

I. Types and Locations of Proposed Land Uses

The vision for Storrs Center is described in the following project narrative entitled “Land Use: Mixed Use Development and Conservation in Concert.” The Land Use Plan for the project is depicted on the attached Land Use Plan prepared by Herbert S. Newman and Partners (Figure 9). Finally, a preliminary phasing plan is included in this section that identifies the anticipated phasing of construction on the properties to be controlled by the master developer (Figure 10).

Figure 11 is a preliminary building demolition plan. Figure 11 depicts the eight existing buildings located within the Project Area that are anticipated to be demolished during the course of the Project. Other existing buildings within the Project Area may also be demolished, depending on the number of properties within the Project Area that are ultimately acquired for development. Building demolition will likely occur in a phased manner, consistent with the anticipated phasing of project construction.

A comprehensive pre-blast survey will be completed before any demolition activities commence, in order to ensure that any potential adverse effects of blasting on the structural integrity of nearby buildings or wells are documented and remedied.

Land Use: Mixed Use Development and Conservation in Concert

The goal of the Storrs Center project is to create a mixed-use village at the crossroads of the town of Mansfield and the University of Connecticut. As noted in Figure 9, the site represents an assemblage of parcels amounting to approximately 51 acres. The developed area of the new village will occupy about 15 acres of the overall site adjacent to and immediately east of Storrs Road (Route 195). Of the remaining portion of the site, approximately 30 acres have been reserved for conservation as part of an effort to establish an environmentally balanced and intelligent approach to the use of the land.

The approximate 15 acre core development area largely overlies previously or currently developed property and will be comprised of two basic land use categories, both of which are variations of the overall mixed use category. The two sub-categories include a commercially oriented mixed use zone designed to create a vibrant Main Street experience within a shared public realm, and a second, more residentially oriented mixed use zone with limited commercial use. Buildings in the commercial mixed use zone, which will be located adjacent to Storrs Road and along the village street, will combine retail, office, restaurant and residential uses in a variety of forms. No land uses generally considered to be environmentally high risk land uses will be allowed in Storrs Center, including industrial uses, underground storage tanks, on-site dry cleaners, outside storage of hazardous materials, gasoline stations, printing operations (including printing, plate making, lithography, photoengraving, or gravure which involves the use, storage or disposal of hazardous materials, unless such use satisfies the requirements of Regulations of Connecticut State Agencies section 22a-354i-5(c)), new automotive repair businesses and vehicular fleet garages. The Zoning Regulations for Storrs Center that will be proposed by the Master Developer and the Partnership will incorporate these limitations on land use.

One existing business located within the MDP area, Storrs Automotive, which is an automobile repair facility, may relocate to another location within the MDP area. If Storrs Automotive does relocate within the MDP area, it would be done in a way that is protective of the environment, including use of a facility design that includes a roof and paved surface; prohibition of floor drains, dry wells or other infiltration devices which would allow the release of wastewaters into the ground, unless properly permitted; and the use of double-walled above-ground storage tanks equipped with appropriate overflow alarms and secondary containment.

The residential mixed use zone, located east of the village street, will be developed as a residential neighborhood that allows for a minimal mix of professional offices and other services associated with the residential uses. The residential mixed use zone will buffer the conservation area from the more intense uses of the commercial mixed use zone. Structured and surface parking will be provided in accordance with the plan to support the needs of the various neighborhoods (as described below in "Parking"). Civic uses will be allowed throughout the project. Included throughout the development area will be public open spaces, including streets, sidewalks, the town square, and small plazas and

terraces, contributing to the varied experience of the public realm that is essential to the viability and sustainability of the mixed use community.

The undeveloped area will be protected in perpetuity by the use of one or more conservation tools, such as the conveyance of a conservation easement or the fee interest in certain lands. The specific conservation tool(s) that will be used will be determined after more detailed site planning has been completed. At that time, based on the design of the final site plan, the needs of the project and the recommendations of the Mansfield Downtown Partnership and our team of environmental experts, as well as the result of discussions with possible long term stewards of the protected area, final implementation of the appropriate conservation tools will be completed.

The creation of a protected area has provided a way to balance development with protection of two wetlands areas and a vernal pool on the east side of the site. This, in turn, will protect water resources and allow for proper management of stormwater discharge. Simultaneously, the protected conservation area will be an asset to the human experience in the developed area and a constant reminder of the landscape that is characteristic of this area of Connecticut. Views from the commercial mixed use zone and the residential mixed use zone will open up the developed area to this preserved natural environment. The plan provides limited access points from the developed area to quiet, low impact paths within the upland areas, offering local residents and visitors an opportunity to enjoy this natural preserve, get some exercise, and perhaps catch sight of birds and other wildlife.

Historical Models: Traditional Mixed Use Development and the New England Town

The typical New England town began as a collection of houses facing one another across a narrow street. Centrally located was the meeting house and, with that meeting house, a communal open space – with grass for grazing – the green. Though originally agricultural and self-sufficient in their economies, many of the most memorable towns of New England were shaped by industry. Once among the world's largest and most innovative, and now gone or dramatically diminished, these industries were drawn to the rivers of New England for their capacity to provide power – one reason why so many New England towns hug the edge of rivers.

New England towns, large and small, were characterized by dense centers, built to provide for all the needs of an intensely busy community – civic, commercial, religious – as closely together as possible – within easy walking distance, near or on a green, the central communal place. This is the town form that evolved in New England as a primarily agricultural economy was transformed into an economy that was primarily industrial.

Today, although neither agriculture nor industry define New England small town life as they once did, the physical form of almost all of New England's towns still strongly reflect their influence. Moreover, the form of these towns is appropriate for the post-industrial, information economy of today. Dense, yet varied in form and use, they enable

people to live and work closely together and also encourage variety and choice. Their compact form also enables the community to leave its cars and walk from place to place – which is healthy, environmentally sound, economical, and convenient. But because these towns are small – each with a defined edge of town quite close to its center – they also have distinct characters. The edge enables the community within each town to readily understand its identity. These factors build community and enable the community to live both a town and a country life.

In Mansfield, the economic justification for the creation of a new downtown of the New England type is the currently unmet need of the town at large, including its largest resident, the University of Connecticut. Mansfield is already a college town, but it does not have the form or the services that are consistent with that role. This plan for the new downtown will provide the Mansfield community with the resources that, as a college town, the university, its students and its staff, and the broader community, value and expect. This town model is appropriate for small and large towns and is particularly suitable as a basis for reshaping Mansfield as a college town center, in form, scale and character.

Storrs Center: Adapting the Traditional, Mixed Use Town Center Model

The concept for Storrs Center is the creation of a village with a Main Street, a town square, new streets and lanes supporting mixed uses, and a residential enclave buffering a conservation area. This village of neighborhoods will be bordered on one side by a civic and educational precinct – Town Hall, E.O. Smith High School, the University of Connecticut – and on the other by woodlands.

Storrs Center reflects a vision of a village organically connected to its natural and rural environment, with mutually interdependent stores, houses and apartments, and civic resources forming a clear focus for life in the region. The new downtown will be walkable, with all neighborhoods and adjoining precincts – including the university, the woodlands, the town hall and high school – within a five minute walking distance of the center of the project area.

Central to the project is the creation of a Main Street that will situate civic, educational, commercial and cultural activities in a coherent, accessible precinct. Storrs Road, from Mansfield Road – the entrance to the university – to South Eagleville Road, will be the main street of town. Storrs Road will be tree-lined and will draw together the civic and commercial life of the town into one place. Slightly widened and reconfigured to accommodate increased traffic flow, Storrs Road will be designed with added parallel parking and clearly defined pedestrian zones that will help calm traffic and improve safety, further encouraging the use of Storrs Road as a place of human exchange.

At the heart of the project will be the town square. This square, a translation of the traditional green, will be the place where the Mansfield community, the university, and the larger community from Connecticut and beyond will find common ground. Around the square will be stores, offices, housing and cultural resources that will ensure that the

square becomes a primary destination in the region. The intent is to ring the square with year-round activity, supported by broad sidewalks, streets and on-street parking. The streetscape will include shade trees, tables, benches for seating, trash receptacles, pedestrian lighting, and paved and grassed areas to encourage the community to congregate in the town square, informally and for markets, festivals, fairs and cultural events.

The overall plan concept for this project is based on the principle of the street as the organizer and collector of community life – bringing people together and providing them with opportunities to gain access to one another and to what they have to offer. An active main street is the most important of these streets, but to succeed a main street needs secondary streets that lead to it and which support it by providing the depth for activities to grow in place. The street system proposed in this plan emphasizes connectivity and combines straight and curvilinear elements that respond to topographical, environmental, and construction contingencies. The various forms and spaces in the street system produced by these responses become special places – the centers of neighborhoods or the entrances to neighborhoods within the town fabric. The street plan consists of two way streets and one way and pedestrian lanes. Where vehicle traffic is envisioned, parking is planned and will be encouraged on the streets, contributing to the availability of convenient parking spaces and to a sense of traffic-calming in pedestrian-oriented areas that have concentrated street-front commercial activity.

A new village street, parallel to the Main Street (Storrs Road), will create a precinct for retail and commercial activity of a more specialized character than is found elsewhere. Linking the streets will be a grid of lanes – narrow connectors that may either be one way streets or pedestrian paths. These will also provide opportunities for alternative retail stores and the opportunity to open the rear of properties on Storrs Road to the project area as a whole.

In addition, the village street forms a common connector linking all the new neighborhoods of the downtown – specifically an additional commercial mixed use neighborhood and a residential mixed use area facing into the conservation area. This village street will also provide another point of connection between the street system of the new downtown and the existing Mansfield Street network, improving circulation in the town as a whole.

Neighborhoods: The Constituent Identities of the Town Center

The building blocks of all villages, towns and cities are neighborhoods. This project is designed as a collection of neighborhoods and neighborhoods within neighborhoods. In the new village center, as a whole, neighborhoods create places that are clearly distinct from one another, yet linked. Within the neighborhoods are smaller commercial and residential neighborhoods that create variety within the fabric of the whole. Described below are the four principal neighborhoods proposed for the project.

Neighborhood 1 – Town Square

In New England, no two greens are alike. Some large, some small, in most towns, they began as parcels of land set aside by common agreement for a common purpose. Over time, as patterns of use gradually evolved, they became the public gathering places for the towns they served – for fairs, markets, commemorations, demonstrations, and as the place that was identified as the symbolic and civic center of town. Usually the green is where the town hall, the church, the bank, and the stores can be found, but in few towns are all of these elements present on the green. There are over 170 greens in Connecticut.

As the village green for the Mansfield community, the town square will have the character of a public outdoor room, and will be a focus for the life of the community. People will want to go there, shop, work, meet, talk, and live. Surrounded by retail spaces, restaurants, commercial activities, and new residences, the square will be a key component of the public realm and a center of civic activity.

The town square will be opposite the university's new School of Fine Arts, a teaching building that will become a performing arts center at night. Designed by Gehry Partners in association with Herbert S. Newman & Partners, and located on the southeast corner of the campus, the school will provide a backdrop for life in Storrs Center and will be a pedestrian artery for people moving to and from the university. Because of the cultural significance of the new School of Fine Arts building, the development plan projects an architectural character for the square that emphasizes the civic nature of the space. Therefore, while the rest of the village may have a heterogeneous character, the plan proposes that the architecture of the buildings facing the town square have greater consistency than elsewhere, with all buildings having related heights, cornices, building materials and architectural elements that contribute to the definition and coherence of an important public space.

The Town Square neighborhood will also include a narrow secondary street to provide a route for cars to enter the neighborhood from Storrs Road. This street will be lined with mixed use buildings with the floor space required to ensure that the neighborhood, which will be the first phase of the overall development, has the critical mass necessary for the first phase to be a viable social and economic entity.

Neighborhood 2 – Village Street

The village street will be lower and more intimate in scale than the town square. Though of similar materials to the buildings surrounding the square, there will be greater opportunity for variety in the detail of the architectural elements. Buildings will be mixed use, with stores and mixed commercial space at street level, and housing above. Unifying the village street will be the continuity of activity along the sidewalks on both sides – stores, galleries, and the housing above.

Neighborhood 3 – Market

The market will provide retail space oriented towards meeting basic shopping needs for the community of Mansfield and the region. The building type will be mixed-use, with housing on upper floors above the retail and mixed use spaces. The scale of this

neighborhood will be higher than the Village Street neighborhood, but there will be an opportunity to develop a mercantile architectural character that is similar to the Village Street and more heterogeneous than that proposed for the Town Square.

Neighborhood 4 – Residential Area

The residential mixed use neighborhood will be bordered on north and south by two wetland fingers that draw the woodlands into the center of the development, and by a vernal pool to the east. This residential neighborhood will form a quiet, low-activity buffer from the active, mixed use neighborhoods along Storrs Road and the conservation area of the project, as well as the protected woodlands beyond the project area.

At the center of the neighborhood will be multi-story, multi-family buildings built above below-grade parking structures. These buildings may include professional offices to serve the neighborhood. Facing into the woods, the development plan currently envisions attached townhouses at the edge of the developed portion of the project area.

Flexibility and Vitality: The Mixed Use Program

This is a mixed use project combining a variety of uses that include retail, restaurants, offices, and housing units. The principal building use will be housing. Types of housing will include rental apartments, live-work units, condominium apartments, and attached town houses. Housing will be designed to address the needs of many age groups, occupations and income groups. The principal non-housing use will be ground floor retail and other commercial space. Specific uses include stores, restaurants, and small businesses. Some above ground floor commercial space, primarily for offices, but also for restaurants and other retail, is also anticipated.

The table below reflects a scenario for maximum build-out of the project program, recognizing that, within the overall scope and size suggested by the plan, the design guidelines, and this project description, there will be some shifting of usage in order to best adapt to the needs of the market and the community.

Projected Mix of Uses, Areas, and Building Types

<i>Building Uses</i>	<i>Number</i>	<i>Comments</i>
Residential:	500-800 units	
Market Rate Rental		Approximately 400-1,200 net s.f. per unit. Mixed Use building types with a variety of multi-family units, including studio apartments, one bedroom apartments and other unit types.
For Sale Residential		Approximately 550 – 2,100 net s.f. per unit.

		Mixed use and solely residential building types, including a variety of multi-family types and town houses.
Retail/Restaurant	150,000-200,000 net s.f.	Includes various types of retail, restaurant grab and go eateries, services, and commercial.
Commercial (Office)	40,000-75,000 net s.f.	Mixed use, residential and single use building types. Includes professional and service type offices. Professional offices may be located in the residential area along with services serving the residential facilities such as management and assistance services for residents.
Civic and Community	5,000-25,000 net s.f.	Mixed use and free standing building types. May include a variety of civic and community spaces such as community meeting spaces, places of worship, postal services, educational and classroom spaces, and exhibition spaces.

Sequencing Growth and Construction: The Phasing Plan

Phases as Self Sustaining Components in the Build-Out Process

It is currently anticipated that the project will contain four basic phases (see Figure 10 for Preliminary Phasing Plan). At present, the proposed phases, as depicted in the attached preliminary phasing plan, are intended to be flexible may be modified or divided as the plan unfolds. A certain amount of flexibility in final project phasing is necessary to respond to the requirements of design, construction, project absorption, marketing, financing and other logistical factors influencing the physical build-out of the plan. Currently proposed and final phases and sub-phases will be based upon the following guiding principles:

- Each phase should be developed to be self sustaining and should include the necessary components, such as parking, housing, and services, to provide for the viability and functionality of the phase and project pending the addition of subsequent phases.
- Each phase will be of sufficient scale to create an immediately coherent neighborhood of buildings and uses and will be planned to support the necessary critical mass to sustain the phase independently.
- Each of the mixed use phases will provide an appropriate mix of uses, including housing, parking, retail and commercial space to enable the leasing and sale plans to proceed in a meaningful way.
- Each phase will reflect the market conditions in Mansfield as it evolves.
- Each phase will be developed to reinforce the phases that have preceded it, creating continuity of the overall development.

- Each phase will be considered in light of construction requirements and associated logistics.
- Four phases of development are currently projected.

The first phase of the project will begin in the vicinity of the town square, which has been conceived as the focal point of the community. As the project proceeds and the needs of the community further influence the mix of uses in the project, phases will be adjusted in accordance with the above guiding principles. Phases may eventually overlap and contain components that will be constructed simultaneously in order to respond to the needs of the community and the factors outlined above. Development of parking spaces will be carefully coordinated with the phasing of the project so that the provision of parking maintains pace with the development of the other programmatic components.

Estimated Program Area (net square feet) by Phase (excluding parking structures)

Phase 1	350,000
Phase 2	125,000
Phase 3	275,000
Phase 4	200,000

Combining Connectivity and Character: Traffic and Transportation

The Street Network: An Overview

Within the Storrs Center project, the street will be the organizer and collector of community life for those who inhabit the project as well as those who arrive by car or otherwise to work and play here. It is essential that the streets successfully accommodate traffic movement while providing a character and sense of place in the town center. In this regard, Storrs Road is the most important of the streets, functioning simultaneously as the key traffic thoroughfare to and through the downtown as well as the main civic street of the town. The stretch of Storrs Road between Mansfield Road and S. Eagleville Road serves as the common thread shared by nearly all of the major, civic and educational functions of Mansfield, including the University of Connecticut, the high school, the town hall, the community center via its connection to town hall, the post office, and the current downtown shopping district. The current character of the road is that of a highway that passes through the town with little recognition of its additional role as the main street of the town. High amongst the goals of the project is an effort to improve of Storrs Road in this area with respect not only to critical traffic and transportation design but also with respect to its character as one of the most important civic, community, and activity spaces of both the present and future Storrs town center.

This goal will require a plan for proper management of traffic and transportation in conjunction with a design for a wonderful streetscape that creates a walkable, safe, and attractive center of civic and commercial activity for the town. Through such a plan, the project offers an opportunity to improve current traffic circulation while accommodating

projected traffic flows that will result from the new development, both of which should be considered in the larger context of area wide improvements and existing networks. Possible methods under exploration for achieving good traffic management include widening the overall pavement area, adding an additional travel lane, adding defined turning lanes and medians, consolidating curb cuts, adding crosswalks and well defined sidewalks, and creating an inviting and functional landscaping strategy that provides visual appeal to the experience of the street. Through such improvements, the project seeks to manage and maintain the flow of traffic along Storrs Road, into and out of the site, and into and out of the various institutions and buildings that line the street.

A key aspect of the new development will be the construction of buildings and storefronts up to the Storrs Road right of way to support and recognize its main street character. Parallel parking could be added at appropriate locations along Storrs Road to further enhance the character of the street, provide additional short term parking at these key locations, and identify this central destination in the town that, along with the new town square, will remain a key public space of the Storrs town center. Locating pedestrian collection points and providing safe, clear crosswalks is essential to both goals of managing traffic and creating an attractive, walkable, main street environment. It will also enhance the safety of the street in the midst of surrounding pedestrian activity by clearly defining collection and crossing points. Positioning and design of public transportation stops along Storrs Road should be considered. Re-location and possible burial of existing overhead utilities along Storrs Road would also contribute positively to the character and quality of the street experience if determined to be a physically and economically feasible option.

The other critical component of the traffic and transportation network is the series of secondary streets that connect to the main street and which provide access within and throughout the project. These interior streets provide connections to the various mixed uses located within the project as well as the key parking locations that support the project, both along the streets and in key structures. Within the interior network of streets, the project seeks a similar balance of traffic flow management with a definition of scale and character of each street that is consistent with its immediate neighborhood and the principles guiding its design. The various configurations in the street system are intended to give particular character to each of these special places – the centers of neighborhoods or the entrances to neighborhoods within the town fabric.

The street plan will consist of various types of streets and lanes. Some will be narrower than others to provide a more village like atmosphere. Some will be two way and some will be simple one way alleys and pedestrian lanes. Where vehicle traffic is envisioned, parking is often planned along the street edge and will be encouraged on the streets, contributing to the availability of convenient parking spaces and to a sense of traffic-calming in pedestrian-oriented areas that have concentrated street-front commercial activity.

Through variations in the types of streets, traffic flow into the project can be encouraged at various points along Storrs Road. Flow out of the project can be encouraged at signalized intersections for concentrated management. The hierarchy of street types should help to clarify the flow of traffic and movement to and from the key, central

parking areas. The role of the individual streets within this network will be informed not only by the engineering of the street but by its character and, in particular by the relationships of the street sections to adjacent buildings. Wide, pedestrian oriented sidewalks will be emphasized in proximity to the high level of mixed use activity along the interior, village streets. Architecture, street lighting design, landscaping, and a variety of paving materials will be considered as factors to enhance the experience of the village street.

Technical Narrative: Storrs Road

Storrs Road (Route 195) in the immediate project vicinity is basically a two lane State maintained facility, with auxiliary turn lanes added at key signalized intersections. The pavement is generally 37-38 feet in width and the speed limit is 30 miles per hour. The daily traffic volume is in the order of 15,000 vehicles, with a peak hour flow of about 1,300. Traffic signals are in operation at the Mansfield Road/UCONN driveway intersection to the north, the offset Dog Lane/Bolton Road intersection, and the South Eagleville Road (Route 275)/Post Office Road intersection to the south. All have pedestrian signals and phasing. In addition, there is an uncontrolled pedestrian crossing at E.O. Smith High School.

The Storrs Center project will add a significant amount of development to the area. As a result, traffic volumes, both vehicular and pedestrian will increase. The intent of the project however, is to create a university town ambiance, not a commercial strip. The challenge is to maintain a safe and efficient transportation corridor, while meeting the Town and University goals of a pedestrian and environmentally friendly environment. The frequent conflict between typical roadway design criteria used by State Departments of Transportation, and the needs and desires of municipalities whose “Main Street” is a State highway led to the concept of Context Sensitive Solutions (CSS) and its adoption by the Federal Highway Administration (FHWA) and American Association of State Highway and Transportation Officials (AASHTO). Simply stated, CSS is a collaborative, interdisciplinary approach to the design of transportation projects, maintaining safety and mobility, while supporting community values, and preserving scenic historic, environmental and aesthetic resources. The intent in Mansfield is to keep Storrs Road (Route 195) from becoming a barrier between the project area and University/Town facilities on the other side. While vehicular traffic operations will be maintained at a reasonable level, full consideration must be given to the aesthetics and pedestrian needs. Connecticut Department of Transportation staff has indicated their support of these goals during preliminary meetings.

Accommodating Cars in the Town Center: Parking

Assessing Needs and the Role of Parking

Parking is a key component of the Storrs Center project because of the need to provide for residents and the need to accommodate the many anticipated visitors to the project area. Ample parking is essential to the success of the mixed use neighborhood and the many uses that function together to provide its sense of vitality and activity. Easy access

to adequate parking facilities in the immediate vicinity of the project will be a key factor in establishing the desirability of the area as a place to live, work, and play. Parking analysis is ongoing and will be developed in conjunction with further refinement of the plan and the program for the neighborhoods. Specific analysis will be performed to assure that parking space development is also consistent with project phasing and that adequate spaces are provided to meet phased build-out requirements. Analysis for phases and for the overall project will employ a shared use methodology in order to establish minimum project goals for parking spaces. An ideal analysis would establish a minimum number of spaces that provides ample parking for the project but which does not unnecessarily exaggerate the number of spaces needed, resulting in unused parking spaces and loss of critical project space to unused garages. The key is to arrive at a meaningful minimum number that will provide ample parking spaces while using them efficiently for maximum benefit.

Types of Parking Spaces

Parking will be provided in three to four different forms, including:

Parallel, on-street parking will be located on one or both sides of the streets of the project in front of stores and houses. This is a key element in the project. Its goal is to make each part of the new downtown as accessible as possible. It distributes some of the parking load.

Surface parking will be limited to locations behind buildings and will serve only the occupants of the housing in those buildings.

Structured parking will be provided in one free-standing parking garage to be located in Neighborhood 1 and in parking garages placed below buildings and surrounding grade.

Satellite parking refers to opportunities for less costly off-site parking that may be provided for longer term parking needs while allowing on-site parking to focus on more active needs of the neighborhood and community. Users of such parking might include graduate students, faculty, or other residents who seldom use their vehicles and do not necessarily need to have them located in lots within the center of the project.

Shared Use Analysis – Typical Methodology (Estimating Parking Demand)

By definition, shared parking relates to the opportunity for different land use activities in a mixed use environment to share a limited supply of parking without fear of conflict. It also reflects an opportunity to reduce the number of parking spaces that different land uses require without fear of creating a parking shortfall condition. The following presents the basic rationale and methodology behind the concept of shared parking.

Background

The opportunity to share parking is the result of two conditions:

- Variations in the peak accumulations of parked vehicles as the result of different activity patterns of adjacent or nearby land uses (by hour, by day, by season);
- Relationships among land use activities that result in peoples' attraction to two or more land uses on a single auto trip to a given area or development

Land Use Parking Demand Factors

Land use parking demand factors used in the demand modeling process are per-unit measures of peak hour parking generation. These land use parking demand factors are unique to each land use component. For example, each occupied room of a hotel will generate 1.25 parked vehicles during the typical peak activity period of a hotel. Thus, a 100 room hotel would generate a demand for 125 spaces during the peak parking period for hotel activity, which generally occurs in the evening and early morning hours. Conversely, every 1,000 square feet of occupied office space will generate 3 parked vehicles during the typical peak weekday activity period at an office building, which generally occurs between 10am and 2pm.

However, the parking needs associated with different activities (office, retail, hotel, etc.) fluctuate differently throughout a day. Furthermore, different activities generate different types of parkers with different expectations (hours of use, duration of stay, parking rates, customer services levels, etc.).

Parking Accumulation Patterns

The daylong activity patterns and peak activity periods associated with various land uses are quite different. For example, the arrival and departure patterns of vehicles generated by a hotel relate to overnight room occupancy. Parking generation for a hotel is greatest between the hours of 10:00 PM and 7:00 AM when most hotel guests are in their rooms. Conversely, the vehicle arrival and departure patterns for an office building relate to the work hours of office building employees. Parking generation for an office building is greatest at about 10:00 AM when most employees are at work and visitors typically begin arriving. The hourly accumulations of vehicles for each of the land uses anticipated to occur for a weekday and Saturday respectively have been researched comprehensively by the Urban Land Institute, *Shared Parking*, 2004.

To determine a development project's shared peak parking demand, the parking demand ratios and the accumulation patterns are applied to the land use density. The parking demand pattern for each individual land use are then "layered" to determine a comprehensive development demand, i.e., the period and volume when the sum of parking needs peak.

Estimated Mix of Parking Types

As a mixed use project, the anticipated parking need will be dependent upon the ultimate mix of uses and a more refined projection of the pattern of parking demands than can be

provided at this stage. The figures given in the table below (see 'Program of Uses') therefore are indicative both of what may be required and what can reasonably be provided in the context of the overall site area, but preliminary. These numbers represent an overall shared use analysis of peak usage for the building mix described in this document. Phasing may affect the actual numbers and types of spaces. Additionally, since this analysis assumes a broad approach to shared use, refinement of the program may result in changes based upon limitations or restrictions on the shared use of a certain number of spaces which would restrict or eliminate their ability to be shared.

Preliminary minimum estimates of the different types of spaces include:

Parking (in Structures)	1,000 - 1,250 cars
Parking (Curbside)	150 - 200 cars
Parking (Surface/Lots)	50 - 150 cars

Estimated Minimum of Parking Spaces based on Maximum Build-Out Ranges: 1,500

Adapting Traditional Development Patterns: Approaching Sustainability at the Village Level

Sustainable Development

Sustainable development has been defined generally as meeting the needs of the present without compromising the ability of future generations to meet their own needs. Such a definition entails not only an effort to curtail and clean up pollution but a broad strategy of balancing the creation of sustainable human communities with the protection and preservation of natural resources. In the context of development, pursuit of these goals involves decision making about what kind of development should occur, where it should occur, and how it should relate to the network of human communities and to surrounding natural ecosystems. Sustainability depends both on the capacity of development to provide for the needs of humans over a long term and on the development's relationship to nature and natural resources. A lasting sense of community and meaningful existence that is tied to the environment will ultimately determine whether a neighborhood, development, or town will endure the test of time. It is a premise of this project that the creation of a meaningful, vital place depends upon the relationship of this project to the surrounding town and university as well as the surrounding natural environment. Its success over time will depend on the sense of community that it provides both amongst its occupants and with its neighboring communities and natural environments. As so many of today's historical towns and cities illustrate, one of the easiest ways to limit the imprint of man upon the land is the creation of communities that, by their nature, remain attractive as places to live, work, and play.

Historical Clues

Historical patterns of development often provide excellent clues to the creation of vital human communities with a capacity to co-exist with their natural surroundings. Traditional New England villages reflected the limitations of their times, including a notable dependence on limited forms of transportation, not to mention a direct and very self-evident dependence on land and natural resources. One obvious result was the need to congregate in more manageably sized, concentrated villages where access between the various uses was facilitated both by their location at the core of the village and by their literal proximity – often within walking distance of each other. Civic functions, such as town halls, post offices, and schools, mingled with retail and other services as well as in-town housing to establish a defined downtown or civic community, very often characterized and physically tied together by a common green or main street. Typically, farmland and agricultural uses spread out just beyond the edges of the village, their access to town becoming, as a result, more limited but less a requisite on a regular basis. Thus was created one of the typical patterns of development that once characterized much of New England – small towns separated by farm and rural land and interconnected by a network of small roads that today continue to exist as main streets.

Certainly, the proliferation of automobiles and highways is one of the most significant amongst the factors that have had a dramatic effect on patterns of development, resulting at times in what has appeared to be a near total and unreal lack of dependence upon the natural environment or even upon the social and civic relationships implied by more traditional town centers. To this attitude can perhaps be attributed many of the development patterns that, during the second half of the 20th Century, have severely taxed land and natural resources without apparent recognition of the need maintain a sustainable balance between the natural resources and those of man. Though traditional patterns of development cannot provide direct solutions to many of the issues facing towns, cities, and the landscape today, an understanding of those forms of development provide clues to a different and perhaps more modest relationship with the natural environment upon which mankind's habitat is ultimately dependent. Because of those relationships, historical towns and development patterns, their strategies towards the use of land, their mixing of uses in village and downtown centers, their attention to civic and community character, and, amongst other things, their configurations and formal qualities, can provide clues and resources in the effort to plan towns, villages, cities, and re-development projects that seek to emphasize sustainable interrelationships between the environment and development as well as sustainable relationships between citizens and the various participants in civic and community life. Such a strategy remains central to the goals and planning effort for Storrs Center, both within its boundaries and in its relationship to the surrounding community and environment.

Applying Sustainability to the Creation of a New Town Plan

The advantages of a sustainable approach to development are numerous and essential to the creation of a vital, long lasting community. Sustainable development begins with a very basic premise that a project is designed with the long-term in mind and that its organic quality and interrelationship with the surrounding environment will afford it both that longevity and the necessary livability and vitality to make the project a success. A

sustainable project demands that people and nature be allowed to exist together in a healthy, supportive, diverse yet interdependent way. At the same time, a sustainable approach to development recognizes the relatively short life of human beings and their built environment in the midst of the natural environment; for a place to endure for generations, it must recognize the impact of man on the natural environment. As with historical examples, a successful town plan recognizes these principles from the beginning, establishing fundamental relationships to the land as well as a framework that can adapt organically over time to modification, renovation, and occasional replacement of the building components of which a town plan is constituted.

A Strategy for Storrs Center

The design process for this particular site began with an in-depth study of the overall development area and the natural environment within and adjoining this area. As a result of this study, it was determined that most of the development area should be protected as a conservation zone. Construction will be concentrated along Storrs Road on a previously developed portion of the site thereby allowing preservation of much of the remaining site and protecting the existing ecology, especially the two wetland basins, the vernal pool and the plant and animal life they support.

The plan anticipates that two small portions of the wetlands, now significantly degraded, may be developed. Overall, however, the plan for conservation is to reverse the deterioration of the open areas due to runoff through an improved site drainage strategy. These initial steps are consistent with the strategy to create and implement guidelines for the sustainable development of the village center and the entire surrounding site.

Initial Goals for Sustainable Guidelines

The following guidelines represent an initial set of goals and guiding principles for the Storrs Center project in its effort to approach development from a vantage point of sustainability. These general goals are indicative of the strategy that has been followed in the initial planning stages of the project with particular regard to site strategies, site improvement, land use, conservation of land and water resources, stormwater management, and several of the principles associated with smart growth, as outlined below.

General Guidelines for Smart Growth and Sustainable Development

- 1) Preserve open space, natural beauty, and critical ecosystems.
- 2) Encourage redevelopment of previously developed land and direct development towards existing communities.
- 3) Take advantage of compact planning and building design to maximize the efficient use of land and minimize the amount of infrastructure and building necessary to serve people.

- 4) Mix programmatic uses and building types to use land efficiently, create better, more vital communities and to minimize the need to drive to various locations as part of daily activities.
- 5) Encourage walkable neighborhoods for less dependence on cars and in order to create great places to live, work, and play.
- 6) Strive to create desirable neighborhoods with a strong sense of place, characterized by high standards of design and construction.
- 7) Provide a range of housing types for people of various income levels.
- 8) Provide people with choices in housing, shopping, communities, and transportation.
- 9) Encourage community and stakeholder collaboration.
- 10) Help to make the development process predictable, fair and cost effective through communication between private and public sector participants.

Other key areas in which to focus the approach to sustainable development include:

Use Strategic Project Siting to Promote Intelligent Land Use and Reduce Environmental Impact.

Use Site Development as a Means to Improve Natural Resource Management

Conserve Materials and Resources in the Construction Process

Use Building Systems to Achieve Overall Energy Efficiency

Design Buildings to Promote Indoor Environmental Quality

Create Healthy, Vital Environments for Sustainable Living

Moving forward through the planning process, the Storrs Center project will use this outline of basic goals as a foundation upon which to develop a workable strategy for sustainability that applies specifically to this project and which is consistent with all of the goals for the neighborhood that have been established by the Partnership, the town, and the university. The sustainability guidelines will be further developed and included in the special development district regulations that will be presented to the Planning and Zoning Commission for review following MDP approval.