



**UMass** | Dartmouth

2017 Campus Master Plan Final Report



## Table of Contents

02	I.	<b>Chancellor’s Letter</b>
06	II.	<b>Executive Summary</b> Introduction Process Key Issues Guiding Principles Proposed Plan
14	III.	<b>Observations</b> Campus History Built Systems Natural Systems
40	IV.	<b>Campus Master Plan Vision</b> Guiding Principles Campus Districts
74	V.	<b>Implementation</b> Project Implementation Immediate Impact Projects Near-term Projects Mid-term Projects Long-term Projects
86	VI.	<b>Design Guidelines</b> Building Guidelines Landscape Guidelines
110	VII.	<b>Acknowledgements</b>

## I. Chancellor's Letter

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## University of Massachusetts Dartmouth Campus Master Plan Chancellor's Letter

UMass Dartmouth has been transforming the lives of individuals and communities since its beginnings as two textile schools in 1895. Throughout its 122-year existence, including more than a half century on its spectacular 710-acre Dartmouth campus, the university has constantly evolved to meet the needs and aspirations of the region and Commonwealth. Our recent ascension to Tier 1 national research university status is proof of the excellence and determination of our faculty and staff, and positions the university to succeed in a fast-changing higher education environment.

This Campus Master Plan, completed after 18 months of detailed study and diverse feedback, presents a clear blueprint for UMass Dartmouth's future as the only Massachusetts research university south of Boston. The ideas presented here also challenge us to acquire the financial resources and pursue bold strategies that will turn this plan into reality.

This work is long overdue. While there has been significant investment off campus, our core main-campus academic buildings, campus center, athletic facilities, and housing are outdated. Since the 1980s, there has been just one major State investment in the main campus, the renovation and expansion of the Claire T. Carney Library. Our students, faculty, staff, and the region deserve better.

Central to this plan is our commitment to honor the legacy of the university's original architect, the internationally renowned Paul Rudolph, while confronting our deferred maintenance challenge through the renovation and replacement of outdated facilities. The Carney Library project proved that we can combine Rudolph's vision with 21st century realities to create compelling learning, living, and discovery spaces. This will position the university to attract and retain student, faculty, and staff talent that will strengthen the regional economic and cultural ecosystem.

Every dollar we invest in the campus will be mission specific. The highlights include:

- Renovated and new academic facilities with flexible, collaborative, technology-rich, and engaging learning environments.
- Replacement of first-year housing to provide a compelling mix of living and learning options.
- An expanded campus center with improved student activity, services, and dining venues.
- Enhanced visitor experiences that will be more inviting to potential students and connect our university community to our neighbors.
- Expanded athletic and recreational facilities that will increase student participation and access for our community partners.
- Traffic flow improvements that integrate pedestrian, bicycle, and transit ways.
- Sustainability best practices related to energy use and green space.

This facilities and landscape Campus Master Plan will now become a component of our university strategic plan, which we will develop in the coming year. We have purposely made this plan flexible to accommodate opportunities that arise during the strategic planning process. I hope you share my belief that the vision presented on these pages is possible through collaboration, bold strategic thinking, and steadfast determination.

Best regards,

Robert E. Johnson, Ph.D.  
Chancellor

## II. Executive Summary

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## Introduction

This Campus Master Plan is a road map for the renovation and replacement of University of Massachusetts Dartmouth facilities and grounds to enhance teaching and learning, research, and student development. The plan considers projected growth in student enrollment and the technological and pedagogical changes in higher education.

UMass Dartmouth is one of five universities that comprise the University of Massachusetts system and the only Massachusetts research university, public or private, located south of Boston.

In 1960, the Commonwealth of Massachusetts merged the New Bedford Institute of Technology and the Bradford Durfee College of Technology in Fall River to establish the 710-acre Southeastern Massachusetts Technological Institute in Dartmouth, between New Bedford and Fall River. Designed by world-famous architect Paul Rudolph, then dean of Yale University's School of Art and Architecture, ground was broken in 1964. The campus is one of the few examples in the United States where a single architect designed an entire campus.

Inspired by Thomas Jefferson's plan at the University of Virginia, Rudolph sought to create a unified campus core. Organized around a central north-south oriented communal green space and campus lawn continued down to the Cedar Dell Pond, Rudolph created a dramatic vista. The center of campus where these two corridors merge is where the symbolic forms and functions of the campus are located: the library, amphitheater, and campanile. These major corridors, combined with the Ring Road, and a landscaped berm ring, established a strong physical organization around which the campus core would be built.

Today, UMass Dartmouth has approximately 2.1 million gross square feet of space on the Dartmouth campus, and serves nearly 9,000 students with 55 percent of the students living on campus. UMass Dartmouth has additional off-campus sites, including UMass Law in Dartmouth, the Center for Innovation and Entrepreneurship in Fall River, the College of Visual and Performing Arts in downtown New Bedford, and the School for Marine Science and Technology on New Bedford Harbor, as well as the Kaput Center for Research and Innovation in STEM Education, which is currently based in Fairhaven.

This Campus Master Plan seeks to address issues related to deferred maintenance; campus teaching, research and student life capacity; visitor and prospective student experience; and pedestrian, bicycle, and automobile traffic. The plan is guided by a set of principles, including the need to enhance academic facilities to meet 21st century needs and aspirations, reinforce a sense of campus community and engagement, connect different sections of the campus with each other, improve first impressions of the campus, and honor Rudolph's legacy.



Campanile & amphitheater at the campus core

## Process

Initiated in conjunction with the Division of Capital Asset Management and Maintenance (DCAMM), this Campus Master Plan update was developed with extensive involvement and input from the campus community.

### Information Gathering

The Campus Master Plan process commenced with an in-depth qualitative and quantitative analysis of the existing UMass Dartmouth campus. The design team examined prior campus studies, toured the campus, assessed the facilities and infrastructure, studied campus circulation systems, quantified space usage, documented the qualitative aspects of the buildings and grounds, and met with numerous focus groups representing faculty, students, and leadership.

### Findings and Guiding Principles

The Campus Master Plan team presented the initial findings from the information gathering stage and solicited feedback from constituents in order to establish the Campus Master Plan guiding principles, which state intended outcomes of the Campus Master Plan.

### Scenario Planning

The Campus Master Plan team developed and refined a series of build-out plan options that were informed by the Campus Master Plan guiding principles. Feedback from the Steering Committee and senior leadership helped differentiate a preferred scheme that could be refined to address key issues facing the campus and accommodate future needs.

### Campus Master Plan Vision

The Campus Master Plan vision reconciled the ideas and feedback that were facilitated by the scenario planning workshops into a holistic build-out plan. This vision was presented to the Steering Committee and senior leadership to seek feedback and facilitate discussion of project priorities.



Tours, workshops, & town halls were held throughout the Campus Master Plan process.



# Key Issues

With input from the campus community and analysis of the campus, four key issues were identified that affect the function, perception, and condition of the campus:

## 1. Campus Capacity

The UMass Dartmouth campus was built out in a relatively short time as a commuter campus with a capped capacity. Current student enrollment (with plans for growth), a larger residential component, changes in pedagogical modalities, increases in the number graduate students and greater research activities, have pushed the campus to its capacity.



Growth of student enrollment and changes in pedagogies provide new challenges on campus.

## 2. Visitor / Admissions Experience

The visitor experience is compromised by confusing traffic patterns, difficulty determining the location of visitor parking, lack of clear wayfinding, an underwhelming Admissions Building, inadequate group meeting space, and an inability to see the best parts of the campus right away.



Existing Admissions Building

## 3. Circulation/Transportation Issues

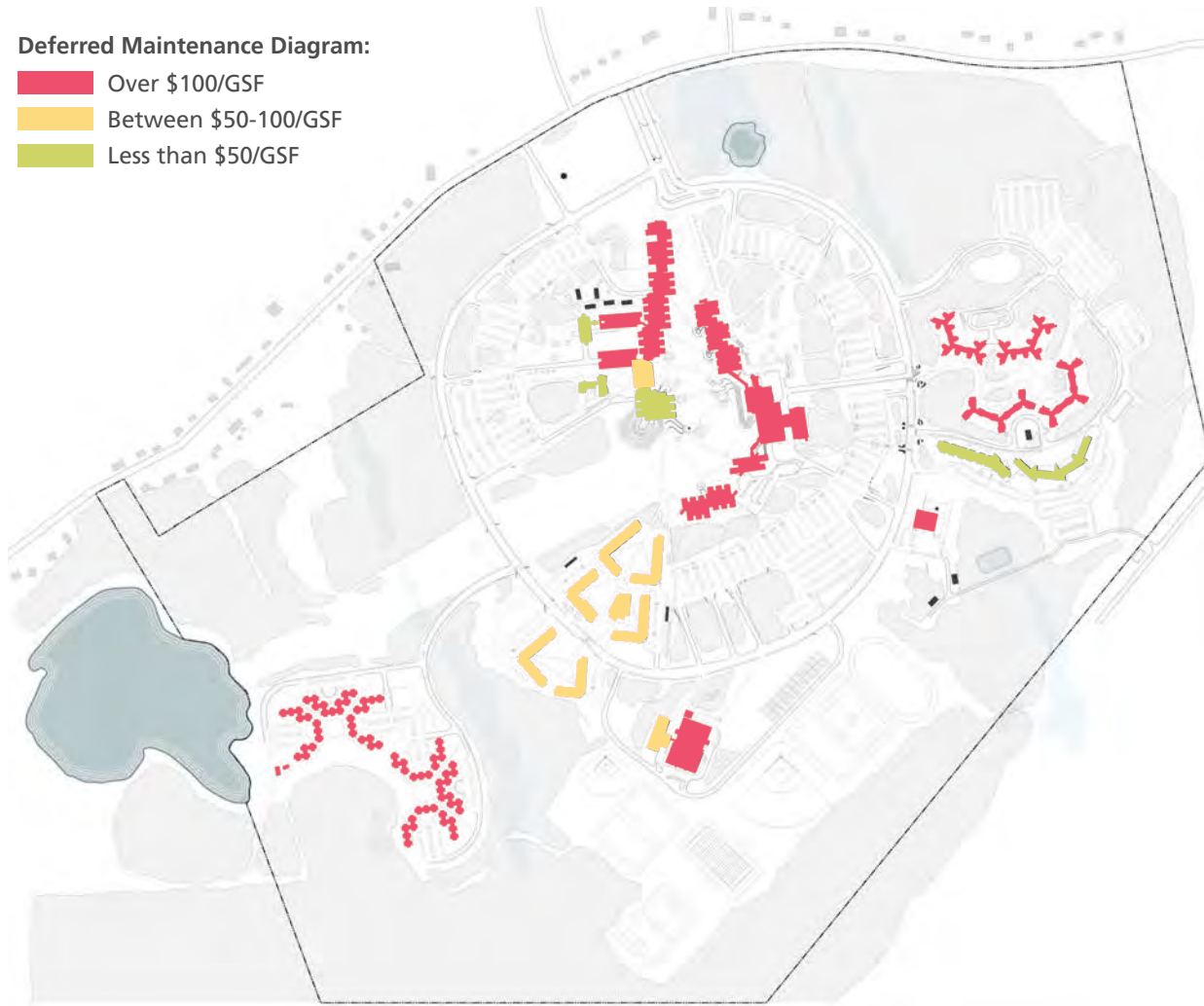
The campus circulation system suffers from clarity and safety issues, including an entrance drive that is offset from adjacent intersections, a ring road that lacks pedestrian and bicycle infrastructure, several points of automobile and pedestrian conflicts, a lack of wayfinding, a predominance of parking, and only one entrance/exit from campus.



Existing vehicular entry comprises first impression.

**Deferred Maintenance Diagram:**

- Over \$100/GSF
- Between \$50-100/GSF
- Less than \$50/GSF



**4. Deferred Maintenance**

All of the original Rudolph buildings are simultaneously experiencing serious performance deficiencies and are in need of significant renovation. Preserving and modernizing these buildings is crucial in maintaining and leveraging the Rudolph legacy. Sightlines has concluded that 53 percent of UMass Dartmouth facilities are 'High Risk – Life cycles of major building components are past due. Failures are possible.' The identified backlog for FY17 is \$563.5 million, translating to almost \$182/per square foot, and has continued to increase since 2008. In addition, the Cedar Dell residences and most of the first-year residence halls have exceeded their expected lifecycle.

## Guiding Principles

During the Campus Master Plan process, a set of overarching guiding principles were developed that reflect the core values of the university and address the Campus Master Plan key issues.

The Campus Master Plan was initially conceived under the UMassDTransform2020 strategic plan, and the challenges and opportunities identified in that plan still face UMass Dartmouth as the university enters its next strategic planning process.

In September 2017, UMass Dartmouth Chancellor Robert E. Johnson began a listening tour involving small group conversations with about 30 internal and external constituent groups. The conversations solicited a variety of perspectives about UMass Dartmouth's optimal future state and encouraged possibility thinking. This will serve as the base to identify areas of strategic focus and chart a shared ambition for UMass Dartmouth's future.

The next strategic planning cycle will begin in Spring 2018, and will create the new strategic plan that will carry UMass Dartmouth to 2025.

### Enhance Academic Facilities

As a tier one national research university, UMass Dartmouth must provide academic facilities that will meet the changing pedagogical and research needs of students and faculty.

### Reinforce Campus Community

Provide spaces that support the daily life of students, faculty, and staff with adequate areas for collaboration, socialization, meetings, gatherings, dining, recreation, athletics, and indoor and outdoor activities.

### Connect the Campus

Create physical connections across the campus, improve traffic flow and safety, link open spaces and campus edges, and maintain a compact campus with a blending of uses.

### Improve First Impressions

Develop a student and visitor experience that is intuitive and shows what is best about the university.

### Leverage and Interpret Rudolph's Legacy

Update the original Paul Rudolph buildings and grounds to meet the needs of today while being respectful of the original architecture, as was demonstrated by the award-winning renovation of the Claire T. Carney Library.

These guiding principles established the framework that the expansion and renovation of existing spaces would achieve.

## Proposed Plan

The proposed plan is based upon the guiding principles, addresses the strategic initiatives of the university going forward, and builds upon architect Paul Rudolph's vision.

### Enhance Academic Facilities

- New Interdisciplinary Science Building framing a new sciences/engineering quad
- Science / Engineering and Dion renovations
- Expanded LARTS building with up-to-date classrooms and collaboration space
- LARTS building renovation
- Expansion of Charlton College of Business
- Renovation of Foster Building for student services

### Reinforce Campus Community

- Replacement of first-year and sophomore Living Learning Village
- New upperclassmen housing
- Expanded and improved Campus Center and Conference Center
- New campus dining venue
- Expanded athletics and recreation facility and improved fields

### Connect the Campus

- South Lawn to Athletics and recreation
- Shift Ring Road and create East Lawn
- Improve Ring Road with pedestrian, bicycle, and transit accommodations

### Improve First Impressions

- New entrance road
- New visitor center, auditorium lobby, and admissions drop-off
- Improved connections to the quad

### Leverage and Interpret Rudolph's Legacy

- Renovations to existing Rudolph buildings to improve the learning environment
- Reintegration of collaboration spaces
- Second ring of quads, courtyards, and yards
- Improvements to the Great Lawn to accommodate comfort and universal access





Existing Campus Plan



Proposed Campus Plan

### III. Observations

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## Campus History

In the late 1950s, the SouthCoast region of Massachusetts was enduring a period of economic stagnation and neglect by the state government. Governor Foster Furcolo sought to spark an economic revival in the area through the public higher education system, believing that a reinvigorated system could act as a catalyst for economic and cultural improvements. An enhanced and more robust public educational system was also a response to a growing post-war demand for a more educated workforce, which contributed to the expectation that there be universal access to higher education.

In a joint resolution in March of 1960, the New Bedford Institute of Technology and Bradford Durfee College of Technology located in Fall River were merged to form the Southeastern Massachusetts Technological Institute (SMTI). While both of these institutions were technology- and engineering-based, the planning and acceptance of this merger by the local communities in New Bedford and Fall River was influenced by enhancement and expansion of the academic offerings to include a robust liberal arts program. After final approval of the merger, the Board of Trustees of SMTI was tasked with the selection of a new site for the institution, which presented a rare opportunity for an institution in the process of creating an architectural identity. Located midway between New Bedford and Fall

River, SMTI acquired a 710-acre parcel of land including farmland, meadows, and woodlands exemplifying the landscape of the SouthCoast.

The architectural firm of Desmond and Lord was retained by SMTI in 1961 to develop a comprehensive design for the new campus. Lacking the required experience and expertise to undertake an ambitious design at campus scale, Desmond and Lord turned to modernist architect, and then Dean of the Yale School of Architecture, Paul Rudolph to produce the design.

The ‘tabla rasa’ nature of the acquired site allowed considerable freedom for Rudolph’s most complete and comprehensive expression of his ideas on architecture and urbanism. UMass Dartmouth was conceived as a campus for commuters due to the student population and the ‘remote’ location of the institution. To accommodate vehicular circulation, Rudolph defined the perimeter of campus with a Ring Road free of traffic signals to facilitate uninterrupted travel with central parking. Rudolph was very cognizant of pedestrians, and sought to create a distinct and separate experience once someone was within the campus core. A ring of landscaped berms lining the interior edge of the parking lots concealed the vehicular infrastructure from the inner core.



Site aerial of landscape prior to construction

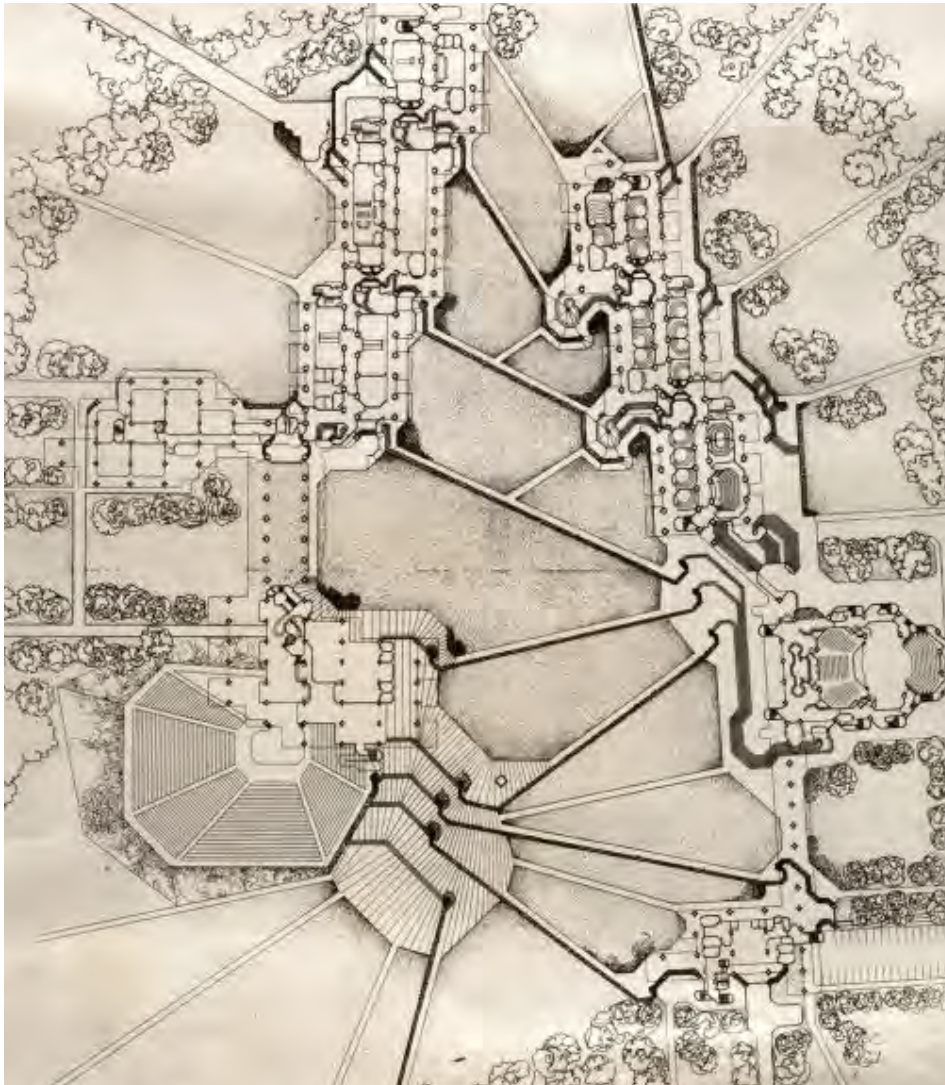


Site aerial of Ring Road during construction

### **‘Collective’ rather than the ‘Individual’**

Inspired by Thomas Jefferson’s plan at the University of Virginia at Charlottesville, Rudolph sought to create a ‘unified’ campus core that was organized around central elements. These organizing elements were a north-south oriented communal green space and a campus lawn that continued down to Cedar Dell Pond, creating a dramatic vista. The center of campus where these two corridors merge is where the symbolic forms and functions of the campus are located: the library, amphitheater, and campanile. These major corridors, the Ring Road, and the landscaped berm ring established a strong formal organization in which the campus core would be built around.

The major north-south corridor on the campus (Great Lawn) was terraced and negotiated a decrease in elevation moving towards the campanile. Diagonal pedestrian pathways crossed the Great Lawn at these terraced elevation changes that connected the atrium spaces located in the modulated Liberal Arts (LARTS) and Science and Engineering (SENG) buildings. These modulated academic buildings formed the edges of the Great Lawn and had a unified architectural character. These Rudolph academic buildings at UMass Dartmouth were characterized by their sculptural forms, cantilevered volumes, complex geometries, and brutalist material palette. Rudolph’s material palette consisted of board-formed concrete, fluted concrete block, and expansive glass panes. The consistent use of these materials throughout the buildings on campus contributed to its unified feel.



Paul Rudolph's Campus Plan

While Rudolph's design received praise and accolades from the architectural community, the state government often critiqued his design as being too modern, extravagant, and a waste of taxpayer dollars. The Liberal Arts Building (LARTS) was completed in 1966 and was the sole academic building on campus until 1969. LARTS consolidated and housed most campus functions. However, weeks after the dedication of the LARTS building, bids came in for the SENG building and were over budget, which prompted the state to remove Rudolph from the project. With Rudolph removed from the project, the integrity of the Campus Master Plan vision was in jeopardy. However, the architects at Desmond and Lord whom had worked with Rudolph, remained dedicated and committed to carrying out the unified campus vision. This proved integral to shaping the campus' layout in what Rudolph called "the most complete expression of his ideas about architecture and planning."

#### **1971 Campus Master Plan Update – Shurcliff, Merrill, and Footit**

Rudolph's Campus Master Plan was rigorous and structured, forming edges of the Great Lawn as well as framing the Cedar Dell vista. In 1971, the landscape-planning firm of Shurcliff, Merrill, and Footit completed an update to Rudolph's Campus Master Plan that offered the first iteration of where academic and residential expansion could be sited. While the majority of the Campus Master Plan was never realized, it included some compelling ideas of how to both expand the campus and respect Rudolph's legacy.

The new Campus Master Plan team gravitated towards a few concepts in particular in regards to the Shurcliff update. One idea was to construct a second 'layer' of academic buildings to the west of the Science and Engineering buildings. This would introduce a new spatial typology on campus of smaller quads in the area between the existing Science and Engineering building and proposed academic expansion.

Additionally, these new plans maintained the integrity of the campus corridors and played off the module organization of the Rudolph academic buildings. Another compelling concept in the Campus Master Plan update was the organization and form of the east residence halls. The cellular layout of the dormitories formed the edges of court-like spaces, creating a public space that belonged to each building. A clear spatial hierarchy was defined between the more private space in front of each building and the more public collective space bounded by the grouping of dormitories.



### 2005 Campus Master Plan Update – Chan Krieger & Associates

The 2005 Campus Master Plan built upon some of the recommendations from the Shurcliff, Merrill and Footit plan by proposing a second layer of buildings west of the Science and Engineering buildings, creating a series of intimate courtyards that could be themed as arboretums or other learning landscapes. The new buildings were perpendicular to the Science and Engineering buildings creating sunny east-west outdoor spaces.

The plan proposed additions to the Auditorium that would provide needed back of house and front of house spaces. The Library renovation included glazing in the former open air passageway as a new library commons, which was incorporated into the renovation. New student housing was proposed on the east side of campus as well as the creation of what today is the Woodlands. Cedar Dell was to be removed and additional housing placed on that site.

Future building sites and a significant new open space were identified east of the Auditorium Building to build connectivity to the eastern housing cluster. The Tripp Center would be expanded with a new fieldhouse adjacent to the outdoor competition and recreational fields. Parking continued to expand primarily within the Ring Road.

The plan included an extensive assessment of the existing campus buildings, grounds, and infrastructure that highlighted both the challenges as well as the opportunities for renewal, such as converting the Library ground floor passageway into a commons as well as expanding usable space under the lecture halls with glass exterior walls. Other opportunities included upgrading the campus lighting, wayfinding systems, entrance drive and visitor experience, and new Ring Road pedestrian crossings to improve campus safety.

### Overview of UMass Dartmouth

UMass Dartmouth is an accredited, four-year university that offers 55 undergraduate majors, 33 graduate programs, and 14 doctoral programs to almost 9,000 enrolled students. This critical mass of students has solidified UMass Dartmouth's academic impact throughout Massachusetts and beyond, as well as strengthening the cultural, economic, and social fabric of the region. UMass Dartmouth maintains research and a creative-based presence in Fall River and New Bedford, forging an 'Innovation Triangle' in the SouthCoast that produces knowledge and ideas that impact the region and the world.



Shurcliff, Merrill, & Footit Campus Plan



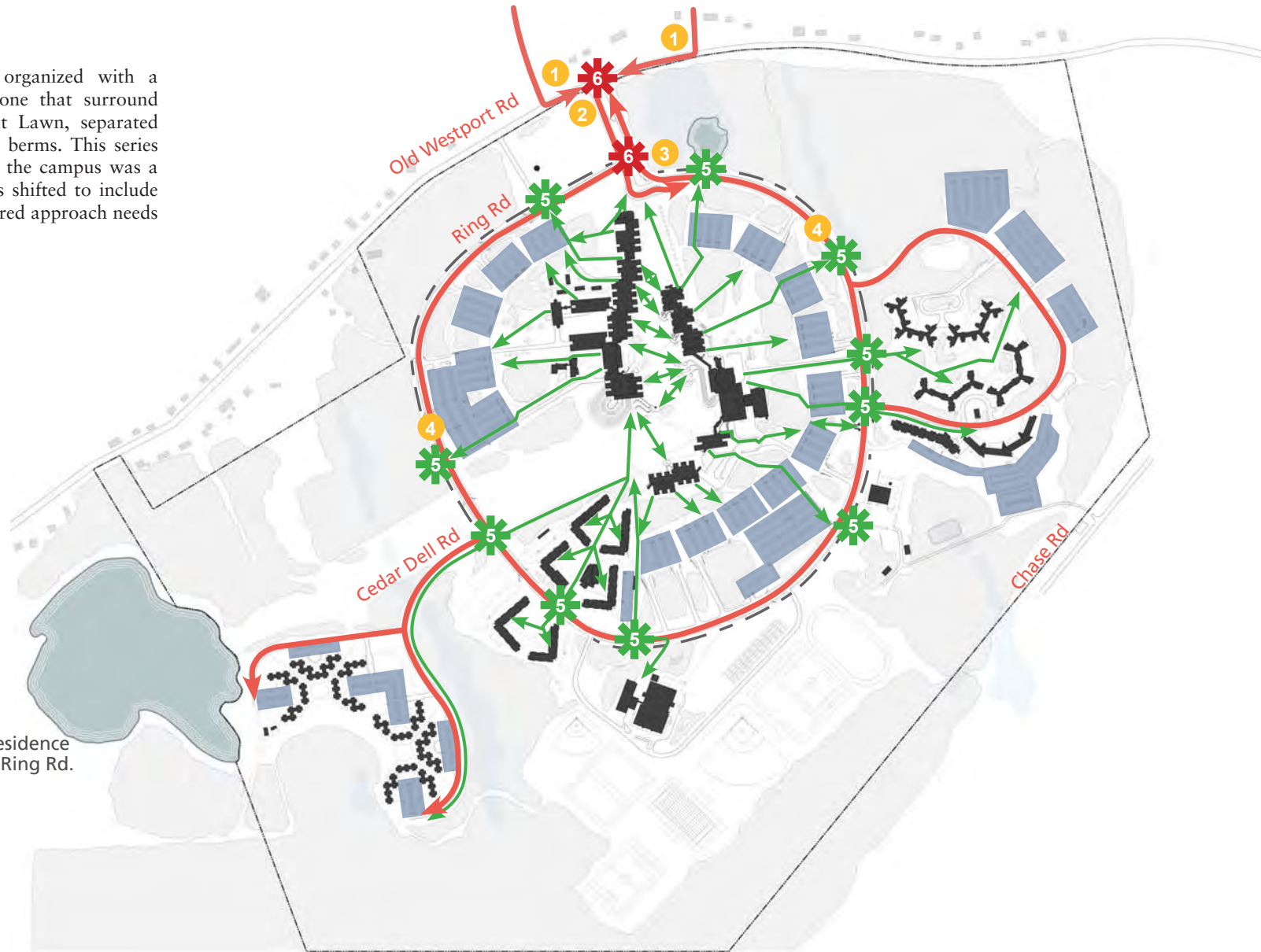
# Built Systems

## Circulation/Transportation

The UMass Dartmouth campus is organized with a perimeter Ring Road and parking zone that surround the academic campus core and Great Lawn, separated by a buffer of natural woodlands and berms. This series of concentric rings worked well when the campus was a commuter campus. As the campus has shifted to include more residential communities, this layered approach needs to be adjusted in a few key areas.

Campus Circulation Diagram:

- ① Entrance Locations
- ② Campus Entrance
- ③ Ring Road Juncture
- ④ Ring Road Character
- ⑤ Pedestrian Conflicts at East Residence Halls, Cedar Dell, Athletics, & Ring Rd.
- ⑥ Vehicular Conflicts
- Parking
- Pedestrian Circulation
- Vehicular Circulation
- Parallel Parking



### **1. The entrance location**

The main entrance to campus is on Old Westport Road in between Cross Road and Morton Avenue. The intersection offset from Cross Road is about 620 feet and the offset from Morton Avenue is about 350 feet. Both roads are used on a regular basis and both routes require several turning movements to enter into campus, backing up traffic and creating potential for automobile and pedestrian accidents. Ideally, the campus entrance would align with Cross Road as it is designed to accommodate the larger volume of traffic coming to the campus on a daily basis.

### **2. Ring Road juncture**

The main entrance to campus is designed as a divided multilane road that is oversized for the amount of traffic coming into the campus and is out of character with most of the other roads in Dartmouth. As the entrance road connects with the Ring Road, there is an offset in the ring that is confusing and leads to more potential automobile conflicts. Ideally, the entrance Road would connect to the Ring Road in a very simple T intersection or rotary to ease traffic movement and simplify driver decision-making. Exiting the campus presents a problematic condition as well, as vehicles traveling eastbound on Ring Road have to cross two (2) three-lane roadways at an unsignalized intersection.

### **3. Ring Road character**

The Ring Road is a two lane, two-way road with parallel parking on its outer edge. There are numerous curb cuts into the perimeter parking lots off the Ring Road. Due to the wide lanes and rural character of the road, drivers tend to drive relatively fast which increases the risk of vehicular and pedestrian accidents. In addition, there are no striped bike lanes or accommodations for pedestrians along the road, which leads to safety concerns. Ideally, the road would be narrowed, slowed, accommodate the volume of traffic needed to support the campus, as well as provide accommodations for bicycles and pedestrians to become a multimodal transportation loop for the campus.

### **4. Pedestrian conflicts at East Residence Halls, Cedar Dell, and Athletics**

The Ring Road creates a perimeter around the academic core and separates the east residence halls, Cedar Dell, and athletics from the campus center. The result is several pedestrian and automobile conflict pinch points that slows the flow of traffic and potentially affects the safety of pedestrians. Ideally, the Ring Road traffic would either be calmed or rerouted to avoid these pedestrian auto conflicts.

### **5. Wayfinding**

One of the beautiful attributes of the campus is the integration of the mature landscape. However, the landscape also conceals the core campus from view from the Ring Road making it difficult to understand where one is located on campus. Additionally, a visitor to the campus is faced with a confusing series of turns when entering the campus. There is a lack of sufficient direction and wayfinding, which creates a disorienting condition. Ideally, there would be a more intuitive wayfinding and signage system that would orient drivers to their location on campus.

### **6. One entrance**

The main entrance drive off Old Westport Road is the only access point for the campus. There have been snow emergencies or other circumstances when it is necessary to move people off the campus relatively quickly, which is difficult with only one exit point. There may also be times where due to an accident on, or near, the entrance road, there is limited ability to exit the campus. Ideally, there would be at a minimum two exit points from the campus to the surrounding road network providing a relief valve to the singularity and congestion of the current condition.









### **7. Parking**

The campus was initially conceived as a commuter campus and has 5,260 surface parking spaces today, which are more than is needed for the current campus population. In addition, the parking surrounds the academic core, which separates areas of campus outside of the Ring Road from the academic core. Ideally, some of these internal parking lots would be developed as building sites in order to improve connectivity on campus and would shift parking to the perimeter of the campus, connected with well-lit, comfortable walkways. The quantity of parking would need to be adjusted to remain in balance with the campus population. With the potential enrollment growth to about 10,500 students on the Dartmouth campus, the parking demand should be around 6,500 cars.

## Visitor Experience

The ability to attract and recruit new students each year is crucial for a university in order to continue operations. Many times, these prospective students will make a campus visit and comparison-shop with other universities they are considering attending. First impressions are very important for these prospective students and their families and the university must do its best to show what's great about UMass Dartmouth and create an intuitive visitor experience. However, the visitor experience is compromised at several key points.

### Entry Sequence Diagram:

-  Offset Entrance
-  Intersection of Entry & Ring Road
-  First Impression of Campus Architecture
-  Wayfinding
-  Visitor Parking & Arrival Sequence
-  Admissions & Welcome Center
-  Vehicular Circulation
-  Pedestrian Circulation



**1. The offset entrance from Cross Road to old Westport Road to the campus entrance**

In order to enter the UMass Dartmouth campus, a visitor is forced to make two consecutive turns directly after one another. In addition to the safety issues discussed in the previous section, the quick turns can be tricky to navigate for a first-time visitor and lacks sufficient signage and wayfinding.

**2. The decision point where the entrance Road intersects with the Ring Road**

Insufficient and ineffective wayfinding at this intersection creates a confusing decision for a visitor, as it is unclear which direction visitor parking and visitor programs such as Admissions and the welcome center are located.

**3. The view of the northern end of the Paul Rudolph buildings from the Ring Road**

Currently, the entry sequence aligns with the north end of Dion, specifically the bunkerlike concrete lecture hall. This is an aesthetically unappealing first view of the campus that can be resolved by the strategic relocation of the entry road.

**4. Wayfinding to visitor parking and Admissions**

The entry sequence currently lacks clear signage and wayfinding from the intersection of Ring Road/entry road intersection to the visitor parking lots.

**5. Arriving at Admissions**

Admissions is a fluted concrete block appendage to the Auditorium Building that does not have visual presence from the visitor parking lot. Access to Admissions is confusing and unclear, showing another instance on campus where there is a lack of clear signage and wayfinding.

**6. The Admissions office and welcome center**

Admissions and the Welcome Center are difficult to locate from visitor parking. This confusing sequence does not contribute to a positive first impression of the campus. Ideally, Admissions, welcome center, and visitor parking would be located adjacent to one another with a clear system of signage and wayfinding to direct visitors.

Other visitors may be coming to campus to hear a lecture, attend a play, visit the gallery, or visit administrators. All of these visitor experiences are important to build connections with the greater community and support the university mission. All of these visitor experiences should be clear and intuitive, however many are not. Ideally, the entrance to the Auditorium, art gallery, and administrative offices would be visible and accessible from visitor parking near the entrance drive.

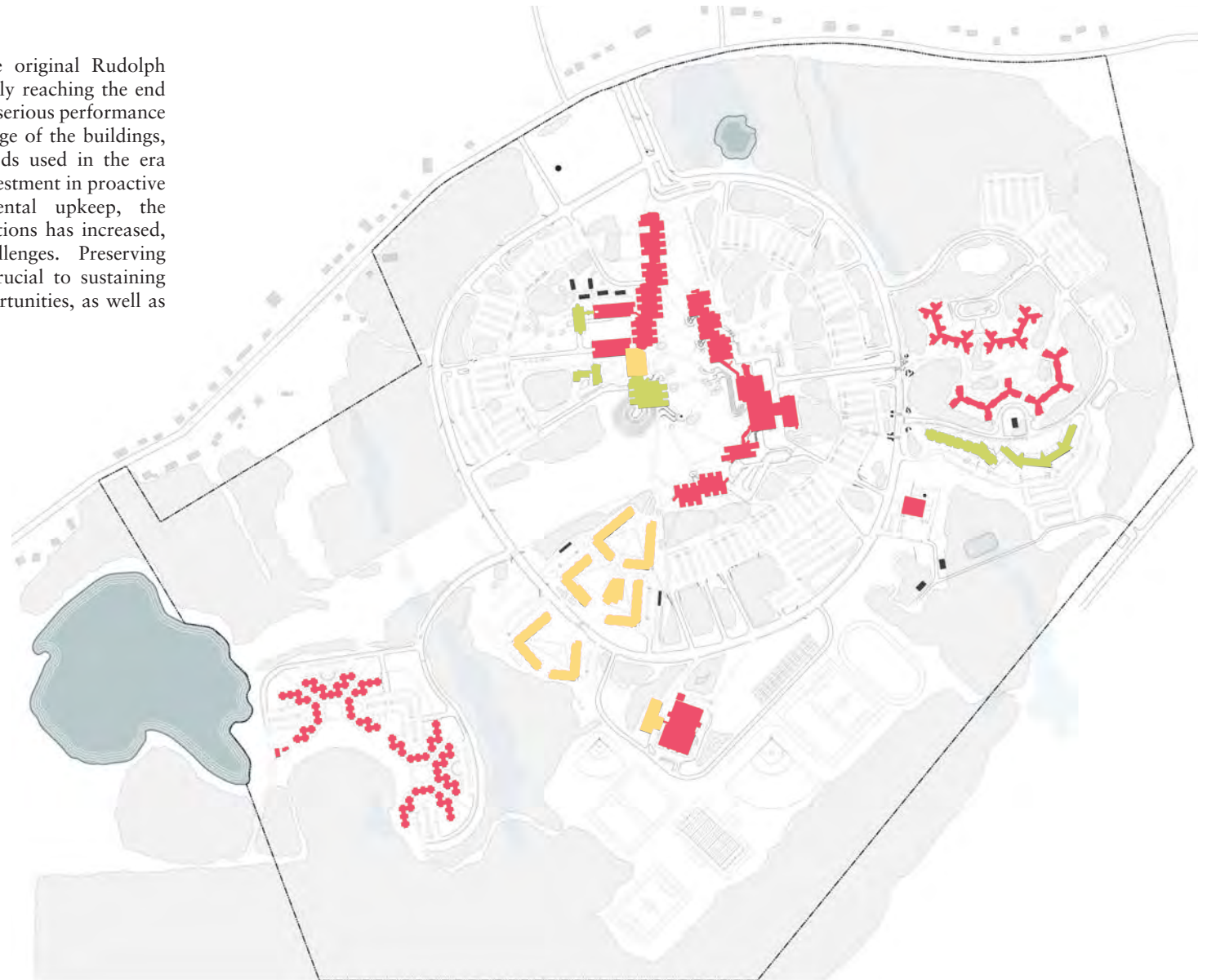
During the workshops, participants brought up the idea of honoring the Paul Rudolph legacy by creating a museum that could be part of the visitor experience. It was also suggested that in the Admissions and welcome center displays could be created which highlight the core campus programs as well as satellite campus programs such as the Star Store Arts Campus, UMass Law, and SMAST. This Admissions/welcome center could also house a campus alumni center, celebrating and displaying the achievements of former Corsairs.

The combination of the key touch points above does not create a positive impression of the university. All of these points can be addressed effectively by repositioning the entrance road experience, aligning an entrance drive that leads to visitor parking and the Admissions office, and improving the connection from Admissions to the core campus.



## Deferred Maintenance

Another key issue is that all of the original Rudolph buildings on campus are simultaneously reaching the end of their useful life and are experiencing serious performance deficiencies. This is a product of the age of the buildings, the lower quality construction methods used in the era they were built in, and the minimal investment in proactive upkeep measures. Without incremental upkeep, the investment required to mitigate conditions has increased, creating deferred maintenance challenges. Preserving and modernizing these buildings is crucial to sustaining educational quality and research opportunities, as well as preserving the Rudolph legacy.



Deferred Maintenance Diagram:

- Over \$100/GSF
- Between \$50-100/GSF
- Less than \$50/GSF

In 2016, Sightlines (Facilities Asset Advisors) presented to UMass Dartmouth a comprehensive look at the campus' deferred maintenance and the amount of capital investment that would be needed to renovate and mitigate those conditions.

Accumulation of repairs needed to correct these building deficiencies requires asset reinvestment, which is a significant financial commitment. Asset reinvestment at UMass Dartmouth should be implemented on a phased basis in order to make these renovations financially feasible, offering the opportunity to take a more holistic approach to the building renovations. In addition to the phased mitigation, this Campus Master Plan proposes a larger investment in providing building upkeep to ensure proper performance throughout their useful life.



Aerial view of Library & Science and Engineering Building prior to the Claire T. Carney Library Renovation & Addition

## Campus Organization

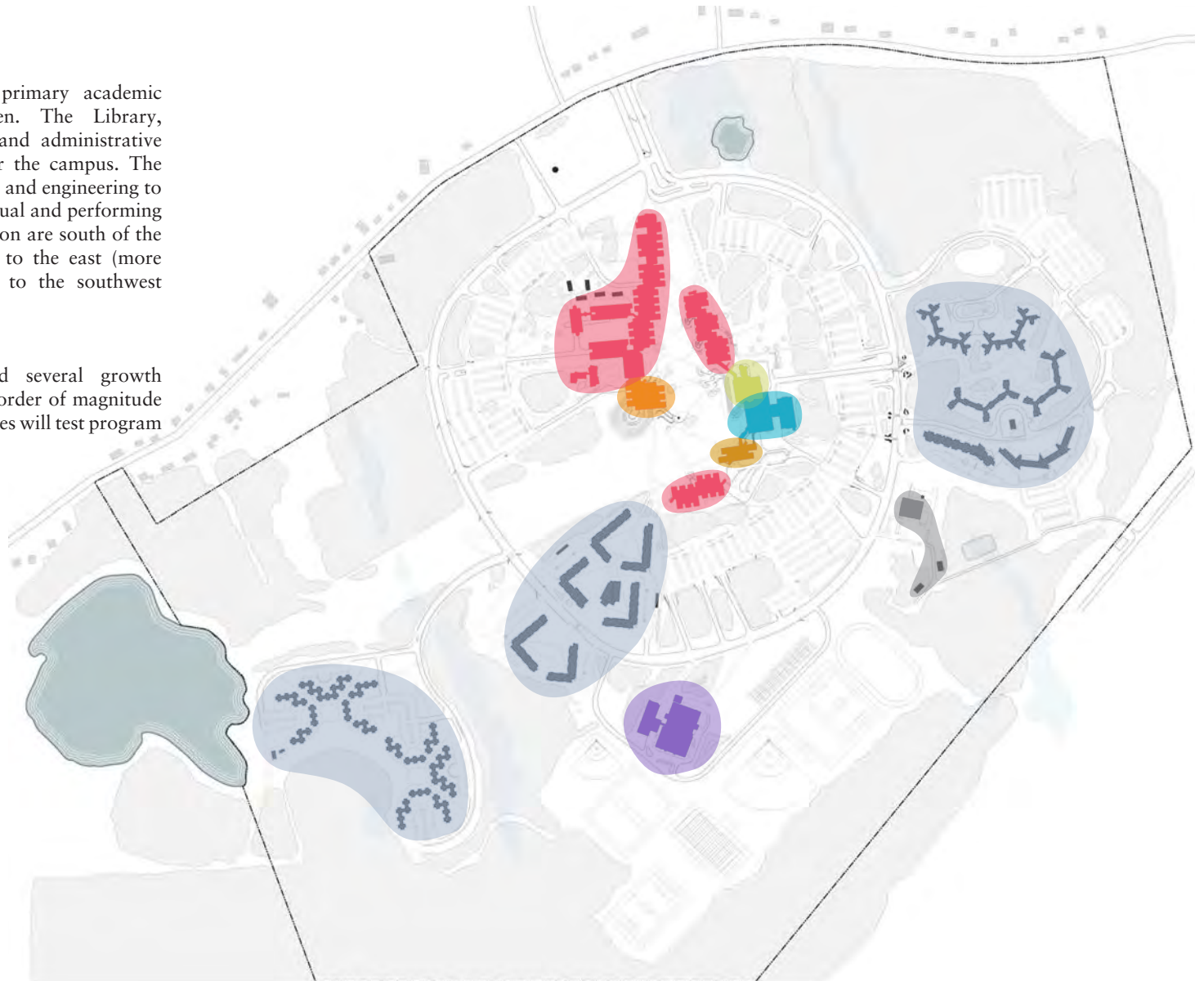
The campus is arranged with the primary academic buildings around the central green. The Library, Auditorium, Campus Center/Dining, and administrative offices are centrally located to anchor the campus. The academic core is organized with science and engineering to the west, liberal arts to the east, and visual and performing arts to the south. Athletics and recreation are south of the Ring Road. Residential is distributed to the east (more traditional and suite-type units) and to the southwest (apartment units).

### Space Needs

The Campus Master Plan explored several growth projection scenarios to develop future order of magnitude space needs. Subsequent feasibility studies will test program fit and location.

#### Existing Building Use Diagram:

- Academic
- Library
- Administration
- Public Venues
- Student Life
- Housing
- Athletics/Rec
- Facilities/Maintenance





### **Academic and Office Space**

The UMass Dartmouth campus was built out in a relatively short time as a commuter campus with a capped capacity. At nearly 9,000 students, more majors and colleges, and increased graduate students and research, the campus has reached its capacity. Science and Engineering as well as Nursing are growing programs with inadequate facilities and no place to grow.

- Dion has two large tiered lecture halls that are steeply raked, which presents teaching difficulties.
- General use classrooms are in need of updating, including the redesign of most of the small-tiered classrooms.
- There is a lack of collaboration space across the campus.
- There is no swing space to allow taking academic or administrative buildings off-line to facilitate renovations.
- There are two research buildings on the campus that have some capacity remaining.
- As enrollment and departments have grown over the years, faculty and staff have had to share office space or move into spaces that were originally classrooms. Additional academic office space is needed across the campus.
- While the quantity of administrative office space is nearly adequate, it is difficult for visitors to access. Foster Administration would be an appropriate location for a “one-stop” student services center including tutoring and other student service space.

### **Housing**

In 2016, a housing study was completed by Brailsford & Dunlavey. They reviewed the overall on-campus housing stock, available housing within the surrounding communities, and assessed projected demand for improved or replaced on-campus student housing.

The UMass Dartmouth campus has evolved from a purely commuter school at its founding to a residential campus that houses approximately 50 percent of its full-time undergraduate students as well as a small portion of the graduate and law students. The existing housing stock ranges from pod-type residence halls on the east side of campus built in the 1970s and 1980s to newer apartment buildings. Pine Dale, Oak Glen, and the Woodland apartments are relatively new and in good condition. The Woodlands provides apartments, traditional units are in Pine Dale, and semi-suite type units are in Oak Glen. Elmwood, Maple Ridge, Roberts, Chestnut, and the Cedar Dell apartments are all in poor condition and are candidates for replacement.

Dartmouth, Massachusetts has a somewhat limited supply of off-campus student housing, however New Bedford has more variety of housing available to students. In the interviews with students, it was felt that if adequate, modern, and new housing were available on campus, students would prefer to live on the Dartmouth campus.

The current unit type distribution is out of balance with the campus demographics - too many apartments and too few traditional, semi-suite, and suite units. With the removal of Cedar Dell, this will begin to be more in balance, but replacement beds are needed.

### **Student Life Spaces**

- There is a lack of student-oriented spaces in the Campus Center.
- Dining is undersized to serve the current campus population, let alone any enrollment growth.
- Campus Health Services is currently located in one of the east village residence halls and is difficult to access. It will need to be relocated and right-sized.

### **Assembly and Exhibit Space**

- The conference facilities are in what was intended as a residence hall commons and should be moved to a larger and more accessible location.
- The auditorium lacks an adequate lobby, pre-function space, and restrooms. The tiered balcony classrooms lack acoustical privacy and access to current technology and should be rethought.
- The College of Visual Arts Gallery is in the CVPA Building and difficult for visitors to find. Providing wayfinding signage to an accessible entrance would be ideal.

### **Athletics and Recreation**

- Athletics is combined with recreation and lacks adequate facilities to serve both groups.
- A multi-sport fieldhouse with a 300M indoor track is needed, freeing Tripp Athletic Center for recreation.
- The campus lacks an ice sports facility. Ideally, it would have two sheets of ice with one as a competition hockey venue.
- Competition fields have been recently improved, but practice and recreation fields are insufficient.

### **Service and Support**

- The physical plant is undersized to serve any campus expansion.
- Campus security has outgrown their space and should relocate to the edge of campus.
- Maintenance shops are currently in a residence hall and should relocate to a more appropriate location.
- A centralized and secure hazardous materials building is needed in the sciences quadrant.





#### **School of Law**

UMass Law has projected significant growth and will outgrow its existing facilities within 10 years. The expansion potential of the existing site or moving the Law School to the Dartmouth campus should be studied.



#### **School for Marine Science and Technology - SMAST**

SMAST is an impressive research facility located in New Bedford, Massachusetts that provides world-class marine science research. With its recent building expansion, SMAST should be able to meet its needs over the next decade.



#### **Center for Innovation and Entrepreneurship - CIE**

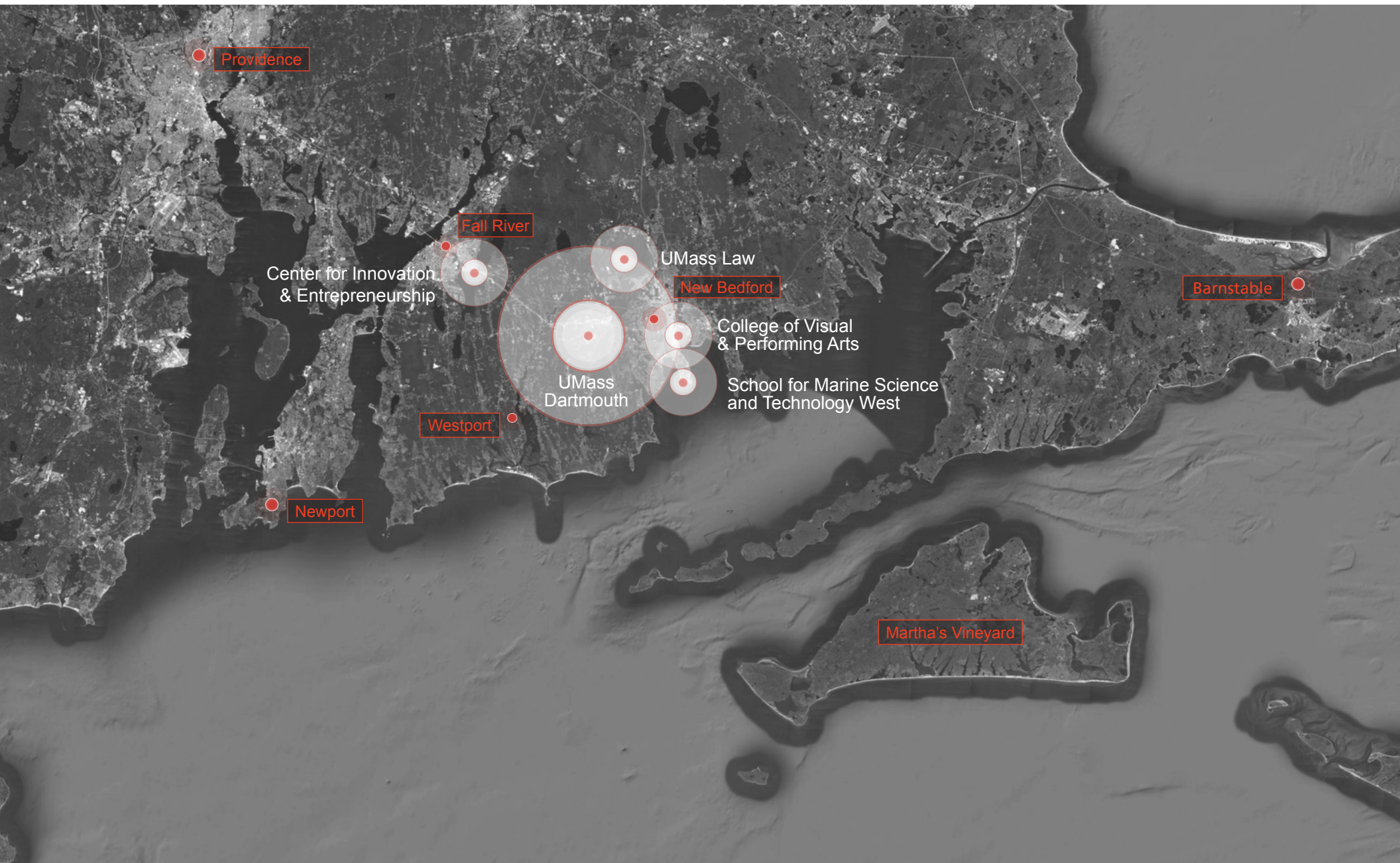
The Center for Innovation and Entrepreneurship (CIE) is located in the South Coast Research and Technology Park in Fall River, in a 60,000 square foot state-of-the-art technology facility. The facility should meet the needs of the program for at least the next 10 years.



#### **CVPA Star Store Arts Campus**

The College of Visual and Performing Arts Star Store Arts Campus in downtown New Bedford is a major draw for fine arts students and has room for expansion. The facility should serve CVPA needs for at least the next 10 years.





Regional map of UMass Dartmouth campuses

## Natural Systems



### Ecological / Habitat Assessment

The campus is located between the Paskamanset River to the east and the Westport River to the west, both rivers empty into the Atlantic Ocean to the south. Large continuous wetlands feed these rivers adjacent to campus and serve important ecological functions to the regions watershed.

The Department of Fish and Game has designated areas on campus as Core Habitat and Critical Natural Landscape. Core Habitat and Critical Natural Landscape often overlap. Together they identify 2.1 million acres that are key to conserving the state's biodiversity with much of it unprotected from future development. Areas with this designation include habitats for rare, vulnerable, or uncommon mammal, bird, reptile, amphibian, fish, invertebrate, and plant species. As well as natural landscapes such as high-quality wetland, vernal pool, aquatic, and coastal habitats and intact forest ecosystems.

### Natural Systems Diagram:

Mixed Hardwood Forest	Shrub Swamp
Coniferous Forest	Shallow Marsh Meadow
Wooded Swamp Deciduous	Successional Meadow
Wooded Swamp Mixed	Maintained Lawn
Wooded Swamp Coniferous	





### Site Context

The general topography slopes down to the south and west towards two linear wetlands with the center of the campus serving as a slight ridge. These wetlands connect to the large wetland system to the south.

Key defining ecological features of campus are the old farm pond to the north of campus, Cedar Dell Pond to the south and the dense mixed forest perimeter. Within the forest perimeter are several wetlands that are classified as Wooded Swamps. Wooded Swamps are any wetland with an abundance of woody plant species. These sensitive areas contain a high biodiversity of plants and animals.

Just north of Cedar Dell Pond is an ecologically sensitive area designated as a Shallow Marsh Meadow. Shallow Marsh Meadows are often host to high plant diversity and high densities of buried seeds. In general, the forest, ponds, and wetlands serve as critical habitat for the regions fauna and serves as a stopover for migrating birds.

#### Wetlands Diagram:

Wetlands   
Pond 



## Environmental Conditions

### Wind Impact

The prevailing winds on site generally come from the south-west in the summer and the north-east in the winter. The existing building orientation is parallel to prevailing winds creating undesirable wind tunnel conditions in the winter. However, this orientation enhances cooling summer breezes off Cedar Dell Pond. The colonnade that runs north-south is the only exterior parallel circulation route along the SENG block. This exacerbates the impacts of wind by creating deep shade without buffering the north-east winds.

### Solar Exposure

The Ring Road is generally defined by the forest perimeter on the outside and the fragmented forest parking buffer on the inside. The density of trees provides some shade along the Ring Road but in many cases the road is overexposed to the sun and contributes to an “urban heat island effect.” Expansive parking lots contribute to heat island effect as well.

In the campus core, the buildings are oriented in a north-south direction. The low colonnade along the buildings provides deep shadows and a cool microclimate in the summer, but has a negative effect in the winter. Minimal tree planting in the campus core, as well as the residential areas, creates gathering spaces that are fully exposed and offer no thermal comfort during the warmer months.



Forested buffer and perimeter parking at Ring Road

## Circulation

### Pedestrian Circulation

Existing pedestrian circulation is defined by strong geometric spokes radiating from the parking lots to the campus core. Currently there is no safe pedestrian access from the surrounding community to the campus. The Ring Road has no sidewalk or pathways adjacent to it, nor any other traffic-calming measures, creating safety issues for pedestrians. Pedestrian and vehicle conflicts happen at multiple points along the Ring Road such as from the first year residence halls to the campus core at the Ring Road. Persons with disabilities face formidable obstacles when moving in a north south direction along the Great Lawn.

The east and west building blocks are both flanked by a walkway against the facade. As the building entries step with grade, stairs with ramps occur to mediate the grade difference. The existing stair and ramps do not meet current code standards and are considered barriers to accessibility. One of the biggest barriers to site accessibility is the approach from parking lots #3-#7 to the Great Lawn. The elevation difference is 10-12 feet and is navigated by a steep narrow stairway

Path legibility is an issue, there is no clear hierarchy to the current path system or visual cues to clearly establish building entries. In addition to not being code compliant, the walkway on the eastern side of SENG confines views making it difficult to determine building entries. There is no barrier-free circulation route that completely navigates the entire campus core. Navigating the campus for first-time visitors can be disorienting.

### Ring Road

The current configuration of Ring Road allows for an approximate 40-50 foot right of way. There is parking along the Ring Road, but no sidewalk for pedestrians to safely walk to the campus core or residential areas. The wide-open character of the roadway allows vehicles to reach excessive speeds. This poses major health and safety risks to pedestrians.



Lack of pedestrian circulation at Ring Road



Pedestrian & vehicular intersections at Ring Road





View of Campanile from Great Lawn

## Views and Vistas

Positive campus defining views are generally experienced from the Great Lawn towards Cedar Dell Pond. The view from the northeast corner of the campus core offers some of the best views of the existing architecture. Views from the Ring Road are generally of the surrounding forest and open parking lots. In many instances the existing architecture is not approached from the best angle making the architecture appear ominous instead of highlighting the depths and details of the façade.

Service and loading areas are located in prominent areas and in full view of pedestrians and vehicles, often with their paths intersecting. Expansive parking lots dominate the views from the Ring Road where the forest buffer is not continuous.

## Open Space

### The Great Lawn

This iconic space unites the east and west parts of campus. The Great Lawn landscapes suffers from legibility issues as well as accessibility issues. The building colonnades flanking the Great Lawn exacerbate the wind and cold during the winter months.

### Forest Ring and Campus Pedestrian Connections

The campus core is defined by the buildings at the center, a forest ring between the buildings and the parking lot and the ring road. The forest ring contains many well established trees and enhances the idea of a campus in the woods. Some parts of the forest ring contain park like zones, of trees growing out of lawn, such as the northeast portion that create valuable campus character and should be preserved and enhanced. Other parts contain thick forest fragments. The dense understory of the forest ring poses a security and safety issue in some areas. The forest ring can make it difficult to visually navigate the campus because there is no pedestrian connection around the forest ring. Finally, service vehicles do not adhere to traveling only on the paved paths and instead drive over the landscape damaging the lawn and sometimes damaging pavement.



Pedestrian connections across Great Lawn



### East Residence Halls

This area is defined by interesting geology and dense stands of trees. The glacial erratics serve as landmarks throughout this area. Unfortunately, the built landscape at the east residence halls is failing in multiple ways and needs a major overhaul to bring it with in the standards of accessibility and modern student life. Each building lacks a clear connection with each other, as well as the sophomore housing. Pathways in this area do not meet accessibility codes and are poorly aligned in relation to pedestrian desire lines. Inappropriate placement of site furnishings do not encourage student gathering. This Campus Master Plan calls for the demolition of first-year housing while preserving as much existing forest as possible.

### Athletics and Recreation

Currently this area suffers from a lack of a clear connection to the rest of campus. There are no barrier-free pedestrian paths to access the game fields. Fields are currently accessed by a narrow roadway and informal foot paths. The existing fields experience drainage issues during times of heavy rain. A centrally located bus drop-off for visiting teams and spectators is sorely lacking. Ticketing for field events is difficult because a perimeter barrier and ticketing gates do not exist. This area also lacks adequate recreational areas for students. Intramural and pickup fields are lacking due to the current arrangement of fields and lack of adequate year-round play surfacing.





### Residential Social Spaces

The existing residential areas on campus could be greatly improved with thoughtful landscape interventions. The residence halls in particular suffer from a lack of planning for plantings, furnishings, utility screening, and insufficient site lighting, grading, and pathway layout.

### Arboretum

The open space formed by the Violette, Textile, and Research buildings has been previously known as the Arboretum. Spatial constraints such as the proximity of buildings and utilities do not make this an ideal location for a heavily planted area. An expansion to the Violette Building was added to the west. Although some site details successfully capture the historic landscape character such as the retaining walls, site circulation is a major issue. Currently, the Arboretum lacks a sense of place and purpose. There is no sense of entry or destination. There are no accessible paths leading into the space. Circulation in general is inhibited by service and loading drives. Maintenance vehicles have damaged the plaza and walkway adjacent to SENG. Large utilities including a generator and blank facades flank the area. There is a steep grade change that occurs at the southwest corner, disconnecting it from the adjacent spaces.





Mature Trees & Park Setting at Pedestrian Pathway

### **Existing Park Setting**

The northeast area of the campus core represents an area of the original Campus Master Plan that has held up and matured over time. This area is defined by large stands of pine trees set in lawns with rolling topography and offer key defining views of the campus architecture.

### **Existing Forest and Forest Parking Buffer**

The original Campus Master Plan developed a forest ring between the Ring Road and the parking lots. This successfully buffers the parking lots from the roadway. In some areas the planting buffer is not continuous and the parking lots are fully exposed. Invasive species pose a threat to the biological diversity of the forest. Currently, the existing configuration is seen as a barrier and the forest lacks a cohesive trail system that could engage the community.



## Expansion Opportunities

Compact future development should be focused within the Ring Road to the south/southeast and northwest. The northeast section of campus containing the most park-like landscape should be preserved as much as possible to maintain the historical character of the original Campus Master Plan. It establishes the campus identity as a campus in the woods, and enhances first impressions for new visitors. New development outside the Ring Road should be focused around existing development. Development in the Athletics and Recreation area should take care not to expand into the surrounding forest.



Existing Berm & Forest Buffer to Remain Intact at Parking



## IV. Campus Master Plan Vision

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## Guiding Principles

The proposed Campus Master Plan seeks to build upon the Paul Rudolph legacy, and greatly improve the student, faculty, staff, and visitor experience by enhancing traffic flow, developing needed facilities to meet the strategic initiatives, and addressing deferred maintenance through phased renovations.

The following guiding principles were created with input from the campus community. They reflect the essence of what the university is and aspires to be. This chapter explores the plan in more detail.

### Build upon UMass Dartmouth's Strategic Priorities

In September 2017, UMass Dartmouth Chancellor Robert E. Johnson began a 45-day listening tour involving small group conversations with about 30 internal and external constituent groups. The conversations solicited a variety of perspectives about UMass Dartmouth's optimal future state and encouraged possibility thinking. This will serve as the base to identify areas of strategic focus and chart a shared ambition for UMass Dartmouth's future.

The next strategic planning cycle will begin in Spring 2018, and will create a strategic plan. The plan will address projected enrollment growth, develop flexible academic spaces that support interdisciplinary education, enhance research facilities, improve the student experience, foster connections to the community, and develop a sustainable infrastructure.

### Enhance Academic Facilities

Meets the university's core mission by updating academic facilities. The leading priority of the plan is to provide modern, flexible, technology-rich instructional, lab, and collaboration spaces through thoughtful additions, shifts of uses, phasing, and renovations that address the needs of 21st-century learning.

### Reinforce Campus Community

Provides spaces that support the daily life of students, faculty, and staff with adequate areas for collaboration, socialization, meetings, gatherings, dining, recreation, athletics, and indoor and outdoor activities.

### Connect the Campus

Creates physical connections across the campus, improves traffic flow and safety, links open spaces and campus edges, and maintains a compact campus with a blending of uses.

### Improve First Impressions

Establishes a student and visitor experience that is intuitive and displays the best of the university.

### Leverage and Interpret Rudolph's Legacy

Meets the needs of today while being respectful of the original architecture, as was demonstrated by the award-winning renovation of the Claire T. Carney Library.

These guiding principles established the framework that the expansion and renovation of existing spaces would achieve.











# Proposed Campus Plan





## Campus Districts

The following section provides a tour of the campus by key initiative.

### Improve First Impressions

The Campus Master Plan proposes relocating the entry road to align with Cross Road and wind through the existing woodlands in order to create a more visitor-friendly sequence, as well as displaying the beautiful SouthCoast woodlands setting to those entering campus. Leveraging the unique landscape elements will help improve first impressions of campus as it is a much more scenic and safe entry to the campus than the current configuration. The entry road is configured to avoid the 100' setbacks associated with the wetlands that are located in that area of campus.

A traffic circle with clear wayfinding and signage is proposed at the intersection of the entry road and the Ring Road in order to clearly and deliberately identify the visitor sequence. Inside the Ring Road, the entry road continues on axis with the campanile as a way of orienting visitors with one of the campus' iconic structures.

The entry sequence incorporates a drop-off plaza to accommodate both campus visitors as well as attendees of campus events/performance that may be going on. This plaza creates an entry destination that is absent in the current campus configuration.

A density of visitor-focused functions and parking is located around the entry road in order to create a clear and intuitive visitor experience. The functions that have been allocated to this part of campus include a new Admissions/Welcome Center that includes a lobby area for the Auditorium, and an Administration Building.

District Key Plan:



- 1 New Connections to Cross & Old Westport Roads
- 2 Improvements at Ring Road & Break at East Village
- 3 New Inner Pedestrian Ring
- 4 New Drop-Off & Parking
- 5 New LARTS Building
- 6 Expansion for New LARTS Classrooms
- 7 Renovation of LARTS Building
- 8 Expansion for Entry Lobby & Admissions
- 9 Expansion of Campus Center
- 10 New Alumni Hall Building
- 11 New Administration Building
- 12 New Law School Building











Left: A new glass addition to the MacLean Campus Center will provide a welcoming first impression to the UMass Dartmouth Campus, while also providing an accessible entry to campus.

The Arrival Hub will be defined by a cascading terrace that honors the Rudolph legacy as well as provides a graceful accessible route to the Great Lawn. This space will be further defined by a higher level of landscape treatment. As visitors traverse the 10-12 feet from the vehicle drop-off area, they will experience sweeping views of the Great Lawn, the Campanile and the library beyond. To meet accessibility goals, a series of compliant ramps radiating out into the Great Lawn will lead visitors, students, faculty, and staff to the rest of the campus without having to navigate the existing stairs. This new entry sequence will provide an informative referential view that could help visitors and prospective students orient themselves within the campus.



Existing Admissions Building

## Enhance the Academic Facilities

### Sciences Quad

The new STEM education building is proposed to anchor the north end of a new sciences quad immediately west of the SENG buildings. Future buildings will define this outdoor room further creating a new mid-sized campus space, allowing for a semi-public open academic space for students to utilize. This space would form a link between atriums in the SENG expansion and the transformed Dion Atrium along with the continuous campus pedestrian loop.

### Transformation of Existing Space

Guidelines for future expansion and growth of the UMass Dartmouth campus is an important objective of this updated Campus Master Plan. However, the transformation and renovation of existing space (the Rudolph buildings in particular) on campus to meet UMass Dartmouth's future goals is just as crucial.

District Key Plan:





- 1 New Nursing School
- 2 New STEM Building
- 3 New SENG Building
- 4 New Science Quad
- 5 New Chemical Storage Building
- 6 Renovation of Dion Building
- 7 Renovation to SENG Building
- 8 Violette Research Building
- 9 Textile Building
- 10 Charlton College of Business
- 11 Claire T. Carney Library





Right: The STEM and SENG buildings create a new campus quad, activated at the ground level through large openings and new glazing within the historic structure.

The existing academic buildings were designed so that the first and second floor contained instructional space of varying class size, with offices located on the third floor. Rudolph's sculptural building forms create a condition where the first, second, and third floor envelopes do not vertically align, and create a compressed covered exterior pedestrian pathway. Because the ground floor classrooms are set back, less natural light is able to filter into the classroom space.

The existing classroom dimensions are conducive to 25-30 student classrooms, which is a class size in high demand. Relocating the ground floor envelope to align with the second floor above would allow the interior classroom partitions flexibility to relocate and widen the academic corridors to accommodate additional flexible student space, while maintaining the existing classroom proportions.

Relocating the envelope would also allow for increased natural light for ground floor classrooms, with a more active academic presence on the Great Lawn. This change would also infill a compressed pedestrian path that is currently routed underneath the second floor cantilever, and would facilitate a new accessible path on the great lawn that would have improved views of the campanile and Great Lawn.



Existing SENG Building



UMass Dartmouth









View of Transformed Corridor





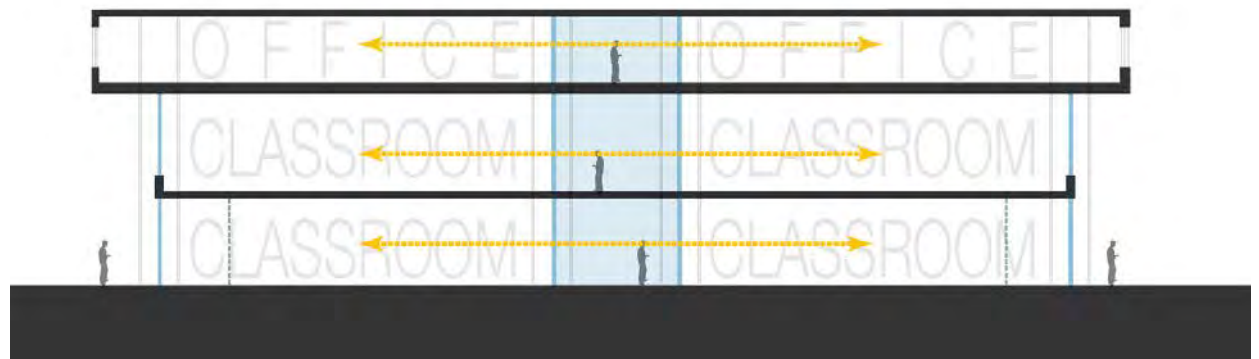
Existing Building Corridor



Typical Building Section \_ Existing conditions



Perkins Library Link at Duke University - precedent image of transparency between corridor and classrooms



Proposed Building Section - Includes glass at the interior corridor for increased transparency and a relocation of glass at the envelope for increased natural light and improved classroom proportion

### Classroom | Corridor Transformation

Existing academic corridors present opportunities to be improved from both an experiential and programmatic standpoint. CVPA, LARTs, and SENG possess very similar layouts and architectural character, which allows for architectural recommendations to be implemented at each building.

The existing structural system in the Rudolph academic buildings is a robust one made up of concrete columns and piers arranged in 14' x 28' modules which a 45 degree cant that occurs in the corridor. Corridor partitions are constructed out of fluted concrete block, which prevents the filtering of natural light. Compounding this issue is the existing condition of lockers lining the academic hallways, which also decrease the overall width of the corridor and an increasingly compressed spatial condition. These corridor walls are not load bearing which would allow not only for their replacement with glass partitions of varying translucency, but for their relocation to better reconcile classroom sizes with the ideal number of students in each section. The fluted concrete block partitions dividing two individual classrooms also have the potential to be removed in order to create a classroom capable of accommodating larger classroom sizes. The specific needs of each college would facilitate what the ideal classroom size would be.

Left: By replacing the existing interior walls with transparent glass partitions and improved lighting, the classrooms are more inviting and promote greater interdisciplinary activity.

Academic space planning has tended towards incorporating an increased amount of informal breakout space outside of classrooms. In its current configuration, the academics corridors do not have sufficient width to accommodate these uses, especially with the existing lockers that are located in the corridors. Incorporating flexible student space would allow a heightened visual relationship between the classroom activity and the corridors.



## Reinforce Campus Community

### New Residence Halls, Dining, and Improved Student Center

As the demand for commuter parking within the concentric ring reduces with the increasing residential population, it allows for the native woodland to cross Ring Road, creating wooded bands. These wooded bands supplement the original stands of woodland. Bringing student housing inside the ring, and transitioning parking to the perimeter, is a necessary part of the transition from commuter planning to on-campus living.

While the timeline is undetermined, the existing first-year residence halls have been slated for demolition due to their existing disrepair. New mixed-use residence halls with an active ground floor of classrooms and collaborative spaces is proposed to be located along the “park ring” and proposed “pedestrian loop.” This series of buildings can act as flex space for both academic and residential renovation and new construction by allowing additional class space and beds. This neighborhood provides an academic presence outside of the campus core, and links the once remote Pine Dale, Oak Glen, and Woodlands residential neighborhoods.

With the construction of the first-year commons and the additional new sophomore/junior commons, the quadrant south of CVPA and Foster provides the opportunity to create a new residential neighborhood set in the “woods” but connected to the core campus. A new woodland walk is created in the concentric pedestrian ring bordered by the new housing. Throughout the walk the ground level amenities of café, retail, study and lounge spaces, student organizations or seminar rooms, animate the residential village.

District Key Plan:





- 1 New Undergraduate Commons
- 2 New Undergraduate Housing
- 3 New Dining Hall
- 4 New Graduate Housing & Improvements to Pine Dale & Oak Glen Quads
- 5 Renovation & Expansion of Campus Center
- 6 Renovation of Foster Building
- 7 Expansion at CVPA
- 8 Renovation of CVPA
- 9 Expansion of Central Plant & Facilities

The arc-like trail incorporates a desired path from the existing Oak Glen, Pine Dale, and new sophomore/junior commons and commuter hub to the enclosed first-year commons that provides the western 'bookend' that continues to the Tripp Athletic Center. The woodland path and casual arrangement of housing buildings allows for strategic crossings as it connects back to the campus core providing direct paths to all major destinations such as student center/ dining, library, west and east group classrooms. This new residential enclave knits together the existing Woodlands Village and new sophomore/junior commons allowing for a rich mix of students from all classes along with academic and student life components. In our analysis, this quadrant is the only campus section that can accommodate the density of residential buildings required by the relocation of the first-year commons.

The site design strives to celebrate the idea of a campus in the woods. Buildings have been intentionally located to create a dynamic relationship with each other and to take full advantage of the existing stands of trees. The design envisions re-using existing boulders that were deposited by the receding glaciers on site to create a unique open space in the character of the native SouthCoast landscape.





View of Student Life Ring from Undergraduate Commons





Left: Common spaces dispersed throughout the undergraduate village activate the ground level and provide a public view toward the Dining Hall.

### The Commons

The new undergraduate village is flanked by the sophomore/junior commons, commuter hub, and first-year commons. These buildings serve as gateways into the village from the north and south. The sophomore/junior commons and commuter hub will serve as a transit center, allowing students and visitors to wait comfortably under cover for their bus out of town or around campus. The dining common is located at the nexus of the development. The dining common is strategically located to share the loading court of the existing dining hall adjacent to the student center. The service court will be screened using plant material and thoughtful architectural screening materials.

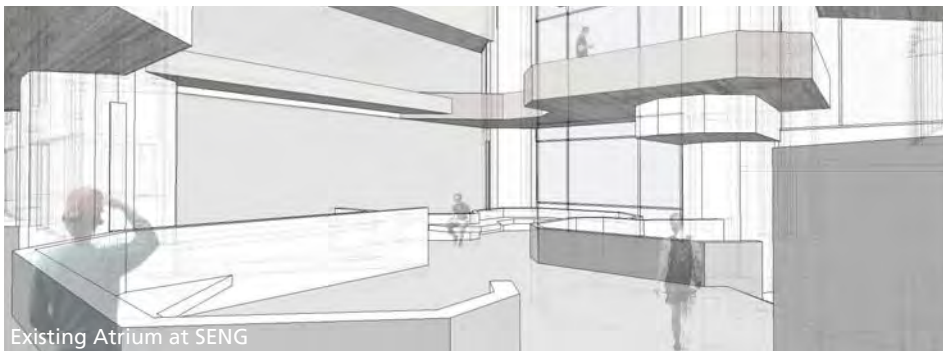


Existing Forest & Rock Outcroppings at Future Commons





Enclosed Collaborative Space at the Claire T. Carney Library Renovation



Existing Atrium at SENG

### Improved Social | Gathering Spaces in Academic Buildings

Rudolph designed the interior spaces of the academic buildings to facilitate spontaneous human interaction and exchange. This was influenced by UMass Dartmouth's status as a predominantly commuter campus, where students would attend class and leave directly after. As the needs of the increasingly resident-based student experience continue to evolve, it is important that these existing social and gathering spaces be transformed to align with these campus principles. Increasingly residential populations on campus have allowed UMass Dartmouth to become a more full-service institution, with more campus activities and student involvement.

The recent renovation of Claire T. Carney Library (CTCL) has proven very successful in providing students with flexible and collaborative learning spaces that are adaptable to the evolving higher education institution pedagogy. This Campus Master Plan proposes the re-imagining of the existing atrium spaces, using the CTCL renovation as a guideline, to accommodate additional collaborative space distributed throughout campus to encourage interdisciplinary exchange.

One potential transformation would be to partially or fully enclose the cantilevered atrium trays with glass partitions to create acoustically separated spaces for smaller group meetings to occur. These enclosures would reference the existing Rudolph formal geometries, presenting the Rudolph legacy in a way that meets current academic and student needs.

Another high-impact transformation that could occur in LARTs and SENG atriums would be the removal of the existing second-level partition to create additional flexible furnished space located adjacent to the three-story-height space. Transforming these spaces to increase the amount of diverse collaborative space can help activate the atriums that were such integral and important spaces in Paul Rudolph's original Campus Master Plan. UMass Dartmouth is currently exploring this as a potential project in one of the existing LART's atriums.

The majority of buildings on campus have a monotonous and imposing color palette of fluted concrete block that is both the interior and exterior finish. Introducing colored surfaces into the atrium, corridor, and classroom spaces could help create a more vibrant atmosphere as well a cohesive interior system of way finding.

Right: Collaborative spaces can be created through the use of transparent enclosures within the existing sculptural volumes.





View of Transformed Atrium



## Connect the Campus

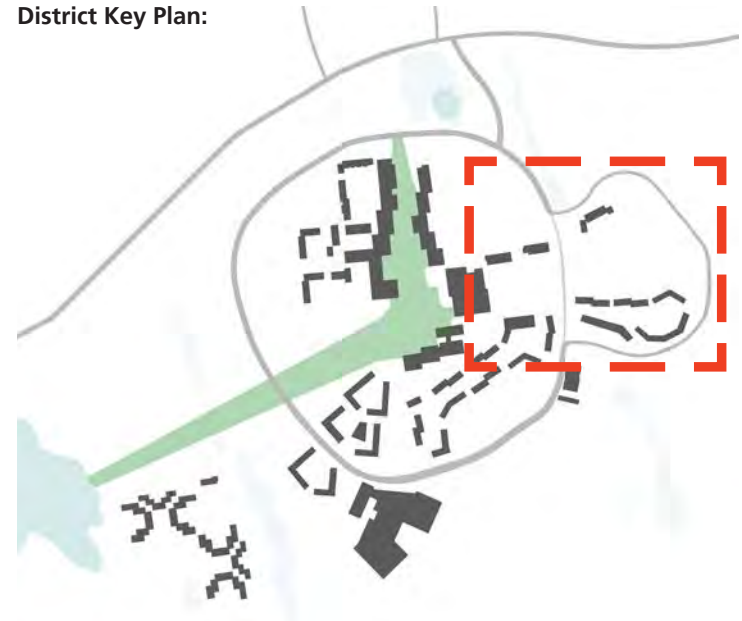
### Universal Access

Reaching the academic core is currently a challenge due to grade changes and slopes of critical pathways. The site design has reimagined these connections by establishing accessible outdoor routes into the core. Alleviating this barrier will strengthen the connection between the “Student Life Ring” and academic core.

Currently, the residential housing on campus lacks composed outdoor spaces that allow for a wide range of student interaction. Building entries typically lack space for students to congregate. Most residential buildings have no indoor/outdoor connections at the ground level that make for dynamic social interaction.

The vision is to create a hierarchy of open space to encourage and support social interaction to build a strong sense of community amongst residents as well as commuters. This can be accomplished by creating a sequence of spaces and connections that are scaled as students walk from their classes to their housing.

District Key Plan:



- 1 New Law School Building
- 2 New Administration Building
- 3 New Alumni Hall Building
- 4 Student Union Expansion
- 5 New Undergraduate Housing & Commons
- 6 New Dining Hall
- 7 New Graduate Housing & Improvements to Pine Dale & Oak Glen Quads







View of Student Life Ring





Left: Pathways between residential structures provide dynamic, human-scaled pedestrian experience. The campus space is inspired by the natural woodlands and rock outcroppings, which is also reflected in the architectural materials.

A key feature of the land plan is the creation of a student life ring. This would serve as a main pedestrian travel way through the new residential neighborhood. This would connect with Woodland and Tripp Athletics to the south and the academic core to the north. The existing sophomore dorms Pine Dale and Oak Glen, currently feel orphaned from the campus core. The new student life ring would provide these resident halls a strong connection back to campus. The student life ring would be further activated by ground floor program space in the new residential buildings such as cafés, fitness centers, and live / learn classrooms. This “main street” concept would greatly improve the social fabric of UMass Dartmouth student life. Functionally, this wide path would also serve emergency vehicles as needed.

The proposed residential buildings have been placed to create semi-public open space that would support active and passive recreation for students, such as tossing the Frisbee or lounging on the grass. These medium-scaled outdoor spaces reinforce a neighborhood feeling.

These spaces are generally located at building entries and provide generously paved spaces so that students can congregate. These spaces are more private to the buildings they serve. These spaces might have a gas fire pit for students to sit by during a cold autumn night as well as outdoor table tennis and other space-activating elements. Striving to make these spaces usable throughout the school year will create a strong sense of community and improve the happiness and well-being of the student population.



View toward Campanile from Student Life Ring



Right: Bordered by the transformed Student Union and new Dining Hall, the East Lawn creates a pedestrian threshold between the Main Campus and East Village.

### New East Lawn

This Campus Master Plan proposes removing a portion of the Ring Road that divides the existing first year residence halls and academic core. With daily vehicular circulation removed from this portion of campus, the space can be transformed into a new campus lawn that facilitates improved connectivity between residences and the academic core.



Existing East Lawn







View of East Lawn toward ew Dining Hall



### Athletics and Recreation

Athletics facilities are currently disconnected from the campus core, lacking a visual presence. A new campus lawn serves as the connective fabric between the academic core and athletics. This transformation enhances the visitor tour experience, exposing the once concealed athletics complex. This new campus lawn also serves as a passive open space allowing for continuous circulation of the pedestrian loop.

District Key Plan:



- 1 New Undergraduate Housing
- 2 New Undergraduate Commons
- 3 Woodland Commons
- 4 Expansion of Fitness Center
- 5 Expansion & Renovation of Tripp Building
- 6 Improvements to Practice Fields & Big Backyard







View of Expansion to Tripp Athletic Center





Left: The transformed Tripp Athletic Center includes a new entry, field house, and two ice rinks that create a welcoming approach through a wood and glass addition. An improved approach, vehicular drop-off area, and parking allow this venue to be used for a variety of athletic events for both students and the community.

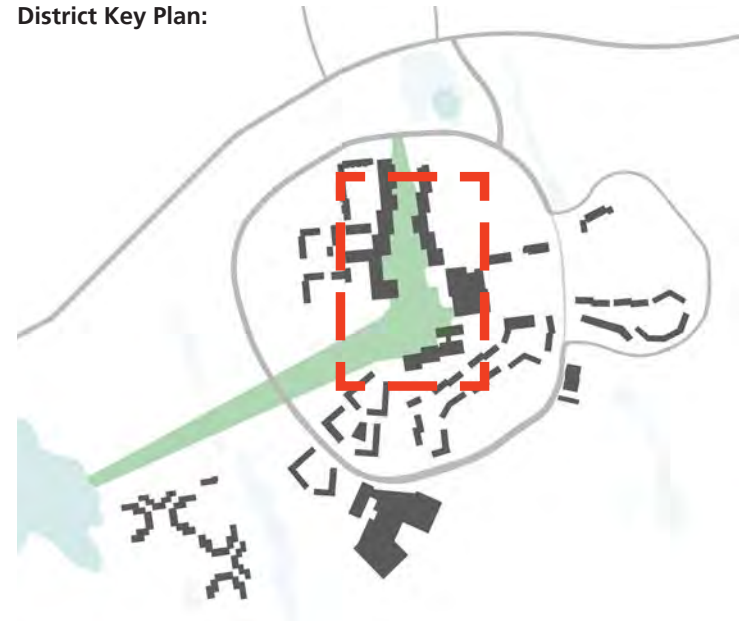




## Leverage and Interpret Rudolph's Legacy

Paul Rudolph's unique vision for the university unifies the campus but is in need of adaptation. As demonstrated by the renovation of the Claire T. Carney Library, the architectural legacy of Rudolph can be reinterpreted in a sensitive manner which increases transparency, adds collaboration spaces, and improves the educational environment. As mentioned under several of the guiding principles above, the plan addresses specific recommendations for improvements to the atriums by creating a mix of public, semi-public, and more private meeting spaces; expansion of the first floor classrooms to provide more space for flexible learning environments and visual connections to the outdoors and the interior corridors; creation of casual meeting and break-out spaces within the existing corridor systems that extends the learning environment outside the classroom; improvements to the Great Lawn for human comfort and universal access through improved walkways and gathering areas. While these recommendations address the existing buildings, the plan proposes the creation of a second tier of quads and courtyards that allow the academic facilities to expand meeting needed adjacencies and extending the ideals of the Rudolph planning principles.

District Key Plan:







## V. Implementation

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## Project Implementation

In order to realize the full vision for the UMass Dartmouth Campus, breakout project scopes are outlined and prioritized in the following categories:

### Immediate Impact Projects

Completed: 0 - 1 Years

### Near-term Projects

Design Begins: 0 - 3 Years

Construction Completed: 3 - 5 Years

### Mid-term Projects

Design Begins: 5 - 7 Years

Construction Completed: 7 - 10 Years

### Long-term Projects

Design Begins: 7+ Years

Construction Completed: 10+ Years



Aerial view of existing campus



UMass Dartmouth







## Immediate Impact Projects

Completed: 0-1 Years



### 1a Campus Beautification

- Improvements to Entry Road
- Improvements to Campanile
- Improvements to Signage & Way finding

### 1b Campus Arrival & Admissions:

- Expansion for Entry Lobby & Admissions
- New Drop- Off & Parking
- New Inner Pedestrian Ring



The Immediate Impact Projects will create a more welcoming first impression to the UMass Dartmouth campus for current and incoming students.





## Near-term Projects

Design Begins: 0-3 Years  
Construction Completed: 3-5 Years



The Near-term Projects will impact the full student experience: additional state-of-the-art academic buildings, improved living/learning residences, and expanded extracurricular opportunities through a transformed Student Union and Athletic Center.

### 2a STEM & Science Quad

- New STEM Building
- New Science Quad
- New Chemical Storage Building

### 2b Campus Connections & Ring Road Improvements

- New Connections to Cross and Old Westport Roads
- New Egress to Chase Road
- Improvements at Ring Road & Break at East Village
- Improvements at East Village Road

### 2c Living/Learning Residences

- New Undergraduate Housing
- New Undergraduate Commons
- New Dining Hall
- Demolition of Roberts & Chestnut Housing
- New Graduate Housing & Improvements to Pine Dale & Oak Glen Quads

### 2d Athletics Complex

- Expansion at Tripp Building - New Entry, Field House, Ice Rinks
- New Athletics Drop-Off & Parking
- Improvements at Practice Fields & Big Backyard

### 2e Student Union

- Expansion to Campus Center
- Renovation of MacLean & Banquet Hall
- Improvements at East Lawn

### 2f LARTS Expansion

- Expansion for New LARTS Classrooms







## Mid-term Projects

Design Begins: 5-7 Years  
Construction Completed: 7-10 Years



The Mid-term Projects improve upon the assets of the campus, from the renovations of historic structures to the preservation and improvements to landscape environments. Additionally, it provides the infrastructure for continued growth through parking and central plan expansions.

### 3a Cedar Dell Parking & Central Plant

- Demolition of Cedar Dell Housing
- New Cedar Dell Parking Lot
- New Campus Police Station
- Expansion of Central Plant & Facilities

### 3b Nature Walk & Observatory

- Demolition of Elmwood & Maple Ridge Housing
- New East Village Bike Trails & Nature Walk
- New Observatory

### 3c Alumni Hall & Administration

- New Alumni Hall Building
- New Administration Building

### 3d Tripp Center

- Renovation to Tripp Building
- Expansion of Fitness Center

### 3e Historic Structure Renovations

- Renovation of CVPA Building
- Renovation of Foster Building
- Renovation of Dion Building
- Renovation of LARTS Buildings
- Renovation of SENG Buildings

### 3f Campus Space Improvements

- Improvements for Accessibility to Great Lawn
- Improvements to Building Entries from Great Lawn
- Improvements at Cedar Dell Lawn
- New Lighting & Cover at Amphitheater
- Expansion for New LARTS Classrooms







## Long-term Projects

Design Begins: 7+ Years  
Construction Completed: 10+ Years



- 4a New LARTS Buildings
- 4b New SENG Buildings
- 4c New Nursing School Building
- 4d New Law School Building
- 4e Expansion at CVPA
- 4f Improvements to Woodland Commons

The Long-term Projects allow for the continued growth of UMass Dartmouth's academic programming, ensuring continued excellence in academics and student experience.







## VI. Design Guidelines

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## Building Guidelines



Historic image of Paul Rudolph unveiling the campus design

*"I do not think it is generally recognized how different conceptually the SMTI campus is. That the whole of America, almost the whole of America, is based on the freestanding building in a plane of space, and that the space in between is simply there. It has no use, no real meaning. And that is a tragedy because the European example is the exact opposite. It took many buildings, built over great length of time, and by placement formed a greater whole, a social whole if you will. And we haven't got the hang of it. But I would insist that the basic thinking at SMTI it is the exact opposite. I don't mean stylistically, which it may or may not be but — well, it is different of course, but that is not the real point. The real point is that the buildings are connected to form a greater whole, and that whole is a social entity, and that entity is not yet fully developed."*

-Paul Rudolph

Paul Rudolph envisioned a campus that was unified, collegiate in scale, organized around academic, and student life zones, and ordered yet not formal. His plan embraced the land, vegetation, natural drainage patterns, and clear circulation patterns. The limited materials palette, strong sculptural forms, and use of color have created a unique educational environment that should be built upon in a sensitive and coherent manner, yet not be copied which may diminish the power of the original buildings. These precepts are the starting point for all new additions or modifications to the campus as outlined in these design guidelines.

One of the guiding principles of this plan is to honor the Paul Rudolph legacy. This campus is unique and must be thoughtfully considered in both renovation schemes as well as in the introduction of new buildings and landscapes. The design guidelines are organized around three sections: Renovation of the Rudolph Buildings, New Buildings, and Landscape.



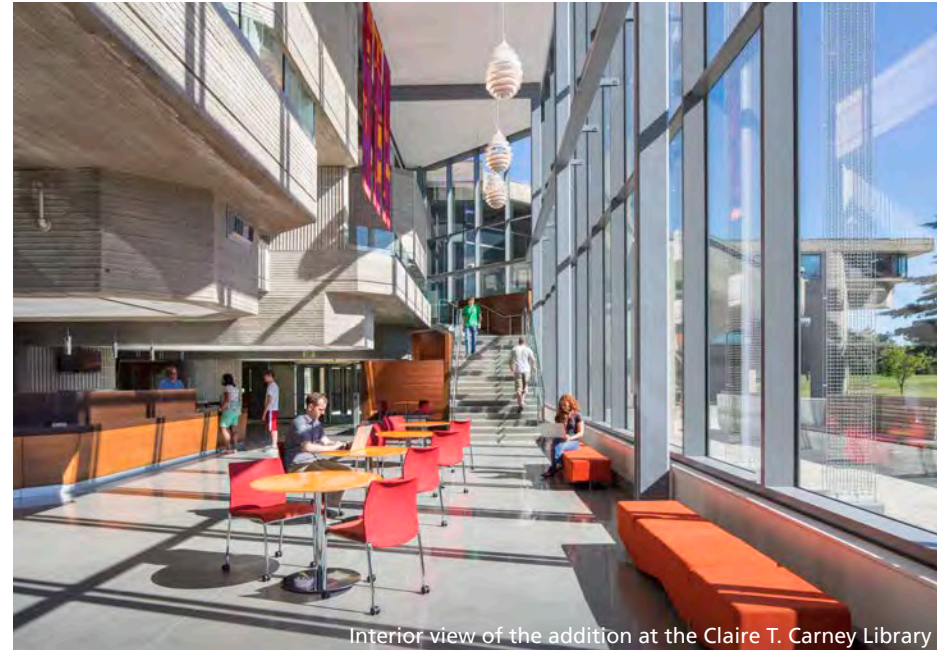
View of the addition at the Claire T. Carney Library

### Renovations and Additions to Paul Rudolph Buildings

As demonstrated by the renovation of the Claire T. Carney Library, it is entirely possible to honor the Paul Rudolph legacy while refreshing buildings. The renovation transformed a rather opaque building into one that is transparent, flexible, and sustainable. With the introduction of vibrant colors and appropriate fixtures, the library is now a focal point on campus.



Before



Interior view of the addition at the Claire T. Carney Library

### Transparency and Orientation

#### *Exterior Transparency:*

The selective removal of exterior walls and the insertion of glass opened up the building to receive more natural light while giving users both inside and outside of the building an orientation to the campus.



Before





Transformed corridor at an existing building

#### *Interior Transparency:*

Many of the interior walls are concrete block, which makes the corridors dark and disorienting. Selective walls or portions of walls can be removed to allow more natural light to penetrate the corridors, but also allow for more of a collaborative environment with views into and out of the classrooms, labs, and offices. The placement of the walls may allow for seating and collaboration space within the corridors creating a third place.



Before



Transformed atrium at an existing building

#### *Atriums:*

The atriums are the connective tissue between the Paul Rudolph buildings. He considered these spaces as “Happenings” spaces that create spontaneous and serendipitous connections across the campus community. The multiple level changes made the space very interesting, but have proven to be challenging for those with physical challenges. There is an opportunity to rethink these spaces to create accessible, comfortable, and acoustically isolated collaboration spaces that can restore their intended functions of connections and gathering.



Before





Browsing Area at the Claire T. Carney Library

## Color, Fixtures, and Furnishings

### *Color:*

While generally Rudolph chose monochromatic and muted color palettes, the introduction of vibrant color as demonstrated in the Library can have a great effect when played against the primarily concrete building. The color must be used judiciously in select areas such as floors, upholstery in built-in seating, furnishings, elevator cabs, and painted accent walls. The color palette has its origins in 1960s and 1970s color schemes, which are appropriate given when these buildings were constructed.

### *Fixtures and Furniture:*

The selection of furnishings and fixtures can also refresh the Rudolph legacy. Modern and energy efficient light fixtures that harken back to the time period can become another level of design within the building. New lighting placement can highlight the salient features of the textural and sculptural nature of Rudolph's work. Modern furnishings in vibrant colors can also contribute to the unified look and feel of the campus.

### *Flexibility + Technology:*

Instructional pedagogy and technology has transformed the way universities function since the time these buildings were built. Integrating more wireless technology can be challenging with predominately concrete buildings, but access to technology must be ubiquitous across the campus. Classrooms with tiered seating must be accessible and flexible for different instructional styles including collaborative work. While keeping some of the original small, tiered classrooms in LARTS, many of them, for example should be leveled and expanded to create a more flexible, active learning environment. The steep lecture hall in Dion is another opportunity to rethink the large lecture format as a collaborative learning room by reducing the steepness of the room with broader tiers and improved handicapped access. Office environments can benefit from a mix of collaborative spaces and private offices supported by telephone rooms and small conference rooms.





### Additions

Additions to the Rudolph buildings beyond the building facades should be sympathetic to Rudolph's design. Incorporating transparency, appropriate linkages to the existing atriums and use of natural materials are encouraged. Facades should build upon the regulating lines of the architecturally significant portions of the original buildings, paying specific attention to massing, void, and proportion.

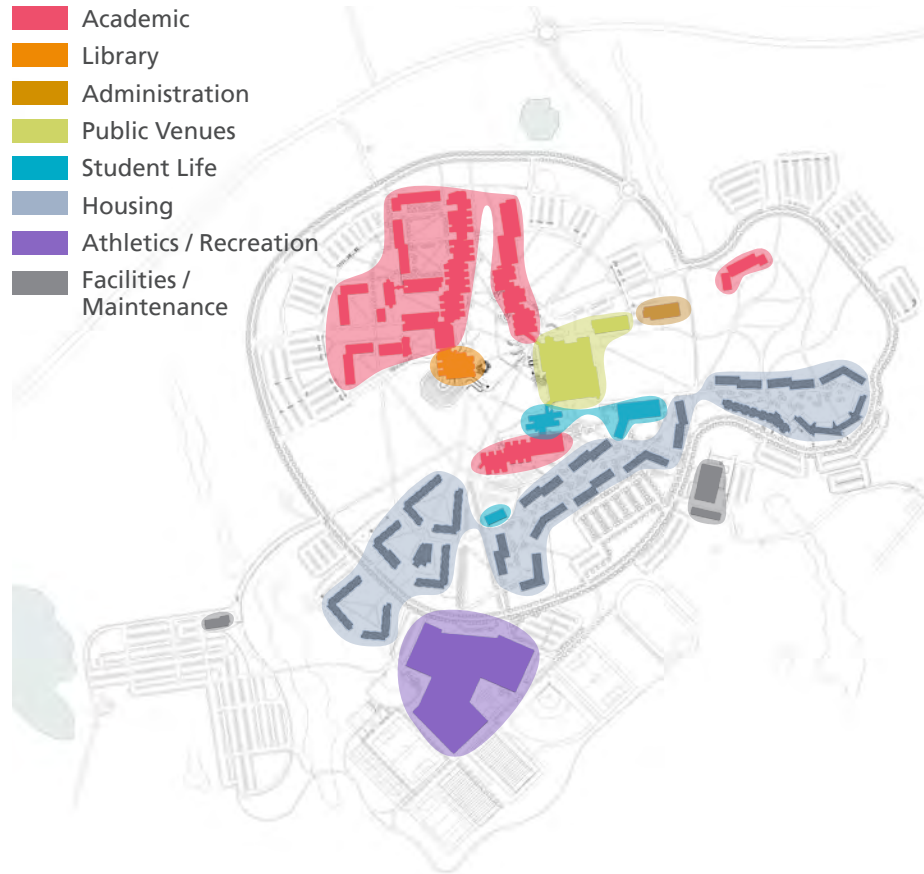


### New Buildings

New buildings on the UMass Dartmouth campus should honor the legacy of Paul Rudolph in a careful and sensitive manner but be careful not to copy the original buildings. The original Rudolph buildings should continue to stand alone as the hero buildings of the campus. Any new additions or stand-alone buildings should be significant, well designed and crafted, and expressive but defer to the scale of the original buildings.

### Proposed Building Use Diagram:

- Academic
- Library
- Administration
- Public Venues
- Student Life
- Housing
- Athletics / Recreation
- Facilities / Maintenance



### Building Typologies

Campuses buildings have a mix of different uses ranging from academic, student life, residence halls, and athletics and recreation. The architectural expression of the buildings should reflect their use and create appropriate forms, materials, fenestration patterns, massing, and scale in keeping with the overall campus character. Care should be taken to maintain a human scale throughout.

### Open Spaces Diagram:

- Student Life Ring
- Campus Entry Quadrant
- Science Quad
- East Village Nature Area
- East Lawn
- South Lawn to Athletics



### Defining Edges of Open Spaces

Paul Rudolph's buildings around the Great Lawn defined an informal series of open spaces. New buildings should be placed to expand on this open space structure in key areas, which are expanded upon in the landscape section of these guidelines. In particular the student life ring, (2) the lawn to the Athletics zone, (3) the East Lawn, (4) the campus entry quadrant, (5) Sciences Quad, and (6) East Village nature area.





### Massing and Scale

Paul Rudolph's buildings are quite sculptural with bold columns, overhangs, and expressive massing. New buildings should not attempt to copy these traits, but be sensitive to them through massing, size, height, placement, roof, levels of transparency, fenestration patterns, and materials.

Paul Rudolph's buildings are generally three to four stories tall with relatively low floor-to-floor dimensions. Most buildings range from 33 feet to 50 feet above grade. New buildings are limited to 50 feet above grade due to firefighting equipment limitations. In addition to safety, the goal is to make sure the buildings are nestled within the woodland and be no taller than most of the mature trees.



### Façade Composition and Proportion

Rudolph's buildings have a clear base, middle, and top giving them clarity of order. New buildings should use this principle through materials, levels of transparency, and expression of functional relationships within the building. Monolithic building facades should be avoided. Expressions of floor levels are another method to give vertical definition and ordering of building facades. The goal is to develop a nuanced architecture that is sympathetic to the ordering principles of the contemporary campus.

Paul Rudolph's buildings have a strong vertical orientation with the repeated column bays topped with a strong horizontal cantilevered cap. This system of verticals supporting a cap can be another ordering principle in façade composition.



Rooftop screens at Claire T. Carney Library

### Roof Forms

All roofs on campus should be flat. Where it is possible to view a roof from within a building, green roofs should be considered to beautify the campus experience as well as address localized storm water management.

Rooftop equipment should be screened with perforated metal screens with a zinc or grey finish. The height of the mechanical equipment should be minimized as much as possible and the mechanical equipment screens should conceal the equipment from view from the ground.



New Admissions Building

### Building Materials

Paul Rudolph used a material palette of fluted concrete block, board formed concrete, and glass in his unified composition of UMass Dartmouth's Campus. The buildings are very sculptural, but are showing their age as the concrete has spalled, rebar is exposed, and glass panels have broken. Prospective students and visitors to the campus have consistently observed that this material palette is intimidating and uninviting, which needs to be addressed in order to improve first impressions of the campus.

It is recommended that the architectural material and color palette be expanded to help improve student and visitor perceptions of campus. While strategic use of concrete in buildings is encouraged, this design team does not advocate mimicking the original buildings materials, nor does it recommend painting over existing concrete surfaces.





### Transformation Materials

The renovation of the Claire T. Carney Library is an example of a successful transformation that both preserved the Rudolph character of the building while also creating a vibrant and light filled environment through the introduction of color and glass. This palette is one that can be utilized in the renovation of existing Rudolph buildings, providing a sensitive transformation that provides a contemporary palette to soften the appearance of the brutalist architecture to students and visitors.

The introduction of graphics and a vibrant color palette is one strategy that broke up the continuous expanses of fluted concrete block, board formed concrete, and glass. Not only can this be an aesthetically interesting strategy, but also one that can also help improve wayfinding within the continuous LARTS and SENG buildings that share a nearly identical interior character. Associating certain colors with each module of the LARTS and SENG buildings can help distinguish sections from one another, making it easier for new students to navigate their way through the Rudolph buildings. The UMass Dartmouth marketing

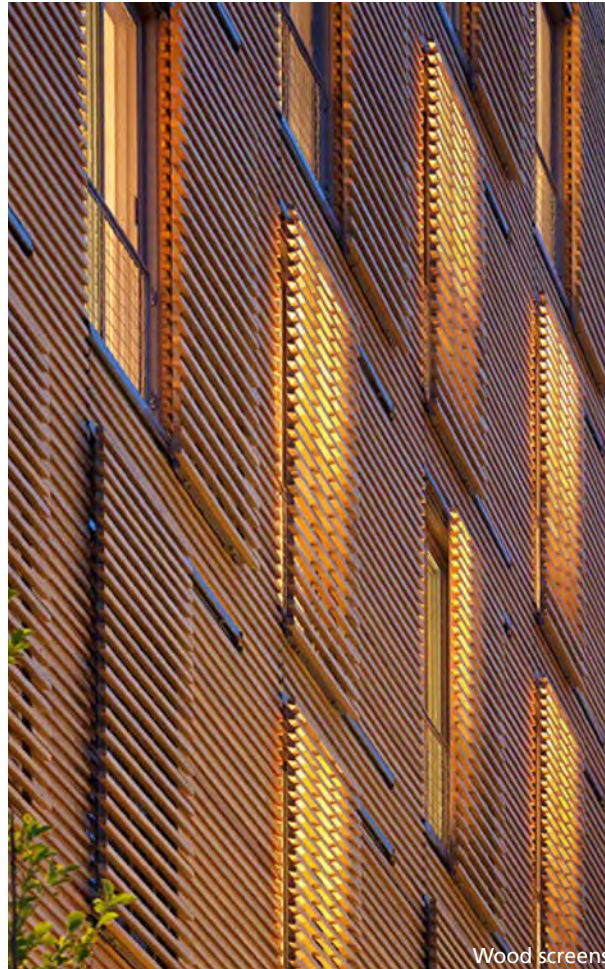
department has created a secondary color palette that should be incorporated into interior finishes. Vibrant, warm colors should be the main color, to complement the brutalist background. Variations of the secondary palette can be used as secondary and tertiary colors within the respective college or building.

To give individual colleges identity, layers of primary, secondary, and tertiary colors can be used. For example, if a college has all cold colors, a warm color could be used that is complimentary to the college colors as the main color, with the college colors as accent. If the college has warm colors, complimentary cool colors as accent. For example, Nursing should be a warm vibrant color that compliments PMS 3125 teal.

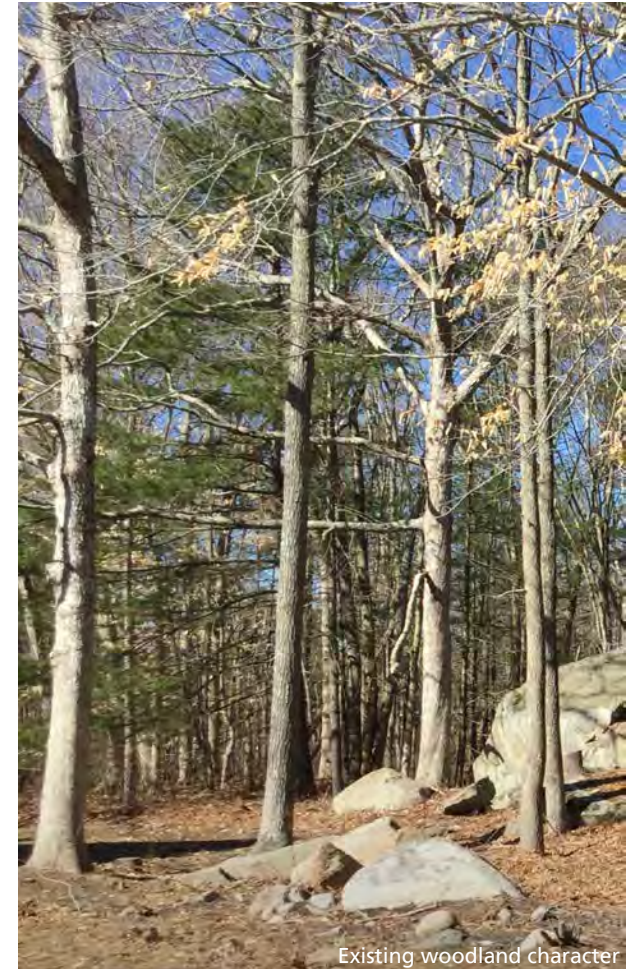




TAKTL concrete paneling



Wood screens



Existing woodland character

### Park Ring and Transformation of Architectural Character

Nestled within the park belt, the new undergraduate residence halls present an opportunity to introduce new forms and materials than those used in the academic core due to their unique setting and location on a new campus circulation route. While concrete may be introduced into the material palette for these new buildings, it is recommended that wood be introduced to help ‘warm’ the material palette, but also to enhance the character of the beautifully preserved ‘park belt’ in the academic core.

### Embracing Woodlands

The existing SouthCoast woodlands character is an asset that should be embraced and enhanced on the campus. This can be accomplished through strategic plantings, landscaping, and manicuring. It is recommended that future buildings located within the wooded park belt introduce wood into the material palette as way of enhancing the woodland character and presenting a warmer building exterior to the campus. This material can help preserve the character of the SouthCoast woodland landscape.



## Landscape Guidelines

### Materials

The range of materials on campus is predominated by concrete on buildings, paving, walls, and furnishings.



Auditorium step & pathway improvements celebrate views across campus

### *Buildings:*

The buildings are articulated in exposed concrete, inside and out, on floors and walls, combining several flat and striated finish patterns.

### *Paving:*

There two types of existing paving materials: bituminous concrete, and exposed aggregate concrete. Bituminous concrete is used at all roads, parking, and most pathways outside of the central core. Exposed aggregate paving is used on all pathways, steps and plazas within the central core, as well as throughout the buildings, unifying the indoor and outdoor spaces. Over the years the concrete has achieved a warm patina. At many locations the original exposed aggregate has been patched up with a slightly different concrete mix. Curbing at the vehicular areas is conventional, consisting of mostly vertical granite and occasionally rolled bituminous concrete.

### *Steps:*

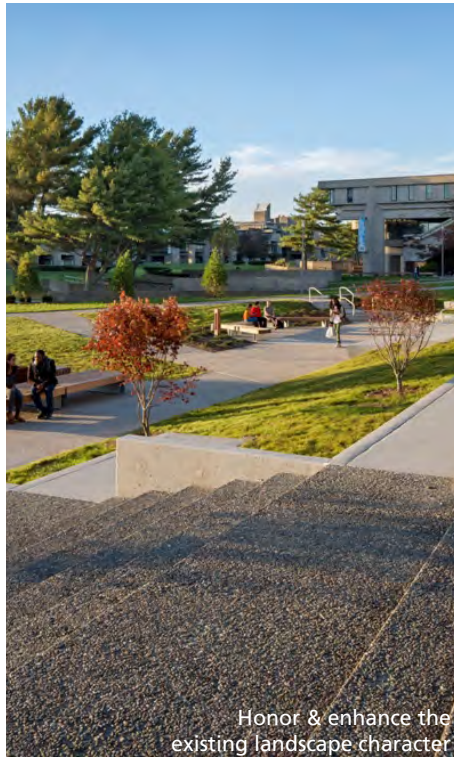
Steps are consistently concrete with exposed aggregate finish. Most have prominent nosings that create a nice shadow line; however there were many instances of broken or patched up nosings. Throughout the campus, the steps typically have a wide profile with a shallow riser of 4" to 4 1/2" - which is too low for comfortable walking or sitting.

### *Site Walls:*

Site walls within the campus core are made of exposed concrete with various striation patterns. At the campus entry, a series of dry-laid stone walls recall a pastoral New England image in contrast to the campus modern architecture style.

The limited materials palette on one hand unifies the campus but on the other does not distinguish between general and "special" areas, indoor and outdoor spaces, and creates a monotonous spatial experience.

As a general guideline, the exposed aggregate should continue to be used on walks within the campus core. Special places, however, such as the Campus Center Plaza and the Library Plaza, could introduce different paving materials such as concrete pavers, granite, and different finishes for cast-in-place concrete. For maintenance of the existing exposed-aggregate paving, a specific technical specification should be used as a standard for all repairs. The specified concrete mix should be developed to match the existing paving as much as possible, and should prescribe the exact material mix, source, color and additives. Outside of the campus core, bituminous concrete should be used consistently at existing pedestrian walks and the trails through the woods. Major pedestrian routes, such as those between residential areas and the campus core, should be paved with special paving and furnished with matching benches, trash receptacles, and light fixtures.



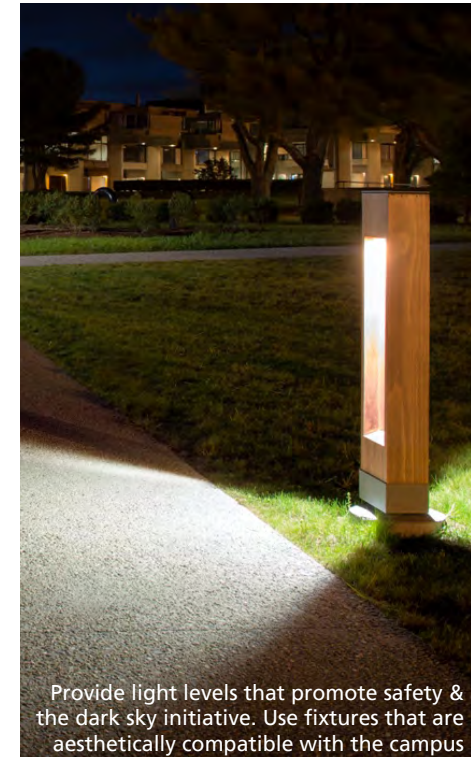
Honor & enhance the existing landscape character



Create dynamic outdoor social spaces all year round



Use artistic landscape lighting to create destinations & landmarks



Provide light levels that promote safety & the dark sky initiative. Use fixtures that are aesthetically compatible with the campus

### Material Recommendations

All hardscape materials will be selected to compliment the architectural materials of the building while creating an updated modern campus feel. Maintenance, durability, and cost are other key factors that will be considered during the material selection process. Paving shall be designed in a hierarchical fashion to designate major and minor walkways. The use of specialized paving at gathering areas will contain patterning to increase the spatial character. Site furnishings such as benches, trash receptacles, and bike racks will be located throughout to accent gathering areas and desire lines. Colorful flexible seating near buildings will allow for a greater range of uses by students and faculty.

Finally, the overall lighting strategy will be to focus dramatic lighting at key entry points while applying the Dark Sky Initiative to the rest of the site. Another goal would be to use minimum lighting levels based on the usage of the site after dark. The use of cut off fixtures that limit light trespass will help towards that goal, while maintaining adequate lighting levels for a sense of security. Sections of main campus in academic and campus life quadrangles/clusters have lighting obligations that flow with the campus's activity. Light levels may vary across campus due to amount and times of activity. Flexibility in providing adequate light levels in active areas of campus is key.

Pedestrian pole lighting, which produces light pollution, will be kept to a minimum and should only be used where a higher level of illumination is required.



### Site Context and Ecology

Cedar Dell Pond's water elevation is dropping over time. This issue is multifactorial and will require a big picture look at the overall campus hydrology. Future campus development should keep this issue in mind when making changes to the existing flows of water on campus. The university should take a proactive approach through research and investigation. Factors that could be influencing water-level dropping are encroachment of invasive species along the perimeter and slowly filling in the pond, excess sediment load raising the bottom of the pond elevation, campus development altering overall watershed flows to the pond, drought conditions resulting in loss of groundwater.

By limiting the impact of development on ecologically sensitive areas and using a holistic approach to the campus watershed these measures will work to ensure that the health of these ecosystems can be improved over time with thoughtful landscape infrastructure and intervention.

### Landscape Sustainability

As the campus population grows so will the pace of development. Care should be taken to reduce negative impacts on existing ecological systems as well as the health, safety and welfare of the campus community through thoughtful design and planning. The university should consider adopting a systematic comprehensive set of guidelines such as the Sustainable Sites Initiative (SITES) to define and measure performance of the landscape.

The Sustainable Sites Initiative™ (SITES™) is a program based on the understanding that land is a crucial component of the built environment and can be planned, designed, developed, and maintained to avoid, mitigate, and even reverse these detrimental impacts. Sustainable landscapes create ecologically resilient communities better able to withstand and recover from episodic floods, droughts, wildfires, and other catastrophic events. They benefit the environment, property owners, and local and regional communities and economies.

In contrast to buildings, built landscapes and green infrastructure have the capacity to protect and even regenerate natural systems, thereby increasing the ecosystem services they provide. These services are the beneficial functions of healthy ecosystems such as sequestering carbon, filtering air and water, and regulating climate. Source - SITES v2 Rating System

In the short term, immediate steps can be taken to increase sustainability on campus. These measures can be applied by the Facilities Department in its approach to operations and maintenance of the campus landscape in coordination with a knowledgeable site manager. Included are recommendations for short term sustainability goals some of which might already be in practice.



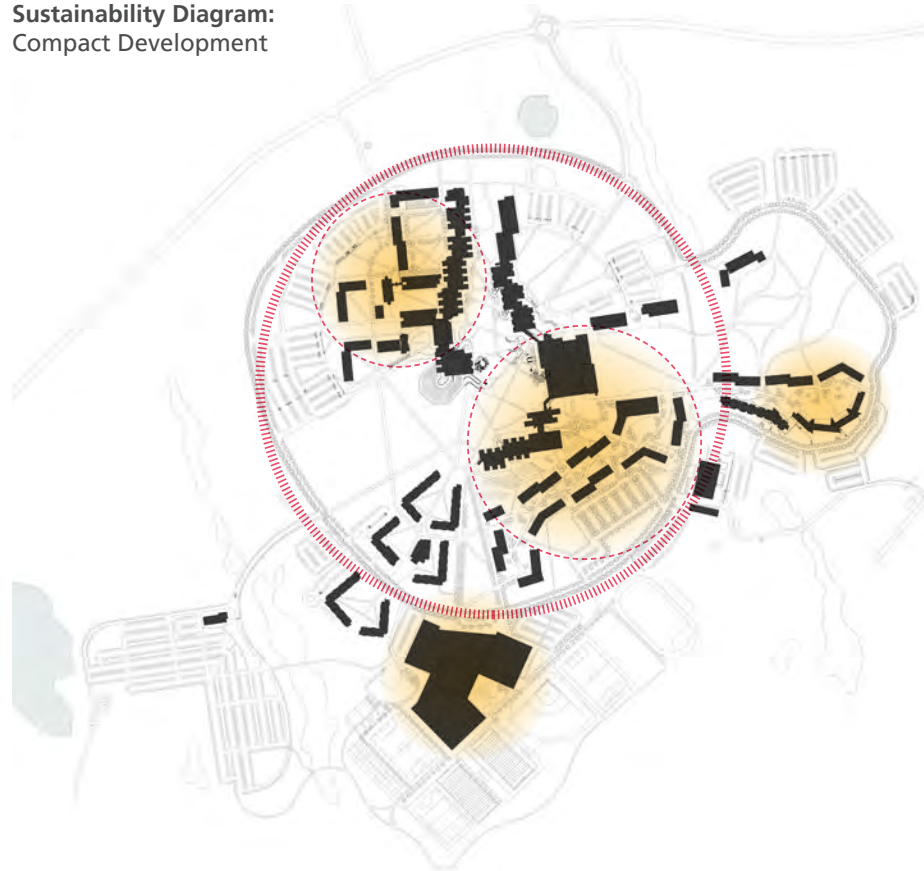
Recent native planting installation & invasive species removal at Farm Pond

### Operations and Maintenance:

A comprehensive plan for sustainable site maintenance should be developed to help guide staff and establish sustainable priorities. The university should consider recycling all organic matter by creating on or off site composting. This involves collecting excess vegetation generated during site maintenance to a composting facility on or off site that is then turned into usable horticultural soil. Other waste reduction opportunities to be investigated would be the reduction of food waste. Developing a food waste composting program should be considered to help reduce outgoing waste.

Minimizing pesticide and fertilizer use on the great lawn would help improve water quality and reduce the impact on beneficial insects. Other achievable goals would be to reduce outdoor energy consumption by using high efficiency light fixtures. Energy consumption can be reduced further by minimizing mowable lawn area.

## Sustainability Diagram: Compact Development



Encourage compact development within the Ring Road.



Density within Ring Road focused in the south east and north west.

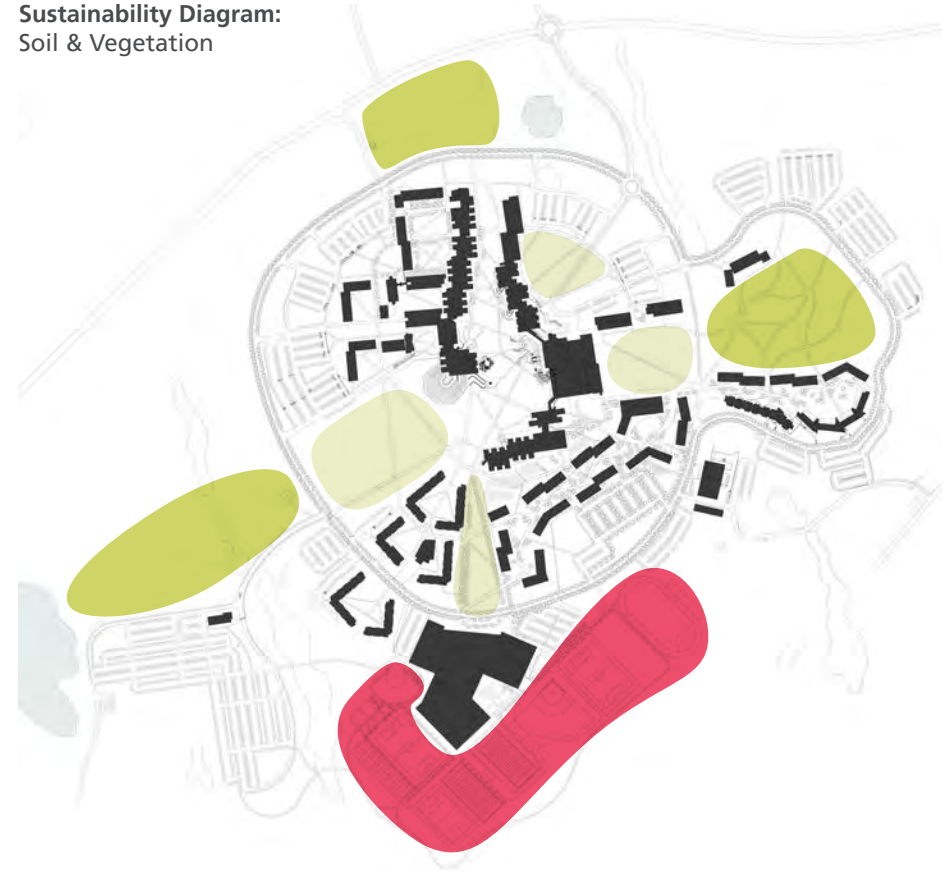


Focus new development outside the Ring Road around existing development.

### Long Term Sustainability Goals:

- Limit development footprint
- Conserve aquatic ecosystems
- Conserve habitats
- Locate projects within existing developed areas
- Increase connections to multi-modal transit networks designed around areas which have more activity. Focus on improved pedestrian, bicycle, and transit pathways.
- Improve accessible connections
- Create comfortable outdoor spaces

## Sustainability Diagram: Soil & Vegetation



Meadow - establish a single annual mow schedule



Low Mow Area - limited seasonal maintenance, no fertilizer use



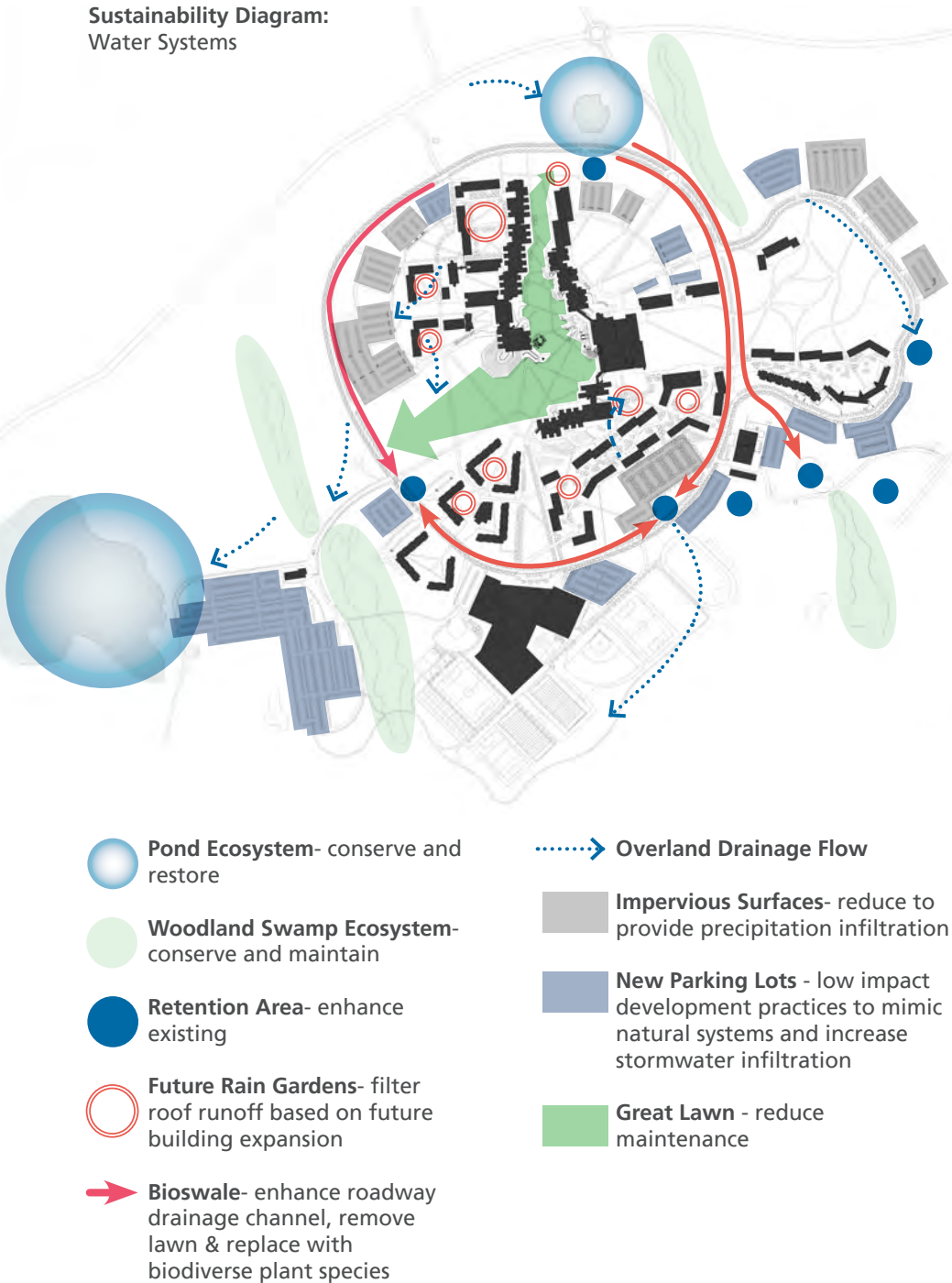
Athletics - Limit pesticide and fertilizer use

### Soil + Vegetation:

The ring of dense woodland is a unique campus-defining element that should be preserved and enhanced. The woodland contains vegetation that stores an abundance of carbon that moderates the climate around campus. Equally important are the soils that filter and purify storm water as it seeps into the aquifers. Development should minimize any encroachment into the outer woodland ring. It is recommended that the university designate Vegetation and Soil Protection Zones to prioritize this area as preservation.



## Sustainability Diagram: Water Systems



Invasive plants are a threat to the biological diversity of the woodland. An assessment plan should be performed that creates recommendations and guidelines in the control and management of invasive plants. Early detection and prevention are the best lines of defense. Resources such as the UMass Extension Services offer various programs to educate members of the landscape maintenance community. Managing and controlling invasive plants will increase biodiversity and limit risk from insects and diseases.

For new landscape construction, conserving and restoring native plants should be a priority. Healthy soils excavated for construction shall be stored on site using methods to ensure structure and usability is maintained. Imported soils from greenfield sites should not be allowed.

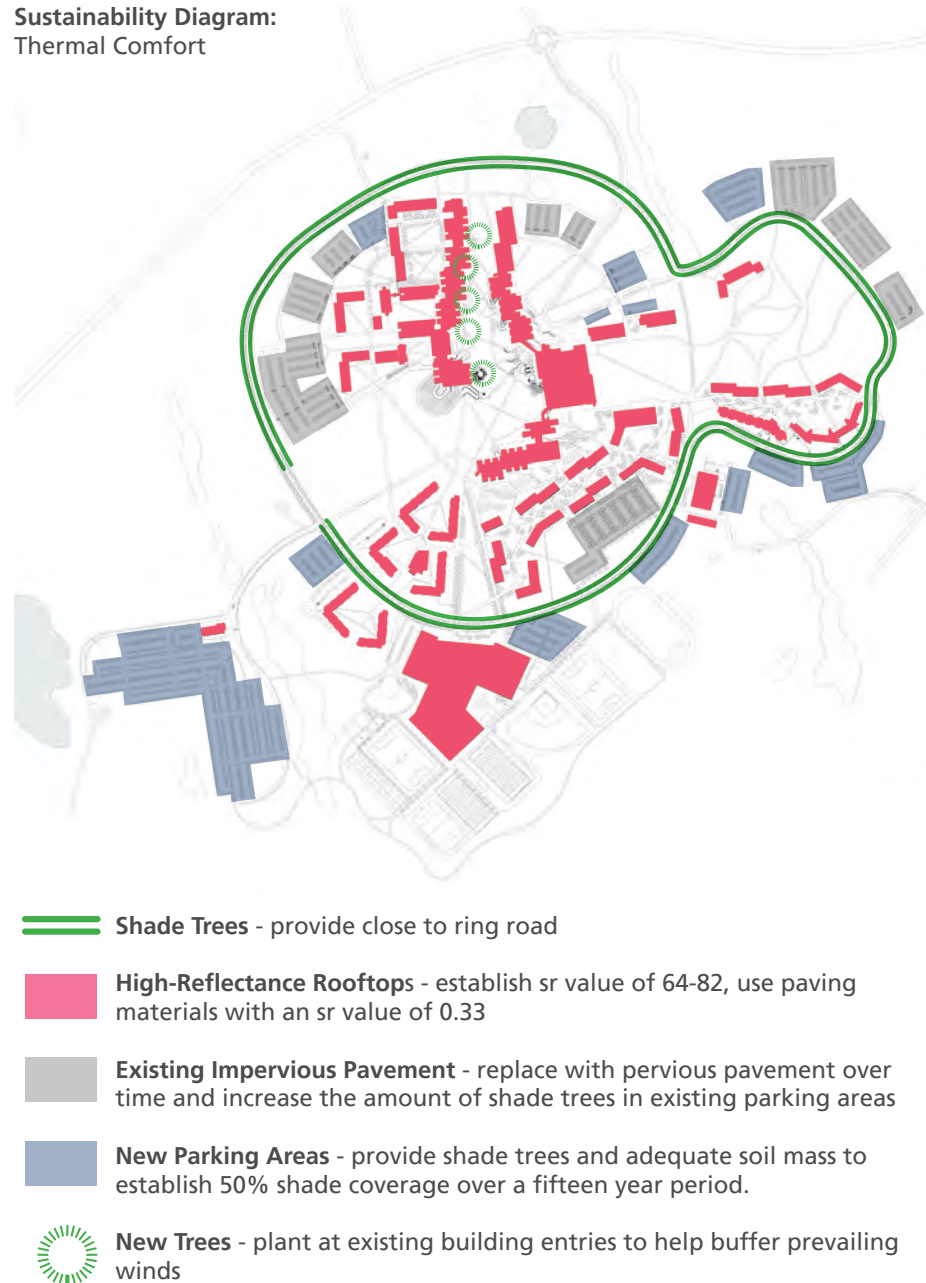
### Water:

A major goal of this category is to manage precipitation by increasing filtration and infiltration without negatively affecting natural ecological flows or natural groundwater replenishment rates and volumes. Strategies that can be implemented on campus include modifying the existing drainage channels and retention ponds by including biodiverse plant species and healthy soils. This would reduce the need to mow the drainage channels except for once a year in the late fall or early winter to keep the bioswales in a meadow stage of succession. The campus already does a good job at reducing outdoor water use. Only temporary irrigation should be considered when trying to establish new plants.

New building construction should include rain gardens to receive roof stormwater. These gardens can serve as an educational tool for the campus. A rain garden is a planted depression that allows rainwater runoff from impervious urban areas, like roofs, driveways, walkways, parking lots, and compacted lawn areas, the opportunity to be absorbed into the ground. This reduces rain runoff by allowing stormwater to soak into the ground (as opposed to flowing into storm drains and surface waters which causes erosion, water pollution, flooding, and diminished groundwater). They should be designed for specific soils and climates. The purpose of a rain garden is to improve water quality in nearby bodies of water and to ensure that rainwater becomes available for plants as groundwater rather than being sent through stormwater drains straight out to sea. Rain gardens can cut down on the amount of pollution reaching creeks and streams by up to 30 percent.

The campus wetland resources include two ponds and a series of woodland swamps. In discussion with the university it was noted that the elevation of Cedar Dell Pond has been steadily dropping due to a recent construction project. An investigation should be done to locate and remedy the source of this problem. Dredging years of sediment loading in the ponds as well as removal of invasive species is recommended to restore the performance of these aquatic ecosystems. An assessment and management plan of the woodland swamp should be developed to monitor and remove invasive species to prevent the filling in of the wetland.

## Sustainability Diagram: Thermal Comfort



### *Thermal Comfort:*

Creating environmentally comfortable landscape spaces is the major goal of this category. This achieved by strategically planting trees to provide shade as well as buffer prevailing winds such as in parking lots and at building entries. Trees can also successfully minimize building energy by shading facades with high solar exposure. Tree planting at building entrances along the SENG block of buildings will help buffer prevailing winds. Using light-colored pavement and roofing materials will minimize solar heat gain. The additive effect of these measures will reduce the urban heat island effect making the spaces more comfortable.

### *Material Selection:*

For new landscape construction, the following measures should be considered to ensure that sustainable materials are being used:

- Use sustainable wood species
- Maintain on-site structures and paving as much as possible
- Design for adaptability and disassembly
- Reuse salvaged materials and plants
- Use recycled content materials
- Use regional materials
- Support sustainability in materials manufacturing

### *Human Health and Well Being:*

- Protect and maintain culturally important campus places
- Provide optimum accessibility, safety, and wayfinding
- Promote equitable use
- Support mental restoration
- Support physical activity

### *Support Social connection:*

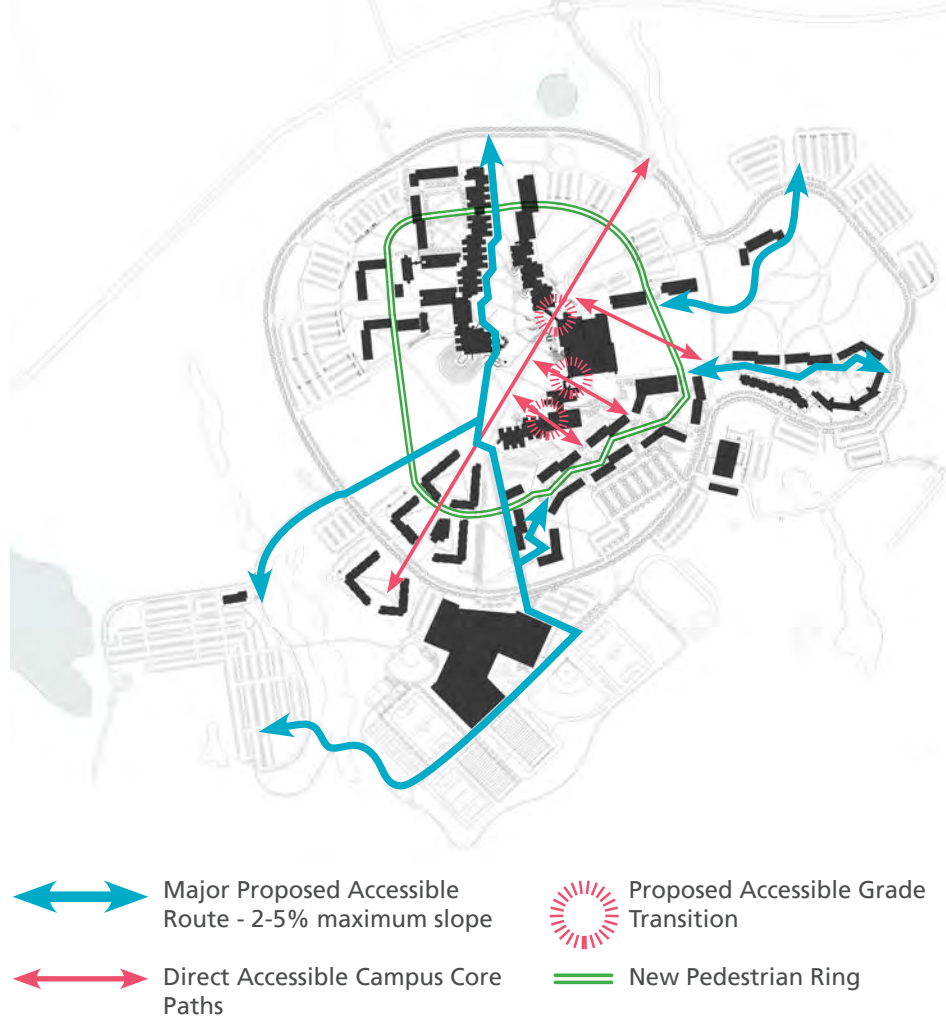
- Provide on-campus food production
- Reduce light pollution
- Support the local economy

### *Construction:*

- Communicate and verify sustainable construction practices
- Control and retain construction pollutants
- Restore soils disturbed during construction
- Divert construction and demolition materials from disposal
- Divert usable vegetation, rocks, and soil from disposal
- Protect air quality



Proposed Accessibility Diagram:



### Accessibility

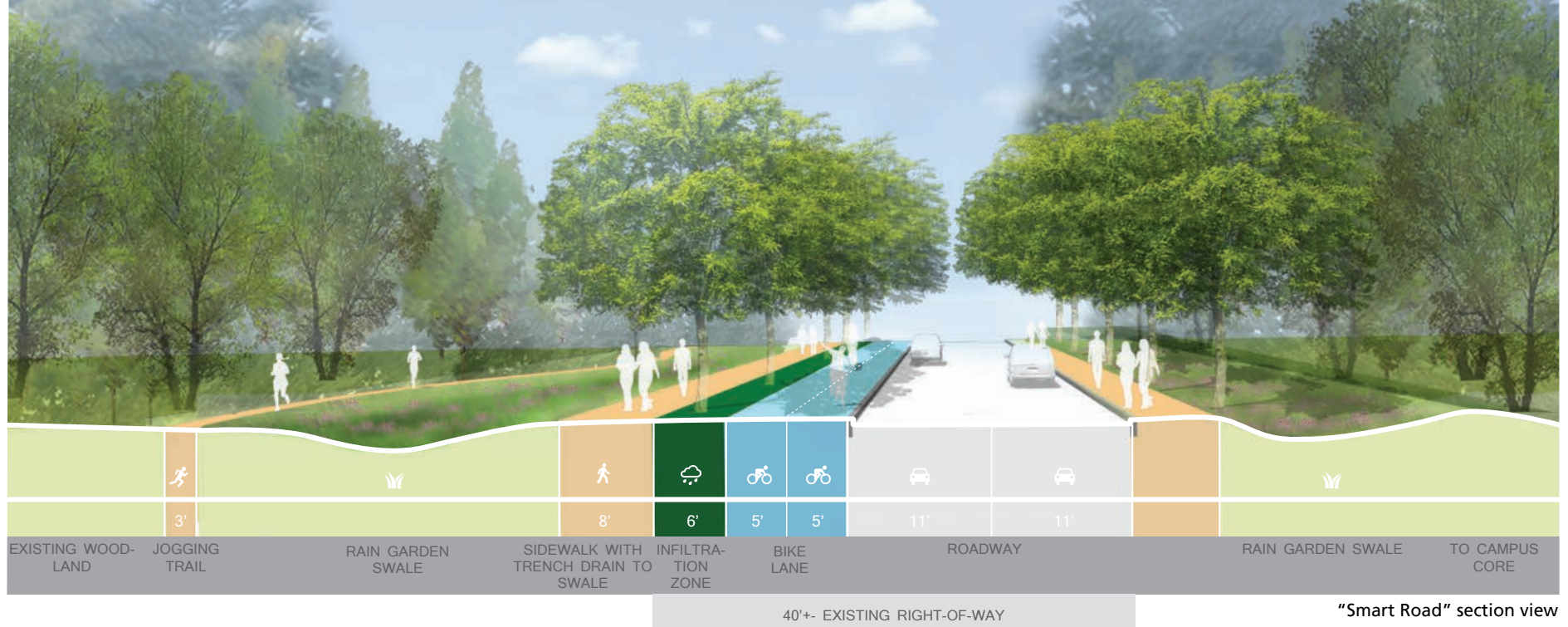
Develop a pedestrian circulation strategy that creates a safe barrier-free environment, honors the iconic original pathway geometries and provides a unified hierarchy of paths that account for desire lines across campus. Enhance multimodal access to the campus by providing safe pedestrian and bicycle routes from the campus core to off campus destinations to the north by changing the location of campus main entry. Changes to Ring Road will eliminate the pedestrian and vehicular conflict by diverting Ring Road around the east residence hall group, creating better pedestrian connectivity between residences and campus core.

Proposed Public Art Diagram:



Currently there is no clear destination for visitors, by establishing a clear arrival hub for visitors will help mitigate campus legibility issues. Other measures to enhance path legibility would be to provide clear accessible paths of travel to destinations throughout campus and to improve existing building entry points with upgraded, architecture, public art and tree planting. Improving the axial relationships between the campus core to the eastern residences and south to the Athletics area will help further connect these parts of campus.

Implementing a pedestrian path ring that circulates around the entire campus core in between the parking lots and existing buildings will offer pedestrians clear access around the campus.



### Ring Road

Develop a "Smart Road" approach that addresses three major goals:

- Walkability – Establish designated bicycle and pedestrian circulation to dramatically improve non-vehicular connectivity on campus.
- Sustainable Streets – Develop the existing swales to be a part of an overall landscape infrastructure system that holistically addresses stormwater and from a sustainability point of view. This would involve naturalizing the drainage swale to help filter stormwater before it enters the ecosystem. Improving roadway lighting that uses innovative technology such as LED's and that responds in real time to peak usage. This lighting system could also use the proposed campus solar grid to be powered. Shade tree planting should be planted on both side of the road to reduce the urban heat island effect as well as serving as a visual cue to slow traffic down.
- Slow vehicular traffic – Reduce the width of vehicular travel lanes to deter excessive speeds.

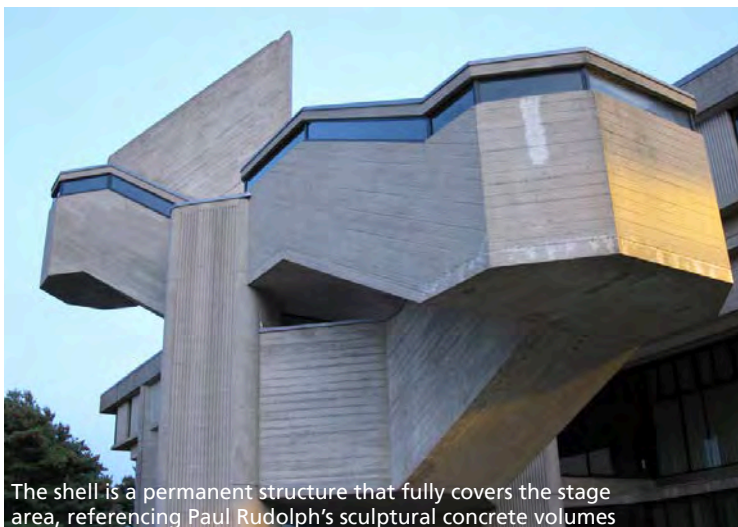
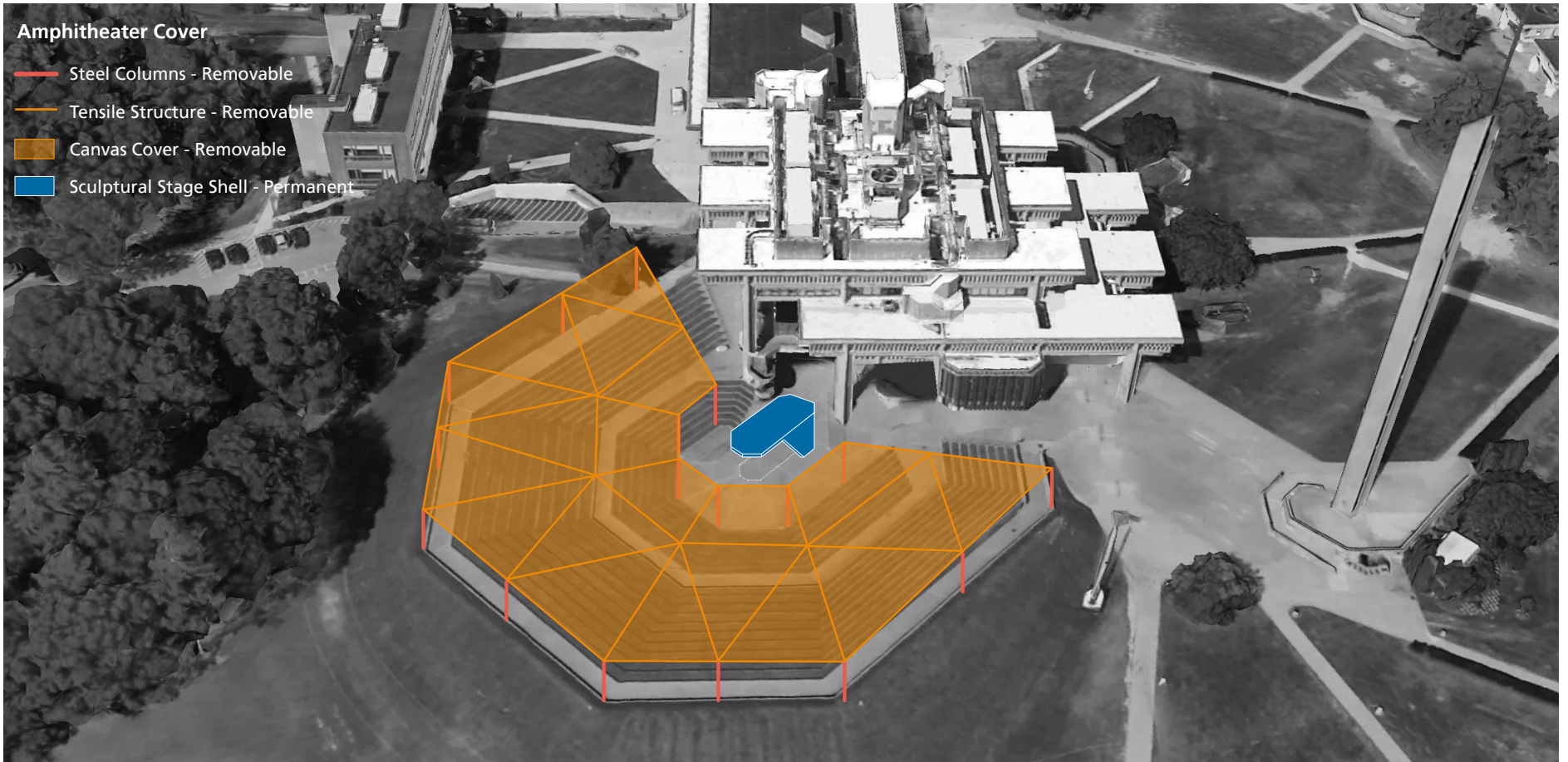
### Views and Vistas

Improve views around campus by preserving and enhancing Rudolph's vision of grand views and vistas. No development should encroach on the grand views to Cedar Dell Pond from the Great Lawn. Axial views to and from the campus core to the East and South residential groupings should be established by some limited tree clearing and appropriate future building locations. The park-like views from the northeast section of campus towards the LARTS building should be preserved as this represents one of the most iconic glimpses of campus.



## Amphitheater Cover

- Steel Columns - Removable
- Tensile Structure - Removable
- Canvas Cover - Removable
- Sculptural Stage Shell - Permanent



The shell is a permanent structure that fully covers the stage area, referencing Paul Rudolph's sculptural concrete volumes



The cover at the amphitheater seating is a removable tensile canvas, stretched across a lightweight steel structure



## Open Space

### *The Great Lawn:*

The Great Lawn is a campus defining element that should be preserved and expanded upon to define building entrances and enhance the ground plane experience at building entrances. This can be achieved through the location of appropriate tree planting, public art and site furnishings.

### *Amphitheater:*

The amphitheater is the signature campus landform, which sits at the foot of the campanile and the Claire T. Carney Library. It hosts many university events, such as festivals and commencement celebrations. In order to achieve the protection from inclement weather without compromising the unique quality of landscape or adjacent historic structures, care must be taken to reference Rudolph's scale and form. The only permanent structure should occur at the stage area, which should optimize views from all sides and reference Paul Rudolph's sculptural geometric forms. The cover at the seating should be a temporary, tensile structure that follows the grade of the landscape, remaining deferential to the Claire T. Carney Library.

### *Student Life Ring and Campus Pedestrian Connections:*

Establish a wide main path that allows pedestrians to continuously circumnavigate the campus. This connection would allow pedestrians to move easily from the student life ring north to the LARTS expansion and would serve as a campus defining landscape feature. This path derives its geometry from the ring road that the campus is circumscribed in. Provide a path with enough width to accommodate service vehicles in order to prevent vehicular travel on lawn and landscape. Selective removal of trees and understory in the forest fragments within the forest ring should be considered to strengthen visual connections with key parts of campus for safety and wayfinding.

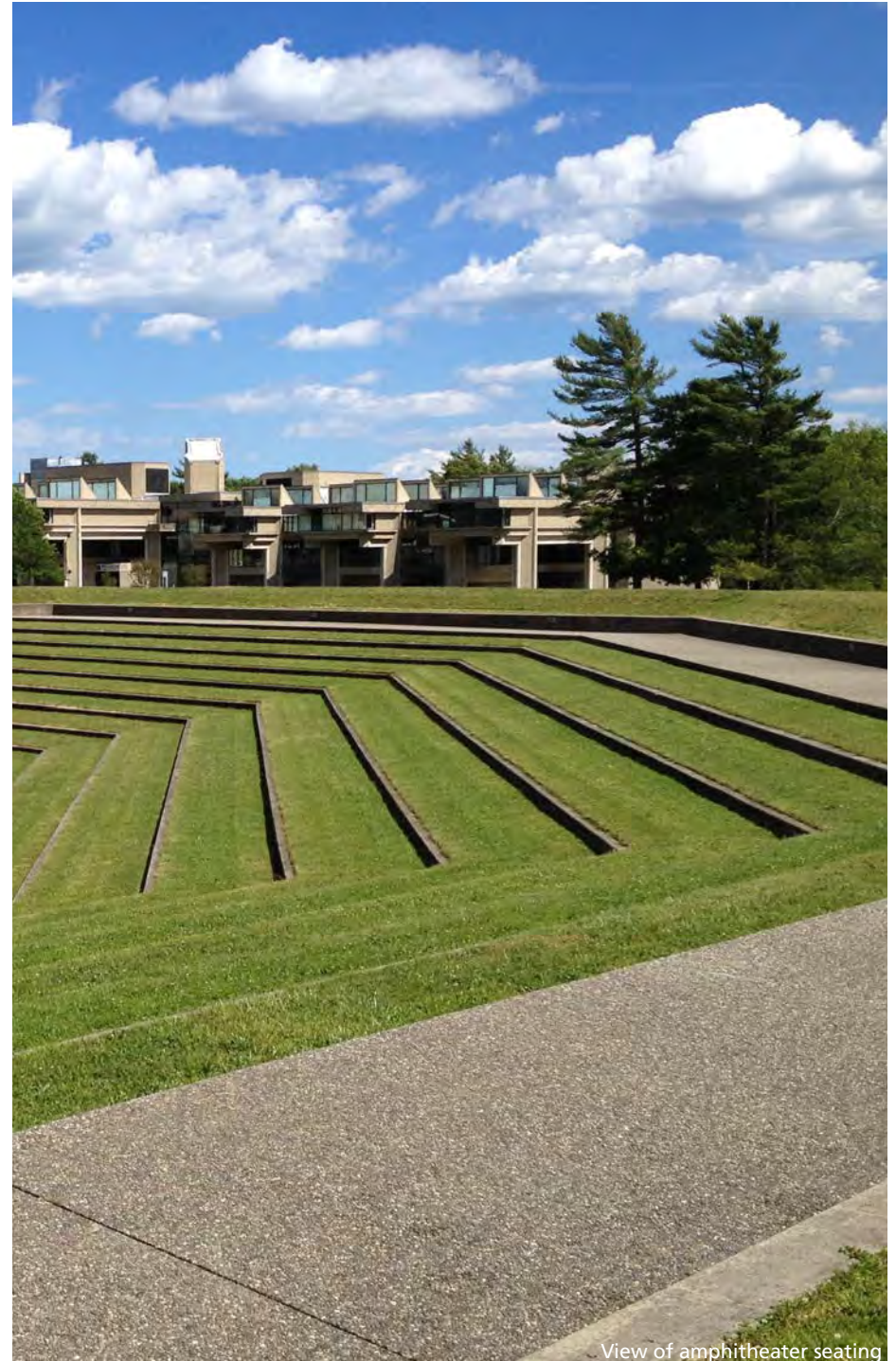
### *East Residence Halls:*

A complete reorganization of this section of campus will introduce graduate housing in this area to create an enclave for more mature students. A strong spatial relationship will be created between the existing Pine Dale and Oak Glen dorms. A central pedestrian spine will connect students to the campus core without conflicting with vehicular traffic. In the short term, after demolition of the existing buildings, a path system will be established to offer clear connections from the commuter parking lots to the north with the rest of campus. This path system will have the look and feel of nature trails with safe lighting levels and accessible pavement surfacing.

### *Residential Social Spaces:*

Treat each residence hall individually with thoughtful design guidelines in place to create a meaningful and memorable experience for students. Outdoor student gathering areas should be improved upon at the residence halls to encourage interaction and a sense of place. A balance of passive and active recreation should be enhanced by planning for a range of activities such as beach volleyball, flexible lawn space, and outdoor study areas.

Pathways should be wide enough to accommodate service vehicles but service vehicles should be limited to certain paths to reduce landscape disturbance as seen throughout campus. Landscape spaces should provide quality site furnishing and arranged to encourage dynamic outdoor social interaction.



View of amphitheater seating



## Historic Landscape Preservation Diagram:



### Park Settings

These areas are defined by large tree stands with rolling topography and offer key defining views of the campus architecture. These areas should be preserved as much as possible and should be developed as a last resort when considering campus expansion. This character should be expanded on where possible.

### Iconic Landscapes

The nautilus seating areas, the LARTS eastern facade cascading stair and the signature '6' shaped gathering areas should be rehabilitated and upgraded with care.

### Iconic Landmarks

The Campanile and Amphitheater are campus defining landmarks that should be preserved.

### Great Lawn

The Great Lawn is a campus defining element that should be preserved and expanded upon to define building entrances and enhance the ground plane experience at building entrances.

### *Athletics and Recreation:*

It is envisioned that this area will become a bustling hive of student activity. Part of this vision is to realize a “big back yard” for students to enjoy a range of recreational activities year round. Reorganizing and adding play fields with synthetic turf, courts, lighting and pathways will enrich the student experience.

Generating revenue from athletic events is a goal of this plan. Adding ticketing booths at pedestrian entry points and perimeter fencing will allow this to be realized. A “Main Street” like concourse is imagined along the length of the playing fields to allow for clear and safe pedestrian access as well as allowing room for vendors such as food trucks to provide services on event days.

A 150-180 car parking lot adjacent to the hockey rink shall serve the facility during non-event days and the expanded parking at Cedar Dell would be used for event parking. A series of accessible paths through the woods would allow for easy access between Cedar Dell and Athletics. The improved main entrance of Athletics would have a main entry plaza with space for bus and car drop-off.

### *Arboretum:*

The current Arboretum space at Violette has the potential to be transformed into a research quad by improving circulation and providing landscape improvements. Thoughtful screening of the utilities with architectural elements could dramatically improve the visual character of the space. Landscape improvements such as lighting, outdoor seating, and new pavement should be made to the walkway and small plaza adjacent to SENG. Consider modifications to buildings such as adding windows to facades to increase visibility to the exterior.

The idea of an Arboretum should be expanded campus wide and not only in this location. The benefits of establishing a campus arboretum falls into roughly three categories:

- Research – Allow for research which promotes sustainable land management and conservation of plant biodiversity and natural resources.
- Education – The opportunities for educational range from identification of plants and ecological systems, botany and photography.
- Outreach – Strengthen the town and gown relationship by fostering citizen engagement through tours and events for the public.

### *Existing Park Setting:*

Preserve and protect this area as much as possible. Consider development in this area only as a last resort when considering campus expansion. Expand this landscape character to other parts of campus. This portion of campus can contribute greatly to the proposed entry sequence, creating a unique and geographically specific experience for visitors, students, and prospective students.

### *Managed Forest and Forest Parking Buffer:*

Establish a management plan for the campus forest. This plan would involve managing invasive plant species and improving the overall ecosystem health. Habitat preservation and identification should also be investigated to determine the most sensitive areas of campus.

Creating a forest trail system would provide passive recreation opportunities such as hiking, fishing and paddle boat access to the entire community. The campus could also serve to establish a link to the South Coast Bikeway system that is planned to pass through the area.





Campus Arboretum Community Outreach



## VII. Acknowledgements

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