Facilities Master Plan
The Richard Stockton College of New Jersey
March 2005
Facilities Master Plan
The Richard Stockton College of NJ

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Executive Summary

The 2005 Facilities Master Plan has been a campus-wide initiative with participation of faculty, administration, students, and representatives of the College’s Board of Trustees, local jurisdictions and neighboring institutions. Re-envisioning the physical environment, finally addressing a chronic space shortage and positioning the College to grow in a dynamic and diverse way were overarching goals. The recommendations support Stockton’s strategic mission: the highest quality education for a larger, select and geographically diverse student body, increased opportunity for faculty and student research and scholarship, expansion of programs and enrollment in graduate and continuing education, and strengthening the College’s role as the leader in economic and community development in South Jersey.

The 1990 Master Plan documented a space shortage; in the fifteen years since, the College has fallen further behind in the modern, technologically-equipped academic and support facilities needed to supports a larger student body and a wider array of programs. Today, the facilities are inadequate by an estimated 300,000 gross square feet in the academic and student service categories alone. Added to that is the residential program that currently provides housing for only 37% of FTE, compared to a target of 50%.

While Stockton is highly ranked as a leading public liberal arts College, the facilities do not support the College’s programs and student population by any standard measure: state space guidelines / metrics, comparison to peer institutions or higher education facilities planning criteria. To address facility needs at the College’s proposed baseline population of 6,200 FTE in three years, an estimated 326,000 GSF of new space will be required (after the addition of the 29,000 GSF F-Wing expansion now in progress). Growth to 7,500 FTE will require another 232,000 GSF in the academic, support and student union categories. The goal to offer housing to at least 50% of student FTE will require construction of at least 1,060 units in the next few years alone.

In addition to mitigating a major space shortage and creating facilities that make Stockton a compelling choice for students and a destination for visitors, the plan addresses:

- Image, visitor experience, landscape transitions and a wayfinding system to create a more traditional feeling of a college campus
- Traffic management, parking and pedestrian circulation to accommodate an increasing number of cars and visitors and encourage walking
- Infrastructure, utilities, landscaping and signage to integrate the plan and create the framework for sustainable development and enhanced biodiversity to which the College is committed.

Concept

The Facilities Planning Committee explored a number of concepts; all focused on new campus facilities (close to doubling space) and parking within the boundary established with the Pinelands Commission limiting expansion to the developed zone. Recognizing both the successes and opportunities of the original configuration, some design schemes mirrored the current linear pattern, others introduced a new axis extending the entrance to campus to College Drive. The preferred hybrid plan continues the recommended development of West Quad (1990 Plan) and introduces a perpendicular axis and campus green that establishes a welcoming, more traditional entrance sequence and first impression. Parking, always framing the initial views of campus and a major consumer of site area is located in garages at the edges. The plan:

- Creates a new focus, a campus green and College Center, a visual and geographic nexus energizing the core of the College. The heart of the campus will be a technological centerpiece that becomes a destination and perhaps a beacon.
- Celebrates the entrance to campus with banners and signage along College Drive that lead to a new campus green and orientation point, then direct the first time visitor to convenient parking and events or building destinations.
The site plan illustrated on the right identifies zones rather than phases. This approach permits flexibility in sequencing projects and will enable the College to develop the important new buildings and the campus green in stages without creating the impression of a work in progress, a negative attribute of some alternatives. There is no increase in impervious coverage.

Facilities illustrated in orange on the site plan to the right are in Zone 1. They are closest to the existing buildings, can be implemented without displacing significant parking and are consistent with the scale of the original complex.

A comprehensive project list, integrated with the proposed bond issue with associated costs and approximate timeline will be developed with the College as a final component of the Plan:

- F-Wing Expansion: 29,000 GSF of academic space (in progress)
- Student Center: 150,000 Gross SF, includes academic space
- Gymnasium Addition: 10,000 GSF
- Parking Garage I: West Quad area: 700 cars
- West Boulevard, upgrade of the entrance to campus with improvements along College Avenue to provide for (turning lanes and shoulders) through campus to a circle and into the garage. The roadway upgrade will continue to Louisville Road which will be used as a second exit / entrance.
- Phase I campus signage program
- Lakeside Building: 75,000 a five-story academic and academic support building with a view of the lake and campus
- West Quad Academic Buildings: 75,000 GSF to complete the West Quadrangle
- Art Gallery: 2,000 GSF shown as originally proposed; its location should be reconsidered as the center of activity shifts more toward the College Center.

The rose colored buildings, Development Zone 2, illustrate facilities that have an impact on existing surface parking lots. They include infrastructure, relocated tennis courts and the following buildings:

- Science Center: 150,000 GSF
- Parking Garage II: 900 cars, off College Drive
- East Boulevard and Circle
- Academic Facilities and Support: 165,000 GSF in several buildings
- Gymnasium Addition: 30,000 GSF
- Parking Garage III: 1,350 cars, off of College Drive

Infrastructure projects will include telecommunication upgrades, redundant electric distribution and emergency power, and roadway alterations to improve traffic safety and circulation. A campus-wide signage program to improve the experience for the first time visitor and landscaping to return the Lakeside Lane courtyards to more natural states and provide good transitions from natural to developed and back to natural at lakeside are recommended.

The College continues to look for property and development opportunities suitable for programs that can be remote and for housing. Currently in the works are acquisition of a building for facility administration and finance to free up space for academic use, a lease with option to purchase for housing to accommodate 256 students and discussion with a developer about potential uses for a tract adjacent to the Parkway.

Recommended next steps include development of a concept document for the College Center, a campus signage concept, and a parking study to consider the impact of new off-site housing units and alternatives with costs to meet the parking demand on the core campus.
Purpose & Goals

In early 2004, The Richard Stockton College community embarked on a facilities master planning process, the third in the College’s 35-year history. The original campus, designed by Geddes Brecher Qualls and Cunningham, and constructed in several phases in the 1970s became an icon of campus planning almost as soon as it was built. While many themes that drove the original concept and 1990 Master Plan update are still valid, much has changed. Environmental regulations have placed additional limits on growth, students have higher expectations for the living/learning environment and the competition for quality students and faculty continues to increase.

The goal of the updated Facilities Master Plan is to refresh the vision for the campus, capitalize on the essence of Richard Stockton College, create a compelling choice for high quality students and build on traditions and unique environmental characteristics.

The many people the team talked with over the year-long planning study contributed to a long and varied list of goals and objectives. The following list represents some of the most important guiding principles that have driven the new Master Plan:

- Identify and address current space shortfalls; project space and facilities needed to support growth to 6,200 FTE in the near term and 7,500 FTE in the next decade.
- Increase the competitive edge and students’ choice of RSCNJ by creating a more traditional collegiate campus experience and by improving college center and residential facilities.
- Create a more positive first time visitor experience with a more traditional college feel, improved wayfinding and parking, and enhanced facilities and spaces that accommodate artistic and cultural events.
- Celebrate and preserve the College’s unique natural environment which is imbedded in the College’s culture and programs.
- Provide planning options for program flexibility and building phasing that ensures the College feels complete as it undergoes physical transformation.
- Support positive development in southern NJ. Highlight the research, development, artistic endeavors and cultural opportunities on a campus that becomes an ever more important resource for the region and beyond.
Methodology

The planners worked within a four-phase process developed by the College’s Office of Facilities Planning and Construction in connection with the Division of Property Management and Construction (NJ Department of the Treasury). Major tasks included:

I. Needs Assessment – program development, the foundation for projecting current and future space needs in major functional categories

II. Concept Design – site planning options to support the College’s growth to 6,200 FTE in the near term and 7,500 FTE as a maximum target. Selection of preferred option for development

III. Facilities Master Plan – Refinement and documentation of recommendations for new facilities, parking and infrastructure, pedestrian and vehicular circulation, building aesthetics, image, wayfinding, etc.

IV. Rendering – three dimensional visualizations to illustrate the campus development concepts

Determining needs and rough order of magnitude space requirements to accommodate growth was the focus of the Phase I work. The findings, included under the Program Section (page 17) are excerpts from the Needs Assessment document issued in September 2004. The report quantifies the current shortfall and space that will be needed as the College grows from its current 5,800 Full Time Equivalent (FTE) to 6,200 FTE in the next few years to approximately 7,500 FTE within the next decade or so. The College continuously monitors its space usage to respond to opportunities and justify projects for funding. The programming process was designed to permit comparisons and validate future space projections in the context of previous RSCNJ estimates, higher education standards and trends, and best practices in college and university planning.

The Concept Design phase was a collaborative process with the Facilities Planning Committee, charged by President Herman Saatkamp to advise and guide the planning options for take the campus to 2020. The committee members include representatives of the Board of Trustees, academic and administrative groups, the student body, neighboring public and private institutions and jurisdictions. Starting with an assessment of the site’s unique features and shortfalls and estimated future space needs, the team developed a series of options to address growth in qualitative and quantitative terms. The team worked over a period of six months to refine a concept that reflects and supports the College’s mission and goals.

This Facilities Master Plan report summarizes the recommendations and identifies specific building projects, infrastructure initiatives (roadway improvements, utilities and stormwater management, parking garages), campus-wide signage system and placement of art. There are recommendations for sustainable building and landscaping designs that strike the balance between the natural and built zones of campus. Finally, the Implementation section suggests potential sequencing and preliminary cost of projects. A list of next steps identify additional studies that will expand on these recommendations and serve to maintain momentum of the Committee’s work.

The Rendering and virtual reality images are included as a part of this report; an electronic version is available as well.

A separate Traffic Study assesses the impact of additional cars on campus circulation and at the intersections with local roads; it makes recommendations for upgrades to ensure safe flow of vehicular traffic and minimize conflicts with pedestrian circulation. The study is an appendix to this report as are several smaller studies the report references.
Acknowledgements

The planners thank those Richard Stockton College community members whose contributions made the planning process enjoyable and our work rewarding. Their commitment to making meaningful changes in the quality of campus experience and environment was essential in developing a plan that reflects their hopes for the College’s bright future. Indeed, this is their campus Master Plan.

Dr. Herman Saatkamp, President, Ex Officio

Facilities Planning Committee

Rogers Barlatt         Co-Chair
James Kennedy         Co-Chair
Curtis Bashaw         Executive Director, CRDA
Peter Caporilli       President, Stockton Foundation Board of Directors
David Carr            Provost
Eileen Conran         Dean of Students
Alan DeSimone         Deputy Mayor, Galloway Township
Cly’Vonne Gardiner    Student
Rob Gregg             President of Faculty Assembly
Glen Hayden           President, Galloway Business Association
Larry James           Dean of Athletics and Recreational Programs & Services
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Larry Liggett         Manager of Planning, The Pinelands Commission
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Many other faculty and administrative staff provided valuable information during the process:

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Richard Hale          Vice President for Administration and Finance and Institutional Advancement
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Debra Israel          Graduate Studies and Continuing Professional Education
Thomas Lang           Manager of Construction Projects
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Donna Wanat           Director of Institutional Research

The team also thanks Phillip Pittore, Project Manager, State of New Jersey, Division of Property Management and Construction
Current Situation

7 Context
9 Facilities & Space Usage
10 Site: Infrastructure, Vehicular Circulation & Parking
Located in the Pomona section of Galloway Township, Atlantic County, in southern New Jersey, The Richard Stockton College of New Jersey is a 4-year liberal arts College, one of nine public higher education institutions in New Jersey. Distinguished by its rank as one of the five best four-year public colleges (US News & World Report), accomplished faculty, Environmental Studies program, Holocaust Resource Center, and its unique environment in the New Jersey Pinelands, the College attracts a talented and competitive student body who increasingly come from northern NJ counties and out-of-state. As competition for quality students rises, the College intends to leverage its strengths and shore up its facility-related weaknesses and housing shortage to increase its appeal to prospective students.

The campus, just shy of 1,600 acres contains the core academic facilities and residential units in two locations that house 2,080 students, a remote athletic facility (the Barlow site), trails and mapped natural features, a facilities and police complex, astronomical observatory, etc. Lake Fred, once a predominant vista is less of a feature; with the growth of trees and understory, the lake has become difficult to see from most locations. The extensive site, much of which is wetlands and habitat for a wide variety of flora and fauna, is cherished by the College community and nature lovers in the immediate locale and region beyond.

The original campus plan, completed in 1970, became the basis for the design of buildings for Stockton State College which graduated its first class in 1973. The plan was updated in 1990 by Geddes Brecher Qualls & Cunningham, the original campus architects. This second update considers the previous assumptions and refreshes the concepts that served to make Stockton an icon of 1970s campus architecture and celebrated as one of New Jersey’s architectural treasures (New Jersey Monthly, April 1999).

In addition to the Pomona Campus, the College has facilities at Nacote Creek, an environmental research station, Mays Landing (leased), and at the restored Carnegie Library in Atlantic City. While these are vital to the mission of RSCNJ they are small in scale and offer limited or no opportunity for expansion. The college continues to explore opportunities to acquire or lease strategically located properties in the immediate vicinity and where the College already has a presence.

The attributes that make the campus unique are the same that serve to curtail its development. Most of the site cannot be developed according to the 1990 rezoning agreement that restricted development in accordance with the NJ Pinelands Comprehensive Management Plan. The significant restrictions to expansion led the team to take a pragmatic approach and focus on the core campus (within the boundary visually apparent in the aerial view to the left and outlined in red on page 11) as the optimal location for new academic and support space. Housing, facilities support and recreation are candidates for location in off-campus or satellite facilities.

The aerial photograph on the left illustrates the current development to the south and north of Lake Fred.
The map on the right (land use plan) illustrates the contiguous College property with the two campus entrances at the intersections of College Drive with Jimmie Leeds and Pomona Roads. The plan shows the Atlantic City Medical Center property at Jimmie Leeds Road which has a second entrance along College Drive.

Below that is the original site plan from 1971 Comprehensive Architectural Master Plan. The buildings in yellow are the first phase of construction, Wings A-D. At the time, the designers anticipated continuation of the Gallery beyond its current termination at Wing N. Parking to support the academic core was located along College Road. The original housing along the North side of Lake Fred was connected by a short path across the Lake to a proposed second phase of residential units.

The original master planning precept was based on a Gallery (connecting circulation spine) that would energize and link the various programs, functions and spaces to support an interdisciplinary approach. All academic space would be within a five minute walk and parking at the perimeter would keep the central campus pristine. The wooded zone or threshold one passes through from parking en route to class served to buffer the large expanses of parking. The plan which envisioned a campus of 7,500 (still the working assumption) would continue to expand in a linear fashion and with it the required parking.

The photographs on the following page, published in *Architectural Record* (March 1973), illustrate the newly built Gallery near the B-Wing.

The 1990 update by the same architects, illustrated on the next page, expanded on the original concept with the constraint of the new Pinelands agreement that required development to be concentrated in the previously developed zone along College Drive. One proposed new construction zone terminated in a quadrangle at the end of the A-Wing and along College Drive. At the opposite end, constrained by housing, a second development zone concentrated new facilities around a proposed West Quadrangle near the Performing Arts Center.
The campus has evolved in the linear pattern of the original concept over the better part of the past thirty-five years. The Pinelands agreement that required contained development has forced a departure from the linear to more condensed development.

The plan on the right reflects the campus today. Several new facilities suggested in the 1990 plan have been realized. The Art & Sciences Building and West Quad Academic building are departures from the original concept in that they are freestanding. While they make a visual connection to existing buildings with orientation and scale, they introduce new materials and depart gently from the 1970s vocabulary of metal panel, glass and exposed steel trusses.

The Arts & Sciences Building is a signature building which after a view of housing on the right provides the first impression of the academic campus along the northern entrance from Pomona Road. It is a colorful brick building which anchors the end of the spine with a strong visual impression and entrance circle/courtyard. The most recent academic building, West Quad, not visible from College Drive, introduces more brick onto campus and makes the first gesture toward the new quadrangle, setting up a symmetry and alignment with the main buildings.

The Multipurpose Recreation Center (MPRC, also called Big Blue), located over athletic fields shown in the 1990 plan, looms large over the visual entrance to campus from the southern entrance at Jimmie Leeds Road.

Other recreation space within the core campus zone includes the gymnasium and pool (in I- and L-Wings), track, fields and tennis courts along the Lake and near Housing II & III. Informal recreation is very limited on the core campus. The Barlow site, a 60-acre tract on route 575, the Pomona-Mays landing Road has baseball and softball fields, however it is accessible only by car or long walk through the woods or around the campus property.

The College has added space that interconnects wings on the lake side. A project to renew the exterior metal panel system is ongoing and construction of the F-Wing Expansion, scheduled to start in 2005, will add academic space to the core campus. The addition of two floors to the existing single story F-Wing conserves building footprint and site coverage and maintains a connection to the Gallery. Ongoing site and infrastructure improvements include walkways to and from Housing I and IV, an aquifer storage system, etc. A complete list of proposed projects is included in the Implementation section.

The detailed plan on page 12, zooms in on the core campus and contiguous buildable area. The diagram illustrates some of the current features and challenges:

- Expansive parking along College Drive
- Signature building at the northern entrance, now framed by a temporary parking lot between the circle and College Drive
- Wooded buffer than transitions from parking to the campus buildings
- Imposing MPRC
- Loss of Lake views except for the view from the beginning of Lakeside Lane and the shoreline
Contiguous campus with housing and lakes
The first Stockton College facilities were new in 1970. Thirty-five years later, with a significant increase in the student body but without a proportionate increase in new facilities, the campus complex does not meet the functional requirements for a college its size. While there have been many renovations and a few new buildings, space is still inadequate to support the thousands of students, faculty and staff that live, learn, work and visit the campus every day.

The need for more academic space, updated performance space and athletic facilities, demand for more housing, stress of additional traffic and conflict between vehicles and pedestrians suggest a need to re-envision the campus to meet the needs of a future, larger community.

Space shortfalls have been a persistent problem and continue to compromise the teaching environment. The College has made the case for additional space for many years. This study and the programming process validate the need and confirm that the institution has considerably less per student than comparable institutions.

• Academic teaching space and faculty offices are inadequate
• Student services and student center activity space are scattered and inadequate
• Athletic and recreation facilities, indoor and outdoor, are inadequate: the College is one playing field short, the pool is undersized for NCAA meets and the MPRC cannot meet the demands of the increasing campus population.
• A new art gallery, envisioned as a component of the Arts and Sciences project was dropped from the project for reasons of cost; it is sorely missed by the Department and the College community.
• Performance space is out of date and there are no facilities for very large events or graduation ceremonies which are held in two sessions.
• Housing has not kept up with demand. Amenities that appeal to college students and give them reason to stay on campus during the evenings and weekends need to be integrated into the core campus.

The Gallery still has the exposed structure and clean lines and is a very successful part of the original design. It is integral to Stockton’s culture; students, faculty and staff know they will encounter colleagues and friends and enjoy impromptu exchanges as they walk to class or to lunch. Comparison of the original design (page 9) with the current image on the left suggest it needs to be refreshed with new finishes, colorful graphics and signage, and perhaps increased utilization in the form of activity areas.
Site: Infrastructure, Vehicular Circulation & Parking

**Infrastructure**

The College continuously upgrades its infrastructure, and has a number of ongoing and proposed projects: parking lot paving and lighting and roadway upgrades, etc. Also underway is a sewerage study to address and coordinate the infrastructure for future loads imposed by the College and Medical complex.

**Electrical** - The campus has a high voltage feed from Pomona Road, provided by Conectiv, the local power company. There are two high voltage switches along College Drive near the entrance to Lakeside Lane which in turn, feed a dual distribution along college walk. The College is intending to augment the existing system with a second electrical service distribution from Jimmy Leeds Road to add reliability and capacity to the campus electrical system. Emergency generation for the campus and the telecommunications and computing facilities in particular needs to be upgraded.

**Water** - The campus is supplied water for domestic use as well as fire suppression from a 10" water main served by two wells and a 300,000 gallon storage system in the wooded site on the east side of College Avenue. About half of the available 10.5 million gallons per month is used.

Sanitary sewer – the main campus line runs under College Walk and connects at two points along College Drive to a force main. The Township of Galloway has required a comprehensive study that considers future loads of the College and medical complex (Atlantic City Medical Center and Bacharach Institute for Rehabilitation) now served by the distribution and collection system owned and operated by the College.

Stormwater management, both quality and quantity are highly regulated and require retention of the 10-year storm. Site water retention is successfully managed to date with a number of retention areas and two underground recharge basins, located under the athletic field and parking lot #5. The College requires a conservative and non-structured approach to reducing run-off and maintaining the water quality and publishes Best Management Practices guidelines for campus development to support biodiversity.

**Energy efficiency and sustainability initiatives** - The College has several existing and proposed infrastructure programs and facilities that support its mission to have an energy efficient and sustainable campus.

- Geothermal field - located over a 3.4 acre site in Parking Lot 1. The system has 425 wells and a lateral field 4 feet below the surface. The recommendation is to keep this area free of future construction.
- The first phase of a new Aquifer Thermal Energy Storage (ATES) system designed to supply chilled water to the campus loop is funded and, pending approval, scheduled for construction in 2005. It will be an open loop system with 6 points of supply and return, 3 of each in the wooded buffer zone. A manifold house and cooling tower will be located to the immediate right of Parking Lot 1.
- The fuel cell is located in the woods in front of H-Wing. It is expected to have another three or so years of useful life. Relocation will cost several hundred thousand dollars, however it may be obsolete before it becomes necessary to relocate it.
- A wind turbine that would generate 1.65 megawatt is currently under study.

The campus Fuel Cell, a grant funded, energy savings and educational project
Vehicular Circulation

College Drive, also known as Vera King Farris Drive is a private roadway that runs in a north-south direction and is relatively straight in its alignment near Pomona and Jimmie Leeds Roads. The alignment is curvilinear around the campus academic core and posted speeds on College drive range from 40 miles per hour at the northerly and southerly ends to 25 miles per hour in the vicinity of the academic core. The roadway consists of one travel lane in each direction, with a variable-width paved shoulder. It is uncurbed with no sidewalks or parallel parking permitted along its length.

At its intersection with Pomona Road, a three-leg (Tee) intersection exists with a stop control at the College Drive (northbound) approach. The College Drive approach widens at the intersection to provide separate left and right turning lanes.

At its intersection with Jimmie Leeds Road, a three-leg (Tee) intersection exists with a stop control at the College Drive (southbound) approach. Right turns to and from College Drive are channelized with grass islands to provide jug-handle type ramps for right turns. The westbound Jimmie Leeds Road approach to the intersection provides a deceleration lane into the right turn ramp.

Traffic management and parking are a challenge.
• Traffic maneuvers into and out of parking lots, especially along curved roadway sections range from difficult to dangerous at peak traffic periods.
• There is a need to create a safer environment for pedestrians and vehicles and encourage walking.
• Parking is inadequate at peak periods
• Bus access and parking creates conflicts and congestion.
• The long wide sloping sidewalks is a potential risk posed by the conflict with service vehicles and occasional skateboarders.
• Contributing to the difficulty of vehicular circulation is the directional system. Way finding is unclear and conflicted and difficult to read from a moving car. Visitors have difficulty navigating the directions for parking, and there is not a direct relationship parking and building entrances.

Internal Campus Roadways

The Academic Core is located along the westerly side of College Drive and south of Lake Fred as illustrated on the Project Location and Campus Map. The easterly side of the Academic Core is comprised of parking lots 1 through 5, which are immediately west of and are accessed from College Drive. Parking Lots 1, 2 & 3 are interconnected through internal aisles, as are Lots 4 & 5, but a wide grassed island separates these two groups of lots from each other.

Lakeside Lane runs around the northern and eastern portion of the academic core and serves as an access road to service the facility. An additional internal roadway essentially parallels Lakeside Lane and runs through the central portion of the campus. This road connects with several interconnecting roadways to provide access to parking lots 6 & 7, which primarily serve the residential housing located at the southwesterly corner of the academic core.
Two unimproved roadways exist in the vicinity of the academic core that are unpaved and do not serve traffic. Louisville Avenue runs from the southwesterly corner of the academic core (near Lot 7) in a southwesterly direction to intersect College Drive. Delaware Avenue runs from College Drive, north of the intersection of College Drive and Louisville Road, in a northwesterly direction to Pomona Road.

The northern part of the campus, serving Student Housing I, is serviced by Oak Pond Drive, which extends from College Drive to Pomona Road. This road provides access to the numerous minor roads and drive aisles that service the multiple housing buildings and parking lots.

Parking

The campus has a nine major parking lots that provide a total of 3,557 spaces on campus. In addition to the Lots 1 through 5, that serve primarily the academic core, there are four lots used by students who have cars on campus. During the peak class periods, it has been increasingly difficult or impossible to find a space; parking typically overflows onto roadway shoulders and temporary lots in various locations. There is a shortage of handicapped accessible spaces close to the buildings. Visitor parking for important meetings, events or the performing arts center is too remote to be considered convenient.

The distribution of parking spaces is shown in the chart below. The roughly 2,600 spaces in Lots 1 through 7 are proximate to the academic core. The 959 parking spaces at Housing I & IV are more remote.

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<th>Parking</th>
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<td>Total</td>
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<td>3,557</td>
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</tbody>
</table>

In the fall semester of 2004, the College initiated a new policy that restricts students who live in campus housing from driving to closer parking lots during peak hours. During the first semester, the impact seems to have had a positive impact and mitigated the shortfall. The long-term effectiveness of this initiative is yet to be determined and space for parking on campus will continue to be a challenge and a test of the success of master planning options.
Program

18 Highlights
20 Space Projections
21 Site & Parking
The Needs Assessment confirmed that RSCNJ falls far short of space required to support its mission and programs at its current student population of 5,800 FTE. The shortfall, almost 50% in the critical academic and support space categories, compromises the College’s ability to fulfill its program goals, support students with services, adequately provide for faculty office and research space, and deliver the arts and cultural programming it is committed to providing to the College and larger community.

There is a shortage of centralized student union, activity and large event space integral to the College’s goal of creating a more traditional college environment and attracting more residential students.

The model for growth used in the program scenarios was developed by the President’s Office with the Offices of Institutional Research, Student Affairs, etc. The College’s Board of Trustees recognized the model as a basis for Master Plan assumptions in the summer of 2004.

Current Situation
- 5,800 FTE
- Existing Facilities total 1.3 million Gross Square Feet on campus (includes housing)

Baseline
- 6,200 FTE or 2% growth per year for 4 years plus
- Facilities to satisfy present shortfall plus space required to support Baseline FTE plus
- Residential Life space to house 50% of FTE (3,100 residents)

Growth
- 7,500 FTE plus
- Facilities to support growth over Baseline
- Residential Life space to house between 50% & 60% of FTE (3,750 - 4,500 residents)

The ratio of FTE to student headcount is currently 85%; there are 6,800 students and 800 faculty and staff. The projections for 7,500 FTE is 8,800 students and 1,160 faculty and staff. This assumes the College will gradually decrease its student faculty ratio and that staff will grow at about half the faculty rate of increase.

The chart on the right illustrates the rough order of magnitude current and projected shortfall in the various categories most critical to the programs and functions on the core campus:
- **Academic and Academic Support** is the broad category related to instructional programs. It represents the majority of space on campus and includes classrooms, labs, studios, the library, art gallery, media and athletic facilities as well as support (faculty offices, conference, administrative space, etc.).
- **Auxiliary Space** includes student union, student and health services space, etc.
Historical Perspective and Benchmarks

It is informative to compare the College’s growth in student FTE to its program space (both actual and projected need) over the three decades since the original master plan was completed. The graph to the left illustrates a pattern of significant space shortage that was evident 15 years ago when the plan was updated in 1990.

The original master plan projected space needs (light blue) over time for increments of 1,000 FTEs with 7,500 student FTE as the estimated maximum population. In 1990 when the master plan was updated and the College had about 4,000 FTEs, the College was an estimated 200,000 Gross SF short in the category of academic and academic support space. The turquoise line reflects space needs projected out again to 7,500 FTE. The hatched line reflects the shortfall.

Almost fifteen years later, at approximately 5,800 FTE, RSCNJ has fallen further behind and now has an estimated shortfall of 300,000 GSF more than is currently in place. Carrying that forward, space for storage, lockers, shops, etc. will need to double in size to support a proportionate increase in campus functional areas.

Residential Life: Since its founding, RSCNJ’s target for the residential student population has been 50% of FTE. Today, the College houses only 37% of FTE. The goal is to increase this to 50% in the near term and as much as 60% in the future. This will impact the student union space category if the College is to provide activities that attract student to campus after class hours.

Physical Plant space, typically estimated using a percentage of overall campus space is also in shortfall; the current need is approximately 16,000 GSF more than is currently in place. Carrying that forward, space for storage, lockers, shops, etc. will need to double in size to support a proportionate increase in campus functional areas.

Historical Perspective and Benchmarks

It is informative to compare the College’s growth in student FTE to its program space (both actual and projected need) over the three decades since the original master plan was completed. The graph to the left illustrates a pattern of significant space shortage that was evident 15 years ago when the plan was updated in 1990.

The original master plan projected space needs (light blue) over time for increments of 1,000 FTEs with 7,500 student FTE as the estimated maximum population. In 1990 when the master plan was updated and the College had about 4,000 FTEs, the College was an estimated 200,000 Gross SF short in the category of academic and academic support space. The turquoise line reflects space needs projected out again to 7,500 FTE. The hatched line reflects the shortfall.

Almost fifteen years later, at approximately 5,800 FTE, RSCNJ has fallen further behind and now has an estimated shortfall of 300,000 GSF based on recognized planning guidelines. It is interesting to note that space required to support a college population of 7,500 FTE is now estimated (in teal) to be higher than it was in 1970 and slightly less than it was projected to be in 1990 when the State of New Jersey’s Department of Higher Education set the space standards.

The current need for more space per FTE is further validated by a comparison to other institutions that RSCNJ considers its peers, competitors or benchmark schools in one category or another. While perfect comparisons are difficult to obtain, the findings suggest that for its size and mission, the College falls far short in facility capacity compared to public and private four year colleges. In the pool of eight colleges and universities surveyed, RSCNJ compares most closely to the ranked community college in total campus space (excluding housing). New Jersey institutions have 24% more space per student than RSCNJ; out of state institutions have more than 60% additional space.
Space Projections

While space is inadequate in almost every category, the shortfall is most severe in classrooms, teaching and research labs, faculty offices, assembly / exhibit and central computing. The College provided a list of every space in its inventory, course data, student enrollment, date and time of section and class location. In addition to student FTE and breakdown by undergraduate and graduate, full and part-time, the planners had information on faculty, staff and student workers to factor into the model for projecting space.

The planners built into calculations the College’s goal to decrease the student to faculty ratio from the current 20.5:1 to between 16:1 and 18:1. In addition to increasing the number of faculty offices, there is an increase in space per faculty, consistent with current planning practices to give full time faculty his / her own office and provide for administrative support and conference room space.

The chart on the next page illustrates the proposed program for academic, athletic/ recreation and student center space. It is reflects the rough order of magnitude GSF for planning purposes.

Current Shortfall

The chart reflects existing space of approximately 620,000 Gross Square Feet (GSF) in Academic and Student Union (Auxiliary) space. The current shortfall is estimated at more than 300,000 GSF, close to 50% of current space in the functional areas. This severe need was validated in discussions with many campus representatives during the programming process is consistent with planning metrics and state guidelines for a College of 5,800 FTE.

Future Needs

As enrollment increases to the baseline planning number of 6,200 FTE, the first planning horizon, the space needs in the two categories is projected to increase to almost 360,000 GSF, 60% over the current gross SF area on campus. Note that the chart reflects that two projects, the faculty bridge just completed and the F-Wing Expansion will offset the shortfall by 31,500 GSF. The resulting need is approximately 326,000 GSF.

An additional 232,000 GSF will be needed to support an increase from 6,200 to 7,500 FTE. The projected need for the larger population represents the addition of 90% more space than is currently on campus in academic and student service space. Added to this area in both time horizons will be some physical plant space to provide for storage and on site maintenance and shops.

As discreet projects are advanced, approved, funded and designed, it will be necessary to test the program for each proposed project, and consider the specifics that will ensure the there is appropriate efficiency, flexibility and the technical requirements to ensure every project contributes the maximum usable space to the campus pool.

The complete Needs Assessment report is available under separate cover.
**Summary of Academic and Academic Support Space Needs for two planning horizons**

<table>
<thead>
<tr>
<th>Space</th>
<th>Baseline</th>
<th>Deficit</th>
<th>% Deficit</th>
<th>Future Growth</th>
<th>Incremental Increase</th>
<th>% Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Current</td>
<td>Baseline</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classrooms &amp; Service</td>
<td>62,915</td>
<td>122,301</td>
<td>59,386</td>
<td>49%</td>
<td>147,828</td>
<td>25,527</td>
</tr>
<tr>
<td>Lab Workshop &amp; Studio</td>
<td>128,257</td>
<td>209,849</td>
<td>81,592</td>
<td>39%</td>
<td>259,607</td>
<td>49,758</td>
</tr>
<tr>
<td>Offices &amp; Service</td>
<td>107,977</td>
<td>210,630</td>
<td>102,653</td>
<td>49%</td>
<td>286,479</td>
<td>75,846</td>
</tr>
<tr>
<td>Library</td>
<td>68,105</td>
<td>113,336</td>
<td>45,231</td>
<td>40%</td>
<td>129,565</td>
<td>60,234</td>
</tr>
<tr>
<td>Athletics and Recreation</td>
<td>131,291</td>
<td>141,133</td>
<td>9,842</td>
<td>7%</td>
<td>161,430</td>
<td>20,297</td>
</tr>
<tr>
<td>Student Union</td>
<td>65,749</td>
<td>94,315</td>
<td>28,566</td>
<td>30%</td>
<td>114,000</td>
<td>19,685</td>
</tr>
<tr>
<td>Other: computing, assembly &amp; exhibit, etc.</td>
<td>57,622</td>
<td>88,185</td>
<td>30,563</td>
<td>5%</td>
<td>112,988</td>
<td>24,803</td>
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<tr>
<td><strong>Total</strong></td>
<td>621,916</td>
<td>979,749</td>
<td>357,833</td>
<td>37%</td>
<td>1,211,897</td>
<td>232,148</td>
</tr>
</tbody>
</table>

Incremental GSF Increase required: 357,833

**Current Projects**

- Faculty Office Bridge (completed fall 2004): 2,500
- F-Wing Addition (in progress): 29,000
- Phase 1A GSF: 31,500

Required after Phase IA Completion: 326,333

Required after Phase IB Completion: 232,148

* excludes residential and physical plant space

**Physical Plant Space**

The Physical Plant category includes non-equipment plant space such as shops, service areas, equipment and materiel storage, staff lockers, etc. It is typically a percentage of other gross campus building area, and is calculated after other space is projected.

Stockton has a significant shortage of physical plant space. There is approximately 26,000 GSF of support space; based on typical planning guidelines, the College should have 42,000 GSF. This shortfall is evident from the numerous trailers currently used for storage in areas proximate to and remote from the core academic center.

The program suggests that the College will need to triple its physical plant space to 80,000 GSF in order to maintain and service the facilities for a campus with 7,500 FTE. Physical Plant space will need to be developed on campus as a part of new projects although some component can and should be remote.
Residential Space

Residential space is located in four housing groups to the north and south of the core academic zone. RSCNJ currently provides housing for 2,080 students, 37% of its student FTE. The College would like to increase the percentage housed and have a critical mass of residential students and activity space to create an inviting and sustainable residential environment. The goal is to increase students in residence to between 50% and 60% of FTE. The chart below illustrates housing requirements for the planning horizons for the two percentage goals.

- In the near term, increasing the percentage of student housed will require additional 1,000 beds.
- A goal of 50% and 60% for an FTE population of 7,500, will require an additional 1,670–2,420 beds (Option A which assumes the target 7,500 FTE population will be resident on the Pomona campus).

Another scenario for 7,500 FTE (Future Option B) assumes that a component of future academic space will be in off campus or in satellite facilities, thereby reducing the student FTE on which the housing percentages would be based. 6,700 FTE on campus is the basis for this calculation.

Since developable land is so limited and the College can provide housing equally or more efficiently through a third party, future housing will likely be developed off campus. New residential space will need to include amenities such as dining, fitness, gathering space, etc. A percentage of this space should be developed on campus to enhance the feeling of residential college and attract students to campus after class and on weekends.

<table>
<thead>
<tr>
<th></th>
<th>Current</th>
<th>Baseline-Growth Scenario</th>
<th>Future Option A</th>
<th>Future Option B</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTE</td>
<td>5,800 (+/-)</td>
<td>6,200</td>
<td>7,500</td>
<td>7,500 (6,700)</td>
</tr>
<tr>
<td>Actual 37%</td>
<td>2,080</td>
<td>2,294</td>
<td>2,775</td>
<td>2,479</td>
</tr>
<tr>
<td>shortfall</td>
<td>(214)</td>
<td>(695)</td>
<td>(399)</td>
<td></td>
</tr>
<tr>
<td>Target 50%</td>
<td>3,100</td>
<td>3,190</td>
<td>3,350</td>
<td>3,350</td>
</tr>
<tr>
<td>shortfall</td>
<td>--</td>
<td>(1,020)</td>
<td>(1,670)</td>
<td>(1,270)</td>
</tr>
<tr>
<td>Target 60%</td>
<td>3,720</td>
<td>4,590</td>
<td>4,020</td>
<td>4,020</td>
</tr>
<tr>
<td>shortfall</td>
<td>--</td>
<td>(1,840)</td>
<td>(2,420)</td>
<td>(1,940)</td>
</tr>
</tbody>
</table>
Site & Parking

Site

The programmatic issues and development guidelines for the site were addressed with the Dean of Athletics and Recreational Programs & Services, the Planning Committee, biodiversity interest group and Campus Police and THE Galloway Township and Pinelands Commission staffs.

• Improve overall visual impact and first impressions of the site
• Introduce visual cues so the site will feel more like a traditional college campus
• Promote sustainable design in treatment of the site and use of materials and landscaping and
• Enhance opportunities for enjoyment of site and passive recreation, such as new trails
• Improve wayfinding and signage
• Improve pedestrian circulation and parking and traffic safety

There are a number of initiatives currently in the planning stages that will have positive impact on the campus: improved pedestrian paths, better lighting and more bike paths.

Outdoor Recreation & Athletic Program Requirements

Currently, the College has a deficit of one playing field. When Field #4 on the main campus goes offline, there will be a shortfall of two fields for intercollegiate and intramural recreational play. Plans to further develop the Barlow site, on Route 575 / Pomona-Mays Landing Road, where baseball and softball fields are located is under consideration. The site is approximately 60 acres; 11 acres are used for ball fields. While there are obstacles to development on this site, it should be explored before any core campus outdoor facilities are taken out of service. The following is the proposed program for the Barlow site.

• Artificial turf field: 150 yards by 150 yards, Mondo or Field Turf
• Natural turf field: 120 by 75 yards
• Lighting adequate for night play for women's field hockey, men's lacrosse, softball, baseball as well as intramurals and recreation events
• Field house with bathrooms, showers, change facilities and storage to support site activity
• Parking sufficient to accommodate cars, vans and buses for as many as five separate and simultaneous activities

It is anticipated that the installation of synthetic turf fields will generate an increased demand from the community for field usage. The calculation is based on the addition of no new sports. However, there is a likelihood that women's lacrosse may be added based upon interest, funding and adherence to the NCAA gender equity guidelines.
Parking

Parking will continue to be one of the biggest competitors for the limited developable space in the core campus zone. Surface parking is provided for a total of 3,557 cars; 55% of the spaces are located in the academic zone and the balance is divided between the two housing areas. Many resident students drive to class, effectively taking two spaces at peak class times, leaving drivers searching for space and parking in gravel areas or on shoulders. The existing parking configuration does not serve visitors well and there is a shortage of well-located accessible spaces for handicapped students, staff and visitors.

Estimates for future parking can be based on student FTE, total students, faculty and staff headcount and number and location of resident students. The consultants estimate an additional 300-325 spaces would mitigate the current parking shortfall during high demand periods Monday through Thursday.

The College’s initial recommendation for calculating parking was the sum of parking spaces for:
• 50% of the student headcount (versus student FTE)
• 60% of the faculty and staff headcount, plus
• 100% of residential students

This would result in a doubling of the current parking spaces on campus to support 7,500 FTE, approaching nine cars for every ten people, an unsustainable amount of parking even in garages. Parking statistics and proposed demand calculations vary widely across college and university campuses and are highly dependent on the local context, public services and the number of student, faculty and staff who can walk to campus. In addition to visitor and accessible spaces, parking for athletic and cultural events that attract large public audiences as well as the college community is required.

The College administration and master planners concur on the need for parking garages to provide space proximate to academic and public use spaces. The planners tested additional parking in relation to core facilities that is in scale with development and does not decrease the current ratio of .6 spaces per FTE. Further study to verify demand, alternatives to on-campus parking and the cost benefit of garages versus a campus transit system is needed.
Concept Studies

Linear Concepts

<table>
<thead>
<tr>
<th></th>
<th>Vision</th>
<th>Program</th>
<th>Physical &amp; Visual</th>
<th>Logistics</th>
<th>Overall Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Linear Formal</td>
<td></td>
<td></td>
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</tbody>
</table>

One of the initial concepts, this is modeled closely on the original campus plan. A parallel mega-structure with a gallery and academic wings would create more density in the core built area of campus. This concept would require a strong internal focus to be successful. While it can meet the program needs, the buildings turn their backs on the front door to campus and compromise the wooded zone which is a key feature of the campus. Parking would continue to be pushed to the campus perimeter, forever remaining the visitor’s first impression. The opportunity to create a new image and more community friendly face is lost. While the concept builds on a successful past formula, it lacks the flexibility and rational circulation that the single building provides. The central core space is not well defined and the concept would be weak until a substantial part of the future plan could be implemented.

<table>
<thead>
<tr>
<th></th>
<th>Vision</th>
<th>Program</th>
<th>Physical &amp; Visual</th>
<th>Logistics</th>
<th>Overall Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>-</td>
<td>0</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Linear Informal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In contrast to the formal plan, this concept continues the linear pattern but in a more casual informal pattern. Like A, it misses the opportunity to create a new entrance and seems to turn its back on the expansive and beautiful campus environment. The new small quads have the potential to be linked but may not be adequate in size to create the variety of spaces for various activities or offer an expanse of space for large events or recreation. Both buildings and quads would be weak without programmatic themes that rationalize and organize the space. While the concept offers the opportunity to construct discreet projects, it lacks a hierarchy and an organizing principle. Circulation in and around the core campus is disconnected. Opportunities for signature architecture may be compromised by the density of the plan as buildings would be in close proximity to each other.
Axial Concepts

The axial concepts blend the geometry of the existing buildings as they stretch across the site with a new central axis. Concepts C & E introduced a new axis to bring the campus facilities (rather than parking) out to College Drive, creating a new presence and sense of arrival for the first time visitor and college community members.

The buildings, which echo the geometry and orientation of the existing plan are probably too close to each other to provide for meaningful outdoor space. There is no compelling sequence of new buildings which could leave the campus lacking an organized theme as it grows.

This axial concept reintroduces the parallel development with a new axis. As a hybrid, it completes the West quadrangle with new academic buildings and develops two new quadrangles that extend toward College Drive. Open space and surface parking create a buffer between the academic buildings and College Drive. This concept addresses an important move toward a new front door image and first impression along College Drive.
Scheme F illustrates the concept that evolved into the recommended plan. The sketch on the right builds on the previous concepts and captures the best ideas of each scheme the team studied. This concept completes the western zone with a new quadrangle that started with the last major addition to campus, the West Quad Academic Building. It provides a new axis and central landscaped mall that has the scale and presence to serve as a new ceremonial campus entrance. In lieu of a signature building at the terminus of the axis, the plan leaves the quadrangle open inviting views toward the center of campus. It suggests that each new building rather than a single can contribute to the feeling of the campus as a traditional college space and a positive first impression for those coming to campus from either direction.

Axial Concepts

<table>
<thead>
<tr>
<th>Vision</th>
<th>Program</th>
<th>Physical &amp; Visual</th>
<th>Logistics</th>
<th>Overall Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>0</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

Development Strategy

The recommended concept, refined over a number of weeks in meetings with the Planning Committee, is illustrated on the opposite page in its final form. The plan accommodates the recommended program and provides for parking in garages, replacing spaces lost to new buildings sites. The plan refinements reinforce the central axis with what is now expected to be the first new facility, the College Center visible from the main entrance. In this location, the Center will serve as a visual focus as well as a collection point on the plan for pedestrian traffic from all directions. The final program and configuration of the College Center as well as subsequent facilities will be determined as each project is developed in a preliminary design phase for review and approval by the Board.

Plan features:
- Provides opportunity for new signature buildings and new architectural image for the campus
- Balances the need for parking garages to be located at the campus edges but mitigates the impact of their placement.
- Succeeds over the next few years as a work in progress as well as a complete campus. It does not dictate which project or which location should be developed first.
- Permits the construction of new buildings in existing parking lots and provides flexibility in timing
- No new impervious coverage

Zones of development suggested by the different colors are described in greater detail in the next section that also provide recommendations on infrastructure, circulation, image, etc.
The projects identified on the site plan are listed by Zone, rather than by phase. Gross Square Foot areas are approximate and based on 3-story high buildings. The exceptions are the Science Center, at 4 stories in Zone 2 and Lakeview Building at a proposed 5 stories in Zone 1, higher to take advantage of views of the Lake and landscape.

With the exception of the College Center, which has emerged as a priority, the order of new buildings is undetermined. The last section includes a timeline that provides a preliminary phasing plan.

**Zone 1** is closest to the existing campus and has little impact on parking
- College Center and Academic space: 150,000 GSF
- Academic Space - West Quad: 75,000 GSF
- Academic and Support - Lakeside Building: 75,000 GSF
- Recreation & Athletics: 10,000 GSF
- Parking Garage I: 700 cars
- Art Gallery: shown on this plan in its previously proposed location and footprint as a part of the A&S Building

**Zone 2** includes the facilities have an impact on parking. They are on the new axis and frame the new campus green.
- Science Center: 150,000 GSF
- Academic Buildings (with academic support space, administration): 165,000 GSF
- Athletic Facility Expansion with Pool: 40,000
- Parking Garage II: 900 cars
- Parking Garage III: 1,350 cars

The total new area to support academic and support space and student services shown on the plan is approximately 665,000 GSF and illustrates capacity for each zone. The plan provides for program flexibility, the addition of physical plant area and activity and support space for an expanded residential program, as required.

Additional utility, infrastructure, graphics and landscaping projects to support the plan are described in the next section.
Recommendations

33 Concept
36 Site: Safety, Circulation, Parking & Wayfinding
49 Infrastructure
53 Environment: Regulation, Biodiversity, Sustainability
60 Campus Image: Architecture, Landscape & Art
The site plans on the following two pages illustrate the proposed campus master plan to support a College community of 6,200 and 7,500 FTE. In lieu of phases, the proposed development zones do not define or require a specific project size or sequence, likely to change over the years with fundraising activities and program priorities.

- **Development Zone 1** (orange) is the area that can be developed without significant reduction in surface parking. New construction includes the College Center that will be closest to the existing buildings, a new parking garage that, with the new academic buildings will serve to complete the West Quad, and the F-Wing expansion (funded and schedule to start in 2005). The building opposite the College Center along the new axis, creating a terminus at the Lake is a future academic building that may include some conference facilities. The Lakeside Building is shown at 5 stories, higher than the rest of the complex, in order to take advantage of the view. Also shown is a 10,000 GSF addition to the MPRC, and at the opposite end, an Art Gallery, an unbuilt program component of the A & S Building.

- **Development Zone 2** (rose) illustrates buildings that will define a new campus green along the new axis, a new view to a welcoming college center, at the end of the green and very close to the geographic center of the campus. These facilities will displace existing parking lots and include a new Science Center, academic and administrative space, an addition to the athletic facility, a pool and structured parking to replace spaces in Lots 2 - 5.

The plan on page 35, with Development Zone 1 only, illustrates an important feature of the plan. The location of buildings in the Zone 2 are aligned with the parking lot bays and can be phased in a way to minimize spaces lost as various facilities are constructed. The Science Center can be constructed in Lot # 2, the campus green can be built in phases and gradually displace spaces in Lot # 3, In turn the academic buildings to the left of the campus green will be completed in a later phase and displace parking in Lot # 4 when the third garage will be required.

The plan limits new construction to the core campus and does not add impervious surface. It creates a new entrance and a new central green for both active and passive recreation.
Campus Plan: Development Zones 1 & 2
Campus Plan: Development Zone 1
Site: Campus Safety, Circulation, Parking & Wayfinding

Campus Safety

Traffic safety and circulation are among the most important issues to the Campus Police who provided input on the preliminary plan. The plan addresses concerns in the following ways:

- College Drive will be upgraded to provide improved turning lanes onto campus. Shoulders and walkways will be considered for heavily traveled areas, although there may be limitations on width of roadways in wetlands buffer areas.
- The roadway now called Athletes’ Way will be improved as part of the new garage and Louisville road upgrade. A boulevard and traffic calming devices are proposed for this section of roadway.
- Access to Lot 1 off College Drive is located on a curve. The Master Plan recommends relocation of a new major entrance boulevard further toward Pomona Road, along a straight section of College Drive. The recommendation to relocate campus entrances from curved to a straight roadway sections should be considered for the entrance to Housing I & IV on Pomona Road.
- Bus queuing and parking space is enhanced at the MPRC entrance to accommodate as many as 8 buses for large events.

Accessible parking spaces are being increased and located proximate to campus buildings. While several areas of parking are highlighted on the plan, each lot and garage will have a percentage of spaces that accommodate the handicapped. They will be located with required signage and provide well-marked accessible paths of travel to buildings.

As the College restricts residential student parking on the core campus, it needs to upgrade paths of travel across the lake and along the road from housing to classes and dining. Some of these projects are in process; a new walk along College Drive will be completed in summer of this year; it includes improved paving, lighting, and an upgraded spillway.

With respect to other public safety issues, none of the proposed facilities will be higher than 5 stories which can be served by the local fire department. All new facilities will be designed to comply with applicable building, life safety and accessibility codes.

Site Circulation

The existing campus cannot accommodate additional buildings and parking supply within the existing developed footprint without structured parking and more efficient use of the on-site circulation patterns. The proposed layout promotes a safe and efficient layout within the academic core, reduces pedestrian/vehicular conflicts, introduces traffic calming elements to restrict travel speeds, and promotes separate service roads with minimal conflicts to student/staff parking and pedestrian flow.

Three main access points to the academic core off of College Drive should be provided as indicated on the site plan. Each unsignalized access point should provide a center left turn lane with a minimum 75-foot storage length. A dedicated right turn lane should be provided with a 75-foot storage length. Pavement tapers for the turn lanes should be provided that comply with the 2004 Edition of the Policy on Geometric Design of Highways and Streets published by the American Association of State Highway and Transportation Officials.
Plan of vehicular circulation
The central and southern (Louisville Drive extension) exit roads intersecting College Drive should be provided with a two-lane approach to separate left and right turns onto College Drive. No internal intersections should be provided within 150 feet of the College Drive intersections to eliminate overlapping conflicts with closely spaced adjacent intersections.

The access points to the academic core provide sufficient capacity for the anticipated vehicular volume expected with an FTE of 7500 with the recommended geometric configuration. The channelized turn lanes on College Drive provide capacity for traffic entering the campus without impacting through volume on College Drive.

The construction of Louisville Road is necessary to provide an additional point of access to the academic core that is not in close proximity to the other intersections on College Drive. Its connection to the southwestern portion of the academic core reduces traffic volume at the main access roads, and the expansion of parking and academic facilities near Parking Lot 7 require that additional traffic access this portion of the core.

The existing intersection of Louisville Road and College Drive should be improved with its construction. Currently, Louisville Road intersects College Drive on the outside of a curve in the road alignment creating a three-leg intersection with significant restrictions in available sight distance. As Louisville Road extends towards College Drive, its alignment should follow the Delaware Avenue alignment to intersect College Drive at a straight segment in its alignment.

The additional traffic utilizing the college facility will add traffic volume on College Drive at its intersections with Pomona Road to the north and Jimmie Leeds Road to the south. The area roadway volumes and the increase in college destination traffic reduce the capacity of these intersections and necessitate traffic lights at both locations.

### Parking Scenarios

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Current need</th>
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* Dependent on % increase in new resident students to provide for 50% of FTE (1,015 in Phase I and 1,665 in Phase II)

Parking

Three proposed garages will add up 2,950 spaces, which provides for those 950 or so displaced. The number of space provided is consistent with the current ratio of .6 spaces per FTE for a total of 7,500 FTE. Re-stripping Lot 1 in the near term add space. A proactive stance toward balancing demand with the negative impact of more cars on the core campus needs to be backed up with a detailed study.

While the garages are located along the College Drive entrance to campus, the team recommends reducing the visual impact with architectural treatment that complements the buildings. Two examples of successfully design structured parking buildings are shown on the right.
Wayfinding

The goal of a wayfinding program is to help visitors find their way to and around the College by presenting an accessible, friendly and organized campus.

The following wayfinding principles have guided our process and recommendations:

- The system is intended for first time visitors.
- First impressions and perception play an active role in determining the best route.
- The best route may not be the shortest or quickest.
- Terminology must be kept short and easily understood by a visitor.
- Departure routes are equally as important as arrival routes.
- A consistent and uniform design helps builds trust among the end users.

The following considerations are important for the College's wayfinding program:
- Consistent implementation of the Richard Stockton College name and brand to reinforce a unified and positive image.
- Clear regional access to the campus from the surrounding highways and local roads.
- Organized information hierarchy that provides a clear understanding of the campus, especially for the first time visitor -- campus gateways, vehicular circulation and parking, pedestrian paths, building entrances
- The Gallery and its role in orienting the building occupants

Conditions that effect wayfinding or present unique situations: evening/darkness, events (athletic, performing arts), etc. Maintenance and procurement and campus operational issues

Integrate the signage and wayfinding strategy with landmarks and public art.

The following pages highlight the team’s observations and preliminary recommendations for the following:
- Information hierarchy
- Regional access
- Gateways
- Campus zones
- Circulation building terminology and Identification Interior Circulation
- Wayfinding Tools and Landmarks
- Menu of Sign Types: Exterior and Interior
- Design intent and branding

Recommendations are provided for both the current campus configuration and a future time when some or all of the new facilities including parking garages are in place.

Information Hierarchy

Development of an organized information hierarchy is key to all wayfinding programs. The hierarchy is initially established when receiving directions either verbal, written or web based. The information a visitor receives and the order and priority it is presented affects the end users’ understanding of the campus and process of traveling from one point to the next.
Vehicular to Pedestrian Travel Transition

As a visitor exits his vehicle, "gateways" should be established at the two pedestrian entry points to the campus identifying the zone(s) and building(s) best served by this path. Pedestrian directional signs and orientation maps then direct to building entrances.

Building entrances should be clearly marked either by ground or building mounted signs (or both) based on visibility, distance and site-lines.

Campus Zones

The use of zones is a common tool in developing a wayfinding program. Zones allow information to be more easily understood and provide control of the number of messages that appear on signs. Zones can be established through strong graphics, icons and color.

The West Quad currently acts as a zone by both its physical layout and nomenclature. The buildings that make of the central portion of the campus (buildings E through I) and the eastern edge of campus are rarely referred to as a zone, only the architecture of the AS building provides a good landmark for the east.

The linear layout of the campus presents simple access and circulation patterns to the interior of the campus, with direct routes to buildings and wings.

Information is provided from a macro (directions to Galloway Township) to micro directions ("go up the steps to the second floor, room K242, second door on the right"). At RSCNJ, the following issues affect the information hierarchy:

Visitor Parking

Vehicular to Pedestrian Travel transition

Campus Zones (West Quad, East Campus, etc).

Building Entrances

Establish visitor parking spaces within a variety of parking lots and as close to campus buildings as possible. Currently there is no designated visitor parking. This unnecessarily complicates both orientation and ability to process the next step, transition to pedestrian.

In the future, establish all visitor (and handicapped) parking on the first level of the parking garages that will located for ease of access to both the eastern and westernmost points.

Recommendations

Establish visitor parking spaces within a variety of parking lots and as close to campus buildings as possible. Currently there is no designated visitor parking. This unnecessarily complicates both orientation and ability to process the next step, transition to pedestrian.

In the future, establish all visitor (and handicapped) parking on the first level of the parking garages that will located for ease of access to both the eastern and westernmost points.

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The linear layout of the campus presents simple access and circulation patterns to the interior of the campus, with direct routes to buildings and wings.
Building Entrances

The existing mega-structure is very porous, with numerous entry points. Signage with the appropriate scale, identifier and message should identify each building entrance. Large graphics or architectural elements help identify portals or primary entry points; on the other hand a simple sign communicates that the entrance is a secondary entrance and access is limited or not on the main circulation route.

Regional Access

Richard Stockton College is a major destination and important asset of Galloway Township. Establishing direct and easily accessible routes to the campus is the first step of a visitor’s journey. It is also may be a visitor’s first impression of the College. Today, nomenclature on the surrounding roadway signs is inconsistent and outdated; signs refer to Stockton State College or simply Stockton College.

Recommendations

• Perform a comprehensive review of existing and desired routes to the campus: Atlantic City Expressway, Garden State Parkway, Route 9 etc. Inventory existing highway and roadway signs. Work with NJDOT and Galloway Township to update the existing signs and add signs where necessary to complete, enhance, extend or add a route.

Gateways

Gateways provide a point of arrival and on a traditional campus it can provide orientation and a starting point to receive information regarding the visitor’s journey.

The layout of Richard Stockton College provides 2 points of entry, with ceremonial gates. While this provides visitors with a sense of arrival, once you pass the gates, you must travel a significant distance prior to arriving at the campus proper and parking areas.

Recommendations

• The traditional of the design of the gate should be enhanced to properly convey the Richard Stockton College brand. This is the schools first opportunity to make an impression and establish its brand. The visitor should receive additional information immediately after the gate and again as they approach the decision point.
• Non-traditional gateways (banners, kiosks and sculpture) which can be used to mark key entry points are discussed later.

Campus Zones

The use of zones is a common tool in developing a wayfinding concept. Zones allow information to be easily understood and limit the number of messages on individual signs.

Currently, the West Quad and perhaps the student housing areas act as zones. Demarcating additional zones will allow the college to organize and group destinations to provide an understandable breakdown of information, including parking, buildings, wings and rooms

Recommendations

Only the buildings on the western edge of campus should be organized and referred to as a zone, in this case “West Quad”. The following zones may be established. Names presented are for discussion only;

- West Quad - Buildings J through M
- Central Campus - Building E through L
- East Campus - Buildings AS and A through D)
- North Commons - Student Apartments: Housing I, V and Lakeside Center
- South Commons - Housing II, III and Townsend Residential Life Center
- Athletic Complex

Future Zones
- Main Quad or Campus Green - New building area, Zone II

Example “West Quad” will be referred to on directional signs. This will allow a person to give directions to the 7 buildings located in the zone without having to list all 7 buildings on a sign, which would be too much information to comprehend, especially from a vehicle. Pedestrian directional signs will break down the individual buildings once you arrive at the quad.

Strong and memorable graphic icons can be developed to represent each zone. All verbal and written directions should communicate zone as well.
Campus Zoning Concept
Circulation
This map indicates the primary, secondary and back of house vehicular routes utilized on the campus. College Drive acts as the primary traffic feeder on campus; decision points are located at each of the parking lot entrance and other access roads.

Recommendations
- Vehicular directional signs should be placed at all key decision points. The signs will direct to campus zones, buildings and parking lots accessed directly by those roads.
- Buildings that do not have direct access from a roadway should be identified within its zone on vehicular alert signs and at pedestrian gateways. Individual building names will appear on pedestrian directional signs.
- Only the nearest adjacent buildings should be identified along College Drive and priority should be give to those that have the most visitors.

Parking
Management of parking is closely linked with the wayfinding and can contribute to a positive first impression or greatly complicates the wayfinding experience. Safety is also an issue; emergency personnel should be able to find parking lots and buildings very easily. In the event of a life safety situation or a simple flat tire, campus users should be able to easily communicate where they are located.

Recommendations
- Visitor parking spaces should be located in individual lots close to the pedestrian paths that connect the parking lots to the campus. Each lot and garage should be identified with the zones and buildings it best serves.
- Parking lots should be clearly designated either by number or name such as Commons Lot or Athletic Complex Parking Lot. (Options for terminology and information are provided.) Color-coded lots or icons should be explored as parking lot identifiers.

Pedestrian Circulation
Once a person leaves their vehicle and transitions to a pedestrian traveler, from the parking lots there is no clear understanding of where to enter the campus through the wooded buffer. Existing orientation maps are helpful and are generally located properly, however, some buildings and entrances are not identified and there are many points of entry.

The campus grounds are well maintained and placement of pedestrian signs must be carefully thought out so as not to adversely impact maintenance requirements or detract from the appearance.
Signage supporting entrance sequence
Building Terminology

Alpha designators currently identify most campus buildings. Because the interior circulation is primarily linear this approach provides orientation and intuitively assists in directing by following the alpha sequence.

The detractor is that this alpha designator system is generic. It does not contribute to the culture, tradition or character of the campus.

Recommendation

The initial recommendation is to leave building designations unchanged, but consider additional system for future building. This will require further discussion with the Richard Stockton College; it has multiple effects beyond wayfinding, including facilities operations, scheduling, room numbering, etc. It is also a cultural (and political) decision; tradition, appropriateness, history, function, and donors all play a role in determining the best decision.

Building Identification

Some campus buildings and entrances are not identified or poorly identified or difficult to recognize. Lack of consistency makes it difficult to determine the building letter and primary point of entry.

Recommendation

Buildings that are visible from a parking lot or roadway should receive a building mounted sign that is visible from a car. This can be individual letters or a panel type sign.

Others should receive ground-mounted sign or small building mounted signs.
In addition to signs, an architectural element / canopy should be considered at some primary entrances. Where possible, building identification signs should be illuminated

Ground mounted signs need to be vertical and high enough so that they are not blocked by other visual elements. Ground mounted pedestrian oriented signs at entrances shall include building alpha designator and the major building functions or occupants. A more detailed list of departments and groups will be provided on a building directory located inside the building at all primary entrances (See Menu of Sign Types)

Informational signs at each building entrance shall provide building alpha designator, major occupants, hours of operation, and regulatory information. This can be vinyl on glass and should include the Richard Stockton College brand.

Interior Circulation (Gallery)

The Gallery is the primary east -west circulation spine and route across campus. It contains landmarks, lounge areas, architectural elements and environmental cues. These elements provide orientation and tools for giving directions. Transition points and building entrances are of primary concern. Here again, the lack of building identity and directional information to buildings and major destinations along the spine is a challenge to the visitor. Level changes can be confusing. The profusion of paper signs and bulletins creates a negative impression and should be limited to specific areas.
Recommendation

- The Gallery should be developed as a more effective organizing element and wayfinding tool by creating a more consistent image with graphics and color -- akin to a “Main Street”.
- The interior should have a hierarchy of exit access points that are parallel to those on the exterior.
- More directional information is need within the Gallery; signs should be located at points of entry and at key decision points.
- Specific areas for notices and paper signs need to be established and the responsibility of enforcing these areas should be assigned to an individual or department.

Wayfinding Tools & Landmarks

There are a number of possibilities for improved wayfinding on campus; they include:

- Banners… along College Drive to let visitors know they have arrived. This is another opportunity to establish the Richard Stockton College brand and promote upcoming events. Banners must be properly designed with appropriate character heights, colors and graphics.
- Orientation Maps… will typically be located at key gathering areas and areas of pedestrian entry to the campus – this is primarily a pedestrian-oriented sign located both outside and inside the buildings.
- Interior kiosks should consider electronic signage such as touch screen technology and mapping capabilities.
- Artwork, particularly sculpture, can provide excellent landmarks for orientation. The artwork also communicates the campus’s culture and tradition and can add memorable elements to the campus.
- Lake Fred – at the eastern end of campus provides orientation and a memorable cue. Consider this natural feature as a possible image or icon in the graphics
**Menu of Sign Types**

The exterior and interior sign types shown on the following pages represent a generic design; they are intended to demonstrate a hierarchy that will be explored during a schematic design phase.

**Design Intent & Brand**

The reality of today’s marketplace and the high level of competition demand a clear and distinctive identity. Through its identity an institution represents its image, its philosophy and its values. From admission brochures and stationery forms to print advertising, signage and Internet applications—all of the elements of communication contribute largely to the overall image/identity of the corporation. Various elements of the brand and identity program, properly coordinated, project a single and unified character/image as well as help to establish a prominent brand presence. A consistent and comprehensive wayfinding program will be one component of this vision.

Combined with a fresh approach to the new buildings on campus, the form shape, color and themes of the sign program offers Richard Stockton College opportunities to rethink its image and strengthen the brand. A number of items can provide inspiration for the design of the signage program:

Nature: The campus is a unique natural environment, incorporating this into the design could provide a unifying theme. This may include the use of stone in the sign bases, graphic representations of nature could represent wayfinding zones and natural materials can be used (i.e. wood for sign posts)

Logo and colors: The brand is the message that is delivered through consistent physical, cultural, human and emotional elements. The College’s logo (2 trees) is a graphic element that can be translated many ways and used as both a graphic printed element as well as a dimensional form. Establishing this element in both traditional and unconventional ways will help establish an identity for the campus. The school colors are currently black and white: red should be considered as an additional accent color for the signage.

Another goal should be the consistent use of the name, address, logotype, color palate and graphic treatment. By presenting an organized graphic information system, Richard Stockton College will communicate that the institution is organized, smart and caring.

Architecture: The new buildings for the campus are likely to establish a new architectural vocabulary, the signage may be considered an extension of this and can provide a visual element for the campus that can bridge the original buildings and new buildings.
**Electric**

The additional electrical load required by the proposed additional buildings will be satisfactorily provided by the existing electrical service from Pomona Road. However, additional distribution feeders will be needed to serve a majority of the proposed buildings due to load distribution and proximity to the existing high voltage feeders.

A new 1.65 megawatt wind turbine has been proposed to supplement the campus electrical needs. The proposed wind turbine will be located adjacent to College Drive north of the campus. The existing Fuel Cell will need to be decommissioned or relocated as a result of the proposed Campus Center.

**Gas**

The existing 4” high pressure gas service by South Jersey Gas Company will be adequate to handle the proposed additional heating, domestic hot water, emergency power and laboratory needs. A new high pressure gas distribution main, extended from the existing main, would be required to serve the proposed buildings.

**HVAC**

There is currently an issued engineering project, “HVAC Replacement”, which describes the construction of a Campus Chilled Water Loop and Aquifer Thermal Energy Storage system to which the proposed buildings cooling systems will be incorporated. The existing geothermal system is at capacity and cannot be utilized for the proposed buildings.

Richard Stockton College has been environmental and energy conscious with respect to utilizing innovative technologies in Heating, Ventilating, and Air Conditioning as well as energy generation and storage. The implementation of additional geothermal systems as well as photovoltaic systems should be considered for the proposed facilities.

**Domestic Water**

The existing water supply is furnished by two on-site wells. The existing distribution system is adequate for the existing facilities and the new Phase I facilities proposed to be connected to it. New water mains and services will be required to serve the proposed Phase II facilities. A section of the existing water main that now runs under a proposed building in Phase I will be re-routed around the proposed building. The existing water supply is expected to be adequate for the existing and proposed Phase I and II facilities.

Stormwater management is addressed in detail under Environmental Regulation; the plan on page 51 shows the addition of one new underground recharge area.

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**Preliminary Electric Load and Water Usage Calculations**

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* Based on Target 50%

**GSF**

- Watts/SF: Energy consumption per square foot
- KW: Kilowatts

**Watts/SF GSF**

- **Classroom & Service**: 7440 GSF, 7 watts/SF, 122,301 KW
- **Research Labs & Service**: 7 watts/SF, 13,619 KW
- **Offices & Service**: 884 8 SF, 210,830 8 KW
- **Library**: 341 5 SF, 113,336 5 KW
- **PE & Recreation**: 537 5 SF, 129,306 5 KW
- **Athletics**: 34,422 5 SF, 32,175 5 KW
- **Animal Quarters & Greenhouses**: 7,764 6 SF, 9,394 6 KW
- **AV, Radio & TV**: 20,709 12 SF, 22,211 12 KW
- **Central Computing Facilities**: 10,000 45 SF, 10,780 45 KW

**Subtotal GSF**: 887,224 10,440 1,092,738 12,945

**GSF Watt/ SF**:

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**Subtotal Watt/ SF**: 887,224 10,440 1,092,738 12,945

**Target Space for 7,500 FTE**

- The additional electrical load required by the proposed additional buildings will be satisfactorily provided by the existing electrical service from Pomona Road. However, additional distribution feeders will be needed to serve a majority of the proposed buildings due to load distribution and proximity to the existing high voltage feeders.

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- Stormwater management is addressed in detail under Environmental Regulation; the plan on page 51 shows the addition of one new underground recharge area.
Schematic layout for electric gas & chilled water
Schematic layout for water, sanitary and stormwater management
Sanitary Sewer

The existing sanitary sewer system consists of a gravity sewer with connections to the existing buildings, three lift stations and a force main to an existing municipal sewer at Jimmy Leads Road and College Drive. The existing system has adequate capacity for the facilities now connected to it and the new Phase I facilities proposed to be connected to it. A section of the existing sewer main that now runs under a proposed building in Phase I will be reconstructed in a new location. A new gravity sewer to connect to one of the existing lift stations will serve the proposed future Phase II facilities. The capacity of the existing lift station will have to be increased for the additional flow anticipated from the Phase I and II development.

Telecommunications

The goal of the telecommunication strategy for the future is to provide an intelligent low-voltage infrastructure system to support voice, data, and multimedia applications. It is one of 'Shared Media', where telecommunications spaces and pathways, cabling and equipment can support both present and future demands for variable bandwidth to every user. Existing facilities should be upgraded and new buildings designed per industry standards for future flexibility within constraints of facility and functions, using existing assets to best advantage.

Findings and assumptions

- Distance Learning are key to College’s teaching programs
- 80-90% of students have computers, 20% use laptops
- 4 Types of Electronic classrooms have various technologies
- Network drops: 4,000 on campus, one in each classroom
- Starboards have mixed reviews
- Notebooks should be the technology of choice for the future
- Computer labs: three 24-hour labs are in use. More are needed
- Current technology: workstation cabling is category 5, with some category 3. New technology is category 6 and wireless.
- Wireless is provided in the Library, and numerous other places. It is being expanded.
- Every pillow has a data connection
- Cable routing and management is out of date
- IT department is scattered and lacks space (addressed in space program)

Recommendations

- Classrooms 40 or more seats
- Classrooms < 40 seats
- Office spaces, Administrative and support space
- If VoIP is used, cable lines may be use reduced

Wireless Coverage

- Student congregation areas
- Study rooms & lounges
- Library stacks & reading
- Cafeteria / Commons
- Classrooms

The Telecommunications report is included in its entirety in the Appendix.
Since its origin, RSCNJ has had an environmental focus; today the College prides itself on being stewards of its environmental heritage and wealth. The campus holdings, part of the NJ Pinelands is unique, protected and imbedded in the College culture and psyche. The College has traditionally had a strong environmental science program and has been a champion of sustainability and biodiversity, integrating new technology and innovative energy savings (geothermal field, aquifer storage system, fuel cell and windmill).

Most in the College community enjoy both passive and active recreation on the site; for a great number it is a defining aspect of their lives, education and / or experience of Stockton. The surrounding communities take pleasure in the extensive grounds as a special place and use its land for recreation.

As the demand for more facilities and on-campus parking increases to accommodate additional students, the College community is ever more aware and concerned about potential impacts. The agreement with the Pinelands Commission negotiated in 1990 placed severe restriction on expansion and created a self limiting plan that protects the majority of the land holdings from degradation.

The goal of sustainable (or green) design is a high priority of the Administration and College community as well as the surrounding municipalities. The Facilities Planning Committee representatives from the Campus Biodiversity Initiative asked the design team to find development solutions that are not only sustainable but improve the quality of the existing environment in the most developed zone.

While many decisions that support a green campus environment will be made over the years to come, the master plan sets the stage for a rigorous approach to development and building projects. It does not add impervious coverage and suggests a landscaping strategy that could restore some of the perimeter areas that detract from the appearance and biodiversity on the core campus. Some highlights of that approach follow.
Regulation

The entire RSCNJ campus is under the jurisdiction of the New Jersey Pinelands Commission and the Pinelands Comprehensive Management Plan. The majority of land on the College site is located within the Pinelands Rural Development Area (that portion in the Galloway Township Rural-Residential Zone, approximately 1,052 acres). New development in this part of the site is restricted to minimal impervious coverage and the use of septic system technology approved by the Pinelands Commission.

The remainder of the site (that portion in Galloway Township’s Planned Office Zone and Government Institution District) is in the Pinelands Regional Growth Area. (In December, 1989, the Galloway Township Government Institution District was created to change the classification of the central part of the site from a Pinelands Rural Development Area to a Pinelands Regional Growth Area. In April 1990, the Pinelands Commission certified Galloway Township’s rezoning of the site; the rezoning included the College, Atlantic City Medical Center and Betty Bacharach Rehabilitation Center in the Regional Growth Area, permitting the College some room for expansion.)

This area, totaling approximately 534 acres, has public sewer service available. The Pinelands Comprehensive Management Plan permits further development in this part of the site as long as the development does not increase the boundary of the existing College campus or involve new forest clearing.

Natural Environment

The Pinelands region of New Jersey is recognized as an environmental asset of national and international importance. The College’s property contains unique natural environments whose protection significantly limits future development on the site. These limiting factors include:

- Wetlands and wetlands buffers
- Threatened or endangered species of fauna and / or their habitat and identification by the New Jersey Department of Environmental Protection’s Landscape Project

Following the College’s direction, the planners adhered to the letter and spirit of the Pinelands regulations, and assumed that any proposed development is required to be within the permitted development.
Wetlands and Wetlands Buffers
The College campus contains many acres of wetlands that have been field delineated, surveyed, and plotted on base maps by the faculty of RSC and others. No new construction is recommended within delineated wetlands and wetlands buffers, except where impervious coverage (parking lots) already exists within the buffers on the campus side of College Drive.

Threatened or Endangered Species
In 1994, the New Jersey Department of Environmental Protection’s Endangered and Nongame Species Program adopted a landscape level approach to imperiled species conservation. The result of this approach was the publication in 2004 of Version 2 of the Landscape Project Map overlays that provide a basis for planning. The ecosystem supports a diverse reptile, amphibian and invertebrate population that inhabit uplands and wetlands. The majority of the species data used in the Landscape Project are taken directly from the Natural Heritage Program’s Biological Conservation Database GIS coverage. Based on the Landscape Project Maps for the College campus, a number of species including Pine Barrens Tree Frog, Eastern Box Turtle, Red-Headed Woodpecker, Carpenters Frog, etc. are either present, or habitat for these species is present on the site.

Per the illustration on the right / left, no known threatened or endangered species or habitats will be impacted by the proposed development on the core campus. The information contained in the Landscape Project database may have an impact on new campus development outside this zone. The impact will be assessed when engineering plans are prepared and permits are sought from the Pinelands Commission.

Stormwater Management
The proposed projects illustrated in the Master Plan concept will utilize a combination of Best Management Practices according to N.J.A.C. 7:8, Stormwater Management Rules, and the storm water requirements of the Pinelands Comprehensive Management Plan (N.J.A.C. 7:50-6.84-6.), that apply to quantity and quality of runoff.

Runoff
- The Pinelands Comprehensive Management Plan requires that the total stormwater runoff generated from any net increase in impervious surfaces by a 10-year storm of a 24-hour duration must be retained and infiltrated on site.
- The rates of runoff generated from the property by a 2-year, 10-year and 100-year storm, each of a 24-hour duration, cannot increase as a result of development.

Water Quality
- Major development project (one that creates 0.25 acres of new or additional impervious surface) must include stormwater management measures that reduce the average total suspended solids (TSS) loads in the development site’s post-construction runoff by 80 percent.
- To achieve the reduction requirements, stormwater management measures must be designed to treat the runoff from the stormwater quality design storm, a 1.25-inch/2-hour variable rate rainfall event.

The goal of master plan has been to limit additional impervious coverage. While each building project will be evaluated independently, total impervious area on the core campus is projected to be slightly less than the current coverage when the proposed projects and parking garages are completed. Nominal increases in impervious surfaces will use existing stormwater management facilities and new non-structural features, such as swales or groundwater recharge in grassed areas, to the maximum extent possible.
Regulations and Procedures
All construction on site will require approval from the Pinelands Commission and, because the College is a public facility, a Public Development Approval for any construction project. The Pinelands Commission has conducted a preliminary assessment of the proposed Master Plan and determined that any development that is located within the existing boundary of the College and does not require additional clearing, will probably be consistent with the designated zone.

Two other items are worth noting:

• Landscaping
While landscaping should generally consist of native plant material, the existing campus is already disturbed and the Pinelands Commission has determined that landscaping can consist of any plant material that can exist in nutrient-poor and droughty soil.

• Reforestation
The New Jersey State Legislature amended Section 2 of P.L. 1993, c. 106 to require each State entity to develop and submit to the Division of Parks and Forestry in the Department of Environmental Protection, a plan for compensatory reforestation for all areas at least one-half acre in size that are owned or maintained by the State entity and are scheduled for deforestation. The current Facilities Master Plan does not anticipate any near term-clearing of forested lands in an amount equal to one-half acre. If a reforestation plan is required, it will include appropriate and approved methods for the planting, protection, care and management of trees and other related natural resources. Plans must provide for reforestation in order of priority:

  • On campus
  • On State or municipal property within the municipality in which the deforestation occurred
  • Within five miles of the site of the deforestation, or
  • Off-site and outside the five mile radius of deforestation

Projects and Potential Impacts
There are two College projects under consideration that will have regulatory consequences.

Louisville Road
The College plans to widen Louisville Road, the dirt road that intersects with Jimmie Leeds Road south of the campus. Preliminary examination indicates that an Individual Freshwater Wetlands Permit (IP) will be required from the NJDEP for road widening and pavement. The IP process will be complex because of the significant amount of wetlands and wetlands buffer contiguous to the dirt road, and the fact that stormwater runoff cannot be discharged to either wetlands or wetlands buffers. The wetlands disturbance will require mitigation at the rate of 2:1, or replacement at twice the amount disturbed.

Barlow Site
The College may plan to upgrade recreational facilities on a portion of land located adjacent to Pomona Road known as “the Barlow site”. This area is located in the Pinelands Rural Development Area and will require the use of septic systems for wastewater disposal. This site is also located in an area that has been identified by the NJDEP’s Landscape Project as having potential threatened and/or endangered species or habitat of protected fauna. Any construction in this area will require Pinelands Commission and possibly NJDEP approval. The Pinelands Commission will also require an off-set for any development in this area. The Pinelands Commission has suggested that the west side of Pomona Road be investigated for possible use as an off-set and future deed-restricted land.
Biodiversity & Sustainability

The Richard Stockton College campus is recognized as a resource for teaching and research as well as service related to the environment. A number of points have been made during the planning process with respect to the goals of sustainability and biodiversity. While many are outside the scope of this planning process, they are referenced here as important campus-wide development goals and a way to measure the merits of the plan holistically and in part.

Low impact development
• Evaluate and reduce impact of groundwater pumping on the aquifer
• Conservation of upland pine barren habitats
• Reverse loss of biodiversity

Collaboration and cooperation with:
- NJ Pinelands Commission
- County of Atlantic
- NJ Higher Education Partnership for Sustainability
- Great Egg Harbor Watershed Association (Adams Branch project)
- NJ Conservation Foundation, and
- American Museum of Natural History

The Department of Mathematical and Natural Sciences (NAMS) has a Campus Biodiversity Initiative. Classes study and report on best management practices and conduct research. A potential future project is constructing experimental bio-retention cells on campus for evaluation of optimal designs, plantings, etc.

This group should serve as a resource to the team that implements future projects so each project takes full advantage of the expertise on campus and serves as a model of sustainable design for other communities and institutions.

Lake Fred Bald Eagle, February 11, 2005. Siting and photo by Jack Connor
For both site development and building projects, the LEED (Leadership in Energy and Environmental Design) program has become the gold standard for evaluating development. LEED certification uses a point system for projects in four categories, silver, gold and platinum with the latter requiring the highest range of points. The evaluation system, summarized in the chart to the left, is used to test the master plan concept as it relates to sustainable design in the categories Sustainable Sites and Water Efficiency. The sustainable sites section on the LEED rating systems represent 19 out of a total of 64 points. The chart reflects the team’s judgment as to the potential points in the categories most relevant to planning and site selection.

Sustainable Sites: The Master Plan concept complies with the site selection criteria in the following ways:

- Erosion and sediment control is a requirement and all site work will comply with state and local requirements
- Site Selection: proposed buildings will not encroach on previously undeveloped sites
- Brownfield sites: not applicable
- Alternative transportation:
  - Public Transportation access should be re-evaluated and the potential for shuttle service explored to reduce on site parking requirement
  - Increase bike usage with additional improved paths and connection to Galloway Township public bike path systems
  - Alternative fuel vehicles: consider giving parking preference to owners of these vehicles
- Parking: provide minimum requirement and encourage carpools and vanpools for 5% of campus community
- Reduced Site Disturbance: imperious coverage is expected to be no greater after full development than it is today. There will be little or no impact on contiguous undeveloped sites during construction.
- Storm water Management: This is addressed in the regulation section; with no increase in imperious coverage, development will comply with the goal to limit impact on natural habitat or biodiversity. If required, treatment will be considered to improve the quality of site storm water.
- Light Pollution Reduction is important as the light from campus roads and buildings can have a deleterious effect on certain wildlife. Replacement as well as new lighting must balance safety, energy, aesthetics and preservation of the environment.

Water Efficiency:

- Landscaping: plant material that requires no watering will be recommended for all new and replacement planting with the exception of select grassy recreation and playing field areas.

Innovative wastewater technology, water reduction measures and the remaining four categories that apply to building specific issues will be reviewed when new construction or renovation projects are undertaken. First cost and payback of alternative systems will be considered.
Campus Image: Architecture, Landscape & Art

Architecture

The approach to architecture is illustrated on the following pages in the 3D images that have been developed to convey the character of buildings and spaces. The College has endorsed a theme that blends the vocabulary of the modernist existing buildings with that of the more recent Arts & Sciences and West Quad Academic Buildings.

The goal to provide a more traditional feel is accomplished in large part by creating a large green campus space that is flanked by a series of new buildings that terminate in a new functional centerpiece, the College Center. The goal is to keep the scale and clean line of the metal panels and sunscreens that are distinctively Stockton while introducing more glass and materials that are natural or local and easier to maintain.

New buildings need to enable a good transition from landscape and wooded to campus to developed campus and back again. While the new green is shown with a series of diagonal paths, students will create cow paths that will eventually overtake even the best designs of landscape architects.

The material are expected to introduce more brick and natural stone giving more color and texture to new buildings. Wood will be considered for site furniture and signage so the aesthetic softens in keeping with the landscaping.

New buildings and sites will be evaluated for sustainability on an individual basis.
Ultimate goal of the design of the landscape / exterior spaces at RSCNJ is to provide an environment which is healthy, safe, sustainable, easily maintained, visually attractive and functionally compatible with site uses. For the purpose of overall site organization the core campus is divided into six distinct areas based on land-use and environmental characteristics.

Management of the existing and proposed campus can be broken into separate zones. Each of which has a distinct and varied use along with parameters for development which are linked to the zone’s environmental sensitivity.

The Functional Landscape Zones are defined as follows:
1. Vegetative Buffer Zone – directly adjacent to Lake Fred. This zone contains NJDEP designated Emergent Wetlands.
2. Existing Forest and Wetland Forest - as designated by NJDEP, this zone predominates the area east of College drive and north to Pomona Road.
3. Transition Zone – these zone areas provide the vital link for integration of future building growth and provision of a sustainable and diverse natural environment.
4. Building Core – contains the existing academic and administrative buildings as well as the proposed expansion of the West Quad and Central Campus.
5. Sports Complex – encompasses the existing track and MPRC in addition to the proposed pool and associated vehicular drop-off.
6. Special Use Areas – zones which are coincident with the special needs of a higher educational institution. Plazas, housing and sport courts fall into this category.

Landscape Development Goals
Goals to be achieved in the development of the Landscape system on the RSCNJ include the following:
1. Functional outdoor space network which responds to the needs and desires of the College community at large.
2. Aesthetically pleasing exterior environment which compliments architectural form, line, texture and color and provides the proper atmosphere for study, living, recreation and repose.
3. Exterior environments which follow regulatory guidelines and allows the promotion of sustainability and culturally conscience development.
4. Sense of separate identity for each Functional Landscape Zone while maintaining the sense of a unified campus and community.
5. Utilize native plant species which respond to the distinct microclimatic and cultural parameters that exist.
6. Design/re-furbish an exterior environment which maximizes the potential of the existing site amenities.
Vegetative Buffer Zone

This zone occupies the space between the college core and Lake Fred as well as lying between the housing blocks and Lake Fred. It is a critical and fragile ecosystem. The overall health and stability of Lake Fred is determined upon the uses which occur in this zone. The zone can be generally characterized as a Wetland Forest Community. The direct adjacency to the college core on the East side of Lake Fred puts pressure on this zone which connects the college with the exceptional resource of Lake Fred.

The courtyards are key spatial features of the campus and integral to the original concept of the center spine and wings. They are viewed as outdoor rooms and activity areas. There are more than a dozen that vary widely in character; the ones on the front approach to the buildings are more formal and manicured; some have special seating. Those on the Lakeside Lane are more informal. Instead of being a natural transition to and from the most natural part of the core campus, they have lost the natural character and become used for service, parking or staging for construction projects. Many of these outdoor spaces have been reconfigured or repurposed over time, not always successfully.

Rationalizing their use to improve the appearance and usefulness of this important outdoor campus feature is an important priority. Suggestions for making these spaces more active and contribute more to campus aesthetics include:
Landscape Zones & Exterior Art Locations
Art
The College has a strong Visual Arts Program and distinguished faculty and alumni in the arts disciplines. The Gallery shows nationally known artists year round. The master plan provides the opportunity to rethink the way the College exhibits art created by the faculty, students and others in College community. The campus and building offers many locations to display art in the various media.

Exterior
Potential locations for art, particularly outdoor sculpture are located on the plan to the left. In particular pieces that have scale and presence are appropriate along the entrance drives and the major walking routes to campus shown to the left. The locations need to be coordinated closely with the wayfinding program and graphics concepts.

Interior
The Art Gallery currently located off the beaten path in the middle of the H-Wing is not directly off the main circulation path and not well identified by signage. The Gallery should be located in a prominent place and have a more ceremonious and jazzy entrance.

The concept plan illustrates a new Art Gallery in Zone 1, as it was proposed as a component of the Arts & Sciences Building. There are several locations in addition to the easternmost point on the campus: more public areas near the Dining and performance space, or within or adjacent to the proposed College Center. Space vacated when the College Center is completed may offer options in the near term for a more substantial art gallery space and prominent location in the hub of campus activity.
Project Costs and Phasing

Cost estimates are currently being developed for those projects that flow from the master plan recommendations. They will be listed with the Bond Issue projects already identified as a composite program.

The recommend implementation strategy (order of magnitude size, cost and approximate sequence) will be developed over the coming weeks in a format similar to the DRAFT on the following two pages.

Zone:
1. Projects that are clustered around the existing academic core that have minimal impact on parking
2. Projects that define the mall or campus green and have impact on the surface parking currently in place
OS. Off-site projects in the housing complexes, off-campus or on remote tracts of campus.

Project type: infrastructure, or new / renovated facility with Gross SF

Estimated project costs will be developed with a professional estimating consultant using prevailing wages in the Atlantic County area. Comparable college/university facility cost benchmarks will be used as appropriate. A number of assumptions are being made:

• While the design may vary among facilities, the level of quality and finish for new buildings will be consistent with recent RSCNJ projects (the Arts & Sciences Building and the West Quad).
• DPMC fees at 8% of construction cost are included.
• Landscaping for the immediate site will be implemented as a part of projects.
• Interior and exterior graphics consistent with the comprehensive plan will be part of each project.
• The design process for each project will provide for a review of and recommendations for sustainable design. LEED certification of the highest appropriate level will be part of each.
• Infrastructure projects are essential to the sequencing of projects and may be required at intervals throughout the development of the campus that do not coincide with building projects. New building projects will to the extent required contribute proportionately to the cost of site infrastructure to support the new utility loads they impose.

Projects costs include a number of items that are recommendations of the master plan and/or required for a complete project. Costs are in 2005 dollars and include the following items in four major categories:

Construction Expense
• Construction costs, building & systems, utilities, site work, landscaping
• Contractor overhead & profit
• Design & construction contingency (15%)

Fees (22.5%)
• Architectural and engineering design expenses (assume 10% for new construction)
• Commissioning, 2%
• Permits & testing, surveys, 2.5%
• DPMC, 8%

Miscellaneous Expense (% varies by project type from 10% for infrastructure and parking to 30% for science facilities)
• Moveable equipment
• Scientific equipment
• Printing
• Furniture and Interior design fees
• Telecommunications
• Moving
• LEED allowance for sustainable design
• Graphics and signage
• Computer & physical plant equipment
• Building security
• Artwork
• State of NJ Affirmative Action

Project Contingency (2%)

An escalation factor of 5% per year is recommended and should be included when the timeline is firmly established. Costs for additional planning or feasibility studies are not included.
<table>
<thead>
<tr>
<th>Zone</th>
<th>Facility Initiative</th>
<th>Function</th>
<th>GSF</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>F-Wing Extension &amp; Renovation</td>
<td>Academic space</td>
<td>in progress</td>
<td></td>
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<td></td>
<td>College Center</td>
<td>Food court &amp; elegant dining, Retail / bookstore, Movie theater &amp; ballroom, meeting rooms, offices, Club &amp; Yearbook space</td>
<td>150,000</td>
<td>centered on future mall, between wings H &amp; F, requires relocation of fuel cell and new service entrance &amp; dock</td>
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<td>E &amp; G Wing Renovations</td>
<td>Recaptured space for bookstore and academic use</td>
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<td></td>
<td>Parking Garage I</td>
<td>5 level, 700 cars</td>
<td>270,000</td>
<td>Displaces some lot #6 parking spaces</td>
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<td>Site &amp; Roadway Improvements, Louisville Road upgrade</td>
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<td>NA</td>
<td></td>
</tr>
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<td></td>
<td>West Boulevard and Circle</td>
<td></td>
<td>NA</td>
<td>Relocate Tennis Courts</td>
</tr>
<tr>
<td></td>
<td>College Drive</td>
<td></td>
<td>NA</td>
<td>Widen at entrance to new West Boulevard</td>
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<td></td>
<td>Academic</td>
<td>Academic and support</td>
<td>75,000</td>
<td>Remove parking (lot 6), new quadrangle</td>
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<td></td>
<td>MPRC Gallery</td>
<td></td>
<td>10,000</td>
<td>Provides new entrance and viewing area</td>
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<tr>
<td></td>
<td>Lakeview Center</td>
<td>Conference and academic space</td>
<td>75,000</td>
<td>Parking and site upgrades along Lakeside Lane</td>
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<tr>
<td></td>
<td>Art Gallery</td>
<td>Art Gallery</td>
<td></td>
<td>Lake side of A &amp; S Building, based on original plan</td>
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<tr>
<td></td>
<td>Signage &amp; Graphics Program: Phase I</td>
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<td>NA</td>
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<td>Courtyard Upgrades</td>
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<td></td>
<td>Electrical Power Upgrade</td>
<td>Provides redundancy and new emergency generation for telecom and central computing</td>
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<td>PAC Retrofit</td>
<td>Upgrade M-Wing performance space</td>
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<td>F &amp; B-Wing renovation</td>
<td>Academic &amp; Faculty offices</td>
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<td>Space vacated by by Science facilities</td>
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<td>MPRC Addition &amp; Pool</td>
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<td>30,000</td>
<td>New facility replaces existing L-wing pool</td>
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<td>Swimming Pool Renovation</td>
<td>Two story academic space or performing arts facility</td>
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<td>Zone</td>
<td>Facility Initiative</td>
<td>Function</td>
<td>GSF</td>
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<tr>
<td>Infrastructure</td>
<td>New Building</td>
<td>Science Center</td>
<td>General academic space and faculty offices</td>
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<td>Quadrangle, Entrance Mall</td>
<td>Organizes new buildings, provide casual recreation</td>
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<td></td>
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<td>New Tennis Courts</td>
<td>6 new courts</td>
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<td>Parking Garage II</td>
<td>5 level, 900 cars</td>
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<td>East Boulevard &amp; Circle</td>
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<td></td>
<td>Academic Buildings</td>
<td>Varied academic administrative &amp; support space</td>
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<td>Parking Garage III</td>
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<td>OS</td>
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<td>Housing I Interior Repairs</td>
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<td>Off-Campus Housing</td>
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<td>Developer proposal</td>
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<tr>
<td></td>
<td></td>
<td>Barlow Site Development</td>
<td>Includes Field House component</td>
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<td></td>
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<td>Facilities Building Purchase and J-Wing Renovation</td>
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<td>13,300</td>
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<td></td>
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<td>Housing I Site Improvements</td>
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<td></td>
<td>Energy Conservation projects</td>
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</tr>
</tbody>
</table>
Next Steps

The College has a number of ongoing initiatives that support the projects identified in the Bond Issue list. They include:

• College Center program document that will confirm the major program elements, budget and financial pro formas for the new building, expected to be the first capital project following the F-Wing Expansion. The study should explore the delivery of student services and concept of one stop to determine how they can best be integrated into the new Center or a subsequent renovation.

• Barlow Site Study
There are two challenges to development of the Barlow site as previously mentioned: the potential for threatened and endangered species or habitats on the tract and the potential requirement for extension of the septic system. These should be explored as soon as possible to ensure that immediate as well as long term Athletic and Recreation program needs are addressed, before fields on the core campus may be taken out of service as the campus grows.

• Sewerage Study
The College has retained a civil engineering firm to make recommendations regarding the sewer capacity and potential to partner with the ACMC to upgrade the stations and pump waste to the Galloway County system at Jimmie Leeds Road. This study is ongoing.

• Louisville Road and New Electrical Feed
There has been a plan to bring a new electrical service to the campus via Louisville Road.
  
  Louisville Road, an unpaved road that is out of service is within a wetlands buffer area and will require early review and assessment with the Pinelands and NJDEP to determine required mitigation and cost associated with the construction.
  
  The electrical feed is intended to provide service redundancy and additional capacity as a back-up to the service from Pomona Road. Conectiv, the electric utility, has indicated that capacity to provide the College with power to replace that it could lose during an outage is not a certainty. This issue and the need for some redundancy should be discussed in greater detail with the utility company.

• Graphics and Signage
While this report looks at the issues related to wayfinding in a general way, the significant number of new projects, both new and renovated facilities suggest that a signage program be developed with an implementation plan that upgrades the system over time.

• Landscape Plan
The replacement of the major parking lots at the entrance threshold to campus will be replace over time with a new green quadrangle and new buildings that will require a comprehensive landscape master plan. In addition to a comprehensive plan for landscaping, the restoration of some of the courtyards between buildings that have been altered over time with the addition of non-native plant species, should be addressed. With guidance from a consultant this could be a student class project that would save the College money, enhance program content and offer practical experience.

• Parking
Park is one of the biggest challenges on the campus. While the Master Plan recommends a 700-car garage, a study that looks in detail at realistic options to reduce the number of cars coming onto campus should be conducted.

A study to provide the Police with a near term facility plan to address their space shortage is underway. Department staff and emergency vehicles will increase as the campus population increases. A future site for public safety should be located close to campus or within one of the parking garages.

As upgrades to Louisville Road and College Drive proceed, bicycle paths should be provided if feasible and integrated with the county’s proposed bike path system.

An original driver of the campus plan was the commitment to an interdisciplinary approach to teaching. While that still remains a goal, the cost of space, need for flexibility and requirements for specialized space need to be balances with this design criteria as new buildings are programmed and space becomes available for renovation.

The campus group that addresses biodiversity and sustainability should be involved in future projects. An effective way to do this is to invite a representative to participate on the project team or provide review and comment at schematic design and design development.