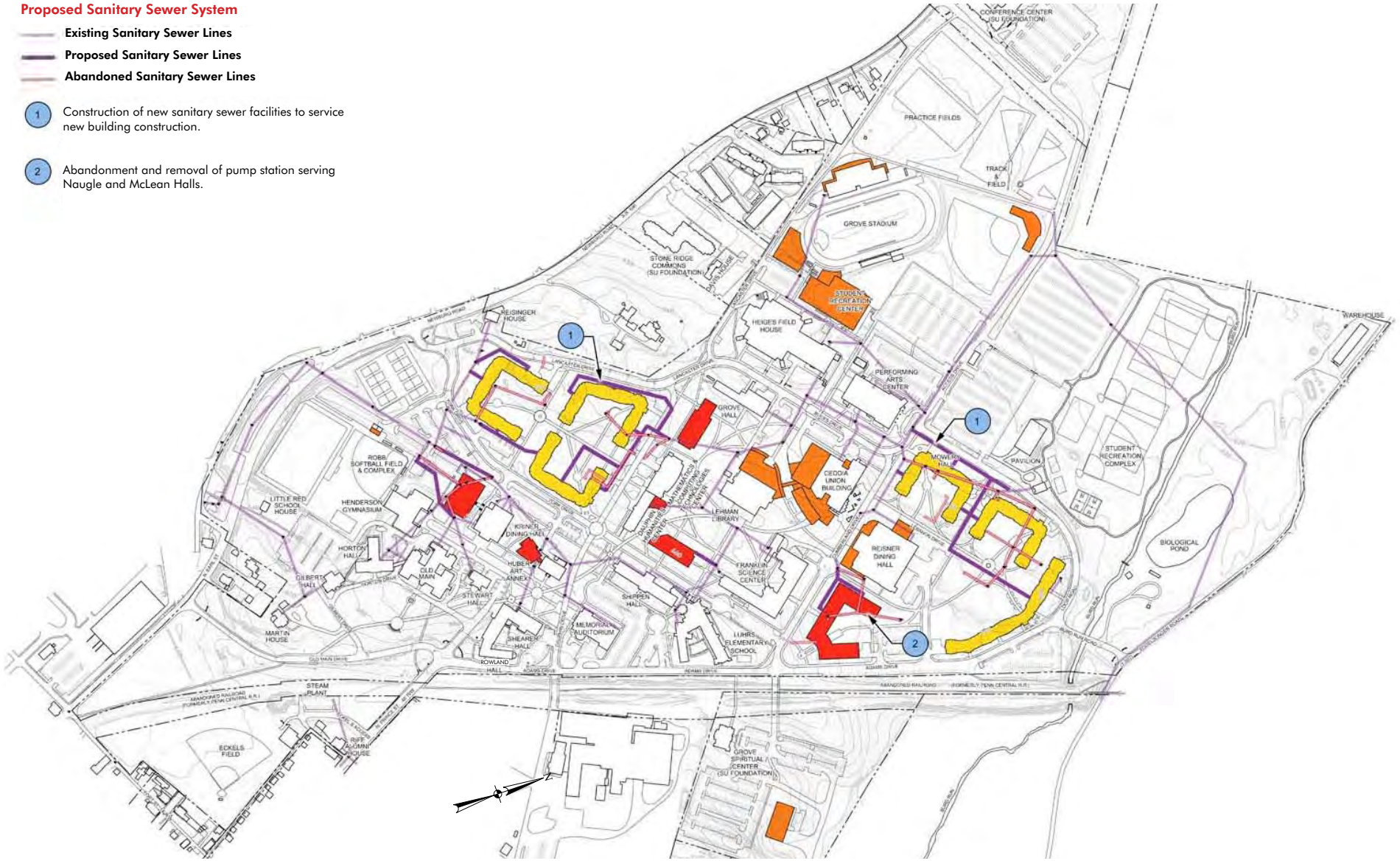
Existing Sanitary Sewer Lines

Proposed Sanitary Sewer Lines

Abandoned Sanitary Sewer Lines

1 Construction of new sanitary sewer facilities to service new building construction.

2 Abandonment and removal of pump station serving Naugle and McLean Halls.



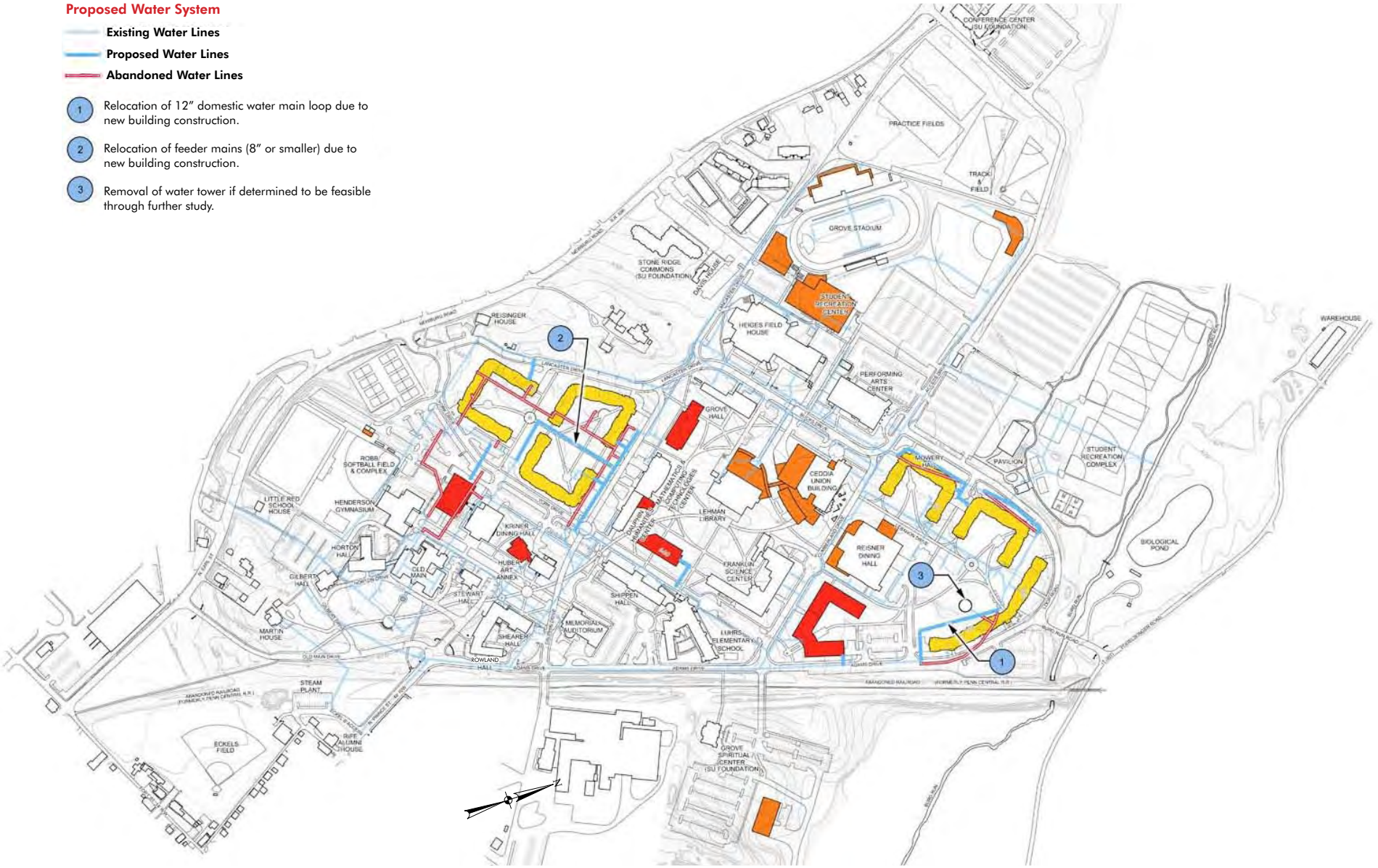
Proposed Water System

Existing Water Lines

Proposed Water Lines

Abandoned Water Lines

1. Relocation of 12" domestic water main loop due to new building construction.
2. Relocation of feeder mains (8" or smaller) due to new building construction.
3. Removal of water tower if determined to be feasible through further study.



Proposed Natural Gas System

- Proposed Gas Piping
- Existing Gas Piping
- Gas Meter
- Proposed Residential Buildings
- Proposed Academic Buildings
- Proposed Athletic Buildings
- Proposed Student Support Buildings
- Proposed Campus Support

Natural Gas System Note:

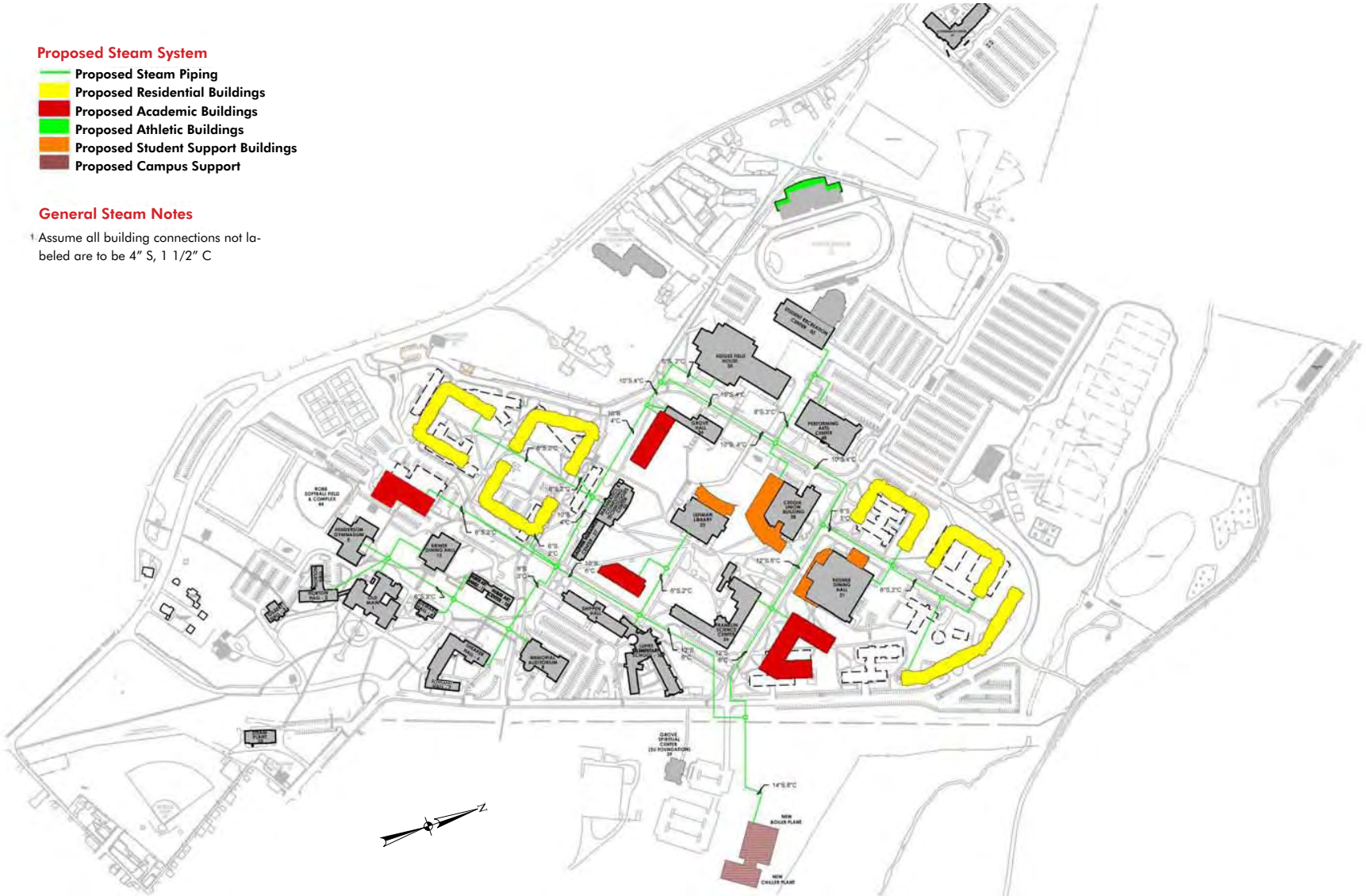
No signal found. Current line location undetermined within cloud. Current valve location undetermined.

Proposed Steam System

- Proposed Steam Piping
- Proposed Residential Buildings
- Proposed Academic Buildings
- Proposed Athletic Buildings
- Proposed Student Support Buildings
- Proposed Campus Support

General Steam Notes

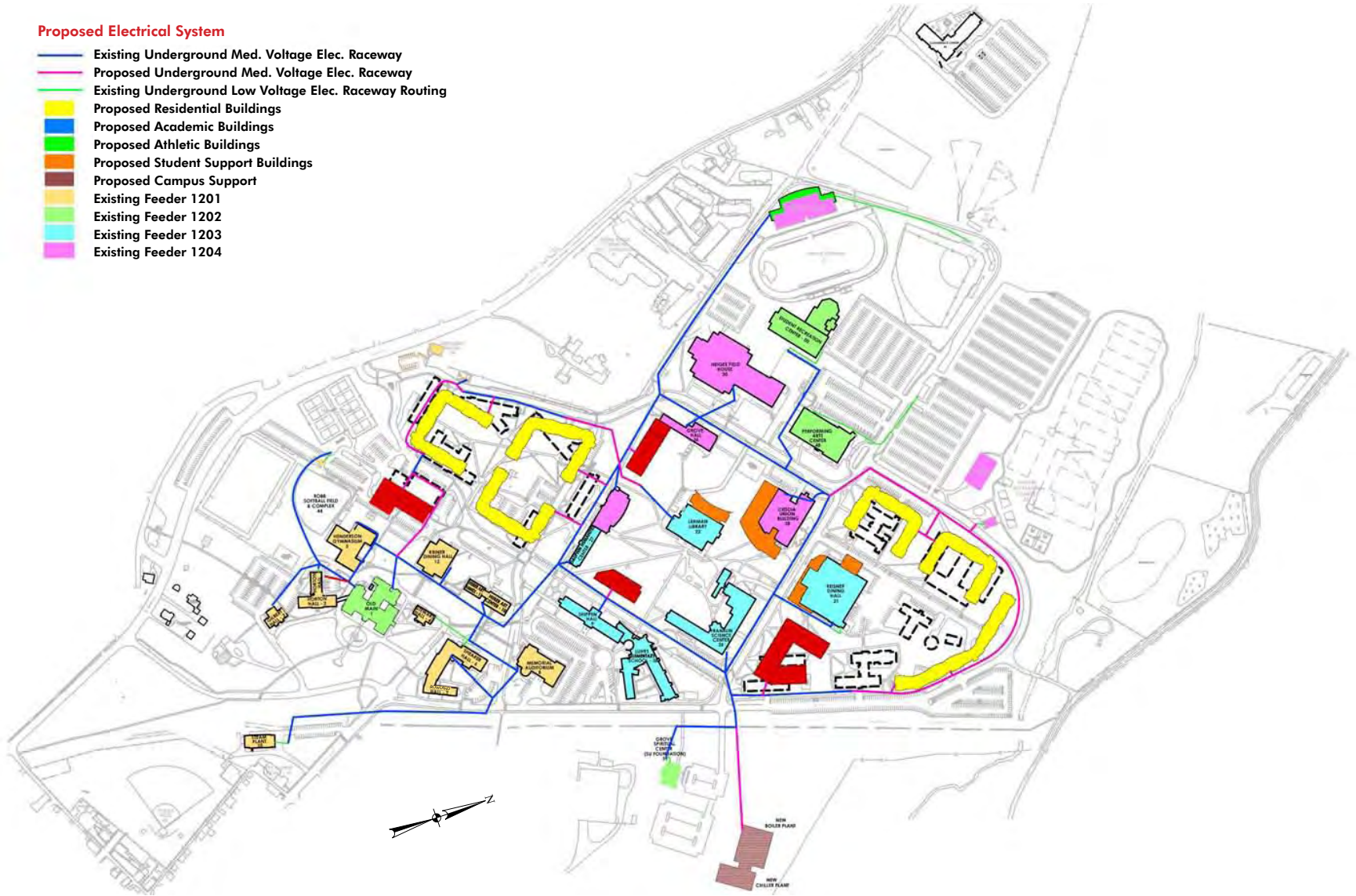
1. Assume all building connections not labeled are to be 4" S, 1 1/2" C

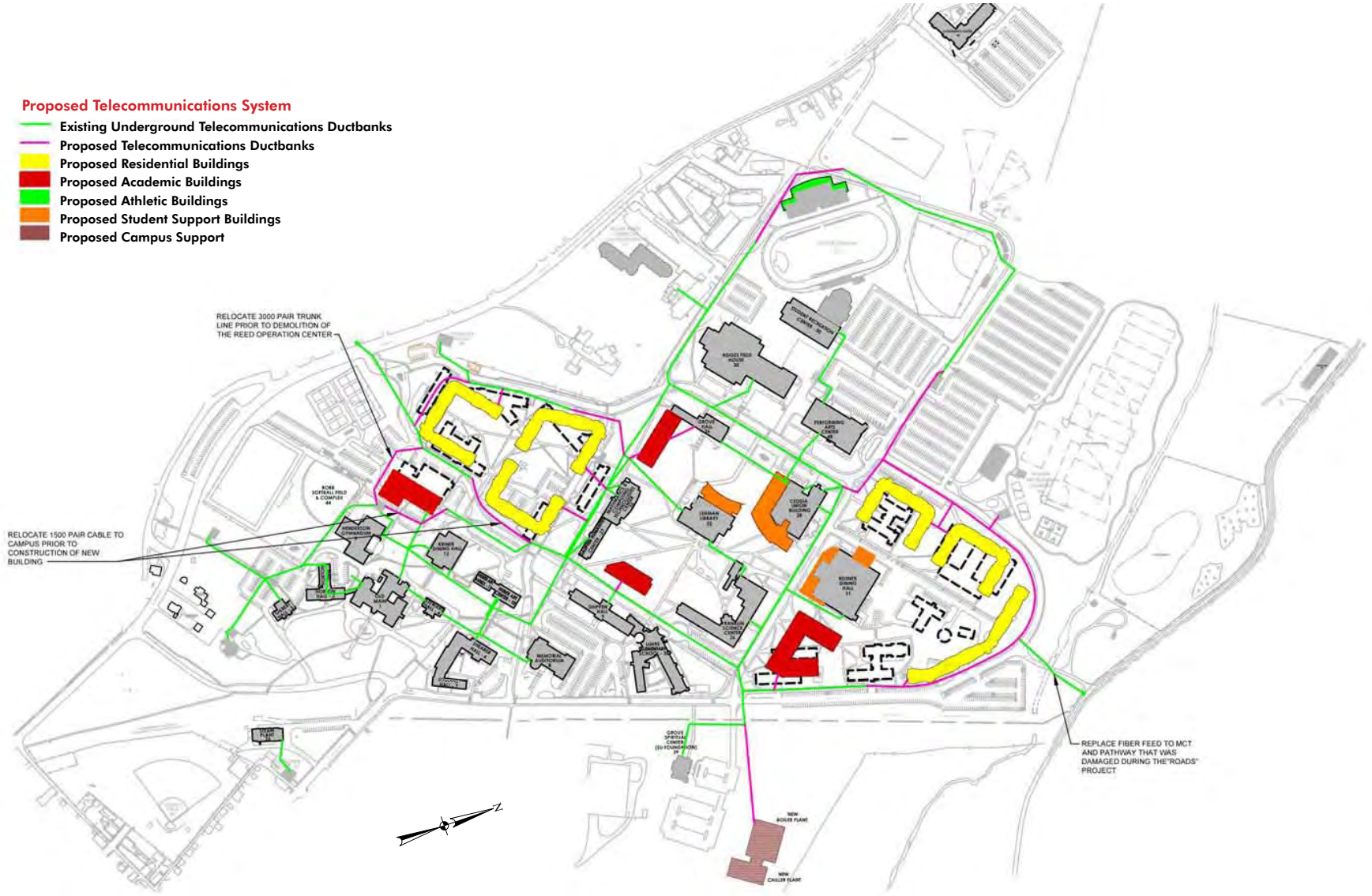



Proposed Chilled Water System
Proposed Chilled Water Piping
Proposed Residential Buildings
Proposed Academic Buildings
Proposed Athletic Buildings
Proposed Student Support Buildings
Proposed Campus Support

Proposed Electrical System

- Existing Underground Med. Voltage Elec. Raceway
- Proposed Underground Med. Voltage Elec. Raceway
- Existing Underground Low Voltage Elec. Raceway Routing
- Proposed Residential Buildings
- Proposed Academic Buildings
- Proposed Athletic Buildings
- Proposed Student Support Buildings
- Proposed Campus Support
- Existing Feeder 1201
- Existing Feeder 1202
- Existing Feeder 1203
- Existing Feeder 1204




Proposed Telecommunications System
Existing Underground Telecommunications Ductbanks
Proposed Telecommunications Ductbanks
Proposed Residential Buildings
Proposed Academic Buildings
Proposed Athletic Buildings
Proposed Student Support Buildings
Proposed Campus Support
RELOCATE 3000 PAIR TRUNK LINE PRIOR TO DEMOLITION OF THE REED OPERATION CENTER
RELOCATE 1500 PAIR CABLE TO CAMPUS PRIOR TO CONSTRUCTION OF NEW BUILDING
REPLACE FIBER FEED TO MCT AND PATHWAY THAT WAS DAMAGED DURING THE "ROADS" PROJECT
N

10. Capital Projects

Over 100 Capital Projects recommended by the Master Plan are included in the attached Capital Project List. They are listed by Phase: Phase 1, 0 to 5 years—includes projects already in planning or in the funding stream. Medium term—Phase 2, 5 to 15 years—includes projects that would essentially accomplish all Master Plan concepts. Long term—Phase 3, 15 to 25 years—includes projects that respond to growth and expansion initiatives. Projects are listed in their anticipated sequence, particularly in Phase 1.

Just as in the 1998 Facilities Master Plan, projects are assigned a Project Type: Academic, Administration, Campus Support, Green Space, Roadways, Student Support, and Utilities.

Project Cost Estimates are conceptual. Other than the early Funded Projects which have estimates based on design documents, estimates are based on best judgment using historical costs per gross square foot considering building type. Cost estimates are all 2008 dollars with no inflation added. Estimates are total project cost estimates, i. e., construction costs + soft costs.

The Space Utilization Opportunities lists internal relocations resulting from Master Plan recommendations, including proposed demolitions.

Capital Projects Matrix

Phase 1 (0-5 Years)

Phase 2 (5-15 Years)

Phase 3 (15-25 Years)

NO.	PROJECT NAME	PROJECT TYPE	YEAR	PROJECT COST	COST GSF	COST $$/GSF	NOTES
1	Dauphin Hall renovation and expansion	Academic	0 to 5	9,567,000			Project funded and underway with anticipated completion Summer 08.
2	Huber Hall renovation and expansion	Academic	0 to 5	7,502,000			Project funded with anticipated completion fall 2010
3	Lehman Library 1st Floor renovation	Academic	0 to 5	800,000			
4	Reisner Dining Hall renovation and expansion	Academic	0 to 5	17,942,900			Project funded and underway with anticipated completion summer 2009
5	Heiges Field House Weight Room renovation	Athletic	0 to 5	600,000			
6	Burd Run Bridge improvements	Roadways	0 to 5	660,500			As bid
7	Gateway--Prince Street	Roadways	0 to 5	250,000			As bid
8	CUB renovation and expansion	Student Support	0 to 5	27,961,000			Student Fee Referendum approved with anticipated completion 2010-2011.
9	Chilled Water Central Plant	Utilities	0 to 5	8,000,000			Building constructed with boiler plant. Includes chillers, towers, etc.
10	Chilled Water Distribution System	Utilities	0 to 5	8,800,000			Underground pipe on campus
11	Electrical--upgrade and relocate distribution feeders	Utilities	0 to 5	2,150,000			Feeder upgrade and ductback relocation to support new Central Plant. Will facilitate new housing construction. Required at the end of the Phase 1--0 to 5 years.
12	Telecommunications--Extend communication to new heat/chiller plant	Utilities	0 to 5	120,000			Entech estimate
13	Hot Water Central Plant	Utilities	0 to 5	5,600,000			New gas/oil hot water plant. Includes building and equipment
14	Hot Water Distribution System	Utilities	0 to 5	7,500,000			Hot water distribution pipe around campus
15	Electrical--Emergency Power	Utilities	0 to 5	750,000			Emergency power for MCT Center. This project is funded and is in design.
16	Steam Plant abatement & demolition	Utilities	0 to 5	540,000	13,500	40	
	TOTAL--FUNDED PROJECTS		0 to 5	98,743,400			
17	Faculty Office Building relocation of uses, abatement and demolition	Academic	0 to 5	0			Relocation of uses in Dauphin project; abatement/demo included in Housing Phase 1
18	Bookstore Annex relocation of uses to Hoffman Mills?	Student Support	0 to 5	42,100	2,105	20	Abatement/demo included w/ new Housing Phase 1. Interim location is Hoffman Mills
19	New pedestrian walkway and landscaping north of Reisner	Green Space	0 to 5	404,400			To be completed prior to occupancy of new Housing Phase 1
20	New Housing--Phase 1	Student Support	0 to 5	62,626,300			August 2010 completion. See student housing pro forma for cost estimate.
21	Counseling Center relocation of uses to Residence Hall 1A	Student Support	0 to 5	100,000	2,500	40	Abatement/demo and shell/fit-up included w/ new Housing Phase 1
22	Etter Health Center relocation of uses to Res. Hall 1A	Student Support	0 to 5	356,000	8,900	40	Abatement/demo and shell/fit-up included w/ new Housing Phase 1
23	Mowery Hall--relocation of Grounds Office	Student Support	0 to 5	260,400	2,170	120	Abatement/demo included w/ new Housing Phase 2
24	New Housing--Phase 2	Student Support	0 to 5	64,884,200			August 2011 completion. See student housing pro forma for cost estimate.
25	Fashion Archives relocation to Horton Hall	Academic	0 to 5	1,435,500	7,178	200	To be completed prior to start of new Housing Phase 2 3
26	Kieffer Hall--relocation of Police Workshop/Storage and Physical Plant Tile Storage	Student Support	0 to 5	5,000			Abatement/demo included w/ new Housing Phase 3; relocation covered by Rife House renovation
27	New Housing--Phase 3	Student Support	0 to 5	73,489,600			August 2012 completion. See student housing pro forma for cost estimate.
28	McLean Hall--relocation of Student Life, Resnet & Linens	Student Support	0 to 5	20,000			Abatement/demo included w/ new Housing Phase 3
29	Cumberland Drive pedestrian street improvements	Roadways	0 to 5	629,200			Follows completion of vehicle access to Reisner from Adams
30	New road to Reisner parking lot and new parking lot at McLean site	Roadways	0 to 5	647,900			To be completed following the demolition of McLean that is included w/ new Housing Phase 3
31	Naugle Hall--relocation of Theatre/Band/Glass Shop storage	Student Support	0 to 5	20,000			Theater/Band to Memorial Hall; Glass Shop to Hoffman Mills
32	Naugle Hall abatement/demo	Student Support	0 to 5	1,495,125	99,675	15	Cost estimate for demo included because Naugle is not part of the new residence hall projects.
33	Electrical--addition of standby line to main service	Utilities	0 to 5	65,000			Add utility owned and maintained switching to Shippensburg and Carlisle Pike Lines along Newburg Road to add standby service.
34	Electrical--Emergency Power	Utilities	0 to 5	350,000			Emergency power for Reed Annex Buildings

Capital Projects Matrix, cont.

NO.	PROJECT NAME	PROJECT TYPE	YEAR	PROJECT COST	COST		NOTES
					GSF	$$/GSF	
35	Electrical--upgrade and relocate distribution feeders	Utilities	0 to 5	1,200,000			Upgrade remaing feeder beyond new housing construction.
36	Electrical--upgrade main transformers	Utilities	0 to 5	1,500,000			Replace main tranformers supplying Campus to support new heat/chiller plant and building expansion.
37	Natural Gas--new 6" feed and connection to new Central Plant	Utilities	0 to 5	150,000			
38	Natural Gas--piping modifications for new buildings	Utilities	0 to 5	250,000			
39	Site Lighting	Utilities	0 to 5	480,000			Install site lighting along pathways from new housing buildings on both ends of Campus to central Campus buildings.
40	Site Lighting	Utilities	0 to 5	470,000			Upgrade site lighting to Campus standard throughout remainder of Campus.
41	Telecommunications--Demolition of Reed Operation Center	Utilities	0 to 5	600,000			Relocation of service & distribution cabling to allow demolition of Reed Operations Center
42	Telecommunications--Data Cabling for Phase 1A, 2A, and 3A housing.	Utilities	0 to 5	50,000			New fiber optic cabling from MCT to Housing buildings.
43	Telecommunications--Data and Telephone for Phase 1B, 3A, and 3B housing.	Utilities	0 to 5	180,000			New fiber optic cabling and duct bank from MCT and new telephone cabling and ductbank from Reed Annex to Housing buildings.
44	Telecommunications--Maintain services to existing buildings.	Utilities	0 to 5	60,000			Maintain services to existing building fed from building that are scheduled for demolition.
45	Telecommunications--Future System Upgrades.	Utilities	0 to 5	120,000			Additional ductbank along Loop Road and from the CUB north along Cumberland Drive.
46	Water Tower abatement & demolition	Utilities	0 to 5	0			Abatement/demo included w/ new Housing Phase 1; improvements to off-site water lines or existing buildings to be provided by University
47	Old Main roof replacement	Administration	0 to 5	800,000			
48	Frehn Center relocation to Horton Hall	Administration	0 to 5	115,500	1,155	100	
49	ROTC relocation to Horton Hall	Administration	0 to 5	714,450	7,145	100	
50	SBDC relocation to Horton Hall	Administration	0 to 5	247,500	2,475	100	
51	Stewart Hall renovation	Administration	0 to 5	2,856,000	11,900	240	Total building renovation. Needed for Police to move to Rife for Reed demolition. Includes Alumni Services relocation from Rife. Photo Lab wil not be replaced.
52	Visitor Center in Old Main	Administration	0 to 5	271,500	1,810	150	TBD
53	Facilities relocation to Hoffman Mills	Campus Support	0 to 5	5,040,000	50,400	100	Includes Physical Plant, Receiving, Moving Crew, and Print Shop
54	Police & Public Safety relocation to Rife House	Campus Support	0 to 5	268,950	2,690	100	
55	Police & Public Safety relocation to Rife House-Parking Lot	Roadways	0 to 5	132,800			
56	Reed Operations Center--demolition and abatement	Campus Support	0 to 5	540,000	36,000	15	Costs for relocation of telecommunications are separate projects
57	New Parking Lot adjacent to Kriner Hall	Roadways	0 to 5	242,300			follows demolition of Reed Operations Center
58	Campus Signs	Green Space	0 to 5	150,000			
59	Henderson to Memorial Mall Landscaping and Walks	Green Space	0 to 5	1,358,500			
60	New Parking and York Road-Site	Green Space	0 to 5	1,350,000			
61	Gilbert Parking Lot addition	Roadways	0 to 5	288,400			
62	York Road changes and new parking lot	Roadways	0 to 5	1,221,000			follows demolition of Reed Operations Center
	TOTAL--PHASE 1		0 to 5	326,231,025			includes funded projects and three housing phases

NO.	PROJECT NAME	PROJECT TYPE	YEAR	PROJECT COST	COST		NOTES
					GSF	$$/GSF	
63	Grove Hall basement renovations	Academic	5 to 15	112,500	1,500	75	Follows media services relocation to Library
64	Laboratory Building	Academic	5 to 15	20,400,000	51,000	400	Naugle Hall site
65	Lehman Library 2nd floor renovation	Academic	5 to 15	2,250,000	15,000	150	DGS project?
66	Lehman Library Expansion	Academic	5 to 15	11,900,000	47,600	250	DGS project
67	Memorial Hall black box theater lab in CR 100	Academic	5 to 15	120,000	1,200	100	Relocation from Stewart 204, includes abatement.
68	Wright Hall abatement & demolition	Administration	5 to 15	666,000	33,300	20	
69	Field House at south end of Seth Grove Stadium for Visitors' Locker Room, Weight Training Room, Football Coaches' Suite, Sports Medicine	Athletics	5 to 15	11,000,000	36,000		Estimate adapted from EI Study, November 2007. (Option 3) If Athletic Commons (12,000gsf) is included, add $2,000,000. DGS project
70	Heiges Field House renovations	Athletics	5 to 15	12,000,000	50,000	240	Renovation will follow after Weight Room, Football Coaches' Suite, and Classrooms relocate to new Seth Grove Fieldhouse. DGS project
71	Henderson Gymnasium renovation and addition	Athletics	5 to 15	13,400,000			estimmate from SU Capital Budget Request
72	Seth Grove Stadium -New Artificial Turf	Athletics	5 to 15	750,000			
73	Seth Grove Stadium--field lighting	Athletics	5 to 15	600,000			
74	Seth Grove Stadium grandstand accessibility improvements	Athletics	5 to 15	1,500,000			
75	Seth Grove Stadium grandstand structure renovation and one-story addition	Athletics	5 to 15	2,341,800			Estimate from EI Associates Study, November 2007, (Option 1B)
76	Fairchild Baseball Field--grandstands, toilets, concessions	Athletics	5 to 15	13,400,000			
77	Fairchild Baseball Field--high mast lighting and ball control fencing	Athletics	5 to 15	139,500			Estimate by Pennoni
78	Robb Softball Field--toilet rooms and concessions	Athletics	5 to 15	250,000			
79	Robb Softball Field--high mast lighting	Athletics	5 to 15	104,500			Estimate by Pennoni
80	Rec Fields--additional softball field, reconfiguration of jogging path, move lighting	Athletics	5 to 15	123,600			Estimate by Pennoni
81	Library/Main Quad	Green Space	5 to 15	1,285,300			
82	New pedestrian walkway to Rec Center entrance at west side of PAC	Green Space	5 to 15	47,600			
83	Dauphin Drive pedestrian street improvements (north)	Roadways	5 to 15	804,000			
84	Dauphin Drive pedestrian street improvements (south)	Roadways	5 to 15	448,400			
85	Gateway--Earl Street/Conference Center	Roadways	5 to 15	120,000			
86	Gateway--Earl Street/Lancaster Drive	Roadways	5 to 15	104,000			
87	Gateway--Earl Street/Old Main Drive	Roadways	5 to 15	120,000			
88	Gateway--Fogelsonger Road/Burd Run Drive	Roadways	5 to 15	94,800			
89	New Road connecting the Foundation Conf. Center/Rt. 696 to center campus	Roadways	5 to 15	715,000			
90	Lancaster Drive--widen road and pave between Heiges parking lot and Route 696	Roadways	5 to 15	108,400			assume 25' width, $32.50/sq yd
91	Pave road between Seth Grove Stadium and the practice fields	Roadways	5 to 15	40,000			assume 22' width, $32.50/sq yd
92	Electrical--Emergency Power	Utilities	5 to 15	1,250,000			Emergency power for central mustering buildings.
93	Telecommunications--Relocate data cabling and pathway between MCT and Grove Hall.	Utilities	5 to 15	230,000			Relocate data pathways between MCT and Grove Hall to allow construction of proposed academic building. Relocate associated cable in entirety.
	TOTAL--PHASE 2		5 to 15	96,425,400			

Capital Projects Matrix, cont.

NO.	PROJECT NAME	PROJECT TYPE	YEAR	PROJECT COST	COST GSF	COST $/GSF	NOTES
94	Building between Dauphin Hall and Franklin Science Center	Academic	15 to 25	13,750,000	55,000	250	Use not yet determined. DGS project
95	Building between Henderson Hall and Kriner Hall	Academic	15 to 25	22,500,000	90,000	250	Use not yet determined. DGS project
96	Engineering Wing	Academic	15 to 25	30,000,000	75,000	400	Naugle Hall site. DGS project
97	Memorial Hall renovation	Academic	15 to 25	3,299,000			Estimate from Outyear Capital Projects report (4.2.07). SU will update estimate.
98	Social Sciences Building	Academic	15 to 25	18,750,000	75,000	250	Site between Grove College and MCT
99	Social Sciences Building- Site	Green Space	15 to 25	225,000			
100	Gilbert Hall renovation	Administration	15 to 25	3,513,600	14,640	240	Total building renovation. DGS Project.
101	Horton Hall renovation	Administration	15 to 25	13,776,000	57,400	240	Total building renovation. DGS Project.
102	Old Main window replacement, 4th floor renovation, Chapel A/C	Administration	15 to 25	5,001,480	20,840	240	includes air conditioning and windows
103	Old Main renovation Phase 3	Administration	15 to 25	2,500,000			Estimate from Outyear Capital Projects report (4.2.07)
104	Building between Henderson Hall and Kriner Hall-Site	Green Space	15 to 25	270,000			
105	Field House Paving	Green Space	15 to 25	204,700			
106	Old Main Promenade	Green Space	15 to 25	682,600			
107	Field House Roadway Improvements	Roadways	15 to 25	105,900			
108	Queen Street Connection to Adams Drive	Roadways	15 to 25	550,000			
	TOTAL--PHASE 3		15 to 25	115,128,280			
	GRAND TOTAL		0 to 25	537,784,705			

Phase 1 (0-5 Years)

Phase 2 (5-15 Years)

Phase 3 (15-25 Years)

Space Utilization Opportunities

Floor	*Space Name*	*Current Use*	*ASF*	*Relocate to:*	*Proposed Use*
	Old Main				
2	202 Suite	Dean, A & S		Dauphin	TBD
	ResLife offices	ResLife (Tony, Barry, + support)		3,000 ASF for Res. Life incl. w/ Phase 2 housing proforma)	TBD
4	entire floor	storage		----------	TBD
	Gilbert Hall				
Ground	CR 001	classroom/lab		Dauphin	Academic swing space
1	Seminar 110	classroom		Dauphin	Multi-cultural Student Affairs
	Offices 106, 107	Multi-Cultural		Seminar 110	ADA Toilet Rooms
2	entire floor	classrooms		Dauphin	swing space
	Stewart Hall				
Bsmt	CR 100, 106, 106A, 101	Comm Journalism, Photo Lab	978	Continued use not required after Alumni moves to Stewart	Alumni Affairs 544 ASF
1	Studio 205, 207	art studios	3,238	TBD (Senior Studios not programmed for Huber).	Alumni Affairs 1433 ASF
	Office 203	AFSCME		Horton	Alumni Affairs
	Rooms 200, 202, 209	labs, classrooms		Deleted	Alumni Affairs
	Lab 204	black box practice room		Memorial Hall 100	Alumni Affairs
2	Studios 301, 303, 305	art studios track area	503 951	TBD	Alumni Affairs 999ASF
3					1300 ASF
	Horton Hall				
Ground	Wing 010-016	faculty offices		Dauphin	admin offices
	Wing 01-07	offices		Wing 010-016	Fashion Archives
	Wing 017-020	Classrooms, storage		Various	Fashion Archives
	Wing 022-029	Classrooms/storage		Various	Fashion Archives
		TBD			ROTC
		TBD			SBDC
		TBD			Frehn Center
1	Wing 112-122	Academic Programs & Services		expanded Library	TBD
	Offices 102, 104	Honors Program		live/learn residence hall	TBD
	Offices 101, 103	International studies, Ethnic Studies		Lisa's analysis	TBD
2	Offices 202, 204, 206	swing space		swing space	swing space
3	Offices 317, 319	Disability Services		live/learn residence hall (or Library?)	swing space
3	Conf Room 337	Disability Services		live/learn residence hall (or Library?)	swing space
	Rooms 303, 304, 305, 306, 307, 308, 309, 311,	offices		---	swing space

Space Utilization Opportunities, cont.

Floor	Space Name	Current Use	ASF	Relocate to:	Proposed Use
	316, 318, 325, 326, 327, 328, 330, 331, 332, 333, 334, 335				
	Rife House				
Bsmt	Basement	Alumni Affairs	908	Stewart Hall	Public Safety 939 ASF
1	1st floor	Alumni Affairs	1,530	Stewart Hall	Public Safety 1880 ASF
2	2nd floor	Alumni Affairs	979	Stewart Hall	Public Safety
TOTAL			4,333 ASF + two car garage		
	Memorial Hall				
1	CR 100	classroom		---	black box theater lab
2	CR 210	classroom		---	swing space
	Offices 201, 201 A	Academic swing space		---	swing space
	Faculty Office Building				
1	offices	office		various	demolition
	CR 101	classroom		various	demolition
	APSCUF office 117, 118	office		Horton	demolition
	Wright Hall				
Bsmt	CR 12, 16, 17	classrooms		CR 12,17 – Deleted CR 16 is ROTC to Horton	demolition
Bsmt	ROTC spaces	ROTC		Horton	demolition
1	Counseling Center	offices		residence hall first phase	demolition
	CR 106, 111, 113	classrooms		Dauphin	demolition
	offices	offices		TBD	demolition
2	offices			TBD	demolition
	ROTC spaces	ROTC		Horton	demolition
3	offices			TBD	demolition
	Academic Success Program (Rooms 301-311)	offices		expanded Library	demolition
	Grove Hall				
Bsmt	Shop 012	A/V repair		expanded Library	College of Business
	Rooms 013, 015, 021	multi-media, graphics, video		expanded Library	College of Business
	Suite 008	darkroom		stays	College of Arts and Sciences
	Etter Health Center				
1	entire building	Health Services		residence hall phase 1; university will rent space from proforma	demolition
	Book Store Storage				
1	entire building	book store storage		Expanded CUB (Hoffman Mill Interim)	demolition

Floor	Space Name	Current Use	ASF	Relocate to:	Proposed Use
	Mowery Hall				
Ground	Room 016	Grounds Break Room	251	To Reed Operation Center; then to Hoffman Mills or Foglesonger or new building @ Stadium	demolition
	001	Project room	380	Resident life program space; included in proforma phase 1A and 1B	demolition
	002	Sound room	272	Resident life program space; included in proforma phase 1A and 1B	demolition
	003	Residence Life Storage	111	Locate by RD workroom & incl. w/ Res. Life Phase 2 housing proforma	demolition
	004	Dean's storage	391	Not programmed	demolition
	005	Dean's storage	259	Not programmed	demolition
1		Dean's Suite		Two RD suites & two Coord. suites incl. w/ Phase 1 housing proforma	demolition
	McLean Hall				
Bsmt	006	Student life staff lounge	145	residence hall phase 2; University will plan to rent from proforma	demolition
	008	Student Volunteer program director office	156	residence hall phase 2; University will plan to rent from proforma	demolition
	010	Volunteer services office	607	residence hall phase 2; University will plan to rent from proforma	demolition
	011	Big Brother, Big Sister Room	61	residence hall phase 2; University will plan to rent from proforma	demolition
	013	Student Fraternity	73	residence hall phase 2; University will plan to rent from proforma	demolition
	014	Office Service	16	residence hall phase 2; University will plan to rent from proforma	demolition
	015	Grad Student Assistant Office	50	residence hall phase 2; University will plan to rent from proforma	demolition
	016	Grad Student Assistant Office	104	residence hall phase 2; University will plan to rent from proforma	demolition
	019	Staff Workroom	585	residence hall phase 2; University will plan to rent from proforma	demolition

Space Utilization Opportunities, cont.

Floor	Space Name	Current Use	ASF	Relocate to:	Proposed Use
	020	Student Abroad Office	181	residence hall phase 2; University will plan to rent from proforma	demolition
	021	Resnet	379	residence hall phase 2; University will plan to rent from proforma	demolition
	023	Student Lounge for Student Life Center	1,366	residence hall phase 2; University will plan to rent from proforma	demolition
	025	Dir. Greek Affairs Office	212	residence hall phase 2; University will plan to rent from proforma	demolition
1		Maintenance storage	187	Incl. w/ housing proforma	demolition
	102	Weight Room	209	New student recreation center will obviate the need for this type of rec space in residence halls	demolition
	104	Custodial Break Room	200	One Break Room Incl. w/ each housing precinct and proforma	demolition
	107	Camps and Conferences Linen Storage	500	residence hall phase 2; University will plan to rent from proforma	demolition
1	Rooms 113, 115, 117	Student Life	105 101 224	residence hall phase 2; University will plan to rent from proforma	demolition
	McCune Hall				
Bsmt	Rooms G13, G15	Honors Program	107 283	residence hall phase 1; university will rent space from proforma	demolition
	Room G16	Residence Life Storage	1,426	500 s.f. storage incl. w/each housing precinct and Phase 1 proforma	demolition
	G010, G019	RHA office	200	Incl. w/ Res. Life Phase 2 housing proforma	demolition
	G11	Music Room	107	One music module incl. w/ each housing precinct and proforma	
	Harley Hall				
Ground	001, 002, 003, 004, 005, 006	Fashion Archives	3,227	Horton Hall	demolition
1	112	Res Life Storage	207	500 s.f. storage incl. w/each housing precinct and Phase 1 proforma	
	133	Music Room	181	One music module incl. w/ each housing precinct and proforma	
	193	Weight Room	237	New student recreation center will obviate the need for this type of rec space in residence halls.	
	Kieffer Hall				
Ground	Rooms 013	Police storage, Lost & Found	605	Rife House	demolition
	003	Physical Plant Storage (Tile)	378	Hoffman Mills	
	011	Resident Life Storage; professional staff extra furniture storage		Small storage area for RD Apt. incl. w/ Phase 1 proforma	
1	151	Resident Hall Assoc. Storage (popcorn, programming supplies for each building)	180	Small storage area incl. w/ housing proforma	
	Lackhove Hall				
Ground	Room 04	University wide furniture storage	367	Hoffman Mills	demolition
	003	Orientation Storage	371	residence hall phase 2; University will plan to rent from proforma	
	010	Stairmaster Room	130	New student recreation center will obviate the need for this type of rec space in residence halls.	
	018	Sound Module	165	One music module incl. w/ each housing precinct and proforma	
	Seavers Apartments				
1	116	Dean's Suite	1,601	Two RD suites & two Coord. suites incl. w/ Phase 1 housing proforma	demolition
	Room 116B	Guest Suite		One guest suite incl. w/ Phase 1 housing proforma	demolition
	Naugle Hall				
Bsmt	Rooms 01, 03, 04, 06	Music storage	1705	Memorial?	demolition
	Room 02	Theater storage	1307	Memorial?	demolition
	Room 011	Glass Shop	598	Hoffman Mills	demolition
1	Rooms 116, 118, 121, 122	Non-Traditional Student Lounge	577	Included in CUB program.	demolition
	Reed Operations Center				
Ground	entire floor	Facilities		Hoffman Mills	demolition
1	Rooms 103-112	Public Safety		Rife House	demolition
	remainder of floor	Facilities		Hoffman Mills	demolition

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