UCONN | UNIVERSITY OF CONNECTICUT

Campus Master Plan

# Executive Summary

SKIDMORE, OWINGS & MERRILL LLP
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## Executive Summary

# Foreword

The University of Connecticut continues to enjoy forward momentum that is unprecedented in its history. Our reputation for excellence is evidenced by record-breaking numbers of applications and the ever-increasing academic quality of students. Teaching and research by our faculty are achieving new levels of success and productivity, making our campuses ever more vibrant. The faculty and the University leadership have developed a clear vision of the academic priorities for the institution through the Academic Vision Plan adopted by the University Senate and by the Board of Trustees in early 2014.

The state has also made significant investments connecting its future economic vitality to the growth of the University through the *Next Generation Connecticut* initiative – a $1.54 billion capital program with an emphasis on STEM education and research – and other important initiatives. The University of Connecticut has established an essential role in a sustainable economic and environmental future for the state.

With so much taking place, it was clear that the physical development of the campus needed careful attention so that it could keep pace with our academic priorities.

In 2014, a year-long process began that entailed focusing on the long range build-out of the campus, and also the near-term actions that would materialize that future. The process was open and transparent – engaging faculty, staff, and students, the local community, and other important stakeholders. The Master Plan represents a comprehensive vision for the development of the campus over the next twenty years and contains a well thought-out strategy for the sequential development of the University. The Master Plan achieves our goal of having an environment that inspires and educates, meets our sustainability goals for new development and future operations, and reflects the excellence of the programs and achievements of the institution.

The Master Plan is a living document that will be used as the basis of design for the future development of UConn. It sets our standards high and challenges us to reach our goals with every action taken. It is a framework that is flexible and responsive to the evolving needs of the University. It represents our enduring optimism about our future and is an important part of driving our ambitions forward on a path to excellence.

*Susan Herbst*
*President, University of Connecticut*

# Advancing the Path Toward Excellence

## The UConn Master Plan 2015

In early 2014, the University of Connecticut began the process of updating its Campus Master Plan to guide transformational change through the next phase of its history. With a focus on supporting Science, Technology, Engineering, and Math (STEM) education and growing the research enterprise at UConn, the state of Connecticut is investing $1.54 billion in campus development over the next ten years through its *Next Generation Connecticut* (NextGenCT) initiative. This investment will transform every aspect of academic and student life and advance the environmental sustainability mission of the campus. The new Campus Master Plan is the vehicle that will drive this transformation, with an emphasis on excellence, community, inspiration, and innovation. The Plan comes at a critical moment when a comprehensive and integrated framework can optimize this opportunity and create an environment where ideas, imagination, and creativity can flourish.


## Main Campus at Storrs, 2015

# The Campus Today

"The University of Connecticut is dedicated to excellence demonstrated through national and international recognition. Through freedom of academic inquiry and expression, we create and disseminate knowledge by means of scholarly and creative achievements, graduate and professional education, and outreach."

University of Connecticut Mission Statement (excerpt)

**Strengths**

Ranked among the top 25 public universities in the nation by *U.S. News & World Report* in 2014, UConn offers exceptional academic programs, an outstanding athletics tradition, and a beautiful, unique campus environment. As the State of Connecticut's flagship institution, UConn is home to over 30,000 students at six different regional campuses – the largest of which, the Storrs Campus, has enrollment nearing 26,000.

Despite offering over 100 undergraduate majors in a wide variety of fields – some with a long history and others brand new – UConn maintains its rural character, set atop a hill in the forests of northeastern Connecticut. This balance of old and new, of campus and natural setting, makes it a uniquely desirable place to live and learn.

Today, building on its strengths in undergraduate education and faculty achievement, UConn is expanding educational opportunities, research activities, and interdisciplinary initiatives. It continues to invest in both the Storrs and Regional Campuses to add new, state-of-the-art facilities, improve the campus experience, and attract top talent to the University.

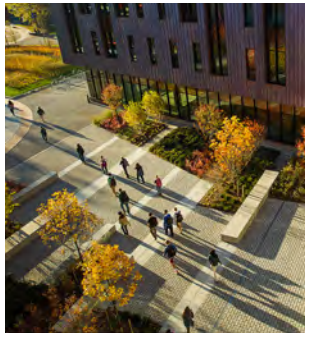
**Challenges**

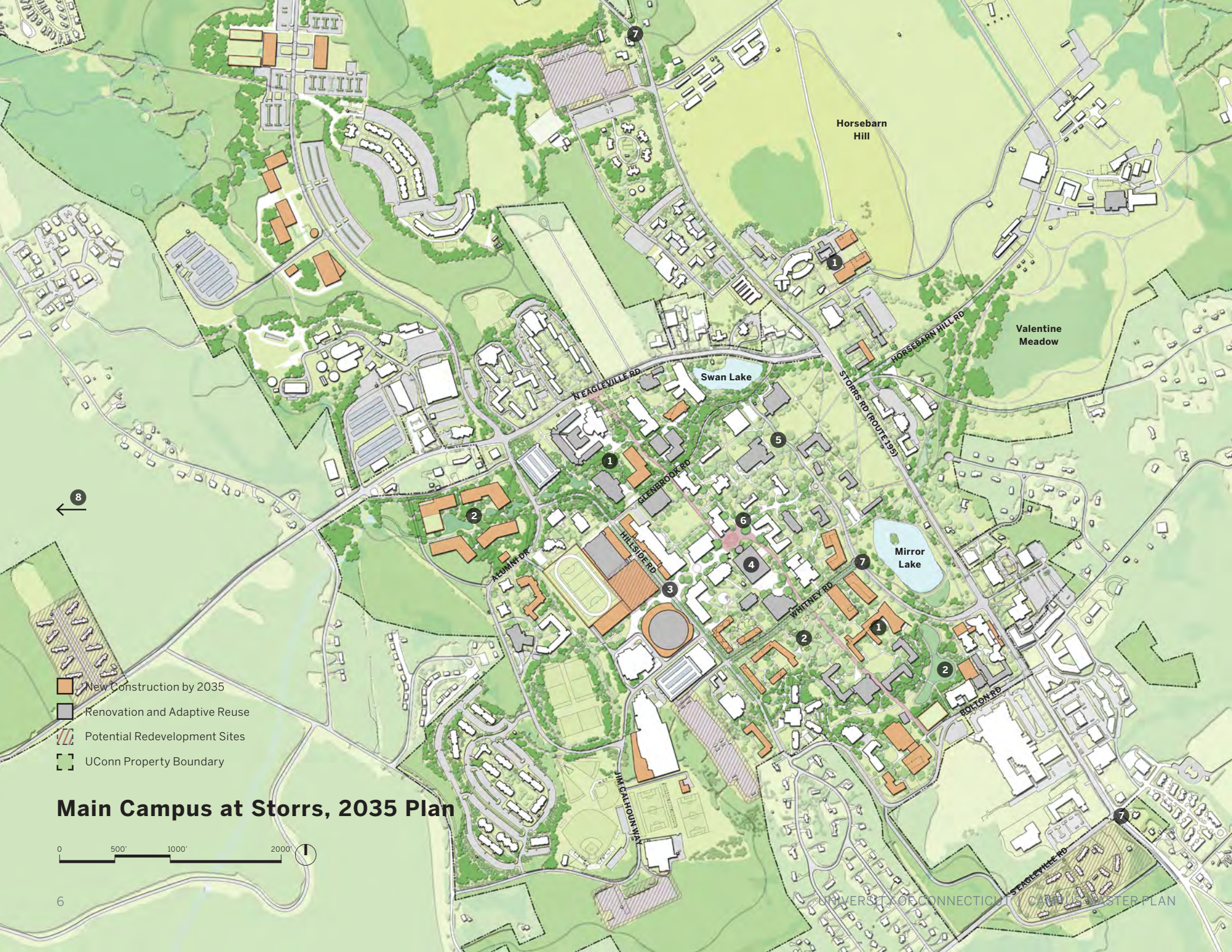
UConn's footprint has grown over the past 100 years to encompass a large portion of its 443-acre Main Campus. This growth has favored outward expansion above reinvestment in existing areas, resulting in a sprawling academic campus with residential and athletics complexes clustered around the periphery. While early development of the campus capitalized on its unique natural and cultural setting, the development pattern over much of its subsequent history has tended to conceal the underlying physical structure of the campus and its intrinsic connection to larger ecological patterns.

Today, the campus requires significant new buildings to meet the demands of rising student enrollment and an increasing research footprint. This new growth – particularly through the *Next Generation Connecticut* program – will be focused on reinvestment and renewal of the Main Campus. This will conserve the remote landholdings for their contribution to the sustainability and student life missions of the University.








# Main Campus at Storrs, 2035 Plan

# A Framework to Guide Campus Growth

The campus planning framework is based on an understanding of the Academic Vision and collaboration with the University community and other stakeholders. These are manifest in the physical plan through a series of overarching organizational concepts – the "big ideas" – that guide the Master Plan.

**1. Expanding Multi-Use Districts**
The framework for campus development relies on investing in existing districts and creating new, multi-use precincts that bring together spaces for living, learning, and discovery, resulting in vibrant student and academic areas. The Plan anticipates expansion of sciences and residential areas in the north, south, and east districts of campus.

**2. Enhancing a Unique and Distinctive Landscape**
Landscape will become the fundamental structural component of the UConn campus over the next twenty years. This concept offers clarity of place and many different experiential qualities while reconnecting the campus to its broader ecological context through two "woodland corridors." A new South Campus Commons will be established to anchor development in this part of the campus. Clear north-south and east-west axes will be clarified, and the Campus Arboretum will be expanded to enliven the landscape in all seasons and enhance species diversity.

**3. Creating a Vibrant Student Precinct along Hillside Road**
Hillside Road will become the University community's "Main Street". Consolidation of student activities and services here will be a catalyst to transform Hillside Road into an interactive center for student life. The Plan minimizes car traffic and creates usable open space activated by student-oriented programs and facilities, such as a potential new Student Recreation Center, a Student Health Center, and an expansion of the Student Union. This will be the heart of undergraduate life and a nexus of campus activity – a true linear gathering place that puts activity on display and supports a total mind and body focus on health and wellness.

**4. Strengthening the Academic Core as an Interactive Knowledge Hub**
Over time, the library will be reinvented to respond to the needs of the future. The Plan proposes to update the library for the future of teaching and learning. It will become a campus crossroads – a place of engagement, scholarship, and technology where people want to go for studying, services, group projects, and student/faculty interaction. This hub is strengthened by the recent additions of nearby Laurel and Oak Halls. Interdisciplinary spaces will draw students and faculty from all parts of campus, and the library will be structured around this movement.

**5. Centralizing Administration and Student Affairs in the Heritage District**
Wilbur Cross, the historic heart of the campus, will be gradually renovated and repurposed as a central hub for University administration. In the long term, most of the historic buildings in the district will be renovated or restored, and improvements will be made to the landscape of the Heritage District that will set this precinct apart as a distinct part of campus.

**6. Prioritizing Pedestrians within the Campus Core**
The Plan establishes pedestrian sovereignty in the core by pushing cars to a primary campus loop road with access to distributed parking areas at the periphery. The campus walking environment will be improved through clear pedestrian corridors, enhanced trails, and upgraded crossings at major roads. Bicycle facilities throughout campus will be enhanced and expanded. Transit will be upgraded and simplified to limit the need to use a car, even in the winter.

**7. Creating Memorable Campus Gateways**
A memorable gateway experience will be created on all campus approaches to take advantage of UConn's unique setting and historic assets, beginning with the entry sequence at the peripheries of campus and extending to strategic points of arrival in the campus core. The North Gateway overlooking Horsebarn Hill will be clarified and celebrated. The South Gateway will focus on connections to the Town of Mansfield and nearby Storrs Center. An enhanced connection between Mirror Lake and Valentine Meadow will impact the ceremonial entry, amplifying the University's commitment to sustainable, resilient landscapes. Improvements to Whitney Road will transform this roadway into the University's new front door.

**8. Creating a Sustainable Village at Depot Campus**
At the Depot Campus, some historic buildings will be restored and repurposed. Other buildings will be thoroughly documented and then removed to make way for new development. Recreational trail improvements at Spring Manor Farm could enhance the Willimantic River Greenway. In the long term, a neighborhood of graduate student, family, and faculty housing will be developed as a part of a sustainable village, driven by public-private partnership or other funding sources. The exact details of this neighborhood will require additional planning.

# Building the Vision

To support the Academic Vision of the University while responding to the student life mission of the Main Campus at Storrs, the Master Plan suggests a number of new ideas that are formulated within the broader framework of campus and community development. These will advance UConn's "path toward excellence" over the next two decades.

## Support Interdisciplinary Research and Scholarship

**Expand Research**
As a result of major STEM investments through *Next Generation Connecticut*, new labs and office spaces will occupy the corner of North Eagleville Road and Hillside Road. The buildings will include space for research, teaching, and administration. Site improvements will include significant landscape upgrades to mitigate local stormwater impacts. This new quad – in both its indoor and outdoor spaces – will create opportunities for socialization, foster collaboration, and facilitate interdisciplinary research.

A new Science Quad at the corner of Hillside Road and North Eagleville Road, looking towards Wilbur Cross

## Create a Sustainable Foundation That Anticipates Change

**Meet the Climate Action Commitments and Balance Campus Circulation**
The University's commitments to reduce its carbon footprint and to continue operating as a leader in sustainable design and campus operations are reflected throughout the Master Plan. A key to achieving these goals will be improvements to campus transportation and parking elements to limit and even reverse current congestion problems while encouraging alternate travel mode choices. The University can simultaneously address congestion issues, work towards its sustainability goals, and build a revitalized, 21st-century campus by creating balanced, safe, and aesthetically pleasing streets and pathways through campus.


Hillside Road as a pedestrian-focused student "main street"

## Expand a Vibrant Campus and Student Experience

**Create Places of Interaction**
Many areas of the UConn campus are extensively paved yet inadequately suited for pedestrian traffic. Academic Way, the main north-south pedestrian spine, will be transformed to become a true central artery of campus pedestrian movement. Within the larger mosaic of outdoor spaces, and in order to improve the day-to-day experience of moving through the campus, a series of woodland corridors are proposed. Larger stormwater management features will be embedded within these corridors, providing both ecological and experiential benefits and opportunities for outdoor learning, pedestrian circulation, and informal recreation spaces.

## Support the Responsible Growth of the Campus

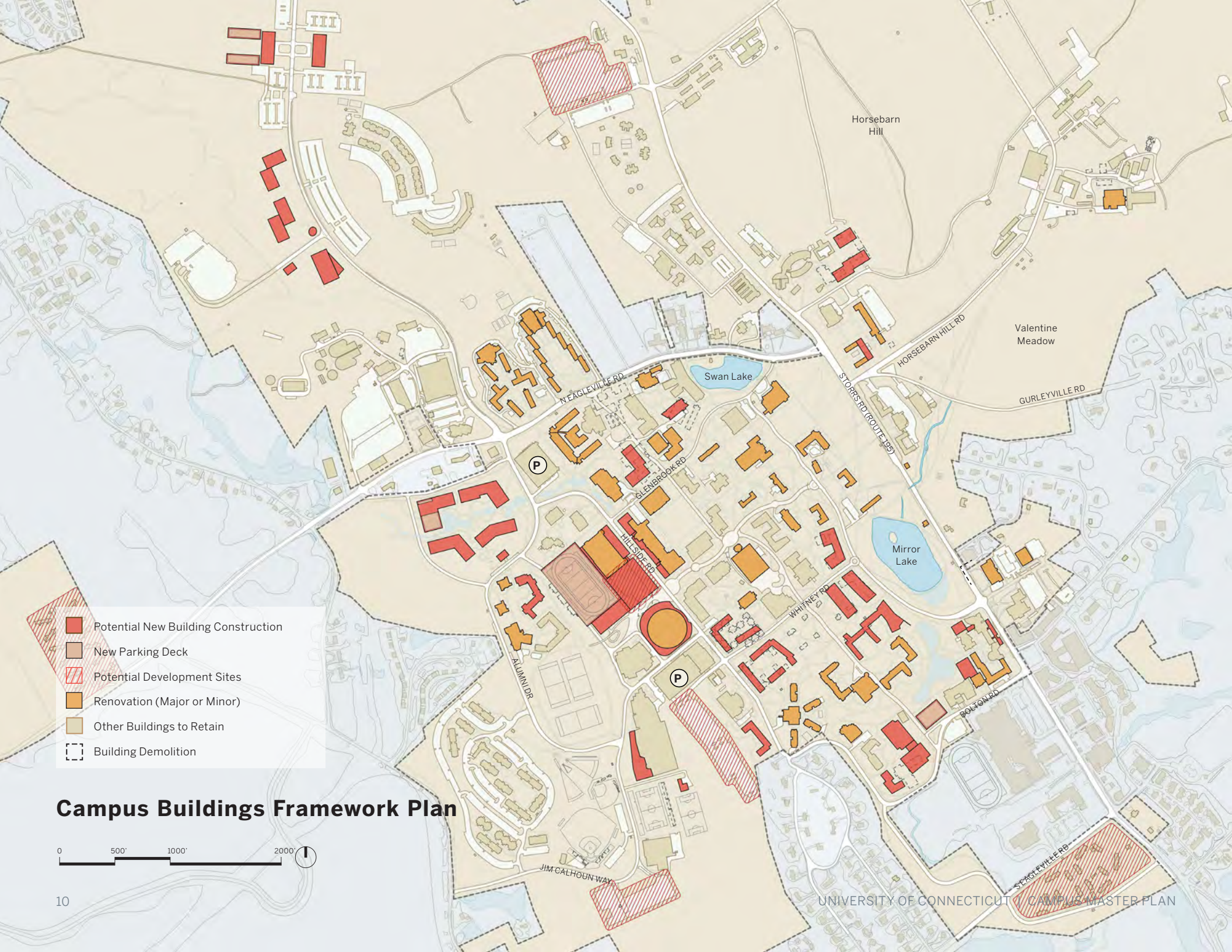
**Expand Learning Communities**
The University endeavors to broaden the definition of learning communities to achieve a campus that promotes deep and meaningful student engagement. Students will experience the entire campus as a place of living, learning, and discovery, with the physical plan in support of future modes of teaching and learning. New districts will create an integrated, live-learn-work-play environment. On-campus housing will expand to support enrollment growth.

**Improve Mirror Lake and a New Entry**
Part of the original 1910 General Plan, Mirror Lake today is an iconic part of UConn's image, creating the foreground to campus buildings from Storrs Road. Along its banks are lawns, sidewalks, and groves of trees that are popular spots for rest, studying, or socializing. While improving the health of the lake, the University will take the opportunity to improve the overall hydrological performance of South Campus and celebrate the lake as a key component of a new visitor entry sequence.

Improvements to the Academic Way as a north-south pedestrian spine

An improved South Quad and Honors Residence Hall

Future campus buildings along a restored Mirror Lake




# Campus Buildings Framework Plan

# Campus Facilities

The Plan accommodates current space needs, priority projects, and projected space needs for the next 20 years. While the long-term vision for the campus calls for a significant amount of new construction, the Plan also proposes a strategy for maintaining and reusing existing buildings over this time frame as a broader approach to long-term sustainability.

**Renovation + Adaptive Reuse**

Many of the key features of the 2035 campus are already in place in the form of existing buildings. A large percentage of these buildings are approaching the end of their useful life and are in need of significant renovations and upgrades if they are to remain viable into the future.

Legacy buildings within the proposed Heritage District on campus are the physical evidence of the University's history. These buildings will be maintained, restored, and adaptively reused well into the future.

**New Building Projects**

In the past 20 years, the University has made major investments in the Storrs Campus through the UConn 2000 and 21st Century UConn initiatives. In the next 20 years, this Plan will continue that growth trajectory, potentially adding 1.7 million square feet to campus in the next 10 years.

The Master Plan endeavors to densify new development and upgrade existing facilities in place, avoiding campus expansion and reducing future maintenance backlog. A commitment to limiting the development footprint of campus represents a significant change in the historic growth patterns at UConn and is a major step towards long-term campus sustainability.


**Reinvestment in Existing Buildings**
Renovation of aging facilities and those in need of repairs or modernization


**Densification of the Campus Core**
New buildings are focused on adding vitality to the Main Campus, not expanding outwards

# Campus Facilities

Throughout the planning process, the campus was studied with the active participation of University leadership, faculty, students, staff, and representatives from the community. A range of development opportunities were then explored with each stakeholder group.

**Designing for Flexibility and Adaptability to Change**

A framework plan addresses campus-wide systems. It is an illustration of concepts that guide a strategy for cohesive implementation. These layers include physical plans for systems like transportation, parking, landscape, new buildings, utilities, and land use. Supporting policy proposals relate to sustainability goals, regional transportation strategies, and shared infrastructure agreements.

A framework plan is also flexible. It adapts to new conditions and needs. Going forward, four primary issues have emerged that will require additional study:

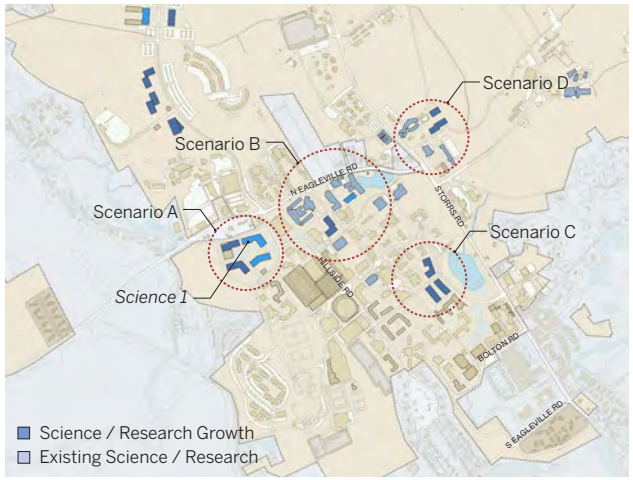
- Location and programming of near-term growth in science and research
- Renewal of the existing housing stock and location and timing of future residential buildings
- Location and key adjacencies of a new Student Recreation Center
- Location and impact of a new Hockey Arena

These initiatives are still being evaluated to understand location, scale, and timing of growth. The framework plans will be adjusted as the results of these detailed studies are integrated with the Master Plan.

**Science + Research Growth**

The near- and mid-term phases of the Master Plan are driven in large part by *Next Generation Connecticut*. Through this program, at least two new research facilities will be built and others will be renovated. The first building, Science 1, is planned for the X Lot, at the southwest corner of North Eagleville and Hillside Roads. Additional growth could occur within a number of different scenarios, depending on the type of programming envisioned:

- *Scenario A*: additional near-term growth in the X Lot
- *Scenario B*: replacement of aging facilities in the existing science core – like Torrey and Atwater
- *Scenario C*: growth of cognitive science and related disciplines on the South Campus
- *Scenario D*: new or replacement CAHNR facilities east of Storrs Road




**Alternative Sites for Research Expansion**

### Residential Growth

The need for quality, affordable campus housing to accommodate current and future enrollment drives the need for housing expansion and modernization. At present, the new STEM Residence Hall in the hilltop residential quad is under construction, and the new Honors Residence Hall by Mirror Lake is in the design phase.

Additional sites for residence halls have been identified in the Master Plan. The size and timing of these projects will be carefully coordinated with enrollment growth and a larger strategy for rehabilitation and modernization of existing residence halls.

### Student Recreation Center

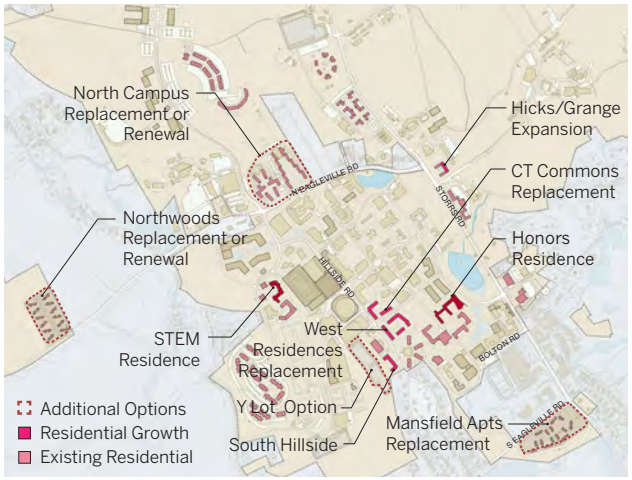
In 2013, the Board of Trustees approved $500,000 for the planning of a new Student Recreation Center, with a placeholder budget of $100 million for an approximately 200,000 GSF facility. The preliminary program includes cardiovascular and strength training facilities, multi-purpose sports areas, a gymnasium, a pool and aquatics center, indoor and outdoor space for club sports, a wellness center, and flexible space for events and activities. At present, two locations for this recreation center are being considered:

- *Hillside Road*: replace the existing Guyer Gym with a larger, multi-story complex positioned at the heart of campus along a vibrant student corridor
- *Y Lot*: create a free-standing recreation center on the existing surface parking lot behind McMahon Hall and adjacent to the South Garage

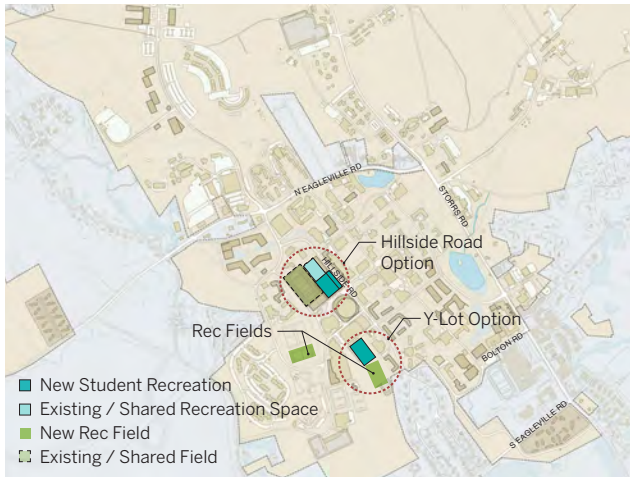
### Hockey Arena

The Hockey East Conference requires UConn to build a new, 4,000-seat ice arena at the Storrs Campus. The project is in early stages of planning, and funding has not yet been identified. Two locations are still being evaluated for siting this future hockey facility:

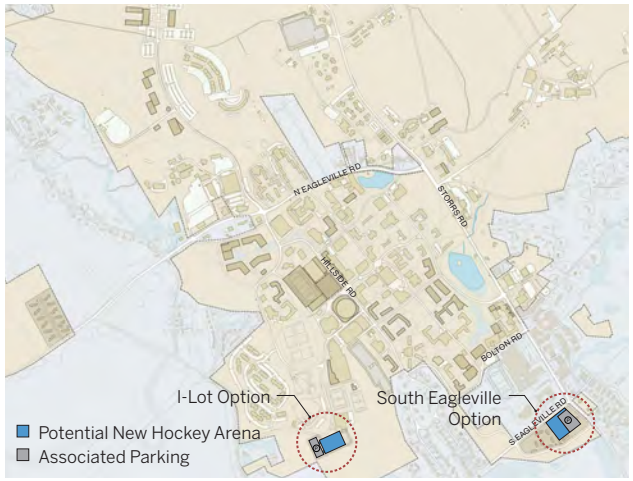
- *South Eagleville Road*: on the current site of the Mansfield Apartments, as part of a mixed-use redevelopment project
- *I-Lot*: adjacent to the existing Mark Edward Freitas Ice Forum




**Alternative Sites for Expansion of Student Housing**




**Alternative Sites for New Student Recreation Center**




**Alternative Sites for New Hockey Arena**


## Landscape Framework Plan

# Landscape Systems

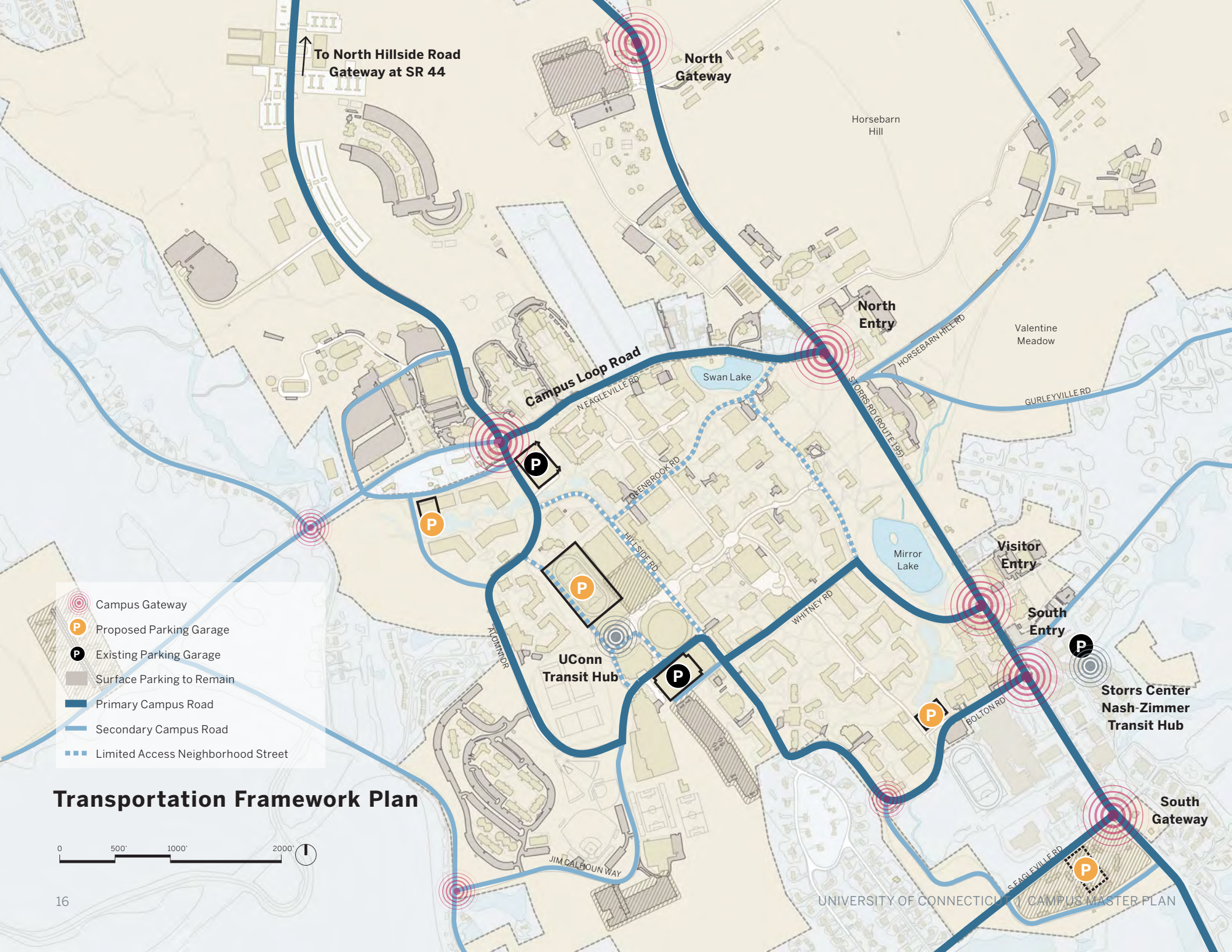
Capitalizing on UConn's unique setting, the landscape framework asserts the primacy of larger topographical, hydrological, and ecological patterns in shaping future development, linking existing natural open space with new formal landscapes that will enrich the experience of daily life on campus.

UConn is blessed with a series of landscape spaces and features that have become an integral part of its identity. Who can think of the Storrs Campus without thinking of the Great Lawn, Horsebarn Hill, and Mirror Lake? Complementing these iconic landscapes are smaller gardens, groves, terraces, and courtyards that provide the setting for meeting, gathering, play, and relaxation. In aggregate, however, the UConn campus lacks a critical mass of landscape spaces in which experience takes precedence over utility, and where UConn's academic mission and values are manifest. Even the iconic spaces require updating. By making the creation of a unique and distinctive landscape one of the central ideas of the Campus Master Plan, the opportunity exists to enhance UConn's existing open space assets and link them to one another with new landscapes that will enrich the experience of daily life on campus.

The Master Plan proposes to transform corridors currently dominated by wide roadways and expansive parking lots into pedestrian-oriented spaces that evoke the natural landscape and allow stormwater runoff to be re-absorbed into the ground. The function and character of existing courtyards and quads will be improved and new spaces for movement and gathering will be created. Faculty Row will be re-designed as a landscape commons beneath a grove of mature canopy trees. A new system of walkways that better serve the way pedestrians and bicycles move through the campus is proposed in areas of the campus where the existing system is inadequate. These recommendations and others contained within the Landscape Framework seek to transform the Main Campus at Storrs over the next two decades into a place that is uniquely Connecticut, emblematic of its history and future, adaptable to changing circumstances, and a source of pride for the UConn community.


**Existing Condition**:
Campus Disconnected from its Surroundings

**Proposed Condition**:
Restore Connectivity with Ecological Setting




# Transportation Framework Plan

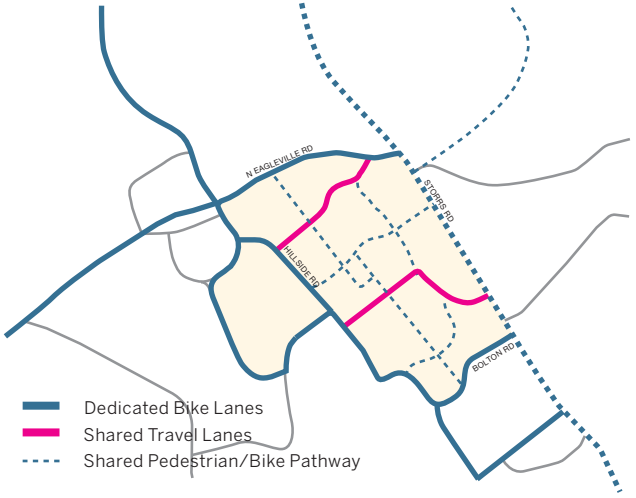
# Transportation and Access

Through a comprehensive approach to transportation and movement, the Campus Master Plan aims to mitigate and reverse current congestion problems while encouraging alternate mode choices. It supports the University's sustainability goals for a revitalized 21st century campus.

The Transportation, Circulation, and Parking Plan suggests changes to the roadway network, especially streets within the campus core, to improve circulation and safety while preparing for growth. It creates a memorable gateway experience on all campus approaches, beginning with access at the peripheries of campus and extending to formally marked strategic arrival points, such as a visitor entry along Mirror Lake and Whitney Road leading to the South Garage. Vehicular access will also be limited on certain core roadways, such as Hillside Road, to reduce vehicle/pedestrian conflicts and create a more walkable central campus. Meanwhile, investments in congestion relief through targeted upgrades, such as the Hillside Road Extension to Route 44, will improve regional links to the University. These upgrades will be accompanied by redesigns of problematic intersections and changes to signal timing to improve roadway network efficiency, particularly along North Eagleville and Storrs Roads.

Circulation improvements will be accompanied by the promotion of alternate travel modes and Transportation Demand Management (TDM) measures such as a regional Park-and-Ride system and campus carshare. Parking strategies include adding capacity on the campus perimeter to reduce the number of vehicles entering the core and investment in a Smart Parking system to help evaluate current parking utilization, reduce congestion and idling, and plan for future needs. Ideally, on-campus shuttle bus service routes will provide headways of less than 10 minutes, and the University will seek to partner with private developers in the vicinity of campus to offer new shuttle services. Walking and bicycling upgrades – from enhanced pedestrian crossings to an improved bike network and campus-wide bikeshare system – will support UConn's sustainability goals and reduce auto trips.


**Access to Parking Areas Outside the Core**




**Clarified Campus Bike Network**

# Sustainable Design and the Environment

The University's commitment to campus sustainability has positioned UConn as an inspiring leader among colleges and universities across the country.

The Sustainability Framework Plan is organized by five areas of focus: energy, water, land, materials, and movement. These areas of focus structure the overall framework for sustainability at UConn, organizing current and potential future initiatives into broad categories to facilitate implementation. Holistic, system-wide environmental and energy performance can be achieved when there is focus at all levels of policy, planning, design, and construction. The following summaries capture the key goals and strategies of the Sustainability Framework Plan.

## Energy

Achieve carbon neutrality by 2050

## Water

Minimize potable water consumption and optimize rainwater management

### Current + Near Term Strategies

- Sub-meter and smart-meter buildings, in order to track energy consumption, manage for maximum efficiency, and reduce carbon impact
- Design new buildings to achieve LEED Gold certification using the appropriate rating system
- Retrofit energy consuming systems in all existing buildings
- Establish appropriate energy use intensity targets for all building types
- Refer to Renewable Energy Preliminary Feasibility Study and Strategic Plan for near term renewable and clean energy projects with proven viability
- Follow Climate Action Plan and associated acceleration proposals to remain on planned trajectory
- Establish appropriate water consumption targets for all building types
- Meter all buildings and track water consumption
- Upgrade to ultra low-flow fixtures in all existing buildings
- Implement landscape to minimize or avoid irrigation
- Engage student and faculty further in water conservation practices
- Detect and repair all system leaks
- Optimize water reclamation facility to meet operational potential

### Long Term Strategies

- Connect all buildings to central monitoring and control system
- Commission all new buildings to ensure proper energy usage and control
- Implement energy efficient systems in new construction projects
- Integrate appropriate renewable and clean energy technologies
- Implement more stringent benchmarking and building rating systems as they become available and applicable
- Design new buildings to meet or exceed water savings target
- Capture and reuse rainwater and greywater to offset potable water usage
- Reduce process water use from food service, laundry, and cooling towers

## Land

Preserve campus ecosystems and enhance landscapes and landholdings

## Materials

Encourage environmentally preferable materials procurement, usage, and waste reduction

## Movement

Incentivize transit and alternative modes of transportation to reduce related emissions

### Current + Near Term Strategies

- Use the Sustainable Sites Initiative, either independently or in conjunction with LEED, to develop landscape in a beneficial and measurable way
- Complete Hillside Environmental Education Park (HEEP) expansion
- Continue to participate in Arbor Day Foundation Tree Campus USA program
- Install pervious surfacing materials where appropriate
- Consider green roofs and high solar reflectance index (SRI) roofs for all new buildings
- Require low or zero irrigation landscaping for new developments
- Continue to advance LID and green infrastructure
- Maintain and improve existing green space

- Develop procedure for evaluating demolition and redevelopment projects and materials
- Review vendor code of conduct annually
- Strengthen the Sustainable Design Guidelines and other policies with regard to material procurement
- Continue to emphasize local, sustainably grown food and vegetarian options
- Buy local when option is available
- Enhance existing recycling programs and begin to emphasize reductions in packaging to minimize the initial waste stream
- Adopt LEED Gold certified as a minimum performance standard
- Enrich ongoing recycling and waste management initiatives

- Assess the impact of future growth on transit needs
- Improve bus and shuttle services by providing more frequent service, better communication, and more accommodating infrastructure, such as sheltered waiting areas and enhanced user interface options
- Continue to purchase alternatively fueled vehicles under the existing DOT grant
- Minimize footprint of all new parking structures
- Meet the criteria for a Bicycle Friendly University
- Streamline and separate vendor delivery and distribution system and schedule
- Develop an enhanced seasonal facilities plan to improve pedestrian pathways and transit stops during winter and summer months
- Link to the larger bicycle network in the local and regional context

### Long Term Strategies

- Analyze the potential for underground utilities and implement as appropriate
- Develop Depot Campus as a remediated brownfield and sustainable community
- Experiment with alternative surfacing and landscaping techniques to reduce impervious cover
- Address steam line issues that may pose hazardous material/brownfield risk
- Replace prime farmland lost to development
- Move to district and campus-wide approach to LID and green infrastructure via woodland corridors, pervious paving, etc.
- Increase support for UConn Forestry program

- Develop procedures for standard lifecycle assessment on purchases
- Identify opportunities to influence market change where UConn has purchasing power
- Expand composting practices and equipment
- Adopt building benchmarking systems which are stringent in the building materials category
- Leverage UConn's agricultural knowledge to retain and enlarge the sustainable food program and increase on-campus sustainable farming
- Expand Ecohouse experience to include gardening and small scale food production

- Connect to the regional rail system
- Implement intelligent system for vendor deliveries, warehousing, and campus distribution via small vehicles on campus
- Design and install renewable energy and green infrastructure on new parking lots and structures
- Move fully toward alternatively-fueled fleet
- Manage parking demand to address long-term growth with smart parking systems and improved wayfinding
- Enact a strong bicycle sharing service and implement more bicycle infrastructure within roadway projects
- Fully integrate bicycle transportation infrastructure within all campus districts

# Utilities and Infrastructure

The overall approach to utility infrastructure in the Master Plan is to provide the capacity for future development in conjunction with UConn's sustainability goals and commitment to climate neutrality by 2050, delivering benefits to the University and surrounding Mansfield community.

The proposed utility infrastructure will prioritize increases in efficiency to reduce overall demand before investing in new supply or generation capacity. To meet additional long-term capacity needs, the Plan recommends district-based supplemental utility plants that are interconnected via underground looped systems, providing redundancy and shared load distribution.

## Potable Water

Increase supply and implement water conservation measures across campus to keep demand safely below supply

- *Existing: Two wellfields provide potable water to the Storrs Campus and surrounding Mansfield community. Much of the campus infrastructure system is aged and pipe conditions are unknown. Supply and pressure problems persist in portions of campus.*
- Connect to Connecticut Water Company (CWC) system to provide additional supply
- Evaluate existing infrastructure to determine required main replacement, storage, and pumping needs throughout campus
- Complete looped system throughout main campus in conjunction with other utility work and near-term evaluations

## Storm Water

Implementation of low impact development across campus is required to offset development impacts to surrounding natural resources

- *Existing: UConn is subject to a Total Maximum Daily Load issued by the Connecticut Department of Energy & Environmental Protection (CTDEEP) for the Eagleville Brook Watershed.*
- Advance Memorandum of Agreement, which has been prepared with CTDEEP, to determine required stormwater goals and strategies within the Eagleville Brook Watershed
- Incorporate low impact development strategies such as rain gardens, porous pavement, bioswales, green roofs, and rainwater harvesting across campus

## Waste Water / Sanitary

Implement inflow/infiltration and treatment plant improvements to treat current and future demand

- *Existing: Dating from the 1940s, the system includes mostly clay pipes and brick manholes and has areas of combined storm and sanitary sewers. Conditions vary across campus. Necessary upgrades to the water pollution control facility (WPCF) are on-going to extend the life of the existing facility.*
- Complete repairs to critical items at the WPCF
- Implement repairs and replacements where identified in previous conditions assessments on the Main Campus and perform additional assessments on the Depot Campus
- Add to or replace the WPCF before flows exceed the current capacity

## Electricity

Upgrade to a fully redundant N+1 electrical system that can support the entire campus, without load shedding, should one source fail

- *Existing: The current Cogeneration plant at the Central Utility Plant (CUP) can support the electrical needs of the campus a majority of the time, backed up by UConn Substation 5P, which receives primary power from Connecticut Light & Power. CL&P imports power through Substation 5P when campus demand exceeds CUP capacity and when all or part of the CUP is unavailable. When CL&P primary power to Substation 5P is unavailable, load shedding schemes must be implemented.*
- Upgrade Substation 5P and the CUP so that the entire system is a fully redundant N+1 system.
- Determine the feasibility of installing a second Cogeneration Plant, and implement if and when this additional capacity is required

## Gas

Decrease dependency on natural gas as Climate Action Plan goals are reached

- *Existing: Gas service is owned and the infrastructure is maintained by Connecticut Natural Gas. There is currently adequate gas supply to support the Master Plan over the long term.*
- Increase gas service in the near term until supplemental utility plants (SUPs) are connected
- Connect new development to the CUP and SUPs for electric, heat, and hot water needs
- Reduce gas usage in the long term

## Steam

Efficiently supply high pressure steam to, and return pumped condensate from, buildings via the Central Utility Plant (CUP)

- *Existing: The high pressure steam (hPS) and pumped condensate (PC) systems on campus include the CUP and the Heating Plant on Glenbrook Road and underground radial distribution piping throughout campus. These two plants are connected and operate in tandem to provide flexibility and redundancy. Existing distribution piping is in very poor condition and beyond its useful life.*
- Provide building-level hPS and PC meters at all existing, renovated and new building entries
- Replace existing hPS and PC radial piping network
- Provide piping bridges serving new supplemental utility plants
- Complete the North District distribution loop and provide a piping bridge (via utility tunnel) serving the South District

## Chilled Water

Increase capacity and distribute throughout campus with enhanced efficiency and redundancy

- *Existing: The existing chilled water (ChW) infrastructure on campus includes the CUP and the South District SUP (South Chiller). These two plants are not connected and operate independently. Chilled water is currently supplied to the campus via an underground radial piping network.*
- Replace existing ChW radial piping network
- Provide building-level ChW meters at all existing, renovated and new building entries
- Increase the capacity of the existing CUP and the South Chiller
- Expand ChW service to new development at X Lot and on the South Campus with piping bridges (via utility tunnel) to the CUP
- Complete north and south piping distribution loops

# Partnering with the Town of Mansfield

*Next Generation Connecticut* is designed to provide significant economic benefit to both the state and the town, creating jobs and bringing new investment to the community. The Master Plan is crafted to be sensitive to this local context. New buildings on campus should be understood in the context of other new investments in Mansfield, from the more urban Storrs Center to single-family residential neighborhoods, and be sensitive to their scale and pattern of development.

The *Mansfield Tomorrow* plan provides a road map for the future of Mansfield by updating plans and policies to establish a framework for long-term economic and physical development. Working with the Housing and Urban Development's Office of Sustainable Housing and Communities, the plan is based on creating strong, sustainable communities.

The UConn Master Plan aligns with and supports the recommendations in *Mansfield Tomorrow*:

**Plan Goals**

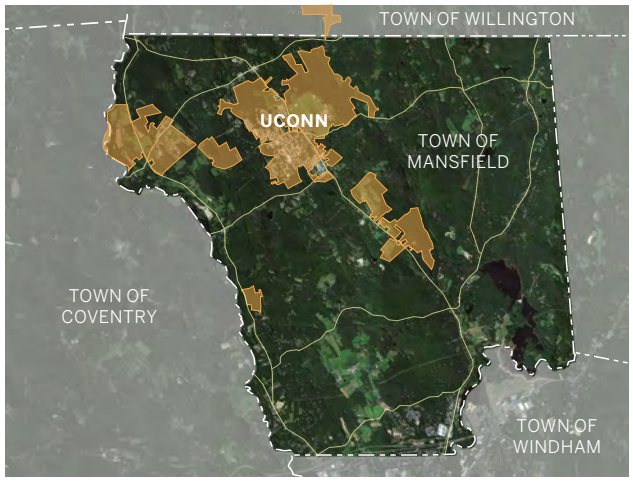
- Make Mansfield a model for sustainability: environmentally, economically, and socially, preserving Mansfield's high quality of life for future generations
- Preserve Mansfield's natural, rural and historic character
- Focus growth in designated centers and villages, and promote redevelopment of existing sites over "greenfield" development
- Support economic development in appropriate areas, including farm and forest enterprises
- Strengthen Mansfield as a connected community by expanding options for traveling around town and to community destinations
- Partner with UConn to ensure that institutional growth benefits both the Town and the University, and to leverage the University as a resource.

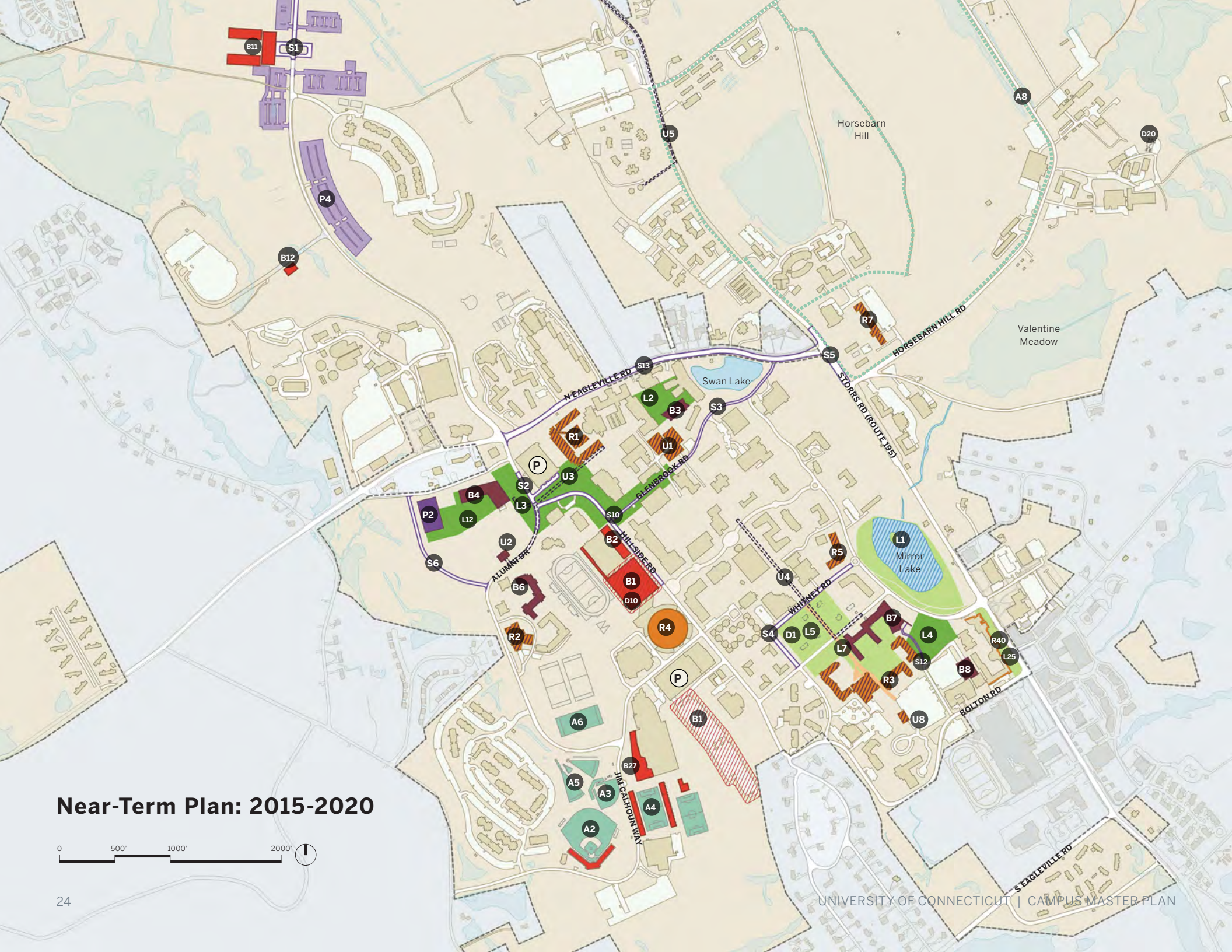
**Livability Principles**

- Provide more transportation choices
- Promote equitable, affordable housing
- Enhance economic competitiveness
- Support existing communities
- Coordinate / leverage Federal policies and investment
- Value communities and neighborhoods

**Sustainability Principles**

- Preserve natural systems and resources
- Respect and value community context
- Promote resource efficiency
- Adapt to changing climate conditions
- Promote connectivity
- Direct development to appropriate areas in compact and efficient patterns
- Encourage sustainable design practices at all scales of development






# Near-Term Plan: 2015-2020

0 500' 1000' 2000'

# Near-Term Plan: 2015-2020

In the next five years, growth in the campus will be focused on investments through *Next Generation Connecticut*, including two new science buildings, residence halls, parking, and utilities upgrades. The near-term plan will also address priority projects such as major renovations to aging buildings like the Gant Science Complex, removal of buildings that are well past useful life, and expansion of athletics and recreation programs that need additional space. Landscape and infrastructure upgrades in the near term will be focused on advancing and augmenting these priority projects, as well as taking steps towards a longer-term vision for a more sustainable UConn campus.

| | |
|---|---|
| Total New Construction: | ± 1,330,000 GSF |
| Total Demolition: | ± 90,000 GSF |
| **Net New Construction:** | **± 1,240,000 GSF** |
| **Total Renovation:** | **± 350,000 GSF** |

[1] List of new and renovated buildings subject to funding. Projects in this list may move to 2020-2025 or beyond.
[2] Identified sites indicate location alternatives which are still being explored.

**Building Projects[1]**

- NextGenCT Buildings
- Unfunded New Buildings
- Development Site Options[2]
- B1 Student Recreation Center (Option)
- B2 Student Health Services
- B3 Engineering and Science Building
- B4 STEM Research Center 1
- B6 STEM Residence Hall
- B7 Honors Residence Hall
- B8 Fine Arts Production Facility
- B11 Tech Park IPB
- B12 Main Accumulation Area
- B27 Burton Complex Addition

- NextGenCT Renovations
- Other Building Renovations
- R1 Gant Complex
- R2 Putnam Refectory
- R3 South Campus Residences (Envelope)
- R4 Gampel Pavilion (Roof)
- R5 Monteith Building
- R7 Young Building (Envelope)
- R40 Fine Arts (Facade)

- Demolition
- D1 Faculty Row Houses
- D10 Guyer Gym
- D20 Existing MAA Removal + Cleanup

- New Parking Decks
- New Parking Lots
- P2 Science Quad Parking Deck
- P4 Temporary Parking on Tech Park Sites

**Athletic Facilities**

- Athletic Field Site Areas
- A2 Baseball Stadium / Christian Field
- A3 Softball Stadium / Burrill Field
- A4 Morrone Stadium / Soccer Field
- A5 Hammer/Discus Area
- A6 New Rec Fields (D Lot)
- A8 Horsebarn Hill Fitness Loop

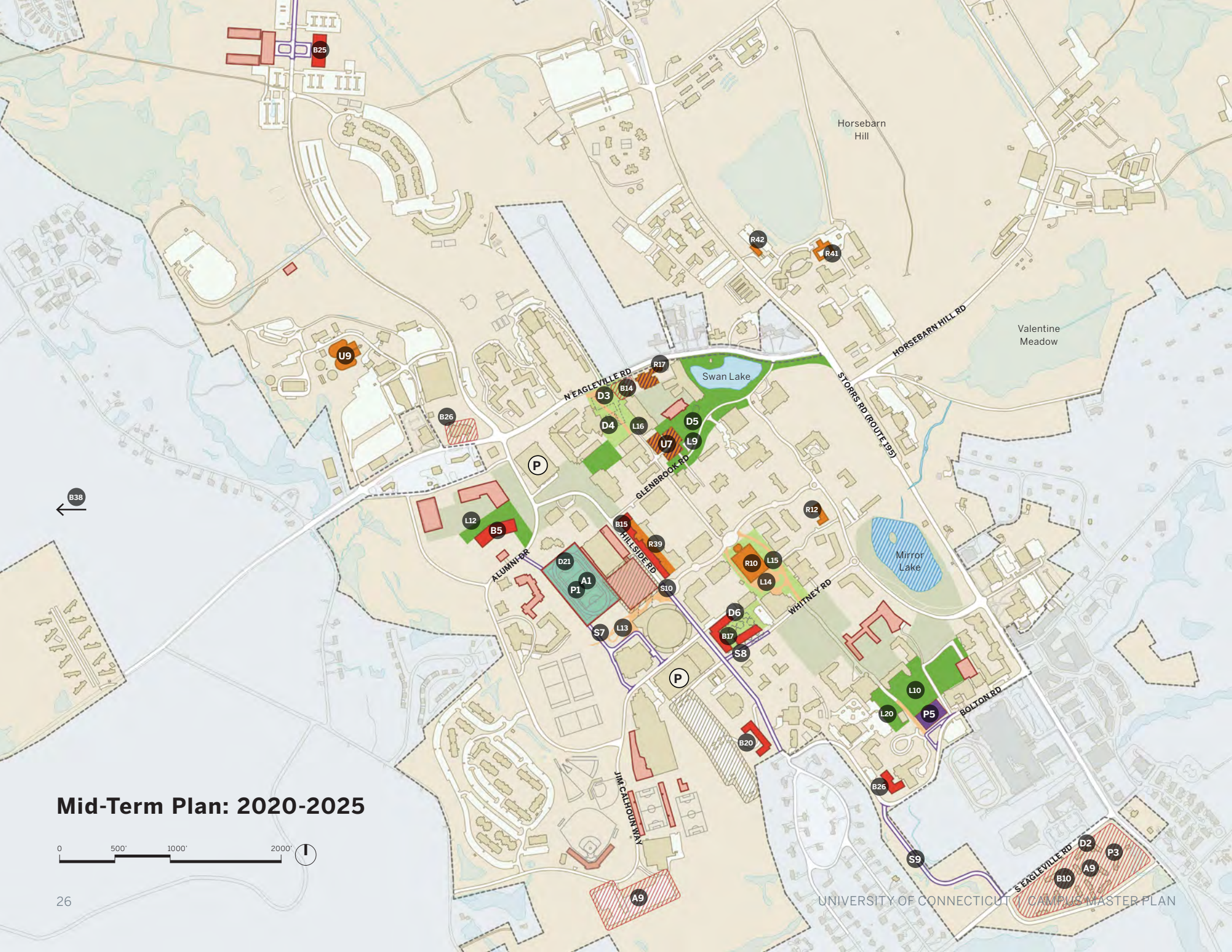
**Landscape Projects**

- Major Pathways
- Woodland Corridors
- Landscape Improvement Areas
- L1 Mirror Lake Improvements
- L2 Pharmacy Quad
- L3 North Woodland Phase 1
- L4 South Woodland Phase 1
- L5 South Campus Commons
- L7 Academic Way Improvements
- L12 NW Science Quad
- L25 Fine Arts Gateway Phase 2

**Infrastructure Projects**

- Street Improvements
- S1 North Hillside Road Extension
- S2 Hillside Road Realignment
- S3 Glenbrook Road Improvements
- S4 Gilbert + Whitney Road Adjustments
- S5 N Eagleville / Storrs Road Intersection
- S6 New Access Drive
- S10 Hillside Road Improvements
- S12 New Service Drive
- S13 N Eagleville Road Improvements

- Utilities
- U1 Central Plant Chilled Water Expansion
- U2 Supplemental Utility Plant
- U3 Utility Tunnel Extension: X Lot
- U4 Utility Tunnel Extension: South Campus
- U5 Water Line Extension (CT Water)
- U8 South Chiller Plant Expansion




## Mid-Term Plan: 2020-2025

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# Mid-Term Plan: 2020-2025

Continuing the near-term growth initiated by *Next Generation Connecticut*, the following five-year phase will focus on continued growth in all of the campus' mixed-use districts, with a particular emphasis on expanding facilities along Hillside Road and infilling the two districts in the Northwest and South areas of campus with new buildings. This phase will also begin to address the shortfall of on-campus housing with new and upgraded residential areas.

| | |
|---|---|
| Total New Construction: | ± 860,000 GSF |
| Total Demolition: | ± 400,000 GSF |
| **Net New Construction:** | **± 460,000 GSF** |
| **Total Renovation:** | **± 430,000 GSF** |

[1] List of new and renovated buildings subject to funding. Projects in this list may move beyond 2025.
[2] Identified sites indicate location alternatives which are still being explored.

**Building Projects[1]**

- NextGenCT Buildings
- Unfunded New Buildings
- New Buildings in Previous Phase
- Development Site Options[2]
- B5 STEM Research Center 2
- B10 Mixed-Use Redevelopment
- B14 Greenhouse Replacement (Option)
- B15 Student Union Expansion
- B17 CT Commons Replacement
- B20 South Hillside Residence Hall
- B25 Tech Park Phase 2
- B26 Public Safety Expansion (Option)
- B38 Remote Book Preservation Facility

- NextGenCT Renovations
- Other Building Renovations
- R10 Babbidge Library
- R12 Budds Building
- R17 Atwater (Envelope)
- R39 Student Union (Interior)
- R41 Landscaping Barn
- R42 Dairy Barn

- Demolition
- D2 Mansfield Apartments (Extent TBD)
- D3 Torrey Life Sciences
- D4 Greenhouses
- D5 Infirmary
- D6 CT Commons
- D21 Sherman Field

- New Parking Decks
- P1 Sherman Field Parking Deck
- P3 Mansfield Apartments Deck
- P5 Bolton Road Deck

**Athletic Facilities**

- Athletic Field Site Areas
- A1 Sherman Field Replacement (Over Parking Deck)
- A9 Hockey Arena (Option)

**Landscape Projects**

- Major Pathways
- Woodland Corridors
- Landscape Improvement Areas
- L9 North Woodland Phase 2
- L10 South Woodland Phase 2
- L12 NW Science Quad Expansion
- L13 Fairfield Way Extension
- L14 Library Terrace Improvements
- L15 Academic Way Improvements (Central)
- L16 Academic Way Improvements (North)
- L20 Academic Way Improvements (South)

**Infrastructure Projects**

- Street Improvements
- S7 Access Road / Covered Bus Drop-Off
- S8 Whitney Road Extension
- S9 Bolton Road / S Eagleville Connection
- S10 Hillside Road Improvements

- Utilities
- U7 Central Plant Upgrades
- U9 Sewage Treatment Plant Repairs

# Resource Summary

***Next Generation Connecticut***

*Next Generation Connecticut* is a 10-year, $1.54 billion state investment dedicated to capital projects focused on building new scientific laboratories, purchasing advanced equipment, and expanding student housing. *Next Generation Connecticut* operations funds will also support the hiring of new faculty and expand student enrollment in science, technology, engineering, and mathematics.

This Master Plan approaches NextGenCT investments on an aggressive time line, understanding that the long-term impacts on research, job growth, and regional economic development are dependent on how quickly this funding is operationalized.

State-funded projects beyond NextGenCT are supported by annual University budgets or individual programs initiated by the State of Connecticut.

**Non-State Support**

Non-state-supported projects are funded by external sources. Within this category, there are a number of possible funding sources, including the following:

- Private support
- Federal grants
- Student fees

Other sources that involve partners for both funding and delivery of projects include the following:

- Public-private partnerships
- Institutional partnerships and consortia developments
- Privately-funded, University-related development

# Measuring Progress

The campus is a constant work in progress. From its founding, UConn has been a University that looks to bold visions to define its future – starting with the 1910 General Plan by landscape architect Charles N. Lowrie and continuing through today with ongoing planning efforts.

This Master Plan extends the legacy of over 100 years of planning at UConn. These plans have provided invaluable context for the goals and priorities of the University and their evolution over time. As others have done before it, this Plan will serve as a living document and a basis for making strategic decisions about where, when, and how to develop the campus.

**Using the Plan**

The Master Plan will be an evolving tool used by University decision makers to guide future campus projects with a common goal in mind.

Designers of future projects will use the Plan as:

- The baseline document and background data for planning and designing specific facilities and infrastructure improvements
- Guidance for landscape and building improvements within designated campus districts
- Guidance for coordinating the installation of utilities, road improvements, and parking
- A means of communicating with both on-campus and off-campus constituents about the planned development of the campus

The Plan will also be referenced annually to formulate and prioritize capital projects and renovation priorities in the context of constantly changing conditions.

**Updating the Plan**

The Master Plan is a flexible framework for development. It can adapt to new conditions, weighing actual circumstances against the initial vision.

It is expected that this Plan will be reviewed, revised, and updated periodically to reflect changing conditions. This will occur in three primary ways:

- Periodic reviews to determine if the outcomes of development are consistent with the Master Plan and/or to identify changes that have resulted in inconsistencies
- A formal review of the progress on implementation every five years
- Major updates every ten years to keep the document current and relevant

These updates will also incorporate the information from future planning studies and capital projects to constantly reflect the evolving development pattern of the campus.

# Acknowledgments

The development of this Master Plan has involved a number of representatives of the University, a large team of consultants, a group of regular advisors, and other stakeholders from the institution and the local community.

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Richard Gray, Former Executive Vice President for Administration and CFO
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Rickes Associates Inc.: Academic Programming
Jacobs Consultancy, Inc.: Lab Programming

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