STATE OF CONNECTICUT
OFFICE OF POLICY AND MANAGEMENT

TO: Larry Schilling, University Architect
University of Connecticut, Storrs

FROM: Pam Law, Deputy Secretary
Office of Policy and Management

DATE: August 13, 2001

SUBJECT: EIE for the North Campus Master Plan, UConn

Based on a review of the subject environmental impact evaluation and related documentation conducted pursuant to C.G.S. 22a-1c, I am herewith advising you of my finding that this evaluation satisfies the requirements of the Connecticut Environmental Policy Act.

In the future, site-specific projects proposed for development within UConn’s North Campus Master Plan area will be reviewed by OPM to ensure that impacts are substantially equivalent to or less than those identified for that site in the Master Plan EIE. If impacts are greater than identified in the Master Plan an environmental review pursuant to CEPA must be conducted.

In your letter dated July 19, 2001, UConn has agreed to draft and make available for a 14-day public review period a site-specific project comparison evaluation. Upon completion of the public review, UConn shall send the comparative evaluation, along with any comments received thereon, to OPM for a timely review.

The comparative project evaluation shall contain sufficient detail that OPM can evaluate consistency of specific projects with the approved North Campus Master Plan EIE.

Further, a study is required to determine the long-term impacts of the University’s withdrawal of water from the Fenton River. In the next phase of the North Campus expansion an evaluation of the use of the Fenton River should be undertaken in consultation with the Department of Environmental Protection in order to minimize potential impacts to the Fenton River from future expansions.

cc: John Baczewicz, OPM

450 Capitol Avenue - Hartford, Connecticut 06106-1308
www.opm.state.ct.us
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<td>CGS</td>
<td>Connecticut General Statutes</td>
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<td>CL&amp;P</td>
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<tr>
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<tr>
<td>CO</td>
<td>Carbon monoxide</td>
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<tr>
<td>ConnDOT</td>
<td>State of Connecticut Department of Transportation</td>
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<tr>
<td>dBA</td>
<td>A-weighted decibel</td>
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<td>Code of Federal Regulations</td>
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<td>DEP</td>
<td>State of Connecticut Department of Environmental Protection</td>
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<td>EPA</td>
<td>United States Environmental Protection Agency</td>
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<tr>
<td>FEMA</td>
<td>Federal Emergency Management Agency</td>
</tr>
<tr>
<td>gpd</td>
<td>Gallons per day</td>
</tr>
<tr>
<td>gsf</td>
<td>Gross square feet</td>
</tr>
<tr>
<td>HVAC</td>
<td>Heating, ventilation and air conditioning</td>
</tr>
<tr>
<td>Leq</td>
<td>Equivalent noise level</td>
</tr>
<tr>
<td>Leq(h)</td>
<td>Hourly equivalent noise level</td>
</tr>
<tr>
<td>LOS</td>
<td>Level of service</td>
</tr>
<tr>
<td>mg</td>
<td>Million gallons</td>
</tr>
<tr>
<td>mgd</td>
<td>Million gallons per day</td>
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<td>OPM</td>
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<td>University of Connecticut</td>
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<td>UCEPI</td>
<td>University of Connecticut Educational Properties, Inc.</td>
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<tr>
<td>USACE</td>
<td>United States Army Corps of Engineers</td>
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<tr>
<td>WRPA</td>
<td>Windham Regional Planning Agency</td>
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Executive Summary

Project Name  University of Connecticut, North Campus Master Plan
Mansfield, Connecticut

Date  February 2001

Sponsoring Agency  The Board of Trustees for the University of Connecticut

Preparer  Frederic R. Harris, Inc.

Description of Action

The University of Connecticut proposes actions for developing their North Campus in Mansfield in accordance with its Master Plan for this site. The term “Master Plan” where used herein refers to the plan for the North Campus that is contained within the University’s Outlying Parcels Master Plan. The project location is indicated in Figure 1 (Page 1-4), and the local area is illustrated on Figure 2 (Page 1-5). The Master Plan proposes development within the same approximate boundaries as the formerly-proposed UCEPI Technology Park - the main subject of an Environmental Impact Evaluation (EIE) published in 1994. Accordingly, the 1994 EIE is incorporated by reference as part of this document.

The Master Plan indicates that the ideal land uses for the North Campus consist of university-related research, student residential housing, remote parking, special academic and residential support services. Proposed student residence buildings would provide 1,000 to 1,200 beds of apartment-style housing. The plan also suggests a faculty retreat center, nature center, or environmental research station, and a small convenience retail area. Bikeways and pedestrian paths would link the various parcels. While the plan also proposes multi-purpose athletic fields including baseball, football and soccer fields, these projects are not presently under consideration. Together, the maximum build-out of the North Campus as shown would total approximately 1.2 million square feet of building space.

The major proposed land use for the North Campus is Technology/Research. This category would include research and development divisions of existing corporations that desire to be close to the main campus for ease of interaction with faculty and university resources, spin-offs

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from the University, University centers and institutes, and activities that are needed to support
the operation of these entities.

The planned site development will take place in stages. The University intends to initially
develop student residence buildings which would open by Fall 2002. At present, no private
enterprises have been identified to locate technology/research facilities in the North Campus,
and the timing of such development is unknown.

The completion of the Hillside Road Extension northward to Route 44 was addressed by the
1994 EIE, and is not addressed in detail herein. With respect to that project, the University has
already established conformance with the Connecticut Environmental Policy Act.

Purpose and Need

The Master Plan for the North Campus was prepared to determine the best future land uses for
the area while employing responsible planning principals. Although the full North Campus area
was considered and accounted for in the planning process, the Master Plan does not attempt to
suggest that the need is present and strong for full development. Indeed, the respective
proposed land uses vary in the urgency for their need, and for most parcels, the timing and
configuration of actual development is unknown. Research and technology facilities are
proposed to support both economic development and higher education in the State. Additional
student residences are needed close to the academic core of the Main Campus, and the North
Campus offers a parcel which is located adjacent to Northwest Quad residences along North
Eagleville Road.

Alternatives to the Proposed Action

As discussed above, the purpose of the North Campus Master Plan is specific to the project area
as it seeks to answer questions as to what future developments are best suited for the North
Campus. It is consistent with the University’s mission to plan for future development of the
North Campus with land uses which serve to enhance the existing academic land uses.

Consideration of alternative sites will be given as appropriate for a particular land use. For the
respective parcels, the University may ultimately decide to opt for one of several alternative uses
as discussed in Section 1. While alternative land uses exist, the southern-most parcel in the
North Campus is primarily recommended for residential use in view of its convenient proximity
to the main campus and adjacency to existing residential buildings.
Benefits and Impacts

The Master Plan will impact a maximum of 29 acres of prime farmland soil. Impacted prime farmland be mitigated acre-for-acre with the creation of new farmland. Forty seven acres will be maintained as an agricultural preserve in the North Campus.

Development of the North Campus, by adding impervious surface to presently-undeveloped areas, have the potential to alter the peak rates and the quality of stormwater runoff from the impacted surfaces. However, the University will prepare a comprehensive stormwater management plan for the entire North Campus to mitigate potential impacts from Master Plan projects in consideration of both runoff quantity and quality. Stormwater detention devices will be designed to limit peak stormwater discharges from the North Campus developments to pre-development rates. Non-structural measures for dissipating and treating runoff will be considered where practical.

It is estimated that direct wetland impacts under the Master Plan would be less than one acre. This impact would be needed to provide an access road to a parcel located in the northwest corner of the North Campus. Wetland creation will likely be required as a condition for approval of an Inland Wetlands permit for proposed impacts. Potential wetland mitigation sites will be identified during the permitting process.

Impacts to known state-listed avian species will be avoided. Buildings to be constructed in areas in proximity to known or high-potential nesting areas for state-listed grassland avian species will be a maximum of four stories in height. Additional mitigative measures that may be recommended by a consulting biologist, to be retained by the University, will be considered as appropriate.

Traffic impacts of the proposed North Campus development at full build-out will be limited to a few intersections in the campus area. Recommended roadway and traffic safety improvements will be provided as listed below, subject to state and local approvals:

• Extend Hillside Road north to Route 44 and provide signal.
• Restripe the northbound approach on Hillside Road to North Eagleville Road to provide a left turn lane and through/right lane.3
• Provide traffic calming measures on Baxter Road and Cedar Swamp Road.
• Provide separate left- and right-turn lanes on the Separatist Road approach to South Eagleville Road. Maintain two way stop control.
• Provide separate right turn lane on Hillside Road at Stadium Road. Maintain three way stop control.
• Upgrade and optimize signal timing and phasing at all signalized intersections.

3 The University indicates that this improvement has been completed.
Air quality impacts from motor vehicle emissions can be pronounced where vehicular traffic is congested. The traffic analysis found intersection capacity impacts at several locations. Corresponding impacts to air quality would occur at these intersections during peak traffic periods.

Noises generated by the proposed building sites in the North Campus are anticipated to be typical of commercial developments. Intermittent sources of noise would include elevator banks, grounds maintenance equipment, routine solid waste removal activities, loading/unloading activities, vehicular backup alarms, etc. HVAC equipment including cooling towers would be a more constant source of noise. Noise will also be generated by vehicular traffic generated by proposed developments.

Development of the North Campus will inevitably have an impact upon the aesthetic character of the site. However, the University will consider means to minimize visual impacts to surrounding residences when developing site designs for the respective parcels. Vegetated buffers will be retained or provided between proposed developed area and adjacent property lines (30 foot width minimum). When completing Hillside Road Extension, the University will provide roadside plantings as appropriate along roadside cut slopes.

**Licences, Permits, Certifications, and Approvals**

The following list summarizes the permits, approvals, certifications and registrations that are anticipated to be required for individual developments in the North Campus. Other permits would be needed for the completion of Hillside Road Extension as described in the 1994 EIE.

- Flood Management Certification (Section 25-68h-1 to 25-68h-3 RCSA)
- General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (Section 22a-430b CGS)
- Underground Tank Registration (Section 22a-449(d)-1 RCSA)
- Air Quality Stationary Source Construction and Operation Permit (Sect. 22a-174-3 RCSA)
- State Traffic Commission Certificate (Section 14-311 CGS)
- Sanitary Sewer Approval (Section 22a-416 CGS)
- Parcel A only: Inland Wetland and Watercourses Permit (RCSA 22a-39-1 through 15)

**Comment Period**

Interested parties are offered an opportunity to provide comments and other pertinent information that would help define environmental impacts, interpret the significance of such impacts, and evaluate alternatives. In order to accept spoken and written commentary from
interested parties, a public hearing has been scheduled for Tuesday, April 3, 2001 at 7:00 p.m. at the University of Connecticut, Storrs, Connecticut, Merlin D. Bishop Center, Room 3.

Written comments on this document and any other pertinent information may be submitted to the below-listed agency contact by Friday, April 13, 2001. The sponsoring agencies will review all such materials submitted by that date and will prepare responses to the substantive issues raised. The submitted materials and responses will be attached to a Record of Decision that will be forwarded to the State Office of Policy and Management (OPM), which will review the Environmental Impact Evaluation and make a written determination of its adequacy.\footnote{Section 22a-1(e) CGS}

Agency Contact:

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1.0 Introduction

1.1 Document Purpose

This Environmental Impact Evaluation (EIE) was prepared pursuant to compliance with the Connecticut Environmental Policy Act (CEPA) with respect to the University of Connecticut’s proposed implementation of a Master Plan for their North Campus in Mansfield. The term “Master Plan” where used herein refers to the plan for the North Campus that is contained within the University’s Outlying Parcels Master Plan (Reference 1). A copy of the Master Plan is attached as Appendix B.

The consulting firm Frederic R. Harris, Inc. prepared this document at the direction of the sponsoring agency, The Board of Trustees for The University of Connecticut.

CEPA is codified in Chapter 439 of the State Statutes entitled "Environmental Protection Department and State Policy." The applicable CEPA regulations are included in the Regulations of Connecticut State Agencies Section 22a-1a-1 through 22a-1a-12. CEPA requires that environmental assessments be performed for state actions that may have a significant impact on the environment. "Environment" is defined as "physical, biological, social, and economic surroundings and conditions which exist within an area which may be affected by a proposed action including land, air, water, minerals, flora, fauna, noise, objects of historic or aesthetic significance and community or neighborhood characteristics."\(^5\)

In May 1994, an earlier plan for the North Campus was addressed with the release of an EIE prepared by Frederic R. Harris, Inc., “State Actions Associated with a Research and Technology Park, Mansfield, Connecticut - Connecticut Environmental Policy Act, Environmental Impact Evaluation” May 1994 (1994 EIE). The current Master Plan effectively revises the earlier plans for the North Campus, and bears many similarities to the concept plans for the research park that was envisioned in 1994. Accordingly, the 1994 EIE is incorporated by reference as part of this EIE.\(^6\) Material provided herein updates the 1994 EIE and supercedes any information that may be in conflict between the two documents.

The completion of the Hillside Road Extension northward to Route 44 was addressed by the 1994 EIE, and is not addressed in detail herein. With respect to that project, the University has already established conformance with the Connecticut Environmental Policy Act.

1.2 Description of Action

The University of Connecticut proposes actions for developing their North Campus in accordance with the Master Plan. While certain actions by be taken in the short term, the actual full realization of this plan may extend well into the future. However, this EIE addresses the

\(^5\) Regulations of Connecticut State Agencies, Section 22a-1a-1

\(^6\) As authorized by RCSA Section 22a-1a-7 (f)
environmental impacts of the full North Campus development, including individual sites of
future buildings that may be supported by either private or state funds.

In this document, the “project area,” “project site,” or “the site” all refer to the North Campus
parcels proposed for development under the Master Plan. See Project Location, Figure 1, and
Area Map, Figure 2. The project area is composed primarily of agricultural fields and
woodlands.

The North Campus Master Plan proposes development within the same approximate boundaries
as the formerly-proposed UCEPI Technology Park - the main subject of the 1994 EIE. A copy
of a UCEPI conceptual site plan which also indicates the boundaries of the Master Plan parcels
is attached as Appendix B. The completion of the Hillside Road Extension northward to Route
44 was addressed by the 1994 EIE, and is not addressed in detail herein. That project has
already established conformance with the Connecticut Environmental Policy Act.

The Master Plan indicates that the ideal land uses for the North Campus consist of university-
related research, student residential housing, remote parking, special academic and residential
support services. Proposed student residence buildings would provide 1,000 to 1,200 beds of
apartment-style housing. The plan also suggests a faculty retreat center, nature center, or
environmental research station, and a small convenience retail area. Bikeways and pedestrian
paths would link the various parcels. While the plan also proposes multi-purpose athletic fields
including baseball, football and soccer fields, these projects are not presently under
consideration.

The Master Plan allocates the North Campus into parcels as summarized in Table 1 and
illustrated in Figure 3. For each parcel, Table 1 indicates a proposed “primary” (optimal) land
use as well as an alternative “secondary” (allowable but less desirable) land uses. It should be
understood that for each parcel listed, only one of the land uses could be accommodated. For
example, in Parcel 1, five alternatives are listed, but only one would be suitably accommodated
within that parcel. Basic parameters are shown for these parcels which indicate the proposed
development intensities. Together, the maximum build-out of the North Campus as shown
would total approximately 1.2 million square feet of building space.  

The major proposed “primary” land use for the North Campus is Technology/Research. This
land use would develop the most building space of the different proposed alternatives shown
in Table 1. This category would include research and development divisions of existing
corporations that desire to be close to the main campus for ease of interaction with faculty and
university resources, spin-offs from the University, University centers and institutes, and
activities that are needed to support the operation of these entities. At present, no private
enterprises have been identified to locate in the North Campus, and the timing of future
technology/research development is unknown.

The Draft Master Plan (Appendix B) indicates a higher development intensity. The
Plan will be revised to meet the values shown in Table 1 of this EIE, subject to
possible revisions that may result from the CEPA process.
Other primary land uses - retail, parking, residential housing, and special academic - are proposed for Parcels g, l and h.

- Parcel g is primarily recommended for convenience retail, entertainment and support for the North Campus residences. This use is intended to buffer the other North Campus parcels from the existing, adjacent landfill and Consolidated Support Services facilities.

- Parcel l, the site of an inactive UCONN landfill, is proposed for surface parking along with stormwater management features. No development at this site was proposed in the 1994 EIE. The parking lot could be developed over approximately 75 percent of the parcel. However, the parking lot could provide the landfill with an impermeable cap which would minimize infiltration into the landfill, thereby reducing the potential for leachate migration.

- Parcel b is presently proposed by the University for remote, at-grade parking. Recreation is also an alternative use that will be considered. The University may also consider this parcel for technology or academic use as an alternative to developing Parcel a with one of these uses.

- Parcel h is proposed to be the first parcel to be developed. At present, the University proposes to enter into an agreement with a developer to construct student residential apartments at this location. The site development would likely feature a series of separate buildings tiered at different elevations on the hillside.

- Parcel j is primarily proposed for “special academic/retreat” consisting of comparatively low-activity use academic uses.

Two parcels identified in the Master Plan are not proposed for development and are therefore excluded from impact analyses in this EIE. Parcel i, located in the extreme west corner of the North Campus, is not considered to be developable and is proposed for “Preservation/open space” by the Master Plan (Parcel i is not indicated on the figures in the body of this document). Parcel k, which is mostly active farmland, was suggested by the Master Plan for conversion to a recreational area consisting of five athletic fields (two baseball, two football, and one soccer) along with 125 parking spaces. However, presently the University does not foresee pursuing this suggestion.

The planned site development will take place in stages. The University intends to initially develop student residence buildings proposed for Parcel h. Those buildings would open by Fall 2002.
<table>
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<tr>
<th>Parcel</th>
<th>Priority</th>
<th>Proposed Alternative Land Uses</th>
<th>Parcel Area (Acres)</th>
<th>Net Buildable (Acres)</th>
<th>Total Site Coverage (Acres)</th>
<th>Building Floor Area (gsf)</th>
<th>No. of Beds (each)</th>
<th>Parking Spaces (each)</th>
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<td>Primary</td>
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<td>18.9</td>
<td>18.9</td>
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<td>c</td>
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<td>18.3</td>
<td>12.5</td>
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<td>Convenience Retail</td>
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<td>--</td>
<td>--</td>
<td>100</td>
</tr>
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<td>j</td>
<td>Primary</td>
<td>At-Grade Parking Facility</td>
<td>19.7</td>
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<td>--</td>
<td>--</td>
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</tr>
<tr>
<td></td>
<td>Secondary</td>
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<td></td>
<td></td>
<td>0.4</td>
<td>--</td>
<td>--</td>
<td>50</td>
</tr>
</tbody>
</table>

Note: Only one Land Use per parcel is proposed. Total maximum building space is approximately 1.2 million s.f.
1.3 Purpose, Need and Justification

The Master Plan for the North Campus was prepared to determine the best future land uses for the area while employing responsible planning principals. Although the full North Campus area was considered and accounted for in the planning process, the Master Plan does not attempt to suggest that the need is present and strong for full development. Indeed, the respective proposed land uses vary in the urgency for their need, and for most parcels, the timing and configuration of actual development is unknown.

The 1994 EIE explains the purposes and needs for a university-related Technology Park in terms of supporting both economic development and higher education in the State. As well, the 1994 EIE proposed the completion of Hillside Road Extension (called Spine Roadway in the 1994 EIE) as a measure for mitigating traffic. The roadway would not only support the North Campus, but also would accommodate through-traffic volumes, thereby relieving traffic from existing streets and intersections.

Additional student residences are needed close to the academic core of the Main Campus. Therefore, the North Campus Master Plan recommends housing for 1,000 students in the southern-most parcel (Parcel h). Since the University cannot project its residential needs into the indefinite future, the Master Plan reserves residential use as an alternative for all other parcels except Parcel l (the site of an existing landfill), and Parcel k (which is presently excluded from development considerations).

1.4 Background

1994 Environmental Impact Evaluation

The 1994 EIE was co-sponsored by the State of Connecticut Department of Economic Development (now Department of Economic and Community Development) due to that agency’s involvement with the first proposed Technology Park building.

The sponsoring agencies issued a Record of Decision (ROD) in December 1994.

The 1994 EIE and ROD were reviewed by the State of Connecticut’s Office of Policy and Management (OPM) in its role as the final CEPA reviewer. OPM found that the 1994 EIE and ROD were adequate for the following portions of the proposed development: construction of the proposed Hillside Road Extension, extension of the utilities along the roadway, and the construction of the first building (Advanced Technology Institute [ATI] Building), all subject to local and state approvals.
Disposition of the UCEPI Technology Park and Spine Roadway

UCEPI, unsuccessful in developing a research park, ceased operations. Around that time, ConnDOT ceased developing its final roadway design at a 60 percent stage of completion. Their design generally followed the Option B which was addressed in the 1994 EIE. Presently the roadway project is unfunded and in need of a completed design and permit authorizations.

An air quality indirect source permit had been obtained for the roadway project by ConnDOT. However that permit is now expired. Therefore, before the roadway project can be realized, a new permit application must be submitted and approved. In addition, permitting for inland wetland impacts was not obtained, as ConnDOT withdrew from the permitting process before mitigative measures could be determined for the roadway impact.

A permit was obtained from the State Traffic Commission for the roadway and partial park development. Presently the permit process requires updating with analyses which account for recent conditions and new projections.

UCONN 2000 Master Plan

On November 14, 1997, UCONN’s Board of Trustees adopted a Master Plan for the long-range renewal and enhancement of UCONN’s physical infrastructure. The Master Plan was commissioned to respond to two events that had occurred in 1995: the adoption of the Strategic Plan by the Board of Trustees and the passage of UCONN 2000 (Public Act 95-230) by the Connecticut General Assembly. 8

University of Connecticut Outlying Parcels Master Plan

In June 2000, the University released a Master Plan for the outlying areas of the University properties: the agricultural campus, the Depot Campus (former Mansfield Training School), and the North Campus. Prepared by the same firm that completed the campus master plan four years before, the planning process had been overseen by the 40-member Master Plan Committee comprised of town and regional planners, students, trustees, faculty, staff, administrators and alumni. The Master Plan was developed with the planning principles of minimizing impacts to wetlands, prime farmland, trees, topography and sensitive areas.

For the North Campus, the Master Plan proposes development within the same approximate boundaries as the former UCEPI Technology Park. The plan indicates that the ideal land uses for this area consist of university-related research, student residential housing, remote parking, special academic and residential support services. The proposed student residence buildings would provide approximately 1,000 beds of apartment-style housing. Also proposed are a

8 www.ucc.UCONN.edu
faculty retreat center, nature center, or environmental research station, and a small convenience retail area. Bikeways and pedestrian paths would link the various parcels.

For the respective parcels, “primary land uses” are recommended as “optimal.” In addition, secondary land uses are identified that would be “allowable but are not the best use of the parcel.”

The Master Plan envisioned the completion of Hillside Road Extension in the same alignment as the original roadway proposed in the early 1990's for the UCEPI Technology Park. This roadway would complete the partially-constructed roadway between Route 44 and North Eagleville Road. The road is intended to not only provide access to the North Campus developments, but also to function as a through roadway, taking vehicular traffic pressures off Route 195. Adding parking in the North Campus will free W lot, located off Route 195, for other possible uses.

Parcel f of the Master Plan is outside of the former UCEPI parcel and was not addressed in the 1994 EIE. Presently this parcel is nearly entirely covered by an asphalt parking area and two small structures.

1.5 Permits Required

The following list summarizes the permits, approvals, certifications and registrations that are anticipated to be required for individual developments in the North Campus. Other permits would be needed for the completion of Hillside Road Extension as described in the 1994 EIE.

- Flood Management Certification (Section 25-68h-1 to 25-68h-3 RCSA)
- General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (Section 22a-430b CGS)
- Underground Tank Registration (Section 22a-449(d)-1 RCSA)
- Air Quality Stationary Source Construction and Operation Permit (Sect. 22a-174-3 RCSA)
- State Traffic Commission Certificate (Section 14-311 CGS)
- Sanitary Sewer Approval (Section 22a-416 CGS)
- Parcel A only: Inland Wetland and Watercourses Permit (RCSA 22a-39-1 through 15)

1.6 Public and Agency Involvement

The University invited public involvement in the planning process for the outlying parcels. During several open forums, the University’s consultant discussed the plans and sought input
from students, staff and community members. The master planning team considered comments and discussion from the forums as they prepared a draft plan for the outlying parcels.

A Notice of Scoping dated January 9, 2001 was released to inform state agency reviewers and other interested parties of the proposed actions in the North Campus. Correspondence received in reply to the Notice are included in Appendix A. Subsequently, a scoping meeting was held on January 23, 2001 with town and regional officials (see Report of Meeting in Appendix A).

1.7 Distribution

This EIE, along with a copy of the 1994 EIE, has been provided to the following parties:

State of Connecticut Department of Agriculture
State of Connecticut Department of Environmental Protection
Council on Environmental Quality
Connecticut Historical Commission
State Department of Economic and Community Development
State of Connecticut Office of Policy and Management
State Traffic Commission
State of Connecticut Department of Transportation
Town of Mansfield
Windham Council of Governments

1.8 Comment Period

Interested parties are offered an opportunity to provide comments and other pertinent information that would help define environmental impacts, interpret the significance of such impacts, and evaluate alternatives. In order to accept spoken and written commentary from interested parties, a public hearing has been scheduled for Tuesday, April 3, 2001 at 7:00 p.m. at the University of Connecticut, Storrs, Connecticut, Merlin D. Bishop Center, Room 3.

Written comments on this document and any other pertinent information may be submitted to the below-listed agency contact by Friday, April 13, 2001. The sponsoring agencies will review all such materials submitted by that date and will prepare responses to the substantive issues raised. The submitted materials and responses will be attached to a Record of Decision that will be forwarded to the State Office of Policy and Management (OPM), which will review the Environmental Impact Evaluation and make a written determination of its adequacy.10

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9 Open forums were held January 24th and 25th, and February 16, 2000 in Mansfield, CT
10 Section 22a-1(e) CGS
Agency Contact:

Larry Schilling, University Architect
Architectural and Engineering Services
University of Connecticut
31 LeDoyt Road, U-Box 3038
Storrs, CT. 06269-3038
Phone: (860)486-3116
Fax: (860)486-3255
larry.schilling@uconn.edu
2.0 Alternatives Considered

2.1 No-Action Alternative

As discussed in Section 1.3, the purpose of the North Campus Master Plan is specific to the project area as it seeks to answer questions as to what future developments are best suited for the North Campus. At present, while the need exists for a technology/research facilities close to the main campus, the means to implement new facilities is not evident at the time of this writing. Therefore no action is reserved as an option. Nonetheless, it is consistent with the University's mission to plan for future development of the North Campus with land uses which serve to enhance the existing academic land uses.

2.2 Alternative Sites

The 1994 EIE discussed alternatives for creating a research and technology park in the North Campus. Some specifics have changed since that document was released. UCONN had received legislative authorization (Special Act 85-108) to lease the North Campus alone for the development of a research park and supportive uses. No other site could have been considered. However, given that the lessor (UCEPI) no longer exists, UCONN is free to consider alternative sites for technology park uses. Nonetheless, the conclusion made by the 1994 EIE with regard to the unsuitability of the former Mansfield Training School site (current Depot Campus) for a successful Technology Park is still valid.

Consideration of alternative sites will be given as appropriate for a particular land use. For the respective parcels, the University may ultimately decide to opt for one of the alternative uses ("secondary" uses) as indicated in Table 1.

The master planning process considered alternative sites for residential facilities (in parcels a through g as indicated in Table 1), but favored Parcel h for residential use in view of its convenient proximity to the main campus and adjacency to existing residential buildings.
3.0 Existing Environment and Analysis of Impacts

3.1 Natural Environment

3.1.1 Geology, Soil and Farmlands

3.1.1 a. Existing Environment

Geology and soil conditions at the site are essentially unchanged from the conditions described in the 1994 EIE. Figures are provided herein in order to relate these conditions to the proposed Master Plan parcels. Figure 4 illustrates the locations of existing bedrock types. Soil unit configurations are shown in Figure 5.

The farmland resources within the project site are essentially similar to those described in Section 3.1.1 a of the 1994 EIE. According to the cited soils study, approximately 95 acres of prime farmland and 4 acres of additional farmland of statewide importance exist within the project area, totaling almost 100 acres of important farmland. All of the 68 acres presently cultivated are designated important farmland. The remaining acreage is currently within forested areas, much of which could be converted to cropland by clearing of the vegetation, removal of rocks, grading, tilling, and the treating of soil as appropriate with lime, pot ash, phosphorus and nitrates. The boundary of the prime farmland soils are illustrated on Figure 6.

3.1.1 b. Impact Analysis

Table 2 indicates the prime farmland impacts anticipated upon implementation of the Master Plan.

<table>
<thead>
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<th>Location of Impact</th>
<th>Master Plan Impact</th>
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<td>New roadway at north end of agricultural field</td>
<td>600 linear feet, 1 acre</td>
</tr>
<tr>
<td>Parcel H</td>
<td>28 acres</td>
</tr>
<tr>
<td>Parcel B</td>
<td></td>
</tr>
<tr>
<td>Portion of Parcel J west of new road</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>29 acres</td>
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</table>

Table 2
Prime Farmland Impacts

While the 1994 EIE anticipated 27 acres of impacted prime farmland, the Master Plan will impact approximate 29 acres. This additional two acres occurs at Parcel h, where the project boundary extends south of the former UCEPI boundary.

**Mitigation**

As part of the Record of Decision (ROD) for the Research and Technology Park in Mansfield, CT, the Office of Policy and Management (OPM) requested that farmland impacts be mitigated on an “acre for acre exchange”. In accordance with this approach, a total of 29 acres for farmland mitigation would be required for the Master Plan, assuming that these acres would in fact be impacted by development. As stated in the 1994 EIE, a 36-acre area located in the northeast corner of the nearby Mansfield Training School has been offered to UCONN College of Agriculture and Natural Resources to mitigate the farmland impacts of the research park (for the former UCEPI property). Based on an acre-for-acre exchange, this same site would accommodate required farmland mitigation necessary for implementation of the Master Plan. Presently wooded, the new farmland mitigation site would be cleared of stones and stumps and converted into active farmland, almost all of which would qualify as prime farmland.

**Preservation**

The North Campus Master Plan, under the heading “Broad Planning Guidelines,” proposed to “preserve prime farmland (47 acres must be maintained as an agricultural preserve) . . .” and to “minimize impact to prime farm soils.” The 47-acre figure matches that which was attached to the UCEPI land lease agreement and discussed in the 1994 EIE, and is comprised of a 33-acre agricultural field, an 8-acre parcel of wooded prime farmland to be cleared for agricultural use, and 6 acres of rear yard agricultural easements. UCONN is committed to maintaining these prior prime farmland preservation goals. This 47 acres will therefore be preserved as illustrated in Figure 6.

As suggested in the Master Plan, the only exception to this is the proposed conversion of a portion of Parcel k from existing active farmland, which is largely comprised of prime farmland soil, to recreational athletic fields and associated surface parking. As part of UCONN’s commitment to preserve the 47 acres of prime farmland, the University has decided not to convert this portion of Parcel k from active farmland. This will enable UCONN to preserve the entire 47 acres of prime farmland as proposed in the 1994 EIE.

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12 Memorandum dated June 30, 1994 from Donald DeFronzo, Office of Policy and Management, to George T. Kraus, P.E., University of Connecticut
LEGEND

- Diorite Intrusion
- Fault, Dashed where approximately located; arrows indicate strike-slip movement; sawtooth on upper plate.
- Parcel Boundary (Per Master Plan)
- Existing Building
- Parcel Designation

2. Photogrammetry by, Chas H. Sells, Inc.

Figure 4
EIE FOR NORTH CAMPUS MASTER PLAN, MANSFIELD, CONNECTICUT
BEDROCK GEOLOGY
LEGEND

SYMBOL

2  Adrian and Palms mucks.
6B Canton and Charlton fine sandy loams, 3 to 8 percent slopes.
6C Canton and Charlton fine sandy loam 8 percent slopes.
8B Canton and Charlton fine sandy loams, 3 to 8 percent slopes, very stony.
8C Canton and Charlton fine sandy loams, 8 to 15 percent slopes, very stony.
8D Canton and Charlton fine sandy loams, 15 to 25 percent slopes, very stony.
9B Gloucester sandy loam, 3 to 8 percent slopes, very stony.
9C Charlton–Hollis fine sandy loam, 3 to 15 percent slopes, very stony.
9D Charlton–Hollis fine sandy loam, 22 percent slopes, very stony.
10C Canton and Charlton fine sandy loams, 3 to 10 percent slopes, extremely stony.
12B Paxton fine sandy loam, 3 to 8 percent slopes.
12C Paxton fine sandy loam, 8 to 15 percent slopes.
14B Paxton fine sandy loam, 3 to 8 percent slopes, very stony.
14C Paxton fine sandy loam, 8 to 15 percent slopes, very stony.
14D Paxton fine sandy loam, 15 to 25 percent slopes, very stony.
16E Paxton fine sandy loam, 25 to 35 percent slopes, extremely stony.
18 Ridgebury fine sandy loam, drained.
20 Ridgebury, Leicester and Whitman fine sandy loams, extremely stony.
21A Sutton fine sandy loam, 2 percent slopes.
22B Sutton fine sandy loam, 3 to 8 percent slopes, very stony.
24A Woodbridge fine sandy loam, 0 to 3 percent slopes.
24B Woodbridge fine sandy loam, 3 to 8 percent slopes.
26B Woodbridge fine sandy loam, 3 to 8 percent slopes, very stony.
28 Udorthents — Urban land
30 Urban land.
32 Pits, Gravel.
34 Dumps.
W Surface Water Body.

Prime Farmland Soil
Additional Farmland of Statewide Importance

Sources:
2. Photogrammetry by Chas H. Sells, Inc.
Figure 6
EIE FOR NORTH CAMPUS MASTER PLAN, MANSFIELD, CONNECTICUT
AGRICULTURAL LAND PRESERVATION

LEGEND

- Agricultural Preserve
- 8 Acres of Prime Farmland to be Cleared of Scrub.
- Prime Farmland
- Parcel Boundary (Per Master Plan)
- Existing Building
- Parcel Designation

SOURCES: 1. Photogrammetry by Chas H. Sells, Inc.
3.1.2 Hydrology and Groundwater

3.1.2 a. Existing Environment

The 1994 EIE, Section 3.1.2, describes the existing environment with respect to hydrology and groundwater conditions. Conditions are essentially unchanged since that writing.

Figures 7 and 8 indicate existing natural features with respect to the Master Plan parcels. Figure 7 locates the drainage divides on the site and assigned Water Quality Classifications, while Figure 8 indicates the approximate location of an existing aquifer.

Since the publication of the 1994 EIE, certain water quality classifications have been redefined by the State. Therefore, Table 3 is provided with updated Water Quality Classifications that are assigned to the site. For Parcel 1, the site of the closed landfill, groundwater has been reclassified as Class GA wherein current water quality standards for that classification may not be met. This reassignment is not a reflection on any perceived change in existing groundwater quality, only a result of the State’s revision of the classifications.

3.1.2 b. Impact Analysis

Development of the North Campus will essentially affect water quality as described in the 1994 EIE. The land uses proposed under the Master Plan do not feature activities having inherent risks for polluting surface or ground water as compared with those uses that were considered by the 1994 EIE.

In response to the January 2001 Notice of Scoping, DEP requested that the University prepare a plan for stormwater management for the entire North Campus to mitigate potential impacts from Master Plan projects in consideration of both runoff quantity and quality.\(^\text{13}\) The Master Plan concurs with this concept, stating that “a comprehensive stormwater management system is needed on each campus to ensure the treatment of water on site before it is released off site.”\(^\text{14}\) The University will follow DEP’s recommendation and prepare a stormwater management plan proposing specific stormwater systems for the entire North Campus.

The 1994 EIE shows Parcel e to contain a proposed stormwater detention basin, although the Master Plan does not incorporate this specific design recommendation. The location of stormwater detention devices will be determined in consultation with DEP during the

\(^{13}\) Memorandum dated January 25, 2001, from David J. Fox, DEP to Larry Schilling, UCONN (See Appendix A)

\(^{14}\) Page 52, Master Plan
preparation of the stormwater management plan. Detention devices will be designed to limit peak stormwater discharges from the North Campus developments to pre-development rates.

The Master Plan’s “Broad Planning Guidelines” for the North Campus propose to “utilize open vegetated swales to convey runoff.” Such non-structural measures for dissipating and treating runoff were more broadly recommended by DEP, including pervious paving, sheet flow from uncurbed pavement, as well as vegetated swales. Accordingly, the University will adopt these recommendations as practical, with the understanding that subsurface drainage systems and certain structural measures will also be needed.

Stormwater collection systems installed in the North Campus will have appropriate controls designed to remove sediment and oil or grease typically found in runoff from parking and driving areas. The following measures will be employed:

- Catch basins installed in conjunction with roadway or parking area paving will have deep sumps to trap sediments and hoods to trap oil and grease.
- Where significant subsurface drainage systems outfall to the natural environment, gross particle separator and/or detention/retention basins will be installed. Consideration will be given to cyclonic gross particle separators designed to retain medium to coarse grained sediments as well as buoyant material.
- Structural measures will be maintained periodically to insure continued effectiveness.

The Master Plan appropriately states that Best Management Practices should be followed on all development parcels. During construction, “temporary runoff and sedimentation control measures should be implemented during development until construction and permanent water management system[s] are complete.”

With appropriate mitigative measures as described above, the Master Plan developments will not significantly affect water quality on the North Campus.

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15 Page 20, Master Plan
16 Memorandum dated January 25, 2001, from David J. Fox, DEP to Larry Schilling, UConn
17 Page 52, Master Plan
TABLE 3
Water Quality Classifications

<table>
<thead>
<tr>
<th>Inland Surface Water Class A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface water known or presumed to meet Water Quality Criteria which support the designated uses.</td>
</tr>
<tr>
<td>- Designated uses: potential drinking water supply; fish and wildlife habitat; recreational use; agricultural and industrial supply and other legitimate uses including navigation.</td>
</tr>
<tr>
<td>- Discharge restricted to: discharges from public or private drinking water treatment systems, dredging and dewatering, emergency and clean water discharges.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Groundwater Class GAA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground water used or which may be used for public supplies of water suitable for drinking without treatment; ground water in the area that contributes to a public drinking water supply well; and groundwater in areas that have been designated as a future water supply in an individual water utility supply plan or in the Area wide Supplement prepared by a Water Utility Coordinating Committee pursuant to Title 25 of the General Statutes.</td>
</tr>
<tr>
<td>- Designated uses: existing or potential public supply of water suitable for drinking without treatment; baseflow for hydraulically connected surface water bodies.</td>
</tr>
<tr>
<td>- Discharges limited to: treated domestic sewage, certain agricultural wastes, certain water treatment wastewaters.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Groundwater Class GA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground water within the area of existing private water supply wells or an area with the potential to provide water to public or private water supply wells. The Department presumes that ground water in such an area is, at a minimum, suitable for drinking or other domestic uses without treatment.</td>
</tr>
<tr>
<td>- Designated uses: existing private and potential public or private supplies of water suitable for drinking without treatment; baseflow for hydraulically connected surface water bodies.</td>
</tr>
<tr>
<td>- Discharge restricted to: treated domestic sewage, certain agricultural wastes, certain water treatment wastewaters, discharge from septage treatment facilities subject to stringent treatment and discharge requirements, and other wastes of natural origin that easily biodegrade and present no threat to groundwater.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Groundwater Class GB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground water within a historically highly urbanized area or an area of intense industrial activity and where public water supply service is available. Such ground water may not be suitable for human consumption without treatment due to waste discharges, spills or leaks of chemicals or land use impacts.</td>
</tr>
<tr>
<td>- Designated uses: industrial process water and cooling waters; baseflow for hydraulically connected surface water bodies; presumed not suitable for human consumption without treatment.</td>
</tr>
<tr>
<td>- Discharge restricted to: treated domestic sewage, certain agricultural wastes, certain water treatment wastewaters, discharge from septage treatment facilities subject to stringent treatment and discharge requirements, other wastes of natural origin that easily biodegrade and present no threat to groundwater, and certain other biodegradable wastewaters subject to soil attenuation.</td>
</tr>
</tbody>
</table>

Source: DEP; Surface Water Quality Standards Effective April 9, 1997; Ground Water Quality Standards Effective April 12, 1996
3.1.3 Floodplains

3.1.3 a. Existing Environment

The nearest regulatory floodplain in the vicinity of the North Campus is associated with Cedar Swamp Brook at the northwest corner of the site. The approximate limits of the 100-year flood boundary are indicated on Figure 9.\textsuperscript{18} No change in existing conditions is known to have occurred since the publication of the 1994 EIE.

3.1.3 b. Impact Analysis

As shown on Figure 9, the parcels proposed for future development under the Master Plan do not conflict with existing regulatory floodplains. Therefore, no direct impact to floodplains will occur. Future developments under the Master Plan would be state-regulated with respect to floodplain impacts, not town-regulated.\textsuperscript{19}

The 1994 EIE discusses potential impacts from future developments to downgradient floodplains. The University is committed to maintaining peak runoff discharges from the site at pre-construction rates. The specific design measures to be incorporated into specific site developments will be determined in consultation with the agency having jurisdiction with respect to flood management.

\textsuperscript{18} Delineation based upon FEMA Flood Insurance Study for the Town of Mansfield, Tolland County, Connecticut

\textsuperscript{19} Applicable State regulatory program is under RCSA Section 25-68h-1
LEGEND

GROUNDWATER

- Area of influence of public water supply wells.
- Ground waters tributary to a public water supply reservoir.
- Ground waters within the area of influence of private and potential public wells.
- Ground waters within the area of influence of private and potential public wells. (May not meet current water quality standards).
- Ground water may not be suitable for direct human consumption, without treatment.

NOTE: See expanded definitions of water quality classifications, Table 2.

SURFACE WATER

- Uncontaminated surface waters designated for use as a potential public water supply.
- Surface water quality is impaired by wastewater discharges.

Parcel Boundary

Existing Building

Parcel Designation

Watercourse - Showing direction of flow

Watershed divide line

Portion of site which drains to Cedar Swamp Brook

Portion of site which drains to Mason Brook

Portion of site which drains to Eagleville Brook

Water quality sampling location

Location of Observation

2. Photogrammetry by, Chas H. Sells, Inc.

Figure 7

EIE FOR NORTH CAMPUS MASTER PLAN, MANSFIELD, CONNECTICUT
WATER RESOURCES
LEGEND

- Parcel Boundary (Per Master Plan)
- Existing Building
- Parcel Designation
- Aquifer Protection Area
- Stratified Drift Aquifer

SOURCES:
3. Photogrammetry by Chas H. Sells, Inc.

Figure 8
EIE FOR NORTH CAMPUS MASTER PLAN, MANSFIELD, CONNECTICUT
AQUIFER PROTECTION MAP
LEGEND

100 Year Floodplain

Parcel Boundary (Per Master Plan)

Existing Building

Parcel Designation


2. Photogrammetry by Chas H. Sells, Inc.
3.1.4 Wetlands

3.1.4 a. Existing Environment

Wetland areas in the former UCEPI parcel were field delineated by Connecticut Department of Transportation (ConnDOT) personnel and field surveyed by KWP Associates as part of the 1994 EIE effort. A total of 80 acres of freshwater wetlands were found within the project area, distributed among approximately seven wetland areas (WA). The majority of the wetlands are classified as palustrine forested and are associated with the tributary to Cedar Swamp Brook. Figure 10 indicates the ConnDOT delineations of wetland areas.

Assessment of the freshwater wetlands delineated on the site was conducted and included in the 1994 EIE in accordance with the Wetland Evaluation Technique (WET), Volume II: Methodology, October 1987. The WET technique assessed the ten wetland functions and values. According to the analysis, WA 4 and WA6 provide wetland habitats with the overall highest probability ratings for the ten functions and values assessed. Because these areas are large, diversified in vegetation, and relatively undisturbed, they provide suitable habitats for a variety of wildlife species.

Results of the wetland analysis conducted for the 1994 EIE can be considered relevant to current conditions. However, one field condition was noted to have changed since 1994: in Parcel k, an area of emergent scrub/shrub wetland adjacent to a small pond (identified as a research pond in the 1994 EIE) has expanded and the area of open water on the pond has decreased.

Subsequent to the 1994 EIE review period, the State Department of Transportation (ConnDOT) sought permitting from DEP for impacts to regulated inland wetlands by the roadway project. During this initiation of this process, wetland areas and an intermittent watercourse were found which had not been previously identified. The wetland areas exist within the former gavel pit in Parcel e. The watercourse, which was observed to be flowing during a recent site visit, flows southwestward into the gravel pit.21

Approximate wetland delineations within the gravel pit are included on Figure 10.22 Both wetlands appear to have resulted from artificial depressions remaining from previous gravel

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20 WET functions and values consist of ground water recharge/discharge; floodflow alteration; sediment stabilization; sediment/toxicant retention; nutrient removal/ transformation; production export; wildlife diversity/abundance; aquatic diversity/abundance; uniqueness/heritage; and recreation.

21 February 2001 site visit by Frederic R. Harris, Inc. personnel

22 Wetland limits in gravel pit taken from “Index Plan”, State Proj. No. 77-178, March 6, 1996
operations at the site. The wetland areas are predominantly palustrine scrub-shrub (PSS1) wetlands with minor areas of palustrine emergent wetland (PEM). The PEM areas are characterized by the common reed (Phragmites australis) and bare areas where non-persistent vegetation occurs. Surface water feeds into the larger wetland area from an intermittent watercourse mentioned above. Both wetlands appear to be receiving seepage from upgradient areas located to the east of the former gravel pit area.

3.1.4 b. Impact Analysis

In consideration of the Master Plan’s Broad Planning Guidelines which call for preserving inland wetland areas, the site plan clearly indicates that this can be achieved. The site plan for the 1994 EIE and the Master Plan were both designed with substantial effort expended to minimize wetland impact. This is apparent in that Hillside Road Extension (formerly spine roadway) traverses only the narrowest sections of wetlands, such that where wetland impacts cannot be avoided, they are minimized.

The 1994 EIE indicates that UCEPI had agreed with the Town to submit to local Inland Wetland regulations. These regulations are more stringent than the State’s with respect to their stipulated 150-foot wide wetland buffer. The Master Plan parcel delineations include these buffer areas within the total parcel area to be considered for development. Actual encroachments on buffer areas would constitute an impact that was not foreseen during the 1994 CEPA process. However, in recognition of the importance of wetland buffers, UCONN has committed to designing the site such that a 50-foot buffer is maintained around existing wetlands to the extent practicable. Incidentally, pursuant to state and federal wetland regulations, of which UCONN is required to comply, no wetland buffers are regulated. Therefore, the commitment by UCONN to avoid impacts to the 50-foot wetland buffer area is above and beyond regulatory requirements.

The 1994 EIE disclosed limited wetland impacts at specific locations within the site. These impacts consisted of two wetland crossings for the proposed Hillside Road Extension. This proposed road would cross Wetland Area 5 (WA 5) to the north of the site, and WA 4 approximately 1/4 mile south of this crossing. This road would also impact the buffer area associated with these wetland crossings. In addition, the EIE documented further impact to WA 5 for construction of the access road to the proposed building on Parcel a in the northwest corner of the site. This access road would cross WA 5 in two locations, in addition to the buffer area associated with those crossings. Additional minor encroachments to the wetland buffer may be required for development of proposed surface parking on Parcel b. In total, it is estimated that proposed wetland impacts for the site plan addressed in the 1994 EIE would remain under one acre.
LEGEND

EMERGENT WETLANDS
DISTURBED WETLANDS
FORESTED WETLANDS
SCRUB-SHRUB WETLANDS
APPROXIMATE 50-FOOT WETLAND BUFFER

⚠️ - Wetland Assessment Area Identification number

A Headwaters to Cedar Swamp Brook
B Man-made research pond
C Drainage Ditch
D Tributary to Cedar Swamp Brook
E Tributary to Mason Brook
F Intermittent streams & tributary to Cedar Swamp Brook
G Cedar Swamp Brook
H Lowland Swamp
J Tributary to Eegleville Brook

Parcel Boundary (Per Master Plan)
Existing Building
Parcel Designation

2. Photogrammetry by Chas H. Sells, Inc.
As with the 1994 EIE, the Master Plan avoids and minimizes wetland impacts to the greatest extent practicable. For the most part, the Master Plan would result in very similar wetland impacts to the 1994 EIE. Since the proposed Hillside Road Extension is the same in the Master Plan as proposed in the 1994 EIE, WA 4 and WA 5 would be impacted by crossing of this roadway, in addition to the buffer associated with these wetland crossings.

The access road for Parcel a under the 1994 EIE requires two crossings of WA 5. The University may consider an alternative alignment indicated in the Master Plan that is located further south that requires only a single crossing of WA 5. This could reduce wetland impacts slightly for the Master Plan. This alternative will be further evaluated during the permitting process.

The only development within proximity to a wetland that is proposed under the Master Plan but was not included in the site plan for the 1994 EIE is construction of proposed surface parking at the inactive UCONN landfill (parcel l). Design efforts will be such that impacts to the wetland located in the northern portion of this parcel will be avoided.

The Master Plan does not acknowledge the existence of wetland areas within Parcel e (within the former gravel pit). However, consistent with the intent of the Plan, no impact is anticipated to these wetlands from the proposed site development.

In summary, the wetland impacts associated with the Master Plan will be equal to or less than that presented in the 1994 EIE.

Wetland disturbance resulting from proposed Hillside Road Extension will require a wetland permit from DEP in accordance with CGS Section 22a-39. Additionally, a United States Army Corps of Engineers (USACE) Section 404 Permit would be required for discharge of fill material within wetlands necessary for this roadway. Should this wetland impact acreage stay below 1/3 acre, a Nationwide Permit may be appropriate. For the remainder of wetland impacts under the Master Plan, consisting of impact to WA 5 for the access road to Parcel a, a wetland permit would be required from DEP and from the USACE.

In accordance with the 1994 EIE, it is anticipated that the DEP Bureau of Water Management will require wetland creation as a condition for approval of an Inland Wetlands permit under CGS Section 22a-39(h). Similarly, the USACE would require wetland mitigation if an Individual Permit (as opposed to a Nationwide General Permit) is required. There appear to be several areas throughout the site where existing wetlands can be extended by regrading adjacent uplands to the existing wetland elevation and planting with native wetland species, or allowing the extended wetland area to colonize naturally. During preparation of wetland permit documentation, potential wetland mitigation sites will be identified.
3.1.5 Vegetation and Wildlife

3.1.5 a. Existing Environment

The 1994 EIE identified that the majority of the project site was comprised of wooded wetland and upland forests, with the exception of the southeastern portion of the site which is in agricultural use. Habitat types on the site included mature second growth hardwood forest, wooded swamp, wet thicket, old field, agricultural field and disturbed wetlands and uplands within a cleared utility right-of-way and landfill area.

A site walk was conducted in October 2000 to determine to what extent site conditions had changed since they were last documented for the 1994 EIE. The majority of the site is essentially the same as defined in the 1994 EIE, with wooded wetland and upland forests as the predominant habitat types. The agricultural fields are still used for the production of corn, with the exception of the lower portion of the field adjacent to Route 195 which is in a hay crop. The following changes in site conditions have been noted and indicated on Figure 11.

- A small area of red pine plantation at the northern end of the project site adjacent to Route 195 had been identified as “Mature Coniferous Forest” in the 1994 EIE. The red pine in this area was observed to be dead or dying during the site walk, with native hardwood tree species becoming predominant.
- The “Early Successional Forest” identified in the 1994 EIE in the eastern portion of the project area has developed such that it would be better designated as a “Late Successional Forest.”
- The “Disturbed Upland” in the former gravel pit at the south-central portion of the project site, to the east of the CL&P right-of-way (current Parcel e) has revegetated and is now best classified as “Early Successional Forest”.
- The “Mature Hardwood Forest” depicted in the extreme western corner of the project site near Hunting Heights Drive is more appropriately classified as “Early Successional Forest”.
- An area of disturbance within the woodland adjacent to the water main easement to the west of the existing portion of Hillside Road Extension was noted. This may have been the result of recent maintenance activity on the underground utility line.
- The area of emergent scrub/shrub wetland adjacent to the small pond between Parcels k and f (identified as a research pond in the 1994 EIE) has expanded and the area of open water on the pond has decreased.

A summary of the existing vegetation found within the Master Plan parcels is provided in Table 4.
LEGEND

FRESHWATER WETLANDS
AGRICULTURAL LAND
EARLY SUCCESSIONAL FOREST
LATE SUCCESSIONAL FOREST
MATURE HARDWOOD FOREST
DISTURBED UPLAND
MAINTAINED LAWN

Parcel Boundary (Per Master Plan)
Existing Building
Parcel Designation

2. Photogrammetry by Chas H. Sells, Inc.

Figure 11
EIE FOR NORTH CAMPUS MASTER PLAN, MANSFIELD, CONNECTICUT VEGETATION
### Table 4
**Existing Vegetation**

<table>
<thead>
<tr>
<th>Parcel</th>
<th>Total Parcel Area (acres)</th>
<th>Agricultural</th>
<th>Early Successional Forest</th>
<th>Late Successional Forest</th>
<th>Mature Hardwood Forest</th>
<th>Disturbed Land</th>
<th>Maintained Lawn</th>
<th>Freshwater Wetlands</th>
<th>Area (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>28.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>b</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>d</td>
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<td></td>
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<tr>
<td>e</td>
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<td></td>
<td>1.4</td>
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<td>j</td>
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<td>Totals</td>
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<td>139.5</td>
<td>48.0</td>
<td>1.2</td>
<td>2.9</td>
<td></td>
</tr>
</tbody>
</table>

Previous correspondence with the Connecticut Department of Environmental Protection, Natural Resources Center\textsuperscript{23} for the 1994 EIE indicated the potential presence of the following three state-listed avian species on the site:

**Bird Species**  
Savannah Sparrow (*Passerculus sandwichensis*)  
Grasshopper Sparrow (*Ammodramus savannarum*)  
Vesper Sparrow (*Poecetes gramineus*)

**State Status**  
Special Concern  
Endangered  
Endangered

These avian species typically occupy grassland habitats, and the 1994 EIE documented that savannah, grasshopper and vesper sparrows have been observed on the project site during migration. None of these species, however has been found breeding at the site. None of these state-listed avian species was observed on the site during the October 12, 2000 site walk.

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\textsuperscript{23} Correspondence from Dawn M. McKay, Connecticut DEP, Natural Resources Center to Dennis L. Miller, Frederic R. Harris, October 28, 1992.
No Federally-listed threatened or endangered species were known to occur in the project area with the exception of occasional transient endangered bald eagles (*Haliaeetus leucocephalus*) or peregrine falcons (*Falco peregrinus anatum*). ②⁴

Three parcels were not included in the 1994 EIE but are proposed by the Master Plan for potential development: Parcels f, i and the southern portion of Parcel h. The existing vegetation and wildlife characteristics of each of these sites are described below:

**Parcel f**

Parcel f is located on University of Connecticut property in the easternmost portion of the project area along Route 195 across from Horsebarn Hill Road. The majority of this site is occupied by Lot W with Rosebrooks Barn, the Parking and Transportation Services building (Rosebrooks House), and Mink Barn along its eastern perimeter.

Vegetation observed within this parcel consisted mostly of planted trees within grassed islands throughout the parking area. Trees included red maple, willow, and flowering dogwood. A scrub-shrub fringe is also located at the eastern edge of the parking area adjacent to Rosebrooks Barn which included black cherry, honeysuckle, black raspberry, and Queen Anne’s lace. A row of mature eastern white pines borders the easternmost portion of the parking area south of Rosebrooks Barn.

Wildlife found within this parcel includes those species readily found within the northeastern United States according to acceptable field guides for the region. Bird species include the cardinal, blue jay, Canada goose, mallard, American crow, American robin, European starling, downy woodpecker, red-winged blackbird, warblers, song sparrow, and a variety of hawks and owls. Mammals include the eastern gray squirrel, raccoon, eastern chipmunk, opossum, white-tailed deer, striped skunk, muskrat, and eastern cottontail.

**Parcel h - Southern Portion (Telecommunication Tower south to Athletic Field)**

The southern portion of Parcel h falls outside of the former UCEPI parcel, and therefore was not analyzed for the 1994 EIE. This area generally spans between the existing telecommunications towers (west of the abutting cemetery) and UCONN athletic fields near the Northwest Quad residences along North Eagleville Road. The majority of this parcel is mixed deciduous forest with an athletic field in the southern portion and an open field with telecommunications towers and associated buildings in the northern portion. The athletic field is composed of a softball field, outdoor volleyball court, and basketball courts. The open field, with the

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telecommunications towers and adjacent agricultural field, is accessed by way of a dirt road through the forest from the North Campus Residence Halls.

The mixed deciduous forest portion of this parcel consists of those species commonly found in the northeastern United States. Vegetation within this area is dominated by red maple, sugar maple, pignut hickory, shagbark hickory, bitternut hickory, black oak, white oak, northern red oak, and chestnut oak. Other species within the canopy consist of black cherry, sassafras, black birch, and white ash. The shrub layer consist of Japanese barberry, lowbush blueberry, black raspberry and multiflora rose. Herbaceous species consist of poison ivy, cat greenbrier and Virginia creeper. The open field and athletic field are dominated by a mix of grasses and weedy species.

Wildlife found within this parcel includes those species readily found within the northeastern United States as previously mentioned.

Parcel L (Landfill)

Parcel L is the site of a former landfill and chemical pit located within University of Connecticut property. This site is situated immediately south of the power line easement corridor, north of North Eagleville Road and the wastewater treatment plant, east of Hunting Lodge Road and the Celeron Squares apartment complex, and southeast of the large forested wetland associated with Cedar Swamp Brook. Before its closing in 1989, this landfill accepted municipal solid waste generated by the college campus. The chemical pit was formerly utilized for disposing of various chemicals used by UCONN facility operations and scientific laboratories. This parcel is currently mostly devoid of any vegetation due to these previous disturbances.

Vegetation observed along the perimeter of the landfill included quaking aspen, sycamore, grey birch, eastern white pine, sweetgum, white oak, shagbark hickory, and red maple in the canopy. The shrub layer consists of Russian olive, common reed, smooth sumac, multiflora rose, and highbush blueberry whereas the herbaceous layer consists of Queen Anne’s lace, honeysuckle, and a variety of goldenrod species.

Wildlife found within this parcel includes those species readily found within the northeastern United States as previously mentioned.

3.1.5 b. Impact Analysis

The North Campus Master Plan appears to have similar impacts to mature woodland plant communities as does the UCEPI proposal presented in the 1994 EIE, since the majority of the proposed development under both scenarios is proposed for this plant community. Inland wetland habitat encroachment is minimized under the Master Plan.
As mentioned in Section 3.1.5 a. above, the Master Plan proposed development at three additional parcels, not included in the 1994 EIE: Parcels f, l and a portion of Parcel h. The potential impacts of development of those parcels are outlined below:

The Master Plan proposes residential student housing for Parcel h. The buildings are recommended to be small footprint, apartment-style housing with associated parking that can be terraced. This design approach appears to be consistent with the recommendation presented in the 1994 EIE that buildings be low-profile (less than four stories) to minimize impacts to migratory bird species. The 1994 EIE recommended that:

After project implementation, the open grassy and weedy fields remain undeveloped. If human traffic to the developed sites can be contained away from these areas and if the proposed development is of low relief, the importance of the grassy and weedy fields to migrant birds will remain relatively unaffected. Tall buildings would pose a hazard to migrant birds, which would be killed as they accidentally strike the buildings. The sometimes heavy mortality from such structures is well documented in the ornithological literature. Development Site 1 (both Options A and B) should therefore be of low-relief development (less than 4 stories maximum).

The above-described recommendations are applicable to the Master Plan. Therefore, buildings to be constructed in Parcel h, the western portion of Parcel f, and any other areas in proximity to known or high-potential nesting areas for state-listed grassland avian species, will be a maximum of four stories in height.

The Master Plan proposes that Parcel f be developed for Technology/Research uses. No development activity for this parcel was proposed or evaluated in the 1994 EIE. This site is currently paved (Parking Lot “W”), and maintains low wildlife and vegetation functional values. Therefore, the potential development of Parcel f would not adversely impact any significant natural resources. However, the proposed height of the buildings on this parcel and the introduction of more human activity into the area may affect the avian species utilizing the area around the research pond to the west of the parking lot. Consideration will be given to building height, potential buffers at the rear (west) of the parcel, and landscaping treatment to enhance habitat characteristics.

The Master Plan proposes that Parcel l be utilized as an at-grade parking facility. Parcel l is the site of a former landfill and chemical pit located within the University’s property. Some wooded area at the landfill fringe, mainly located to the east of the filled area, may be cleared depending on the final site design. However, due to this site’s historic disturbance and low wildlife, vegetative and wetland functional values, potential development of this site would not adversely impact these natural resources.
The current draft of the Master Plan suggests conversion of Parcel k to a recreational area consisting of two baseball, two football and one soccer field with a parking lot for 125 cars. In contrast, UCONN presently foresees no action on Parcel k, which is predominantly used as active farmland. Therefore, no impact is anticipated to this area.

In summary, the Master Plan parcels in which development is proposed consist of those parcels identified in Table 1 (Page 1-9). These parcels total approximately 210 acres. According to the site coverages specified by the Master Plan, approximately 95 acres of land would be developed for the “primary” development priorities indicated in Table 1. This amounts to an average site coverage of approximately 45 percent. Development of this type would impact wildlife as described in the 1994 EIE.

DEP's Wildlife Division recommended that field investigations for protected grassland avian species be performed by competent biologist(s) to determine whether such species presently utilize the site. The investigation must be conducted in the beginning of May to identify potential use by migrating birds and early to mid June to investigate potential nesting. The University is committed to arranging for the recommended field studies in consultation with DEP. Mitigative measures that may be recommended by the biologist will be considered as appropriate.

### 3.2 Physical Environment

#### 3.2.1 Solid Wastes and Recycling

##### 3.2.1 a. Existing Environment

State facilities, such as UCONN’s Storrs Campus, contract for the disposal of generated municipal solid waste as appropriate under market conditions. Since January of 1993, the University of Connecticut has retained an independent contractor to operate a campus-wide municipal solid waste collection and disposal system. All municipal solid waste collected from UCONN campus facilities is transported offsite to a licensed disposal facility.

##### 3.2.1 b. Impact Analysis

Within the future North Campus as envisioned under the Master Plan, individual facilities will each maintain temporary storage of municipal solid waste. Municipal solid waste will be sorted for recycling, collected and then disposed in accordance with existing municipal policies, procedures, and ordinances. The University will manage solid waste in the North Campus under the same system that is employed for the overall campus.

---

25 Response to the Notice of Scoping by David J. Fox (see Appendix A)
With the increase in activity that is anticipated to result from a developed North Campus will be a corresponding increase in the generation of municipal solid waste. Incentive to minimize the waste generation will be provided by solid waste facility disposal fees.

3.2.2 Toxic Waste

3.2.2 a. Existing Environment

Existing conditions within the North Campus with respect to the routine handling of toxic or regulated wastes are essentially unchanged from those described in the 1994 EIE. Hazardous waste generated by the University is stored on-site in a temporary storage facility and then removed to a licensed disposal facility.

The 1994 EIE referenced the inactive UCONN landfill and former chemical pits located in the north campus area. The landfill accepted municipal solid waste and bulky waste generated on the University campus prior to 1989.

Extensive study of the landfill area has been conducted since the publication of the 1994 EIE. The University committed to conduct a thorough environmental investigation of the landfill, as well as the former chemical pits and a former ash landfill (site of existing Parking Lot “F”) with the signing of a Consent Order with DEP. A subsequent Hydrogeologic Investigation performed at the site found that landfill leachate affects groundwater, surface water, and sediment, and that gases and volatile contaminants affect soils in the immediate vicinity of the landfill. Of the former chemical pit site, further investigation was recommended to evaluate potential migration pathways through rock fractures. The former ash landfill at Lot F was not seen as a significant source of contamination.

In spite of these findings, the investigation did not show any immediate threats to public health. Presently the University and their consultants continue to study, monitor and evaluate these issues to ensure compliance with the Consent Order and to identify appropriate actions.

3.2.2 b. Impact Analysis

The North Campus Master Plan suggests that the primary land use at the landfill site should be a vehicular parking area. This proposal was not addressed in the 1994 EIE. However, an asphalt parking lot could provide an impervious cap to the landfill which would help minimize infiltration and the corresponding potential for leachate transport. Such reclamation of former landfill sites is common practice. In the North Campus, constructing at-grade parking at this

26 DEP Consent Order No. SRD-101, June 26, 1998

location is a sensible alternative to impacting undeveloped areas for the creation of parking space.

The University’s system for the routine management of regulated waste would be extended to University facilities to be developed in the North Campus.

3.2.3 Air Quality

3.2.3 a. Existing Environment

For discussion regarding existing air quality, refer to the 1994 EIE, Section 3.2.3 a. The Ambient Air Quality Standards shown in the earlier EIE has been superceded. See Table 5 for an updated summary of the standards. As was true in 1994, the Mansfield region is in attainment of all of the standards except ozone. The non-attainment status remains unchanged with a “serious” designation.

<table>
<thead>
<tr>
<th>POLLUTANT</th>
<th>STANDARD</th>
<th>AVERAGING PERIOD</th>
<th>NATIONAL STANDARD (a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfur Dioxide</td>
<td>Primary</td>
<td>12 Month Arith. Mean</td>
<td>80 ug/m³ (0.03 ppm)</td>
</tr>
<tr>
<td></td>
<td>Primary</td>
<td>24 Hour Average (b)</td>
<td>365 ug/m³ (0.14 ppm)</td>
</tr>
<tr>
<td></td>
<td>Secondary</td>
<td>3 Hour Average</td>
<td>1300 ug/m³ (0.5 ppm)</td>
</tr>
<tr>
<td>Inhalable Particulates (PM2.5)</td>
<td>Primary</td>
<td>Annual Arith. Mean</td>
<td>15 ug/m³</td>
</tr>
<tr>
<td></td>
<td>Primary</td>
<td>24 Hour Average</td>
<td>65 ug/m³</td>
</tr>
<tr>
<td>Inhalable Particulates (PM10)</td>
<td>Prim. &amp; Sec.</td>
<td>Annual arith. Mean</td>
<td>50 ug/m³</td>
</tr>
<tr>
<td></td>
<td>Prim. &amp; Sec.</td>
<td>24 Hour Average</td>
<td>150 ug/m³</td>
</tr>
<tr>
<td>Carbon Monoxide</td>
<td>Prim. &amp; Sec.</td>
<td>8 Hour Average</td>
<td>10 mg/m³ (9 ppm) (d)</td>
</tr>
<tr>
<td></td>
<td>Prim. &amp; Sec.</td>
<td>1 Hour Average</td>
<td>40 mg/m³ (35 ppm) (d)</td>
</tr>
<tr>
<td>Ozone</td>
<td>Primary</td>
<td>8-Hour Average (e)</td>
<td>0.08 ppm</td>
</tr>
<tr>
<td>Nitrogen Dioxide</td>
<td>Prim. &amp; Sec.</td>
<td>12 Month Arith. Mean</td>
<td>100 ug/m³ (0.05 ppm)</td>
</tr>
<tr>
<td>Lead</td>
<td>Prim. &amp; Sec.</td>
<td>Quarterly Mean</td>
<td>1.5 ug/m³</td>
</tr>
</tbody>
</table>

Source: DEP, 1998 Annual Air Quality Summary

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DRAFT EIE, NORTH CAMPUS MASTER PLAN, MANSFIELD
3.2.3 b. Impact Analysis

The University discourages the use by students of motor vehicles within the campus areas. Student parking is placed at peripheral locations. Alternative modes of transportation are practiced including shuttle buses and use of pedestrian pathways via walking or with bicycles. The proposed Hillside Road Extension project will include a pedestrian pathway extending between North Eagleville Road to Route 44. These aspects are in-part intended to minimize impacts from vehicular traffic on air quality.

Air quality impacts from motor vehicle emissions can be pronounced where vehicular traffic is congested. The traffic analysis, presented in Section 3.2.5, found intersection capacity impacts at several locations. Corresponding impacts to air quality would occur at these intersections during peak traffic periods.

3.2.4 Ambient Noise

3.2.4 a. Existing Environment

As reported in the 1994 EIE, a noise monitoring program was conducted to determine the existing ambient noise levels at the project area property line. The most noise-sensitive land uses were estimated to be abutting residences located to the north, east, and west of the property and the cemetery to the south (see Figure 12). Noise monitoring locations (four locations) are indicated on the figure. Sound pressure levels were measured using Type I sound level monitoring equipment. All measurements of continuos 24-hour hourly equivalent noise levels (Leq) are reported in decibels (dBA). The results of the noise monitoring program are summarized in the 1994 EIE, Table 14 and documented in 1994 EIE Appendix K. Hourly equivalent community noise levels varied from 44 to 56 dBA during daytime hours (7 A.M. - 10 P.M.) and from 40 to 52 dBA during nighttime hours (10 P.M. - 7 A.M.). These levels are generally below the allowable limits set by DEP regulations.

3.2.4 b. Impact Analysis

Noises generated by the proposed building sites in the North Campus are anticipated to be typical of commercial developments. Intermittent sources of noise would include elevator banks, grounds maintenance equipment, routine solid waste removal activities, loading/unloading activities, vehicular backup alarms, etc. HVAC equipment including cooling towers would be a more constant source of noise. Noise will also be generated by vehicular traffic generated by proposed developments.

---

28 May 1993 monitoring
LEGEND

Parcel Boundary (Per Master Plan)

Existing Building

Parcel Designation

Noise Monitoring Locations

SOURCE: 1. Photogrammetry by Chas H. Sells, Inc.
3.2.5 Traffic and Parking

3.2.5 a. Existing Environment

The 1994 EIE provides a description of traffic conditions in the North Campus vicinity as they existed at that time. Traffic conditions have more recently evolved, mainly as a result of UCONN 2000 developments and improvements to roadways and traffic safety features. Updated information on existing roadway and traffic conditions is contained within a Traffic Impact Study which is attached as Appendix D.

3.2.5 b. Impact Analysis

A Traffic Impact Study was performed for the North Campus Master Plan to model future traffic generated from the North Campus, evaluate cumulative future operating conditions, and recommend measures to improve projected deficient transportation conditions. The full body of that study is attached to this EIE as Appendix D. A summary is provided in this section.

The Traffic Impact Study assumed a full-build scenario in accordance with Table 1 (Page 1-9). For each parcel, the “primary” proposed land use was modeled. In exception, for Parcel g, Technology/Research (a “secondary” proposal) was assumed in order to provide a more conservative (greater) vehicular trip generation.

For selected intersections in the vicinity of the North Campus, the traffic study made projections of levels of service for the No-Build condition and Build condition. The year 2010 was selected as an arbitrary assumption for full development of the North Campus. For comparison, the No-Build condition was modeled for 2004 with the assumption that mitigation for UCONN 2000 projects will have been completed.29

For the analyzed intersections, capacities were calculated in terms of “Level of Service” (LOS). Level of Service for intersections is defined in terms of average control delay per vehicle. Level of Service is rated on a scale from A to F and is summarized in Table 6.

Table 7 indicates the results of the capacity analyses for both the Build and No-Build conditions during the A.M. and P.M. peak hours. Based on these findings, the impact of the proposed North Campus build-out will be mainly limited to a few intersections in the campus area. Most intersections and roadways will be able to absorb the increased traffic without additional mitigation beyond that proposed for the UCONN 2000 project.

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29 The year 2004 was selected for the no-build condition to dovetail with previous study for UCONN 2000 projects. This condition is should be essentially similar to a 2010 no build condition.
Table 6
Level of Service (LOS) Criteria

<table>
<thead>
<tr>
<th>Signalized Intersections</th>
<th>Control Delay Per Vehicle (seconds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>≤10.0</td>
</tr>
<tr>
<td>B</td>
<td>&gt;10.0 and ≤20.0</td>
</tr>
<tr>
<td>C</td>
<td>&gt;20.0 and ≤35.0</td>
</tr>
<tr>
<td>D</td>
<td>&gt;35.0 and ≤55.0</td>
</tr>
<tr>
<td>E</td>
<td>&gt;55.0 and ≤80.0</td>
</tr>
<tr>
<td>F</td>
<td>&gt;80.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unsignalized Intersections</th>
<th>Delay Range (seconds/vehicle)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>≤10</td>
</tr>
<tr>
<td>B</td>
<td>&gt;10 and ≤15</td>
</tr>
<tr>
<td>C</td>
<td>&gt;15 and ≤25</td>
</tr>
<tr>
<td>D</td>
<td>&gt;25 and ≤35</td>
</tr>
<tr>
<td>E</td>
<td>&gt;35 and ≤50</td>
</tr>
<tr>
<td>F</td>
<td>&gt;50</td>
</tr>
</tbody>
</table>

Where indicated in Table 7 in italics, improved levels of service are achieved with recommended roadway and/or traffic safety improvements provided. These improvements, which are in addition to measures already proposed as part of the UCONN 2000 program, are listed below:

- Extend Hillside Road north to Route 44 and provide signals.
- Restripe the northbound approach on Hillside Road to North Eagleville Road to provide a left turn lane and through/right lane.³⁰
- Provide traffic calming measures on Baxter Road and Cedar Swamp Road.
- Provide separate left- and right-turn lanes on the Separatist Road approach to South Eagleville Road. Maintain two way stop control.
- Provide separate right turn lane on Hillside Road at Stadium Road. Maintain three way stop control.
- Upgrade and optimize signal timing and phasing at all signalized intersections.

At the Route 195/Mansfield Road intersection, congestion (at LOS E) will mainly affect the Mansfield Road westbound approach from the campus and not affect through traffic on Route 195. Mansfield Road is a University street from which departing traffic is metered onto Route 195. Therefore, no mitigation is proposed at this intersection. The remaining intersections are projected to operate at Level of Service D or better, which is considered acceptable.

³⁰ The University indicates that this improvement has been completed.
Implementation of these recommended improvements will require coordination between the University, the Town of Mansfield, and ConnDOT. A certificate from the State Traffic Commission (STC) will be required for any phase of building construction or construction of parking area at the University. Local permits will be needed for alternations to local streets.

<table>
<thead>
<tr>
<th>TABLE 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of Service Summary</td>
</tr>
<tr>
<td>Location</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Signalized Intersections</td>
</tr>
<tr>
<td>Storrs Rd. (Rte. 195)/S. Eagleville Rd.</td>
</tr>
<tr>
<td>Storrs Rd. (Rte. 195)/Bolton Rd./Dog Lane</td>
</tr>
<tr>
<td>Storrs Rd. (Rte. 195)/Mansfield Rd.</td>
</tr>
<tr>
<td>N. Eagleville (Rte. 430)/Hillside Rd.</td>
</tr>
<tr>
<td>Storrs Rd. (Rte. 195)/N.Eagleville Rd.</td>
</tr>
<tr>
<td>Storrs Rd. (Rte. 195)/Rte. 44</td>
</tr>
<tr>
<td>Storrs Rd. (Rte. 195)/Gurleyville Rd.</td>
</tr>
<tr>
<td>Rte 44/Hillside Road Extension</td>
</tr>
<tr>
<td>Unsignalized Intersection, 2-Way Stop</td>
</tr>
<tr>
<td>S. Eagleville Rd. (Rte. 275)/Separatist Rd.</td>
</tr>
<tr>
<td>Unsignalized Intersections, All-Way Stop</td>
</tr>
<tr>
<td>Hillside Road/Station Road</td>
</tr>
<tr>
<td>N. Eagleville Rd./Hunting Lodge Rd.</td>
</tr>
</tbody>
</table>

1. For signalized and all-way Stop intersections, LOS is shown in seconds for overall intersection. For unsignalized two-way Stop intersections, LOS is presented for worst intersection movement.

2. 2004 LOS assumes that UCONN 2000 mitigative measures are constructed.

3. LOS designation in italics (shown as a denominator) represents LOS with recommended mitigative improvements. The LOS shown as a numerator is without mitigation.

### 3.2.6 Public Utilities and Services

#### 3.2.6a. Existing Environment

**Water**

UCONN supplies water to the North Campus area as well as the Storrs campus, Depot Campus, and a portion of the surrounding township. Refer to Figure 13 for locations of water distribution facilities in the North Campus.
The ROD included a memorandum from the Water Supplies Section of the former Department of Public Health and Administrative Services (now the State Department of Public Health (DPH)) which found that available water supply in 1994 had an adequate margin of safety for accommodating the first proposed Technology Park building (ATI Building). The agency stated that to provide adequate water for the remainder of the technology park, improvements would be needed including the installation of a new well and upgrading the efficiency of the system.

OPM, with its January 1995 memorandum, found the 1994 EIE and ROD adequate with respect to the first Technology Park Building (ATI Building). Their determination was “provided with the understanding that adequate water supplies will be made available for future development, and with the restriction that any supplemental water supply plan for the park which necessitates interconnection with another water system will require a separate Environmental Impact Evaluation (EIE)”.

In October 1999, the University updated the 1994 Water Supply Plan. The Plan states that since 1994 the University had undergone significant changes affecting their water supply system, including an increase in student and faculty population, construction of new residential and institutional buildings, facility upgrades, and an additional water supply well. The Plan specifically found sufficient available water with a margin of safety within the required limits to meet current and future demands.

The University’s Water Supply Plan evaluates the ability of the system to meet existing and projected demands within a Margin of Safety (MOS). The crucial computations are summarized as follows:

**Water Supply**

Water supply is viewed in terms of “available water,” which is the calculated maximum amount of dependable water supply within the safe yield of system sources and with systemic limitations. Available water is quantified, in units of gallons per day, under three different conditions:

1. 18-hour pumping duration
2. 24-hour pumping with the largest well off line
3. 24-hour pumping

---

31 Reference 7
System Demand

System demand is examined under three different conditions (in gallons per day):

(A) Average daily demand
(B) Maximum month demand
(C) Peak one-day demand

Comparison of Supply and Demand: Margin of Safety

Four Margins of Safety (MOS) are calculated under different conditions as described below. The bracketed characters reference the designations listed above for the respective supply and demand conditions.

Category I: Available water over an 18-hour day must meet average daily demand [(1) over (A)]

Category II: Available water must meet average daily demand with the largest-capacity well off line, while other sources pump 24-hours per day [(2) over (A)]

Category III: Available water over an 18-hour day must meet maximum monthly average daily demand [(1) over (B)]

Category IV: Available water over a 24-hour day must meet maximum peak demand [(3) over (C)]

A calculation sheet which incorporates the figures provided in the University’s Water Supply Plan for MOS is attached in Appendix E.
Sanitary Sewer

As discussed in the 1994 EIE, the University owns, operates, and maintains a sanitary sewer system and wastewater treatment facility that serves the Storrs campus in addition to several abutting private and municipal properties. Figure 13 indicates the locations of water distribution facilities in the North Campus vicinity.

At the time the original EIE was completed, the University’s wastewater treatment facility (located at the main campus) was handling 1.9 million gallons per day (MGD). Subsequently, the University upgraded its wastewater treatment facility to meet the projected needs of an expanded main campus, a future technology park in the North Campus, and a proposed interconnection with the Depot Campus.

The current wastewater treatment facility has a design flow of 3.0 MGD and peak design flow of 7.0 MGD. Based on interviews with a plant employee, the facility handles an average of 0.5 to 1.0 MGD on light days and an average of 1.5 to 2.0 MGD on heavier days. The treatment facility on an extreme day has experienced flows up to 5.0 to 5.5 MGD due in part to unintended stormwater inflows.

In 2001, the University is preparing to shut down an existing treatment facility located on the Depot Campus. This wastewater treatment facility treats an average of 0.31 MGD with peak flows up to 0.5 MGD. This flow will then be diverted by a force main to the University wastewater treatment facility on the main campus.

Electricity/Natural Gas/Telecommunications

Electrical power, natural gas, and telecommunications lines had been constructed and stub ended at the northern terminus of Hillside Road Extension. Natural gas mains and overhead electric power primary distribution in the project vicinity is located where shown on Figure 14.
LEGEND

- Water Pipeline
- Sanitary Sewer Pipeline
- Parcel Boundary (Per Master Plan)
- Existing Building
- Parcel Designation

SOURCES: 1. UCONN Facilities Management
2. Photogrammetry by Chas H. Sells, Inc.

Figure 13
EIE FOR NORTH CAMPUS MASTER PLAN, MANSFIELD, CONNECTICUT
EXISTING WATER DISTRIBUTION AND SANITARY SEWER
3.2.6 b. Impact Analysis

Electricity/Natural Gas/Telecommunications

The 1994 EIE did not report any significant impacts regarding these utilities and a similar development is proposed for the North Campus in the Master Plan. No significant impacts are foreseen with respect to these utilities. Coordination with Connecticut Natural Gas is required to ensure that the existing pipeline will be able to supply the proposed facilities.

Water

The MOS calculations in Appendix E indicated that MOS Category IV, the one-day peak condition, is the worst case of the four MOS categories. The University believes that it has sufficient water storage capacity which can be accessed to meet the one-day peak. However, based upon the data provided in the Water Supply Plan for future conditions, a 24-hour pumping rate of 2.77 mgd minus a projected peak one-day demand of 2.56 mgd leaves remaining approximately 0.21 mgd of surplus available water.

Assuming Category IV can be addressed, the worst case category becomes Category III. The applicable numbers shown in the Water Supply Plan show a future 18-hour supply of 2.29 million gallons per day (mgd) versus a demand of 2.07 mgd during the month of highest water consumption. The difference of 220,000 gallons per day (gpd) is the rate of water which is available for future demand over and above the numbers projected in the calculations.

Table 8 provides a projection of the water demand for the proposed primary developments in the North Campus. This development scenario would require an average demand of approximately 190,000 gpd, which is below the numbers cited above for surplus water under the more restrictive MOS categories.
<table>
<thead>
<tr>
<th>Parcel</th>
<th>Primary Proposed Land Use</th>
<th>Building Floor Area (gsf)</th>
<th>No. of Beds (each)</th>
<th>Water Demand (gal/sf)</th>
<th>Water Demand (g/head)</th>
<th>Water Demand (gpd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Technology/Research</td>
<td>265,000</td>
<td>---</td>
<td>0.10</td>
<td>---</td>
<td>26,500</td>
</tr>
<tr>
<td>b</td>
<td>Remote Parking</td>
<td>---</td>
<td>---</td>
<td>0.10</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>c</td>
<td>Technology/Research</td>
<td>173,000</td>
<td>---</td>
<td>0.10</td>
<td>---</td>
<td>17,300</td>
</tr>
<tr>
<td>d</td>
<td>Technology/Research</td>
<td>127,000</td>
<td>---</td>
<td>0.10</td>
<td>---</td>
<td>12,700</td>
</tr>
<tr>
<td>e</td>
<td>Technology/Research</td>
<td>190,000</td>
<td>---</td>
<td>0.10</td>
<td>---</td>
<td>19,000</td>
</tr>
<tr>
<td>f</td>
<td>Technology/Research</td>
<td>100,000</td>
<td>---</td>
<td>0.10</td>
<td>---</td>
<td>10,000</td>
</tr>
<tr>
<td>g</td>
<td>Convenience Retail</td>
<td>10,000</td>
<td>---</td>
<td>0.10</td>
<td>---</td>
<td>1,000</td>
</tr>
<tr>
<td>h</td>
<td>Residential</td>
<td>300,000</td>
<td>1,000</td>
<td>---</td>
<td>100</td>
<td>100,000</td>
</tr>
<tr>
<td>j</td>
<td>Special Academic/Retreat</td>
<td>35,000</td>
<td>---</td>
<td>0.10</td>
<td>---</td>
<td>3,500</td>
</tr>
<tr>
<td>l</td>
<td>At-Grade Parking Facility</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>190,000</td>
</tr>
</tbody>
</table>

Note: Projections by Frederic R. Harris, Inc. February 2001

Based on the above information, the University has sufficient available water for the proposed primary North Campus projects. Secondary uses may ultimately be selected in lieu of the primary uses. However under any scenario, the University does not foresee developing beyond the regulatory or practical limits of their water supply system. Therefore, no significant environmental impact is anticipated in relation to water supply for the North Campus.

The University and the Connecticut Water Company have discussed a possible interconnection between their respective water supply systems. This interconnection would provide an added margin of safety to both systems. An interconnection project might in itself require environmental review under CEPA if so determined by the University of Connecticut. At present, however, the actual prospects of implementing this potential project are unknown.
Sanitary Sewer

The projected sanitary sewer demand for proposed residential housing units would be 0.095 mgd, based on the utilization of UCONN's estimates that the sanitary sewer demand is 95 percent of the water demand. Based upon the above, it is anticipated that adequate wastewater treatment capacity exists for accommodating the proposed North Campus student residences.

The ability of the existing treatment facility to handle the proposed North Campus at full build-out, along with UCONN 2000 projects and other recent developments, remains to be determined.

3.2.7 Cultural Resources

3.2.7 a. Existing Environment

Archaeological Resources

The 1994 EIE suggested that "areas identified as having moderate-to-high potential for prehistoric sites and three historic sites (78-21, 22, 23) should eventually be subject to more intensive archaeological testing before these portions of the project are developed." Figure 15 shows the locations of these areas relative to the Master Plan parcels. These identified areas were the result of an archaeological consultant's visual inspection which was limited to the former UCEPI parcel. Therefore, prior to the development or disturbance of North Campus parcels beyond the former UCEPI boundaries (Parcels f, l, and a portion of h), visual assessment of these areas is needed by a professional archaeologist to evaluate the potential for cultural resources.

Historic Resources

Historic structures in the former UCEPI parcel are discussed in the 1994 EIE Section 3.2.7. Subsequent to the 1994 CEPA review, the University of Connecticut decided to remove two historic buildings from the North Campus: the Ash House and its associated barn (see former locations on Figure 15). A local land owner purchased these structures from the University and relocated them to an area known historically as North Parish, a neighborhood of historic homes.

32 1994 EIE, Page 3-121
located approximately ½ mile from the original site. As a result, the two buildings will be restored and remain together, close to their original location in a neighborhood of other historic structures.

Throughout the remainder of the project area, buildings are absent with the exception of several structures within Parcel f (see Table 9). Several minor utilitarian sheds (not listed in the table) are located adjacent to existing communications towers located in the east corner of Parcel h.

The Rosebrooks House and Barn are listed on the State Register of Historic Places. Both of these structures are currently in use.

<table>
<thead>
<tr>
<th>Building Name</th>
<th>Building Number</th>
<th>Location</th>
<th>Year Constructed</th>
<th>Area (gsf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rosebrooks Barn</td>
<td>0051</td>
<td>f 1499 Storrs Rd.</td>
<td>1918</td>
<td>7,204</td>
</tr>
<tr>
<td>Rosebrooks House (Parking Services)</td>
<td>0049</td>
<td>f 1501 Storrs Rd.</td>
<td>1850</td>
<td>4,610</td>
</tr>
<tr>
<td>Mink Barn</td>
<td>0028</td>
<td>f 1503 Storrs Rd.</td>
<td>1920</td>
<td>2,632</td>
</tr>
</tbody>
</table>

Source: University of Connecticut
LEGEND

- Disturbed Area - Greatly Reduced Prehistoric Site Potential.
- Moderate to High Prehistoric Potential.
- Historic Site
- Parcel Boundary (Per Master Plan)
- Existing Building
- Parcel Designation

2. Photogrammetry by Chas. H. Sells, Inc.

Figure 15
DEE FOR NORTH CAMPUS MASTER PLAN, MANSFIELD, CONNECTICUT ARCHAEOLOGY SITES
3.2.7 b. Impact Analysis

Archaeological Resources

Parcels delineated by the Master Plan which conflict with areas recommended for archaeological testing are Parcels a, c, j, e, g (for prehistoric potential) and Parcel b (for historic value). OPM concurred with the 1994 EIE's recommendation for intensive testing of the sensitive areas, approving of the EIE with the condition that, prior to developing a site having archaeological potential, professional investigation is undertaken as recommended by Connecticut Historical Commission. Recently, the Connecticut Historical Commission indicated that "no ground disturbance or construction-related activities should be initiated" until the Historical Commission "has the opportunity to review and comment upon the recommended archaeological survey report."33

The University accepts this recommendation and will coordinate with the Connecticut Historical Commission as appropriate.

In summary, potential impacts to archaeological resources from the North Campus Master Plan cannot be fully identified based upon the investigations performed to date. However, future investigations as described above will assure that any impacts to significant sites are properly mitigated in the form of professional study and documentation.

Historic Resources

Future redevelopment of Parcel f (W Lot) may displace the existing Rosebrooks House and Barn. No other structures are known to exist which would have potential to be state or federally listed. Should the final site plan for Parcel f require displacement of these historic structures, mitigation for this impact will be performed to the satisfaction of the Connecticut Historical Commission.

33 Dawn Maddox, Connecticut Historical Commission, response to the Notice of Scoping dated January 17, 2001
3.3 Socioeconomic

3.3.1 Land Use

3.3.1 a. Existing Environment

The current land uses adjacent to the North Campus project area are similar to those described in the 1994 EIE. Commercial land uses, primarily restaurants and service establishments are found at the intersection of Routes 195 and 44 (The Four Corners) and along Route 44 to the north of the project area. There have been some changes in this commercial area since 1994. The Exxon service station no longer exists and there is new commercial construction on the northwestern and southwestern corners of the intersection. The area along Route 44 to the west continues to have a similar mix of retail, commercial and residential land uses as it did in 1994. The proposed Hillside Road Extension as shown in the Master Plan would follow a similar alignment as presented in the 1994 EIE and would access Route 44 between the Fleet Bank and the Savings Bank of Manchester (formerly Center Bank). The banks occupy a parcel that abuts the northern edge of the North Campus property. Abutting both the North Campus and the bank property is the Rolling Hills Mobile Home Park.

Land uses along Route 195 to the east of the North Campus are primarily residential or UCONN uses, except for the Mansfield Supply (Ace Hardware) on Route 195 near Moulton Road. This area is the same was described in the 1994 EIE. North Eagleville Road and the University of Connecticut Campus is located to the south of the project area. New construction on the campus since the 1994 EIE includes a Chemistry Building and Technology Quadrant. In addition, a new Central Warehouse facility and North Parking Garage were constructed near the intersection of Hillside Road Extension and Eagleville Road. Land uses to the west of the North Campus area are primarily residential and include the Celeron Square and Holinko Apartments along Hunting Lodge Road.

Just to the west of Hillside Road Extension is a commercial district that is approximately 15 acres in size. It includes College Square Shopping Center and a number of smaller commercial businesses along both North Eagleville Road and the parallel King Hill Road.
3.1.1 b. Impact Analysis

The land uses proposed by the Outlying Parcels Master Plan include University-related research, residential student housing, parking, athletic field, a faculty retreat center, nature center, or environmental research station, and a small convenience retail center. From an overall perspective, the proposed land uses are consistent with, and an extension of, the existing uses on the University of Connecticut Campus. The proposed student residences on Parcel h are adjacent to the existing Northwest Quad residences. Development of the parcels will be focused along Hillside Road Extension, with wooded buffers provided for residential areas to the west and north of the project site, to minimize impact to the abutting residential properties.

Design guidelines presented in Master Plan will help to ensure that future buildings within the project area will be of a scale and design to be compatible with neighboring uses. Landscape buffers and other measures shall be incorporated to minimize impacts on nearby residential properties. Land use impacts will be phased in over a number of years, as it is expected that the full build out of the North Campus area will occur over an extended time frame.

3.3.2 Neighborhood

3.3.2 a. Existing Environment

Located in northeastern Connecticut in Tolland County, Mansfield contains 44.47 square miles and lies approximately 26 miles from Hartford. It shares boundaries with Ashford and Willington to the north, Chaplin to the east, Windham to the south, and Coventry to the west.

In 1998, Mansfield’s population was estimated at 17,456 which represents a seventeen percent decrease in population since 1990. This phenomenon has occurred in other Connecticut towns, as a result of continued out-migration and slow population growth. As a whole, Connecticut has experienced a 3.6 percent population increase since 1990, which is among the lowest population growth in the country, ranking 47th. Concerns of population decrease have

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34 Report to the Governor and General Assembly. 2000 Connecticut Economic Board Conference

35 Currently, there are state level population totals for the 2000 census. More detailed information from the 2000 decennial census will become available with the release of Public Law 94-171 in March 2001 and continuing in a flow basis throughout 2003. These initial data are redistricting data summary files at the block level with

(continued...)

3-55
created statewide initiatives and discussions to maintain Connecticut’s economic competitiveness.

This section contains information from the Connecticut Town Profiles, the 1990 Census of Population and Housing, Connecticut Labor Force Data for Labor Market Areas & Towns and primary research, consisting of telephone interviews. It examines Mansfield’s past, present, and future population, housing, and employment conditions and compares it to Tolland County and Connecticut.

Population

In 1998, Mansfield had an estimated population of 17,456 persons. By 2003, population is expected to decrease to 16,993 persons, a 3.23 percent drop. This represents a change from the discussion in the 1994 EIE, which had assumed that the population in the Town of Mansfield would increase to 22,280 by the year 2000. Tolland County is anticipated to have a slight population increase (2.2 percent), while the population of the state as whole is expected to remain static with only a 0.03 percent increase. Mansfield’s population density is 392.5 persons per square mile, which is higher than the county population density of 320 persons per square mile, but lower than the state population density of 653 persons per square mile. Population density is anticipated to decrease slightly for Mansfield, but increase for Tolland County and Connecticut as a whole, which is directly related to the area’s population trends (see Table 10). Mansfield’s population is also significantly younger than that of the county and the rest of the state, which can be attributed to its student population.

(...continued)

population totals, age of population 18 and older, and race/ethnicity[1] that are released to the legislature and governors of each state. In mid summer 2001, household relationship, detail age and housing tenure data will be available. Detailed socioeconomic data will be released throughout 2002.

37 Connecticut Economic and Community Development Department
38 Department of Commerce, Bureau of the Census
39 Connecticut Department of Labor
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mansfield</td>
<td>20,634</td>
<td>2%</td>
<td>21,103</td>
<td>-17%</td>
<td>17,456</td>
<td>-3.2%</td>
<td>16,893</td>
<td>22.5</td>
</tr>
<tr>
<td>Tolland County</td>
<td>114,823</td>
<td>12%</td>
<td>128,699</td>
<td>2%</td>
<td>131,380</td>
<td>16.6%</td>
<td>134,273</td>
<td>34.9</td>
</tr>
<tr>
<td>Connecticut</td>
<td>3,170,580</td>
<td>4%</td>
<td>3,287,116</td>
<td>4%</td>
<td>3,271,239</td>
<td>5.2%</td>
<td>3,272,149</td>
<td>37.2</td>
</tr>
</tbody>
</table>

Source: Connecticut Department of Economic and Community Development

**Employment**

In 1997, Mansfield’s largest employment industries were Services and Trade industries, employing 60 percent and 23 percent, respectively. In the same year Mansfield had 547 firms of which 47 percent were in the Service industry and 23 percent in Trade. The top revenue generators for the town were Twain Operations, Connecticut Light & Power Company, Robert S. & Lester E. Foster, State of Connecticut Contech Dev., and New Samaritan Corporation. Its top major employers were the University of Connecticut, Town of Mansfield, Regional School District #19, Natchaug Hospital and Caldor.

**Income**

Mansfield’s per capita income in 1998 was $17,975, which is approximately 23 percent lower than Connecticut’s per capita income. Mansfield has a higher poverty rate (11.05 percent), than Tolland County and Connecticut. On the other hand, the unemployment rate in Mansfield was lower than Tolland County and Connecticut. The concentration of the Mansfield labor force in the Services and Trade sectors may help explain the lower income and higher poverty level, given that service and trade jobs generally pay less than other industries (see Table 11). Moreover, the significant population age difference may also indicate that many workers are employed in entry-level or part-time positions, as might be expected in a community with a large student population.

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40 State Department of Economic and Community Development, "Town Profiles 1998-99" (www.state.ct.us/ecd/research/townprof98)
TABLE 11
Mansfield Business Profile (1997)

<table>
<thead>
<tr>
<th>Sector</th>
<th>Firms</th>
<th>Pct.</th>
<th>Employment</th>
<th>Pct.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>18</td>
<td>3%</td>
<td>92</td>
<td>2%</td>
</tr>
<tr>
<td>Const. And Mining</td>
<td>74</td>
<td>14%</td>
<td>227</td>
<td>4%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>6</td>
<td>1%</td>
<td>31</td>
<td>1%</td>
</tr>
<tr>
<td>Trans.&amp; Utilities</td>
<td>11</td>
<td>2%</td>
<td>60</td>
<td>1%</td>
</tr>
<tr>
<td>Trade</td>
<td>127</td>
<td>23%</td>
<td>1378</td>
<td>23%</td>
</tr>
<tr>
<td>FIRE</td>
<td>48</td>
<td>9%</td>
<td>188</td>
<td>3%</td>
</tr>
<tr>
<td>Services</td>
<td>256</td>
<td>47%</td>
<td>3639</td>
<td>60%</td>
</tr>
<tr>
<td>Government</td>
<td>7</td>
<td>1%</td>
<td>465</td>
<td>8%</td>
</tr>
<tr>
<td>Total</td>
<td>547</td>
<td>100%</td>
<td>6080</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Connecticut Department of Economic and Community Development

Housing

In 1997, nearly 60 percent of Mansfield’s housing was single-family units, which is approximately 13 percent lower than Tolland County and 3 percent lower than Connecticut (see Table 12). On the other hand, Mansfield’s housing tends to be less expensive than the state as a whole (see Table 13).

TABLE 12
Housing Stock Comparisons

<table>
<thead>
<tr>
<th></th>
<th>Mansfield</th>
<th>Tolland County</th>
<th>Connecticut</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing Units (1997)</td>
<td>5,378</td>
<td>49,824</td>
<td>1,374,566</td>
</tr>
<tr>
<td>Pct Single Units</td>
<td>59.8%</td>
<td>72.8%</td>
<td>62.9%</td>
</tr>
</tbody>
</table>

SOURCE: Connecticut Department of Economic and Community Development

TABLE 13
Housing Sales Comparisons (1996-98)

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Median</th>
<th>Average</th>
<th>Median</th>
<th>Average</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mansfield</td>
<td>$117,375</td>
<td>$122,306</td>
<td>$118,090</td>
<td>$117,400</td>
<td>$122,634</td>
<td>$121,700</td>
</tr>
<tr>
<td>State</td>
<td>$194,593</td>
<td>$138,000</td>
<td>$204,229</td>
<td>$140,000</td>
<td>$215,173</td>
<td>$145,000</td>
</tr>
<tr>
<td>Pct. Of State</td>
<td>60.3%</td>
<td>88.6%</td>
<td>57.8%</td>
<td>83.9%</td>
<td>57.0%</td>
<td>83.9%</td>
</tr>
</tbody>
</table>

Source: CEPC - Connecticut Economic Policy Council
Education

The University of Connecticut (UCONN) has 17 schools and colleges with 8 undergraduate degrees in 98 major, 12 graduate degrees in 80 fields of study and 4 professional degree programs. In 1999, total student enrollment was 22,736, consisting of 15,741 undergraduate students and 6,995 graduate and professional degree students. UCONN employs 8,140 faculty and staff (including the Health Center employees) of which 94 percent are full-time. It is the largest and most comprehensive university in the State, as well as one of state’s largest employers. In addition, UCONN’s renowned research facilities, public services, and educational programs contribute to the regional economy with cutting edge innovations, highly educated individuals, and state-of-the-arts facilities and equipment. Among public institutions, UCONN ranks 32nd nationally for research and development spending41.

Mansfield’s public education system is comprised of three elementary schools and one middle school, for student from kindergarten to 8th grade. These students could choose from five regional high schools for grades 9th to 12th42. In the following, Mansfield’s school are listed43:

<table>
<thead>
<tr>
<th>School</th>
<th>Location</th>
<th>Grade</th>
<th>Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dorothy C. Goodwin Elementary</td>
<td>321 Hunting Lodge Rd., Storrs</td>
<td>K-4</td>
<td>267</td>
</tr>
<tr>
<td>Southeast Elementary</td>
<td>134 Warreville Rd., Mansfield</td>
<td>K-4</td>
<td>120</td>
</tr>
<tr>
<td>Annie E. Vinton Elementary</td>
<td>306 Stafford Rd., Mansfield</td>
<td>K-4</td>
<td>240</td>
</tr>
<tr>
<td>Mansfield Middle</td>
<td>205 Spring Hill Rd., Storrs</td>
<td>5-8</td>
<td>460</td>
</tr>
<tr>
<td>E.O. Smith High</td>
<td>1235 Storrs Rd., Storrs</td>
<td>9-12</td>
<td>700</td>
</tr>
</tbody>
</table>

3.3.2 b. Impact Analysis

The construction of the University of Connecticut North Campus project is expected to boost the local and regional economy through new employment opportunities for the residents of the Mansfield area. The project would also provide important educational and research functions. It is expected to improve the quality and amount of research that is performed at the university by attracting more research grants, as well as attracting and retaining high quality faculty and graduate students, as well as top professional in the same industry.

The North Campus Master Plan proposes the development of approximately 1.2 million square feet of gross building area, based on the primary land uses (see Table 1, Page 1-9). Technology and Research uses comprise 855,000 square feet of building floor area, Convenience Retail

41 National Science Foundation report conducted in 1997.
42 E.O. Smith High School primary serves Mansfield, Ashford and Willington. It also provides adult education programs for ESL, GED, and diploma programs.
43 School enrollment was recorded by calling the schools, 2/02/2001. The three elementary schools include preschool students.
10,000 square feet, Residential 300,000 square feet, and Special Academic/Retro Retreat 35,000 square feet. Technology and Research land uses are expected to bring the most employment of the proposed uses with potential for approximately 2,850 jobs. The majority of these new jobs are anticipated to be in high wage occupations.

As discussed previously, Mansfield’s major employers and revenue generators were in the Services and Trade industries. Traditionally, these industries are comparatively low paying employment sectors. In contrast, the project is expected provide long-term socioeconomic benefits by providing state-of-the-art facilities, close proximity to a highly educated work force, and close ties with one of the country’s top research and development universities.

The North Campus project will assist in elevating the University of Connecticut’s role as a national technology, research, and economic hub, bringing Mansfield and its surrounding communities new businesses that will create a stronger tax base, better paying jobs, and improve the quality of life for those who live and work in the area. The North Campus project's ancillary benefits may bring new retail and service to the community and increase the value of housing in the Mansfield area.

The Town will benefit directly from either direct tax payment or state grants in lieu of taxes. Facilities owned and operated by the University of Connecticut are exempt from local taxation. However, the Town is eligible for grants in lieu of taxes for such facilities. The state grant under this program is equal to a percentage of the amount of taxes that would be paid if the property were not exempt from taxation. For UCONN facilities in the Town of Mansfield, that amount is equal to 45 percent of the tax value.

An order-of-magnitude construction cost for the full 1.2 million square-foot build-out of the North Campus is $208 million in 2001 dollars (excluding the proposed North Hillside Extension). If all proposed facilities were University-operated and therefore tax exempt, given the current mill rate of $26.13 per $1000 assessed value, the maximum potential PILOT payment to the Town for the proposed projects would be $1.7 million annually.

Some North Campus developments may be privately operated and therefore taxable. The student residences proposed for Parcel h are expected to be privately operated. Given an

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44 The employment figure is a gross estimation based on the Technology/Research land use (a total of 855,000 gross square feet of building space at one employee per 300 square feet). Employment associated with other land uses is ignored for this estimate.

45 Estimate by Frederic R. Harris, Inc. based upon Means Building Construction Cost Data, R.S. Means Co., Inc.

46 Annual benefits to the Town are calculated assuming the assessed value of improvements would equal the construction costs.
estimated construction cost of around $34 million for Parcel h, and assuming this is equal to the assessed value of the improvements, the Town would receive approximately $620,000 annually. Therefore, the annual Town benefit for a fully-built North Campus ($208 million construction cost) would range from $1.7 million to $3.8 million, depending on the applicability of direct local taxation.

Overall, the University of Connecticut North Campus project is expected to provide a positive economic benefit to the Town of Mansfield by potentially providing high paying jobs and encouraging research and development in collaboration with the University of Connecticut.

Land uses proposed in the Master Plan are clearly compatible with those existing at the main University Campus. Student residences are appropriately located close to other residence buildings along North Eagleville Road.

3.3.3 Aesthetics

3.3.3 a. Existing Environment

Since most of the project area is undeveloped, it offers a great deal of natural beauty. Scenic vistas are offered from the summit of the hill overlooking the cornfields on the eastern portion of the project area. The forested areas also have natural charm, having meandering streams and a variety of vegetation and wildlife. The historic Rosebrooks Barn located at Parcel f(at W Lot) adds to the rural feel of the area.

The existing roadway on the site, the southern segment of Hillside Road Extension, cuts deeply into the hillside, leaving a bare rock-stabilized slope and has little aesthetic quality. Although the roadway is in excellent condition, providing safe alignment, it has no rural flavor, lacking any roadside plantings or landscape architecture.

3.3.3 b. Impact Analysis

The Master Plan appropriately discusses aesthetic concerns. For example, it recommends preservation of wooded area, especially areas selected for visual impact. Guidelines established by the Master Plan will help to assure that a coherent design concept is adhered to for the development of the various parcels within the project area. Development considerations included in the Master Plan that will minimize aesthetic impacts of the project include buffering residential areas and Route 195 with a wooded edge, maintaining views to upland wooded slopes, preservation areas and farmlands, minimizing impacts to prime farmland, and restricting development in areas with very steep slopes. The plan also proposes to implement pedestrian and bicycle corridors along the south side of parcels l and g to natural/preservation areas, the Celeron Square apartments and to the campus.
Development of the North Campus will inevitably have an impact upon the aesthetic character of the site. However, the University will consider means to minimize visual impacts to surrounding residences when developing site designs for the respective parcels. Vegetated buffers will be retained or provided between proposed developed area and adjacent property lines (30 foot width minimum).

When completing Hillside Road Extension, the University will provide roadside plantings as appropriate along roadside cut slopes. This project should address the condition expressed above with regard to the exposed slope existing at the southern end of the roadway.

3.3.4 Area, Municipal, State and Federal Concerns

3.3.4 a. Existing Environment

Relevant policies of the governing agencies that may pertain to the proposed project have been identified and are referenced in this section.

Town of Mansfield Plan of Development

The Plan of Development is currently undergoing revision, but the Plan that was discussed in the 1994 EIE is still in effect.47 The Plan as previously discussed recommended a pattern of development in consonance with stated policies and goals. It classifies the Storrs campus area of The University of Connecticut, including the property, as an "Institutional Mixed Use" category.

Connecticut Conservation and Development Policies Plan

The State revised its Conservation and Development Policies Plan (C&D Plan), along with its attached Locational Guide map, subsequent to the release of the 1994 EIE. The following pertains to the current C&D Plan and supercedes information on this subject contained in Section 3.3.4 of the preceding EIE.

The North campus is comprised of three different land use classifications assigned by the C&D Plan. Specifically, these are Growth Area, Conservation Area, Preservation Area, and Neighborhood Conservation Area. Most of the area falling within the Master Plan parcels is classified as Growth Area.

The State Action Strategy for Growth Areas is to assign a "high priority and affirmative support toward concentration of new urban growth which occurs outside of Regional Centers into

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47 Town of Mansfield Planning Department, January 20, 2001 phone call.
specified areas capable of supporting large-scale mixed uses and densities in close relationship to the Regional Centers." Growth Areas are described as follows:

Growth Areas are lands near Regional Centers or Neighborhood Conservation Areas that provide the opportunity for staged urban expansion generally in conformance with municipal or regional development plans.

These lands reflect moderately developed areas with vacant, developable lands, existing or planned water or sewer services, and the potential for future mixed use and intensive development of areawide significance.

Growth areas have transportation services or the opportunity to promote public transportation services and patterns of development supportive of energy conservation and air quality programs. 48

The C&D Plan states within Growth Areas, that the state should . . . seek to concentrate future intensive development forms in a manner that complements Regional Center and Neighborhood Conservation Area strategies: to wit,

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coordinate state plans and programs for economic development, housing, public buildings, water, sewer, recreational, and transportation services to ensure that state investments are mutually supportive in directing growth, in providing capacity, in staging the intensive development of undeveloped lands, and in promoting high quality development: 49

Conservation Area is assigned to North Campus land falling within a public water supply watershed. This area is located near Route 195 at Parcel B. Other areas to the west, near Hunting Lodge Road, also carry this designation. Regarding this category, the C&D Plan states:

Conservation Areas represent a significant portion of the state and a myriad of land resources. Proper management of Conservation Area lands provides the state with its best opportunity to provide for the state’s future need for food, fiber, water and other resources.

The C&D Plan calls for State actions in Conservation Areas to be designed to:

48 C&D Plan, Page 118
49 C&D Plan Page 120
undertake or support only those uses that are compatible with the resource or hazard of concern, consistent with evaluations of both direct and secondary impacts . . .

demonstrate the lack of alternative sites, overriding social or economic concerns, and the lack of any reasonable alternative public or private uses for any proposal which is clearly and significantly incompatible with conservation; and

include mitigation measures necessary to both protect against degradation and enhance environmental quality. 50

As well, within water supply watersheds designated Conservation Area, State actions should be designed to:

a) encourage retention and use of watershed lands in accordance with the Department of Public Health's regulations;

b) not create an intentional or unintentional point or non-point source of contamination without adequate man-made interception and control safeguards, as approved by the Departments of Public Health and Environmental Protection;

c) not disturb vegetation for more than one growing season, or permanently disturb ground cover vegetation in areas with slopes greater than 5%, except as associated with access to or underlying a habitable structure, or to facilitate management of the area consistent with the above requirements;

d) not allow subsurface sewage disposal systems in areas with soils of twenty inches or less, or in poorly or very poorly drained soils;

e) not create a demand for new state highways;

f) introduce water supply mains, sewer collector systems or advanced design wastewater treatment systems only after a thorough evaluation of all private and public alternatives determines these systems are the only feasible solution to an existing pollution problem, and the facility design and capacity will not induce further intensive structural development with attendant surface runoff threats to water supply quality. Plans for facilities that are
excessively sized or that extend to areas where alternative remedial measures are possible shall not be approved.\textsuperscript{51}

Preservation Areas include floodways; inland wetlands; tidal wetlands; existing water bodies; open space areas; and designated natural areas of regional or statewide significance. The Locational Guide Map reflects the existence of the major wetland areas on the North Campus. However, inland wetlands are considered Preservation Areas irrespective of whether they appear on the C&D Plan’s Locational Guide Map. The map also assigns this category to prominent farmland existing along Route 195 just north of Parcel f (W Lot).

Language in the C&D Plan that may apply to Preservation Areas in the North Campus Area are:

State investments should not cause or promote expansion of development into these areas other than as may be ancillary to the basic open space and/or resource values.

Plans and proposals that are incompatible with an area’s values should demonstrate overriding public benefits and the lack of available alternative sites.

Projects occurring within or adjacent to Preservation Areas should incorporate site planning, architectural, or design restrictions and the use of development restrictions, buffers or fencing appropriate to protect and manage the area and to prevent subsequent pressure for additional development or uncontrolled access.

The classification Neighborhood Conservation Area (a subcategory of "Urban Development Area") is assigned to most or all of Parcel f (W lot) and the southern end of Parcel h. Neighborhood Conservation Areas are assigned the following priority:

Support for maintenance of basically stable developed neighborhoods and communities as well as intensification of development when supportive of community stability and consistent with the capacity of available urban services.

The guidelines for Urban Development Area urge the state to "locate all appropriate state facilities within urban areas" although preference should be given to sites in the most-urbanized category "Regional Centers."

Zoning Regulations for the Town of Mansfield

See Section 3.3.5 for a discussion of local zoning regulations.

\textsuperscript{51} C&D Plan, Pages 132 and 133

This regional planning document and accompanying map reflect the recommended use of the region's land from the regional perspective. An update of this guide plan is now in progress.\textsuperscript{52} The current map, dated February 1979, indicates that the project area is within a "Land Preservation District." The planning director of the regional planning agency in 1994 indicated that the revised map would likely change the project area designation to "High-Density Suburban District" to match the designation of adjacent areas.

3.3.4 b. Impact Analysis

Plan of Development Town of Mansfield

Based the Master Plan, the proposed development is within the Town of Mansfield Guidelines and does not significantly change from the EIE prepared in 1994.

Connecticut Conservation and Development Policies Plan

The State land categories “Growth Area” and “Neighborhood Conservation Area” that are assigned to the North Campus are clearly compatible with the future development that is anticipated.

Preservation Areas are not in conflict with the proposed Master Plan parcels. Those areas which are inland wetlands are regulated by the State, and no disturbance of these areas is proposed by Master Plan developments. The Preservation Area assigned to farmland along Route 195 is abutting Parcel f, but no impact to this area is proposed.

The eastern portion of Parcel b within a public water supply watershed is assigned Conservation Area. The University would develop this area only after other alternative locations on the campus are rejected as unsuitable. Land use in such a development would be compatible with the public water supply watershed (Fenton River Basin) by assuring no significant impacts to water quality. Overriding social and economic concerns would be evident as the new development will support the University’s mission. At such time that the University elects to proceed with development in this area, the University will consult with DEP to determine mitigation measures necessary to protect against degradation and enhance environmental quality in this area.

\textsuperscript{52} Phone Conversation with Windham Council of Governments, January 31, 2001.
3.3.5 Consistency with Municipal Zoning Regulations

3.3.5 a. Existing Setting

Since the 1994 EIE was prepared, the Town of Mansfield has made certain revisions to their zoning map and regulations. Figure 16 (zoning map) shows the current zoning configuration with respect to the Master Plan parcel designations. The applicable zones are Rural Agricultural Residence 90 (RAR-90), Institutional Zone (I) and Research and Development/Limited Industrial (RD/LI). Summary descriptions of the permitted uses for these zones are as follows:

- Rural Agricultural Residence 90 (RAR-90) Zone permits the residential uses of single-family dwellings, one per 90,000 square foot lot, and two-family dwellings, one per 120,000 square foot lot. Other uses permitted without a special permit include community residences for mentally ill persons, agricultural and horticultural uses such as field crops, orchards, greenhouses. Dairy farms and the breeding, raising of cattle, sheep, poultry, pigs are also permitted within this zone.

- Institutional Zone (I) permits buildings and facilities owned and/or operated by the State of Connecticut or Federal government, provided the uses are governmental and not proprietary in nature, and provided the use does not involve the transportation of hazardous or radioactive materials from other sites to a storage or processing or disposal facility in Mansfield. Other uses which do not need a special permit also include churches and other such places of worship.

- Research and Development/Limited Industrial (RD/LI) zoning has been established to provide economic opportunities with in this area. Permitted uses with in this zone include, but are not limited to, genetic or bio-engineering research or development, commercial printing and reproduction services, hotels, conference centers and parking garages.

State facilities are allowed in all zones. Specifically, under the Town of Mansfield zoning regulations, state facilities are permitted under Article VII Section D "Uses Permitted in All Zones," which allows for "Buildings and facilities owned and/or operated by the State of Connecticut or Federal government provided the uses are governmental in nature and provided the use does not involve the transportation of materials from other sites to a processing or disposal facility in Mansfield."

The vast majority of the north campus is zoned RD/LI. Parcels extending beyond the RD/LI zone into the institutional zone consist of a portion of Parcel h (extending southward into the institutional zone), and the entire Parcel f.
In 1994, at the time of the EIE publication, Parcel b was completely within the RD/LI zone. In 1996, the zoning map was revised along the Storrs Road frontage, which includes the northeast portion of this parcel, to indicate RAR-90 (Rural Agricultural Residence 90 Zone). It appears that approximately 15-20 percent of Parcel b now falls within this zone.

3.3.5 b. Impact Analysis

The North Campus is located entirely on University-owned land and therefore new developments, whether operated by UCONN or a private entity, are not subject to the zoning authority of the Town of Mansfield.\(^{53}\) Irrespective of this, the land uses proposed by the Master Plan are either intended for direct University use or would have a direct connection to the University Mission, and are therefore governmental land uses allowed in all municipal zones under the Town Zoning Regulations.

In contrast with the above, technology developments within the formerly-proposed UCEPI Research Park would have been subject to local zoning regulations (as indicated in the 1994 EIE).

3.3.6 Energy

3.3.6 a. Existing Environment

Energy consumption within the undeveloped portions of the project area is presently limited to the fuel consumed by farming equipment in the agricultural areas. Energy is also consumed by the three buildings within the Master Plan parcels: Rosebrooks House, Rosebrooks Barn, and Mink Barn (at Lot W, Parcel f).

3.3.6 b. Impact Analysis

Consistent with 1994 EIE, the Master Plan recommends environmental friendly technologies for energy efficiencies. The Plan specifically encourages the use of “appropriate passive energy conservation considerations.” A number of typical design tools are discussed (site orientation, planted wind buffers or diverters, etc.) The University will consider these recommendations during facility design activities.

LEGEND

FH  - FLOOD HAZARD
R-40  - RESIDENCE
PB-3  - PLANNED BUSINESS-1
RD/LI  - RESEARCH & DEVELOPMENT/ LIMITED INDUSTRIAL
RAR-40  - RURAL AGRICULTURAL RESIDENCE 40
DMR  - DESIGN MULTIPLE RESIDENCE
I  - INSTITUTIONAL ZONE
RAR-90  - RURAL AGRICULTURAL RESIDENCE 90
PO-1  - PROFESSIONAL OFFICE 1 ZONE
PB-4  - PLANNED BUSINESS 4 ZONE

Parcel Boundary (Per Master Plan)
Existing Building
Parcel Designation

2. Photogrammetry by Chas H. Sells, Inc.
# APPENDIX A

## Scoping Documents

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
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<tr>
<td>Notice of Scoping</td>
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<tr>
<td>Dwan Maddox, Connecticut Historical Commission</td>
<td>January 17, 2001</td>
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<td>Paul Sabrosky, RLA, State Department of Transportation</td>
<td>January 22, 2001</td>
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<td>Paul Ritsick, P.E., State Department of Public Health</td>
<td>January 24, 2001</td>
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<td>Audrey H. Barberet, Mansfield Planning and Zoning Commission</td>
<td>January 24, 2001</td>
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<td>David J. Fox, State Department of Environmental Protection</td>
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<tr>
<td>Jana Butts, Windham Region Council of Governments</td>
<td>January 25, 2001</td>
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<td>Marc. S. Ryan, Office of Policy and Management</td>
<td>January 29, 2001</td>
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<tr>
<td>Report of Meeting</td>
<td>January 23, 2001</td>
</tr>
</tbody>
</table>
*Approximate Location Area
CONNECTICUT ENVIRONMENTAL POLICY ACT NOTICE OF SCOPING

PROJECT NAME: North Campus Master Plan, University of Connecticut, Storrs, CT

SPONSORING AGENCY: University of Connecticut

DATE: January 9, 2001

I. NOTICE: The University of Connecticut is considering an action, described below, that is subject to review under the Connecticut Environmental Policy Act (CEPA) (C.G.S. Section 22a-1). The purpose of this notice is to inform state agency reviewers and other interested parties of the action, and to solicit comments regarding the potential for significant environmental impacts that might result from the action. The sponsoring agency may use these comments in assessing alternatives, determining whether to prepare an Environmental Impact Evaluation (EIE) or a Finding of No Significant Impact (FONSI), and identifying issues to be addressed in any such document.

II. AGENCY CONTACT: Larry Schilling, University Architect
Architectural & Engineering Services
University of Connecticut
31 LeDoyt Road, U-Box 3038
Storrs, CT 06269-3038
Phone: (860)486-3116
Fax: (860)486-3255
lschilling@maverick.facil.uconn.edu


The North Campus Master Plan proposes development within the same approximate boundaries as the formerly-proposed UCEPI Technology Park. In 1995 an EIE was completed for the Master Plan for the Technology Park. The North Campus Master Plan is similar to this earlier plan except for the addition of the housing. The plan indicates that the ideal land uses for this area consist of university-related research and technology, student residential housing, remote parking, special academic and residential support services. The proposed student residence buildings early phase would provide 1,000 to 1,200 beds of apartment style housing. The plan also suggests a faculty retreat center, nature center, or environmental research station, and a small convenience retail area. Bikeways and pedestrian paths would link the various parcels. While the plan also proposes multi-purpose athletic fields including baseball, football and soccer fields, these projects are not presently under consideration.

The North Campus Master Plan envisions the completion of North Hillside Roadway in the same alignment as the original roadway proposed in the early 1990's for the UCEPI Technology Park. This roadway would complete the partially-constructed roadway between Route 44 and North Eagleville Road. The road is intended to not only provide access to the North Campus
developments, but also to function as a through roadway, taking vehicular traffic pressures off Route 195.

IV. SITE MAP: An 8 1/2" x 11" location map for the site under consideration is attached.

V. ANTICIPATED PROJECT TIMING: The North Campus Master Plan does not project the timing for the development of the North Campus, however the University intends to initially develop residence buildings which are proposed by the Plan. The residence buildings would open by Fall 2002.

VI. DISTRIBUTION: This notice has been sent to the following reviewers:
Connecticut Council on Environmental Quality
Connecticut Historical Commission
State of Connecticut, Department of Agriculture
State of Connecticut, Department of Environmental Protection
State of Connecticut, Department of Economic and Community Development
State of Connecticut, Office of Policy and Management
State of Connecticut, Department of Health and Addiction Services
State of Connecticut, Department of Transportation
State Traffic Commission
Town of Mansfield
Windham Regional Council of Governments

VII. SCOPING MEETING: Interested parties may request a scoping meeting by writing to the agency contact before 4:00 P.M., Wednesday, January 17, 2001. If so requested, the University of Connecticut will schedule the meeting and provide a notice of the meeting time and location to the parties listed above.

VIII. COMMENT PERIOD: Comments regarding potential significant environmental impacts and issues to be addressed in the EIE or FONSI will be accepted by the agency contact until 4:00 P.M., Thursday, January 25, 2001. Interested parties may provide written comments in addition to, or in place of, any comments offered at a scoping meeting. The comments should include information about site issues that are of particular interest to the reviewer, about any of their agency's plans that might bear on the proposed action, and about any appropriate impact mitigation measures, including recommended alternatives. The review comments will either be summarized in or appended to the subsequent EIE or FONSI.
January 17, 2001

Mr. Larry G. Schilling
University of Connecticut
Architectural and Engineering Services
31 LeDoyt Road
U-38
Storrs, CT 06269-3038

Subject: North Campus Master Plan
University of Connecticut
Storrs, CT

Dear Mr. Schilling:

The State Historic Preservation Office has reviewed the above-named project. This office notes that the project area possesses moderate to high sensitivity for prehistoric and historic archaeological resources. In particular, previous investigations by the Public Archaeology Survey Team Inc. identified numerous archaeological resources within the formerly proposed UCEPI Technology Park. Therefore, we recommend that a professional reconnaissance survey be undertaken to identify and evaluate archaeological resources which may exist within proposed project limits, including equipment storage and associated work areas. All archaeological studies must be undertaken in accordance with our Environmental Review Primer for Connecticut's Archaeological Resources. A list of professional consultants has been enclosed for your information.

No ground disturbance or construction-related activities should be initiated until this office has had an opportunity to review and comment upon the recommended archaeological survey report.

We anticipate working with the University of Connecticut and all interested parties in the expeditious furtherance of the proposed undertaking as well as in the professional management of Connecticut's archaeological heritage.

For further information please contact Dr. David A. Poirier, Staff Archaeologist.

Sincerely,

[Signature]

Dawn Maddox
Deputy State Historic Preservation Officer

cc: Dr. Nicholas Bellantoni/OSA
TO WHOM IT MAY CONCERN

The following archaeologists, as known to us, meet the professional qualification guidelines of the National Park Service:

ACS
Attn: Dr. Gregory Walmer
10 Stonewall Lane
Guilford, CT 06437-2949
Phone: 203-458-0550
Fax: 203-458-0551

American Cultural Specialists
Attn: Dr. Lucianne Lavin
108 New Street
Seymour, CT 06483
Phone: 203-888-8897
Fax: 203-888-8897

Archaeological & Historical Services - Public Archaeology Survey Team Inc. (PAST)
Attn: Ms. Mary Harper
PO Box 209
Storrs, CT 06268
Phone: (860) 429-1723
Fax: (860) 429-1724

Archaeological Services
Attn: Dr. Mitchell Mulholland
The Environmental Institute
Blaisdell House
University of Massachusetts
Amherst, MA 01003
Phone: 413-545-1626
Fax: 413-545-2304

Michael Baker Jr., Inc.
Attn: Mr. Alan D. Tebachink
Cultural Resources Section
501 Parkway View Drive
Pittsburgh, PA 15225
Phone: 412-788-2960
Fax: 412-788-4865

Mark Banks
11 Lincoln Lane
Weston, CT 06888
Phone: 860-458-7482

Louis Berger Group Inc.
Attn: Dr. John A. Hotopp
100 Halsted Street
Orange, NJ 07050
Phone: 973-768-1960, ext. 765
Fax: 973-768-3427

Dr. Barbara Calogero
148 Lawler Road
West Hartford, CT 06117
Phone: 860-233-3417

Carini & Associates
Attn: Dr. Stephen Carini
902 Shennecossett Road
Groton, CT 06340
Phone: 860-446-9170
Fax: 860-446-8400

Mr. Lauren J. Cook
106 Jenny Lind Street
New Bedford, MA 02740
Phone: 508-999-1790
Fax: 508-993-3325

Cultural Resource Specialists of New England
Attn: Mr. Alan E. Strauss
224 Fourth Street
Providence, RI 02906
Phone: 401-451-1714

Dames & Moore - Cultural Resource Services
Attn: Dr. Janet Friedman
7101 Wisconsin Avenue, Suite 700
Bethesda, MD 20814-4870
Phone: 301-652-2215
Fax: 301-656-8059
APPENDIX A
Scoping Documents
List of Archaeologists
Page 3

Ecology and Environment, Inc.
Attn: Mr. Leonid Shmoolker
368 Pleasant View Drive
Lancaster, NY 14086
Phone: 716-684-8060
Fax: 716-684-0844

Eoscience
Attn: Mr. Gregory D. Lattanzo
RR 4, Box 4294
Moscow, PA 18444
Phone: 717-842-7631
Fax: 717-842-9976

R. Christopher Goodwin & Associates Inc.
Attn: Ms. April L. Fehr
241 East Fourth Street, Suite 100
Frederick, MD 21701
Phone: 301-694-0428
Fax: 301-695-5237

Hartgen Archeological Associates, Inc.
Attn: Dr. Carol A. Raemisch
1744 Washington Avenue Ext.
Rensselaer, NY 12144
Phone: 518-283-0534
Fax: 518-283-6276

Historical Perspectives
Attn: Ms. Cecie Saunders
P.O. Box 3037
Westport, CT 06880-9998
Phone: 203-226-7654
Fax: 203-226-8376

Keegans Associates LLC
Attn: Ms. Kristen N. Keegan
148 River Road
Willington, CT 06279
Phone: 860-429-6798
Fax: 860-429-3983

List of Archaeologists
Page 4

Mashantucket Pequot Museum & Research Center
Attn: Dr. Kevin A. McBride
PO Box 3180
Mashantucket, CT 06339-3180
Phone: 860-396-6814
Fax: 860-396-6851

Parsons Engineering Science, Inc.
Attn: Ms. Elizabeth Crowell
10521 Rosehaven Street, Suite 101
Fairfax, VA 22030
Phone: 703-591-7575
Fax: 703-591-3105

Mr. John Pfeiffer
14 Hillside Road
Old Lyme, CT 06371-1109
Phone: 860-434-8829

PAL, Inc.
Attn: Ms. Deborah Cox
210 Lonsdale Avenue
Pawtucket, RI 02860
Phone: 401-728-8780
Fax: 401-728-8764

Raber Associates
Attn: Dr. Michael S. Raber
81 Dayton Road, P.O. Box 46
South Glastonbury, CT 06073
Phone: 860-633-9026
Fax: 860-633-9026

Dr. Stuart A. Reeve
173 Gallows Hill Road
West Redding, CT 06896
Phone: 203-938-0243
Fax: 203-938-0243
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Mr. Myron O. Stachiw
18 Doctor Pike Road
PO Box 193
East Woodstock, CT 06244
Phone: 860-928-9190

TRC Environmental Corporation
Attn: Mr. Nathan Morphew
5 Waterside Crossing
Windsor, CT 06095
Phone: 860-289-8631
Fax: 860-298-6399

Wilbur Smith and Associates Inc.
Attn: Mr. Paul H. Smith
135 College Street
P.O. Box 9412
New Haven, CT 06534
Phone: 203-865-2191
Fax: 203-624-0484

Mr. Ernest Wiegand
152 Silver Spring Road
Wilton, CT 06897
Phone: 203-857-7377

This information updates and supersedes all previous material provided by the State Historic Preservation Office with respect to the identification of archaeological consultants. Further, this list has been arranged alphabetically; no preferential rating or evaluation should be inferred. The State Historic Preservation Office does not recommend, endorse, or assume responsibility for the quality of work for any individual or firm on this list, nor is there any guarantee, implicit or implied, that any work product produced by those on this list will necessarily meet federal and state requirements.

For further information please contact Dr. David A. Poirier, Staff Archaeologist.

Revised 1/01
Facsimile Transmission Cover Sheet
Connecticut Department of Transportation
2800 Berlin Turnpike
Newington, CT 06131-7546

Date: January 22, 2001

To: Larry G. Schilling
   University Architect
   UConn
   Fax No. (860) 486-3255

From: Paul L. Sabrosky, RLA
      Office of Environmental Planning
      Phone No. (860) 594 - 2929
      Fax No. (860) 594 - 3028

Re: North Campus Master Plan Implementation
    Storrs

Message:

Mr. Schilling:

Thank you for the opportunity to comment on this project. The Office of
Environmental Planning has reviewed the materials provided and is submitting the
following comment:

☐ The current plan, as submitted for this site, is expected not to be inimical to the
planning program of this office.

Feel free to contact this office with any questions.

Pages Transmitted: Cover Sheet plus 4

(Storrs 3 - InterAgvDocRevFax)
Mr. Larry Schilling  
University Architect  
University of Connecticut  
31 LeDoyt Rd., U-38  
Storrs, Ct. 06269-3038  

Re: Notice of Scoping –North Campus Master Plan  

Dear Mr. Schilling:  

I have reviewed the subject notice and have the following comments regarding the project. Our areas of primary interest follows:  

1. **Protection of the University’s wells during and after construction:** We reviewed the Location of the proposed site from the perspective of protecting the University’s wells. In looking at the watershed areas (drainage basins) of both the Fenton River and Willimantic River well fields, we have determined that the project site is located outside of these watershed areas. It is also outside of what are considered the areas of direct and indirect recharge of those well fields. Activities on the project site, therefore, should not be a cause of concern from a well protection perspective. Nonetheless, best management practices at the site are encouraged to protect the environment.  

2. **Protection of the Tower’s 5.4 million gallon water storage tank:** Within the boundary of the project site lies the University’s largest water storage facility. It is labeled on the attached map (southeast portion) as a “Reservoir”, but it is in fact a below grade potable water storage tank. Since this tank is vented through exposed above grade pipes, it is imperative that these vents, and perhaps the storage tank area, be made unaccessible to unauthorized people. The concern is vandalism that could contaminate the storage tank.  

3. **Determine if an adequate supply of water is available to serve this project:** The University needs to demonstrate to this department that it has sufficient water supply available to serve this project. This assessment should be made with the largest production well out of service and take into consideration, peak hour demands, peak day demands (including scheduling of filling chillers etc.), and fire protection reserves that may be in place. If there are any other projects in the works, or planned, that would also affect the demands on the water system, these projects should be included in the assessment. The “Water Supply Plan” as submitted by the University is considered a good reference to work from for this evaluation. This office will need to approve the availability of supply before construction begins.
4. **Hydraulics:** Due to the relation of this project relative to the University's water system and hydraulic gradients, I would expect that it will be necessary to design a pump/storage facility to serve the project. Plans and specifications regarding this aspect of the project should be submitted to this office for review and approval.

5. **Distribution of future notices:** Please add this Department to item VI. (Distribution) of your Scoping Document for future notices and mailings. Such notices should be sent to:

   Paul Ritsick, P.E.
   Supervising Sanitary Engineer
   Water Supplies Section, M.S #51 WAT
   Department of Public Health
   410 Capitol Ave.
   Hartford, CT. 06134-0308

If you have any questions or wish to meet to discuss our role concerning this project do not hesitate to contact this office.

Sincerely,

Paul Ritsick, P.E.
Supervising Sanitary Engineer
Water Supplies Section

Encl.

Pr/UconnScopingNe campus

cc. Thomas Callahan, UConn
    Cynthia Denne, DPH
    Gerald Iwan, DPH
Mr. Larry Schilling, University Architect  
Architectural & Engineering Services  
University of Connecticut  
31 LeDoyt Road, U-Box 38  
Storrs, Connecticut 06269-3038

Re: Scoping comments, North Campus Master Plan

Dear Mr. Schilling:

Thank you for providing the Town of Mansfield an opportunity to participate in the Connecticut Environmental Policies Act Notice of Scoping process. At its January 16, 2001 meeting, Mansfield's Planning and Zoning Commission authorized the submittal of the following comments regarding the University of Connecticut's North Campus Master Plan:

1. The environmental review process should provide sufficient opportunities for public comment. Due to the size of the subject area and range of potential impacts, a Public Hearing should be scheduled at an early stage of the public comment period;

2. The North Campus area will be served by UConn's water supply and sewage disposal systems. Specific water demands and waste disposal requirements should be included and analyzed in the environmental review;

3. The environmental review should comprehensively address potential onsite and offsite impacts on surface and ground water quality. The subject site contains numerous inland wetland and watercourse areas and portions of the North Campus area are within the watershed of the Fenton River wellfield and the Willimantic Reservoir. A majority of the site drains in a westerly direction, and potential impacts on the leachate plumes associated with the former UConn landfill/chemical waste disposal area should be addressed;

4. The environmental review should address potential drainage impacts from varying-intensity storms ranging from 1-year to 100-year events. A comprehensive storm water management plan, including the use of retention or detention structures and sediment and erosion controls, must be developed for the entire project area. Details of this comprehensive plan must be incorporated into individual final site plans prior to construction. Long-term maintenance responsibilities for drainage and storm water management must be addressed;

5. The environmental review should comprehensively address onsite and offsite traffic impacts, including vehicular and pedestrian impacts on local, as well as State, roadways. The analysis should include a coordinated transit element. Future construction projects should include sidewalks and bicycle enhancements, bus pull-offs and bus shelters. A pedestrian linkage to Hunting Lodge Road should be considered, to link this project area to nearby student residences and open space/recreational
opportunities. The timing of individual projects with respect to the construction of the North Hillside Road Extension should be addressed;

6. The environmental review should address impacts on existing prime agricultural land. A concerted effort should be made to protect existing agricultural land actively managed by the University of Connecticut, as well as all land that qualifies as prime agricultural land;

7. The subject property contains areas of steep slope, wetlands and watercourses and prime agricultural land. The environmental review should emphasize that individual projects must be designed to address these site influences;

8. Many portions of the site are visible from surrounding roadways, neighboring properties and proposed roadways. The environmental review should emphasize that individual projects must be designed with sensitivity to views and vistas into the site and off the site, as well as within the site;

9. The environmental review should address potential neighborhood impacts, particularly for residential properties along Route 195 and for residents of Jensen’s Mobile Manufactured Home Park. Buffering, lighting and potential noise issues should be evaluated;

10. The environmental review should emphasize a need to respect the sanctity of the Storrs Burial Ground, which abuts portions of the site. Individual projects should be designed to address this site influence, and active uses adjacent to the Cemetery should be set back and buffered;

11. The environmental review should evaluate the commercial elements of the North Campus Master Plan with respect to potential impacts on nearby commercial areas along Routes 44 and 195 (Four Corners area) and along North Eagleville and King Hill Roads. The Town, the University, and private business-owners are working together to promote and enhance these commercial areas;

12. The environmental review should address regulatory/permit requirements of State and Federal agencies and phasing issues associated with infrastructure elements of the North Campus Master Plan.

Thank you for the opportunity to comment. Mansfield officials are available to assist the University and its consultants with the environmental review process. If you have any questions regarding these comments, please contact Mr. Gregory J. Padick, Mansfield Town Planner, at 429-3330.

Very truly yours,

Audrey H. Barberet, Chairman
Mansfield Planning and Zoning Commission

cc: Mansfield Town Council
    T. Callahan, Assoc. Vice-Pres., Univ. of CT
    J. Butts, Planner, WINCOG
    J. Smith, CT Office of Policy & Management
The Department of Environmental Protection has received the Notice of Scoping of intent to prepare a CEPA document for implementation of a master plan for the North Campus area at the Storrs campus, as described in the "Outlying Parcels Master Plan." The following commentary is submitted for your consideration during preparation of the document.

The issues that were identified during the CEPA process for the Research and Technology Park conducted in 1994 would still be applicable to this project. The more important concerns from this Department’s perspective include: preservation of wetlands/watercourses, management of stormwater, development in a public water supply watershed, air impacts of traffic, adequacy of water supply, potential impact to various protected species, and impacts to and from the closed landfill.

It appears the concepts presented in the master plan represent a slightly more intensive development of the site than previously proposed. Although the parcels in this plan do not directly correspond to the building sites previously identified, they do follow roughly the same pattern. The potential development of research and technology facilities would total 1,532,000 gross square feet (gsf) under the master-plan, while the three-phase development previously proposed topped out at 1,200,000 gsf. In addition, Parcel F in the master plan was not previously identified for development.

Approximately ¼ of Parcel B is within the public water supply watershed of the Willimantic Reservoir, a fact that is not listed under the important development considerations in the master plan description for the parcel. The proposed primary land use is technology/research. The Department recommends that the proposed secondary land uses identified for Parcel B, residential, parking, academic or recreation, be considered. At a minimum, a prohibition against high-risk uses should be instituted for this parcel.

With regard to Parcel B, the guidelines of the Conservation & Development Policies Plan for Connecticut (Plan) pertaining to water supply watersheds and consideration of alternative sites outside of the public water supply watershed should be discussed in the CEPA document. The document should also thoroughly describe the nature of any activities to be undertaken at the parcel that may involve chemicals or hazardous substances and the measures to be instituted to
prevent or mitigate potential impacts. These include: handling and storage of hazardous materials, waste storage and disposal, spill containment, pollution prevention techniques and stormwater management.

One of the strategies of the Plan for projects within a public water supply watershed is to: not create an intentional or unintentional point or non-point source of contamination without adequate man-made interception and control safeguards, as approved by the Departments of Public Health and Environmental Protection." The information that will be required to obtain this approval from DEP will be determined after review of the CEPA document and will largely depend on the type of use proposed. At a minimum, this will include the Stormwater Pollution Control Plan required for the General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities.

The wetland delineation performed for the previous CEPA review (source cited is November 1992 wetland survey by ConnDOT) can be used as a starting point for the assessment in the new document. However, this information should be field checked to determine whether conditions have changed in the intervening eight years. Some manmade or natural changes in hydrology and/or vegetation can be expected to have occurred. Subsequent to the CEPA process, the ConnDOT discovered another intermittent watercourse that would be crossed by the proposed access road for the Research and Technology Park while delineating regulated wetlands for the permit application. That agency's Office of Environmental Planning should be contacted regarding the availability of more detailed wetland delineation information.

The master plan should clearly identify areas suitable for development and areas to be preserved within each parcel. Any development should avoid regulated areas to the maximum extent practicable. Unavoidable impacts should be mitigated and buffer areas established to further protect wetlands and watercourses. The degree of impact should be quantified by acreage and a discussion of the functional values that would be lost or impaired should be included in the CEPA document. The plan should include conservation easements or similar provisions to ensure that wetlands as well as an appropriate buffer zone are protected. Protected areas should be depicted in the project plan and prohibitions should be specifically listed.

Unavoidable and unmitigated impacts to wetlands and watercourses must be compensated. Section 22a-41(a)(4) of the Connecticut General Statutes establishes the following order of priority for compensatory mitigation: (1) restoration, (2) enhancement and (3) creation of productive wetland or watercourse resources. Any proposed compensatory mitigation should be guided by this order of priority.

Typically during development of a master plan for development, DEP recommends that a comprehensive stormwater management element be included. A plan for stormwater management for the entire site to mitigate potential impacts, considering both quantity and quality of runoff, should be developed. The stormwater collection and treatment system should be designed for the entire site, rather than handled piecemeal during development of each lot. The stormwater management plan should be described, at least on a conceptual level, in the CEPA document.
Traditional stormwater systems collect stormwater as rapidly as possible and quickly shunt it from upland areas to receiving waterbodies. This has resulted in widespread and significant pollution problems from the materials picked up by the stormwater as it flows over developed land surfaces (non-point source pollution). The latest emphasis in stormwater management is to try to minimize changes between pre- and post-development runoff rates and volumes by utilizing on-site retention and to pretreat discharges to remove total suspended solids, oils, greases, nutrients, pathogens and floatable debris.

In order to fully comply with the Department’s policies regarding protection of water quality, the plan should incorporate our standard recommendations regarding stormwater collection and treatment as a requirement for any proposed new or reconstructed storm drainage facilities to be installed as part of the project. The recommendation follows.

Appropriate controls, designed to remove sediment and oil or grease typically found in runoff from parking and driving areas, should be included in any stormwater collection system to be installed at the site. Non-structural measures to dissipate and treat runoff are encouraged, including infiltration using pervious paving, sheetflow from uncurbed pavement and vegetated swales. If a stormwater collection system is installed, potential controls include gross particle separators; deep sump catch basins with oil-grease traps and/or detention/retention basins. The Department typically recommends that any catch basins installed in conjunction with roadway or parking lot paving should have deep sumps to trap sediments and hoods to trap oil and grease. If more than 1 acre of pavement drains to a common discharge point, a gross particle separator should also be installed. Advanced designs for gross particle separators have been developed, such as Vortechnics, Downstream Defender and Stormceptor, that the Department believes are very effective in retaining medium to coarse grained sediments as well as floatables. The last type of separator is designed to treat runoff from areas up to approximately 1 acre in size, while the former two can be sized to accommodate flow from larger areas. It is recommended that the appropriate variety of this or similar type of unit with a cyclonic design be installed in conjunction with each outfall, depending on the size of the drainage area. Provisions should be made for the periodic maintenance that will be required to insure continued effectiveness of these control measures. For further information regarding the design of stormwater collection systems, contact Chris Stone of the Permitting Enforcement & Remediation Division at (860) 424-3850.

During historical CEPA reviews of other State actions at and near the Storrs campus, water supply was a critical issue to be addressed when proposing new construction to be served by the University’s water system. In recent years, this concern had lessened due, in part, to the withdrawal of the proposed Research and Technology Park project (as well as installation of an additional well in the Willimantic River wellfield). Estimates for water usage for the full-build north campus development should be included in the CEPA document. The ability of the water supply system to serve the facilities, utilizing existing sources, should be evaluated. The document should also include projections of sewage to be generated by the proposed development and confirmation of the ability of the water pollution control facility to treat the additional flows.
The Wildlife Division recommends that field investigations for protected grassland avian species be performed by competent biologist(s) to determine whether these species presently utilize the site. This investigation should be conducted in the beginning of May to identify potential use by migrating birds and early to mid June to investigate potential nesting. For additional information regarding these species and measures that may be required to mitigate potential impacts, please contact Jenny Dickson of the Wildlife Division at (860) 675-8130.

In order to reduce the impact to air quality from mobile source emissions, the Department encourages developers to provide accommodations for alternative modes of transportation, such as mass transit and bicycles. Options to encourage mass transit could include providing "pull-out" lanes for buses to safely load and unload passengers outside of the main travel lane, providing a central location within the proposed development for transit facilities such as bus shelters, and establishing preferential parking locations for vanpools and carpools. Preferential parking should also be extended to alternative fueled vehicles. To accommodate bicyclists, the proposed development can include bike storage facilities, bike paths (that may connect to a larger network) or wide shoulders on roadways for added bicycle safety.

A major initiative of the Department is to utilize pollution prevention as the preferred management approach for protecting public health and the environment. Recent state and federal legislation has formally adopted a pollution prevention philosophy that encourages prevention and reduction of risk at the source. The Waste Planning & Standards Division submits the attached recommendations that should be considered by the University.

The Notice of Scoping is also being reviewed by the Permitting, Enforcement & Remediation Division, particularly with regard to potential impacts to and from the landfill located on the property. Their comments will be provided under separate cover as soon as they are available.

Thank you for the opportunity to review this project. If there are any questions regarding these comments, please contact me.

Enclosure

cc: Jeff Smith, OPM  
    Arthur J. Rocque, Jr., DEP/COMM  
    Art Christian, DEP/IWRD  
    Jenny Dickson, DEP/WD  
    Rob Hust, DEP/WPSD  
    Nan Peckham, DEP/WPSD
January 25, 2001

Sent by facsimile on 1/25/01
Mr. Larry Schilling, University Architect
Architectural & Engineering Services
University of Connecticut
31 LeDoyt Road, U-Box 38
Storrs, CT 06269-3038

Re: CEPA Scoping Comments for UCONN’s North Campus Master Plan

Dear Mr. Schilling:

Thank you for the opportunity to comment on the potential for significant environmental impacts that may result from the implementation of the University of Connecticut’s North Campus Master Plan. While the Regional Planning Commission will not meet in time to comment on the proposed project before the January 25th deadline, staff of the Windham Region Council of Governments (WINCOG) attended the scoping meeting for the implementation of the North Campus Master Plan and offers the following comments:

1. The staff of WINCOG concurs with the comments of the Town of Mansfield Planning and Zoning Commission and professional staff as stated in their letter dated January 24th.

2. Additionally, the Environmental Impact Evaluation (EIE) should consider potential impacts to listed species and/or significant natural communities as they are shown in the vicinity of the North Campus in DEP’s Natural Diversity Database.

The Regional Planning Commission will follow the progress of this project with interest. Please forward a copy of the EIE to our office when complete and inform our staff of updates as warranted.

Please feel free to contact me at (860) 456-2221 with any questions or comments.

Sincerely,

Jana Butts
WINCOG Planner

Cc: Kay Holt – RPC Chairman
    Joyce Okonuk – WINCOG Chairman
    Greg Padick – Mansfield Town Planner
January 29, 2001

Larry Schilling, University Architect
University of Connecticut
31 LeDoyt Road, U-38
Storrs, CT 06269-3038

Re: Scoping Comments
North Campus Master Plan
University of Connecticut-Storrs

Dear Mr. Schilling:

Thank you for the opportunity to review the notice of scoping for the UConn North Campus Master Plan. We applaud your efforts to solicit comments early on so that agency and public concerns can be incorporated into the planning process.

OPM's comments are as follows:

Our finding on the original 1994 Record of Decision indicated that the EIE was adequate for the construction of the Hillside road (connecting North Eagleville road and Rte. 44) and the ATI building. Since the spine roadway alignment is projected to be the same as before, we would envision that little additional analysis would have to be conducted on this alignment. However, if any of the assumptions or site descriptions offered in the 1994 document have changed in any significant way, the new document should state what the differences are and how they could affect the roadway impacts. Although the location of the proposed residential dorms is roughly the same as the ATI site, the use and proposed design is very different. We would therefore expect a higher level of impact analysis for this use.

Reflecting the fact that this CEPA document is, to a large degree, an update of the earlier one, we suggest that UConn incorporate the previous EIE by reference and summarize its findings wherever applicable. This will mean that UConn will need to make the earlier document available for public review along with the new document.

Although the “outlying Parcels Master Plan” does define discrete parcel units, it cannot envision site layouts, design features, planned number of people, etc. We would therefore suggest that the analysis of the North Campus utilize the maximum densities and coverages recommended in the Master Plan for each site. This way, impacts attributable to the eventual build out could only be equal to or less than those already identified. Should a proposed project differ significantly from the development assumptions studied for that parcel, OPM requests that a project plan be submitted to this office for review of its consistency with the goals and objectives of the overall Master Plan.
The CEPA statute and regulations are quite clear on what aspects of the environment need be evaluated for potential impact by the project. However, given the specific nature of the site and issues of known concern to the surrounding community, we would suggest that any CEPA document afford extra emphasis to the following issues:

- Treatment of wetlands and associated buffer zones
- Taxable property as a mitigation measure vs. PILOT
- Utilization of agricultural land for development
- Stormwater management (especially potential interaction with the landfill groundwater plume)
- Other issues relating to reuse of the landfill
- Availability of adequate water and sewer capacity

Please contact Jeffrey Smith of my staff at (860) 418-6395 if you have any questions regarding these comments.

Sincerely,

Marc S. Ryan, Secretary
Office of Policy and Management
Please excuse the late reply to your 1/09/01 letter concerning the Notice of Scoping. Certificate No. 774-A which was issued for the Conn. Tech. Park on 6/20/95, has lapsed. It appears from the current proposal for development that as a minimum a reinstatement of the certificate by the STC would be required. The reinstatement may include revised conditions or if the plan of development has changed substantially from what was approved a new certificate may be required.

If you have any questions or need any assistance you may call me at 860 594 3024.
North Campus Master Plan, University of Connecticut, Mansfield, CT
Connecticut Environmental Policy Act (CEPA)

REPORT OF SCOPING MEETING
January 23, 2001
University of Connecticut, 31 Incinerator Road, Storrs, CT.

List of Attendees

Larry Schilling, UCONN
Tom Callahan, UCONN
Gregory J. Paddick, Town Planner, Town of Mansfield
Jana Butts, Windham Region Council of Governments
Audrey H. Barberet, Planning and Zoning Commission, Town of Mansfield
Rudy Faveretti, Planning and Zoning Commission, Town of Mansfield
Ainslie Gilligan, Planning and Zoning Commission, Town of Mansfield
Martin Berliner, Town Manager, Town of Mansfield
Mark Foster, Frederic R. Harris, Inc.

1. Mr. Schilling provided introductory comments and described the components of the North Campus Master Plan (Master Plan). Mr. Schilling displayed mapping of the proposed parcels as defined under the Plan. The Plan’s proposal for Parcel K of the Master Plan is rejected, and the University proposes no action at that location. Mr. Schilling introduced Mr. Foster of Frederic R. Harris, Inc. (Harris), which is performing the environmental assessment under the Connecticut Environmental Policy Act (CEPA) for the North Campus Master Plan.

2. Mr. Foster discussed the anticipated approach to the CEPA study and the anticipated schedule. An Environmental Impact Evaluation (EIE) will be prepared which incorporates the 1994 EIE by reference. Both EIE’s will be made available during the public review period.

3. Mr. Schilling responded to a number of questions from various participants:
   a. Development at the landfill (Parcel 1) will be consistent with findings of the hydrogeologic study for the site. No building structure is proposed on the landfill.
   b. A stormwater runoff plan will be prepared by a consultant for the entire North Campus
   c. Proposed apartments will be for upper classmen. Parking will be provided on a 1-to-1 basis. The project will be implemented with a land lease to a private developer. UCONN to verify conformance with building codes.
   d. The Master Plan is conceptual - no detailed site plan was prepared.
e. Farmland impacts are limited. The EIE will address this issue.

f. The EIE will examine impacts to state-listed species. A field study of state-listed bird species will be performed in the Spring.

g. The University assigns the highest development priority to Parcels h and g. The timing of other projects is unknown.

h. The Master Plan proposes a pedestrian component, including a path between North Eagleville Road to Route 44.

i. Proposed retail development would be of a limited scale and is not intended to compete with nearby commercial areas.

4. Miscellaneous comments were received by various participants

a. Aesthetic quality is important and should be addressed in the EIE

b. Development should appropriate with respect to the adjacent Cemetery

c. Buffering should be provided between the developments and property lines. The EIE should indicate the desired width and nature of vegetation.

d. Secondary impacts of increased water consumption should be addressed.
3.3.7 Public Health and Safety

3.3.7 a. Existing Environment

The discussion in the 1994 EIE provides an adequate overview of public health and safety issues, while certain specific information may not be exact for the present condition.

3.3.7 b. Impact Analysis

The design of the proposed project facilities (all parcels) will minimize fire risk in accordance with Connecticut Building and Life Safety Code. The new buildings will be constructed of non-combustible materials and protected combustible materials. Throughout all proposed developments, the North Campus will be patrolled by the University Police Department. Fire emergencies will be answered by the University Fire Department. No significant impacts upon the safety of site users or the community are expected to result from any phase of North Campus developments.
4.0 Impact Evaluation Summary

4.1 Unavoidable Adverse Environmental Impacts

Full implementation of the Master Plan will have unavoidable adverse environmental impacts as outlined below. This section supersedes Section 5.1 of the 1994 EIE.

1. The Master Plan will impact a maximum of 29 acres of prime farmland soil, which will be mitigated on a acre-for-acre basis.

2. Development of the North Campus will add impervious surface to presently-undeveloped areas, potentially impacting runoff quantity and quality. Mitigative measures will be provided as discussed in Section 4.3, therefore the actual impact will be minimized.

3. Direct wetland impacts under the Master Plan are estimated at less than one acre. Potential wetland mitigation sites will be identified during the permitting process.

4. Approximately 95 acres of land would be developed for the “primary” development priorities indicated in Table 1 of this document. Development of this type would impact wildlife as described in the 1994 EIE.

5. Development of the North Campus will have an impact upon the aesthetic character of the site.

6. Additional traffic will be generated by the North Campus developments. The capacities of certain intersections will be impacted during peak hours.

7. With the projected traffic increase, impacts to air quality would occur at certain intersections during peak traffic periods.

8. Temporary impacts during construction periods will be experienced in terms of (1) air quality impacts from dust and emissions from construction equipment, (2) noise from construction equipment, (3) potential sedimentation and erosion impacts, (4) construction vehicle traffic.

4.2 Irreversible and Irretrievable Commitments of Resources

Certain impacts outlined above and discussed elsewhere in this document represent irreversible and irretrievable commitments of resources. These impacts consist of items 1 through 5 above.
4.3 Mitigating Measures

This section summarizes the mitigation measures that would be used to reduce the adverse impacts which would result from the development of the North Campus. The following supersedes in full 1994 EIE Section 5.3 (Mitigative Measures).

Wetlands

In consideration of wetland areas that receive stormwater runoff, neither the roadway project nor the North Campus developments will reallocate stormwater among the respective watersheds. The University will attempt to maintain the existing functions and values of the inland wetland areas to the extent that is feasible.

It is anticipated that wetland creation will be required as a condition for approval of an Inland Wetlands permit for proposed impacts for site access to Parcel a. During preparation of wetland permit documentation, potential wetland mitigation sites will be identified.

Farmland

UCONN will mitigate impacts of prime farmland in the North Campus by creating equivalent prime farmland area where none presently exists. In accordance with this approach, a maximum of 29 acres for farmland mitigation would be required for the Master Plan if this impacted is realized. In addition, 47 acres of farmland will be maintained as an agricultural preserve in the North Campus.

Vegetation and Wildlife

Field investigations for protected grassland avian species will be performed by competent biologist(s), in consultation with DEP, to determine whether such species presently utilize the site. The investigation will be conducted in the beginning of May 2002 to identify potential use by migrating birds and early to mid June 2002 to investigate potential nesting. Buildings to be constructed in Parcel h, the western portion of Parcel f, and any other areas in proximity to known or high-potential nesting areas for state-listed grassland avian species, will be a maximum of four stories in height. Consideration will be given to buffers at the rear (west) of Parcel f to enhance habitat characteristics. Additional mitigative measures that may be recommended by the biologist will be considered as appropriate.

Hydrology and Water Quality

The University will prepare a comprehensive stormwater management plan for the entire North Campus to mitigate potential impacts from Master Plan projects in consideration of both runoff quantity and quality. Stormwater detention devices will be designed to limit peak stormwater
discharges from the North Campus developments to pre-development rates. Non-structural measures for dissipating and treating runoff will be considered were practical.

Stormwater collection systems installed in the North Campus will have appropriate controls designed to remove sediment and oil or grease typically found in runoff from parking and driving areas. The following measures will be employed:

- Catch basins installed in conjunction with roadway or parking area paving will have deep sumps to trap sediments and hoods to trap oil and grease.
- Where significant subsurface drainage systems outfall to the natural environment, gross particle separator and/or detention/retention basins will be installed. Consideration will be given to cyclonic gross particle separators designed to retain medium to coarse grained sediments as well as buoyant material.
- Structural measures will be maintained periodically to insure continued effectiveness.

Traffic

Roadway and traffic safety improvements, which are in addition to measures already proposed as part of the UCONN 2000 program, will be provided as listed below. These improvements are subject to approvals by the State Traffic Commission. Improvements to local streets require the approval of the Town of Mansfield.

- Extend Hillside Road north to Route 44 and provide signal.
- Restripe the northbound approach on Hillside Road to North Eagleville Road to provide a left turn lane and through/right lane.
- Provide traffic calming measures on Baxter Road and Cedar Swamp Road.
- Provide separate left- and right-turn lanes on the Separatist Road approach to South Eagleville Road. Maintain two way stop control.
- Provide separate right turn lane on Hillside Road at Stadium Road. Maintain three way stop control.
- Upgrade and optimize signal timing and phasing at all signalized intersections.

Aesthetic

The University will consider means to minimize visual impacts to surrounding residences when developing site designs for the respective parcels. Vegetated buffers will be retained or provided between proposed developed area and adjacent property lines (30 foot width minimum). When completing Hillside Road Extension, the University will provide roadside plantings as appropriate along roadside cut slopes.
Public Water Supply Watershed

In the North Campus, the University would develop in the public water supply watershed only under the following conditions:

1. Other alternative locations on the campus are rejected as unsuitable
2. The proposed land use is compatible with the public water supply watershed by assuring no significant impacts to water quality
3. The proposed development is essential to the University’s mission
4. In consultation with DEP, the University determines mitigation measures necessary to protect against degradation and enhance environmental quality in this area

Construction Period Mitigative Measures

During construction, Best Management Practices will be followed on all development parcels. During construction temporary runoff and sedimentation control measures will be implemented during development until construction and permanent water management system[s] are complete.

Air Quality - During clearing and grading of the construction site, areas of exposed earth will be treated with water or dust retardant chemicals, as required, to minimize dust generated from construction.

Noise - Accepted construction noise specifications and standards will be implemented. These will include the following:

- All construction equipment powered by an internal combustion engine shall be equipped with a properly maintained muffler;
- Air compressors shall meet current EPA Noise Emission Standards for Construction Equipment;
- Air powered equipment shall be fitted with pneumatic exhaust silencers; and
- All medium and heavy trucks used for construction shall meet the current EPA "Transportation Equipment Noise Emission Controls" which include a "Low Speed (under 35 mph) Noise Emission Standard" for vehicles manufactured after January 1, 1979;
- Powered construction equipment shall not be operated before 8 AM or after 8 PM within 150 feet of noise sensitive sites, such as residences near the construction site.
4.4 Costs and Benefits

The original EIE contained a cost-benefit analysis (Section 5.4) which is now outdated in part due to the introduction of alternative land uses such as student housing. It is assumed student housing is a reasonably safe investment as rent can be collected from its tenants. Therefore at least as far as Parcel h residential housing is concerned, the project is probably at least as safe an investment as the Technology Park building proposed in 1994.

The benefits of supporting the University - a major institution of higher education - probably cannot be quantified. The statement made in the 1994 EIE with regard to university-related research and technology development is probably still valid:

The research park is expected to help UCONN improve the quality and amount of research that is performed by attracting increased grant monies. The park will allow professors and graduate students to work closely on projects in the same laboratories, as well as alongside researchers from industry. Companies that desire to participate in joint ventures with the University are expected to be encouraged to relocate in the area. These aspects of the park should help the University attract and retain the highest quality faculty and graduate students.

The economic benefits to the Town are discussed on Page 3-60.
References


APPENDIX B
North Campus Master Plan
North Campus

INTRODUCTION

Located at the corner of Routes 195 and 44 and adjacent to the academic core, this campus area lends itself to supporting the University’s strategic academic and research initiatives. This site is positioned directly north and west of the Main Campus, providing direct connectivity to the heart of the University. Because of this proximity and the site’s natural amenities, North Campus presents the greatest opportunity for both careful site development and components of natural preservation.

Before development initiatives and planning principles are recommended however, it is important to understand the context and specific natural features of this parcel. North Campus consists of 333 rolling forested acres with several man-made and natural development constraints. The site’s natural features consist largely of mature hardwood forest, rolling topography, stream corridors, wetland areas, and prime farmland acreage. Many of the planning recommendations are geared specifically at preserving as many of the woodlands, wetlands, streams, steep slopes, and prime farmlands as possible. In general terms, the wetland and prime farmland areas comprise approximately one-half of North Campus. The remaining acres have been carefully identified and proposed for development opportunities. See the Environmental Framework Plan and Land Use Plan on the following pages.

According to the United States Geologic Survey (USGS), the site has a change in elevation of approximately 220 feet, sloping from a high point on its south edge of 739 feet northwest to a low point of 510 feet. Topographic slopes on the site range from approximately 4% to 20%. It is recommended that slopes above 20% should be preserved, or at least developed in a sensitive manner.

Adjacent to the site are several different, competing land uses that will shape the planning and development opportunities. The Agriculture Campus, a community cemetery, and university housing surround the North Campus on the east. West of North Campus is Consolidated Support Services (wastewater treatment plant, etc.), the former University landfill, and miscellaneous medium-density housing. North of the campus is a small commercial core and mixed residential uses. Located to the south is the Main Campus. Collectively, these adjacent land uses have helped shape a pattern of new development to accommodate the necessary buffering, separation, and/or “connectivity.”

Vehicular site access occurs at two locations supporting a north-south “spine” roadway system. Primary access occurs off Route 44 (north of the site) and secondary access off North Eagleville Road (south of the site). Approximately one-half of North Hillside Road has already physically been constructed. The remaining alignment has been positioned to maximize parcel developability and parcel efficiency. Development of North Hillside Road is essential to provide a circulation system that supports future development and services the University as a new gateway/entrance to campus.

Several alignment options for North Hillside Road were studied in the Environmental Impact Evaluation Report which was prepared for the former Tech Park. This study implies no restriction to the further study or implementation of an alternative alignment for North Hillside Road. All recommended land uses remain valid whichever final alignment is chosen. When Hillside Road is connected to Route 44, its extension to South Eagleville Road becomes important. This
connection would help tie the proposed hotel, and community center to campus, as well as reducing traffic congestion on Route 195. Bike lanes along the entire route would further connect areas of campus and reduce traffic by promoting alternative methods of transportation.

BROAD PLANNING GUIDELINES

The following planning principles are intended to provide development and organizational strategies for the entire North Campus.

- Provide a development density of 30-35% FAR for technology/research.
- Preserve prime farmland (47 acres must be maintained as an agricultural preserve), wetland areas, and as much of the wooded rolling landscape as possible.
- Minimize impacts to prime farm soils.
- Maximize synergistic relationship with the Academic Core, especially for uses within a 15 - 20 minute walk of its center.
- Utilize on-site stormwater detention and sedimentation basins at natural low points and utilize open vegetated swales to convey runoff.
- Implement pedestrian and bicycle corridors toward wooded areas, toward the agriculture campus, residential support area, recreation area, and toward campus.
- Minimize development impacts to trees and topography through sensitive and creative site design.

IDEAL LAND USES:

- University Related Research (strategic adjacencies to Academic Core)
- Student Residential (apartment style with residential support services, commercial/retail)
- Remote Parking
- Recreation
- Special Academic (proximity to Academic Core)
- Residential Support Services

GENERAL DEVELOPMENT GUIDELINES

The following section contains general development guidelines for parcels identified as having potential for development on North Campus. Each parcel has a graphic illustration that is keyed into its location within the overall North Campus Plan. Descriptive text is also included, which further explains the opportunities and limitations of the parcel. This text includes:

Site statistics detail the parcel’s size and development potential.
- The number of total site acres.
- The number of buildable acres. Setbacks are removed from the overall site acres to determine this number.
- The floor area ratio (FAR). Expressed as a ratio of total development (square footage) to total site (square footage). For planning purposes, an FAR of .3 has been utilized for technology/research land use. Generally, .1 to .3 is considered low and .5 and above is considered high. In order to reduce the impact on the natural environment (limiting the amount of grading, destruction of existing trees, and limiting overall site coverage) a .3 FAR is recommended.
The potential maximum gross square feet (gsf) of buildable space that can be accommodated on each parcel. This number is based on the FAR. For example, one acre (or 43,560 sq. ft.) at an FAR of .3 = approximately 13,000 gsf of potential building space.

The number of parking spaces that can be accommodated on each parcel either to support building gsf or remote parking facility. For planning purposes, 145 cars/acre and 1 car per 300 gsf of technology/research has been used.

The overall site coverage. Expressed as a maximum percentage of building footprint and parking footprint to total site area. Similar to the FAR, the site coverage remains in the 40% range. Development of technology/research land uses within this percent range will save trees, preserve site grades, and allow site design to respond to the character of the site.

The **primary land use** is, in our opinion, the optimal development scenario for the particular parcel after taking into consideration all limitations. **Secondary land uses** are those that, in our opinion, are also allowable but are not the best use of the parcel. Land use assessments incorporate planning principles, organizational goals, and site characteristics.

The **site description** explains the boundaries of the development parcel, its current state of development, and the important environmental and cultural factors that influence its development.

**Important development considerations** describe the priority for development, general guidelines for development, and any special considerations that must be accounted for when the parcel is developed.
SITE DESCRIPTION

- Rolling wooded site is defined by peripheral drainage corridors.
- This site occupies a relatively secluded location.
- A wooded knoll is the prominent landscape feature.
- Wetland edges define eastern and southern property boundary.
- Residential land uses define western and northern boundary.

IMPORTANT DEVELOPMENT CONSIDERATIONS

- Buffer adjacent residential land uses with a wooded edge.
- Main access should occur from North Hillside Road at two possible locations.
- Embrace wetland edge as a site design opportunity, not as a constraint.
- Maintain views to upland wooded slopes and preservation areas.
- Investigate potential functional/synergistic relationship with Parcel j.

Note: Refer to page 20 for further broad planning guidelines.
SITE DESCRIPTION

- Upland wooded site is defined by open farmland and proximity to Route 195.
- This site occupies a visible location from Route 195.
- Wetland edges define the northwestern property boundary.
- Residential uses define northern and southern boundaries.
- The site is divided by the Fenton and Willimantic watershed boundary.

IMPORTANT DEVELOPMENT CONSIDERATIONS

- Consideration should be given to maximizing development areas outside of the open (non-wooded) prime farmland areas.
- Minimize impact on prime farmland.
- Provide a wooded buffer along Route 195.
- Vehicular access should occur only from North Hillside Road. Coordinate access to this parcel with Parcel j.
- Maintain / create views to the open farm field.
- Provide for mitigation of prime farmland loss.

Note: Refer to page 20 for further broad planning guidelines.
SITE DESCRIPTION

- Wooded site is defined by strong topographic orientation to the west.
- This site occupies the heart of North Campus surrounded almost entirely by mature hardwood forest.
- Wetland edges define the north and west property boundaries.

IMPORTANT DEVELOPMENT CONSIDERATIONS

- Restrict development in areas with slopes over 20%.
- A portion of the site is separated by the Willimantic well field transmission right-of-way.
- Vehicular access should occur only from the spine road. Coordinate access to this parcel with Parcels d, e, and h.
- Maximize the incorporation of scenic vistas to the west.
- Potential site development coordination between Parcels c, d, and e.

Note: Refer to page 20 for further broad planning guidelines.
SITE DESCRIPTION

〇 Wooded site is defined by moderate topography.
〇 This site occupies the heart of North Campus surrounded almost entirely by mature hardwood forest.
〇 Wetland edges define the northeast property boundary.

IMPORTANT DEVELOPMENT CONSIDERATIONS

〇 Utilize topography to capitalize on long views across the valley.
〇 A fraction of the site is separated by the Willimantic well field transmission right-of-way.
〇 Main access should occur only from North Hillside Road. Coordinate access to this parcel with Parcels c, e, and h.
〇 Potential site development coordination between Parcels c, d, and e.

Note: Refer to page 20 for further broad planning guidelines.
Site Statistics
- 19.9 acres
- 14.7 net buildable acres
- 0.3 FAR with potential 261,000 gsf
- 871 parking spaces @ 1 per 300 gsf on 6.0 acres
- 42.5% site coverage (8.5 acres of total site development)

Proposed Primary Land Uses
- Technology/Research

Proposed Secondary Land Uses
- Remote Parking
- Residential (medium to high density)
- Special Academic
- Recreation

Site Description
- Wooded site is defined by moderate topography.
- This site occupies the heart of North Campus surrounded almost entirely by mature hardwood forest.
- Wetland edges define the west property boundary.
- The former UConn landfill defines the southwestern edge.

Important Development Considerations
- Allow site design to buffer the landfill and capture long views to the valley.
- Restrict development in areas with slopes over 20%.
- Main access should occur only from the spine road. Coordinate access to this parcel with Parcel g.
- Potential site development coordination between Parcels c, d, and e.

Note: Refer to page 20 for further broad planning guidelines.
SITE DESCRIPTION

- Existing remote parking lot for UConn students.
- Site currently identified along and accessed by Route 195.
- Isolated site; detached from land area of North Campus.
- Topography slopes away from Route 195.
- Residential land uses define the south property boundary.
- West and north boundaries defined by farmland, wooded wetland areas, and manmade reservoir 9.

IMPORTANT DEVELOPMENT CONSIDERATIONS

- Strengthen campus entrance experience by reintroduction of wooded open space and/or Connecticut landscape.
- Building heights, materials, and general architectural form should be consistent with the rural nature of the surrounding landscape.
- A building in this location would be a visitor’s first impression of campus. Therefore, a careful design treatment should be considered.
- Allow a buffer from Route 195.
- Main access should occur from Route 195.
- Site design should respond to proximity of Agriculture Campus, viewsheds, and landscape icons (Horsebarn Hill).

Note: Refer to page 20 for further broad planning guidelines.
SITE DESCRIPTION

- Gently sloping wooded site.
- Consolidated support services define the southern property boundary.
- The former UConn landfill defines the western edge.

IMPORTANT DEVELOPMENT CONSIDERATIONS

- Allow site design to buffer the landfill and Consolidated Support Services.
- Design parcel as a destination site for adjacent parcels.
- Small neighborhood retail should be designed as support, convenience retail, and entertainment for the residential communities on North Campus. If Parcel "I" is developed as parking, uses should also be geared toward Parcel "I."
- Main access should occur only from the spine road. Coordinate access to this parcel with Parcels "e" and "I."
- Implement pedestrian and bicycle corridors along the south side of Parcels I and g, toward natural/preservation areas, toward Celeron Square apartments and toward campus.

Note: Refer to page 20 for further broad planning guidelines.
SITE DESCRIPTION
- Wooded site is defined by moderate to severe topography.
- This site occupies the heart of North Campus surrounded almost entirely by mature hardwood forest.
- Wetland edges define the eastern property boundary.
- UConn residential land use define the southern edge.

IMPORTANT DEVELOPMENT CONSIDERATIONS
- Utilize topography to capitalize on long views across the valley and for creative terracing.
- Restrict the development of slopes 20% or greater.
- Main access should occur from two points along the spine road. Coordinate access to this site with Parcel d and the existing residence halls.
- Connect existing with proposed residential units.
- Small footprint, apartment-style housing and its associated parking can be terraced, whereas a larger footprint may be more difficult.
- Within the 15 minute walk radius to the Academic Core, making it ideal for strategic academic relationships.

Note: Refer to page 20 for further broad planning guidelines.
SITE DESCRIPTION

- Wooded site is located at the lowpoint of North Campus in an isolated location.
- This site contains floodplains, wetlands, and utility right-of-ways.
- The site is bounded by residential land uses.

IMPORTANT DEVELOPMENT CONSIDERATIONS

- Implement pedestrian and bicycle corridors to connect this parcel to the greater North Campus, wooded areas, and toward campus.
- Utilize the site as an outdoor teaching laboratory and preserve.

Note: Refer to page 20 for further broad planning guidelines.
SITE DESCRIPTION

- Wooded site is located near the middle of North Campus.
- Contains floodplains and prime farmland.
- Bounded by other wooded mildly sloping sites within the campus.

IMPORTANT DEVELOPMENT CONSIDERATIONS

- Northern half of the site presents greater development potential.
- Southern half should be held in preserve to protect prime farmland.
- Potential uses include faculty retreat center, nature center, or environmental research station.
- Coordinate access with this parcel to Parcel b.
- Possible synergistic relationship with the development of Parcel a.

Note: Refer to page 20 for further broad planning guidelines.
SITE DESCRIPTION
- Partially wooded site is located on the highpoint of North Campus.
- Contains prime farmland, wetland edges, and several man-made obstacles (WHUS towers).
- Approximately one-half of the site is gently sloping open farm fields.
- Bounded by university housing and the community cemetery.

IMPORTANT DEVELOPMENT CONSIDERATIONS
- Multi-purpose athletic complex requires approximately 9 acres (2 baseball, 2 football and 1 soccer field) and 125 parking spaces.
- Develop pedestrian connections to residential units, residential support services, and remote parking lots.
- Emergency and pedestrian access through residential parcel or from Route 195.
- Consider views from Route 195.

Note: Refer to page 20 for further broad planning guidelines.
SITE DESCRIPTION

- Former UConn landfill site.
- This relatively flat site contains successionary growth and limited trees.
- Defined by residential land use to the west and support services to the south.
- Contains a significant utility right-of-way.

IMPORTANT DEVELOPMENT CONSIDERATIONS

- No buildings are permitted on the landfill site.
- Develop parking areas in pods of 250-400 cars with surface stormwater management features.
- Provide landscaped buffers between residential uses and support services.
- Connect pedestrians to residential units, residential support services, and the campus proper.
- Vehicular access to the parcel should be coordinated with Parcels e and g.
- Landfill cap should be designed appropriately for the use.

Note: Refer to page 20 for further broad planning guidelines.
North and Depot Campuses Design Guidelines

INTRODUCTION

The following set of design guidelines establishes principles for site development on individual parcels within the North and Depot campuses. These guidelines are geared toward sensitive site development of larger scale and larger footprint uses such as technology/research that are proposed on both the North and Depot campuses. Because the Agriculture Campus has a different set of recommended uses that are much lower in density and impact than the other campuses, these following guidelines need not apply.

These guidelines covering energy conservation, development density, site orientation, parcel layout, stormwater management, landscape, edges, entrances, circulation, open space, lighting, and signage do not dictate specific requirements, but provide general guidance for future development.

As individual sites are being developed, these general guidelines should be consulted to guide the development consistency with the overall University environment and sensitivity to the natural features of the Connecticut landscape.
ENERGY CONSERVATION

Site planning and architectural design for each parcel should respond to appropriate passive energy conservation considerations. This goal is consistent with the planning of an open space system and conservation zones, an overall stormwater management system, a circulation layout which works with the physiography of the land, and a planting scheme which conforms with the natural site vegetation.

The following passive energy conservation criteria are general guidelines for all site development; however, the manner in which they are executed depends upon individual site characteristics.

1. Utilize southeast sun pockets.
2. Orient fenestrated facades south (12 degrees east of south).
3. Insulate north and west facades.
4. Plant effective wind buffers or diveters.
5. Channel favorable summer breezes into use areas.
6. Locate deciduous trees for summer shade and winter solar gain.
DEVELOPMENT DENSITY

Density is monitored by ground area coverage and floor area ratio restrictions. Ground area coverage (G.A.C) is determined by dividing that area of a lot covered by a building by the gross area of that lot. The intent of establishing a maximum coverage is to ensure that building and parking spaces share ground space with the appropriate amount of open green areas. Floor area ratio (F.A.R) is determined by dividing the gross floor area by all buildings on a parcel. Parking and outside storage areas are not included in the calculation of permitted floor area.

For technology/research, a G.A.C. of 15% and an F.A.R. of 30% are appropriate for developments. These regulations will ensure the desired soft campus-like image throughout the North and Depot campuses and preserve the natural environment.
Wooded valley sites should be developed with consideration for their natural characteristics. The key to site design is the preservation of as much of the major woods as possible. At the least, significant stands should be retained, strategically chosen to make a strong visual impact. Valley edges could be respected and set aside as conservation zones. These natural development restraints also afford the opportunity for unique and innovative building and site designs which utilize the slopes and vegetation as amenities.
PARCEL LAYOUT

Along valley edges, small building clusters are more effective than large building masses. The natural character of the land is more effectively retained and views out over the valleys maximized. South facing slopes provide an excellent opportunity for passive solar gain. Specimen trees retained at building entries, along with the preserved vegetation in the setbacks and valleys, will project an image of the buildings tucked into the existing landscape. In addition, parking areas should be designed around existing major trees and might be divided into smaller units to preserve blocks of vegetation. Parking lots will also fit best on a sloping site if shaped to follow the contour lines. This will have the least impact on natural grades.
STORMWATER MANAGEMENT

A comprehensive stormwater management system is needed on each campus to ensure the treatment of water on site before it is released off site. Retention ponds for runoff and sedimentation control should be accommodated on each site, feeding small valley tributaries, and natural "holding points" that already exist. In this way, stormwater runoff is directed away from the steep slopes and direct entry into the valleys. Instead, it is caught in absorption zones before being discharged into the valley system. Release of runoff at a slower rate will then feed it through the natural filtration system of the valley, and impact to the valleys and wooded slopes is inconsequential. As on all sites, retention ponds should be graded to eliminate the need for safety fencing and erodible slopes planted with vegetation. Best Management Practices should be followed on all development parcels.

PLANTING

Any planting introduced in site development should be consistent in character with that already existing on the site. Native plant materials are encouraged for their relative vigor and ease of establishment. Slopes and slope vegetation should be only minimally disturbed during construction. For additional protection, temporary runoff and sedimentation control measures should be implemented during development until construction and a permanent water management system are complete.
EDGES

North and Depot campuses will have positive visual impacts to those driving by. The edges thus establish the major character reference for the community and campus visitors. If the edges present a singular image, the campuses will appear as a unit.

The treatment within the road right-of-ways and setbacks, therefore, is critical to the image. Connecticut Routes 195 and 44 are the main edges of the campuses, and each should have wooded buffers in addition to their right-of-ways. Those edges of North Campus which abut existing residential areas should also have a wooded buffer.

Preservation of existing trees within setbacks and the use of planting and/or berming as additional screening wherever development might be open to off-site views are design treatments, which, used consistently, establish a unified image along the perimeter of the campuses.

ENTRANCES

The entrances to the North and Depot campuses present an important visual image to the visitor and, therefore, play an important role in setting the general tone of the campuses. The entrances should serve several functions. They should welcome and orient visitors, direct campus users, set the tone for the rest of campus, and serve as gateways to the University. Appropriate planting, lighting, and signage can accomplish these goals.
CIRCULATION

The layout and detailing of the circulation system and the general image presented to those traveling through the campuses is critical to how the development is perceived. The treatment of the building setbacks along the roads also impacts its quality and cohesiveness.

The design of the internal street system should work with the physiography of the site and, in conjunction with setback requirements, emphasize spaciousness within the campuses. Soft edges between the streets and adjacent properties are created through the use of planting and earth contouring and add to the intended character. An adequate proportion of green space should be maintained through setbacks on all internal roads. Provisions for pedestrian and bicycle circulation should be included with the internal street system setbacks on all internal roads.

- INFORMAL MASSING OF EVERGREEN AND DECIDUOUS TREES WILL SCREEN VIEWS OF PARKING AND CREATE A CANVAS-LIKE SETTING.

- GENTLE BERM'S WILL BUFFER VIEWS AND FIT INTO THE NATURAL LANDSCAPE.
OPEN SPACE SYSTEM

The conservation of the primary valleys, wetlands, and wooded slopes forms an open space system throughout the campuses and provides the basic framework for stormwater and sedimentation management. The consistent design treatment of these conservation zones will provide a major common physical component and expression of character for both North and Depot campuses.

LIGHTING AND SIGNAGE

This unified system of lights and signs presents a consistent image to anyone moving by or through the campuses. New campus standards that have been recently adopted should be continued throughout the campuses.
APPENDIX C
UCPEI Site Plan with
Master Plan Parcels
Shown
APPENDIX D
Traffic Impact Study
TRAFFIC IMPACT STUDY

University of Connecticut
North Campus Master Plan
Mansfield, Connecticut

February 19, 2001

Prepared By:

Earth Tech, Inc.
655 Winding Brook Drive, Suite 204
Glastonbury, Connecticut 06033
TRAFFIC IMPACT STUDY
UNIVERSITY OF CONNECTICUT
NORTH CAMPUS MASTER PLAN

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1.0 Introduction

The University of Connecticut (UCONN) plans to implement the various development components that comprise the North Campus Master Plan. The North Campus Master Plan is a multi-year program to provide new Technology/Research facilities, student housing, University buildings, and parking in the North Campus area north of the Main Campus in Mansfield, Connecticut. This Plan consists of just under 1 million square feet of new Technology/Research space, 300,000 square feet of student housing, 35,000 square feet of University buildings, and 3,600 new surface parking spaces for University use.

This report summarizes existing traffic conditions, estimates future generated traffic by the proposed build-out of the North Campus Master Plan, evaluates cumulative future operating conditions within the study area, and develops recommendation measures to improve projected deficient transportation conditions. Figure 1 shows the project site location.

1.1 Project Description

The proposed UCONN North Campus Master Plan Project includes 940,000 square feet of new Technology/Research facilities, 300,000 square feet (1,000 beds) of student housing, 35,000 square feet of University buildings, and two new University surface parking lots providing 3,600 spaces. Table 1 summarizes the list of primary UCONN North Campus Master Plan developments that were assumed for this analysis.

Each new building has its own associated parking supply, not tabulated. The two new surface parking lots would serve a remote parking function for the main campus. Initial information provided to Earth Tech indicated some 4,800 parking spaces. Upon review of project proposals and limitations of the parking sites, it was agreed to reduce the component to 3,600 spaces. The reduction was necessitated due to physical site limitations.


<table>
<thead>
<tr>
<th>UCONN NORTH CAMPUS PROJECT</th>
<th>SIZE</th>
</tr>
</thead>
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<tr>
<td>Parcel A - Technology/Research</td>
<td>265,000 SF</td>
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<tr>
<td>Parcel B - Remote Parking</td>
<td>2,000 spaces</td>
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<tr>
<td>Parcel C - Technology/Research</td>
<td>173,000 SF</td>
</tr>
<tr>
<td>Parcel D - Technology/Research</td>
<td>127,000 SF</td>
</tr>
<tr>
<td>Parcel E - Technology/Research</td>
<td>190,000 SF</td>
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<td>Parcel F - Technology/Research</td>
<td>100,000 SF</td>
</tr>
<tr>
<td>Parcel G - Technology/Research</td>
<td>50,000 SF</td>
</tr>
<tr>
<td>Parcel H - Student Housing</td>
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<tr>
<td>Parcel J - University Building</td>
<td>35,000 SF</td>
</tr>
<tr>
<td>Parcel K - Open Space</td>
<td>NA</td>
</tr>
<tr>
<td>Parcel L - Parking</td>
<td>1,600 spaces</td>
</tr>
</tbody>
</table>

TOTALS
- 940,000 Technology/Research
- 1,000 Student Beds
- 35,000 University Buildings
- 3,600 Spaces

The extension of Hillside Road to Route 44 was assumed for analysis of future Build-out conditions. Other than access road connections to proposed developments no other significant roadway changes (over current 1999 conditions) were assumed for evaluation of the base future conditions.

**Evaluation Scenarios**

In 1999, the University undertook a detailed analysis of potential traffic impacts of the UCONN 2000 program. This process included a detailed Transportation Model of the University which was used to predict traffic flows for the projected UCONN 2000 buildouts. This model has served as the basis for this report and been updated to include the North Campus Master Plan.

This report summarizes analysis results for traffic operating conditions for North Campus Build-out (2010). Existing (1999) and future UCONN 2000 (Build-out year 2004) are provided for comparison. Weekday AM and PM peak hours were evaluated as the periods representing the peak loading of University and non-University traffic volumes on the roadway network within the study area. The North Campus Build-out scenario assumes that the projects listed in Table 1 are constructed and occupied by year 2010, along with the UCONN 2000 projects. The UCONN 2000 Master Plan condition is used to represent the No-Build scenario (without North Campus Build-out). The UCONN transportation model (T-Model) was used to develop future forecast traffic volumes.
2.0 Existing Conditions

2.1 Roadway Network

The University campus is located approximately 23 miles from Hartford, in the eastern part of the State. The campus is located between the cities of Hartford and Providence, Rhode Island. Connection to nearby Interstate 84 is provided through State Routes 195 (Storrs Road) and 320. U.S. Routes 44, north of campus, and 6, south of campus, provide east-west access. Route 195 intersects with US Route 44 northwest of the campus. Access to US Route 6 can be achieved by State Routes 275, 32, 289 (via Spring Hill), and 89 (via Mansfield Center, intersecting Route 6 north of the City of Willimantic). US Routes 44 and 6 are major east-west arterial roadways in eastern Connecticut, providing access to central Connecticut and Rhode Island.

Locally, access into and out of the campus is primarily from Storrs Road (State Route 195), with secondary access through North Eagleville Road (State Route 430), and South Eagleville Road (State Route 275). These roadways roughly parallel the campus northeast, northwest and southeast boundaries. A description of the main roadways in the study area follows.

State Route 195 (Storrs Road) is classified by the Connecticut Department of Transportation (ConnDOT) as a minor rural arterial roadway, with a posted speed limit of 30 miles per hour in the vicinity of the campus. The roadway varies in width from 40 to 44 feet, with one travel lane in each direction and minimal paved shoulders. Sidewalks are present along both sides of the roadway, separated by a generous greenbelt on either side. The roadway traverses the northeastern part of the campus, in a generally straight fashion, with long gently vertical curves along the campus frontage. In the immediate vicinity of the campus, proceeding from north to south, there are signalized intersections at State Route 430 (North Eagleville Road), Gurleyville Road, Mansfield Road (Campus Main Entrance), Dog Lane/Bolton Road and State Route 275 (South Eagleville Road).

Recent automatic traffic recorder (ATR) counts were taken on study roadways during the Fall of 1999 when the University was in session by Earth Tech and the State of Connecticut Department of Transportation. These counts show that the Average Daily Traffic (ADT) on Route 195 north of North Eagleville Road is approximately 21,000 vehicles and south of North Eagleville about 17,000 vehicles. South of South Eagleville Road, the ADT on Route 195 is approximately 13,000 vehicles.

State Route 430 (North Eagleville Road) is a collector roadway serving the north side of the campus, running east-west between State Route 195 (Storrs Road) and Hunting Lodge Road. West of this intersection, the roadway is a secondary local roadway, extending southwesterly to Route 32. Between Route 195 (Storrs Road) and Hunting Lodge Road, the roadway is generally 40 feet wide, with one lane of travel in each direction and paved shoulders. The major intersections along the roadway include Glenbrook Road (unsignalized), just west of State Route 195 (Storrs Road, signalized), Hillside Road (signalized), and Hunting Lodge Road (unsignalized). The posted speed limit is 30 miles per hour. Sidewalks separated by generous greenbelts exist along both sides of the roadway. On-street parking is permitted between Glenbrook Road and the westerly drive to the North Campus Residences, with parking restricted to faculty members only during the weekdays.
Recent 1999 ATR counts indicate that the ADT on North Eagleville Road West of Route 195 is approximately 11,200 vehicles.

**State Route 275 (South Eagleville Road)** is a collector roadway, running northeast-to-southwest and parallel to State Route 430 (North Eagleville Road). Similarly, it provides a connection between Route 32 to the southwest and State Route 195 to the northeast. The roadway is generally 30 feet in width, with minimal paved shoulders. The posted speed limit is 40 miles per hour, except in the winding sections to the southwest where the speed is reduced because of the roadway conditions. Access to the campus from State Route 275 is provided through the intersections with Eastwood and Westwood Roads, via Hillside Circle as well as via Separatist and Stadium Roads.

The 1999 ATR counts show that the ADT on South Eagleville Road west of Route 195 is approximately 6,300 vehicles.

**Hillside Road** is a two lane in-campus roadway, running northwest to southeast from Hillside Circle to State Route 430 (North Eagleville Road). From Hillside Circle, Westwood and Eastwood Roads extend southwesterly to State Route 275 (South Eagleville Road). The roadway width varies, from 30 feet south of Glenbrook Road to 40 feet north to State Route 430 (North Eagleville Road). The posted speed limit is 25 miles per hour as a result of the in-campus location and proximity to heavy student/pedestrian crossings of the roadway. Sidewalks exist along both sides of the roadway, with numerous crosswalks throughout its length. In-campus roadways intersecting as All-Way Stop controlled intersections include Stadium Road, Glenbrook Road, and Gilbert Road.

The 1999 ATR counts indicate that the ADT on Hillside Road ranges between 8,000 and 9,000 vehicles.

**Stadium Road, Alumni Road and Separatist Roads** are two-lane roadways providing access to the westerly side of the campus from North and South Eagleville Roads. Stadium Road intersects with Hillside Road adjacent to the Lot “G” project site. Stadium Road runs generally east/west, intersecting with the north/south Separatist Road roadway to the west. Alumni Road runs generally northeast/southwest, intersecting Hillside Road to the north and Stadium Road to the south. Separatist Road runs from State Route 275 (South Eagleville Road) to State Route 430 (North Eagleville Road), west of Hunting Lodge Road. Stadium Road, Alumni Road, and Separatist Roads are local roadways; with a maximum 30 feet in width throughout their lengths. Posted speed limits are 25 miles per hour on Stadium Road and Alumni Road and 30 miles per hour on Separatist Road.

The 1999 ATR counts show that Stadium Road (east of Separatist Road) has an ADT volume of 1,050 vehicles; Alumni Road (west of Hillside Road) has an ADT volume of 1,300 vehicles; and Separatist Road (north of Stadium Road) has an ADT volume of 1,400 vehicles.
2.2 Study Intersections

A description of the major intersections in the study area follows.

State Route 195 (Storrs Road) at State Route 430 (North Eagleville Road)/Gurleyville Road, is in fact two intersections operating as one (with the same controller), because of the short distance between them. The side street approaches are offset from each other by a short distance, requiring this type of operation. An exclusive left turn is provided on the artery northbound State Route 195 (Storrs Road) approach and an exclusive right turn lane on the opposite southbound approach to the State Route 430 (North Eagleville Road) intersection. The State Route 430 (North Eagleville Road) minor side street approach is two lanes, for left and right turning traffic. There is no through movement to or from Gurleyville Road because of the offset layout of the intersection. For travel to Gurleyville Road from State Route 430 (North Eagleville Road) and vice versa, motorists must turn right and then left, a “dogleg” type of maneuver. The signal controller is capable of fully actuated operation, with artery advances and an exclusive pedestrian phase for servicing the heavy student/pedestrian activity.

Stadium Road at Hillside Road is a three-legged unsignalized intersection, with all-way stop sign control (all approaches must stop). All approaches are of generous 15-foot single-lane widths. Stadium road is the west leg, with Hillside Road the northwest and southeast legs. Hillside Road southeast of the intersection connects with the McMahon Lot access drive and extends to Hillside Circle, and then to Westwood and Eastwood Roads. Stadium Road connects to Alumni Road and eventually to Separatist Road.

Separatist Road at Sycamore Street and South Eagleville Road is a four-legged unsignalized intersection, with stop control on the Separatist Road and Sycamore Street approaches. The South Eagleville Road approaches have 15-foot lane widths. The Separatist Road approach has 16-foot lane width, while the Sycamore Street approach has 13-foot width. Sycamore Street serves as access to a housing development. South Eagleville Road runs east west between Route 195 and Route 32.

North Eagleville Road at Hunting Lodge Road is a four-legged unsignalized intersection, with stop control on all approaches. North Eagleville Road westbound has a 11-foot through/left lane and a 12-foot right turn lane. North Eagleville eastbound has a 20-foot approach lane. Hunting Lodge Road has 16-foot approach lanes.
North Eagleville Road at Hillside Road is a four-legged signalized intersection. North Eagleville eastbound has a 10-foot left turn lane, a 10-foot through lane, and a 12-foot right turn lane. North Eagleville westbound has a 12-foot through/right lane and a 12-foot left turn lane. Hillside northbound has a 12-foot through/left lane and a 12-foot right turn lane. Hillside southbound has a 10-foot left turn lane and a 16-foot through/right lane. The traffic signal at this intersection was recently upgraded and reconstructed.

State Route 195 (Storrs Road) at South Eagleville Road is a four-legged signalized intersection. Storrs Road northbound has a 12-foot left turn lane and a 12-foot through/right lane. Storrs Road southbound has a 12-foot left turn lane, a 12-foot through lane, and a 12-foot through/right lane. South Eagleville eastbound has an 11-foot left turn lane and an 11-foot through/right lane. The Post Office drive leg has a single 12-foot approach lane. The signal phasing includes dual left overlap phasing on Storrs Road, a South Eagleville/Post Office phase and an exclusive pedestrian phase.

State Route 195 (Storrs Road) at Mansfield Road/Drive to Bishop Center is a signalized four-legged intersection with exclusive left turn lanes on the major approaches (RT 195). The side streets are single lane. Mansfield Road approach is 20-feet wide at its approach to the intersection. Thus, this leg can operate as two lanes during peak periods. The traffic signal has recently been upgraded by installation of new appurtenances and mast arm poles. The location is coordinated by time-based equipment. In addition to an advance left turn phase, this location has exclusive pedestrian capabilities to accommodate the high number of student pedestrians crossing Route 195 at this location.

State Route 195 (Storrs Road) at Bolton Road/Dog Lane is a signalized four-legged intersection with the Bolton Road/Dog Lane approaches offset by a short distance. Route 195 has a through/right and left turn lane in each direction. Bolton Road and Dog Lane each have separate right and left turn lanes. Bolton Road and Dog Lane operate on separate signal phases and there is an exclusive pedestrian phase.

State Route 195 (Storrs Road) at Route 44 is a signalized four-legged intersection. Route 195 has a through/right, through and left turn lane in each direction. Route 44 has a through/right and left turn lane in each direction. There is protected-permissive left turn phasing on all approaches and there is an exclusive pedestrian phase.

Route 44 at Hillside Road Extension is a proposed new signalized tee intersection. It is proposed that Route 44 will have a through lane and left turn lane westbound, through lane and right turn lane eastbound. Hillside Road will have a left turn and right turn lane. There will be protected-permitted left turn phasing for the westbound approach.

2.3 Traffic Volumes

Earth Tech collected 24-hour automatic traffic recorder (ATR) counts on roadways and peak period manual traffic turning movement counts at intersections midweek in October and November 1999, while University classes were in session. This traffic data was supplemented by ATR counts performed by the State of Connecticut Department of Transportation in the Fall of 1999 on study roadways. ATR counts were collected by direction and in 15-minute intervals.
Peak period turning movement counts were collected in 15-minute intervals between 7:00 and 9:00 AM and 4:00 and 6:00 PM. It is noted that previous turning movement count data and recent ATR data were used to estimate 1999 turning movements at the intersections of Route 195/Gurleyville Road and North Eagleville Road/Hunting Lodge Road.

2.4 Intersection Level of Service Analysis

Intersection level of service analysis was performed to evaluate existing operating conditions at the study intersections. The existing condition results form the basis from which to evaluate future potential traffic impacts from the proposed project. Level of service analysis was performed for existing study intersections for the AM and PM peak hours.

Level of service (LOS) refers to the quality of traffic flow along roadways and at intersections. It is described in terms of levels A through F, where LOS A represents the best possible conditions and LOS F presents forced-flow, or failing conditions. At both signalized and unsignalized intersections, LOS is calculated in terms of average stopped delay (in seconds per vehicle).

Capacity analyses for existing unsignalized study intersections were performed using versions 2.1 (one- and two-way stop) and Version 3.1 (All-Way stop) of the Highway Capacity Software (HCS), produced by McTrans and based on the Highway Capacity Manual, 1994 (1998 update). Signalized intersections were evaluated using SYNCHRO 4 which is based on the 1997 Highway Capacity Manual. This analysis package was used to evaluate signal coordination on Route 195, vehicle progression, and queuing, and to test proposed mitigation measures. The results of the intersection analyses are presented in Table 2 for the Existing condition during the weekday morning and afternoon peak hours.

In the AM and PM peak hours, all of the study intersections reviewed, except one, currently operate at acceptable LOS (D or better) for existing (1999) conditions. The intersection of Route 195/Gurleyville Road operates at LOS F during the PM peak hour with long queues and delays experienced on the Route 195 northbound approach to the intersection. It is noted that some individual intersection movements or approaches currently operate with delay and experience queuing during peak hours. These include:

- Storrs Road/Mansfield Road - eastbound Mansfield Road approach,
- Storrs Road/N. Eagleville Road – eastbound left turn from N. Eagleville Road,
- Storrs Road/Route 44 – eastbound and westbound through movements.
### TABLE 2
**LEVEL OF SERVICE SUMMARY**
**EXISTING (1999) CONDITIONS**

<table>
<thead>
<tr>
<th>Signalized Intersections</th>
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<th>Hour</th>
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<td>Delay 1</td>
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<tr>
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<td>B</td>
<td>17</td>
<td>B</td>
</tr>
<tr>
<td>Bolton Rd./Dog Lane</td>
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<td>C</td>
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<td>N. Eagleville (Rte. 430)/</td>
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<td>Gurleyville Rd.</td>
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</tbody>
</table>

**Unsignalized Intersections**

<table>
<thead>
<tr>
<th>Two-Way Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>S. Eagleville Rd. (Rte. 275)/</td>
</tr>
<tr>
<td>Separatist Rd.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>All-Way Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hillside Road/</td>
</tr>
<tr>
<td>Stadium Road</td>
</tr>
<tr>
<td>N. Eagleville Rd./</td>
</tr>
<tr>
<td>Hunting Lodge Rd.</td>
</tr>
</tbody>
</table>

1. For signalized and All-Way Stop intersections, average stopped vehicle delay is shown in seconds for overall intersection. For unsignalized tow-way Stop intersections, delay and LOS presented for worst intersection movement.
2. Level of Service
3.0 TMODEL- The University Transportation Modeling Tool.

A typical Traffic Impact Study determines the specific mitigation that is required to accommodate a development's traffic volume increase on the adjacent streets. This works well for specific development proposals that are a single purpose and do not involve significant trip generation. This process also works well for a development that does not generate travel from a significant distance or does not require mitigation, except on a small scale such as one or two intersections. For more complex traffic situations or complex development, a more sophisticated tool is required. This more sophisticated tool is a travel demand-forecasting model, which in this case is the TMODEL software.

A transportation model is a tool to estimate the future travel patterns in a specified area and is typically used to forecast future traffic volumes on a street system. The model represents the street system in an area as closely as possible before traffic forecasts are made. The model is calibrated to existing traffic count volumes so that it accurately replicates current conditions for purpose of making future traffic projections. A brief discussion of the travel demand modeling process is provided below.

The first two steps are trip generation and land use for development. A travel demand model allows the uses of multiple land use trip generation rates. Trip generation rates used for this model represent vehicle trips. Therefore, there is no mode choice component to this model. The specific model for the UCONN TMODEL has the capability to use up to nine (9) separate categories of land use. This increases the flexibility of the model to accurately include specific trip generation rates for each proposed land use change. Traffic already on the street system is incorporated into TMODEL through the use of external traffic volume tables. The travel demand model is able to accurately portray existing traffic on the street and traffic generated by the proposed development. The complexity of trip generation rates for varying land use categories is accommodated and simplified through the use of TMODEL.

The third step is the distribution of traffic within the area. Some of the traffic will remain within the development, some traffic will travel to close-by destinations, and some traffic will travel outside the model area. For smaller projects it is possible to distribute traffic by hand or assumption. However for larger projects, such as North Campus, it is necessary to use a tool such as TMODEL. TMODEL distributes traffic based on a relationship between travel time and distance traveled. For the UCONN model, 90 percent of the decision to travel on one path is based on travel time and 10 percent is based on the distance to be traveled. This increases the ability of the travel demand-forecasting model to portray the distribution of traffic throughout the area.

The fourth step is to assign the traffic to the street network and determine the level of service for traffic on the street system before and after the development occurs. On simple developments it is possible to assign traffic from developments one at a time. However with larger or more complex development it is necessary to assign traffic to the street system, recalculate travel time and then distribute/assign traffic again. This iterative process produces a smoother and more realistic assignment of traffic to the street network. TMODEL for UCONN utilizes a 10-iteration process. In other words, before this step is complete the traffic is assigned 10 times. This allows the model to determine that traffic will change travel paths to avoid an increasingly congested area, if another path is available and the trip can be completed in a shorter time frame. This is extremely important for larger development projects.
Finally, TMODEL reports results in a format which is compatible with most plotting software, including AutoCAD and GIS systems. Analysis tools are available through TMODEL to determine the level of service on selected segments and intersections plus show the path of increased travel due to development. The individuals reviewing the results and preparing mitigation requirements can see complete results in a graphical format that is readily understandable.

For this project, Earth Tech updated the UCONN 2000 Master Plan Model (2004) to represent the North Campus Build-out (2010). The North Campus Build-out condition includes all development and assumptions used for the UCONN 2000 Master Plan project. The UCONN 2000 was calibrated to Existing year 1999 conditions.

Background traffic assumptions and specific details regarding the internal file structure of the model are detailed in a report prepared for UCONN and titled State of Connecticut, State Traffic Commission, Application for Certificate, UCONN 2000 Master Plan, Storrs, CT, February 25, 2000 (Earth Tech)

4.0 Future Conditions

Traffic impacts of the proposed North Campus Master Plan development were evaluated assuming other planned campus developments as part of the UCONN 2000 Master Plan would already be constructed. The impacts of the North Campus Master Plan Build-out were compared with impacts previously evaluated for the UCONN 2000 Master Plan. The UCONN TMODEL was instrumental to evaluating the future conditions with and without the proposed project.

The following future conditions were evaluated for this study:

- UCONN 2000 (Year 2004 conditions without North Campus)
- North Campus (Year 2010 Build with UCONN 2000 plus background growth, background projects and roadways improvements)

Future land use and roadway network changes relating to these analysis conditions are discussed below.

4.1 Future Land Use and Roadway Network

Background and project land use and the future roadway network changes are discussed below.

Background Land Use

UCONN is facing the completion of the UCONN 2000 program and has over the past few years has implemented significant portions of the plans for improvement of the University. Many of these projects impact traffic conditions and have resulted in changes in traffic flowing to the University. These traffic patterns and volume changes are represented by the recent 1999 traffic volume counts in the project study area.
Future background traffic volumes beyond 1999 are represented by growth in external study area traffic and traffic generated from specific developments that are expected to impact the study area within the next 10 years.

Background traffic growth generally occurs as a result of population and employment increases in the town and the surrounding communities. The UCONN 2000 Master Plan model represented traffic conditions up to year 2004. Based on historical traffic data, traffic growth in this area has increased between 1.5 and 2.0 percent per year. Therefore, to update the 2004 model to 2010 conditions for through traffic volumes (traffic with origin and destination both outside the University campus) year 2004 volumes were increased by a factor of 1.10 within the model.

**Project Land Use**

The proposed developments comprising the North Campus Master Plan are assumed to be completed by 2010. Table 1 (shown earlier) summarizes the North Campus development program identified by University and were assumed for this study. Over 1 million square feet of additional development consisting of predominantly Technology/Research, University buildings, student housing, and parking were assumed for year 2010 conditions. This development was added to the 2004 condition to create the year 2010 Build-out condition.

Trip generation rates used for project developments are consistent with the trip rates used for the land use in the 2004 base model. A special new trip generation rate was added to the model for the new Technology/Research land use category. The trip generation rates used for this land were based on published rates in the Institute of Transportation Engineers, Trip Generation, 6th Edition, 1997, Land Use Code 760 - Research and Development Center. The combination of background traffic growth and project trip generation and land use were input to the TMODEL for future year 2010 conditions evaluation.

The North Campus development is represented in the model by Traffic Analysis Zones (TAZs) 40 and 55 through 61.

**Project Trip Distribution and Assignment**

The peak hour trips to be generated by new student housing were oriented entirely to locations within the study area. However, the peak hour trips generated by the Technology/Research buildings, and by the remote parking spaces, were considered to be predominantly oriented to/from locations outside the study area. In the previous analysis of the 2004 Build scenario, a higher proportion of new trip generation was contained within the study area based on the assumption of an available supply of housing in balance with employment and/or university enrollment. Looking forward beyond that future scenario, the additional residential areas required to support the employment and student enrollment that would commute to the North Campus facilities does not exist in the study area. Therefore, this future demand must be modeled as coming predominantly from other residential markets in external areas.

The commuter trips for the North Campus area were allocated to the state highways and other roads leading into and out of the study area in proportion to the volumes on those routes as previously forecast for the 2004 Build condition. A small proportion of new peak hour trips were allocated to/from locations within the study area including both the university campus and the surrounding towns, representing the non-commuting portion of the total trip generation rates.
The resulting trip table for North Campus trips was combined with the trip table representing the 2004 Build scenario, and all trips were simultaneously assigned to the updated road network for this study.

**Future Roadway Network Changes**

As part of the University’s Master Planning effort, a number of roadway improvements are being considered in conjunction with the campus developments. Several roadway improvements were assumed for the year 2004 condition including the extension of Bolton Road west connecting with Hillside Road and extension of Hillside Road to Route 44. For the year 2010 Build-out condition the extension of Hillside Road north to Route 44 was assumed. The model roadway network was modified to include access roadways off of the Hillside Road extension to most of the proposed North Campus projects. Only Parcel F was assumed to have access from Route 195.

**4.2 Year 2010 Build Traffic Volumes**

Using TMODEL, traffic volume forecasts were made for the year 2010 Build condition assuming the background traffic growth land use and roadway network changes described above. Build year 2004 and 2010 AM and PM peak hour traffic volumes are shown in turning movement and link volume formats in the Appendix.

For this analysis the model produced over 2,000 new vehicle trips generated by the proposed North Campus Master Plan project in each of the AM and PM peak hours. The distribution of vehicle trips on major roadways in and out of the study area is summarized as follows:

- Route 44 (Middle Turnpike) to and from the Northeast – 15% AM and 9% PM
- Route 195 (Storrs Road) to and from the North – 22% AM and 21% PM
- Route 195 (Storrs Road) to and from the South – 19% AM and 16% PM
- Hunting Lodge Road to and from the Northwest – 4% AM and 2% PM
- Route 275 (S. Eagleville Road) to and from Southwest – 11% AM and 7% PM
- Gurleyville Road to and from the Northeast – 1% AM and 1% PM
- Maple Road to and from the Southeast – 1% AM and 3% PM
- Other Internal roadways – 27% AM and 41% PM

Table 3 shows the difference between UCONN 2000 Build 2004 peak hour volumes and North Campus Build 2010 volumes on study roadways. Volume differences for all study area roadways is shown in the Appendix. The table shows that while the project will generate more trips during the AM peak hour, the highest traffic volumes continue to occur during the PM peak hour. As can be seen from Table 3, the greatest volume increases for 2010 versus 2004 occur on Route 195, North Eagleville Road, Hillside Road Extension, and Route 44. Significant increases are also noted on Baxter Road and Cedar Swamp Road.
<table>
<thead>
<tr>
<th>Route</th>
<th>2004 AM Peak Hour</th>
<th>2010 AM Peak Hour</th>
<th>Difference</th>
<th>2004 PM Peak Hour</th>
<th>2010 PM Peak Hour</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rte. 195 N/O N. Eagleville Road</td>
<td>1417</td>
<td>1634</td>
<td>+217</td>
<td>1712</td>
<td>1914</td>
<td>+202</td>
</tr>
<tr>
<td>Rte. 195 S/O S. Eagleville Road</td>
<td>1217</td>
<td>1513</td>
<td>+296</td>
<td>1410</td>
<td>1773</td>
<td>+363</td>
</tr>
<tr>
<td>S. Eagleville Road W/O Separatist Road</td>
<td>476</td>
<td>590</td>
<td>+114</td>
<td>678</td>
<td>824</td>
<td>+146</td>
</tr>
<tr>
<td>N. Eagleville Road W/O Rte. 195</td>
<td>701</td>
<td>1208</td>
<td>+507</td>
<td>872</td>
<td>1234</td>
<td>+362</td>
</tr>
<tr>
<td>Hunting Lodge Road N/O N. Eagleville Road</td>
<td>287</td>
<td>503</td>
<td>+216</td>
<td>455</td>
<td>676</td>
<td>+221</td>
</tr>
<tr>
<td>Hillside Road N/O Stadium Road</td>
<td>697</td>
<td>824</td>
<td>+127</td>
<td>860</td>
<td>965</td>
<td>+105</td>
</tr>
<tr>
<td>Hillside Road S/O Stadium Road</td>
<td>606</td>
<td>751</td>
<td>+145</td>
<td>790</td>
<td>888</td>
<td>+98</td>
</tr>
<tr>
<td>Stadium Road W/O Hillside Road</td>
<td>297</td>
<td>390</td>
<td>+93</td>
<td>429</td>
<td>502</td>
<td>+73</td>
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<tr>
<td>Hillside Road N/O N. Eagleville Road</td>
<td>619</td>
<td>1038</td>
<td>+419</td>
<td>823</td>
<td>1156</td>
<td>+333</td>
</tr>
<tr>
<td>Hillside Road S/O Route 44</td>
<td>579</td>
<td>1330</td>
<td>+751</td>
<td>776</td>
<td>1224</td>
<td>+448</td>
</tr>
<tr>
<td>Route 44 W/O Route 195</td>
<td>805</td>
<td>1214</td>
<td>+409</td>
<td>1117</td>
<td>1389</td>
<td>+272</td>
</tr>
<tr>
<td>Separatist Road N/O S. Eagleville Road</td>
<td>188</td>
<td>261</td>
<td>+73</td>
<td>414</td>
<td>610</td>
<td>+196</td>
</tr>
<tr>
<td>Mansfield Road W/O Rte. 195</td>
<td>439</td>
<td>445</td>
<td>+6</td>
<td>773</td>
<td>804</td>
<td>+31</td>
</tr>
<tr>
<td></td>
<td>AM Peak Hour</td>
<td></td>
<td></td>
<td>PM Peak Hour</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>--------------</td>
<td>---</td>
<td>---</td>
<td>--------------</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Route 195 S/O Route 44</td>
<td>1168</td>
<td>1362</td>
<td>+194</td>
<td>1489</td>
<td>1714</td>
<td>+225</td>
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<tr>
<td>Bolton Road W/O Rte. 195</td>
<td>393</td>
<td>420</td>
<td>+27</td>
<td>556</td>
<td>495</td>
<td>-61</td>
</tr>
<tr>
<td>Cedar Swamp Road N/O Route 44</td>
<td>293</td>
<td>471</td>
<td>+278</td>
<td>390</td>
<td>540</td>
<td>+150</td>
</tr>
<tr>
<td>Eastwood Road</td>
<td>55</td>
<td>132</td>
<td>+77</td>
<td>130</td>
<td>201</td>
<td>+71</td>
</tr>
<tr>
<td>Westwood Road</td>
<td>161</td>
<td>178</td>
<td>+17</td>
<td>221</td>
<td>332</td>
<td>+111</td>
</tr>
<tr>
<td>Baxter Road N/O Rte. 44</td>
<td>287</td>
<td>527</td>
<td>+240</td>
<td>402</td>
<td>581</td>
<td>+179</td>
</tr>
</tbody>
</table>

Note:  
E/O = East Of  
N/O = North Of  
S/O = South Of  
W/O = West Of

4.3 Impact Analysis

The impacts of the following future conditions were evaluated for this study:

- UCONN 2000 (Year 2004 conditions without North Campus)
- North Campus (Year 2010 Build with UCONN 2000 plus background growth, background projects and roadways improvements)

Intersection level of service analysis was performed to evaluate the potential traffic impacts from the proposed project. Level of service analysis was performed for study intersections. To accurately represent future intersection operations, the increment difference between actual traffic turning movement counts and the existing model forecasts have been carried forward to future condition LOS calculations. The 2004 conditions were analyzed using the Synchro4 traffic model for signalized intersections and HCS 2.1 and 3.2 for unsignalized intersections. These software are based on the 1997 Highway Capacity Manual. The 2010 conditions were analyzed using the Synchro5 model for both signalized and unsignalized intersections. This software is based on the 2000 Highway Capacity Manual. It is believed the differences in results between the software is small and is not significant in comparing results and determining mitigation.

The 2004 conditions were analyzed assuming the proposed mitigation developed for the State Traffic Commission Approval of the UCONN 2000 plan. This mitigation was included as base conditions for the 2010 conditions analysis. The mitigation developed for the UCONN 2000 plan included the following:

- Traffic signal timing optimization at all locations
• Extension of Bolton Road to Hillside Road

• Extension of Hillside Road to Route 44

• Route 195/North Eagleville Road/Gurleyville Road—At Gurleyville Road, add second northbound through lane and southbound left turn lane.

• Route 195/Mansfield Road—Provide left and right turn lanes on Mansfield Road

• Route 195/Bolton Road—Provide left and right turn lanes on Bolton Road

• Hillside Road/Stadium Road—Provide left and right turn lanes on Stadium Road

The results of the intersection analyses are presented in Table 4 for the AM and PM peak hours, respectively for 2004 conditions. The results of the intersection analyses are presented in Table 5 for the AM and PM peak hours, respectively for 2010 Base conditions.

With the addition of project and background traffic, the signalized intersections of Route 195/Mansfield Road and North Eagleville Road/Hillside Road will operate at LOS E conditions during the PM peak hour. In addition, the unsignalized intersections of Hillside Road/Stadium Road and South Eagleville Road/Separatist Road will have at least one approach operating at deficient Level of Service F during the PM peak. All other intersections will operate satisfactorily with the additional traffic.

Level of Service calculations are provided in the Appendix.

The traffic volume differences shown in Table 2 indicate an increase in traffic on Baxter Road and Cedar Swamp Road between Route 195 and Route 44. These are residential roadways which cannot accommodate significant traffic increases. Recommendations to mitigate this potential traffic increase are discussed below. Shifting traffic from these roadways will impact the Route 195/Route 44 intersection which may require additional mitigation.
**TABLE 4**  
LEVEL OF SERVICE SUMMARY  
2004 CONDITIONS W/UConn 2000 MITIGATION

<table>
<thead>
<tr>
<th>Signalized Intersections</th>
<th>AM</th>
<th>2004</th>
<th>PM</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Delay 1</td>
<td>LOS2</td>
<td>Delay</td>
<td>LOS</td>
</tr>
<tr>
<td>Storrs Rd. (Rt.195)/</td>
<td>27</td>
<td>C</td>
<td>28</td>
<td>C</td>
</tr>
<tr>
<td>S. Eagleville Rd. (Rte. 275)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storrs Rd. (Rte. 195)/</td>
<td>11</td>
<td>B</td>
<td>24</td>
<td>C</td>
</tr>
<tr>
<td>Bolton Rd./Dog Lane</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storrs Rd. (Rte. 195)/</td>
<td>16</td>
<td>B</td>
<td>16</td>
<td>B</td>
</tr>
<tr>
<td>Mansfield Rd.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N. Eagleville (Rte. 430) /</td>
<td>19</td>
<td>B</td>
<td>21</td>
<td>C</td>
</tr>
<tr>
<td>Hillside Rd.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storrs Rd. (Rte. 195)/</td>
<td>22</td>
<td>C</td>
<td>30</td>
<td>C</td>
</tr>
<tr>
<td>N.Eagleville Rd. (Rte.430)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storrs Rd. (Rte. 195)/Rte. 44</td>
<td>15</td>
<td>B</td>
<td>38</td>
<td>D</td>
</tr>
<tr>
<td>Storrs Rd. (Rte.195)/Gurleyville Rd.</td>
<td>23</td>
<td>C</td>
<td>34</td>
<td>C</td>
</tr>
<tr>
<td>Rte 44/Hillside Road Extension</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unsignalized Intersections</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two-Way Stop</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S. Eagleville Rd. (Rte. 275)/ Separatist Rd.</td>
<td>8</td>
<td>B</td>
<td>12</td>
<td>C</td>
</tr>
<tr>
<td>All-Way Stop</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hillside Road/</td>
<td>10</td>
<td>A</td>
<td>17</td>
<td>C</td>
</tr>
<tr>
<td>Stadium Road</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N. Eagleville Rd./ Hunting Lodge Rd.</td>
<td>11</td>
<td>B</td>
<td>20</td>
<td>C</td>
</tr>
</tbody>
</table>

1. For signalized and All-Way Stop intersections, average stopped vehicle delay is shown in seconds for overall intersection. For two-way unsignalized, delay and LOS presented for worst intersection movement Level of Service.
### TABLE 5
LEVEL OF SERVICE SUMMARY
2010 BASE CONDITIONS

<table>
<thead>
<tr>
<th>Signalized Intersections</th>
<th>AM Delay</th>
<th>2010 LOS</th>
<th>PM Delay</th>
<th>2010 LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storrs Rd. (Rte. 195)/</td>
<td>39</td>
<td>D</td>
<td>36</td>
<td>D</td>
</tr>
<tr>
<td>S. Eagleville Rd. (Rte. 275)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storrs Rd. (Rte. 195)</td>
<td>50</td>
<td>D</td>
<td>45</td>
<td>D</td>
</tr>
<tr>
<td>Bolton Rd./Dog Lane</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storrs Rd. (Rte. 195)/</td>
<td>11</td>
<td>B</td>
<td>79</td>
<td>E</td>
</tr>
<tr>
<td>Mansfield Rd.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N. Eagleville (Rte. 430)</td>
<td>71</td>
<td>E</td>
<td>73</td>
<td>E</td>
</tr>
<tr>
<td>Hillside Rd.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storrs Rd. (Rte. 195)/</td>
<td>40</td>
<td>D</td>
<td>40</td>
<td>D</td>
</tr>
<tr>
<td>N.Eagleville Rd. (Rte.430)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storrs Rd. (Rte. 195)/Rte. 44</td>
<td>42</td>
<td>D</td>
<td>43</td>
<td>D</td>
</tr>
<tr>
<td>Storrs Rd.(Rte.195)/Gurleyville Rd.</td>
<td>24</td>
<td>C</td>
<td>39</td>
<td>D</td>
</tr>
<tr>
<td>Rte 44/Hillside Road Extension</td>
<td>8</td>
<td>A</td>
<td>13</td>
<td>B</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unsignalized Intersections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two-Way Stop</td>
</tr>
<tr>
<td>S. Eagleville Rd. (Rte. 275)/Separatist Rd.</td>
</tr>
</tbody>
</table>

| All-Way Stop               |
|                            |
| Hillside Road/             | 22 | C | 56 | F |
| Stadium Road               |    |   |    |   |
| N. Eagleville Rd./Hunting Lodge Rd. | 17 | C | 29 | D |

1. For signalized and All-Way Stop intersections, average stopped vehicle delay is shown in seconds for overall intersection. For two-way unsignalized, delay and LOS presented for worst intersection movement Level of Service
5.0 Mitigation Measures

This section summarizes recommended measures to mitigate deficient future conditions on study area roadways and intersections. The mitigation is in addition to mitigation developed previously for the UCONN 2000 year 2004 conditions. No mitigation is proposed at the Route 195/Mansfield Road intersection since the congestion will mainly affect the Mansfield Road approach internal to the campus only and not affect regional traffic on Route 195.

Table 6 summarizes the effect of mitigation measures on impacted study intersections.

<table>
<thead>
<tr>
<th>Signalized Intersections</th>
<th>AM Delay 1</th>
<th>2010 LOS2</th>
<th>PM Delay</th>
<th>2010 LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>N. Eagleville (Rte. 430)/ Hillside Rd.</td>
<td>22</td>
<td>C</td>
<td>32</td>
<td>C</td>
</tr>
<tr>
<td>Unsignalized Intersections</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two-Way Stop</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>S. Eagleville Rd. (Rte. 275)/ Separatist Rd.</td>
<td>15</td>
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<tr>
<td>All-Way Stop</td>
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<tr>
<td>Hillside Road/ Stadium Road</td>
<td>22</td>
<td>C</td>
<td>30</td>
<td>D</td>
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1. For signalized and All-Way Stop intersections, average stopped vehicle delay is shown in seconds for overall intersection. For two-way unsignalized, delay and LOS presented for worst intersection movement Level of Service.
6.0 Conclusions

Based on the projections and analysis of the 2010 Build condition, the impact of the proposed North Campus build-out will be mainly limited to a few intersections in the campus area. Most intersections and roadways will be able to absorb the increased traffic without additional mitigation beyond that proposed for the UCONN 2000 project.

With the addition of project and background traffic, the signalized intersections of Route 195/Mansfield Road and North Eagleville Road/Hillside Road will operate at LOS E conditions during the PM peak hour. In addition, the unsignalized intersections of Hillside Road/Stadium Road and South Eagleville Road/Separatist Road will have at least one approach operating at deficient Level of Service F during the PM peak.

The University has recognized the need to reduce impacts on the surrounding residential neighborhoods. Several actions have been proposed which are intended to protect these areas. The extension of Bolton Road west to Hillside Road is at the forefront of this effort, as it is expected to shift traffic from Gilbert Road and Eastwood Road to the new roadway. The resulting redirection of travel from the residential roads (Eastwood and Westwood) is a primary benefit. The extension of Bolton Road has been assumed for future conditions evaluation in this study.

University development is a special type of traffic generator. UCONN planning is focused on addressing the typical day to day transportation concerns. The current analyses have incorporated the changes in the campus internal circulation, which is intended, to foster pedestrianization of the internal campus. The Fairfield Road Redevelopment Project and the Mansfield Busway Project are examples. In addition, the extension of Hillside Road north to Route 44 has shown through evaluation to reduce traffic volume on other roadways including Route 195, North Eagleville Road, and Hunting Lodge Road.

The results to date have not indicated a deficiency that cannot be accommodated. Some planned future actions such as the Bolton Road extension will be especially effective in calming traffic in residential neighborhoods. The extension of Hillside Road will shift traffic away from Route 195 and Hunting Lodge Road, but may increase traffic on Cedar Swamp Road and Baxter Road, if traffic calming measures are not provided.
Mitigation measures have been developed as an access management measure to improve capacity at key locations on the arterial highway system to reduce diversions of traffic to local roads. Based on the analysis results of this study the following measures are recommended to improve traffic operating conditions in the study area. These measures are in addition to measures already proposed as part of the UCONN 2000 program.

- Extend Hillside Road north to Route 44 and provide signal.
- Restripe the northbound approach on Hillside Road to North Eagleville Road to provide a left turn lane and through/right lane.
- Provide traffic calming measures on Baxter Road and Cedar Swamp Road.
- Provide separate left- and right-turn lanes on the Separatist Road approach to South Eagleville Road. Maintain two way stop control.
- Provide separate right turn lane on Hillside Road at Stadium Road. Maintain three way stop control.
- Upgrade and optimize signal timing and phasing at all signalized intersections.

The development of these improvements will be a cooperative effort between the University, Town of Mansfield, and Department of Transportation. Final details for the traffic engineering improvements needed to mitigate traffic issues from campus development will be achieved during this process.

This report has dealt with both impacts from the proposed cumulative development of the UCONN 2000 program. Our findings have revealed that while impacts on traffic circulation are inevitable in the growth planned at UCONN, such impacts can be mitigated by traffic engineering measures and the roadway changes proposed as part of the Master Plan serve to help reduce traffic impacts to neighboring Town roads.
APPENDIX E
Water Supply, Margin of Safety Computations
### TABLE VII-4
UNIVERSITY OF CONNECTICUT AT STORRS
MARGIN OF SAFETY

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| AVAILABLE WATER | 1.81 | 1.61 | 2.13 | 2.29 | 2.13 | 2.77 | 2.29 | 2.13 | 2.77 |

** Wells 1A, #2 and #3 combined.
** Final safe yield to be determined when data is approved by the CTDPH.

*** Total wellfield limitation.

Margin of Safety Categories

| Category I | Wells pumping 18 hours/day versus Average Daily Demand (ADD) |
| Category II | Wells pumping 24 hours/day with largest source off-line versus (ADD) |
| Category III | Wells pumping 18 hours/day versus Maximum Month ADD |
| Category IV | Wells pumping 24 hours/day versus peak one day demand |

MOS RATIO CALCULATIONS

** DEMAND **

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** MARGIN OF SAFETY CATEGORIES **

| I   | 1.55 | 1.40 | 1.35 | 1.35 |
| II  | 1.38 | 1.30 | 1.25 | 1.25 |
| III | 1.12 | 1.37 | 1.11 | 1.11 |
| IV  | 1.05 | 1.12 | 1.08 | 1.08 |

VII-9
APPENDIX F
1994 Record of Decision
January 11, 1995

The Honorable Arthur Diedrick
Acting Commissioner
Department of Economic Development
865 Brook Street
Rocky Hill, Connecticut 06067

George T. Kraus
Director, Planning, Design and Construction
University of Connecticut
624 Gilbert Road Extension
U - 38 Storrs, Connecticut 06269-1038

Re: Environmental Impact Evaluation (EIE)/Record of Decision
State Actions Associated with a Research and Technology Park
Mansfield, Connecticut (Project Bid 164-1)

Dear Commissioner Diedrick and Mr. Kraus,

Thank you for your submission of the Record of Decision for State Actions Associated with a Research and Technology Park in Mansfield, Connecticut. The record suggests that you have considered and responded to a variety of comments received from reviewing agencies, the public and the Town of Mansfield.

The Research and Technology Park project is a large scale, three phase, proposal calling for the development of a 333 acre parcel in Mansfield over a period of 15 or more years. At full build the Park is to accommodate facilities containing 1.2 million square feet of light industrial, research and development, hotel and conference center space. The project is estimated to cost $265 million and employ 3,000 workers. The initial components of the project, the spine road, utilities and the Advanced Technologies Institute (ATI) building will cost $27 million of which $15.7 million will be state responsibility. Any project of this complexity and magnitude raises legitimate concerns about environmental, economic and other localized impacts.
The purpose of the Connecticut Environmental Policy Act (CEPA) is to identify and evaluate the effects of proposed State actions which may significantly impact the environment. The CEPA process is designed to ensure that potential impacts of a wide variety are considered and addressed in the planning process. Under the Act, (Sec. 22a-le), the Office of Policy and Management is required to review the EIE, all comments thereon, and the Record of Decision, and to make a written determination as to whether the evaluation, supplemented by the Record of Decision, satisfies the CEPA requirements.

The process undertaken by the University of Connecticut and DED in preparing the EIE was a very open one. It subjected the Plan components to a high degree of both public and professional review. In this process several important concerns were identified by reviewing agencies and subsequently resulted in expanded documentation being submitted in the Record of Decision.

Throughout the review period several issues have been central to the environmental analysis. The most important of these has been the question pertaining to the adequacy of water supply to support a development of the scale proposed in the UCEPI plan. In addition, the Town of Mansfield, the Department of Environmental Protection, the Office of Policy and Management and the Connecticut Historical Commission and others raised a number of issues/concerns which required further study.

Analysis of the UCEPI site for development purposes poses an unusual challenge. The State Plan of Conservation and Development classifies the Technology Park site as primarily Urban Growth Area, that is land which is appropriate for staged urban expansion. Within the 333 acre site however, there are several protected areas known as Conservation Areas. These include lands which contribute to the state's need for food, fiber, water and other resources, open space, recreation and environmental quality. Development at the UCEPI site does involve potential, impacts to wetland, farmland and watershed areas. In these areas the Plan of Conservation and Development maintains that state actions should:

a. promote research, education, resource management, regulations, financial and technical assistance or public acquisition as necessary to achieve proper use and protection of Conservation Areas;

b. undertake or support only those uses which are compatible with the resource or hazard of concern, including evaluations of both direct and secondary impacts;
d. undertake mitigation measures necessary to both protect against degradation and enhance environmental quality.

In addition, the Plan indicates that agricultural lands should be maintained for food production to the maximum extent feasible by minimizing development pressure in the placement and design of major facilities and by permitting irreversible conversion to other uses only when there is a demonstrated overriding need, alternative sites are not technically feasible or economically justified, and the impact of conversion is weighed.

Similarly, an attempt is made to protect wetland and watershed areas by requiring that site planning, architectural or design restrictions, and the use of buffer or fencing controls be undertaken for resource protection, prevention of subsequent pressure from added development, or uncontrolled access.

Underlying the OPM review process is the reality that the project is an expansive long term development proposal. In many respects, because of the scope of the UCEPI proposal, the EIE lacks the specific site plan detail and precise impact analysis needed to allow a one time comprehensive approval.

While many issues have been adequately addressed in the Record of Decision, OPM remains concerned about the potential impact of specific future site development plans which are not part of the EIE, or the Record of Decision, and not yet available for review, but which are secondary impacts of the actions now before us. Therefore, at this time OPM finds the EIE and Record of Decision to be adequate, but limits such finding to the following Phase 1 components of the Research and Technology Park:

1. construction of the proposed roadway subject to appropriate administrative approvals including State Traffic Commission approval of the spine road and off site improvements determined to be necessary under full build conditions

2. extension of utilities along the roadway subject to appropriate permitting requirements, and

3. construction of the Advanced Technology Institute building (ATI) subject to local and state approvals
Because of the nature of the proposed development, and the need to ensure that secondary impacts are minimized or avoided, it is necessary to condition OPM approval of the EIE/Record of Decision on the following:

**Farmland:** Current park plans call for offsetting the loss of up to 27 acres of farmland within the development area with the addition of 23 acres at the Mansfield Training School location. The goal should be an acre for acre exchange. The University should convene a meeting of involved parties, review plans and available land resources and attempt to meet the objective of an acre for acre exchange. This meeting should take place before additional sites are approved for development.

**Archaeological Study:** While Phase 1 development does not call for any incursion into sites having prehistoric archaeological potential, several such sites have been identified in future development areas. Approval of the EIE is given on the condition that, prior to the development of any site containing an area having archaeological potential, professional investigation of such sites is to be undertaken as recommended by Historical Commission.

**Water Supply:** On review of the initial plan the Department of Public Health and Addiction Services (DPHAS) commented that it is not advisable to continue to increase the demands on the UCONN water supply system without first acquiring additional supply. This concern resulted in a re-evaluation of UCONN's Water Supply Plan and, based on additional information and new consumption data, it was determined that the current trends could support a limited increase in demand.

The DPHAS Water Supply Section concluded that "...the University water supply system could meet the demands of one proposed building (the ATI building) to be located at the Technology and Research Park site", but that "...prior to the addition of any other additional demands the University must obtain additional supply." Clearly, this concern is substantial.

Therefore approval of the EIE is provided with the understanding that adequate water supplies will be made available for future development, and with the restriction that any supplemental water supply plan for the park which necessitates interconnection with another water system will require a separate Environmental Impact Evaluation (EIE).

**Stormwater Management:** DEP has raised concerns about the adequacy of the stormwater management plan described in the EIE. Specifically DEP recommends that the stormwater management system be constructed during initial site development, rather than relying on future plans to develop separate systems for individual parcels. OPM concurs and approves the EIE conditionally based on the cooperative agreement reached between DEP and UCEPI referenced in departmental correspondence (DEP to UCEPI 12/1/94). Under this working agreement the Master Plan will discuss in greater detail
how stormwater detention will be provided for all developed portions of the park as required to meet state and local criteria and permitting requirements. DEP is to be consulted during the development of the Stormwater Management Plan to ensure that the Department's concerns have been satisfactorily addressed.

Watershed Protection: DEP states that a significant portion of Development Site 5 falls within a public water supply area and expresses concern that consideration of alternative designs and site specific mitigation measures have not been provided in the EIE. In response UCEPI has indicated a willingness to provide special designs for loading and storage facilities in this parcel and prohibit underground storage tanks. A limitation on certain types of industrial use in this area may also be considered.

The watershed is a Conservation Area and efforts should be made to preserve this area. Unless an overriding social/economic need or concern is documented, development in Site 5 should be discouraged. If justified however, development should be restricted to certain industries and potential impacts to the watershed mitigated through a planning process which involves consultation with DEP, DPHAS and OPM.

Hazardous Waste Management Plan: DEP suggests that plans for the development of the park should include control measures for the storage and handling of hazardous materials to minimize the impact of potential releases resulting from leaks and spills. These aspects of development are not adequately addressed in the EIE owing to the uncertainties about the exact nature of future development. The Master Plan should detail a materials management strategy and pollution prevention practices. DEP should be consulted during the plan development period.

CAA Impacts: Local traffic affects and potential air quality impacts resulting from large scale development must also be monitored on an ongoing basis with appropriate mitigating requirements incorporated into development plans when necessary. It is likely that the proposed road will require an Air Quality Indirect Source Construction and Operation Permit and such recommendations may be made as a result of the permitting process. All efforts to minimize the number of single occupant motor vehicle use should be considered in the planning process.

Wetland Impacts: The EIE accurately reports the project's impact on wetland areas and intrusion seems to have been minimized. Aspects of park development which are State supported will continue to be regulated by DEP, while private development will be subject to the Town of Mansfield's requirements. Certain actions, such as the clearing of wooded area in a designated wetland, may also require a permit from the Army Corps of Engineers. While plans prepared to this point have been sensitive to the preservation of wetlands, UCEPI is advised that, within the various sites, the future footprint of development should avoid areas regulated by the Inland Wetland and Watercourse Act and that appropriate use of buffers or fencing controls should be undertaken for resource protection.
Master Plan Review: Given the need to address several of the concerns to be included in the Master Plan, OPM approval presumes that the final Master Plan for park development will be submitted to OPM and other appropriate agencies for subsequent review with detailed specifications and more precise impact analysis provided as recommended in this communication.

Finally, throughout the planning, design and construction phases of development the University of Connecticut should continue to work with the Town of Mansfield and appropriate State and federal agencies to address the many legitimate questions and concerns which will arise during those phases of development.

Sincerely,

[Signature]

Susan Shimelman
Under Secretary
Policy Development and Planning Division
Office of Policy and Management

cc: Reginald Jones, Secretary OPM
    Fred A. Cazel, Mayor of Mansfield
    Denise Merrill, State Representative
    Donald DeFronzo, OPM
STATE ACTIONS ASSOCIATED
WITH A
RESEARCH AND TECHNOLOGY PARK
MANSFIELD, CONNECTICUT

CONNECTICUT ENVIRONMENTAL POLICY ACT
RECORD OF DECISION

PROJECT BI-D-164-1

Sponsoring Agencies
State of Connecticut Department of Economic Development
The Board of Trustees for The University of Connecticut

Participating Agencies
State of Connecticut Department of Transportation
State of Connecticut Department of Public Works
State of Connecticut Department of Higher Education

Implementing Agency
University of Connecticut Educational Properties, Inc.

Frederic R. Harris, Inc.
Stamford, Connecticut

December 1994
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<td>II SUMMARY OF COMMENTS MADE AT PUBLIC HEARING JUNE 16, 1994</td>
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Associated with a Research and Technology Park
Mansfield, Connecticut
DPW Project No. BI-D-164-1
November 29, 1994

SECTION I
SUMMARY OF REVIEW PROCESS

Project Description

The sponsoring state agencies propose to construct a state highway segment (spine roadway) that will link an existing dead-end highway with State Route 44 in the Town of Mansfield. The State will provide utilities to the new and existing roadway segments. State-funded roadway construction might also include access roadway associated with new development along the proposed spine roadway. Off-site roadway and traffic-safety improvements required by the State Traffic Commission will be funded.

The State will also finance 50 percent of a proposed building, the Advanced Technologies Institutes (ATI) Building, that will be located along the completed roadway. The 90,000 gross-square-foot facility will include a 12,000 net-square-foot conference and telecommunication center with a 150-seat lecture hall and a multipurpose room (1,800 nsf).

The state actions will support the implementation of a Concept Master Plan that anticipates the creation of a university-related research park featuring high technology manufacturing, research, and development, as well as related supporting services such as a conference center, a hotel, and laboratory/office support.

The research park will be constructed on a 333-acre portion of the state-owned parcel located adjacent to the northern boundary of University of Connecticut (UConn) campus in Storrs, Connecticut. The area consists of the parcel leased from the State by University of Connecticut Educational Properties, Inc. (UCEPI), excluding subleased parcels and land occupied by the former UConn landfill. It is anticipated that the research park will reach its full-build condition of 1.2 million square feet by the year 2010.

Process Summary

Pursuant to the requirements of the Connecticut Environmental Policy Act (CEPA) and the Regulations of Connecticut State Agencies Sections 22a-la-1 through 22a-la-12, the Sponsoring Agencies determined that it was necessary to conduct an Environmental Assessment for the proposed state actions described above. The engineering firm Frederic R. Harris, Inc. was selected to perform the assessment.
The proposed actions were reviewed during an Early Notification and Scoping Process that was initiated with the circulation of a Notice of Scoping dated April 19, 1994 (the Notice was also included in Draft EIE Appendix). The Notice of Scoping announced a Scoping Meeting, which was subsequently held on April 26, 1993 in the Town Council Chambers, Audrey P. Beck Building, 4 South Eagleville Road in the Town of Mansfield, Connecticut. A period to receive written comments to be reviewed under the scoping process ended May 19th, 1993. The University of Connecticut collected comments written in response to the Notice of Scoping as well as commentary provided at the Scoping Meeting. Written scoping comments were included in the Draft EIE appendix, while a report of the Scoping Meeting is provided in Appendix B of the Record of Decision.

An Environmental Impact Evaluation (EIE) of the proposed actions was released for review on May 10, 1994. A Notice of Availability was published in the Connecticut Law Journal and area newspapers (see Appendix A). Copies of the document were distributed to reviewing agencies and the Town Clerk’s office, and copies were made available for public review at the Town Hall Library, at the UCEPI offices at 1244 Storrs Road in Mansfield, and at the UConn Facilities Management Department at 624 Gilbert Road Extension on the Storrs campus. A 45-day comment period began with the document’s release and ended June 24th 1994.

A public hearing was held Thursday, June 16th, 1994 at 7:00 P.M. in the Town Council Chambers, Audrey P. Beck Building, 4 South Eagleville Road in the Town of Mansfield, Connecticut. All spoken comments at the public hearing, as well as written comments, have been considered by the sponsoring agencies in making a decision on the proposed action. A summary of the comments made at the public hearing is included in Section II.
SECTION II
SUMMARY OF COMMENTS MADE AT PUBLIC HEARING JUNE 16, 1994

Fred Cazel, Mayor, Town of Mansfield

Read text of letter to UConn from the Town of Mansfield dated June 16, 1994 (attached).

Joan Buck

Regarding Air Quality, on EIE Page 3-77, CO² hot-spot screening analysis found that the location studied is not a hot spot. The EIE "seems to conclude" based on the results of the screening analysis a hot spot was not indicated on the worst-case intersection that was studied. The proposed spine roadway and research park will not have a significant impact on air quality and is consistent with the State Implementation Plan (SIP) for Air Quality. This finding is not credible in view of a 1.5% per year projected increase in background traffic, and that no other screening locations were studied. Page 3-93 Table 18, extremely high projected trip generation rates.

It is "considerable strange" that the EIE did not examine any local streets and ignores a number of intersections. Correspondence from the Town (of Mansfield) Planner dated June 9, 1994 concurs. Traffic analysis should have studied more intersections. Also, sidewalk along Route 44 at the intersection with the spine roadway. The EIE does not encourage the use of off-site commuter parking lots, except for a reference to carpooling on EIE Pages 3-101 and 3-102.

Cost benefit analysis: EIE would be improved by tables and balance sheets with specific line by line estimated costs items and benefits assumed. The total benefit of $68 million must be calculated to justify the claim made on Page 5-7 that the net present value is positive by $51 million.

Sam Matos

Mr. Matos read the EIE stated benefits of the proposed actions. "For every gain, there is a loss. For everything that is done, there is left something undone."

The Town "has been taking a beating" from new housing, traffic, malls, commercial developments, that have been delivering "knock-out blows to what was once a rural farming community." "Insidious suburbia threatens to supplant what was once the glory of Mansfield" which is the "rich and lovely land." How did this happen? The Town has a rural farming history. "If we are in danger of losing our sole as a town, it is because we are endangering our land. Without a love for our town's land and its heritage, we might as well cease to exist."

Men in white coats sometimes don't have all the answers. Wisdom sometimes comes from the mouths of children. (Mr. Matos read from Farming as a Way of Life, an essay by Alfred Stadner published by the Mansfield Historical Society, describing a rural experience.) What can We (citizens) find in 333 acres slated for bulldozers, chain saws, and asphalt treatments? The
Town of Mansfield has prime farmland, clean water, etc. The country can’t be kept on a shelf in a museum, once it’s gone, it’s gone forever.

"We must realize that what is good for the university is not necessarily good for the Town. We cannot as a town, continue to depend on the university for our future. Please remember that before any University of Connecticut, there was the Town of Mansfield, and before the Town of Mansfield, there was the land. Cherish it, protect it, be good to it, I beg you."

**Dwight Dammon**

"The park has been carefully configured to avoid any significant environmental outrage." "The future of Connecticut lies in industrial production and commercial activity, not in agriculture. And so that the primary concern should be to providing a research park that will support commerce and industry, and not to hold in too great consideration the effect on farmland." The message is "opposite message from the previous speaker."

Traffic in town is generally light. Spin-off activity from the park will have long-term benefits for the region, while the research park itself will have short-term benefits immediately.

**Ayla Kardestuncer**

(Water Resources: Ms. Kardestuncer gave an overview of the university water supply system.) The proposed ATI Building will require a peak demand of 20,000 gallons per day which UConn indicated is "not a problem." What is a problem is that for the University to provide water service to further research park development, additional supplies would be required that are contingent upon state reviews and permits, which would take 1½ to 2 years to complete. "How, I ask you, can decisions be made today, based on information which may take 3 or more years to reach you of reach us?"

UConn will upgrade its waste water treatment plant to 3.2 million gallons per day. "Its plant today at full-use makes the Willimantic River 25 percent treated sewage at low-water. This is, by the way, secondary sewage, not tertiary which is the kind you can drink." "If more water is taken to support UCEPI's needs in the form of new wells, that reduces the water for dilution of treated sewage, Estimates are that at low water, the river would be as much as 50 percent treated water. I ask you is this permittable?"

The university as an monopoly on the water supply. Its system requires diverting flow from the Fenton watershed to the Willimantic watershed. What mitigation can be implemented when no master plan exists for the system?

Why does NEPA apply to just 14 acres (ATI Building NEPA)?
Sam Zahl

(Submitted "Comments of the Tech Park Study Committee on the EIE of Tech Park" dated June 14, 1994. See attached correspondence. Mr. Zahl spoke from the text, which concern the EIE cost/benefit analysis.)

Jim Knox

Anyone who has bought a home in the town knows that UConn is a major occupant of the town, and has been for over 100 years. It is therefore "not unreasonable for any resident to assume that, over the years, the university is going to expand, and that its going to draw peripheral growth around the town area. So, while this growth will upset many people, It is certainly not unexpected."

"The development proposed is relatively innocuous as development goes." The estimate for park level of development is inflated, and has frightened many citizens in the town.

"I fear for Connecticut and its future." Connecticut presently depends upon the military and gambling casinos. The park offers a better prospect for jobs and economic growth than gambling casinos.

Peter Newcomer

The proposed park will be the "biggest single piece of development that's ever struck the Town of Mansfield." While UConn has taken over 100 years to develop to its current level, the park is to be constructed over 15 years.

There is potential for a "significant (economic) disaster." This is at least a decade-old project. Ten years ago, "we were told that business was going to build this park and that is wasn't going to cost us a cent." It was only 3 to 4 years ago that UCEPI director Michael Helfgott said that they're not out to capture taxpayer dollars.

EIE does not satisfy the purpose and need by market demand. The marketing study in the EIE is "definitely the weakest chapter in the entire document." To summarize the EIE, presently-locally housed research institutes are the only two guaranteed tenants so far identified. No market forces are seen, so the demand doesn't justify the expected $65 million cost of the park. Moving ahead with the park is not consistent with the UCEPI intent to rely on market forces.

"I would like to see something in the EIE . . . some discussion of what would happen to the assets of the park, as well as its debts and its maintenance requirements, should it fail.

As the EIE mentions, research parks between 1983 and 1986 where constructed nationally at the rate of 12 parks per year, but since 1991 the rate has been two per year. In view of economic conditions, a research park should have special advantages to compete, such as a major urban area, available transportation, several research institutions nearby. But the EIE hasn't cited any such advantages.
In an article in the Chronicle in August 1993 regarding the Mansfield Training School land as an alternative site for the research park, Representative Jon Pelto was quoted saying "we should dispense with this as soon as possible." This indicates that "UCEPI had its mind made up where it wanted to build the park." The Mansfield Training School did not get a fair and impartial consideration. The American Threadmill Company Building should have been considered. It would have less environmental impacts, better transportation availability, and Willimantic need the help. Instead, "what your doing is essentially doing is stripping off and suburbanizing in one sweep over 300 acres."

There is "very little discussion of habitat fragmentation in the EIE." The road will further subdivide the habitat, three avian species and one amphibian species will be further endangered.

The jobs that the research park will provide will consist of chamber maids and white coat "technoids," not jobs appropriate for Mansfield children.

"In looking at the EIE for the park, it's characterized by what is doesn't mention, by questionable assumptions, by an avoidance of the real reality of the thing at full build-out, which is a piece of ugliness." "I think of this destruction as wanton, because there really isn't any necessity for it."

Norman Conn

State expenditure has been on architects, engineers, planners to produce not a set of design drawings, but a set of working drawings.

"I believe that Connecticut in doing all this is affording itself a great luxury and taking a great risk at the expense of our most precious resource: the land." (Mr. Conn expressed concern of aesthetic affect of roadway construction and night illumination.) "I urge the State and the University to discontinue investing money in design and engineering on this monstrous idea."

Richard Sherman

Speaking as a Mansfield resident. (Mr. Sherman is member of the State of Connecticut Council on Environmental Quality.) "This project has been categorically excluded from the NEPA process, that's National Environmental Policy Act. And I realize what you're doing here is conducting a CEPA investigation consistent with the fact that the State of Connecticut is investing roughly $10 million on this project; and I have no criticism with that as far as it goes, but I have certain reservations about it, really, fulfilling the needs of the type of review that this process really requires for several reasons."

Firstly, "CEPA is considered a very ineffective law." Environmental agencies, after years of asking the legislature to put some teeth into the CEPA process, now feel it would be better to get rid of CEPA. Included within CEQ's report to the governor is the recommendation to eliminate CEPA.
Secondly, "the agency that ultimately will issue some type of determination whether this project goes forward or will not go forward, OPM, also sits on the board of UCEPI." In terms of a system, there is a lot to be desired.

"There's plenty of history in this country where federal actions really provide a certain type of protection that of individual liberties and certain situations that local actions and government (will not provide)." For example, at the recent Route 6 hearings, where the EPA and Army Corps of Engineers showed interest in preserving wetlands and air quality not demonstrated by the State agencies.

"What I'm suggesting is that the categorical exclusion that was issued and exempted this project from NEPA was incorrect, and a number of us are going to get it overturned, hopefully. We feel that the data that was presented to obtain the categorical exclusion was incomplete to say the least." "I don't understand why an attempt was made to make (a bypass) around the NEPA process. I think that its terrible example for the University to set."

Joan Dammon

This comment is in response to the references made by previous speakers to tertiary sewage treatment. (Having a background in chemistry, Ms. Dammon worked some 20 years ago on a town study regarding sewage treatment). "There were questions raised at the time around whether or not we need tertiary sewer treatment."

I recall that "tertiary sewage treatment is pretty exotic treatment, that you use it where there is heavy industry and large communities, and it didn’t seem that that’s a necessary thing in the Town of Mansfield; and I don’t think such as Mansfield might become with the research park that’s proposed."

Dave Rowlinson

A couple of years ago University president Harry Hartley at a Common Ground meeting said he considered the park a "dead letter" of his previous administration. "I think the park has mostly been met with apathy as far as the university is concerned. Its really a political deal, just like the grandiose scheme for the Mansfield Training School of Jonathan Pelto."
SECTION III

WRITTEN COMMENTS
On the Draft EIE
LIST OF WRITTEN COMMENTS

STATE AGENCIES
   Office of Policy and Management (June 30, 1994)
   Department of Environmental Protection (June 23, 1994)
   Department of Public Health and Addiction Services (July 22, 1994)
   Connecticut Historical Commission (August 5, 1994)

MUNICIPAL
   Town of Mansfield, Town Council (June 16, 1994)

OTHER AGENCIES
   Windham Regional Planning Agency (June 24, 1994)
   University of Connecticut Educational Properties, Inc. (June 24, 1994)

PUBLIC
   Peter Newcomer (June 13, 1994)
   Sam Zahl, Tech Park Study Committee (June 14, 1994)
   Samuel Matos (June 22, 1994)
   Joan Buck (June 23, 1994)
   A. Kardestuncer (June 23, 1994)
   Alison Hilding (June 24, 1994)
   David E. Rawlinson (June 24, 1994)
   Sam Zahl, Tech Park Study Committee (June 24, 1994)
To: George T. Kraus, P.E.
    Director, Design, Planning and
    Construction Management
    University of Connecticut

From: Donald DeFronzo, OPM

Re: OPM Comments on Draft EIE for Research and Technology Park (Mansfield)

The Office of Policy and Management (OPM), subject to Section 22a 1 (e) of the Connecticut Environmental Policy Act (CEPA), has conducted a review of the Draft Environmental Impact Evaluation (EIE) Report for the Research and Technology Park proposed to be built in Mansfield.

As proposed the research and technology park is intended to satisfy two needs: that of higher education and that of economic development. The EIE indicates that the state intends the park to provide training and employment opportunities for students, while promoting the transfer of technologies and skills between the University and private industry. The park is intended to assist in the growth of new ventures by technology / science - based companies.

The Research and Technology Park plan and EIE detail the three phases of development anticipated at the 333 acre project site. Planned facilities call for research capacity, office buildings, a hotel and conference center. In addition, a new state highway segment will link an existing dead - end highway on the site with State Route 44. Site preparation, road connector completion and construction of the Advanced Technologies Institute (ATI) will be the first priorities. Independent studies referenced in the EIE suggest that 566,000 gross square feet of park space could be occupied by the year 2001 with a full build - out ultimately reaching 1.2 million square feet.

The proposed research and technology park is on a state - owned parcel adjacent to the northern boundary of the University of Connecticut campus. The project area is largely composed of agricultural fields and woodlands. The State Plan of Conservation and Development classifies most of the site as Urban Growth Area, that is land contiguous to Urban Centers or Urban Conservation Areas with the opportunity for staged urban expansion generally in conformance with municipal or regional development plans.

In 1986 the Town of Mansfield Planning and Zoning Commission rezoned the parcel from "Rural Residential" to "Research and Development / Limited Industrial". The Town’s Plan of Development states support for the research park project indicating that private development within the park will be subject to local taxation and land use regulations.
In 1985 the Windham Regional Planning Agency reviewed the proposed zone change noted above and found that the application for zone change was in compliance with the regional land-use plan.

Although the proposed research and technology park is consistent with the land use classification identified in the State Plan of Conservation and Development, the regional land use plan and the Town of Mansfield’s Plan of Development, concerns relating to the environmental impact of the project on farm lands, wetlands, wildlife, vegetation and the surrounding community warrant serious evaluation.

Upon reviewing the EIE, and following a June 16th site visit and attendance at the Mansfield public hearing, several comments are being submitted for consideration.

Wetlands, Groundwater and Floodplains

The UCEPI site contains approximately 80 acres of relatively undisturbed wetlands, much of which is forested, diverse in vegetation and home to a variety of wildlife species. The proposed research park is located uphill of the wetland areas, however the project is likely to result in the loss of approximately .1 to .17 acres of wetland area. This depends on the road placement option to be selected. Due to this likely loss, it is anticipated that DEP will require the creation of a wetland area as a precondition of the permitting process. The proposed detention pond provides the opportunity to create such a wetland offset.

In addition, while all proposed development sites have been configured to avoid encroachment upon wetland buffer areas, each of the park site developments will be subject to review under the Inland/Wetland and Watercourse Regulations of the Town of Mansfield. The proposed roadway, which is a state program, will be reviewed by DEP under state regulations. DEP cautions against development in wetland areas and recommends the use of transitional zones around such areas to better protect the integrity of the wetland system. OPM supports this approach and suggests that the EIE be amended to clearly indicate compliance with DEP’s recommendation.

The introduction of large facilities, traffic, roadways and parking lots will potentially create wetland impacts. The rate of storm water runoff will increase from the developed area, which could increase soil erosion and flooding capacity. In it’s scoping comments DEP indicated that "the site does not appear ... to pose any significant groundwater risks provided reasonable management control is exercised." To prevent adverse runoff-related impacts a drainage collection system including a detention basin is being planned for the project.

Although neither the access road nor park development conflict with any identified floodplain, DEP recommends that a comprehensive Stormwater Management Plan for the entire development be provided at the outset of the project rather then attempting to approach this issue on a piece meal basis as each element of the park is developed.
This appears to be a reasonable recommendation which should minimize adverse environmental impacts while reducing total development cost.

No part of the project development area falls within a state - delineated aquifer protection area and, as a result, it is not expected that construction of the access road or research park will be subject to state, or local, Aquifer Protection land - use regulations. However, due to the proximity of the site to community water systems, the University should adopt a "best management practice approach" to minimize the potential for adverse groundwater impacts. Alternatively, the University could provide a qualitative study of the area's hydrology to demonstrate that near by wells will not be negatively affected by the UCEPI project.

Furthermore, it is proposed that the park be serviced by the UCONN sanitary sewer and treatment system. While this plan will require extension of the sewer system to the site and an upgrade to the capacity of the wastewater treatment facility that currently serves the campus, such steps constitute effective groundwater pollution prevention measures. Funding for this aspect of the project has already been allocated by the Legislature.

Farmlands

In the proposed UCEPI plan approximately 20 to 27 acres of prime farmland, 14 of which are under cultivation, will be lost to development. Preservation of such farmland is a high priority of the Plan of Conservation and Development. Mitigation of such an impact is therefore, highly desirable. Under the present plan UCEPI has offered to offset this loss by providing UCONN's College of Agriculture and Natural Resources with up to 23 acres of farmland at the Mansfield Training School site.

The State Department of Agriculture has said the UCEPI site contains about 100 acres of high grade farmland and, while not opposing the research and technology park plan, urges that steps be taken to protect and preserve the existing farmland.

All efforts should be made to preserve agricultural land at the UCEPI site and minimize it's loss. Any actual decline of farmland acreage should be offset in the manner suggested by UCEPI, at least, acre for acre.

Vegetation and Wildlife

The majority of the project site is comprised of an unbroken tract of approximately 250 acres of wooded forests with the balance, about 100 acres, being farmland. The plant communities are diverse, and vary depending on proximity to wetland or upland areas.
It is quite evident that the UCEPI development will impact forested areas on site as well as a 23 acre off site parcel that will be cleared for use as farmland. The EIE concludes that up to 75 acres of vegetation will be affected by the project and that "the impact of the proposed research park to the mature hardwood forest community on the UCEPI property is significant." The EIE also finds that although there will be a loss in habitat, the proposed project site and the forested community habitat is not unique to the area.

Impacts to wildlife will be minimized through the preservation of the high quality wetlands. Although a decrease in the size of plant populations is likely to occur, "the loss should not result in a loss of species." This is so because there are substantial areas of suitable habitat adjacent to the site. As a result the primary impact to wildlife is likely to be the displacement of some animals to suitable proximate habitats. Of particular concern is the impact on deer and other large animals that are typically dependent on large areas for their habitat. There does not appear to be an effective mitigation measure to limit this potential impact.

Similarly, the impact of the project on native and migrating birds has been analyzed. The EIE concludes that some absorption of displaced birds to nearby forested areas is likely, but as more wooded area is cleared and fragmented some local loss of woodland nesting birds can be expected.

The habitat of birds which use the grassy and weedy fields during the course of their migration will be largely unaffected after the project is completed, although some disruption can be anticipated during the construction phase. The EIE notes that tall buildings pose a hazard to migrant birds and recommends that building design on Development Site 1 be of less than five stories.

In addition, the EIE lists a number of Species of Special Concern, Threatened Species or Endangered Species which could be affected by planned development at the UCEPI site.

While the EIE has identified potential impacts to native and migrating birds, greater attention to mitigation activities and strategies in this topic area is suggested. Is there a workable plan to limit some of these negative effects and will UCEPI initiate such a plan if feasible?

Traffic, Noise and Air Quality

Currently the proposed site is an undeveloped wooded and agricultural area. The research park project will undoubtedly have significant traffic, noise and air quality implications.

It is estimated that after Phase One completion there will be nearly 3,000 daily vehicular trips to the site and that by completion of the entire project, that number will increase to 9,000. Proposed road, intersection and signalization improvements are likely to reduce traffic congestion on Route 195 while facilitating access to the research park. It is estimated that by the year 2001 1,120 people could be employed at the park and commute
to work each day. While the EIE estimates 190, or 17% of that number will use transit services, an aggressive plan to minimize single occupant motor vehicle use must be developed and implemented by UCEPI. Certainly, by the time construction of even Phase One building is complete, the full impact of Clean Air Act regulations will be applicable to the project. It is imperative then, even in this early stage of planning, that UCEPI be committed to the implementation of an employee trip reduction plan.

With respect to the energy supply for UCEPI's proposed buildings, it is estimated that the heating plants will use natural gas as primary fuel and will conform to state standards for stationary sources of pollutants. It is recommended that as plans for the UCEPI research park move forward, options which would allow for a tie in to the University energy system be examined. This may become a more practical and cost effective energy alternative if the University moves in the direction of a new co-generation power plant facility.

Additionally, the EIE needs to better assess the traffic impact of the proposed project on local roads and to determine if improvements in the local road system will be needed.

At the present time noise associated with the proposed site is dominated by traffic related noise from Route 44 and Route 195. A potential noise impact of the research park might result from the increase in project generated traffic. Results of a traffic noise analysis however, found that only a marginal increase in noise emissions from current levels would result, and that the noise level at that point would be far below noise abatement criteria established by DOT for such land use.

In 1989 the first portion of the state funded Technology Park Access Road was completed. And although the State Legislature approved bonding in the amount of $5.5 million to extend the roadway through the project site and to update utilities, prior to the beginning of any new construction, the research park project, including on-site and off-site road improvements, will require a State Traffic Commission permit. The permitting process will assure the review and approval of all proposed traffic modifications prior to implementation.

**Economic and Community Impact**

The estimated direct economic impact of the research and technology park is substantial. It is estimated that, if successful, the full build version of the project will occupy 1.2 million square feet of space at a construction cost of $265 million. Employment projections based on the amount of square footage suggests that as many as 3,000 individuals could be employed at the park with as many as 590 residing in the Town of Mansfield. While these are long range estimates, the impact would seem substantial. In addition, full build property tax revenues to the Town of Mansfield, calculated at the 1993 mill rate, will result in $4.7 million.
Despite the growth in employment from the UCEPI project, the corresponding development of housing units at the former Mansfield Training School (MTS) is expected to meet any increased demand for housing, leaving the real estate market largely unimpacted. While numerically this may be the case, given the varied preferences of home buyers and renters this conclusion should be re-examined. In addition, the timing of the MTS development is not directly related to UCEPI development, although the impact of the UCEPI project on the housing market may affect the rate of development at MTS.

Indirect economic benefits from the project are expected to include technology innovation, technology transfer, industrial incubation, job creation, professional conferences and business diversification and expansion.

**Water Supply**

As proposed, the research park is to receive its water utilizing the UCONN water system. By 1998 it is estimated that water demands related to the research park development will be on the order of 100,000 gallons a day adding a significant new burden to an already taxed system.

A survey of usage demands and projected future needs presented in the EIE indicated that already, in 1994, the UCONN system has insufficient water supply to provide an adequate Margin of Safety to meet existing needs. The EIE maintains that research park development beyond the construction of the ATI facility will require an additional supply of water, an objective that will be contingent on state approval. The University claims that because the system's existing margin of safety is inadequate, it will have to seek new water supplies with or without the additional demand of the research park.

The UCONN water supply system is served by two wellfields, the Willimantic River and the Fenton River. Both of these are already experiencing heavy usage. The Department of Public Health and Addiction Services (DPHAS) has concluded that the UCONN system does not have an adequate margin of safety to meet projected demands. Therefore, future development of the Connecticut Technology Park is contingent upon the UCONN water system's planned increase in available potable water supply and it's actual ability to secure such a supply. DPHAS makes several recommendations on how this might be accomplished, but due to the basic importance of this matter, suggests that an interagency coordinating meeting take place to determine the appropriate steps needed to secure the additional necessary water supplies.

Since all water supply system expansions, and/or source upgrades and additions should be coordinated with, and approved by DPHAS, and because DEP approval for any water diversion activity will be required, the meeting suggested by the Health Department should be conducted at the earliest possible date. Without a clear resolution to the water supply issue, the UCEPI project, as fully envisioned, faces a very serious obstacle.
This issue raises the concern about the adequacy of water resources at the UCONN Campus, as well as proposed development sites in the area, and suggests that planned water conservation measures be undertaken to safeguard short term water supplies. Due to the growing institutional demand for water, it is clear that whatever measures UCONN chooses to solve the water supply problem, conservation must be part of the mix.

Alternative Sites

In its initial scoping comments OPM expressed a concern about the infrastructure costs associated with the development of the research park and encouraged UCONN to "consider all possible alternatives, including the Mansfield Training School." As part of the CEPA process the University is required to evaluate options including a "no build" or "no action" alternative.

Clearly a no build alternative would preclude the Technology Park initiative, it's proposed cooperative research and development approach, the envisioned technology transfer, small business incubation, associated economic growth and job creation opportunities.

Following the April, 1993 scoping meeting the University assessed the adequacy of the grounds at Mansfield Training School (MTS) as an alternative site for the research park. A gubernatorial task force appointed in 1988 recommended a plan for the future use of MTS. This plan called for the maintenance of some existing uses, the preservation of open space and the introduction new uses including institutional, housing and commercial development. Of the 840 acres at the site 343 are wooded, 340 are either open space or active farm land, and 157 are already developed with institutional or residential buildings. 175 acres are comprised of inland wetlands.

A report entitled Master Plan for Housing and Commercial Development at Mansfield Training School recommended that 108 acres be set aside for development as a mixed use community. A 22 acre parcel along the Willimantic River is being turned over to DEP to be conserved for recreational use. 280 acres are being transferred to the Town of Mansfield and the University is utilizing a number of the buildings on site. According to the EIE planned uses that preclude research park development on the MTS campus include the vacant facilities that are designated for use by UCONN and the area planned for the housing and commercial development. In addition, inland wetland regulations and topographical considerations preclude development on much of the site.

Remaining areas suitable for development break down into six parcels, none of which are of a size sufficient to accommodate the research park as proposed in the master plan. While the project as planned would utilize 75 acres, the largest available parcel at the MTS is 55 acres and is divided by Route 32. 28 acres of this parcel are actively farmed by UCONN.
In addition to these limitations, DPHAS has classified virtually all land associated with four of the six development parcels, including the 55 acre site, as Class I Land, that is water company land. Any change in land use occurring in this area will require a DPHAS permit under the provisions of CGS 25 - 37d -2. Large scale development of the type proposed in the UCEPI plan however, is generally incompatible with water company land use and is not likely to easily win agency approval. The EIE indicates that the statute also precludes the transfer of such lands to UCONN jurisdiction.

Finally, at present, there is no legislative authorization for UCONN to lease this property to UCEPI. It is concluded then, that the aggregate impact of these factors renders the MTS site unsuitable for the full build UCEPI research park proposal.

**Compliance With the State Plan of Conservation and Development (C & D)**

Analysis of the UCEPI site for development purposes posses an unusual challenge. While most of the project area is classified as an Urban Growth Area, large tracts of land within the development zone are classified as protected areas. These include watershed, wetland and farmland areas.

As defined by the Plan of C & D an Urban Growth Area is a land area contiguous to an Urban Center or an Urban Conservation Area with opportunity for staged urban expansion generally in conformance with municipal or regional development plans. It may be a moderately developed area with vacant, developable lands, existing or planned water or sewer services, and potential for mixed use and intensive development of areawide significance. Transportation services should be available to the site, or the site, at the very least, should lend itself to the development of public transportation services.

Urban Growth Areas are high priority areas for new urban growth in specified areas capable of supporting large - scale mixed uses and densities in close relationship to the Urban Centers. Within Urban Growth Areas state actions should address the growth needs of the state and serve to concentrate a significant percentage of future intensive development forms in these areas in a manner which complements Urban Center and Urban Conservation Area development strategies.

For the most part the 330 acre UCEPI site meets these criteria and has been classified as an Urban Growth Area. However, within this tract of land are several protected areas known as Conservation Areas. These include lands which contribute to the state’s need for food, fiber, water and other resources, open space, recreation and environmental quality. Development at the UCEPI site does involve potential impacts to wetland, farmland and watershed areas. In these areas the Plan of Conservation and Development maintains that state actions should:
a. promote research, education, resource management, regulations, financial and technical assistance or public acquisition as necessary to achieve proper use and protection of Conservation Areas;

b. undertake or support only those uses which are compatible with the resource or hazard of concern, including evaluations of both direct and secondary impacts;

c. demonstrate the lack of alternative sites, overriding social or economic concerns, and the lack of any reasonable alternative public or private uses for any proposal which is clearly and significantly incompatible with conservation;

d. undertake mitigation measures necessary to both protect against degradation and enhance environmental quality.

In addition, the Plan indicates that agricultural lands should be maintained for food production to the maximum extent feasible by minimizing development pressure in the placement and design of major facilities and by permitting irreversible conversion to other uses only when there is a demonstrated overriding need, alternative sites are not technically feasible or economically justified, and the impact of conversion is weighed.

Similarly, an attempt is made to protect wetland and watershed areas by requiring that site planning, architectural or design restrictions, and the use of buffer or fencing controls be undertaken for resource protection, prevention of subsequent pressure from added development, or uncontrolled access.

In addition to all the above, the State Plan of Conservation and Development sets forth an economic development strategy which also impacts the evaluation of development projects. Specifically, the Plan states that government will provide incentives and support for the location of large-scale regionally significant employment concentrations into Urban Centers, Urban Conservation, and Urban Growth Areas. With respect to the UCEPI project, the Plan promotes fostering "business - university - government partnerships which generate new economic opportunities and business."

Because the UCEPI master plan is so large in scope and involves an area which includes sizable tracts of Conservation Area, it is important that the cost benefit analysis be a comprehensive one. Are the projections for development and job growth realistic? Do these justify the development costs, both in terms of up front expenditures and potential environmental impact? Will the large scale investment generate the economic growth projected in the plan? Just as the EIE evaluated alternative construction sites to justify the current project location, the EIE must effectively evaluate the economic benefits resulting from this undertaking in order to better justify the development of this parcel.
In summary, the environmental character of the site and the potential impacts to it resulting from project construction require that the cost benefit factors and the prospect for success be clearly and thoroughly analyzed and the project justified prior to large scale state investment and irreversible environmental impact. For this reason the Cost Benefit section of the EIE needs to be strengthened to address this concern.
Mr. George T. Kraus  
Planning and Construction Management  
University of Connecticut  
Box U-38  
624 Gilbert Road Extension  
Storrs, Connecticut 06269-4070

Dear Mr. Kraus:

The Department of Environmental Protection has reviewed the "Environmental Impact Evaluation for State Actions Associated with a Research and Technology Park, Mansfield." The enclosed Staff Comments are submitted for your consideration.

The proposed State actions to provide infrastructure improvements and partially fund the Advanced Technology Institute building are intended to foster development of a research and technology park adjacent to the UConn campus. Projections for full-build conditions at the park include 1.2 million square feet of research and development/light industrial space as well as a 250-room hotel and conference center.

This level of development on a 333 acre parcel, which is presently forests and fields, in a rural town will inescapably result in environmental impacts. The proposed concept site plans have been developed to avoid the significant natural resources of the site, particularly the extensive forested wetlands.

In general, the Environmental Impact Evaluation adequately describes the existing environment of the area and the nature of potential impacts of development of the park. Staff comments include questions and observations intended to clarify this information, so that the impacts of this State action will be fully understood. More importantly, the comments attempt to provide direction for future planning for the park by suggesting areas where mitigation plans should be developed. This will be critical in the finalization of a Concept Master Plan for the park that is sensitive to the environmental resources of the site. Given the roles of the various State agencies and the University of Connecticut in developing the research and technology park, it is entirely appropriate that state-of-the-art control and mitigation measures be incorporated so that the park will serve as a model for environmentally sound industrial development.

Thank you for the opportunity to review this project. If there are any questions concerning these comments, please contact David Fox of the Office of Environmental Review at 566-2711.

Sincerely,

Robert Moore  
Deputy Commissioner
The Environmental Impact Evaluation (EIE) has been reviewed by the Inland Water Resources; Water Planning and Standards; Permitting, Enforcement and Remediation; Wildlife and Air Planning and Standards Divisions as well as the Office of Environmental Review. The following comments were compiled by the Office of Environmental Review.

General Observations

One general concern of the Department results from the multi-party nature of development of the proposed research park. Given the diverse roster of sponsoring, participating and implementing agencies as well as the role of private developers, it is imperative that the Master Plan being developed include an institutional structure that clearly assigns responsibility for the installation and management of the various mitigation and control measures. These include general park operations, stormwater management, erosion and sedimentation control, hazardous materials management, pollution prevention and landscaping.

In addition, the process for developing the Concept Master Plan is not clearly articulated. To what review processes, if any, will the plan be subject? For example, is this considered a project plan to be reviewed as other Department of Economic Development industrial park proposals? Will this Department be able to review the plan to ascertain whether our suggestions have been incorporated and concerns satisfied? This observation is made because many of the issues raised in our comments would only be completely addressed during finalization of the Master Plan, which is presumably to occur subsequent to CEPA review.

Inland Wetlands

Staff of the Inland Water Resources Division (IWRD) conclude that, in general, the document provides a complete discussion of the wetland, watercourse and floodplain resources which may be affected by development of the site. In addition, the potential impacts to these resources have been adequately described. The potential need for IWRD permits has been accurately reported. Staff of the IWRD have been involved in the delineation and planning for the spine access roadway for the project. The proposed roadway alignments known as Options A and B represent levels of wetland impact which have been minimized by careful design. Further review and analysis of these impacts will occur during the inland wetland permit process.

Page 3-129 states that Option B may have an aesthetic advantage by having most of the development located to one side of the roadway. In addition, the configuration of Site 5 is more coherent with this alternative. As documented in the EIE, there is a difference of 0.07 acres of wetland encroachment between the two park development options. This level of difference is not considered significant in determining the permitability of either alternative.

As reported on page 3-38, the Section 401 Water Quality Certification for projects which cause the loss of between 0.5 and 1.0 acres of wetlands has been conditionally granted.
However, any person proposing such an action must apply to the Department, and if it is
determined that the project is likely to have minimal or no impact on water quality, the appli-
cant will be notified that the discharge is authorized. If it is determined that the project is
reasonably likely to have more than a minimal impact, an individual 401 Water Quality Certif-
icate would be required. Water Quality Certification has been granted for projects causing the
loss of less than 0.5 acres that qualify for the nationwide 404 permit, which is likely the case
for this project.

Although it not an element of the proposed State actions being evaluated in this docu-
ment, the clearing of 8 forested acres for farmland use is troubling to the Department. This
action, required by the lease between the State of Connecticut and University of Connecticut
Educational Properties, Inc., would result in the elimination of 7 acres of forested wetland, an
impact that would dwarf the direct impact of park development on wetlands. This forested
wetland is identified as WA 4, which compiled one of the overall highest probability ratings
for wetland functions and values according to the WET analysis (page 3-48). The clearing is
an action permitted in wetlands, as of right, by section 22a-40(a)(1) of the Connecticut General
Statutes. However, this activity is regulated by section 404 of the Clean Water Act and will
likely require a permit from the U.S. Army Corps of Engineers. Due to the magnitude of the
impact to wetlands, the likelihood of obtaining this permit is questionable. We urge the parties
to the lease to explore alternative methods of mitigating impacts to farmlands and to revise this
lease stipulation.

Stormwater Management

Additional information should be provided regarding stormwater management strategies.
The document discusses, in very general terms, provisions for detention and treatment of
stormwater. Page 5-6 does note that sitework cost estimates include stormwater management
costs and page 7-2 reports that the construction of the stormwater detention basin will occur
during the initial phase of development. We fully support the construction of the stormwater
management system during initial site development, rather than relying on the future develop-
ment of individual parcels to include separate systems. Such a strategy can not only provide
more effective treatment of runoff, but can also be more economical in the long term as well as
provide a marketing tool for subsequent development.

Page 3-31 states that the roadway drainage system will incorporate deep sump catch
basins with hoods to capture flotables in order to treat stormwater. The use of gross particle
separators is recommended. The General Permit for the Discharge of Stormwater and
Dewatering Wastewaters from Construction Activities requires the installation of post-
construction stormwater management measures designed to remove suspended solids from
stormwater. A goal of 80 percent removal of total suspended solids from a stormwater
discharge is required when designing and installing control measures. A well maintained gross
particle separator can achieve this removal goal, while deep sump catch basins would likely
not.

While a preliminary site has been identified to provide detention for the majority of the
site, the northerly portion of the park will require alternate drainage (page 3-28). No informa-
tion is presented as to how detention will be provided for this area to meet both state and local
requirements regarding increased runoff. We are encouraged that "the master planners are
committed to applying necessary measures to prevent any increase in peak stormwater flow
from leaving the site." While detailed information regarding the treatment of stormwater from
both a quantity and quality perspective may not be available during CEPA review, this issue
should be addressed in development of the master plan.

With regard to the General Permit for the Discharge of Stormwater and Dewatering
Wastewaters from Construction Activities, page 3-28 notes that "a single registration may
cover both the roadway and the research park development, irrespective of the timing and magnitude of the various construction phases." This permit would apply to the various phases of development only if they proceed on a relatively regular schedule. Once construction activities have been completed and the site has undergone final stabilization, any subsequent phase of development that disturbed five or more acres would require a separate permit registration. Given the schedule of phasing likely to occur for development of this park, multiple permit registrations would probably be required.

**Water Quality**

The discussions of impacts to surface waters and groundwater does not adequately consider the potential threat posed by the operations of the park's tenants. Proposed users of the park include polymer, pharmaceutical and chemical companies with manufacturing, research and laboratory activities. These uses pose potential threats to water quality from the use, storage, handling and disposal of hazardous materials. Plans for development of the park should include control measures for the storage and handling of hazardous materials to address potential releases such as leaks and spills. The plans should be comprehensive and detailed, assigning specific responsibilities for the various activities, e.g., inspections. Detailed materials management plans should be prepared. Pollution prevention practices should be stressed. Two Department documents that are sources of additional information specific to various industries are: Best Management Practices for Protection of Ground Water and Pollution Prevention Options, Fact Sheets for Industry. The development of this type of comprehensive plan for the proposed research park would be a positive example for environmentally sensitive industrial development, serving as a model for other businesses, and would be appropriate given the State's and University's role in the project.

Page 3-114 notes that permits would be required from the Department for discharges to the sanitary sewer of domestic sewage in excess of 50,000 gallons per day or any discharges of industrial wastewaters. Page 3-32 states that the utilization of the sewer system is considered an effective groundwater pollution prevention measure. In order to ensure proper operation of the sewer system including the sewage treatment plant and prevent potential impacts to both surface waters and groundwater, plans for the park should include sewer use requirements and procedures similar to local sewer use regulations which include pretreatment measures and restrictions on unauthorized wastes.

Although many underground storage tanks are regulated, they can still pose a significant threat to groundwater quality. In particular, non-petroleum chemicals are not covered by State regulations, although as noted on page 3-32, certain substances are covered under Federal Superfund laws. Alternatives to any underground storage tanks should be encouraged. The availability of natural gas for heating should eliminate the need for underground fuel storage.

Based on information in the document, the site of the proposed detention pond is within an area presumed to be impacted by leachate from the UConn landfill. This is reflected in the water quality classification of the area and the interpretation of the cause of low pH from the surface water quality sampling data collected at site 6. It is not clear whether the detention pond will require additional excavation beyond that which has already occurred. The document does not consider the potential impacts of construction of a detention pond, such as the release of leachate to surface water that may occur, particularly if additional excavation is involved. Preliminary information from the Waste Engineering and Enforcement Division indicates that the primary direction of leachate movement from the landfill is to the north and west along the west side of the C.L. & P. right-of-way. This topic should be more thoroughly explored as planning for the stormwater treatment system proceeds.
Public Water Supply

Figure 17 depicts a stratified drift aquifer extending along the southwestern portion of the project area that was apparently mapped in the Town of Mansfield Plan of Development. According to our map, Groundwater Availability in Connecticut, this area has less than 10 feet of saturated stratified drift and would not be considered a significant stratified drift aquifer for community water supply purposes. There are bedrock wells in the area. The nearest significant stratified drift aquifer is associated with the Willimantic River further to the southwest.

As explained in the document, a portion of the proposed park development, approximately half of Site 5, would occur within a public water supply watershed, the Fenton River Basin, which drains to the Willimantic Reservoir of the Willimantic Water Department. Page 3-131 claims that the park is consistent with State policy regarding such watersheds, classified as Conservation Areas in the Conservation and Development Policies Plan for Connecticut. Specifically, a lack of alternatives has been demonstrated and overriding social/economic concerns are cited. However, these factors pertain to the park as a whole, not a portion of Site 5. Would alternative designs, which avoided development in a public water supply watershed, be viable?

In addition, the possible mitigation measures discussed in the document are all applicable throughout the entire park. Again, no special consideration has been given to the area within the public water supply watershed. Additional, more intensive mitigation measures should be considered for this area. These could include prohibition of certain industries, exclusion of hazardous materials, special design of loading and storage facilities, prohibition of underground storage tanks, and other measures. The diversion of runoff to the Willimantic Basin could also be considered.

Utilities

The description of the UConn water supply system and the impact of park development is somewhat ambiguous. The existing system is judged to be inadequate based on an examination of the various margins of safety prescribed by the Department of Public Health and Addiction Services. This conclusion is used to support the claim that any potential impacts which may result from expansion of the system are not considered to be a consequence of the proposed park development. On the other hand, the existing system is judged to have adequate capacity to support the demands of the ATI Building (8000 gallons per day average flow, 20,000 gpd peak flow).

The expansion of the water supply system through the installation of a new well in the Willimantic River wellfield will require a diversion permit. This permit process will explore the need for withdrawing additional supply from the Willimantic River basin, by requiring an extensive analysis of alternatives, as well as thoroughly evaluate the potential impacts of the diversion. Clearly, any significant development of the research park must await the expansion of the water supply system.

As stated in the document, the expansion of the UConn sewage treatment plant included capacity to meet the demand expected from the full build condition of the research park. Construction of the expanded plant is expected to begin this summer and be completed within two years. The estimated sanitary sewer demands of the ATI Building, 8000 gallons per day average flow, can be handled, on an interim basis, by the existing plant. However, significant additional flow from subsequent phases of park development would require completion of the new treatment plant.
Wildlife

Although farmlands have been judged to have moderate functional value in terms of plant communities and ecological habitat, page 3-55 describes their value only in terms of standing crops providing shelter and crop remains providing food. It should be pointed out that several passerine species use and rely on farmland at all times of the year. Horned larks, for example, will use agricultural areas more extensively when the crops are just beginning to grow or prior to planting. Countless invertebrate species including moths and butterflies use this type of habitat. Food chains/web do not necessarily have to be linked to the existence of lush plant communities. Similar observations can be made regarding open field habitat, judged to have low to moderate habitat value by the EIE.

The EIE associates ecotones with ecological opulence (page 3-56). While this may be the case for edge species of wildlife, these openings also serve as corridors that increase predator access to many interior species of wildlife.

Page 3-65 notes that the main block of forested woodland east of the spine roadway would be cleared and that some local loss of neotropical migrant avian species should be expected. By clearing sites for development and fragmenting the remaining forest habitat, it is likely that development of the park will eliminate successful nesting at the site by those neotropical migrants that nest in forest interiors. In order to emphasize this point, it is recommended that this fact be acknowledged in the section describing unavoidable adverse environmental impacts.

Page 3-61 discusses the importance of the site as a stop-over for migrating bird species. Given the number of species utilizing the site, many of them listed for State protection, the evaluation of "at least moderate importance to some species" should be interpreted to mean probably more than moderate importance.

One of Mr. Bevier's recommendations concerning mitigation of potential impacts to migrant birds is to limit the development of site 1 to less than 4 stories in height. The Department concurs. The document does not make a commitment to follow this recommendation. This factor should be considered in siting the hotel/conference center, likely to be the tallest building to be developed.

The document reports that the Department (actually the Wildlife Division, not the Natural Resource Center noted on page 3-60) recommends management of grasslands to provide suitable habitat for various listed avian species that use the site during migration. (The document's use of open space when referring to grasslands and fields should be avoided as this term has a very different meaning in the context of land-use planning.) Besides Mr. Bevier's observation that human traffic should be contained away from these areas, the document contains no specific information as to how this recommendation will be implemented. Agricultural land does provide habitat for these species, so that this use of portions of the parcel will be beneficial. Yearly mowing to prevent succession of fields to forest cover, as long as it does not disturb any potential nesting, can also provide suitable habitat. Specific measures to mitigate potential impacts to species listed for State protection should be incorporated into the Concept Master Plan. For additional information concerning potential habitat management measures, contact Jenny Dickson of the Wildlife Division at 566-4626.

Hazardous Waste

Page 3-72 states that "the DEP is petitioning the EPA to have the site (former chemical pit area and closed solid waste landfill) included on the National Priorities List (NPL) of Superfund Sites." This is not the case. The DEP did conduct a Site Inspection (SI) at the
UConn landfill/waste pits in September, 1993. An SI is one of a series of investigations to determine if a site is eligible for pre-remedial activities in the Federal Superfund program. The SI essentially concluded that the site is still eligible for further investigation under CERCLA. However, the site remaining active in the CERCLA process after completion of an SI does not imply that the site will be nominated to the NPL. The DEP has made no such recommendation; the next step will be decided by EPA.

Page 3-73 interprets the EPA delegation of "State Lead" status to DEP as an indication that the site has not been deemed worthy of Federal attention. In fact, DEP was awarded a Multi-Site Cooperative Agreement grant from EPA to perform assessments at a number of sites in the State under the Federal Superfund program. This is not an indication of the likelihood of any particular site being subsequently included in the NPL. It should also be pointed out that the site is included on the Inventory of Hazardous Waste Disposal Sites maintained by the Department. Sites on this inventory that pose an unacceptable threat to the environment or public health are subject to remedial action regardless of whether they are active or inactive in the Federal Pre-Remedial program. Given existing conditions, such an action is not likely to be required at this time; however, inclusion on the inventory ensures that appropriate remedial measures could be undertaken if future conditions warrant such action.

The Department, in general concurs with the conclusion on Page 3-73 that the former chemical pits do not appear to be adversely impacting the nearby environment. However the inclusion of off-site potable groundwater as part of this determination should be qualified by indicating that all private residences in close proximity to the site have been connected to the university water supply system.

Air Quality

Page 3-77 notes that the proposed roadway may be subject to an Air Quality Indirect Source Construction and Operation Permit. If the roadway is to be part of the state highway system as defined in section 13a-14 of the Connecticut General Statutes, it will require this permit. A permit is required for any new highway on a new location in the state highway system, regardless of its length. Section 13a-14(c) defines state special service highways, which are highways that provide access from the primary and secondary systems of state highways to federal and state facilities. It appears that the proposed roadway, which will serve as a through road to the UConn campus as well as a park access road, could meet this definition.

Corrections

A comparison of the narrative description of the water resources of the site on page 3-18 and their depiction on Figure 16 reveals that locations G and H are probably switched on the figure. In addition, location J, south of the agricultural road, is depicted at the north end of the property.

The codified sections of the Aquifer Protection Act noted on page 3-26 should read 22a-354a through 22a-354bb.

The descriptions of the drainage directions for sites 1 and 2 toward the identified wetland areas are not correct on page 3-48.

On page 3-57, the last paragraph includes two typographical errors. The common yellow-throated killdeer should be two different species: the common yellowthroat and the killdeer. Also, mourning dove should be corrected.
The discussion on page 3-62 of the impact of the various building sites is incorrect. The description for site 6 (which does not exist) appears to refer to site 5, while the description for site 5 should probably be site 4.

The statement on page 3-73 that concludes that the spine roadway and research park development does not have the potential to pose a significant threat to the quality of local groundwaters should be amended to make it clear that the conclusion is the consultant's. As written, the statement may imply that DEP personnel made this conclusion.

The statement on page 3-74 concerning the use of private wells around the UConn property being discontinued should be clarified. Are the properties to the north along Route 44 are now supplied by the UConn water system?

Despite its title, Appendix H did not contain a vegetation list.

cc: Jenny Dickson, DEP/WD
    Raymond Frigon, DEP/PERD
    Robert Hust, DEP/WPSD
    Bob Kaliszewski, DEP/EQ
    Tom Morrisey, DEP/IWRD
    Joe Pulaski, DEP/APSD
    Chris Stone, DEP/PERD

Michele Sullivan, DEP/OCER
Edgar Hurle, DOT
Lori Mathieu, DPHAS
Phil McLellan, OPM
Peter Simmons, DED
Terry Supple, DPW
MEMORANDUM

TO:       George Kraus, Director
          University of Connecticut
          Planning, Design & Construction Management

FROM:     James Okrongo, Section Supervisor (Planning)
          Water Supplies Section
          Department of Public Health and Addiction Services

SUBJECT:  Review of the Environmental Impact Evaluation For State Actions
          Associated With A Research And Technology Park, Mansfield,
          draft report, Project BI-D-164-1.

DATE:     July 22, 1994

The Department of Public Health and Addiction Services - Water Supplies Section has reviewed
the above mentioned Environmental Impact Evaluation for potential adverse impacts to public
water supplies and the availability of the present University of Connecticut water supply system
to supply the proposed development. Concerns exist regarding adequacy of the potable water
supply and source protection issues. These concerns are outlined within the following report and
need to be addressed.

Please contact Lori Mathieu of this office if you have any questions or wish to meet regarding
our comments.

lm/uceiel/wri

cc:       David Fox, DEP
          Phil McLellan, OPM
          Peter Simmons, DED
          Terry Supple, DPW
          Fred Banach, DEP
          Joseph Gardner, Willimantic Water Department
          Sid Albertsen, OPM
          Paul Ritsick, DPHAS-WSS Engr.
MEMORANDUM

FROM: Lori J. Mathieu, Planning Analyst
Water Supplies Section
Department of Public Health and Addiction Services

SUBJECT: Review of the Environmental Impact Evaluation for State Actions Associated with a Research and Technology Park, Mansfield

DATE: July 22, 1994

PROJECT DESCRIPTION: The above mentioned Environmental Impact Evaluation (EIE) is for the development of a research and technology park on a 333 acre parcel located north of the existing University of Connecticut Storrs campus. The planned facilities for this site include research and office buildings and a hotel/conference center. Specifically, the EIE evaluates two similar proposed site plans.

PRESENT WATER SYSTEM OPERATIONS: The University of Connecticut (UCONN) water supply system, which supplies potable water to the UCONN campus and former Mansfield Training School area, is served by two separate wellfields: Willimantic River Wells #1, #2, and #3, and the Fenton River Wellfield Wells A, B, C, and D. The attached spreadsheet outlines the UCONN potable water supply system concerning water supply available to the University under various demand situations, for present and future planning periods. These figures are consistent with the draft UCONN Water Supply Plan, dated September 1993 (revised July 1994). The spreadsheet compares available water figures to present and projected demands to determine a margin of safety ratio. This margin of safety methodology is consistent with the DRAFT DOHS POLICY FOR THE DETERMINATION OF MARGIN OF SAFETY FOR WATER SUPPLY PLANNING PURPOSES. A margin of safety ratio of under 1.0 is considered a deficit situation.

The key term in evaluating a water system's margin of safety is available water. Available water is defined within the margin of safety policy as the maximum amount of water a company can dependably supply, taking into account any limitations imposed by hydraulic, treatment, DEP diversion registration/permit, or other considerations and can not exceed the safe yield of system sources. System storage can not be included in the calculation of available water. It is important to note the restrictions of the UCONN Wells in considering the available water to the system. The Fenton River Wells are restricted by the DEP registration figure of 0.8443 million gallons per day. The Willimantic River Wells are restricted by pump capacities during an 18 hour day.

A review of the margin of safety figures reveals a present day deficit of the UCONN system in meeting maximum month average day demands (ratio of 0.97), and peak one day demand (ratio of 0.85). Also, the ratio of the present day available water without the largest source on-line slightly meets the present average day demand (ratio of 1.01). The Water Supplies Section considers this present day margin of safety deficit a critical supply shortage situation. Graph #1 utilizes these margin of safety figures along with projections for the 50 year planning period. This graph illustrates projected available water for the UCONN system with existing sources only, as compared to future projected demands. This graph shows the obvious need of the UCONN system for additional supply.
UCONN plans to increase available water by constructing an additional gravel packed well at the Willimantic Wellfield (i.e. Willimantic Well #4) by the year 1998. Additionally, UCONN plans to increase existing Willimantic River Wells pumping capacities through well redevelopment, along with activating MTS Well #2 (presently an emergency source). With these planned improvements to the UCONN potable water supply system, the University will be able to meet projected demands through the year 2040. This is shown on Graph #2. However these system improvements are contingent upon DEP diversion permitting and development of these sources are not assured.

**PUBLIC WATER SUPPLY WATERSHEDS:** A portion of the proposed research park (i.e. Site 5) lies within the public water supply watershed of the Willimantic Reservoir. The Willimantic Reservoir’s safe yield of 7.9 million gallons per day serves approximately 20,000 people in the towns of Windham and Mansfield. This watershed area on the site of the proposed research park is defined within the Conservation and Development Policies Plan for Connecticut 1992-1997 (C & D Plan) as conservation area land due to its definition as Class II type land.

**COMMENTS AND RECOMMENDATIONS:** The Water Supplies Section has the following comments and concerns based upon this proposed research and technology park.

(1) As previously stated within the May 17, 1993 comments to the Notice of Scoping, any future development of the proposed research and technology park is contingent upon the UCONN water supply system's planned increases in available potable water supply. As illustrated within the above discussion, in comparison to present (1993) demand data water available to the UCONN system is not adequate to serve the existing system during maximum day demand and peak day demand. It is imperative that the UCONN system obtain additional water supply before any planned increase in demand.

The EIE states that the existing water supply system has adequate capacity to support the demands of the first planned building of the research and technology park (i.e. ATI Building). It is stated that the ATI Building is presently in design and construction could begin after the CEPA process is completed and the necessary approvals/permits are acquired. Demands of the ATI Building are 8000 gallons per day on an average day, and 20,000 gallons per day peak day. It is not advisable to continue to increase the demands on the UCONN water supply system without first acquiring additional supply. Presently, while UCONN is in session the water supply system is stressed by pumping the Willimantic Wells 24 hours per day to meet demands. Potable water system design standards recommend 18 hour per day pumping of each well source at a maximum to allow aquifer recharge and recovery, and reduce mechanical stress to the well pump mechanisms. Should mechanical failure occur during the school year, a severe water shortage is possible.

(2) The EIE mentions that the available water/margin of safety calculations of the DPHAS "...ignore the recent redevelopment of Willimantic Well #2. The redevelopment, intended to increase the efficiency of that well, includes the installation of a new pump and the flushing of sediment." (page 3-105). The redevelopment of Willimantic River Well #2, which was completed on September 22, 1993, did not result in a significant increase to the available water as UCONN had planned. As shown within the spreadsheet, Willimantic Well #2 has an approved pump capacity of 220 gallons per minute from this office. UCONN planned to redevelop this Well to an increased pump capacity of 350 gallons per minute, which was the original capacity at installation. After redevelopment, the rated pump capacity for Well #2 was 191 gallons per minute.
(3) Figure 16 (page 3-23) should label the Fenton River Basin as the public water supply watershed to the Willimantic Reservoir with a surface water designation of AA (i.e. a designated use as an existing drinking surface water supply watershed).

Due to the use of this watershed as an active public water supply, the C & D Plan designates this area as conservation area land - Class II type land. Previous comments to the Notice of Scoping for this project expressed our concerns with the type of development planned for this Class II type land. The Water Supplies Section is concerned that our previous comments were not appropriately addressed within this EIE. State plans and policies should be consistent with the policies of the C & D Plan. Numerous policies concerning water supply and conservation areas were not addressed. Essentially, planned development within a public water supply watershed should not be of a type and intensity to require sewer service. The State Policy is to preserve conservation area land, and to "...maintain all Class II type land in existing state ownership." (C&D Plan, page 123). The Water Supplies Section believes that the above policies were not appropriately addressed within the EIE.

(4) Previous comments of the Water Supplies Section raised the requirements of the DPHAS Water Supplies Section for review and approval of any water distribution system expansion, water system upgrades, and well site locations pursuant to Public Health Code 19-13-B102(d). Section 6, page 6-1 does not include these necessary approvals. This Section of the EIE should address permits and approvals for the entire research park.

(5) Previous comments requested an analysis of potential impacts to the surrounding public water supply community wells owned and operated by various apartment complexes which surround the proposed site. The EIE Table 10 (page 3-25) lists four community water systems with wells near the project area. The Carriage House Apartments and Orchard Acres Apartments should be included within this Table.

The EIE did not individually evaluate the potential impacts to each community water supply well. General best management practices were discussed, however, there were no specific discussions concerning possible impacts to surrounding wells due to construction activities and future land use activities. Groundwater flow was assumed to follow surface water flow. This however may not occur in reality and should be investigated further.

**CONCLUSION:** Previous concerns of the Water Supplies Section were not appropriately addressed within this EIE. Of most importance to the UCONN system is the acquisition of additional potable water prior to any additional demand increases. This issue is critical to the UCONN system and needs to be appropriately addressed within this EIE, along with the above mentioned comments. Given the current supply deficit situation, planned developments which increase demand are not advisable until additional supplies are in place.
Margin of Safety
University of Connecticut
Mr. George T. Kraus  
Design, Planning & Construction Management  
Facilities Management  
624 Gilbert Road Extension  
Box U-38  
University of Connecticut  
Storrs, CT 06269-1038

Subject: Research and Technology Park  
Mansfield, CT  
Project #BI-D-164-1

Dear Mr. Kraus:

The State Historic Preservation Office has reviewed the  
Environmental Impact Evaluation prepared by Frederic R. Harris,  
Inc. concerning the above-named undertaking. In particular, this  
office concurs with the document's assessment that the project  
area possesses moderate to high archaeological sensitivity.  
Therefore, we believe that professional archaeological  
investigation is warranted in order to definitively identify all  
archeological resources which may exist within the project  
limits. All archeological studies must be undertaken in  
accordance with this office's Environmental Review Primer for  
Connecticut's Archaeological Resources. A list of professional  
archeologists has been enclosed for your information.

The State Historic Preservation Office strongly supports and  
endorses the proposed research and technology park. We look  
forward to working with the University of Connecticut's  
Facilities Management Department in the expeditious furtherance  
of the proposed undertaking as well as in the professional  
management of Connecticut's archaeological heritage.

For further information please contact Dr. David A. Poirier,  
Staff Archaeologist.

Sincerely,

Dawn Maddox  
Deputy State Historic  
Preservation Officer

cc: Dr. Nicholas Bellantoni/OSA
Mr. George T. Kraus, Director  
Design, Planning and Construction Management  
University of Connecticut  
Box U-38, 624 Gilbert Road Extension  
Storrs, Connecticut 06269-4070  

Re: May, 1994 Draft Environmental Impact Evaluation,  
UCEPI Research and Technology Park  

Dear Mr. Kraus:  

Mansfield's Town Council has reviewed the May, 1994 draft Environmental Impact Evaluation (EIE) regarding UCEPI's planned research and technology park. At it June 13, 1994 meeting, the Council authorized me to forward review comments for your consideration in the "Record of Decision" for this project.  

In general, the proposed research and technology park is considered by Town staff to be consistent with Mansfield's Plan of Development, and the Town Council generally supports the development of a University-oriented research park at the location proposed north of the UConn campus. The Town Council, however, has concerns regarding the potential size of this project and number of potentially detrimental impacts for Mansfield residents. We request that further consideration be given to the following matters:  

1) Due to primary as well as secondary impacts for the Town of Mansfield, it is essential that the subject research and technology park buildings remain under the regulatory jurisdiction and associated public participation processes of Mansfield's Inland Wetland Agency and Planning and Zoning Commission. Furthermore, due to expected fiscal impacts associated with an anticipated increase in municipal and educational service costs, this project must remain subject to local property taxation. Page 1-25 notes that it may be appropriate to establish an "urban enterprise zone or free trade zone" for encouraging tenants. It is unclear whether this will affect proposed taxation benefits for the Town, and this issue should be elaborated upon in the EIE.  

2) The EIE anticipates that by 2001 the UCEPI project will generate 1,400 employees, with an estimated 276 of the employees residing in Mansfield. At full buildout, 3,000 employees are anticipated, with 590 Mansfield resident employees. Yet the EIE concludes that the UCEPI project "would not cause a significant impact on the housing market in the area." This conclusion is not supported adequately. Town staff believe the impacts on Mansfield's housing market may be greater than projected in the EIE. Furthermore, the EIE does not analyze in any detail potential impacts on Mansfield's population, school enrollment or service needs. These deficiencies in the EIE should be addressed comprehensively.
3) Although the EIE discusses neighborhood characteristics and concludes that potential impacts can be minimized through "project siting and design, as well as the retention and creation of vegetative screens around the perimeter of the project site," there is no specific commentary on potential impacts on neighboring property values. Due to the proximity of existing residential areas (particularly to proposed development sites 4 and 5), it is essential that potential neighborhood impacts be analyzed in association with Mansfield's land use regulations.

4) Although the EIE notes that the park location is within a Federally-designated non-attainment area for ozone, it does not adequately address Clean Air Act requirements that may directly affect the subject project. The EIE should provide more details regarding State and Federal requirements for air quality permits. These permit requirements may significantly affect the size of the project, as well as transit, ridesharing and road improvement elements of the proposed research and technology park.

5) The EIE notes that the University of Connecticut supplies or will supply public water to both the former MTS area and the UCEPI project area. It is noted that the present water system can serve the proposed first park tenant (ATI Building), but that additional supplies (new wells) are needed to provide water service beyond the first building. State reviews and permits (DEP, DPHAS) are needed for the new water supplies and a 1.5 to 2-year approval period is anticipated. The EIE does not include an analysis of potential Willimantic River impacts. The likelihood of DEP and DPHAS approval of new wells deserves more consideration in the EIE.

6) The EIE emphasizes the use of a large detention basin downhill of developed areas. There is limited discussion regarding potential impacts on the large wetland system downstream from this detention area and whether a series of smaller detention areas (in close proximity to areas of development) would have less overall environmental impact. This stormwater management/environmental protection/water budget issue should be reviewed further. Potential impacts at various storm intensities (1 yr., 10 yr., 25 yr., 100 yr., etc.) should be evaluated.

7) While the EIE does indicate general support for ridesharing and public transit, it does not provide adequate transit details. The plan's assumed 17% trip reduction based on transit and other forms of transportation is not supported by any data and potentially could be increased through a more comprehensive transit element. Car pooling projections may be overly optimistic, given the character of the jobs at the research park and the residential areas drawn upon for employees. Assumptions about the extension of the existing regional fixed-route transit service into the park and its ability to stop off the road also are not substantiated. The EIE-referenced Transit Study by Frederic R. Harris, Inc. was not available for review. The EIE should provide more transit details, including recommended locations for bus pulloffs and bus shelters. Attention should be given to onsite, as well as offsite locations. In addition, the EIE should address the need for sidewalks and bicycle improvements along Route 44, particularly in the vicinity of the intersection with the proposed new technology park roadway.

8) In the EIE, proposed intersection and roadway improvements assume a background traffic growth of 1.5% per year. The use of this high level of background growth is not consistent with an anticipated 5% population growth over ten years.
or recent UConn projections regarding student enrollment. The EIE should reanalyze background traffic assumptions which, in association with a more comprehensive transit analysis, may result in a decrease in anticipated roadway improvements. In addition, an agreement exists regarding the early 1990's reconstruction of the Route 44/195 intersection which may bear on its future upgrading.

9) The EIE has not analyzed traffic impacts on any Town roads, including Baxter, Birch, Cedar Swamp and Hunting Lodge Roads, as well as the intersections of Baxter/Rt. 195, Baxter/Rt. 44, Hunting Lodge/Birch, Hunting Lodge/Rt. 44, Birch/Rt. 44. This is a significant deficiency that must be addressed. Any proposed improvement on Town roads requires a Town Highway Permit.

10) The Town Council supports road alignment B, which encourages a clustering of buildings and is considered more compatible with project objectives, site aesthetics, pedestrian safety and public transit opportunities.

11) The eight-day comment period following the Public Hearing provides limited opportunity to submit written comments on this significant project.

Thank you for affording the Mansfield Town Council an opportunity to comment on this important project. We look forward to seeing the issues raised here addressed in your "Record of Decision."

Very truly yours,

F. A. Cazel Jr.
Mayor, Town of Mansfield
Mr. George T. Kraus, Director, Design, Planning and Construction Management
University of Connecticut
Box U-38
624 Gilbert Road Extension
Storrs, CT 06269-4070
fax 486-3117

Subject: EIE/Research and Technology Park
Mansfield, CT (F. Harris 5/94)

Dear Mr. Kraus,

It was not possible for the full board of the Windham Regional Planning Agency to review the EIS on the proposed research and technology park before their June 7 meeting; and comments must be submitted before the agency meets again on June 29. The following brief comments, therefore, originated with the WRPA staff and deal only with technical matters.

Page Comments
1 - 17 Lebanon is one of our ten member municipalities and is not, as your text states, located outside the Windham Region.

1-25 Despite a substantial poverty rate of 21.9 percent (much of it attributable to its student population) we are doubtful that the census tract where the UCEPI property is located could qualify under current criteria for designation as a state or federal enterprise or free trade zone.

3-77 It is not ConnDOT's place to, "bring the Windham Regional Transportation Plan, which will account for the proposed roadway, in conformance with EPA criteria." WRPA adopts the RTP and comments on ConnDOT's transportation improvement program (TIP) for the Windham Region, both of which, in theory, are used to prepare the state implementation plan (SIP).

3-86 A map of existing and proposed transit routes would make this information more easily absorbed.

The final sentence on this page gives a misleading picture of the ridership of the WRTD Storrs/Willimantic fixed route. A recent survey shows that 37.5 percent had no UConn affiliation.

3-87 The Town of Mansfield joined the free-fare experiment at the beginning of 1994 on behalf of its residents who lack a UConn affiliation, and it was subsequently agreed by all participating entities to extend the program for another year.
3-123 The 15 acre commercial district you describe is west rather than east of the spine roadway.

3-125/126 To avoid confusion, the Windham Region should be identified by its full name on the six occasions where it is mentioned on this page and in Tables 26 and 27 on the next. As you note at the top of the page, the Town of Windham abuts Mansfield on the south, and there is also a Windham County.

Sincerely,

[Signature]
Margaret Hemphill
Senior Planner

cc: OPM/Don DeFronzo
ConnDOT/Mark Phillips
June 24, 1994

Mr. George T. Kraus, Director
Design, Planning and Construction Management
University of Connecticut, Box U-38
624 Gilbert Road Extension
Storrs, CT 06260-4070

Dear Mr. Kraus:

The University of Connecticut Educational Properties, Inc. (UCEPI) would like to make the following comments regarding the draft Environmental Impact Evaluation (EIE) for the planned research and technology park:

1. The UCEPI board would like to state, again, its strong preference for the 'B' road alignment. It will allow us to best achieve our objectives of park coherence and sense of community; interactions between buildings, building and park aesthetics; safety; and marketability.

2. We would like the project definition and state action clarified to include that the road(s) to be built might not be that limited to completing the spine road. The enabling bond legislation from 1990 anticipated that the state funds might be needed to support the construction of park roads. The wording in the EIE could be construed as limiting the action to just the spine road.

The recently concluded Special Session of the Legislature authorized another $3,300,000 for this project. That amount, combined with the already authorized $5,500,000, totals $8,800,000 to be used for the park improvements.

That amount included in its calculation additional funds for interior (to the park) road work that would be needed if the 'B' road alignment is selected. Specifically, the 'B' option would require a length of road running northerly and westerly to be built from the northern end of the existing park road section and eventually intersecting with the new portion of the spine road.

As I understand it, the impacts will not change. This would merely clarify that the state is the party responsible for building that length of road.

Thank you for your consideration of our comments.

Sincerely,

[Signature]

Michael Helfgott
Executive Vice-President
Commentary upon Environmental Impact Evaluation, University of Conn Educational Properties, Inc. 13 June 1994

The Ucepi EIE argues that the Park should be built and that it should be built on the site proposed by Ucepi. We intend to question both these assertions in a systematic manner in the discussion that will follow.

A construction project of the size of this Park necessarily entails major environmental impacts. The Park’s promoters must demonstrate that they have

a) compelling reasons for going ahead with the project and

b) selected the alternatives which minimize environmental impacts.

Analysis of alternatives is the most common in EIE’s and such analysis is certainly deficient in this one (EIE Section II).

Must the Park be built? The EIE does assert that it must be built with public funds (p. ES-4) but fails to demonstrate any pressing need or demand for the Park as a whole. Such a demonstration would involve a market-study revealing lively demand for the Park on the part of business entities on the one hand and a corresponding interest on the part of UConn faculty in participation in Park activities.

We submit that the market study is the weakest chapter in the EIE document. In summary, not one of the companies contacted has committed itself as a Park tenant. It is stated that the Environmental Research Institute and the Precision Manufacturing Center will rent space, but they are presently housed a scant mile from the proposed Park and simply moving them can hardly be used as justification for a project of this size, cost, and impact.

As the EIE document itself points out, the era of Tech Park construction seems largely over in the United States: from 1983 to 1986, fourteen such Parks were started in an average year. By 1991, Park starts were down to two per year.

The implication seems difficult to escape: such Parks are creatures of economic boom. When the market is opening up for new products, business becomes interested in new facilities to develop those new products. When, however, demand slows, then investment in new product development declines precipitously.

Given these grim facts, it seems clear that in order to succeed in the present climate, any Park must possess at least some special features/advantages. These might include proximity to a number of research institutions, to a major metropolitan area, outstanding transportation facilities, an international border, or some other competitive assist. No such advantages were mentioned in the EIE for UConn/Ucepi/Northeast Connecticut and we can think of none.
We also know that business refused to invest in the Park even during the recent era of economic boom. They were not impressed with the idea then and it seems safe to remark that their interest has not been awakened by anything that has happened since, in the Park or outside it.

Should the EIE not include contingency planning for the Park's failure, i.e., who will become responsible for its debts, physical upkeep, etc if its promoters have misjudged its appeal?

From the faculty side, for whatever reason, there is likewise no expression of interest that was thought worthy of inclusion in the EIE. The UConn Research and Development Corp, an organization to develop "faculty entrepreneurs", is dead, and no clamor for the Park is heard from any quarter inside UConn.

Non-research aspects of the Park touched only lightly in the market study: "most interview comments focused on the importance of a hotel/conference center in helping the University expand its reputation". Can the project be justified by UConn's desire to "expand its reputation"?

If the facility is to be built for this reason, shouldn't UConn be building it? Are present UConn facilities of this type (Bishop Center, Faculty Club, etc) overbooked? If the hotel/conference center is seen as viable in open-market economic terms, why are our local business people not interested in building it?

The third major feature of the Park is the spine road. The EIE argues that without the road, the size of the Park would be limited, and the need is cited to redirect from 195 adjacent to the Park and from Hunting Lodge Road.

Dealing with these assertions in order, ConnDOT has always stated that it operates on a demand-model in road construction and improvement. If the demand is not present (and may, as we have tried to show above, never be present), then building the spine road appears to run counter to DOT policy.

The argument that the road will relieve pressure on nearby arteries is one frequently encountered in road construction, and has been widely accepted at its face value. The problem, though, is that it simply doesn't work that way; new roads do not make thinner the traffic on roads near them. We challenge the authors of the EIE and their traffic experts to point to an instance where this has happened.

We predict, on the contrary, that should the Park be built to planned size, that it will a major traffic disaster for the Town, generating by the EIE's own estimate, 3000 trips per day in 1997 and 5000 a day in 2010. This, by the authors' own admission, will necessitate very extensive modifications of Town and State roads and intersections, with significant environmental and socio-economic impacts. Mansfield residents have a significant history of resistance to unwanted road "improvements" and will certainly not regard the list in the EIE with any favor.
Thus, far from having little or no significant effect, the spine road and the Park will have an immediate and long-term effect on Mansfield's already over-crowded roads in the vicinity of UConn. In seeking to minimize impacts, the "no-build" option for the spine road must be the first to consider.

Building the road and the Park entail some very significant environmental impacts, only some of which are explored in the EIE. In this section of the discussion we wish to mention the following concerns:

- Endangered and other state-listed species
- Habitat fragmentation
- Water and sewerage
- Wetlands
- Air quality
- Storm-water runoff
- Pollution

In the matter of the state-listed species, we must ask if a survey of their breeding-season use of the on-site habitat has been carried out as urged by DEP in its response to Notice of Scoping? If, as DEP author David Fox says, "these species are identified as utilizing the site, the EIE should document the extent of possible impact and include mitigation measures." The time recommended for such a survey was "early June." Has this been done?

Related to this is the concern for habitat fragmentation. The Park and its road make profligate use of land; the project as a whole involves very significant deforestation and the road in particular, with its 12-foot travel lanes, four-foot shoulders and long cuts for low slopes often involves denuding, paving, and riprapping of a strip in excess of 150 feet wide. ConnDOT has stated that they can/will build in no other way. Ugly and destructive though the southern portion of the spine road is, the northern half will be built to the same specifications if it is built (EIE Section III-129). These wide, looping roads and neo-suburban building designs create barriers to wildlife movements and degrade their habitats in ways which we are only now beginning to understand (see appendix I).

Water availability and discharge of waste water is treated as a non-problem by the EIE. Having been involved in the recent Mansfield Training School Waste Water Treatment Facility discussion and hearing, we don't see it that way at all.

UConn will not have sufficient water for the Park without negotiating and bringing in new sources. These require diversion permits taking an average two years to obtain, and under present conditions in the Willimantic River Valley, there is a good deal of doubt about their issuance. This doubt exists because at present seven-year low water flow on the Willimantic River, treated sewage forms one-quarter to one-tird of the river at the outfall downstream from Pine Lake Dam. UConn's ongoing efforts to upgrade their sewage treatment plant from 1.9 to
2.7 or 3.25 (depending on which report you read) will have the effect of converting half the Willimantic River to a stream of treated sewage. This outcome would be aggravated by the withdrawal of still more water from the aquifer upstream, greatly lessening the dilution of the waste. This situation is not addressed in the EIE. Is it permittable?

The issue of wetlands is dealt with in only summary fashion by the EIE, which remarks that only .1 or .17 acres will be "affected" (filled?) The authors fail to discuss secondary impacts to wetlands which would result from removal of forest cover and consequent ground-water warming, siltation, and other impacts. Likewise, no detailed plan of stormwater runoff from the very large parking lots is evaluated, nor is there any discussion of how such stormwater management could be co-ordinated with handling the flow from the road. In all, at 80 acres of the site is wetland, an amount equal to that which would have been destroyed by the Route Six Expressway. That project is now dead largely because of those wetland impacts.

In air quality, the EIE states that "the proposed spine road and research park will not have a significant impact on air quality and is consistent with the state SIP for air quality." This is difficult to accept as stated; is the EIE really trying to assert that 9000 trips per day, many of which involve a cold start, will have no effect on the quality of the air in Mansfield? Nowhere in the EIE is there any concrete planning for reductions in auto use or non-auto modes of transportation. They commit themselves to think about these matters during later phases, but that is all we found.

The essence of the 1990 Clean Air legislation is that the air in non-attainment areas must improve 15% by 1996, not get worse. If this doesn't happen, the "hammer provisions" mandate the suspension of federal highway construction dollars until the goal is met.

Last in our very summary list of concerns must be pollution. Section III of the EIE basically asserts that the old UConn landfill/chemical pits site has been cleaned up and that we need anticipate no further movement of toxic leachate from this location (after most wells on Hunting Lodge Road were poisoned by this moving plume and UConn piped water to the affected residences).

The toxic substances from the landfill/chemical pits have not been stabilized, however, as is shown in appendix II, and the blithe assurances by Harris Associates can only cast further doubt on the integrity of the entire EIE.

The appended report implies the appearance of the leachate plume at 240 Hunting Lodge and the likelihood is that the same process is affecting the well at Clubhouse apartments (appendix III). It would seem that either the disturbance of the soil in the construction of Holinko Estates or mere continued natural movement of these poisons through the ground has given this result. What does this mean for future construction and storm-water diversion on this site?
Since there are significant questions about the impacts of the Park in its proposed location, the EIE is obligated to consider alternative locations, and it has done so, at least to the extent of rejecting the Mansfield Training School property. This rejection seems unfortunate since the MTS site is already at least partially developed and locating the Park there would have much reduced environmental impacts and might have obviated the necessity to construct an access road.

For whatever reason, it is clear that Ucepi did not want to build on MTS land and that their minds were made up on this point well before the technical reasoning in the EIE was developed (appendix IV). The fact that Harris Associates found good and sufficient reason to reject MTS siting shouldn't surprise us but we shouldn't accept this at face value either, given their sponsors' prejudgment of the matter.

We need to know, minimally:

1. Is the site considered really the only MTS land available or potentially available? Is the Town of Mansfield, for instance, going to move ahead with the "model village" or might that land be made available to Ucepi?

2. Does the Park really require 75 acres or is this only an artifact of their extravagant use of land?

An alternative which has never to our knowledge received serious consideration is the now-vacant American Thread Company site in Willimantic. By coincidence, their square footage, at 1.2 million, precisely matches the Park's target size at full build-out. Other advantages include the availability of city services, rail transport literally at the back door, the proximity of Eastern Connecticut State University, the fact that no environmental damage need be factored in, and of course the much-needed economic stimulus to a hard-pressed community. Has Ucepi overlooked the ATC site merely out of desire for the glitz of new glass-and-steel construction in a suburban setting?

In conclusion, we found little in the EIE that was not in need of re-thinking, re-balancing, and additional data. The primary reason for the weakness of the EIE is the peculiar nature of the planning process which has taken the Park to its present stage.

Concretely, Ucepi has only now begun to think about who might use the Park, and for what. Their entire effort prior to this spring has been to pull taxpayer dollars *. The state and federal governments

---* The state is building the entire road; it is paying operating costs of a million or so a year; Ucepi has also gotten itself a sales-tax exemption on a $265 million project. The state Dep't of Economic Dev has put in $10,000,000 as has the federal Dep't of Energy. When the EIE states that the growth-rate of the Park will be controlled by "market forces", one has to wonder when these are going to kick in.
have both gone along with this; they have supported the Park so far without any plan or any demonstration that either UConn or business needed the Park. This upside-down planning process has occupied ten years but has produced only very hasty and incomplete thinking about the Park's design and use. Its "planning" has been concerned with the capture of taxpayer dollars and little else.

As an example of that, UConn and Ucepi were only recently at loggerheads over "intellectual property rights"--the question of who will own the patents/copyrights to the ideas and devices produced in the Park. Even at this late date, then, the Park continues to stumble from crisis to crisis; if the issue is not settled on Ucepi's terms, the Park can never succeed since no rational corporation is going to develop new products over which they have no exclusive rights.

In your evaluation of this EIE, do keep in mind that gross errors and/or omission may be present, and every assumption must be checked.

Thank you and good luck,

[Signature]

Peter Newcomer
Member, Tech Park Study Committee
HABITAT FRAGMENTATION is widely considered to be the principal threat to plants and animals in Connecticut and around the world. Habitat is altered or lost when development fragments land into smaller, isolated segments. This issue of the EECOS Journal discusses the consequences of fragmentation, and suggests minimization solutions and regulatory tools that can serve the interests of both the development community and the environment.

We hope that you find this information useful. Your comments are welcome as are inquiries regarding the professional services of EECOS environmental consultants. Please address your comments to: Anthony Irving, Partner, EECOS Inc., 25 Honey Hill Lane, Lyme, CT. 06371. Or call (203) 434-1460.

Fragmentation is not as much a measure of the actual amount of open land forfeited, but of the disturbance in relation to the habitat requirements of the species dependent on the land. It not only reduces an area's ability to support individual species but causes habitat isolation. For wildlife this can preclude the maintenance of viable population sizes and for certain plants restrict avenues of pollination. In both cases, it can result in eventual extinction.

In forested settings, permanent disturbances such as road construction, building, gravel extraction, and utility rights-of-way inevitably reduce the amount of contiguous forest cover. Development of agricultural and pasture lands create similar pressures resulting in smaller, fragmented pieces of habitat.

Intermittent activities also alter habitat, but the impact on resident species varies depending on the type and duration of disturbance. For example, clear cutting every 80 years has a different effect than taking 25% of the timber on a 20 year rotation. Knowledge of the natural resource base, including the habitat requirements of species, is needed to assess potential habitat disruption.

An individual bobcat, for example, may require more than 10 square miles of mixed forest habitat with a much larger area needed to support a breeding population. Certain forest dwelling bird species require at least 100 acres of continuous forest due to high densities of nest predators and parasites in smaller forests. Conversely, the eastern worm snake requires as little as a few forested acres of white pine and hardwoods.

Aside from dividing land into smaller habitat units, fragmentation also reduces access to a diversity of habitat types that wildlife require for daily activities and at different life cycle stages. Mole salamanders, for example, spend most of the year in moist woodlands but migrate to vernal pools in the spring to lay their eggs. Snapping turtles leave lakes and ponds to lay their eggs in upland areas; while for most upland mammals, wetlands provide food, water and cover. Generally speaking, the greater the diversity of habitats, the more species found.

The full impact of development is not easy to determine, but certain planning strategies will protect the greatest number of species by providing a diverse and healthy ecosystem or by protecting habitat for rare or endangered species. Some specific recommendations.

PLANNING - Fragmentation is reduced with planning that minimizes disturbance, buffers development from sensitive ecological areas, and retains corridors between habitat types. Planning works best when knowledge of surrounding properties is also incorporated into the land-use design. Looking beyond property boundaries increases the likelihood of preserving the interconnection of natural resources.

MINIMIZATION - Spreading development out uses more space and natural resources and distributes fragmentation over a larger area. Instead, make maximum use of land already disturbed or use land adjacent to existing development to minimize impact. By clustering, overall density remains the same and activities are restricted to defined areas and the balance of property kept in open space.
A knowledge of the natural resource base provides the information needed to best site the building cluster in relation to sensitive environmental areas. Clustering reduces infrastructure costs: roads are shorter as are power, sewer and water utility lines. Also, open space areas included in a development have historically added value to adjoining homesites. Tax advantages are gained when easements on open space areas are donated to a non profit group such as a land trust.

BUFFERS - Buffers around sensitive habitats minimize the effects of fragmentation while enhancing the interconnectedness of adjoining habitat types and their functions. In the same way that buffers or setbacks protect wetlands and watercourses, they are equally important for reducing the impacts to other habitat types. In fact, destruction of particular uplands will have a causal effect on certain wetlands functions.

Creation of adequate buffer zone widths requires an understanding of the habitat type and species being protected and the kind of disturbance activity proposed. For example, interior forest birds may require a 300 foot wooded buffer to protect them from certain edge dwelling species. Edge dwellers, on the other hand, primarily utilize open areas, so maintaining a 50 foot buffer of field adjacent to wooded edge could provide many of the resources they need.

CORRIDORS - A corridor is an undeveloped tract of land which serves as a bridge across inhospitable environments connecting favored plant and wildlife habitats. By connecting a variety of areas, corridors satisfy a full range of biotic and abiotic needs and in themselves can provide habitat depending on corridor size, type of habitat, and connecting system.

The decision on corridor placement and size depends on species utilization. Generally, maximizing width is a good way to improve effectiveness as more habitat is incorporated and insulation from outside disturbance is increased. Corridor effectiveness is further enhanced when distances between protected areas are minimized.

Capitalizing on adjacent land increases corridor effectiveness if connections are made with off site habitats which can create a habitat network and, ideally, contribute to a larger, regional greenway system. The summer 1992 issue of the EECOS Journal focused on corridors in more detail; copy available on request.

IMPLEMENTATION - Land use minimization, buffers, and corridors are all methods that when used together reduce fragmentation impacts and increase our ability to live within natural resource limitations. This type of approach to land use planning balances the needs of all species, enhancing the value of the land to humans while ensuring diversity and preserving long term species survival.

Regulatory procedures can be used to incorporate fragmentation mitigation into land use plans. However, there are no regulations which specifically cover habitat loss, other than for wetland areas. Concerned parties can currently use an eclectic array of regulatory tools to begin to address habitat protection, but the key to any such effort is cooperation and shared understanding. Only when all parties involved in the development process agree on the importance of habitat preservation can effective implementation realistically take place.

CURRENT REGULATORY TOOLS
Planning and Zoning Commissions
* Cluster development
* Mandatory open space setasides
* In kind setaside fees for purchase of other land
* Coastal Area Management site review
* Enforcement
Inland Wetlands Commissions
* Wetlands and watercourses protection
* Regulated setbacks
* Natural resource inventorying for findings of significant impacts
* Enforcement
Taxation Strategies
* Conservation easements on significant lands
* Tax abatements under PA490
* Town tax abatements using the open space classification on homeowner lands over minimum lot size
Appendix II

Water Pollution at the UCEPI Site

In early 1991, following construction of apartments "Holinko Estates" adjacent to her property at 240 Hunting Lodge Road, Ayla Kardestuncer was having severe water problems. The water turned black, left almost indelible stains where it touched, and eventually destroyed the heating system.

Three water tests\(^1\) showed a cocktail of contaminants including Manganese, the latter at about five hundred times the maximum permitted levels. The water was classified unsafe for either drinking or general use. Had manganese been ordinary table salt the concentration (of about 1/4 tsp. a gallon) would have been fine for cooking pasta, but Ayla's tenants didn't like black chemical spaghetti.

A lot of aggravation later and about $10,000 poorer Ayla's house was hooked up to the Uconn water supply, and her tenants could wash clothes again without looking like pallbearers.

This still left the question of where the muck came from. Ayla knew that about 10 years earlier other residents of Hunting Lodge Road had suffered contaminated water supplies, which had been traced to the Uconn chemical dump and landfill behind Hunting Lodge Rd. Eventually Uconn had connected those residents to its own water supply free of charge, while denying any responsibility. Ayla was not so lucky - Uconn charged her $3000 for water.

The actual history was that, in 1982 the DEP ordered Uconn to investigate and clean up soil and water contamination caused by the chemical dump, the landfill and the sewage treatment plant. An investigation was carried out, including water sampling, and a report issued in January 1985\(^2\). This report showed:-

a) Isolated high levels of Manganese, though the highest was 1/3 of Ayla's levels\(^3\)

b) The Uconn landfill as the source of Manganese\(^4\)

c) Possible underground rock faults allowing polluted water to "flow uphill"\(^5\)

\(^1\)See Schedule #1
\(^2\) Original report held by DEP Water Resources, Hartford. Extracts from the report are at Schedule #2 and extracts from water testing at Schedule #3
\(^3\)See Schedule #3 p2
\(^4\)See Schedule #2 p3
\(^5\) See Schedule #2 pages 3, 11, 12 and 13
Coming more up to date, in February this year UCEPI released a Natural Resources Inventory, and presented this at a public meeting on April 26th. Unfortunately this Inventory deals very superficially with water pollution problems, referring merely to the 1985 report, and totally ignoring Ayla's well contamination, despite the fact that Uconn had been aware of this for two years, and the Inventory's author, Dennis Miller of Harris Inc. claimed to have reviewed Uconn's records.

Putting all this together we have:

i) Potentially severe underground water pollution waiting to be released by further construction work on the Ucepi site

ii) Unpredictable location of pollution areas due to unknown underground rock faults

iii) A level of environmental monitoring which appears superficial and inadequate

It is hazardous for the Town of Mansfield to allow this project to proceed any further without establishing the true extent of the muck that lies underground waiting to be stirred up.

---

6 See Schedule #4
7 See addressee on Schedule #1
Dear Mr. Labato:

The following is a report of the water sample submitted to this laboratory on April 22, 1991, from the dwelling located at 240 Hunting Lodge Road, Mansfield, Connecticut.

Sample Number: 04-22-91-02U

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor</td>
<td>Slight</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>60</td>
<td>Std. Units</td>
</tr>
<tr>
<td>Turbidity</td>
<td>25</td>
<td>NTU</td>
</tr>
<tr>
<td>pH</td>
<td>6.1</td>
<td>Std. Units</td>
</tr>
<tr>
<td>Iron</td>
<td>1.5</td>
<td>mg/l</td>
</tr>
<tr>
<td>Manganese</td>
<td>26.8</td>
<td>mg/l</td>
</tr>
<tr>
<td>Ammonia Nitrogen</td>
<td>1.1</td>
<td>mg/l</td>
</tr>
<tr>
<td>Nitrate Nitrogen</td>
<td>≤1.0</td>
<td>mg/l</td>
</tr>
<tr>
<td>Chlorides</td>
<td>7</td>
<td>mg/l</td>
</tr>
<tr>
<td>Hardness</td>
<td>86</td>
<td>mg/l</td>
</tr>
<tr>
<td>Alkalinity</td>
<td>92</td>
<td>mg/l</td>
</tr>
<tr>
<td>Sodium</td>
<td>3.5</td>
<td>mg/l</td>
</tr>
<tr>
<td>Coliform Bacteria</td>
<td>0</td>
<td>Organism/100 ml</td>
</tr>
</tbody>
</table>

Based on the above parameters, we recommend that this water not be classified as safe for general use and for drinking purposes under existing conditions. The source of the extremely high manganese and ammonia nitrogen, and the odor, should be determined and a remedy instituted.

Please let us know if there are any questions concerning this analysis.

At your service,

Brenda A. Fallon
Laboratory Director
Dear AQUA-PURE Customer:

Thank you for submitting your water sample for our analysis. Below are the results of our lab analysis of your sample, along with recommendations and comments.

**TER ANALYSIS # 12913**

**STATION:**
AYLA KARDESTUNGER
1641 STORRS RD.
STORRS CT 06235

**DISTRIBUTOR:**
BERT GUNN
18 REDLAW RD.
CHAPLIN CT 06235

<table>
<thead>
<tr>
<th>SULTS:</th>
<th>UNITS</th>
<th>ANALYSIS</th>
<th>MAL (max. allowable level)</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>ph</td>
<td>6.07</td>
<td>500.0</td>
</tr>
<tr>
<td>DS</td>
<td>PPM</td>
<td>106.00</td>
<td>0.5</td>
</tr>
<tr>
<td>Turbidity</td>
<td>NTU</td>
<td>4.90</td>
<td>150.0</td>
</tr>
<tr>
<td>Total Hardness</td>
<td>PPM</td>
<td>65.00</td>
<td>0.3</td>
</tr>
<tr>
<td>Iron(Fe)</td>
<td>PPM</td>
<td>0.90</td>
<td>0.05</td>
</tr>
<tr>
<td>Manganese(Mn)</td>
<td>PPM</td>
<td>17.00</td>
<td>0.1</td>
</tr>
<tr>
<td>Copper(Cu)</td>
<td>PPM</td>
<td>0.00</td>
<td>0.5</td>
</tr>
<tr>
<td>Tannins</td>
<td>PPM</td>
<td>2.90</td>
<td></td>
</tr>
</tbody>
</table>

**ANALYSIS SUMMARY:**

Low pH, High turbidity, high iron, very high manganese, high tannin.

**TER RECOMMENDATION:**

ES and COMMENTS:

Extreme conditions prohibit use of Aqua-Pure Iron Removal System.

Multifamily

Sincerely,

[Signature]
Laura Baigert
Product Specialist
WATER ANALYSIS TERMINOLOGY

**pH:** The pH, which represents the hydrogen ion concentration in water, has a range of 1-14, 7 being neutral and below that being acidic. The desirable range for drinking water is 6.5 to 9.0. Below 6.5, the water can be corrosive to metal pipes and fixtures causing blue-green stains.

**TDS (Total Dissolved Solids):** The total amount of dissolved minerals and elements in water. Low TDS levels generally are indicative of better water quality. **USEPA limit:** 500 ppm (mg/l)

**TURBIDITY:** Turbidity in water is caused by suspended matter, such as clay, silt, oxidized iron, organic and inorganic matter, plankton and microscopic organisms. **USEPA limit:** 5 units

**HARDNESS:** Hardness is primarily the result of calcium and magnesium ions. Hard water scales increases soap consumption and can foul heating coils and other fixtures. Hardness can be expressed in ppm (mg/l) or grains per gallon (gpg). Water hardness levels are classified as follows:

<table>
<thead>
<tr>
<th>Type</th>
<th>ppm (mg/l) or gpg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soft water</td>
<td>0 - 1</td>
</tr>
<tr>
<td>Slightly hard</td>
<td>1 - 3 1/2</td>
</tr>
<tr>
<td>Moderately hard</td>
<td>3 1/2 - 7</td>
</tr>
<tr>
<td>Hard water</td>
<td>8 - 10 1/2</td>
</tr>
<tr>
<td>Very hard water</td>
<td>over 10 1/2</td>
</tr>
</tbody>
</table>

**IRON (Fe):** Iron concentrations as low as 0.3 ppm (0.1 ppm under some conditions) will cause an orange-brown staining on laundry and fixtures. Soluble iron (also known as "clear water" or ferrous iron), precipitated iron (also known as "red water" or ferric iron) and bacterial iron (also known as iron bacteria), can be taken out by the Aqua-Pure Iron Removal system. The presence of iron in water can result in color, turbidity and odor to the hardness level. **USEPA limit:** 0.3 ppm (mg/l)

**MANGANESE (Mn):** Manganese concentrations as low as 0.05 ppm can produce a brownish or blackish stain. The presence of manganese can be bothersome to any forms of water treatment systems, even for the Aqua-Pure Iron Removal system. The ability of the filter to remove manganese depends on its concentration and the pH of the water. Manganese will precipitate and can be filtered when the pH is above 8.2. **USEPA limit:** 0.05 ppm (mg/l)

**TANNIN (Humic Acid):** Tannins (a humic acid), which may be present in some water supplies, are the result of various forms of decaying vegetation. Tannins can cause problems in the operation of the Aqua-Pure Iron Removal system by forming a sticky coating on the media, thus rendering it incapable of filtering the iron. Generally with tannin concentrations of 0.5 ppm or less, more frequent backwashing will prevent the sticky coating from forming.
APPLICATION GUIDELINES

Below is the information needed to properly suggest and size filtration systems to solve a particular water problem. Please fill out the form completely.

1. Distributor Name: William C. Plumbing Supply
   Address: 992 Bedford Rd.
   City: Fairfield
   State: CT
   Zip: 06430

2. Customer Name: Ayra Dost
   Address: 1641 Storrs Rd.
   City: Storrs
   State: CT
   Zip: 06268

3. Domestic application steps 1 to 4. Commercial application steps 1 and 5.

   Water Problems

   A. When this water sample was drawn was it:
      - Clear?
      - Cloudy?
      - Colored?
      - BRN
      - Is this water sample: Untreated?
      - Treated?

   B. Your water problem:
      - Hardness (lime deposits, scale formation)
      - Iron deposits (redish-brown stains)
      - Greenish/bluish stains on sinks, tubs, etc.
      - Acid water
      - Pitting of fixtures and/or pipes
      - Sand (visible particles)
      - Sediments (dirt/rust, silt, cloudy)
      - Bad taste: Iron, Bitter, Salty, Chlorine
      - Other/Describe:

   C. Where would you like to solve your water problem?
      - Whole house
      - Other

      Bad odor: Rotten egg, Musty, Iron, Chlorine
      - Other/Describe:

      Chemicals: Nitrates, Lead, Bacteria, Other

   Water Source
      - City or area-wide authority
      - Community water system

4. Well Water System:

   2. 09pm "Pump Rate" of pump. See instructions:
      - How to Measure Pump Rate
      - Type of pressure tank: Air-to-water
      - Bladder type
      - Gallon capacity of tank 19 gals.
      - Operating pressure (Low/High) 20/40 psi
      - Pipe sizes: To pressure tank 3/4 in.
      - Service (After pressure tank) 1/2 in.

   4b. How to measure "Pumping Rate of Pump":
      - Make certain no water is being drawn. Open spigot nearest pressure tank. When pump starts close spigot and measure time (in seconds) to refill pressure tank. This is CYCLE TIME.
      - Using container of known volume, draw water and measure volume in gallons until pump starts again. This is DRAW-DOWN.
Drinking Water Analysis - Formaldehyde Testing

STATE OF CONNECTICUT
DEPARTMENT OF HEALTH
CERTIFICATION NUMBER
PH-0514

January 26, 1991

yla Kardestuncer
541 Storrs Road
Storrs, CT 06268

Lab No. 9101105, Inv. No. 9198

AMPLING LOCATION: Shallow Well (Direct), 240 Hunting Lodge Road, Storrs, Connecticut
AMPLING / DELIVERY TIMES: Laboratory Sampled 1/24/91

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Test Results</th>
<th>Recommended / Maximum Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>6.4</td>
<td>6.5 - 9.0 RECOMMENDED RANGE</td>
</tr>
<tr>
<td>COLOR</td>
<td>&lt;5</td>
<td>15 RECOMMENDED MAXIMUM</td>
</tr>
<tr>
<td>ODOR</td>
<td>0.5</td>
<td>3 RECOMMENDED MAXIMUM</td>
</tr>
<tr>
<td>TURBIDITY</td>
<td>0 (none)</td>
<td>5 RECOMMENDED MAXIMUM</td>
</tr>
<tr>
<td>ALKALINITY</td>
<td>--</td>
<td>NO RECOMMENDED LEVEL</td>
</tr>
<tr>
<td>CHLORIDE</td>
<td>3.8</td>
<td>250 MAXIMUM ALLOWABLE</td>
</tr>
<tr>
<td>HARDNESS</td>
<td>60</td>
<td>0-60 soft, 61-120 mod. hard, 121-180 hard, &gt;181 v. hard</td>
</tr>
<tr>
<td>AMMONIA AS N</td>
<td>&lt;.05</td>
<td>.050 RECOMMENDED MAXIMUM</td>
</tr>
<tr>
<td>NITRITE AS N</td>
<td>&lt;.005</td>
<td>1.0 MAXIMUM ALLOWABLE</td>
</tr>
<tr>
<td>NITRATE AS N</td>
<td>&lt;0.10</td>
<td>10.0 MAXIMUM ALLOWABLE</td>
</tr>
<tr>
<td>DETERGENTS</td>
<td>&lt;0.5</td>
<td>0.5 MAXIMUM ALLOWABLE</td>
</tr>
<tr>
<td>RON</td>
<td>&lt;0.10</td>
<td>0.3 RECOMMENDED MAXIMUM</td>
</tr>
<tr>
<td>MAGANESSE</td>
<td>2.2</td>
<td>0.050 RECOMMENDED MAXIMUM</td>
</tr>
<tr>
<td>SODIUM</td>
<td></td>
<td>20 RECOMMENDED MAXIMUM</td>
</tr>
<tr>
<td>COLIFORM BACTERIA</td>
<td></td>
<td>1/100 ml MAXIMUM ALLOWABLE</td>
</tr>
</tbody>
</table>

For the parameters analyzed, this is a satisfactory potable drinking water supply.

The parameters of concern may be objectionable due to the high concentration of manganese, which contributes to the color and turbidity. Treatment for removal would be warranted at this concentration. A high concentration of manganese is NOT a basis for the rejection of a drinking water supply.

If you have any questions, please feel free to call. Very truly yours,

John C. Burrell

2 Lakeview Park West • Columbia, CT 06237 • Telephone: (203) 228-0329
I. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

SUMMARY

In August, 1982, the University of Connecticut (UCONN) in Storrs, Connecticut was issued an "ORDER" by the State Department of Environmental Protection (CDEP), Water Compliance Unit. UCONN was directed to:

"Investigate the extent and degree of groundwater, surface water and soil contamination..."

AND

"Take necessary remedial actions to minimize or eliminate the contamination from such practices."

The suspected sources of contamination were:

- Water Pollution Control Facility (WPCF)
- Sanitary Landfill
- Chemical Disposal Pits

Consulting Environmental Engineers, Inc. (CEE) was contracted by the State of Connecticut, Department of Administrative Services (DAS) - Bureau of Public Works (BPW) in August, 1983 to conduct the necessary investigatory phases of the project. This involved three (3) distinct steps:

- Development, preparation and submission of a "Scope of Study" Report
- Installation of a water quality monitoring system and execution of a water quality monitoring program
- Development, preparation and submission of a detailed hydrogeologic and engineering report
Although considerable data existed indicating some observable water quality degradation locally, there was at the time, no presumption that these facilities had adversely impacted any public or private potable water supplies. Consequently, this study was directed toward defining overall site hydrogeology, ground and surface water quality, and the security of adjacent potable water supplies. Individual wells suspected of being vulnerable to contamination were to be sampled and evaluated hydrogeologically. However, no particular emphasis was placed upon establishing a direct connection between an individual, potable water supply well and the UCONN facilities.

During the installation of the monitoring system from late 1983 thru the winter of 1984, the direction and emphasis of the study was changed significantly. This was caused by detection of benzene by the Connecticut Department of Health Services (CDHS) in private potable water supply wells serving residents on Hunting Lodge Road, adjacent to the study area. It was the consensus among regulatory agencies (CDEP and CDHS) that this reported contamination be more comprehensively investigated during the remainder of the study to the extent allowed by available resources.

CONCLUSIONS

The comprehensive surface water and groundwater monitoring program identified local water quality characteristics relative to suspected sources of contamination:
1. Infiltration of WPCF sand filter bed effluent into the underlying groundwater table results in elevated nitrogen concentrations.

2. These nitrogen levels observed, however, do not violate existing adopted water quality classifications in the immediate area of the WPCF or down gradient.

3. Peak WPCF flows during winter operation has caused sporatic over topping of some sand filter beds, resulting in some localized surface water degradation.

4. The sanitary landfill generates leachate plumes which were detected by elevated levels of metals (Fe, Mn), total dissolved solids, and nitrogen species.

5. These leachate discharges, however, do not cause the existing adopted water quality classifications within their influent to be violated.

6. The current practices employed to dispose of WPCF waste filter sand have caused localized surface water quality degradation resulting in elevated lead (Pb) concentrations.

7. The inactive chemical disposal pits contain elevated levels of both heavy metals and organics in the underlying soil; localized groundwater also contains elevated dissolved organics.

8. Hydrogeologic data and analyses indicate that a hydraulic pathway between the chemical pits and the bedrock aquifer supplying the private wells serving residents on Hunting Lodge Road may exist.
9. No conclusive connection, however, could be made between the organics detected in the chemical pits and local groundwater and the sporadically reported benzene contamination of specific private water supply wells serving residents on Hunting Lodge Road during the conduct of the study.

RECOMMENDATIONS

Preparation and review of alternatives presented in the "draft" report resulted in recommendations being selected.

1. Localized sporadic water quality degradation in the vicinity of the WPCF can be mitigated by the construction of a controllable by-pass around the WPCF sand filters. This would be used to selectively by-pass a percentage of the plant flow to avoid hydraulic overload (and resultant overtopping) of the filter beds.

2. Operational practices at the sanitary landfill should be modified to minimize infiltration and thus reduce leachate generation.

3. WPCF waste filter sand and digested sludge should be included in the main landfill area to mitigate any localized water quality problems caused by runoff from these materials.

4. The chemical disposal pits should be permanently closed in conformance with all applicable state and federal guidelines and regulations.
5. Closure will include additional groundwater monitoring, sampling and analyses to define the extent and degree of soil contamination, and soil removal.

6. The method of soil removal and ultimate disposal will be dictated by current state soil removal guidelines. An accurate cost estimate for closure is unavailable until the ultimate disposal method for contamination soil is determined.

7. A public water supply water main should be extended from North Eagleville Road up Hunting Lodge Road to serve the effected area. The estimated project cost is $152,500.

8. For those residences not choosing to immediately connect to the public water supply, a quarterly water supply monitoring program should be implemented. The first year monitoring cost has been estimated at $750 per residence.
EVALUATION OF SANITARY LANDFILL

The sanitary landfill covers approximately fifteen (15) acres north of the WPCF filter beds. It is bordered on the east by a steep hill, on the west by the chemical disposal area, and on the north by an inland wetland. The landfill area is generally located in a drainage swale (See Appendix B, "As-Built" Site Plan). Based upon the current and future topography an inferred drainage divide bisects the landfill in an east/west line. Estimates of relative drainage areas have been made:

<table>
<thead>
<tr>
<th>Drainage Area</th>
<th>Percent of Total Drainage Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Area draining generally south into the swale area west of the WPCF filter beds</td>
<td>Current: 33%</td>
</tr>
<tr>
<td>B. Area draining north into the adjacent wetland</td>
<td>Current: 67%</td>
</tr>
</tbody>
</table>

It can be presumed, based upon historical topographic information, that a significant area of the landfill base is perennially saturated, i.e., lying within the local groundwater table. Also, significant zones of "perched" groundwater are likely to exist within the landfill. This is a result of the intermediate "lifts" of refuse/cover, a general characteristic of the normal landfill operation. This "perched" groundwater has been observed, usually as localized "leachate seeps" along the perimeter slopes. This condition occurs seasonally, generally along the northwest, north and northeast boundaries.

The landfill top area is generally flat, in both active and completed lift areas. Cover material, is obtained locally from a
borrow pit northeast of the landfill. This material can be described qualitatively as a silty sand having moderate permeability. Although some attempts have been made to establish vegetative cover on perimeter side slopes and completed lift areas, the landfill surface is generally bare.

Estimates can be made regarding leachate generation from the landfill. Ideally, published and field data can be used to calculate the total quantity, rate, direction(s) and quality of landfill leachate. However, the complex and dynamic nature of this site's hydrogeology make these estimates only generally accurate, describing overall trends.

The average annual precipitation in the area is approximately 45 inches per year. The annual water budget for the area is presented in Table 25.

| TABLE 25 |

Monthly water budget for the Shetucket River Basin, in inches of water over the basin. Average for water years 1949-62.

<table>
<thead>
<tr>
<th>Month</th>
<th>Precipitation</th>
<th>Runoff</th>
<th>Evapotranspiration</th>
<th>Change in storage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>Ground water</td>
<td>Total</td>
</tr>
<tr>
<td>October</td>
<td>3.63</td>
<td>1.10</td>
<td>0.34</td>
<td>1.54</td>
</tr>
<tr>
<td>November</td>
<td>4.51</td>
<td>1.88</td>
<td>0.58</td>
<td>2.68</td>
</tr>
<tr>
<td>December</td>
<td>3.79</td>
<td>2.23</td>
<td>1.09</td>
<td>3.20</td>
</tr>
<tr>
<td>January</td>
<td>3.41</td>
<td>2.48</td>
<td>1.57</td>
<td>4.20</td>
</tr>
<tr>
<td>February</td>
<td>3.08</td>
<td>2.54</td>
<td>1.71</td>
<td>4.20</td>
</tr>
<tr>
<td>March</td>
<td>3.87</td>
<td>4.03</td>
<td>1.81</td>
<td>5.83</td>
</tr>
<tr>
<td>April</td>
<td>4.22</td>
<td>4.13</td>
<td>1.35</td>
<td>5.48</td>
</tr>
<tr>
<td>May</td>
<td>3.52</td>
<td>2.47</td>
<td>0.86</td>
<td>3.31</td>
</tr>
<tr>
<td>June</td>
<td>3.17</td>
<td>1.31</td>
<td>0.47</td>
<td>2.63</td>
</tr>
<tr>
<td>July</td>
<td>3.53</td>
<td>0.64</td>
<td>0.32</td>
<td>2.68</td>
</tr>
<tr>
<td>August</td>
<td>4.81</td>
<td>0.90</td>
<td>0.24</td>
<td>5.45</td>
</tr>
<tr>
<td>September</td>
<td>3.32</td>
<td>0.76</td>
<td>0.24</td>
<td>2.02</td>
</tr>
<tr>
<td>Water year</td>
<td>44.86</td>
<td>24.47</td>
<td>10.58</td>
<td>20.39</td>
</tr>
</tbody>
</table>

* Estimated for periods during month when air temperatures were above freezing.

For all parameters analyzed, the ground and surface water quality is generally consistent with the adopted standards and guidance. The two exceptions are the reported Fe concentrations of 0.38 ppm and 1.01 ppm for samples collected from Bl4 and SW-E respectively. These values may reflect the typically high background concentrations of Fe as reported in the Connecticut Water Resources Bulletin No. 11 (1967) and documented by a maximum reported concentration of 0.41 ppm in the background well B7.

Water samples collected from B5 and Bl3 were analyzed for the Priority Pollutants and the volatile organic fraction of the Priority Pollutants respectively. No organics were detected.

It is concluded that the leachate plume in the swale southwest of the landfill presents no unacceptable water quality problem and is consistent with applicable standards and regulations.

EP toxicity results for the waste filter sand showed a lead concentration of 4.09 ppm, marginally below the limit of 5.00 ppm. Subsequent dry weight analysis showed a total lead concentration in the waste filter sand of 333 ppm. The waste filter sand is stored in an uncontained area at the head of the swale on the southwest corner of the landfill. The surface water sample collected downstream at SW-C in March, 1984 had a lead concentration of 0.32 ppm, significantly above background levels. All other water samples obtained during the first round and all samples from the second round, were free of lead. It appears that during periods of high runoff, lead is leached out of the stockpiled waste filter sand at the head of the swale and transported downstream. The absence of lead in all groundwater samples and it's detection at only one surface

6.37
5. The classification "GB/GA" for the landfill and "zone of influence" appears to have been established under the presumption that future closure of the landfill after its useful life will result in "long term" reduction and attenuation of leachate. Ultimately the groundwater and surface water would be restored to "GA" and "A" quality by natural purification mechanisms in the soil and wetland environment. Landfill leaching would ultimately cease to have a detectable impact on water quality.

The existing and proposed water quality classifications can be used to assess the water quality determined at specific locations during the study. Surface water monitoring station SW-A, located at the northerly end of the GB/GA zone wetland reflects the quality of the surface water discharged from the wetland. Clearly, no water quality criteria for drinking water (metals, nitrogen) are being violated at the northerly end of the wetland. If the leachate plume has discharged to the wetland upgradient of SW-A, no water quality problem exists. If the leachate plume underflows the wetland, a localized groundwater quality problem could exist at depth. The UCONN Department of Geology monitoring well #4 is in the vicinity of SW-A. It was not used during the study. A review of these, as yet, unpublished results of groundwater elevations and local groundwater quality data by UCONN would confirm the groundwater flow regime and quality.

Previous investigations have reported the presence of a leachate plume in the bedrock swale south of the landfill. This was based on
water station suggests that it is transported by surface water and is rapidly attenuated downstream of its source. The incidence of lead contamination appears intermittent and highly localized within the GB area.

Based upon the data obtained during the study, and the presently adopted groundwater classification south of the landfill, no water quality problems exist in the "GB" zone between the WPCF/Landfill, Hunting Lodge Road and North Eagleville Road. Also, the adjacent "GA" groundwater and "B/A" surface water classifications are not being violated.
"pumped" into the groundwater.

Under all conditions observed, the apparent groundwater table gradient is always in an easterly direction toward the landfill. The pits sit on both a topographic and groundwater table divide. Subsurface flow is toward the landfill, merging with leachate from the landfill and diverging to discharge to the wetland to the north and the swale to the south.

To better understand conditions potentially affecting groundwater movement, a cross section, shown on Fig. 19 & 20, was constructed. The section runs along the topographic divide in a generally southwesterly direction through the landfill, pits, and Kardestuncer residence. The groundwater table elevations observed in wells B10 B11 and B12 indicate that the gradient is always from the pits to the landfill. However, the section also shows a small upland wetland near Hunting Lodge Road and a stream to the west. Elevations of these features demonstrate that an overall gradient also exists in a southwesterly direction.

Under suitable conditions, groundwater flow in a westerly direction could occur at depth in opposition to the local easterly gradient. To demonstrate this, hypothetical schematic flowlines were developed and are shown in Figure 21. The flowlines demonstrate that it is possible for flow at the surface to follow apparent local gradients while a deeper flow regime is driven by larger scale intermediate or regional gradients. This condition, if it exists, does not imply that a route exists for conveying contamination from the landfill or pits to Hunting Lodge Road. The landfill and pits
are sited within the shallow flow regime and would still follow local gradients.

Another condition exists which substantially complicates evaluation of flow within the bedrock aquifer. The inferred presence of a fault zone and the documented presence of bedrock fractures have been discussed previously. The fault and fractures strike generally north-south and the fractures (at least) dip in a westerly direction. The inferred fault, if it exists, may be in close proximity to the pits and the bedrock in the area is known to be heavily fractured. Many of the private wells of interest from numbers 122 to 180 Hunting Lodge Road lie along the strike and down dip of the fault and fractures. In a fractured bedrock aquifer, groundwater will preferentially flow through fracture zones of high permeability along natural or induced gradients which are not necessarily coincident with the observed groundwater table gradient. Consequently, it is possible, although by no means certain, that a hydraulic connection exists between the pit area and certain wells on Hunting Lodge Road.

The deeper wells, principally the Kardestuncer well at 275 feet, are more vulnerable as they have a greater potential for intersecting deep fracture zones propagating from greater distances.

The preceding discussion is principally conjecture based upon the limited site specific information available. It is noted that the original intent of this study focused on areas to the south of the landfill and pits, and resources were expended consistent with
1. Contamination of the Kardestancer well is indicated by the consistent reporting by CDHS of benzene concentrations in excess of 1 ppb. This is countered by the lack of confirmation of these results on replicate samples analyzed by two independent laboratories.

2. **If** the Kardestancer well is contaminated, the pits represent a potential source due to the documentation of gross benzene contamination at the pits in close proximity to the well. This is countered by the absence in the CDHS analyses of other more dominant organic chemicals known to be present in the groundwater at the pits. If the benzene is migrating from the pits, by what mechanism are the other chemicals prevented from reaching the well?

3. A potential route exists in the bedrock aquifer between the pits and the Kardestancer well. The well is located along the strike and down dip of the inferred fault and observed fractures. This is countered by the observed groundwater elevations which show an intervening groundwater divide and the local gradients at the pits to be easterly, away from the well.

4. In a fractured bedrock aquifer, it is possible for flow to occur in certain fracture zones at depth under natural or induced gradients in opposition to the observed groundwater table gradients. However, this is purely conjecture and unsupported by any site specific information.

5. No significant organic contamination was detected in the intervening wells B11 and B12. However, these wells are most probably not deep enough even though B12 was completed to the maximum depth capability of the available drilling
rig. Furthermore, flow in a fractured bedrock aquifer is confined to discrete, hydraulically continuous fractures which may not lie upon a particular line and grade. It is a matter of chance whether a particular well will intercept contaminated fracture zones.

It should be clear from the above discussions that the available information favors no particular conclusion. It cannot be stated with any certainty that wells have been contaminated or that the pits are the source of such contamination. Nonetheless, a strong suspicion of contamination exists due to the CDHS analyses. This suspicion must be taken seriously until confirmed or refuted by a rigorous sampling and analysis program. In addition, whether wells have been contaminated or not, a potential risk to those wells must be assumed based upon hydrogeologic conditions. The existence of contaminated groundwater in a fractured bedrock aquifer, in combination with certain natural or induced conditions that have a reasonable possibility of occurring, could result in the transport of contaminants from the pits toward Hunting Lodge Road.
### SUMMARY OF RESULTS

**SURFACE WATER SAMPLING STATIONS**

**INORGANIC ANALYSES**

**June 8 and 11, 1984**

<table>
<thead>
<tr>
<th>Sampling Site</th>
<th>pH</th>
<th>TDS (ppm)</th>
<th>Fe (ppm)</th>
<th>Mn (ppm)</th>
<th>Pb (ppm)</th>
<th>Cr (ppm)</th>
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* All parameters' values are expressed in ppm except Specific Conductivity (expressed in uhmos) and pH

ND - means Not Detected
### SUMMARY OF RESULTS
#### SHALLOW MONITORING WELLS
##### INORGANIC ANALYSES *

**June 8 and 11, 1984**

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<th>Mn (ppm)</th>
<th>Pb (ppm)</th>
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* All parameters' values are expressed in ppm except Specific Conductivity (expressed in uhmos) and pH

ND - means Not Detected
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<tr>
<th>Sampling Site</th>
<th>pH</th>
<th>TDS (ppm)</th>
<th>Fe  (ppm)</th>
<th>Mn  (ppm)</th>
<th>Pb   (ppm)</th>
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</tbody>
</table>

* All parameters values are expressed in ppm except Specific Conductivity (expressed in umhos) and pH

ND - means not detected
It is the State's goal to restore or maintain all surface water resources, including wetlands, to a quality consistent with their existing and designated uses and supportive criteria. Therefore, development of the project site should minimize impacts to the natural drainage ways and provide a means to ensure that stormwater runoff does not degrade existing water quality.

1.1.2.2 Ground Water

Connecticut is underlain by two major types of water-bearing materials; bedrock and unconsolidated deposits. Bedrock is defined as continuous solid rock that underlies the regolith or weathered rock and is only exposed locally at the surface whereas unconsolidated material is nonlithified sediment that has no material cement or matrix binding its grains. The entire state is underlain by either sedimentary or crystalline (igneous or metamorphic) bedrock which is discontinuously covered by unconsolidated stratified drift or till deposits. The ConnDEP map entitled "Ground Water Availability in Connecticut" indicates areas which may be suitable for the development of ground water resources based on the prevailing geologic formation noted above.

The project site consists of till and stratified drift according to the map entitled "Ground Water Availability in Connecticut." This material is comprised of a mixture of gravel, sand, silt and clay. Stratified drift is considered the most productive source of ground water for individual wells. The highest yields are generally obtained from thick coarse-grained deposits located near large streams. Stratified drift occurs almost exclusively in stream valleys and lowlands. Till, on the other hand, forms a widespread but discontinuous cover over bedrock throughout most of the upland areas and extends beneath stratified drift in valleys and lowlands. The project site is underlain by deposits known or inferred to be capable of yielding small to moderate amounts of water (1 to 100 gallons per minute) to individual wells.

Two major river systems, the Fenton and Willimantic, are in close proximity to the project site. The area surrounding these systems has been designated as coarse-grained stratified drift according to the ConnDEP map entitled "Ground Water Availability in Connecticut." These deposits are composed predominantly of sand or sand and gravel and have a water saturated thickness of 10 feet or greater. The areas are underlain by deposits known or inferred to be capable of yielding moderate to large amounts of water (50-2000 gallons per minute) to individual wells.

As previously mentioned, the project site is located predominantly within the Willimantic River Basin with a small portion situated in the Fenton River Basin at the northeast corner of the property adjacent to Route 195. On the project site, within the Willimantic River Basin, exists several isolated areas which have been designated as "GAA", "GB/GA" or "GB" according to the "Connecticut Water Quality Standards" (January 1992) while the remaining areas are classified as "GA". These water classes are indicative of the quality of the existing ground water.

Class GAA ground waters have a designated use as existing or potential public drinking water supply. These ground waters contribute to public water supply watersheds or are
within the area of influence of community and non-community water supply wells. The water is presumed suitable for direct human consumption without the need for treatment and the State's goal is to maintain this drinking water quality.

Existing private and potential public water supply are the designated uses for Class GA ground waters. The ground waters are within the area of influence of private and potential public wells and are presumed suitable for direct human consumption without the need for treatment. The State's goal is to maintain the drinking water quality.

Class GB/GA ground waters have the same designated uses as Class GA ground waters but these may not be suitable for direct human consumption without treatment due to waste discharges, spills, leaks of chemicals or land use impacts. The State's goal is to restore the ground water to drinking water quality.

Industrial process water and cooling waters, presumed not suitable for direct human consumption without treatment, are the designated uses for Glass GB ground waters. These ground waters are typically found in highly urbanized areas or areas of intensive industrial activity and where public water supply service is available. In general, these waters are not suitable for direct human consumption due to waste discharges, spills, leaks of chemicals or land use impacts. The State's goal is to prevent further degradation by preventing any additional discharges which would cause irreversible contamination.

Figure 6 depicts the location of the designated ground water classes on the project site. In the vicinity of the UCONN Sewage Treatment Plant, the ground water has been designated as Class GB due to the nature of the waste processing facility. Three areas surrounding the Sewage Treatment Plant are designated as Class GB/GA. This classification results from several sources including the effluent discharged to the adjacent waterbodies from the treatment facility, the presence of leachate from the existing landfill, the presence of chemical pits where various chemicals were discarded, and other activities associated with the UCONN buildings located south of North Eagleville Road near Hillside Road. Several areas on the fringes of the property, in the vicinity of housing developments, are designated as Class GAA. Water is supplied to these communities via private wells.

The areas designated as Class GAA generally correspond to the Area of Contribution for the individual wells. The Area of Contribution is defined as the area where the water table is lowered due to the pumping of a well consequently causing ground water to flow directly to the well. The northeast corner of the project site, on land within the Fenton River Basin, is also designated as Class GAA since this drainage basin is classified as a Public Supply Watershed. The remaining property receives a Class GA designation because potential exists to tap the aquifer for private or public water supply.

Groundwater sampling and analysis was performed during the mid-1980's during an investigation to determine sources of suspected contamination at the northwest section of the UCONN campus. A report prepared from the study entitled "Final Hydrogeologic Study Report, University of Connecticut, Storrs, Connecticut" dated January, 1985 indicates that the underlying groundwater contained elevated concentrations of nitrogen, metals (Fe, Mn), total dissolved solids and organics. Results of the groundwater sampling analysis are
tabulated in Appendix B. The high levels of nitrogen were believed to have originated from the unlined sand filter beds of the UCONN Water Pollution Control Facility while the heavy metals and total dissolved solids were attributed to the UCONN sanitary landfill. The origin of the elevated concentration of organics was ascribed to the inactive chemical pits which showed very high levels of benzene. The report presented recommendations for corrective action to reduce the sources of contamination. These included proper closure of the chemical pits and sanitary landfill as well as a method to prevent overflow from the Water Pollution Control Facility from infiltrating into the ground during storm events.

Development of the project site will necessitate taking the proper precautions to ensure that ground water quality is maintained in its current state. Such steps will include construction of a sanitary sewer system which will ensure proper treatment of human wastes prior to their discharge back into the environment. This is imperative due to the seasonal high water table that is prevalent throughout most of the site. Otherwise, the high ground water would cause failure of septic systems resulting in water pollution. Stormwater runoff is another aspect of ground water quality which must be considered. Water which is discharged into surface waters is hydraulically connected to ground water. It will be necessary to ensure that runoff is properly managed and treated prior to discharge into a stream so that surface water quality can be maintained.

1.1.2.3 Floodplains

Floodplains are the relatively flat areas adjoining the channel of a natural stream that are subject to fluvial flooding during storm events. These areas are critical components of the riverine ecosystem providing flood storage capacity, physical and biochemical water filtration, primary productivity and wildlife habitats. Analysis of floodplains was conducted by review of the appropriate FEMA map for the area and discussions of historical flooding on the property with the Town Engineer. Flooding was identified along Cedar Swamp Brook in the vicinity of Hunting Lodge Road. The culvert beneath Hunting Lodge Road was determined to be undersized in a 1972 study which recommended replacement with twin 72-inch pipes. As a result of man-made constriction, water is detained behind the structure which has aided the development of emergent wetlands in this area.

According to the Federal Emergency Management Agency, National Flood Insurance Program, Flood Insurance Study for the Town of Mansfield, Tolland County, Connecticut, the approximate limits of the 100-year flood boundary have been delineated for Cedar Swamp Brook and Eagleville Brook. Approximate methods of analysis were used during the study of these waterways because the areas were thought to have a low development potential and/or minimal flood hazard. Figure 7 indicates the limits of the 100-year flood boundary. Cedar Swamp Brook flows in a north-south direction crossing the northwest portion of the project site. The unnamed tributary to Cedar Swamp Brook which drains the majority of the site and provides hydrology to support the large wetland system, has not been assigned a 100-year flood boundary based on the premise that this tributary is not a significant flooding source. The floodplain for Cedar Swamp Brook covers a distance of approximately 650 feet on the project site and has a width that ranges between 75 and 150 feet.
Tenants seek solution to complaints about apartment complex’s water

By GEORGE EVAGELIOU  
Chronicle Correspondent

MANSFIELD — About 25 tenants of the Clubhouse apartment complex on Birch Road met with an attorney Monday to discuss bringing legal action against landlord Mark Sanderson of Coventry for failure to provide potable drinking water to the complex.

Tenants John Dollard and Jim Toffolo recently secured the signatures of most of the complex's tenants on a petition stating that rent money would go into an escrow account pending a permanent solution to the water problem. Toffolo then contacted attorney Jolyn Gates of Connecticut Legal Services in Rockville.

Gates recommended that the tenants include in a possible suit all unresolved problems with their apartments that they’ve sought to have Sanderson correct.

Sanderson was out of state and unavailable for comment this morning.

When Dollard, a landscape architect and graduate student, moved into Clubhouse in August of last year the tap water was brown and undrinkable, he said.

"I went upstairs and asked Jim about the water, and he said 'yeah, it's been that way forever; let's do something about it,'" he explained.

Toffolo, an allied health student at UConn, said that earlier efforts to organize tenants had petered out mainly because of the complex's large population of students who are supported by their parents and who leave in summer.

"A lot of them are just passing through," said Dollard. "But I'm here for the duration."

Gates told the tenants that they could sue their landlord through a method called "payment into court." This method was set up to allow tenants access to legal action without an attorney, she said. After paying a $25 filing charge, tenants begin paying all rent directly to the court until a settlement can be reached.

The visible signs of water contamination are gone for the moment, said Dollard.

"(Sanderson) flushed it every day for the last three days because he heard about this meeting," he said. "But that's not a permanent solution."

Dollard said that a state Department of Health Services report about the complex's pump house says that it is "literally falling apart, and leaks at a rate of two gallons per minute." The report also noted bugs around the seal and decaying vehicles contaminating the water supply, he said.

"As for the water's content, Dollard pointed to a test that was conducted prior to flushing the system which still found pH levels in excess of the state allowance."

"It's like drinking mild bleach," explained physical therapy student Steve Kaplan.

Witt Chronicle 2/18/13
After decade, UConn park hits another snag

By BRENDA SULLIVAN
Chronicle Staff Writer

STORRS — Is the former Mansfield Training School campus a suitable site for a research park?

The question was raised at a recent meeting of state officials, whose agencies have spent more than a decade monitoring plans for a technology park on a 390-acre tract abutting the University of Connecticut campus.

After the training school closed in 1985, the legislature transferred the property to UConn, and because UConn is the sponsoring agent for the park's environmental studies, the training school property has to be considered an alternative location, said Michael Helfgott, executive vice president of University of Connecticut Educational Properties Inc.

The park has run into a number of obstacles since it was first initiated in 1982. Helfgott said that new requirement contributes to what's expected to be as much as a six-month delay in completing a master plan for the park.

A $10 million grant to construct the park's first building, known as the Advanced Technology Institutes building, was approved in October 1992, under the U.S. Defense Appropriations bill.

UCEPI anticipated groundbreaking in early 1994 and completing the building within a year. Now, the project's master plan isn't expected to be ready until December, according to representatives of Atlas Construction, who addressed the UCEPI board Thursday at its annual meeting at UConn's alumni house.

UCEPI also learned in June that plans for the first building, namely its the road, also must be included in a study required under the Connecticut Environmental Policy Act.

Meanwhile, to get the marketing aspect of the project under way, the UCEPI board Thursday authorized Helfgott to apply for a $77,500 grant from the state Department of Economic Development. The amount would be matched by UCEPI for a total of $155,000 to be drawn from a U.S. Department of Energy grant.

The board also named a marketing committee, chair by David Driver, who is executive director of Connecticut Innovations Inc. Other members are Ed Fitzgerald from Southern New England Telephone Co.; UConn Environmental Research Institute Director George Hoag; UConn school of business administration Dean Tom Gutteridge; New Haven Science Park President Will Ginsburg; and Ken Roberts at the state Department of Economic Development.

Mansfield Mayor Fred Cazel also was appointed chairman of UCEPI's planning and building committee.

Rep. Jonathan Pelto, D-Mansfield, expressed frustration with this latest snag, saying the possibility of the training school campus being transformed into a research park should be dispensed with as soon as possible.

Pelto served as one of the representatives on a governor-appointed task force to study future uses of the training school campus. The final report, and preliminary conceptual designs for housing and commercial areas, was approved by the task force in August 1992.

It would cost about $25 million to demolish buildings containing asbestos before the site could be used for a research park, Pelto said.

"Furthermore, the amount of traffic that would be dumped onto local roads would be unacceptable, and the spine road would still have to be completed," he added, referring to the half-built road on the 390-acre site.

"Therefore, I urge you to get this discussion out of the way as soon as possible," Pelto said.

Pelto was appointed the board's treasurer Thursday during election of officers.
UConn park hits another snag

A rough model of the first building was presented by staff members of Perkins Eastman and Partners of New York, the architects working in association with Atlas Construction of Stamford.

The design for the 90,000-square-foot building — a kind of stacked-slab, industrial look — is based on the access road location supported by the UCEPI board’s site committee, although alternatives for the road’s final location is still under review by various state agencies.

The two-story building is built around four 15,000-square-foot modules, forming a kind of “C” shape. A conference center forms part of one leg. A proposed “park road” forms a loop around the west side of the building, converging with the terminus of the existing road, which enters from North Eagleville Road on the UConn campus.

The idea is to create spaces that can accommodate either office or laboratory use. How the building will be used is still under study by a consultant hired by the board, Jerome Mahone of Virginia, who directed the first technology "incubator" project at Rensselaer Polytechnic Institute from 1983 to 1987.
Comments of Tech Park Study Committee on the EIE of Tech Park
June 14, 1994

The comments below concern the Cost/Benefit analysis.

The EIE assumes, in Sec. 5.4, that the state will spend $15.8 mil. for the spine road, for utility wiring and the ATI bldg., and estimates the benefits in the form of additional taxes that complete development and utilization would bring. The benefits are estimated at $68 mil. for a large benefit/cost ratio.

I question the accuracies of these estimates. Specifically, the analysis

(1) omits $2.2 mil., given elsewhere in the EIE, as design costs for the road and ATI bldg.

(2) assumes that all research park employment would represent new jobs. This is a false assumption since many of the occupants of the ATI bldg. are already here. Does UCEPI plan to exclude Connecticut firms from moving into the Tech Park? If not then the fraction of new (i.e., originating from out-of-state) employment should be estimated, perhaps based on experience elsewhere.

(3) implicitly assumes that all construction money is raised privately. This is questionable. A bank will not usually lend money for construction without collateral. But the state owns the land and cannot offer it as collateral. If the buildings alone can be offered as collateral then what happens if the project defaults? Is the bank then free to dispose of the buildings as it sees fit? Can the state allow this? Mr. Helfgott has frequently stated that UCEPI will control development. It seems to me that UCEPI can only do this, with private financing, if the state somehow guarantees mortgage payments. Alternatively, as stated on p. 1-2, the state could finance construction. In any event, whether by guaranteeing mortgage payments, or directly or indirectly financing construction, this will be a cost to the state.

In summary, the costs could be far higher and the financial benefits far lower than stated in the EIE. The analysis, it seems to me, is perfunctory. It should consider the worst case as well as a reasonable case, as it does when it considers water demand and sewage treatment demand.

The cost/benefit analysis fails to consider whether the project can recover from rentals the investment in the project, whether financed privately or publicly. I offer here a rough calculation.

The EIE gives an estimated cost of $265 mil. for the entire project. It is not clear whether this includes the state's investment of approximately $18 mil. and design costs. Let us suppose that the project is built to maximum size at once and fully rented. How much would have to be charged per square foot to
recover the $265 mil. Assume the money is borrowed from banks at 8.5% for 20 years. Then the mortgage payment would be $28.6 mil./yr. The EIE estimates property taxes as $4.7 mil., on p. ES-7. I estimate maintenance and management at $2.3 mil/yr. This adds up to $36 mil/yr. or $30/sq. ft., if every square foot is rented. In reality this won't happen and so per square foot rental costs must be higher. On p.1-18, in Table 2, are given sample rentals of relatively near research and science parks. The rentals range from $4 to $32. So my estimated rental is at the high end and probably over the high end of similar research parks.

I believe my estimate, though rough, casts sufficient doubt on the ability of the park to support itself. The proponents should therefore submit a more careful economic analysis.

In conclusion, I would like to reiterate the connection between an economic analysis of a project and the environmental impact of the project. As is stated on page ES-7 and in sect. 7.1, the project will have adverse environmental impacts. The only possible justification for adverse environmental impacts is an economic gain. If an economic gain is not forthcoming, then why suffer the adverse environmental impacts?

for Tech Park Study Committee

Samuel Zahl
158 Davis Rd., Storrs CT 06268
Dear Mr. Kraus,

The following remarks were made at the public hearing in Mansfield's Town Offices during the evening of the 16th of June. At that time I wished to share with my fellow townspeople some thoughts concerning the proposed Research and Technology Park. I regret that I was unable to stay, but it was necessary for me to be at my place of employment circa 8 P.M. I would have profited by hearing the words of others who subsequently spoke.

My perspective is varied. Besides having been "in and out of Mansfield for nearly 30 years" I have as a backdrop for my comments the fact that I have lived in South America and in various regions of the U.S. where I experienced diverse ecological and environmental perspectives while concurrently holding a Master's Degree in Environmental Studies from Antioch University.

I believe that a good deal of what we might call "modern times" (developments in industry and technology since the period after the World Wars) is jeopardizing the health of our ecosphere on which all life depends. My hope is that we will re-prioritize our societal objectives in order to address the ill health of our planet. Inevitably, we must face squarely our relationship to the land.

Sincerely yours,

Samuel Matos
The University of Connecticut promises the people of Mansfield "a brighter future" should the Research and Technology Park be realized as intended. This "park" will, according to the EIE Draft Report (Project BI-D-164-1), meet the two-fold need for higher education and economic development. It states that:

a successful park will enhance the academic reputation of the University of Connecticut, while supporting state and private efforts to stimulate high technology development in Connecticut and providing indirect economic benefits to the Town of Mansfield and the surrounding region.

Mansfield will apparently benefit because of increased town revenues and employment opportunities.

The "brighter future" we are being promised has its dark side. The real gains we are being promised will come as a result of real losses. If we should elect to gain "a technology park" we must be sober enough to realize a commensurate or greater loss (Laws of Thermodynamics). It is concerning this loss that I speak.

Mansfield has been taking a beating. Increased housing starts, increased traffic, the proliferation of shopping malls and commercial establishments are delivering knock-out blows to what was once a rural farming community.

With the decline of our farms has come a concomitant decline in wetlands and open space. Insidious suburbia threatens to supplant what was once the glory of Mansfield. Mansfield, my fellow citizens, is in danger of losing its soul! And where is Mansfield's soul? Why, it's in its rich and lovely land!

How has this happened? Please remember that for nearly three hundred years of our town's existence we have been a farming community. The livelihood, values and ways of most generations of Mansfield's citizens have been deeply rooted in the land. If we are in danger of losing our soul as a town, it is because we are endangering our land. Without a love for our town's land and heritage we might as well cease to exist as a town.

Let me assure you that the "experts" do not have all the answers! Wisdom often comes from the hearts of children; not necessarily from the minds of men.

In his essay, "Farming as a Way of Life" (published by the Mansfield Historical Society), Alfred Staebner writes of a time that some of us may yet remember.
"I regret to say I am not a native of Mansfield. I was born, rather, in the city of Willimantic, robbed of my birthright, for every boy deserves to be born and brought up on a farm. However, at an early age I realized the situation, took to the hills and have done the best I could to make up for it. Indeed my first farming venture was in the Town of Mansfield. When I was about nine years old I accompanied an older brother who had arranged for the purchase of some pullets from Stedman Storrs, who lived on Browns Road on a farm now occupied by the Darlings. We hiked out there on a Saturday morning. Stedman put 3 pullets in one sack, and three in another. We put the sack over our shoulders, and trudged back to Willimantic. And it was a profitable venture, because when we got home and unloaded we had 2 beautiful brown-shelled eggs. Ever since that time I have been very interested in one way or another in the agriculture of Mansfield."

I find Mr. Staebner's tale very refreshing. There is a joy to be shared when there is love for the land. Someone a couple of thousand years ago once said that life does not consist in the abundance of one's possessions. I don't believe that the Research and Technology Park will brighten our future as much as those 2 eggs did the life of that young man.

If he could find the inspiration for a lifetime in 2 brown-shelled eggs, what can we the citizens of Mansfield find in the 333 acres of land slated for chain saw, bulldozer, and asphalt treatments?

If we look carefully at this small section of Mansfield we may yet find much to be delighted about:

- prime farmland
- an unpolluted environment
- homes for a myriad of species
  including two that are endangered
- a historical farm house & surrounding landscapes

All in all, a good place to live!

It wasn't long ago that our ancestors lived in harmony with the land. The rhythms of nature, the peace and stillness of the woods, the vitality that comes from clean air and pure water and the sustenance that comes from good earth made our people, if I might say so, healthy, wealthy, and wise.

You can't put a price tag on the peacefulness and quiet rhythms of life in the country. And, my friends, the country can not be kept on a shelf in our local museum. Once it is gone, it is gone forever.
The bright future I dream of, what we all must dream of, is to continue seeing the sun rise over the meadow - to continue hearing the birds singing in the branches while the tapestry of blue, white and grey pass above us for endless days.

We must realize that what is good for the University is not always good for the town. We can not continue to expect the University to safeguard our town's welfare. We must do what is best for Mansfield - and please remember that before there was any University there was the Town and that before there was any Town there was the land. Cherish it. Protect it. Be good to it. Our very lives depend on it.

Thank you.

POSTSCRIPT

Government must provide for the general welfare. For government to endure it must serve the interests of all the people. Therein lies the consent of the governed for those who would represent their interests.

Without an active citizenry we run the risk of misrepresentation. The public has been given a short time to review the draft report of the "Environmental Impact Evaluation for State Actions associated with a Research and Technology Park" for the purpose of expanding upon and broadening what is by nature an interpretation of limited scope.

The document attempts to trace the history of the "Park"'s formation and interpret it with the end purpose of making it acceptable to those on whose fate it depends.

Careful observation of the document reveals that the euphemization of words as in the case of "park", (Parks are considered by most people to be natural areas where rest and recreation are enjoyed) and the political pressuring by state interests to the detriment of local ones (the substitution of the land use planning designation of "Research and Development/Limited Industrial" for "Rural Residential") bespeak the power that word manipulations and political jockeying can have to further the agendas of special interests.

Democratic government requires that final say be in the form of "We, the people in order to . . . ." Special interests will always vie for the control of government apparatuses and for this we must be vigilant. Coercion and falsehood must be replaced by freedom and truth, otherwise forms of tyranny will prevail.

Mansfield can not govern itself by taking a back seat to the University when it comes to deciding upon its future. The dialogue concerning the Research & Technology Park must be expanded and continued if it is to remain convincing. Much is at stake. To abdicate our town's future to state control (The establishment of the Research and Technology Park as so far planned would unduly shape and alter the character of the Mansfield town community) is to invite our town to entertain itself with petty and servile matters.
If we are to have a "bright future" than we must govern ourselves according to the dictates and wishes of our collective conscience. If government is to be one of the people, by the people and for the people and not perish from this earth, than we must not allow ourselves to be governed solely by proxy no matter how "expert" our substitutes might be.

The time has come for the people themselves to take to the political arena. To this end I propose that all of Mansfield decide by way of referendum the terms and extent of the proposed Research and Technology Park.
Dear Mr. Kraus,

I have reviewed the Draft EIE Report for the Research and Technology Park, and I have serious concerns about its thoroughness and credibility, which are cited here.

Concerning air quality, in a discussion of auto emission pollutants on page 3-77 the Report notes that a CO "Hot Spot" screening conducted at route 195 and North Eagleville Road (date not given) showed that it was not a "hot spot" for excessive carbon monoxide concentrations. It seems to conclude, on the basis of that screening, that the "proposed spine roadway and research park will not have a significant impact on air quality and is consistent with the State Implementation Plan for Air Quality."

What is the basis for that assertion? It appears not credible in light of the anticipated traffic growth of 1.5% per year, as well as the failure of the section to include other screenings.

While it is true that roadway and traffic safety improvements should reduce traffic-generated pollution by improving the level of service - shorter waits, less congestion (3-85) I would urge that any subsequent traffic study also identify, analyze and prioritize the effects of various transportation options. It should include off-site parking in the identified locations (3-84, -85) and use of space at Mansfield Training School.

1.3.2 Project Need

The conclusions which the study draws from the discussion of market potential (1-16 through 1-19) are that, given the success of some science and technology parks (Table 2), and in spite of the over 16% availability in nearby office parks Tables 3,4) and the large numbers of nearby towns with undeveloped areas zoned for industrial uses, the UCEPI research
park "should not be significantly impacted by these trends." (1-10) Any reader would find it hard to share that view!

Table 6 shows 65 jobs being added between 1993 and 1995, similar increments between 1996 and 1998, an additional 60 by 1999 and 55 more by the year 2000. These projections bear no relationship to the statement on page 1-19 that "except for reallocation of employment within the region, the total demand for facilities in the UCEPI area will come from about 2000 jobs that are expected to be created between 1990 and 2000, averaging 200 jobs yearly." How is this inconsistency explained?

Does Table 7 reflect exploratory talks and/or commitments from the agencies and activities identified as possible tenants? Which have indicated strong support and/or commitment? I ask this in light of the somewhat speculative wording of the preceding discussion (1-22 through 1-24).

What is the significance of the establishment of an "urban enterprise zone, or a free trade zone"? (1-25) How would such a zone affect the town of Mansfield?

5.4 Cost Benefit Analysis

In general I think this section lacks the fiscal detail which would support the figures shown on Table 29 for spine road and utilities construction, and the figures for construction of the first (ATI) building. ($20.4 million) This detail should include cash flow charts, itemized project costs and income documentation, and some calculations of how these might relate to the costs and benefits anticipated by Phase II and Phase III.

5.4.1c

How was the "total benefit of $68 million" arrived at? It should be calculated and shown so as to justify the claim that "the present value (NPV) of the project is positive by $51 million." (5-7)

3.3.2b Impact Analysis

Once again, systematic documentation which would clearly relate anticipated local employees needing housing of var-
ious kinds to the expected available stock (new and existing) is lacking. Charts representing types of need and availability allow for interpretations and comparisons over time. The approach in the EIE is sketchy and does not justify the conclusion in paragraph 3, page 3-128. (Even reproducing some of the data provided by Coast and Harbor Associates would have been helpful.)

I concur with the findings of our Town Planner (Memo to Mansfield Town Council from Gregory J. Padick, dated 6/9/94) that "the EIE does not analyze in any detail potential impacts on Mansfield's population, school enrollment or service needs." Therefore, the conclusion on page 3-128 that "The demand (for town services) will be offset in-as-much-as the new residents pay local taxes." is not justified either.

I hope that you will insist, in your dealings with other state agencies and the consultants, that these and other lacks be addressed and the necessary reviews, additions and corrections be made. I look forward to hearing from you.

Yours truly,

(Mrs.) Joan Buck
Dear Mr. Kraus,

I had my first opportunity to review the Environmental Impact Evaluation regarding UCEPI today and was out of town last Thursday and therefore unable to attend the town meeting. I would however like the opportunity both to review the study further and to comment again.

At this time conforming with the June 24 deadline I can only make the most cursory remarks. In quickly reviewing the report it is noteworthy to me that the extensive bird life studies completed by Winifred Burkett of the Connecticut Museum of Natural History, a biologist and an accomplished birder are given no mention. These records, compiled over years from on sight studies, banding and misnetting on the property in question are completely ignored. Instead a one day walking tour and a study of a few days are used as the basis for avian impact evaluation. Ms. Burkett’s findings were reported to the Mansfield Conservation Commission and I would assume should be on file at the town hall.

With regard to traffic I believe the study is entirely incomplete as concerns the potential for increased traffic on auxiliary town roads. North Eagleville Road appeared to be only seriously addressed from Hillside Road to Route 195. It appears the potential for a significantly increased traffic load on the section from Hillside to Route 32 on North Eagleville is simply dismissed. This reflects both a ridiculous and inaccurate assessment of this road’s use and capacity.

In a similar fashion the impact on Hunting Lodge Road is entirely misrepresented. Moreover no mention is given to the fact that an elementary school sits at the end of this road. It is the main artery for the Mansfield school buses that transport our children to the Goodwin Elementary School. It is already sorely overloaded and dangerous. Part of the problem results from the over zoning of multi unit dwellings on this road. It is narrow and twisty and carries too much traffic. This problem is exacerbated by joggers and bicyclists. It is a nasty and unsafe mix of traffic, people and mixed vehicles. My understanding from local firemen and ambulance workers is that Hunting Lodge Road has one of the highest accident rates in Mansfield. To pretend that the establishment of UCEPI in it’s presently proposed location would have no negative effect on the safety or traffic load of this road is absurd and disingenuous.

On a separate issue the treatment of alternate sites seems to be presented for the purpose of dismissal. No mention is given to the fact that the Mansfield Training School property was suggested by members of the Mansfield Conservation Commission as an opportune site for the UConn research park years ago, in fact long before there was a prison there. It is prime real estate located in a beautiful section affording panoramic views of the Willimantic River to those who approach it from one direction and the New England treat of a drive under towering elms for those who approach it from the north. The property itself is largely already cleared causing less disruption to the environment than the currently proposed site. It also offers the significant advantage of sitting directly on Route 44 and connecting directly into Route 32 thus affording
minimal disruption to residential town roads. The property itself is gorgeous, as anyone who
doesn't have his head in a bag can see. One can envision an impressive setting for a research park
in which the property sets off the park itself lending it visual significance.

I personally believe that the University has rejected serious consideration of this magnificent
property because it can't cope with the idea of putting it's think tank where the mentally retarded
once lived. I truly believe that the seminal reason for rejecting this property is the stigma it carries.
This is tragic. One would like to think that the minds in an academic community would be a little
larger than this.

On a racing review of the EIE the reasons for rejecting the former Mansfield Training School site
don't hold up. It's a ruse. You can look at any piece of property and find what you want and
ignore what you don't want to see. To me this is what the UCEPI Environmental Impact
Evaluation is all about.

Within the presently considered piece of property continuous mention appears to be given to
acreage that is already disrupted. I couldn't quickly find what percentage of the property this
represents. When you quickly review the EIE you are given the impression that a significant
percent of the property in question is disrupted. I imagine this is by design, if it is not in fact
correct. It certainly is effective in leading one who does not know the property to believe that a
significant part of it is already trashed. I imagine few people read the whole document and all the
maps. Therefore what is gleaned from an impressionistic reading is important. There are obvious
political motives for presenting the material as it appeared to me to be slanted.

As concerns the designated prime soil farming land section, let me go on record for being entirely
against wasting this precious resource and plopping buildings on it. This is stupidity.

I am puzzled by what happened to the recommendations of past Mansfield Conservation members
Charles Vinsonhaler, Fred Streams, Terry Webster and Dolores Hilding regarding this property.
These individuals spent days walking this property years ago and had many concerns. I found no
mention of their comments in the EIE or at the town meeting as I read about it in the newspaper. I
know that some of them gave up raising their voices because they felt they were largely ignored at
that time.

Thank you for the opportunity to review the study and to respond. I regret that I have only had the
opportunity to review it quickly and then dash this letter off.

Sincerely,

Alison Hilding

[Signature]

Very copy: Greg Paddock
A. Kardestuncer  
1641 Storrs Road  
Storrs, CT 06268  
June 23, 1994

George Kraus  
624 Gilbert Road Ext.  
UConn, U-38  
Storrs CT 06269-4070

Re: Comments on the Tech Park EIE Hearing

The Fenton River is currently being used to the maximum (3,84 million gpd) allowed and perhaps more than that since its pumps have even greater capacity. The Willimantic River, which this 14 acres drains into, has four wells, one of which is backup only (#2) and another of which may or may not get a diversion permit (#4) and it cannot be in operation before 1998.

The ATI Building discussed in the EIE expects to use 20,000 gpd peak which according to Facilities Management at UConn is not a problem. What is a problem in their opinion is the park beyond ATIB. The total needs per day at peak then are expected to be 409,210 gpd. They claim UConn cannot support these demands without additional supplies. The approval process for such supplies takes 2-3 years and actual running water is even further down the road. How, I ask, can decisions be made today based on information which may take as long as three years to reach us?

A closely related matter is that of the river and treated sewage. The Fenton is not used in this way but water pumped from it goes into the Willimantic River. UConn is upgrading its sewage treatment facility to accommodate 3.2 mgd according to the EIE. Its plant today at full use makes the Willimantic River 25% treated sewage. This is secondary treatment. This same river accommodates treated sewage from Stafford Springs, Mansfield Training School, and according to some reports Coventry. If more water is taken to support UCEPI’s needs in the form of new wells, that reduces the water for dilution of treated sewage. Estimates are that at low water the river would be as much as 50% treated sewage. Is this permitable?

On a day like today when the moisture in the air is heavy and palpable, it’s hard to imagine a problem with water budgeting; but is suggest that water is definitely a limited and a limiting resource. UConn is monopolizing the two aquifers which water this town, the Fenton and the Willimantic, and this in turn is creating two kinds of imbalance. First they are dessicating one river and dumping it as sewage into another. And second, they are pumping so much from the Willimantic river that it cannot dilute the sewage it receives. What can be done about planning to mitigate these problems when no master plan exists?

Other issues which need to be addressed are as follows (clearly a partial list):
1) What information regarding water, wetlands, and sewage was presented in the NEPA application? Does this overlap with CEPA?

2) According to CEPA and perhaps to NEPA, the entire project at full buildout must be considered as a whole. How do you justify the segmentation which is presented here in the EIE? Has the 14 acres ATIB building and its land been officially separated from the 390?

3) Earlier applications and announcements refer to 390 acres. This EIE deals with 333 acres. Does the remaining 57 acre parcel represent the dump and chemical pits and if so why are they not mentioned as contiguous and of special interest?

4) What if any studies have been done to determine the effect of the parking lot run-off, the detention pond, and other waters draining into the contaminated water plume currently traveling north on Hunting Lodge Road?

5) The avian report does not make clear whether endangered species do use the full park area or any part of it as nesting areas. The question put to them was in regard to the 14 acre site. Because the 14 acres is a part of the whole, it is essential that nesting areas of the three endangered species be protected. Connecticut law is firm on this and state land should set the example.

6) Habitat fragmentation, which even the reduced 14 acre parcel taken alone can accomplish, is detrimental to the use of the area by the many endangered species which use this land in migration. The EIE does not address this issue.

7) How can decisions be made on ATIB before a decision is reached on the road? The road must cross wetlands and fragment habitat and surely will effect ATIB decisions.

8) The scale of the project is totally out of keeping with the character of our town.

9) The federal Clean Air Act amendments of 1990 say that Connecticut's air must get cleaner by 1996. How does the EIE intend to accomplish this with a projected 3000 auto trips a day by 1997? This is an issue which is not addressed in the EIE but which cannot be ignored.

10) Mansfield residents have a history of fighting widening and otherwise altering roads in town. The EIE mentions that 11 intersections will be widened and a number of areas between intersections will also be changed. The town has not nor is it likely to permit such changes. The EIE does not address such difficulties.
Comment on EIE for Research and Technology Park

The proposed detention basin for storm water runoff from the site is located about 1000' north of the former chemical waste pits. While approximately 3000 cy of soil associated with the pits has been removed, thus removing the source of the chemical contamination of groundwater, there remains a moving plume of contaminated ground water which, contrary to a statement on p. 3-73, is affecting receptors (see Mosey report on manganese in well water, copy enclosed).

Water in a detention basin exerts hydrostatic pressure on the water beneath it in the soil. This could serve to increase the speed at which the plume is moving. A hydrological analysis is needed to examine this possibility.

Samuel Zahl
for Tech Park Study Committee
158 Davis Rd
Storrs CT 06268
Sir,

My family and I object to the construction of the Ocean Test Park.

This land should be left open and undisturbed for the future.

[Signature]
SECTION IV
RESPONSES TO COMMENTS

INTRODUCTION

The following responses to the substantive issues raised in the review of the Environmental Impact Evaluation (EIE) are provided for inclusion into the Record of Decision in accordance with Section 22a-1a-9 of the Regulations of Connecticut State Agencies. To facilitate review, comment extracts or summations have been provided in italics, while responses are provided in standard type. Reviewers are advised to refer to the full text of the comments and should not rely on the italicized text offered herein.

RESPONSES TO COMMENTS MADE AT PUBLIC HEARING JUNE 16, 1994

Fred Cazel  *(Spoken comments were submitted in writing, dated June 16, 1994)*

See attached responses to written comments from the Town of Mansfield (Page IV-16).

Joan Buck  *(Spoken comments were submitted in writing, dated 6/23/94)*

See attached responses to written comments (Page IV-33).

Sam Matos  *(Spoken comments were submitted in writing, dated June 22, 1994)*

See attached responses to written comments (Page IV-32).

Dwight Dammon  *(Mr. Dammon offered comments in general support of the research park)*

No response.

Ayla Kardestuncer  *(These spoken comments were also submitted in writing, dated 6/23/94)*

See responses to letter from A. Kardestuncer (Page IV-35).

Sam Zahl  *These spoken comments were also submitted in writing (dated June 14, 1994)*

See responses to letter from Sam Zahl (Page IV-26, IV-31).

Jim Knox  *(Although Mr. Knox provided comments in general support of the research park, he expressed an opinion that the estimated park level of development is inflated)*

For use within the EIE, the size of the fully-built park was provided by the preparers of the Concept Master Plan. The timing by which that level of development may be achieved was projected by an independent marketing study referenced by the EIE. It is appropriate for
reviewers to assume for the purpose of impacts assessment that the park will be developed as stated within the EIE.

Peter Newcomer  *(The comments expressed by Mr. Newcomer summarize his written comments dated June 13, 1994, under the heading "Commentary Upon the Environmental Impact Evaluation, University of Connecticut Educational Properties.")*

See responses to written comments (Page IV-26).

Norman Conn  *(Mr. Conn offered general comments in opposition to the research park.)*

No response.

Richard Sherman  *(Comments regarding the National Environmental Policy Act.)*

The categorical exclusion of the research park (beyond the site of the ATI Building) from the National Environmental Policy Act (NEPA) review process was a decision of the United States Department of Energy, the federal agency providing funding for the ATI Building (the first proposed research park building). The decision is not an issue subject to review under the Connecticut Environmental Policy Act (CEPA).

Joan Dammon  *(Comments regarding tertiary sewage treatment.)*

The University has been operating a single-stage fixed-growth system for many years. The expanded UConn wastewater treatment facility will be a two-stage fixed-growth biological system. The expansion will provide sewage treatment that is considered "tertiary."

Dave Rawlinson  *It's (the park) really a political deal, just like the grandiose scheme for the Mansfield Training School of Jonathan Pelto.*

The EIE discusses political involvement in the planning of the research park, especially in Section 1.2 (Project History). The proposal to establish a research park was indeed political to the extent that it was embraced by the State Legislature with Special Act 85-108 (An Act Concerning the Development of a Connecticut Technology Park at Storrs), which is discussed on Draft EIE Pages 1-15 and 1-16 and elsewhere within the document.

RESPONSES TO WRITTEN COMMENTS

**Office of Policy and Management - Policy Development and Planning Division (June 30, 1994)**

*Page 2, Paragraph 5  OPM supports this approach (use of transitional zones) and suggests that the EIE be amended to clearly indicate compliance with DEP’s recommendation.*

The proposed state-funded roadway will avoid both wetlands and transitional zones to the greatest extent feasible. The spine roadway encroaches upon transitional zones only at the two wetland crossing locations. The Concept Master Plan has configured all of the development sites
such as to avoid encroachment upon wetland buffer areas, except at several locations where minor encroachments would be important to individual site function. Any such encroachments would require a license from the Mansfield Inland Wetland Agency.

Page 3, Paragraph 2 The University should adopt a "best management practice approach" to minimize the potential for adverse groundwater impacts. Alternatively, the University could provide a qualitative study of the area's hydrology to demonstrate that near by wells will not be negatively affected.

Refer to response to DPHAS comment 5 regarding community wells (Page IV-14).

Page 3, Paragraph 6 Any actual decline of farmland acreage should be offset in the manner suggested by UCEPI, at lease, acre for acre.

An agreement between the State and UCEPI was previously reached which does not necessarily result in an acre-for-acre swap (see land lease agreement in EIE Appendix E and summary thereof on Page 3-11). The agreement requires UCEPI to mitigate any development of up to 23 acres of prime farmland by providing UConn with equivalent farmland area. The details of this exchange have not been established.

Page 4, Paragraph 6 While the EIE has identified potential impacts to native and migrating birds, greater attention to mitigation activities and strategies in this topic area is suggested.

There is no on-site measure that would effectively mitigate the impact upon neotropical migrant avian species from the fragmentation of the woodland habitat. One small exception is that garbage containment at the park could be tightly controlled, denying a food source for raccoons, which are a significant predator of bird eggs. An off-site mitigative measure would consist of preserving increased acreage of contiguous forest at a separate site. Such a measure would help neotropical migrant avian species regionally, although no off-site mitigative measure has been proposed.

Mr. Louis R. Bevier, Biologist and contributor to the Draft EIE, suggested that a significant mitigative measure could result from the possible creation of a managed open grassland at the UCEPI site (in lieu of cornfield). Any such effort would require coordination between UCEPI and the UConn College of Agriculture. The managed grassland would provide a better habitat for the declining grassland avian species discussed in the Draft EIE. Seasonal clearing would be required to maintain the habitat. Such clearings would require careful timing to avoid impacting selected avian species. Further study would be required to determine if a managed grassland could feasibly accommodate the needs of both UCEPI and the College of Agriculture and to formulate a management plan.

Page 5, Paragraph 1 An aggressive plan to minimize single occupant motor vehicle use must be developed and implemented by UCEPI.

UCEPI has indicated that it is committed to working aggressively with UConn, the State Department of Transportation (ConnDOT), and the Windham Regional Transit District (WRTD)
to minimize single occupant motor vehicle use. See Appendix C for UCEPI letter to Frederic R. Harris, Inc. dated September 15, 1994 regarding OPM comments.

The full impact of the Clean Air Act will be applicable to the project. It is imperative . . . that UCEPI be committed to the implementation of an employee trip reduction plan.

There is no certainty that Clean Air Act regulations regarding employee commute options (trip reduction) will become applicable to the Mansfield region in the future. See response to Town of Mansfield Comment Number 4 (Page IV-20). As noted in the above response, UCEPI is committed to working aggressively with UConn, ConnDOT, and WRTD to minimize single occupant motor vehicle use.

Page 5, Paragraph 2 It is recommended that as plans for the UCEPI research park move forward, options which would allow for a tie in to the University energy system be examined.

UCEPI has expressed willingness to explore tie-in to the University’s energy system. See Appendix C for UCEPI letter to Frederic R. Harris, Inc. dated September 15, 1994 regarding OPM comments.

Page 5, Paragraph 3 The EIE needs to better assess the traffic impact of the proposed project on local roads and to determine if improvements in the local road system will be needed.

See response to Town of Mansfield comment 9 (Page IV-25).

Page 6, Paragraph 1 Despite the growth in employment from the UCEPI project, the corresponding development of housing units at the former Mansfield Training School (MTS) is expected to meet any increased demand for housing, leaving the real estate market largely unimpacted. While numerically this may be the case, given the varied preferences of home buyers and renters this conclusion should be re-examined.

See response to Town of Mansfield comment 2 (Page IV-16).

Page 6, under heading "Water Supply." Without a clear resolution to the water supply issue, the UCEPI project, as fully envisioned, faces a very serious obstacle.

See response to DPHAS comment number (1) (Page IV-11).

Page 9, bottom Do these (projections for development and job growth) justify the development costs . . . ?

The EIE makes no conclusion as to whether the projections for development and job growth justify the development costs since it is the role of the sponsoring agencies to make this determination.
Page 1 Paragraph 2  It is imperative that the Master Plan . . . include an institutional structure that clearly assigns responsibility for the installation and management of the various mitigation and erosion control measures.

The responsibility for the establishment and management of the park rests with UCEPI, which is the tenant under a land lease agreement with the State of Connecticut. The management of the park will be transferred to the respective park tenants who will sublease parcels from UCEPI. UCEPI concurs with this view, as they indicated in their correspondence of September 15, 1994 to Frederic R. Harris, Inc. (see Appendix C).

Page 1 Paragraph 3  The process for developing the Concept Master Plan is not clearly articulated.

The Concept Master Plan is subject to reviewed by the Trustees of the University of Connecticut. The Plan is not under the purview of the Department of Economic Development (DED) and therefore not subject to its review processes. UCEPI has expressed willingness to discuss a process by which DEP could determine whether its comments have been incorporated. See Appendix C for correspondence from UCEPI to Frederic R. Harris, Inc. dated September 15, 1994.

Page 2 Paragraph 2  We urge the parties to the lease to explore alternative methods of mitigating impacts to farmlands and to revise this lease stipulation.

The land lease agreement between the State and UCEPI requires the clearing of the 8 acres of land for farmland use irrespective of any actual research park construction. The agreement or any potential modification thereof has no direct bearing upon the Record of Decision.

Page 2 Paragraph 4  Page 3-31 states that the roadway drainage system design will incorporate deep sump catch basins with hoods in order to treat stormwater. The use of gross particle separators is recommended.

According to UCEPI, the Concept Master plan will recommend that gross particle separators be incorporated in the design of the research park drainage systems. See Appendix C for correspondence dated November 14, 1994 from UCEPI to Mr. Robert Moore of DEP (under the heading "Water Quality").

Page 2 Paragraph 5  While a preliminary site has been identified to provide detention for the majority of the site, the northerly portion of the park will require alternate drainage (page 3-28). No information is presented as to how detention will be provided for this area to meet both state and local requirements regarding increased runoff.

The Concept Master plan will discuss how stormwater detention can be provided for all developed portions of the park as required to meet both state and local criteria for peak stormwater discharge. See Appendix C for correspondence dated November 14, 1994 from UCEPI to Mr. Robert Moore of DEP.
While detailed information regarding the treatment of stormwater from both a quantity and quality perspective may not be available during CEPA review, this issue should be addressed in development of the master plan.

UCEPI concurs with this view as expressed in their correspondence dated November 14, 1994 to Mr. Robert Moore of DEP (see Appendix C).

Page 3 Paragraph 2 The discussions of impacts to surface waters and groundwater does not adequately consider the potential threat posed by the operations of the park's tenants... Plans for development of the park should include control measures for the storage and handling of hazardous materials to address potential releases such as leaks and spills... Two department documents that are sources of additional information specific to various industries are: Best Management Practices for Protection of Ground Water and Pollution Prevention Options, Fact Sheets for Industry.

As stated by UCEPI in their correspondence of November 14, 1994 to Mr. Robert Moore of DEP (Appendix C), the Concept Master plan will recommend control measures for the storage and handling of hazardous materials and will outline emergency response procedures. Where appropriate, recommendations will be industry-specific and will reference the two referenced DEP documents.

Page 3 Paragraph 3 Plans for the park should include sewer use requirements and procedures similar to local sewer use regulations which include pretreatment measures and restrictions on unauthorized wastes.

The Concept Master plan will recommend that sewer use requirements and procedures be stipulated by the University of Connecticut (UConn) as a condition for hookup to the UConn system by park tenants. It is anticipated that the stipulations would address pretreatment measures and restrictions on unauthorized wastes.

Page 3 Paragraph 4 Alternatives to any underground storage tanks should be encouraged.

The Concept Master plan will encourage alternatives to underground storage tanks, as stated in the UCEPI correspondence to Mr. Robert Moore of DEP (see Appendix B).

Page 3 Paragraph 5 The document does not consider the potential impacts of construction of a detention pond.

Given currently available information, it does not appear that the proposed location of the detention basin would adversely impact groundwater at the former UConn Landfill. Two potential impacts have been considered: 1) the potential for leachate to inflow to the detention basin, and 2) the potential for detention basin contents to apply hydrostatic pressure upon groundwater, adversely affecting the rate or direction of leachate flow.

Regarding the first scenario, Mr. Harry Cooper of DEP Bureau of Waste Management indicated that the existing leachate plume is presumed to be moving westward toward Hunting Lodge Road, not toward the site of the proposed basin. Further, the landfill is flanked by a drainage
swale to the northeast and a wetland area to the north (between the landfill and the proposed detention basin). It is likely that such surface water bodies would act as contaminant sinks and would serve to intercept leachate prior to its reaching the detention basin.

Regarding the second scenario, a recent study addresses the potential impacts of the proposed ATI Building upon contaminated groundwater at the adjacent landfill site: Report on Hydrogeologic Impact Evaluation, UCEPI - Advanced Technologies Institutes Building, University of Connecticut, Storrs Connecticut, by Haley & Aldrich, Inc., August 1994. The report, included in full in Appendix G, concluded that the detention basin design for the ATI Building "will not increase the migration rate of the leachate plume underlying the UConn landfill," and that the basin "is not expected to drive the leachate plume faster and/or in a different direction than that dictated by current hydrogeologic controls."

The Haley & Aldrich study is very conservative in that it assumes that the detention basin will be full at all times. In fact, this condition would only occur during very intense storms. Detention basins are commonly designed to contain the volume of water that would runoff from a site once in 25 years. Within a few days after a major storm, the typical detention basin has released its contents and is completely empty. Assuming that the basin proposed by the Concept Master Plan is designed purely as a detention basin and not as a permanent pond, there would be no significant opportunity to apply new forces upon polluted groundwater in the area. Should UCEPI desire to create a permanent pond at this location, further study may be warranted to evaluate the potential impacts to groundwater in the vicinity of the closed UConn landfill.

According to DEP Bureau of Waste Management personnel, a closure plan for the landfill has not yet been submitted by UConn, however a plan is expected to be issued in the near future. Such a plan would likely outline procedures for control and treatment of leachate generated by the landfill. Additionally, groundwater monitoring from landfill perimeter wells has been conducted quarterly. Recent sampling results dated May 12, 1994 indicate no elevated concentrations of contaminants.

Page 4 Paragraph 2  Would alternative designs, which avoided development in a public water supply watershed, be viable? . . . More intensive mitigation measures should be considered for this area. These could include prohibition of certain industries, exclusion of hazardous materials, special design of loading and storage facilities, prohibition of underground storage tanks and other measures.

The public water supply watershed includes less than 30 percent of the Site 5 area (around 4.8 acres of the 17.9 acre site), based upon site topographic data taken from photogrammetry by Charles H. Sells, Inc. The topographic data was plotted using AutoCAD on EIE Figure 17 (Page 3-29), which delineates the basin divide in respect to the data (see contours). This drainage basin delineation is more accurate than that provided on state mapping, which is based upon 2000-scale mapping by the United States Geological Survey (USGS), Department of the Interior.

Any alternative that excludes developing within the public water supply watershed would require more intensive development elsewhere within the park than would otherwise be required in order to create the desired 1.2 million square feet of building space. The result might reduce the
viability of the research park to the extent that aesthetics and other design considerations are affected.

UCEPI has expressed willingness to work with DEP in regard to mitigative measures for the portion of the research park within the public water supply watershed. See Appendix C for respective correspondences from UCEPI to Frederic R. Harris, Inc. (September 15, 1994) and to Mr. Robert Moore of DEP (November 14, 1994).

According to UCEPI, the Concept Master Plan will recommend specific measures to be applied in the watershed, which are expected to include the special design of loading and storage facilities and the prohibition of underground storage tanks. During the development of the plan, UCEPI will discuss with the DEP specific measures that would be employed for certain industries.

The Concept Master Plan will also examine methods for protecting the watershed from potential impacts to stormwater runoff. One possible measure that will be examined is the redirecting of site runoff from the watershed.

The Town of Mansfield Zoning Regulations provide a significant restriction by prohibiting "Heavy Industry" in the RD/LI zone, which encompasses the entire research park (Article VII R.4.b.). The possible limitation of specific high-risk uses within the public water supply watershed is an issue that UCEPI has indicated willingness to discuss with the DEP staff during later development of the Concept Master Plan.

Page 5 Paragraph 2  The EIE associate ecotones with ecological opulence (page 3-56). While this may be the case for edge species of wildlife, these openings also serve as corridors that increase predator access to many interior species of wildlife.

Breaks in forest vegetation such as roadways and other man-made corridors can indeed increase predator access to forest interiors. The referenced EIE discussion pertains to the CL&P right-of-way on the site which, during the field visits, was impassible due to very dense vegetation including briars and standing water at different locations. Access to the site interiors was more easily negotiated through the wooded areas. This condition may change with future CL&P maintenance activities along the right-of-way.

Page 5 Paragraph 3  It is likely that development of the park will eliminate successful nesting at the site by those neo-tropical migrants that nest in forest interiors. . . .It is recommended that this fact be acknowledged in the section describing unavoidable adverse environmental impacts.

The EIE preparers concur that Draft EIE Section 5.1 (Unavoidable Adverse Environmental Impacts) should have referenced the finding on Page 3-65 that some elimination of successful nesting of neotropical avian species should be expected.

Page 5 Paragraph 4  Page 3-61 discusses the importance of the site as a stop-over for migrating bird species. Given the number of species utilizing the site, many of them listed for State protection, the evaluation of "at least moderate importance to some species" should be interpreted to mean probably more than moderate importance.
In response to this comment, the biologist reiterates that from a regional standpoint, the site is important for the reproduction of certain avian species. With the available information, he cannot further define the degree of importance of the site relative to other woodland areas in the vicinity.

Page 5 Paragraph 5  One of Mr. Bevier's recommendations concerning Phase Two mitigation of potential impacts to migrant birds is to limit the development of site 1 to less than 4 stories in height. . . . This factor should be considered in siting the hotel/conference center.

If the future hotel is designed to be a tall structure, then it should be located in a different site than Site 5 (northern property near the agricultural fields). From a planning perspective, the Hotel could best be located adjacent to the proposed conference facility to be cited at ATI building, which is located a distance from the grassy areas and agricultural fields.

Page 5 Paragraph 6  Yearly mowing to prevent succession of fields to forest cover, as long as it does not disturb any potential nesting, can also provide suitable habitat. Specific measures to mitigate potential impacts to species listed for State protection should be incorporated into the Concept Master Plan.

Specific measures to mitigate potential impacts to avian species listed for State protection will be incorporated into the Concept Master Plan (see UCEPI correspondence to Mr. Robert Moore of DEP, November 14, 1994). One issue that will be examined is the possible creation of a managed open grassland providing an enhanced habitat for certain state-listed species. Further study and coordination will be required to determine if a managed grassland could feasibly accommodate the needs of both the research park and the UConn College of Agriculture.

Page 5 Paragraph 7  Page 3-72 states that "the DEP is petitioning the EPA to have the site (former chemical pit area and closed solid waste landfill) included on the National Priorities List (NPL) of Superfund Sites." This is not the case. The DEP did conduct a Site Inspection (SI) at the UConn landfill/waste pits . . . (which) essentially concluded that the site is still eligible for further investigation under CERCLA. However, the site remaining active in the CERCLA process after completion of an SI does not imply that the site will be nominated to the NPL.

The quoted sentence should be stricken (EIE Page 3-72, the first sentence under the heading Superfund Status).

Page 6 Paragraph 2  Page 3-73 interprets the EPA delegation of "State Lead" status to DEP as an indication that the site has not been deemed worthy of Federal attention. In fact, DEP was awarded a Multi-Site Cooperative Agreement grant from EPA to perform assessments at a number of sites in the State under the Federal Superfund program. This is not an indication of the likelihood of any particular site being subsequently included in the NPL.

Draft EIE Page 3-73, item number 3, the sentence beginning with "If the EPA . . ." should be stricken.

Page 6 Paragraph 4  Page 3-77 notes that the proposed roadway may be subject to an Air Quality Indirect Source and Operation Permit. . .
The EIE preparers concur that the new roadway could be considered a state highway, and would therefore be subject to the permit requirements. DPW will coordinate the preparation of a permit application.

Pages 6 and 7, "Corrections."

Locations G and H are probably switched on the figure (Figure 16).

The EIE preparers concur that Locations G and H should be switched on Figure 16.

Location J . . . is depicted at the north end of the property.

Location J was located incorrectly on Figure 16. It should be located between Locations I and K, south of the ditch.

The codified sections of the Aquifer Protection Act noted on page 3-26 should read 22a-354a through 22a-354bb.

EIE Page 3-26 under the heading Aquifer Protection, in the first paragraph "22a-354f" should be stricken and instead read "22a-354bb."

The descriptions of the drainage directions for sites 1 and 2 toward the identified wetland areas are not correct on page 3-48.

The following corrections should be made on Draft EIE Page 3-48 in the first paragraph under Section 3.1.4 b. Strikethrough text should be deleted, added text in double underlined.

Some area from Site 1 drains northeastward toward WA 3, while most of its area drains toward WA-2 WA 6, which is over 850 feet west of the development site. Site 2 drains westward directly into WA-1 WA 6.

On page 3-57 . . . the common yellow-throated killdeer should be two different species: the common yellowthroat and the killdeer. Also, mourning dove should be corrected.

The following correction should be made in the last sentence on EIE Page 3-57 (added text is double underlined):

Birds observed during the field investigations in the vicinity of the wetlands and agricultural fields included song sparrow, eastern bluebird, northern mockingbird, common yellow-throated yellowthroat, killdeer, starling, cardinal, mourning dove, red-winged blackbird and house sparrow.

The discussion on page 3-62 of the impact of the various building sites is incorrect. The description for site 6 (which does not exist) appears to refer to site 5, while the description for site 5 should probably be site 4.
The discussion in Page 3-62 is correct other than the third paragraph, which should be revised where indicated below:

... In addition, building sites 2, 3 (which will include the ATI Building), and 5-4 are entirely within mature hardwood forest. ... Building site 6-5 will impact a variety of plant communities including hardwood forest, coniferous forest, agricultural land and disturbed upland.

The statement on page 3-73 that concludes that the spine roadway and research park development does not have the potential to pose a significant threat to the quality of local groundwaters should be amended to make clear that the conclusion is the consultant’s. As written, the statement may imply that DEP personnel made this conclusion.

The first paragraph in Section 3.2.2 b. (Page 3-73) could more appropriately read:

Based on a review of state files, environmental/geological documents and reports, groundwater sampling data, and interviews with the Connecticut Department of Environmental Protection (DEP) personnel, it is the EIE preparers have concluded that the proposed spine roadway project and research park development does not have the potential to pose a significant threat to the quality of local groundwater or to the consumption of potable water by surrounding property owners. ...

The statement on page 3-74 concerning the use of private wells around the UConn property being discontinued should be clarified. Are the properties to the north along Route 44 now supplied by the UConn system?

The "UConn property" references the site of the former chemical pits. Private wells near the site are inactive. Properties along Route 44 are not supplied by the UConn water system.

Department of Public Health and Addiction Services (July 22, 1994)

(1) It is not advisable to continue to increase the demands on the UCONN water supply system without first acquiring additional supply.

Subsequent to the Draft EIE release and UConn's July 1994 revision of the Water Supply Plan, additional data and analysis was transmitted from Mr. George T. Kraus of UConn Facilities Management Department to DPHAS Water Supply Section (reviewers are referred to correspondence dated September 14, 1994 in Appendix D). Mr. Kraus concurred that there will be a need for additional water supply in the long-term, but concluded that current trends indicate that the system can supply water to a limited number of additional users without expansion. His conclusion is based on recent water consumption data which indicates that there is less existing demand than is indicated in the Water Supply Plan and the Draft EIE.

In response, a letter from Ms. Lori Mathieu of DPHAS Water Supplies Section to UConn dated September 29, 1994 (see Appendix D) stated that "the University water supply system could meet the demands of one proposed building (i.e., UCEPI building) to be located at the
Technology and Research Park site. The WSS believes that prior to the addition of any other additional demands, the University must obtain additional supply."

(2) The redevelopment of Willimantic River Well #2 . . . did not result in a significant increase to the available water as UCONN had planned.

The reason for the disappointing result from Well #2 redevelopment has not yet been investigated by UConn. A variety of factors that could have produced the observed result, and the potential for future improvement will be explored as part of the overall water supply planning by UConn.

(3) Figure 16 (page 3-23) should label the Fenton River Basin as the public water supply watershed to the Willimantic Reservoir with a surface water designation of AA . . . "

The EIE indicates that the Fenton River Basin is a public water supply watershed (Pages 3-17, 3-22, 3-130). Figure 16 identifies surface water resources within the project area, however none of these are contained within the Fenton River Basin.

*The Water Supplies Section is concerned that our previous comments (to the Notice of Scoping) were not appropriately addressed within this EIE. State plans and policies should be consistent with the policies of the C & D (Conservation and Development) Plan. Numerous policies concerning water supply and conservation areas were not addressed. Essentially, planned development within a public supply watershed should not be of a type and intensity to require sewer service.*

Reviewers of the Draft EIE will find the referenced Notice of Scoping comments in EIE Appendix A. The issue of the public supply watershed with respect to state policy was addressed in the Draft EIE under the heading Conservation and Development Policies Plan of Connecticut 1992-1997 on Page 3-129 through Page 3-131. At the top of EIE Page 3-130, the state policies for conservation areas are quoted from the C&D Plan (Page 122). Class II type water supply watershed lands are classified as Conservation Areas.

Page 123 of the C&D plan provides six policies pertaining to Class II type lands that elaborate upon the general Conservation Area policies discussed in the EIE. Specifically, the C&D Plan states that use of Class II type water supply watershed lands:

a. should encourage the retention of Class II land, as appropriate, through Department of Health Services regulation of sale and use and maintain all Class II type land in existing state ownership;

The proposed state actions do not include transferring of the parcel away from state ownership. Unassociated with the proposed actions, the project area was leased to UCEPI as authorized by the state legislature with Special Act Number 85-108.

b. should not create an intentional of unintentional point or non-point source of contamination without adequate man-made interception and control
safeguards, as approved by the Departments of Health Services and Environmental Protection;

EIE Page 3-131 states that if the development is to be considered compatible with the public supply watershed, mitigative measures may be necessary. Possible mitigative measures are discussed in EIE Section 3.1.2.

c. should not disturb vegetation . . . except as associated with access to or underlying a habitable structure.

Within the Fenton River watershed, the Draft Master Plan does not propose landscaping in excess of that required to construct the building and parking area.

d. should not allow subsurface sewage disposal systems in areas with soils of twenty inches or less . . . ;

The Master Plan does not call for subsurface sewage disposal.

e. should not create a demand for new state or interstate highways;

The portion of Site 5 within the Fenton River watershed does not in itself create a demand for a new state or interstate highway.

f. should introduce sewer collector systems only after a thorough evaluation of all private and public alternatives determines these systems are the only feasible solution to an existing pollution problem and the facility design and capacity shall not induce further intensive structural development with attendant surface runoff threats to water supply quality. Oppose plans for facilities that are excessively sized or that extend to areas where alternative remedial measures are possible.

As the DPHAS comment mentions, the policy discourages development within a public supply watershed that is of a type and intensity to require sewer service. The policy allows the possible option of redesigning Site 5 to exclude all of the proposed building from the public water supply watershed, while placing the parking area within it. See correspondence from UCEPI to Frederic R. Harris, Inc. regarding Site 5 development in Appendix C.

As noted in the EIE, applicable state policies include not only conservation but also economic development. The respective policies should be balanced when assessing the research park environmental and socioeconomic impacts.

State policy is to preserve conservation area land and to ".... maintain all Class II type land in existing state ownership."

The proposed state actions do not include transferring of the parcel away from state ownership.
(4) Water distribution system expansion, water system upgrades and well site locations... Section 6, page 6-2 does not include these necessary approvals.

The EIE should have listed the required DPHAS review and approval of the proposed water distribution system expansion. The expansion is required to supply water to the future research park buildings. No water supply system upgrades or well site locations are included within the proposed state actions reviewed by the EIE.

(5) The Carriage House apartments and Orchard Acres apartments should be included within this Table (EIE Table 10)... The EIE did not individually evaluate the potential impacts to each community water supply well.

Site 4 is located in the assumed area of contribution of the Rolling Hills Mobile Home Park well number 3 (see Draft EIE Figure 16). Within this area, permits for any discharges to surface waters may be granted by the DEP only for certain clean water discharges per Section 22a-430-1 of the Regulations of Connecticut State Agencies. There would consequently be no impact to the water quality of the nearby well by discharges from the site.

The development of Site 4, by adding impervious ground surfaces, may decrease the rate of groundwater recharge at that location, possibly having the potential to impact the nearby well number 3. One mitigative measure could be the provision within the Site 4 drainage system design for the percolation of rooftop runoff. Impervious surfaces should be minimized in the Site 4 landscape plan.

The wells for Rosal Apartments are located ¼ mile north of Site 5, north of Route 44 (see Class GAA area on Draft EIE Figure 16). Site 5 is located on a divide between watersheds that respectively slope eastward and westward (not northward). The research park is outside of the assumed area of contribution (where the water table is lowered by pumping, causing groundwater to flow toward the well). Therefore, the Rosal Apartments wells should not be impacted by research park development.

Within EIE Table 10, the community water supply wells closest to the UCEPI parcel are identified. The wells for Club House Apartments and Hunting Lodge Apartments, are respectively 1850 and 2300 feet west of the closest proposed site boundary (Site 4). They are included in Table 10 due to their proximity to the UCEPI parcel boundary, although their distance from any proposed development minimizes the potential for any impact from the proposed research park.

The wells for Carriage House Apartments and Orchard Acres Apartments are each a half mile from the UCEPI parcel boundaries. Carriage House Apartments has a single well located at the western end of Carriage House Drive off Hunting Lodge Road. Orchard Acres Apartments has four wells located off Separist Road (south of North Eagleville Road). No impact is anticipated by the research park upon these water supply wells.
Connecticut Historical Commission (August 5, 1994)

Professional archaeological investigation is warranted in order to definitively identify all archaeological resources which may exist within the project limits.

As indicated in the Draft EIE Section 3.2.7, a Phase I archaeological assessment survey was performed in 1987 for the entire 390-acre UCEPI property. It is understood that this comment from the Connecticut Historical Commission is requesting a Phase II level of archaeological investigation where proposed construction may overlap with areas within the site identified as having moderate-to-high prehistoric potential (see Draft EIE Figure 28, Page 3-119). The historic/archeological consultant referenced in the Draft EIE concurred, recommending that "areas identified as having moderate-to-high potential for prehistoric sites and three historic sites . . . should eventually be subject to more intensive archaeological testing before these portions of the project are developed." The consultant also indicated that no further field investigation is recommended for the property outside of the areas identified in Figure 28.

The first building to be constructed, the ATI Building, is outside of the areas of moderate-to-high potential for prehistoric sites. No known historic sites will be impacted by any of the proposed facilities.

Subsequent to the Commission's letter of August 5, 1994, Mr. David Poirier, Staff Archaeologist at the Connecticut Historical Commission, indicated that the professional archaeological investigation requested by the Commission should be performed at any time prior to construction. He further indicated that the Commission is willing to work with the sponsoring agencies beyond the issuance of the Record of Decision, if necessary, and expressed his desire that the sponsoring agencies provide commitment that the requested Phase II investigations will be performed.
1) *It is essential that the subject research and technology park buildings remain under the regulatory jurisdiction and associated public participation processes of Mansfield’s Inland Wetland Agency and Planning and Zoning Commission. . . . this property must remain subject to local property taxation.*

The Draft EIE states on Page 3-132 that "the private research park facilities and site developments will each be subject to municipal land use regulations and permitting processes." The sponsoring agencies have made no commitment to submit to Town review in cases where buildings entirely funded by state/federal sources are constructed on state property. However, reviewers should note that UCEPI is seeking Town approvals for the ATI Building, although it is entirely funded by state and federal sources.

The possible option to establish an urban enterprise zone, or a free trade zone at the UCEPI site was referred to in the EIE as a method for encouraging development. The option is not presently under consideration.

The Draft EIE mentions on Pages ES-7 and 3-128 that "the buildings and appurtenances at the research park will be subject to assessment and taxation by the Town of Mansfield per Special Act number 85-108."

2) *The EIE concludes that the UCEPI project "would not cause a significant impact on the housing market in the area." This conclusion is not supported adequately.*

The conclusion was based upon an evaluation of the cumulative impact of two state-associated projects: (1) the proposed research park and (2) the future housing developments at the former Mansfield Training School site. The table below provides an estimate of the new town residents that might be generated by each two projects. While the projects will add demand for an estimated 624 units by 2010, that impact is mitigated by the introduction of 237 units at the Mansfield Training School site. The net demand increase is calculated by adding the estimated number of new residents from the two projects and subtracting the number of new units provided by the Mansfield Training School development. The peak net demand increase would occur around the year 2010 at about 387 units. This number amounts to 0.5 percent yearly of the total stock of housing units in Mansfield of 5,158 units (1990 census).

The employees of the research park are expected to demand market rate housing. However, the marketing reports referenced by the EIE (prepared by the firm Coast and Harbor Associates) suggested that the growth of demand though 2010 for most types of housing other than affordable housing was likely to be modest. In an interview, Mr. Patrick Ferrigno, of Ferrigno Realtors in Mansfield, expressed the opinion that the projected demands for housing resulting from the projects would not have a significant impact on the costs for housing in the Town. He felt that new demand would likely be met by new construction, while prices remain unaffected, pointing out that there has been little construction of housing units in recent years within the Town.
Projected Demand for Housing in the Town of Mansfield
Generated By State-Associated Projects
(Cumulative Totals)

<table>
<thead>
<tr>
<th>Year</th>
<th>MTS Phase</th>
<th>Research Park Phase</th>
<th>New Employees Residing in Town (Each)</th>
<th>MTS Dwelling Units (Each)</th>
<th>Net Demand Increase (No. Units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>---</td>
<td>I</td>
<td>126</td>
<td>---</td>
<td>126</td>
</tr>
<tr>
<td>2001</td>
<td>One</td>
<td>II</td>
<td>276</td>
<td>33</td>
<td>183</td>
</tr>
<tr>
<td>2010</td>
<td>Two</td>
<td>III</td>
<td>590</td>
<td>34</td>
<td>237</td>
</tr>
<tr>
<td>2025</td>
<td>Three</td>
<td>---</td>
<td>590</td>
<td>43</td>
<td>377</td>
</tr>
</tbody>
</table>

Notes:
2. Assume 20% of total employees employed will reside in the Town.

The EIE does not analyze in any detail potential impacts on Mansfield’s population, school enrollment or service needs.

Population

By the full-build condition in 2010, the research park is projected to employ 590 people who are anticipated to find residence in the Town of Mansfield. This estimate is based upon the average employment densities for hotels, research and development centers, and light industrial categories provided by *Trip Generation*, Fifth Edition, 1991, by the Institute of Transportation Engineers. It was assumed that 20% of the employees would seek residence in the Town.

Public Schools

A description of the public schools in the Town of Mansfield is provided in Section 3.3.2 of the Draft EIE. Recent projections of future enrollments are provided in the chart entitled "Mansfield CT: School Enrollment (Projected 1994-2005), which was prepared by the State Board of Education, August 1994 (see Appendix H). According to the enrollment projections, by 2005 the Town will experience a decrease in the number of students between kindergarten and 8th grade totaling around 100 students. The projection does not account for the proposed UCEPI research park or the future developments at the Mansfield Training School.

The table below provides an order-of-magnitude summation of the anticipated impacts to public school enrollment from the two major proposed projects in the Town that are state-associated. The table reflects the estimated impact from the UCEPI research park as a result of families of future park employees who will reside in the Town. For the other major state-associated project, the Mansfield Training School development, the table accounts for residents introduced
by both the housing and the commercial components of the project. The impacts provided in the table are mitigated by the 100-student decrease projected by the State Board of Education.

The projections apply the national average of around one quarter of the households having children in public schools. Two children per family were assumed.

<table>
<thead>
<tr>
<th>Year</th>
<th>MTS Phase</th>
<th>Research Park Phase</th>
<th>MTS Development</th>
<th>UCEPI Research Park</th>
<th>Total Pupils</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>---</td>
<td>I</td>
<td>---</td>
<td>64</td>
<td>64</td>
</tr>
<tr>
<td>2001</td>
<td>One</td>
<td>II</td>
<td>104</td>
<td>140</td>
<td>244</td>
</tr>
<tr>
<td>2010</td>
<td>Two</td>
<td>III</td>
<td>131</td>
<td>295</td>
<td>426</td>
</tr>
<tr>
<td>2025</td>
<td>Three</td>
<td>---</td>
<td>214</td>
<td>295</td>
<td>509</td>
</tr>
</tbody>
</table>

The Superintendent of Schools for Town of Mansfield indicated in an interview that, if the above projections were realized, Mansfield would likely require additional public school space by the year 2005. Given that many of the new residents would be located at the former Mansfield Training School, it may be reasonable to consider providing the additional space in that part of the Town. One option might be to expand the existing Goodwin Elementary School. Otherwise, a new school might be considered in northeastern Mansfield. The potential to locate a school building on the Mansfield Training School property could be investigated.

If the new school building were designed to accommodate 300 children, the capital investment required for the furnished building can be estimated at around $10,000 per pupil, or $3 million (reference Means Building Construction Cost Data, 52nd Edition, 1994). Operating expenses can be estimated as being on the order of $8,000 per student yearly, or $2.4 million for 300 children.

**Social Services**

The research park is not expected to increase any significant need for social services, while it will expand the town tax base to help pay for such services.

Town Public Works would not be impacted, since most of the projected traffic increase is expected to be on state roadways. The research park management will retain a private contractor for the collection of solid waste and the transport to a regional resource recovery facility, therefore town-contracted operations will be unaffected.
The UConn Fire Department will have responsibility for providing emergency service for the proposed research park. The Department has indicated that the park would not have an impact until the year 2001, when additional staffing would be needed for both emergency and non-emergency functions. Further staffing increases would be required by the completion of Phase II construction (see Appendix C for correspondence from UConn to Frederic R. Harris, Inc. dated April 28, 1994).

Other public safety concerns associated with the research park might be the potential for vandalism or theft from the park. The potential for either would depend on the degree of on-site private security and alarm systems, as well as the availability and attractiveness of valuables that might attract break-in theft. Additional concerns may be associated with projected traffic increases, although proposed roadway and traffic safety improvements are expected to mitigate those potential impacts. The UConn Chief of Police indicates that the UConn Police Department will maintain responsibility for police protection of the research park.

3) There is no specific commentary on potential impacts on neighboring property values. It is essential that potential neighborhood impacts be analyzed in association with Mansfield’s land use regulations.

The Zoning Regulations, Town of Mansfield, November 15, 1991 require that developments not adversely impact adjacent land uses. Specifically, Article V (Special Permit and Site Plan Requirements), lists under Section A 5. (Approval Criteria) that

The basic design of the proposed uses, building or development; the relationship between the building and the land; the relationships between uses and between buildings or structures; and the overall physical appearance of the proposed use, building or development are in general harmony with the character of the surrounding neighborhood and will not serve to blight or detract from the value of abutting residences or other property.

Similar requirements are stipulated in Article 5 Section B 5. (Special Permit Requirements Approval Criteria).

The Town regulations require a landscape buffer "where a site abuts a more restrictive zone or existing residential uses." See Article VI B (Performance Standards) subsection 4. q. (Landscaping and Buffering).

The Zoning Regulations also state that within an RD/LI zone, of which the entire park is designated:

... a minimum setback of 150 feet is required between all new industrial or research buildings and residential zone boundary lines. This setback may be reduced by the Commission due to physical characteristics, the nature of proposed landscape and buffer plans or the character of existing land uses. (Article VIII 3. a.)

Building heights are limited to 40 feet. An exception is allowed for hotel/conference centers, which are limited to 80 feet.
To the extent that the research park developments are subject to Town zoning processes, the above requirements assure that neighboring property values are not significantly affected.

The Concept Master Plan, as depicted in the Draft EIE Figures 3 and 4, generally provides adequate space for buffering between proposed facilities and adjacent residential areas. A possible exception is Site 4, which is shown to directly abut the property line at Rolling Hills Mobile Home Park. While allowing for error due to the level of accuracy afforded by the small-scale figure, it appears that the development of that site may warrant that facilities be located very close to the abutting residences. The Town Zoning review process would examine any private development at that site with respect to the regulations discussed above and other regulatory requirements.

4) The EIE . . . does not adequately address the Clean Air Act requirements. . . The EIE should provide more details regarding State and Federal requirements for air quality permits.

The Federal Clean Air Act requires states to plan and implement programs to meet specific air quality goals on a regional basis. The State of Connecticut regulates stationary emission sources, such as discussed on EIE Page 3-76. However, for traffic-related emissions (indirect sources), the State does not stipulate development-specific requirements in all its regions. In Connecticut, mandatory ridesharing (called Employee Commute Options or ECO's) only applies to "severe" ozone nonattainment areas. In Connecticut, only Fairfield County is designated a "severe" ozone nonattainment area.

The state implementation plans (SIP's) for meeting Clean Air Act requirements involve an number of proposals that are still being developed. Emission reduction measures under consideration include requiring automobile manufacturers to sell within the region low emission vehicles, or even electric vehicles. At present, indications are that transportation control measures that might impact the proposed research park are considered last resort measures.

No air quality regulations would affect the size of the research park or transit, ridesharing, or road improvement elements of the proposed project. The EIE fully addresses the potential state or Federal air quality requirements for the research park and spine roadway (see Pages 3-76, 3-77).

5) The EIE does not include an analysis of potential Willimantic River impacts. The likelihood of DEP and DPHAS approval of new wells deserves more consideration in the EIE.

Potential secondary impacts to the Willimantic River from the proposed research park may include 1) increased withdrawals from UConn's Willimantic Well field that would result from the research park, and 2) the corresponding increase in wastewater discharge from the park to UConn's waste water treatment plant, which discharges treated water into the Willimantic River.

It is anticipated that potential impacts to the Willimantic River will be addressed by the review process performed by the State of Connecticut Department of Environmental Protection (DEP) for the water diversion permit that will be required for the proposed installation of an additional well at the Willimantic Well field. The review will not only address the potential impacts from the added demands of the Mansfield Training School developments, but will examine the total projected demands upon the existing natural resources that will be expressed by the entire area.
served by the system. A range of issues are expected to be examined, including potential impacts to fish/wildlife habitats, low flow requirements, agriculture, recreation, water supplies, water quality, ground water, flood management, and wastewater treatment needs. The DEP permit process is the appropriate mechanism for addressing the cumulative effects upon the river of the proposed state actions along with other considerations.

The water diversion permit application has not yet been filed with DEP. After the application has been filed, DEP will process the water diversion application along with a stream channel encroachment line application. The subsequent review process may take several years. It is therefore of limited use to comment upon the likelihood of the DEP permits being approved at this time. Nonetheless, the following discussion is provided:

An analysis of the Willimantic River water quality is provided in Water Quality Analysis of Willimantic River, 1991, prepared by the Planning and Standards Division, Bureau of Water Management, State of Connecticut Department of Environmental Protection. An excerpt of the report is provided in Appendix I. The purpose of the study was "to establish the levels of organic waste treatment necessary to meet the Class B (swimmable/fishable) water quality goals of the river." The study evaluated treatment needs at a set of worst-case conditions, with instream flow at 25°C during a 7-day low flow period (10-year frequency) while sewage treatment plant flow is at full capacity. This combination conditions will not actually happen, since low flow occurs in the summer months when UConn is not in session and the sewage treatment plant is not operating at full capacity. The study also accounted for future demand of the proposed research park as well as the future Mansfield Training School developments by using the demands forecasted within the UConn Water Supply Plan, as well as accounting for future drinking water supply usage by the entire UConn system.

The study concluded that the river can adequately assimilate future discharge from the UConn wastewater treatment plant if the plant is upgraded to provide tertiary treatment. The DEP report stated that:

The Willimantic River is a high quality water body which meets or exceeds Class B water quality standards and qualifies for protection under the Department's anti-degradation policy. Expansion of the UConn sewage treatment plant with the proposed effluent limits will comply with the anti-degradation policy as increased treatment at tertiary treatment levels will offset wastewater flow increases.

The reconstruction of the UConn waste water treatment plant will be completed by spring 1995.

The DEP Bureau of Water Management, Inland Water Resources Division performed a limited review focussing on the potential flood hazard aspects of a proposed site for the new well structure. The division concluded that "the project will not increase flood hazards in the Willimantic River flood plain" (see Appendix C for letter dated September 29, 1994 from Thomas Morrissey, DEP to George Kraus, UConn).

DEP Bureau of Environmental Services, Natural Resources Center is in the process of performing modeling of the UConn Willimantic well field in connection with the Level A mapping (which is being prepared for adoption under the Aquifer Protection Act) and for use
in review of UConn's water supply plan. The finalized model will be utilized by others in the
design of wellfield modifications and the preparation of a water diversion permit application.
Presently, the results are precursory and are not of use in the present task of evaluating the
potential for increasing the available water supply.

At present, there has been no study of how fish and wildlife habitats along the Willimantic River
might be affected by the proposed diversion from the well field. The affect of future low flow
conditions upon habitats will be examined in detail during the preparation and review of the
water diversion permit application.

Reviews of both the water supply plan and the water diversion permit will require the
investigation of alternatives to increasing wellfield withdrawals. At present, alternatives have
not been explored in detail. One alternative, cited by the UConn water supply plan, would
involve the piping of water from the Willimantic water supply system, which would require
around six miles of piping and significant pumping facilities. While this option is technically
feasible, the associated costs may be excessive. Another alternative, not discussed by the
UConn plan, would be the provision of one or more wells at another location along the
Willimantic River. To explore that alternative, a study would be required to identify potential
well sites and to determine the feasibility of obtaining the desired withdrawals. It is anticipated
that the University will continue its on-going efforts to reduce water consumption through
conservation measures.

6) There is limited discussion regarding potential impacts on the large wetland system
downgradient from this detention area and whether a series of smaller detention areas . . .
would have less overall environmental impact.

The research park layout discussed in the Draft EIE is at the conceptual design level.
Alternatives to the detention basin depicted by Figures 3 and 4 in the Draft EIE might be
feasible that would provide several basins at separate locations within the UCEPI parcel.
Whichever strategy is finally adopted in the final design, the design will be reviewed by the DEP
under the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from
Construction Activities, which is intended to assure that projects do not adversely affect the
quality of runoff flowing toward wetlands and watercourses. The program requires certification
that a stormwater pollution control plan will be prepared for the site addresses 1) pollution
caused by soil erosion and sedimentation during and after construction; and 2) stormwater
pollution caused by the use of the site after construction is completed. The plan must be
prepared in accordance with Connecticut Guidelines for Soil Erosion and Sediment Control
January 1988 or as amended (Connecticut Council on Soil and Water Conservation). Analysis
at the various storm intensities need not be performed at the conceptual design level, however,
such analysis will be required in subsequent design stages.

The detention basin depicted by Figures 3 and 4 in the Draft EIE appears to be at the best-suited
location within the park, due to the relatively low elevation, its proximity to the park
development, and the amount of clearing required for its construction.

7) The plan's assumed 17% trip reduction based on transit and other forms of transportation
is not supported by any data potentially could be increased. . . Assumptions about the extension
of the existing regional fixed-route transit service into the park and its ability to stop off the road also are not substantiated.

The potential for van pooling at the research park was estimated in view of comparative data shown on the below table. Because the research park would be located in a less-populated region that those studied, it was estimated that two vans would operate carrying 13 employees, while a larger number of employees would instead carpool. As the park approaches full build-out, it could be expected that a larger percentage of employees would be able to support vanpooling.

<table>
<thead>
<tr>
<th>Facility</th>
<th>Employment</th>
<th>Vans (each)</th>
<th>Participants (each)</th>
<th>Vanpoolers (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ConnDOT Office, Newington</td>
<td>1400</td>
<td>12</td>
<td>125</td>
<td>8.9</td>
</tr>
<tr>
<td>Aetna Insurance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middletown</td>
<td>4850</td>
<td>24</td>
<td>240</td>
<td>5.0</td>
</tr>
<tr>
<td>Windsor</td>
<td>1819</td>
<td>3</td>
<td>30</td>
<td>1.5</td>
</tr>
<tr>
<td>All Locations</td>
<td>---</td>
<td>65</td>
<td>570</td>
<td>---</td>
</tr>
<tr>
<td>Traveler Insurance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hartford Locations</td>
<td>---</td>
<td>35</td>
<td>314</td>
<td>---</td>
</tr>
<tr>
<td>Research Park</td>
<td>1400</td>
<td>2</td>
<td>13</td>
<td>1.0</td>
</tr>
</tbody>
</table>

1990 census data was also examined. According to that census, the following modes of transportation were used in Connecticut:

77.7% Single occupant vehicle
11.2% Carpool
3.9% Public transit
0.8% Other

According to the 1990 census, the following modes of transportation were used in Mansfield:

64.7% Single occupant vehicle
12.0% Carpool, 2 or 3 persons
0.9% Vanpool
0.4% Public Transit
21% Walk
1.1% Other

The option to route the existing fixed-route transit service along the proposed spine roadway was based upon an interview with Ms. Meg Reich of the Windham Region Transit District (WRTD), who concurred that the option may be feasible. The issue as to whether the transit service could
feasibly make stops at the front entrances of the proposed buildings, rather than at roadside pullouts, is a design aspect that will be addressed by the Concept Master Plan preparers.

The EIE should address the need for sidewalks and bicycle improvements along Route 44.

The proposed spine roadway project does not presently include provisions for sidewalks of bikeways along Route 44. The potential demand for such improvements that may be created by the research park would be small. There is therefore no significant impact associated with project-generated pedestrian/bicycle movements.

8) Proposed intersection and roadway improvements assume a background traffic growth of 1.5% per year. The use of this high level of background growth is not consistent with an anticipated 5% population growth over ten years or recent UConn projections regarding student enrollment. The EIE should reanalyze background traffic assumptions which, in association with a more comprehensive transit analysis, may result in a decrease in anticipated roadway improvements.

The 1.5 percent per year figure used for background growth was provided by the ConnDOT Bureau of Planning to the traffic consultant. The figure was based upon census data and ConnDOT projections specific to the Mansfield area.

Population makeup was considered to be as important as population numbers. An important parameter is the total work force, which is projected to rise from 8910 in 1992 to 12320 in the year 2010, which represents a compounded rate of 1.82 percent per year. The actual percentage used is somewhat subjective, since there are inherent difficulties in quantifying the existing and future parameters. For example, the traffic on the roadways surrounding the UCEPI site is not solely generated within the town. Also, due to varying traffic flow distributions, the average population growth in the area will not necessarily apply to the vicinity of the project. Therefore, there is no data that would warrant revising the assumptions used for the traffic analysis.

A minor discrepancy has been identified in the traffic volumes for one intersection analyzed in the Draft EIE. Accordingly, revised traffic volume diagrams are provided in Appendix K of this Record of Decision. The discrepancy has no impact on the capacity analyses or recommendations provided in the EIE.

An agreement exists regarding the early 1990's reconstruction of the Route 44/195 intersection which may bear on its future upgrading.

The referenced agreement regarding the Route 44/195 intersection was specific to a former ConnDOT project (ConnDOT Project Number 77-172) and does not apply to intersection improvements that will be required by the research park. Refer to "Agreement Re: Intersectional Improvements of Route 44/195 in Mansfield (DOT Project No. 77-172)" in Appendix E of this Record of Decision.
9) The EIE has not analyzed traffic impacts on any Town Roads, including Baxter, Birch, and Hunting Lodge Roads, as well as the intersections of Baxter/Rt. 195, Baxter/Rt. 44, Hunting Lodge/Birch, Hunting Lodge/Rt. 44, Birch/Rt. 44.

The EIE section regarding traffic was based upon the study by Purcell Associates Traffic Impact Study - Connecticut Technology Park, Mansfield, Connecticut (Project BI-28-824), February 1994. The traffic consultant does not anticipate that any significant park-generated traffic will use Baxter, Birch, or Hunting Lodge Roads (see Appendix C for correspondence from Purcell Associates to Mr. Richard Meehan dated August 19, 1994). The referenced intersections were therefore not analyzed.

10) The Town Council supports road alignment B. No response.

11) The eight-day comment period following the Public Hearing provides limited opportunity to submit written comments.

The timing of the 45-day review period and the Public Hearing was in conformance with the Regulations of Connecticut State Agencies Sections 22a-la-8 and 22a-la-11.

Windham Regional Planning Agency (June 24, 1994)

The preparers of the Draft EIE are in general concurrence with the comments provided by Windham Regional Planning Agency (WRPA). Specific responses are provided below.

3-86 A map of existing and proposed transit routes would make this information more easily absorbed.

A figure depicting existing bus routes is provided on Page 3-89 (Figure 22), and is referenced in the sixth paragraph on Page 3-86.

The final sentence on this page (3-86) gives a misleading picture of the ridership of the WRTD Storrs/Willimantic fixed route. A recent survey shows that 37.5 percent had no UConn affiliation.

The last sentence on Page 3-86 should more appropriately read "UConn-generated ridership on this fixed-route service is about equally split between students and faculty/staff."

University of Connecticut Educational Properties, Inc. (June 24, 1994)

2. We would like the project definition and state action clarified to include that the road(s) to be built might not be that limited to completing the spine road.

We concur that the cited increase in state funding for proposed roadways associated with the spine roadway would not introduce any additional environmental impacts. Although the scope of the proposed state actions is slightly expanded, the Concept Master Plan for the park remains unaffected.
State-funded roadway is considered to represent direct effects rather than indirect effects (Section 22a-1a-3 of the CEPA regulations defines direct and indirect effects). The Draft EIE analyzes both impact categories with equal intensity, therefore the distinction is not significant to the EIE findings.

The document adequately addressed impacts associated with the revised project definition. Since the additional project cost affects the cost benefit analysis provided in the Draft EIE, the computations have been updated for the Record of Decision and are included in Appendix J. The computations are also adjusted to be more conservative as discussed in the response to Sam Zahl, Tech Park Study Committee, Comment Number 2 (see Page IV-31). The result is still positive. Draft EIE Section 5.4.1 c. (Page 5-7) would be revised to state:

The total benefit of $68 $38.9 million is greater than the total project cost of $45.8 $17.7 million. As a result, the net present value (NPV) of the project is positive at $54 $21.2 million . . .

Peter Newcomer (June 13, 1994)

Page 1, Paragraph 6  The era of Tech Park construction seems largely over in the United States.

Nationwide, research park startups are indeed past peak. Starts where respectively 4 and 2 for 1992 and 1993. However, this is not viewed as a result of any decrease in demand for such parks, but rather an indication that the most suitable locations for new research parks nationwide is shrinking as the best locations are utilized. Mr. Chris Boettcher, Executive Director of the Association of University Related Research Parks estimates that of the 118 million square feet of research park space existing in North America, very little usable space remains available (less than 5 percent). In the United States, 122 university-related research parks exist, while another 11 are in the planning stages (including the UCEPI research park).

Page 1, Paragraph 8  Any Park must possess at least some special features/advantages.

That the research park will be essentially on the UConn campus is a significant special marketing advantage. Another advantage is the proximity to agricultural lands where fieldwork related to research may be performed.

Page 2, Paragraph 1  Business refused to invest in the Park even during the recent economic boom.

It was inability of the previous developer (ConnTech) to move ahead with the park’s development and to serve the identified market that, in part, led UCEPI to sever its relationship with ConnTech.

In recent years, it has been the position of the sponsoring agencies that a state-funded spine roadway is necessary for the creation of a research park at the UCEPI site. With the provision of adequate site access, the prospect for park implementation will be greatly improved over the condition that existed during the recent economic boom years.
Page 2, Paragraph 2  *Should the EIE not include contingency planning for the Park’s failure.*

If the park should fail or if UCEPI should dissolve as a corporate entity, its land lease with the University would terminate and its assets would revert to the University. In the case of the Advanced Technologies Institutes (ATI) Building, the University would own a 93,000 square foot building that would be debt-free. The park’s acreage would be reintegrated back into the University’s main campus and maintained by the University. The park’s spine road would remain a state roadway maintained by the State Department of Transportation.

Page 2, Paragraph 3  *No clamor for the Park is heard from any quarter inside UConn.*

The park’s creation was a request of the University administration and the Board of Trustees, and they have remained involved in its governance and activities. The Trustees retain the right to approve the park’s master plans. The President of the University is the President of UCEPI, and the Chairman of the University’s Trustees and two of the University’s highest administrators are on the UCEPI board. Appendix F provides letters from UConn President Harry Hartley to the United States Congress indicating the University’s feelings toward the park. Also included the University’s "draft" policy on the park (which has since been adopted).

Page 2, Paragraph 4  *If the hotel/conference center is seen as viable in open-market economic terms, why are our local business people not interested in building it?*

Although a number of local developers have expressed an interest in building a hotel, UCEPI is not ready to consider its development. UCEPI must first look to the park master planning process to identify the one or more sites in the park that are suitable for a hotel/conference center. They also must then compare their needs with those of the University (which is emerging from its strategic planning process) so that the discussions can center on joint needs, rather than those of a hotel developer. No serious hotel discussions can take place until the park approvals are received and the road and utility construction begins. It is only then that the financial and hotel community will seriously participate in discussions.

Page 2, Paragraph 6  *ConnDOT has always stated that it operates on a demand-model in road construction and improvement. Building the spine road appears to run counter to DOT policy.*

ConnDOT policy is not relevant to the actions proposed by the sponsoring agencies, the Board of Trustees for the University of Connecticut and the Department of Economic Development. The funding for the proposed roadway will be provided through the State Department of Public Works.

Page 2, Paragraph 7  *The argument that the road will relieve pressure on nearby arteries...it simply doesn’t work that way.*

The traffic analysis, which was prepared by an independent consultant for use within the Draft EIE, indicates that the spine roadway will indeed relieve congestion on Route 195 near the site and Hunting Lodge Road though the first phase of research park implementation.
To project the distribution of site-generated traffic, a gravity-model analysis was used. The analysis assumed that the percentage of the total site-generated trips that originate from a given area will be proportional to the area's population and inversely proportional to the distance that must be traveled. All of the towns within the 25-mile radius of the site were included in the gravity-model analysis. It was assumed that vehicles would travel the most direct route to and from the research park; therefore there would be little incentive for site-generated vehicles to travel either on Route 195 between four corners and North Eagleville Road or on Hunting Lodge Road, since these roadway segments circumnavigate the research park, rather than providing access to the park.

As the proposed spine roadway will affect through traffic, it will serve as a connector between the UConn Campus and Route 44. Given the choice between traveling either the spine roadway or Hunting Lodge Road, the best choice would be the former, which potentially will offer less travel time.

Page 3, Paragraph 3 In the matter of the state-listed species, we must ask if a survey of their breeding season use of the on-site habitat has been carried out. . . ?

Mr. Louis R. Bevier, Biologist, conducted a field investigation of the avian species at the UCEPI property over several days during June, 1993. Refer to the results of that investigation in the Draft EIE beginning on Page 3-60. Comments related to anticipated impacts are discussed on Page 3-64.

Page 3, Paragraph 4 The road . . . often involves denuding, paving, and riprapping of a strip in excess of 150 feet wide.

ConnDOT indicates that the width of clearing along the spine roadway will be limited to that required to build the roadway and install utilities. The prominent riprap slope along the east edge of the existing spine roadway was required to provide the cut-slope that standard roadway vertical alignment warranted at that location. That condition by no measure would be typical of the remaining roadway. Also note that the existing roadway embankments lack landscaping features that the research park could be anticipated to provide.

Land disturbances will be minimized at the wetland crossings by reducing the width of the roadway by eliminating the 12-foot grass strip that is typically included between the roadway curbing and the walkway. The required cross sectional width of paved surface would therefore become 42 feet, bringing the total disturbed width to around 56 feet. Outside wetland areas, the total disturbed width could be as low as 80± feet where roadway geometry requires minimal cut or fill.

Page 3, Paragraph 6 At present seven-year low water flow on the Willimantic River, treated sewage forms on-quarter to one-third of the river at the outfall downstream from Pine Lake Dam. This situation is not addressed in the EIE. Is it permissible?

Analysis of the Willimantic River water quality is provided in Water Quality Analysis of Willimantic River, 1991, prepared by the Planning and Standards Division, Bureau of Water Management, State of Connecticut Department of Environmental Protection. The study indeed
reports that "during summer low flow conditions, . . . the UConn effluent will comprise 25% of the low flow below Eagleville Lake." The study is referring to a 7-day low flow with a 10 year recurrence period, which is a very rare drought condition.

The purpose of the study was "to establish the levels of organic waste treatment necessary to meet the Class B (swimmable/fishable) water quality goals of the river." The study evaluated treatment needs at a set of worst case conditions, with instream flow at 25°C at 7-day low flow with a 10 year recurrence, treatment plant flow at full capacity. The study also accounted for future demand for the research park by using the demands forecasted within the UConn Water Supply Plan, as well as accounting for future drinking water supply usage by the UConn system. Among the study's conclusions was the statement that:

The Willimantic River is a high quality water body which meets or exceeds Class B water quality standards and qualifies for protection under the Department's anti-degradation policy. Expansion of the UConn sewage treatment plant with the proposed effluent limits will comply with the anti-degradation policy as increased treatment at tertiary treatment levels will offset wastewater flow increases.

In response to the question as to whether the anticipated impact to water quality in the river is permitable; the UConn sewage treatment plant expansion has already received the permits required for construction, therefore the conditions that will exist when the research park is implemented are indeed permitable.

Page 4, Paragraph 2 The authors fail to discuss secondary impact to wetlands which would result from removal of the forest cover. No detailed plan of stormwater runoff from the very large parking lots is evaluated.

It is anticipated that the final drainage system design would provide mitigative measures that would prevent the transport of sediment, providing protection against the deposition of sediment within adjacent wetlands. The proposed detention basin, which would accept stormwater runoff from virtually all paved areas, would allow much of the water to cool before discharging into the adjacent wetland.

No stormwater management plan has been prepared for the site. The CEPA process, under which the EIE was prepared, requires that the process be completed prior to final design efforts.

Page 4, Paragraph 3 Is the EIE really trying to assert that 9000 trips per day . . . will have no effect on the quality of the air in Mansfield?

Please note that the Draft EIE concludes (on Page 3-77) that there will be no "significant impact" on air quality, rather than "no effect."

Page 4, Paragraph 3 Nowhere in the EIE is there any concrete planning for reductions in auto use or non-auto modes of transportation.

Draft EIE Page 3-102 suggests that the Willimantic fixed-route bus service be rerouted to travel along the spine roadway. The timing and details of this proposal should be determined between
the interested agencies including Windham Region Transit District, UConn, and UCEPI. Also, the EIE indicates that the proposed spine roadway will feature a 10-foot wide bikeway/sidewalk (see EIE Pages 1-7 and 3-91).

**Page 4, Paragraph 4** The essence of the 1990 Clean Air legislation is that the air in non-attainment areas must improve by 15% by 1996.

The Clean Air Act Amendments of 1990, Section 182(b)(1) requires states to submit a State Implementation Plan (SIP) revision for all ozone nonattainment areas classified as moderate and above (Mansfield is classified as "serious" ozone nonattainment). The SIP for describes how these areas will achieve a fifteen percent reduction in emissions of Volatile Organic Compounds (VOCs) by November 1996. There are no measures proposed under the SIP that would impact the proposed research park. See response to the Town of Mansfield comment number 4 (Page IV-20).

**Page 4, Paragraph 5** EIE basically asserts that the old UCONN landfill/chemical pits site has been cleaned up and that we need anticipate no further movement of toxic leachate from this location.

With respect to the former chemical pits, the DEP Bureau of Waste Management has concurred with the opinion expressed within the Draft EIE that the former chemical pits do no appear to be adversely impacting the nearby environment.

Please note that the EIE does not state that the UConn landfill has been cleaned up, nor does it state that no anticipated movement of toxic leachate is expected. Rather, it concludes, based on interviews and review of available technical data/reports, that the proposed research park development is not likely to impact landfill dynamics with respect to the movement of leachate plumes. A discussion of the potential for off-site migration of contaminants unassociated with the research park is not within the scope of the EIE. Refer to the related DEP comment and attached response (DEP comments Page 3 Paragraph 5).

**Page 5, Paragraph 2** UCEPI did not want to build in MTS land and that their minds were made up... well before the technical reasoning in the EIE was developed.

Reviewers are advised to differentiate between UCEPI and the sponsoring agencies. UCEPI, which is not a sponsoring agency under the CEPA process and was not involved with the preparation of the EIE, has openly supported the proposed site for the research park north of the Storrs campus.

UCEPI was created at the request of the University of Connecticut specifically to oversee the development of a university research park on the University's north campus. Subsequent to that, Special Act 85-108 of the legislature authorized the trustees to lease that and only that acreage to UCEPI for the park, and it constrained UCEPI to only look to that acreage. Had UCEPI looked elsewhere, it would have been severely criticized.
Page 5, Paragraph 3

1. **Might the land (model village) be make available to UCEPI?**

The "model village" project undergoing CEPA review. The review document was released July 5th of this year (Master Plan for Housing and Related Commercial Development at the Mansfield Training School, Mansfield, Connecticut - Environmental Impact Evaluation, Draft Report, Project BI-2B-871-1. The Draft EIE is presently within a 45-day public review period.

2. **Does the Park really require 75 acres . . . ?**

The seventy-five acres is the planning consultant’s translation of the market demand into a land plan that is most suitable and consistent with local and regional standards. The same demand could be served with less acreage if the community was willing to settle for a more 'urban' park that consisted of tall buildings separated only by paved parking areas.

Those building types are not suitable for the proposed activities and ambiance of the park, and the building heights are presently not in accordance with the Mansfield zoning ordinances that govern the park.

**Sam Zahl, Tech Park Study Committee (June 14, 1994)**

(1) *The analysis omits $2.2 million . . . design costs for the road and ATI building.*

The Draft EIE indicates on the bottom of Page 5-5 and the top of Page 5-6 that the analysis covers construction costs only. The intent was for the analysis to cover project components that are subject to the CEPA regulations; i.e. funds that can be spent with or without CEPA approval where not considered. The regulations indicate that the EIE "shall not prevent an agency from conducting contemporaneous engineering, economic, feasibility and other studies . . ." (Regulations of State Agencies, Section 22a-1a-7).

(2) *The analysis assumes that all research park employment would represent new jobs. This is a false assumption since many of the occupants of the ATI bldg are already there. The fraction of new . . . employment should be estimated.*

Page 5-7 states that the EIE assumed that all research park employment would represent new jobs "beyond the existing institutes" (which will occupy the ATI Building). For the remaining research park, a more conservative cost-benefit estimate would result if the calculation were performed that would exclude tax income generated from park employment that is new to the state.

The cost estimate was recalculated with the assumption that 54 percent of park employees would represent newly-generated employment. The 54 percent figure was derived from EIE Table 7 (Page 1-26), which reflects the marketing study’s estimate of "new demand" versus relocated or captured demand. The revised analysis also accounts for the increased scope of state-funded roadway (see response to UCEPI Comment Number 2, Page IV-25). The recalculation still results with a net benefit ($21.2 million) (see Appendix J).
(3) **What happens of the project defaults?**

Refer to response to P. Newcomer comment Page 2, Paragraph 2 (Page IV-27).

*(The EIE) should consider worst case as well as a reasonable case.*

A worst-case scenario would be no new employment created by the research park, and no corresponding return on the state investment. A more conservative case was evaluated for the Record of Decision, as discussed in response to Comment Number 2 above.

*The cost benefit analysis fails to consider whether the project can recover from rentals the investment in the project*

The EIE cost-benefit analysis did not address the park's capacity to recover the required private capital investments. Rather the analysis "was prepared from a position that considers all costs and benefits that accrue to the State and its agencies" (EIE Page 2-5).

The commentor provided a rough estimate concluding that the park's cost would require higher rental rates than could feasibly be obtained. That estimate utilized the projected research park cost provided in the EIE, which in turn was based upon total development costs including building furnishings. However, the park sublessees must recover only the cost of the buildings and site development. At present, there are no indications that the cost of the park would be unproportionally high such as to render it unfeasible.

*The only possible justification for adverse environmental impacts is an economic gain.*

We concur that economic gain may justify project-related unmitigatable adverse environmental impacts. Please note that such impacts may also be justifiable if other state/local planning or policy goals are furthered. In the case of the research park, it has been argued that the project will further educational goals.

**Sam Matos (June 22, 1994)**

**Page 1, Paragraph 5** Mansfield has been taking a beating. Increased housing starts, increased traffic, the proliferation of shopping malls and commercial establishments are delivering knock-out blows to what was once a rural farming community. With the decline in farms has come a concomitant decline in wetlands and open space.

The concern for preserving active and prime farmland has been a significant component of the research park planning, as evident by the Prime Farmland Preservation Supplement to the UCEPI Lease. The Draft EIE discusses the lease beginning on Page 3-10.

**Page 3, Paragraph 5** The document attempts to trace the history of the "Park"'s formation and interpret it with the end purpose of making it acceptable to those on whose fate it depends.

The text provided in Section 1 regarding project history was not included as a promotional device, but instead was included per the explicit requirements of the CEPA regulations.
(The EIE) seems to conclude that the "proposed spine roadway and research park will not have a significant impact on air quality and is consistent with the State Implementation Plan for Air Quality. What is the basis for that assertion?

The conclusion that "the proposed spine roadway and research park will not have a significant impact on air quality . . ." (Draft EIE Page 3-77) was based upon the results of a CO hot spot screening analysis that was conducted for the location that would represent the worst case for project-related CO emissions. The analysis accounted for the projected traffic increase that would result from the research park at it full-build condition. Other screenings where not required given the satisfactory results generated from analysis of the worst-case condition.

Any reader would find it hard to share that view (that the prospects for the park should not be significantly impacted by trends in office space availability).

The statement that "the prospects for the research park should not be significantly impacted by these trends" in office space availability was made in view of the fact that "activities at the research park would be (mainly) research and light industrial in nature" (EIE Page 1-19), which would have requirements that would not be fulfilled by typical office space.

The research park is not an office park nor an industrial park, and its facilities will be different from those found at the other park types. Therefore, they are not our competition because they do not offer suitable space or amenities for our prospects. For example, the proposed ATI Building, includes a very intensive laboratory infrastructure as well as a state-of-the-art conferencing facility. That building type is not typical of office or industrial parks, but of university parks.

Because of its relationship to the University, the research park is expected to occupy a unique niche that will separate it from competing with typical office or industrial parks.

Table 6 shows 65 jobs being added between 1993 and 1995. . . These projections bear no relationship to the statement on page 1-19 that . How is this inconsistency explained?

The marketing study projected that the employment growth during the 10-year period between 1990 and 2000 would be "2000 jobs in the entire Windham region" (Page 1-19, last paragraph) which averages 200 jobs yearly. During the same period, the study projects "slightly more than 1100 jobs in Mansfield" (Page 1-19, last paragraph). In view of these factors and others, the study projected the growth rates for the research park shown in Table 6 (Page 1-20).

Does Table 7 reflect exploratory talks and/or commitments from the . . . possible tenants?

Table 7 (EIE Page 1-26) indicates varying degrees of strong interest, but no commitments. The only tenant that has committed to taking space in the park is the University of Connecticut.
It is highly unusual to get a commitment from any prospective tenant so far in advance of the landlord being able to accommodate the prospect's needs. UCEPI, as the owner of the park and the ATI building, needs to first secure the park and building approvals, complete the master planning activities, and receive commitments with respect to construction timelines. Only then can it supply prospective tenants with dates of occupancy and lease or rental rates.

**Page 2, Paragraph 4**  What is the significance of an "urban enterprise zone, or a free trade zone"? . . .

The option to establish an urban enterprise zone, or a free trade zone at the UCEPI site was referred to in the EIE as a method for encouraging development. The option is not presently under consideration. See response to Town of Mansfield Comment Number 1 (Page IV-16).

**Page 2, Paragraphs 5 and 6**  Cost Benefit Analysis . . . this section lacks the fiscal detail.

Detailed spreadsheets are provided in Appendix J. Adjustments have been made to the analysis, as discussed in response to UCEPI Comment Number 2 (Page IV-25) and Tech Park Study Committee Comment Number 2 (Page IV-31).

**Page 2, Paragraph 7**  Systematic documentation which would clearly relate anticipated local employees needing housing of various kinds to the expected available stock (new and existing) is lacking.

See response to Town of Mansfield comment 2 (Page IV-16).

**Page 3, Paragraph 2**  The conclusion on page 3-128 that "the demand (for town services) will be offset in-as-much-as the new residents pay local taxes" is not justified.

A detailed level of analysis is not necessarily required to infer that the increased demand for town services will be offset in-as-much-as the new residents pay local taxes. The statement on EIE Page 3-128 was based upon the presumption that the new residents would mainly purchase market-rate homes. The introduction of new residents who pay taxes upon real estate, motor vehicles, and personal property will support the corresponding costs of school enrollment and service needs. The new residents would not likely require significant levels of social services.

School enrollment and service needs can be accommodated given an adequate tax base. Pertinently, the EIE mentions on Page 3-128 that the Town is anticipated receiving an added $4.7 million yearly from research park real estate tax. The Town of Mansfield 2002 Report, 1988-1991 recognized the need to expand the tax base by encouraging a limited amount of commerce and industry: "the (future) tax burden will fall heavily upon the older homeowner unless more use is made of the presently zoned lands for commerce and industry as we look ahead to 2002."

The original reports by Coast and Harbor Associates are available for inspection by contacting Mr. Jeffrey Smith at the Policy Development and Planning Division of the Connecticut Office of Policy and Management or Mr. Gregory Padick, Town Planner, at the Department of Development and Planning in the Town of Mansfield.
A. Kardestuncer (June 23, 1994)

Page 1, Paragraph 2 How, I ask, can decisions be made today based on information which may take as long as three years to reach us?

Based upon information provided by UConn and DEP, there is presently no reason to doubt that additional water supply can be provided by increasing withdrawals from the Willimantic Well Field. In the absence of any apparent constraints that would necessarily prohibit the installation of the proposed well, the sponsoring agencies might consider proceeding with the proposed actions, while weighing the purpose and need for the research park against the related environmental impacts.

A possible alternative to constructing the proposed well may be to purchase water supply from the Town of Windham. As described by Water Supply Plan for The University of Connecticut, revised July 6, 1994; "In order for UConn to connect with Windam, a diversion permit, over 6 miles of mains, and pumping stations would be required. . . This solution would take a minimum of 5 years, therefore UConn would not meet the demand in 1998."

Page 1, Paragraphs 3 and 4 Estimates are that at low water the river would be as much as 50% treated sewage. Is this permissible?


Page 2, Item 1) What information regarding water, wetlands, and sewage was presented in the NEPA application? Does this overlap with CEPA?


Page 2, Item 2) How do you justify the segmentation which is presented here in the EIE? Has the 14 acres ATIB building and its land been officially separated from the 390?

The Draft EIE provides a Project Definition in Section 1, Page 1-2. As stated in Section 1, the document indeed addresses the environmental impacts of the full research park development. Where pertinent, references are also provided to impacts specific to the ATI Building.

Page 2, Item 3) Earlier applications and announcements refer to 390 acres. This EIE deals with 333 acres. Does the remaining 57 acre parcel represent the dump and chemical pits and if so why are they not mentioned as contiguous and of special interest?

The EIE addresses the 333-acre area that is part of a 390-acre parcel under lease to UCEPI. The remaining 57 acres consist of a 36-acre parcel fronting on Hunting Lodge Road (subleased to Celeron Square Associates) and an adjacent 19-acre area containing a closed solid waste
landfill (under UConn jurisdiction). The landfill area is adequately discussed by the EIE within several sections including Section 3.1.2 Hydrology and Groundwater (see Pages 3-20, 3-25, 3-28). Section 3.1.5 Vegetation and Wildlife also provides a description of the existing vegetation at the landfill site. Section 3.2.2 Toxic Wastes addresses the landfill area in detail. The majority of the figures in the document indicate the location of the landfill.

Page 2, Item 4) What if any studies have been done to determine the effect of the parking lot runoff, the detention pond, and other waters draining into the contaminated water plume currently traveling north on Hunting Lodge Road?

A recent study addresses the potential impacts of the proposed ATI Building upon contaminated groundwater at the adjacent landfill site: Report on Hydrogeologic Impact Evaluation, UCEPI-Advanced Technologies Institutes Building, University of Connecticut, Storrs Connecticut, by Haley & Aldrich, Inc., August 1994. There are no studies separate from the Draft EIE that address the subject as it pertains to the fully-built research park. The Haley & Aldrich report, included in full in Appendix G, anticipates no impact to contaminated groundwater as a result of the detention pond proposed for the ATI Building. See response to the related DEP comment on Page IV-6.

Page 2, Item 5) The avian report does not make clear whether endangered species do use the full park area or any part of it as nesting areas.

The Draft EIE states that "only one state-listed species is known to have used the site for breeding: red-shouldered hawk," which had nested in forested wetland near Hunting Lodge Road (outside the area to be developed by the research park). During a June 1993 field investigation, "no Threatened or Endangered species were found breeding (nesting) at the site" (Page 3-60).

Page 2, Item 6) The EIE does not address this issue (habitat fragmentation).

The fragmentation of wooded areas is discussed in EIE Section 3.1.5 b. (Vegetation and Wildlife, Impact Analysis), which states:

As more and more blocks of woodland are cleared and fragmented, associated declines in woodland nesting birds can be expected as recruitment from remaining healthy and large tracts of woodland become unable to support marginal populations. The migrant bird species that winter in the neotropics and that breed in this forest include: black-billed cuckoo, yellow-billed cuckoo, eastern wood-peewee, least flycatcher, great crested flycatcher, eastern kingbird, veery, wood thrush, red-eyed vireo, blue-winged warbler, yellow warbler, chestnut-sided warbler, black-and-white warbler, american redstart, ovenbird, louisiana waterthrush, canada warbler, scarlet tanager, rose-breasted grosbeak, indigo bunting, and northern oriole.

These species are not state-listed ("Species of Special Concern", "Threatened Species", or "Endangered Species").
Page 2, Item 7) How can decisions be made on ATIB before a decision is reached on the road?

The CEPA review process examines the several state actions associated with the research park, including the proposed roadway construction and the ATI Building. The construction of both the roadway and the ATI Building is contingent upon completion of the CEPA process (as well as the acquisition of necessary approvals/permits). The decisions regarding the road and ATI Building will therefore be made within a similar time frame.

Page 2, Item 8) The scale of the project is totally out of keeping with the character of our town.

While the park might be out of keeping with the character of much of Mansfield, it is not in great contrast with areas near the project site, specifically the UConn campus and nearby shopping centers. Town character may be a matter of perception; the Town of Mansfield Plan of Development explicitly states support for the research park, based on an understanding that uses within the research park will be subject to local taxation and land use regulations.

Page 2, Item 9) The federal Clean Air Act amendments of 1990 say that Connecticut's air must get cleaner by 1996. How does the EIE intend to accomplish this with a projected 3,000 auto trips a day by 1997? This is an issue which is not addressed in the EIE.

Refer to response to Town of Mansfield Comment Number 4.

Page 2, Item 10) The EIE mentions that 11 intersections will be widened and a number of areas between intersections will also be changed. The town does not nor is it likely to permit such changes.

All roadway improvements are proposed on state roadways, on which the Town lacks jurisdiction. If a certain recommended roadway improvement is limited, a corresponding research park phase might still go forward provided that State Traffic Commission approval is obtained. However, the result would be a substandard level of service at the given intersection.

Alison Hilding (June 24, 1994)

Page 1, Paragraph 2 The extensive bird life studies completed by Winifred Burkett of the Connecticut Museum of Natural History, a biologist and an accomplished birder are given no mention.

Appendix H of the Draft EIE provides a listing of avifauna known to have occurred at the project site. The text indicates that the list "includes bird species known to have occurred at the project site based on personal observations by Louis Bevier over the last seven years and on the observations of others, especially Winifred Burkett." Ms. Burkett’s findings where taken into account in the evaluation provided within the Draft EIE.
Page 1, Paragraph 3  It appears the potential for a significantly increased traffic load on the section from Hillside to Route 32 on North Eagleville is simply dismissed.

The EIE provided intersectional capacity analyses on North Eagleville Road at Hill Top Road (and spine roadway), Hunting Lodge Road, and Route 32.

Page 1, Paragraph 4  To pretend that the establishment of UCEPI in its presently proposed location would have no negative effect on the safety or traffic load of this road (Hunting Lodge Road) is absurd and disingenuous.

For a vehicle trip with an origin/destination on the proposed spine roadway, there would be no incentive to use Hunting Lodge Road, which runs parallel. This would be true regardless of the location of the other origin/destination, unless, of course, it were a residence located on Hunting Lodge Road. As a connector between the UConn Campus and Route 44, given the choice between the spine roadway and Hunting Lodge Road, the best choice would be the former, which will potentially offer less travel time.

Page 1, Paragraph 4 through Page 2, Paragraph 2  No mention is given to the fact that the Mansfield Training School property was suggested by member of the Mansfield Conservation Commission as an opportune site for the UConn research park years ago.

It is not pertinent to current planning that the Mansfield Conservation Commission may have suggested years ago utilizing the Mansfield Training School site. Presently, the Town of Mansfield Plan of Development explicitly states support for the research park at the present UCEPI site.

The crucial statement in the EIE in regard to alternative sites appears on Page 2-3: "UConn has no legislative authorization to lease any alternative site to UCEPI." Refer to Special Act 85-108 (An Act Concerning the Development of a Connecticut Technology Park at Storrs), which is discussed on Draft EIE Pages 1-15 and 1-16 and elsewhere within the document.

Page 2, Paragraph 4  Within the presently considered property continuous mention appears to be given to acreage that is already disrupted. I couldn't quickly find what acreage this represents.

The EIE did not quantify the areas by vegetation type other than where impacts are anticipated. (Table 12, Page 3-63 provides areas to be impacted.) EIE Figure 20 (Page 3-53) indicates the extent of disturbed upland. Disturbed areas are indicated with the designation (5) (see legend). These areas consist of:

- "Borrow site" where soil has been excavated for landfill cover (2.8 acres)
- Existing spine roadway (3.7 acres).
- developed parcels along Route 195 (2.8 acres).

Together, these areas total about 9.3 acres, less that 3 percent of the 333-acre study area.
Page 2. Paragraph 6  I am puzzled by what happened to the recommendations of past Mansfield Conservation members Charles Vinsonhaler, Fred Streams, Terry Webster and Dolores Hilding regarding this property.

No comments were received from the referenced individuals regarding the Draft EIE.

David E. Rawlinson (June 24, 1994)  The land should be better left open and undisturbed for the future.

No Response.

Sam Zahl for the Tech Park Study Committee (received by UConn 6/24/94)

Water in a detention basin exerts hydrostatic pressure on the water beneath it in the soil. This could serve to increase the speed at which the plume (contaminated ground water) is moving. A hydrological analysis is needed to examine this possibility.

The need for an in-depth analysis should be evaluated in respect to the final detention basin design. See response to the related DEP comment on Page IV-6.
SECTION V
MITIGATIVE MEASURES

The environmental impacts anticipated from the proposed spine roadway and research park will be minimized by mitigative measures as discussed in the various sections of the Draft EIE and summarized in Section 5.3 of the document. Section VI of the Record of Decision provides a single revision to the Draft EIE description of mitigative measures (Pages 3-31 and 5-6). The revision is in response to concerns expressed by DEP. Refer to DEP written comment dated June 23, 1994 on Page 4 Paragraph 2, and response to that comment on Page IV-7 of the Record of Decision.

Mitigative measures will also examined and proposed by a subsequent document to be prepared as part of the Concept Master Plan for the research park. A discussion of additional measures to be addressed by that document are provided by the correspondence dated November 14, 1994 from Mr. Michael Helfgott of UCEPI to Mr. Robert Moore of the Department of Environmental Protection (see Appendix C).
SECTION VI
SUMMARY OF CORRECTIONS TO THE DRAFT EIE

Note: Where indicated, striked text should be deleted, double-underlined text should be added.

Page ES-1 Insert after first sentence under the heading "Project Description":

State-funded roadway construction might also include access roadway associated with new development along the proposed spine roadway.

Page 1-2 Same text added to Page ES-1 should be inserted after the first sentence in the last paragraph on Page 1-2.

Page 3-23 Figure 16. Locations G and H should be switched. Location J should be located between Locations I and K, south of the ditch.

Page 3-26 Under the heading "Aquifer Protection," in the first paragraph: 22a-354f 22a-354bb

Page 3-31

Although proposed drainage systems will reroute stormwater over portions of the site, neither the roadway project nor the research park development will reallocate stormwater among the respective watersheds. One possible exception that will be considered under the Concept Master Planning process might be the redirecting of site runoff from the public water supply watershed. Such a measure would be implemented in coordination with DEP.

Page 3-48 In the first paragraph under Section 3.1.4 b.,

Some area from Site 1 drains northeastward toward WA 3, while most of its area drains toward WA-2 WA 6, which is over 850 feet west of the development site. Site 2 drains westward directly into WA-1 WA 6.

Page 3-57 In the last sentence:

Birds observed during the field investigations in the vicinity of the wetlands and agricultural fields included song sparrow, eastern bluebird, northern mockingbird, common yellow-throated yellowthroat, killdeer, starling, cardinal, mourning dover, red-winged blackbird and house sparrow.

Page 3-62 In the third paragraph:

... In addition, building sites 2, 3 (which will include the ATI Building), and-5- 4 are entirely within mature hardwood forest. ... Building site-6- 5 will impact a variety of plant communities including hardwood forest, coniferous forest, agricultural land and disturbed upland.
Page 3-73  The first paragraph in Section 3.2.2 b.:

Based on a review of state files, environmental/geological documents and reports, groundwater sampling data, and interviews with the Connecticut Department of Environmental Protection (DEP) personnel, it is the EIE preparers have concluded that the proposed spine roadway project and research park development does not have the potential to pose a significant threat to the quality of local groundwater or to the consumption of potable water by surrounding property owners. . .

Page 5-2  Section 5.3 "Mitigative Measures." Under the heading "Wetlands":

. . . neither the roadway project nor the research park development will reallocate stormwater among the respective watersheds. One possible exception that will be considered under the Concept Master Planning process might be the redirecting of site runoff from the public water supply watershed. Such a measure would be implemented in coordination with DEP.

Page 5-7  Section 5.4.1 c.

The total benefit of $68 $38,9 million is greater than the total project cost of $45.8 $17.7 million. As a result, the net present value (NPV) of the project is positive at $54 $21.2 million . . .

Page 3-86  The last sentence

UConn-generated ridership on this fixed-route service is about equally split between students and faculty/staff.

Appendix J  Revised traffic volume diagrams are provided in Appendix K of this Record of Decision.
APPENDIX A
Public Notices of
Availability
ments in connection with the above-stated proposed procedures to the President, Executive Director, Connecticut Housing Finance Authority, 999 West Street, Rocky Hill, Connecticut 06067, no later than 30 days after publication of this notice.

THE UNIVERSITY OF CONNECTICUT

Notice of Availability of Environmental Impact Evaluation

Notice is hereby given, in accordance with Connecticut General Statute § 22a-1d (a), that an Environmental Impact Evaluation has been prepared, in accordance with Connecticut General Statute § 22a-1b, for the proposed project entitled “State Actions Associated with a Research and Technology Park” in Mansfield, CT. The Department of Public Works reference number for this document is Project BI-D-164-1.

A copy of this document is available for public inspection and comment at each of the following locations: (1) Office of the Town Clerk, Town Hall, Audrey P. Beck Building, 4 South Eagleville Road, Mansfield, Connecticut; (2) The Mansfield Public Library; and (3) The Facilities Management Building, University of Connecticut, Storrs, Connecticut.

A public hearing has been scheduled for Thursday, June 16, 1994 at 7:30 p.m. at the Town of Mansfield, Audrey P. Beck Building, Town Council Chambers, Town Hall, Four South Eagleville Road, Storrs, Connecticut in accordance with Chapter 439 of the Connecticut General Statutes as revised, and the Connecticut Environmental Policy Act.

Written comments in place of, or in addition to, oral comments made at the hearing concerning the Environmental Impact Evaluation are invited. Written comments must be submitted no later than Friday, June 24, 1994 addressed to:

Mr. George T. Kraus
Director of Design, Planning and Construction Management
University of Connecticut
624 Gilbert Road Extension
Box U-38
Storrs, CT 06269-1038
FAX: (203) 486-3117

Deaf and hearing impaired persons wishing to attend this public hearing and requiring an interpreter may make arrangements by contacting the Commission on Deaf and Hearing Impaired Interpreting Services at Hartford, telephone number 566-7414 at least one working day prior to the hearing.

All persons interested in this matter are welcome to attend this public hearing.
Affidavit of Publication

State of Connecticut  ss.  HARTFORD, CONN.
County of Hartford

RUTH WHEELER

I..................do solemnly swear that I am.............. of the Hartford Courant, printed and published at Hartford, in the State of Connecticut and that from my own personal knowledge and reference to the files of said publication the advertisement of

A LEGAL NOTICE (SEE ATTACHED)

was inserted in the regular editions on dates as follows: MAY 10, 17, 24, 1994

ACCT. #700213

Subscribed and sworn to before me this 24 day of MAY 1994.

Notary Public.

AFFIDAVIT OF PUBLICATION

Sate of Connecticut
County of Windham

ss. Willimantic

Ruth T. Berube
Customer Service Coordinator

I, Ruth T. Berube, do solemnly swear that I am the Customer Service Coordinator of The Chronicle, printed and published at Willimantic, in the State of Connecticut and that from my own personal knowledge and reference to the files of said publication the advertisement was inserted in the regular editions on dates as follows:

May 10, 1994; May 17, 1994 and May 24, 1994

Subscribed and sworn to before me this 24th day of May 1994.

APRYL R. DEAN
NOTARY PUBLIC

Notary Public
APPENDIX B
Report of Scoping Meeting
April 26, 1993
Report of Public Scoping Meeting
April 26, 1993
Town Council Chambers, Audrey P. Beck Building
4 South Eagleville Road, Town of Mansfield, Connecticut
Project Number BI-D-164-1

PRESENTATION

Fred Cazel, Mayor, Town of Mansfield Introduces Mr. Helfgott, Executive Director of the University of Connecticut Educational Properties, Inc. (UCEPI).

Michael Helfgott, UCEPI Executive Director

Introduction; UConn is the lead agency for the environmental review. UCEPI cannot fulfill that role because UCEPI is not a state agency. The purposes of this scoping meeting are:

1) Receive comments on the document by Frederic R. Harris, Inc., Natural Resources Inventory dated February 1993.


3) Discuss and receive comments on six design options for the park (Options A-1, A-2, A-3, A-4, B-1 and B-2 that were attached to the notice of scoping).

4) Receive comments regarding potential environmental impacts of the proposed research park.

The documents 1) and 2) were made available at the Town Library, the Senior Center, Jensen’s Park, and were transmitted to reviewing agencies.

Tracy Babidge, DPW Overview of the CEPA process. Wetland delineation was performed in accordance with the criteria of both Army Corp of Engineers (ACOE) and Department of Environmental Protection (DEP). DEP has jurisdiction over review/approval of potential wetland impacts from the proposed roadway. Written public comments to be reviewed under the scoping process may be submitted until May 19th, 1993.

Dennis Miller, Frederic R. Harris, Inc. Explanation of the findings of the Natural Resources Inventory. The document is a compilation of base data that will be used in the subsequent environmental assessment.

Jeff Gebrian, CR3, Inc. Summary of the methodology used in preparing the six conceptual design options.
Brad Smith, Connecticut Department of Transportation

Proposed access roadway section will consist of:
- 21' roadway (two 12-foot travel ways with 4-foot shoulders).
- 40 mph design speed
- 10' Bikeway

The design options under consideration are (as displayed):
- Option A1 - 3200 Feet
- Option A2 - 2400 Feet
- Option A3 - 3600 Feet
- Option A4 - 3000 Feet
- Option B1 - 4000 Feet
- Option B2 - 5600 Feet

Richard Meehan, Meehan Associates: Meehan Associates is responsible for utility design, which is presently undetermined. UConn will provide water and sanitary sewer services. Drainage design will restrict stormwater runoff to zero increase in peak flow.

Michael Helfgott: Provides a tentative project schedule. Opens meeting to comments and questions.

PUBLIC COMMENTS AND QUESTION/ANSWER

Comment, Chairman of Town Inland Wetland Agency: Will the Town have review jurisdiction over the proposed roadway? What is the process for state wetland review?

Response, Tracy Babidge: Both the State Department of Environmental Protection (DEP) and the U.S. Army Corps of Engineers (ACOE) have review jurisdiction over wetland impacts by the proposed roadway. DEP will notify the Town and hold a public hearing if requested. DPW has already approached ACOE regarding the proposed roadway.

Comment: Do the site developments in the concept plans impact wetlands?

Response, Michael Helfgott: The park plan will attempt to avoid both wetlands and buffer areas.

Comment: Is it possible to align the roadway further west? (to avoid wetland impacts).

Response, Brad Smith: No. Existing inland wetlands prevent location the roadway in the western portion of the site.

Comment, Joan Buck: Does the commitment to zero increase in stormwater runoff rate apply only to storm drains?

Response, Richard Meehan: The intent is to limit the future rates of stormwater runoff at all project limits to existing rates such that there will be no off-site impact. The detention pond is one strategy under study to prevent any increase in runoff from the site.
Comment, Bruce Bellum: What was the purpose of the DPW contact with ACOE?

Response, Tracy Babidge: To initiate a discussion with ACOE regarding the review process of wetland impacts by the proposed roadway.

Comment, Michael Schor, Deputy Mayor, Town of Mansfield: Is achieving the most developable area a factor in the selection of a design option? Must we decide at one time on the entire development?

Response, Michael Helfgott:
- UCEPI will achieve stated objectives better than a private developer could.
- In contrast, a private developer would want to fill land quickly.
- A private developer would get large firms, likely transferred from other locations in the state. That would be counter to the objective.
- UCEPI marketing will target small firms who want research park benefits.
- Because of Town Planning and Zoning controls, firms are expected to grow out of the park.
- Mr. Helfgott’s job would be to direct prospective firms from the research park if they don’t want a relationship with the university resources.
- Primary attribute of the Park is its connection to the University.
- The park will satisfy two needs: (1) Higher Educational, and (2) Economic Development. Idea is to help nurture new firms, who may later outgrow the park and move to other locations in eastern Connecticut.
- Benefit of State involvement: No profit motive, no motive to max-out degree of development. Instead, UCEPI will seek small operations to work with university research.
- UCEPI board will set building lot standards. Both UConn and the Town must approve new lot developments.
- All buildings, except those built by State agencies, will require Town approval.
- Another check on development level is utility/traffic constraint.

Comment, Hazel Streams: Option that would connect the new roadway to Route 195 is not acceptable. Did the preparers of the Natural Resources Inventory contact UConn regarding their use of the UCEPI site?

Response, Dennis Miller: Yes, through the Facilities Management Department and specific professors.

Comment: The 40 miles per hour (mph) design speed is too high for the proposed roadway, which is an access road.

Response, Brad Smith: Spine road will not only serve as an access road, but a through road. The 40 mph design speed is therefore warranted.

Comment, Nick Mosey: The Natural Resources Inventory indicated that a 1984 well pollution incident was documented, but it did not mention a 1990 incident at 240 Hunting Lodge Road that occurred during construction of Holinko Apartments.
Response, Dennis Miller: The EIE will gather additional data and address the potential for groundwater impacts.

Comment, Charles Vidich:
• An outline of the design options should have been provided in order to help the public understand what the State is proposing.
• The subsequent environmental review document should be an Environmental Impact Evaluation (EIE), not Finding of No Significant Impact (FONSI).
• The presented design options do not provide for comment a No-Build Alternative. The EIE should discuss both a 1) no-road alternate, and a 2) no project alternate.
• The EIE must be a cumulative analysis.
• The EIE should be rigorous in its analysis of environmental impacts in view of the research park’s size, generated vehicle trips, and impacts to farmland and vegetation.

Comment: Gary Zimmer, UConn Farm Manager.
• No mechanism exists to compensate UConn for impact to their farming operations.
• Project will encourage UConn to apply more manure/acre, risking impacts.
• Farmland to be taken is flat. Replacement land is expected to be steeper (erosion impact).
• Flat farmland is important since it is bare for much of the year, so erosion occurs easily.
• In the future, agricultural research may become more important as world population grows. Prime farmland, once taken, cannot be recreated. Once its lost, its lost forever.
• The proposed bike path should not have excessively steep slopes.

Comment: Concurrence with previous speakers that option to link proposed roadway with Route 195 is undesirable. Will air quality analysis such as "Mobile 5" be applied?

Response, Dennis Miller: Air quality modeling will be used for the EIE analysis.

Comment: Apparent conflict of interest in Chamber of Commerce letter signed by Mr. Helfgott regarding Route 195 status on the National Highway System.

Response, Michael Helfgott: There is no conflict. The Chamber position was voted on by the board members, and Mr. Helfgott was obliged to sign the letter in his capacity as Chairman.

Comment: On Option A3, the proposed spine road conflicts with a historic structure located behind Central Bank (not mentioned in Natural Resources Inventory).

Comment, Peter Newcommer: The Town of Mansfield zoning regulations for the research park allow for a heliport. Is there any limitation on the number of daily trips?

Response, Town Council Member: I’m not aware of the specifics of this regulation. Concerns regarding the zoning regulations should be directed through the Town processes.

Comment, Peter Newcommer: The existing roadway is a poor example of roadway design. The earth cut looks like something out of Brazil. Will the proposed roadway have a similar design?
Response, Brad Smith: The instability of the soil warranted a wide, rock-stabilized cut slope at that location. The design of embankment will depend on factors such as the profile, the location of the bike path and the stability of the soil.

Comment, Peter Newcomer: Did you in the spring of 1990 fire the developer? Do you know anything about the law suit that you can tell us this evening? Town may be left "holding the bag" (road but no park).

Response, Michael Helfgott: UCEPI is presently in litigation, therefore I can't answer.

Comment: Will your studies regarding traffic be in coordination with other developments, such as the Mansfield Training School?

Response, Tracy Babidge: Yes, Frederic R. Harris, Inc. will examine the cumulative impacts from the research park, the Mansfield Training School, and the UConn Technology Quadrant.

Comment: If the roadway exits at Route 195, two turning lanes and a signal would be required. The option that intersects opposite Zenny's (restaurant) is located too close to the four corners intersection. The best option is to exit opposite the existing driveway to the Mansfield Professional Park.

Comment: I wonder how you know how to size the utilities. Is part of the full development predicated on UConn improvements on facilities?

Response, Michael Helfgott: Park is predicated on water/sewer improvements. Unknowns are 1) will the university get funds for water/sanitary sewer; 2) will the demands materialize. The present system cannot support the park as configured in the 1980's. The marketing study will provide a new park benchmark. That study will be used as input to another study that will understand what demands would be placed on the different utilities by the anticipated uses. The studies will examine combined demand by different projects such as the Mansfield Training School. Part of this whole process is to very clearly document the unknowns, not necessarily answer them.

Comment: Will the utilities be installed with the road or will they be exterior to the road?

Response, Richard Meehan: Road and utilities will be under one contract. Some utilities will be alongside the road.

Comment: The council has brought up the possibility to bring water and sewer to the Four Corners. Is this a consideration to size the utilities to serve the Four Corners?

Response, Michael Helfgott: If the Council has an opinion on this, UCEPI wants to hear that. It is not presently proposed to size the utilities in consideration of the Four Corners. However, the decision is ultimately a Town decision.

Comment, Bruce Bellum: How will Clean Air Act requirements affect the project?
Response, Tracy Babidge: Clean Air Act implementation program is presently unclear. It is unclear whether Fairfield County special regulations will become state-wide. This issue will be part of the environmental assessment.

Comment: Will water/sanitary sewer utilities have the capacity to serve Separist Road, Glen Ridge (senior housing) development? Also, why were the wetlands surveyed by Army Corps of Engineers criteria?

Response, Tracy Babidge: Wetland flagging was performed according to both ACOE and DEP criteria.

Response, Michael Helfgott: I’m not sure (about water/sewer capacities). We’ll ask the University and get you an answer.

Comment, Greg Cichowski: What specific types of improvements are required to provide sanitary sewer and water utilities? What will the improvements cost?

Response, Richard Meehan: We don’t have the projected demands yet. However, the sanitary sewer plant design is complete, and construction will begin soon. The UConn plan is to provide another well.

Comment: This information should be supplemented.

Comment: Research parks are very iffy. You should expect 50 percent occupancy in 50 years. It will grow very slowly.

Comment: A signal will be required at Route 44.

Response, Brad Smith: There will probably be a need for signalization at either exit. We need the traffic study to answer these questions.

Comment: The Council requested an outlet at the Mansfield Professional Park at Route 44.

Response, Brad Smith: The project will be reviewed by the State Traffic Commission.

Comment: Will there be any future scoping meetings to supply additional information?

Response, Tracy Babidge: We haven’t planned any additional scoping meetings.

Comment: It is important for the spine roadway to align with the Professional Park Drive. However, at the other end of the A&P parking lot, there will be a conflict between the queue exiting the parking lot and the queue turning left off Route 44 into the spine roadway.

Response, Brad Smith: We’ll look at it with the traffic analysis.
Comment: I'm concerned about transportation. We need a mix of modes to get people to the park. Federal "ISTEA" (Intermodal Surface Transportation Act) regulations may affect the project.

Comment, Charles Vidich: Are there any federal funds involved in the project?

Response, Michael Helfgott: No, other than the first building.

Comment, Bruce Bellum: Request clarification on another scoping meeting.

Response, Tracy Babidge: No other scoping session. After May 19th, we will begin preparing the environmental assessment.

Comment, Charles Vidich: We should be getting an outline of what you'll be analyzing and what kind of analysis. A one or two page outline of issues to be addressed in EIE including methodologies to be used would be tremendously helpful.

Comment: I respect your coming out early with this information.

Comment: Can a project schedule be provided to the Council?

Response, Michael Helfgott: We'll get the Council a copy.

Adjournment
APPENDIX C
Miscellaneous
Correspondences
Robert Moore, Deputy Commissioner  
Branch of Environmental Quality  
State of Connecticut  
Department of Environmental Protection  
79 Elm Street  
Hartford, CT  06106-5127

Subject: State Actions Associated with a Research and Technology Park, Mansfield

We have reviewed the Department's staff comments on the Draft Environmental Evaluation for the referenced project dated June 23, 1994 (in your correspondence to George Kraus of the University of Connecticut). Although the University of Connecticut is a sponsoring agency for the environmental review under the Connecticut Environmental Policy Act (CEPA), UCEPI is responsible for the Concept Master Plan for the park. Therefore, we are providing herewith specific responses to your inquiries regarding the Concept Master Plan.

We appreciate the Department's interest in the direction of future planning for the park. UCEPI would be more than willing to discuss a process by which DEP could determine whether or not its comments and suggestions have been incorporated into the park plans.

Water Quality

The Concept Master plan will provide detailed information regarding the treatment of stormwater from both a quantity and quality perspective. The plan will recommend specific mitigative measures. One such measure will be the use of gross particle separators in the design of drainage systems. The plan will also discuss how stormwater detention can be provided for all developed portions of the park as required to meet both state and local criteria for peak stormwater discharge.

The Concept Master plan will recommend control measures for the storage and handling of hazardous materials as required to address potential releases. Emergency procedures for responding to leaks and spills will be outlined. Where appropriate, recommendations will be industry-specific. At minimum, the recommendations will reference two Department of Environmental Protection documents (1) Best Management Practices for Protection of Ground Water and (2) Pollution Prevention Options, Fact Sheets for Industry. Alternatives to any underground storage tanks will be encouraged.

Within the Public Water Supply Watershed:

Plans for the research park presently include the development of less that five acres within a public water supply watershed. For this area, the Concept Master Plan will recommend specific measures, which are expected to include the special design of loading and storage facilities and
the prohibition of underground storage tanks. During the development of the plan, UCEPI will be willing to discuss with the DEP specific measures that would be employed for certain industries.

The Concept Master Plan will examine methods for protecting the watershed from potential impacts to stormwater runoff. One possible measure that will be examined is the redirecting of site runoff from the watershed. Coordination with DEP will be maintained during the development of such measures.

The Town of Mansfield Zoning Regulations provide a significant restriction by prohibiting "Heavy Industry" in the RD/LI zone, which encompasses the entire research park (Article VII R.4.b.). The possible limitation of specific high-risk uses within the public water supply watershed is an issue that UCEPI is willing to discuss with the DEP staff during later development of the Concept Master Plan.

Avian Species

Specific measures to mitigate potential impacts to avian species listed for State protection will be incorporated into the Concept Master Plan. One issue that will be examined is the possible creation of a managed open grassland providing an enhanced habitat for certain state-listed species. Further study and coordination will be required to determine if a managed grassland could feasibly accommodate the needs of both the research park and the UConn College of Agriculture.

Sewer Use Conditions

The Concept Master plan will recommend that sewer use requirements and procedures be stipulated by the University of Connecticut (UConn) as a condition for hookup to the UConn system by park tenants. It is anticipated that the stipulations would address pretreatment measures and restrictions on unauthorized wastes.

Sincerely,

Michael Helfgott
Executive Vice President

cc: David Fox, DEP
    George Kraus, UConn
    Bruce Carlson, OPM
    Terry Supple, DPW
    Ned Hurle, ConnDOT
    Peter Simmons, DED
    Richard Meehan, Meehan Associates
    Dennis Miller, F.R. Harris, Inc.
    Mark Foster, F. R. Harris, Inc.
September 15, 1994

Mr. Marc Foster  
Frederic R. Harris, Inc.  
333 Ludlow Street  
Stamford, CT 06902

Dear Mr. Foster:

The following are the UCEPI responses to the comments of the Environmental Impact Evaluation for the Research and Technology Park on the North Campus of the University of Connecticut at Storrs made by the Office of Policy and Management.

Transit Issues

UCEPI is committed to working aggressively with the University of Connecticut, the State Department of Transportation (DOT), and the Windham Regional Transit District (WRTD) to achieve the goals of minimizing single occupant motor vehicles and of reducing employee trips.

We have already begun discussions about transit opportunities with the University and WRTD, and DOT has pledged to work aggressively with Rideshare on our behalf.

University Energy System

The present plans for the park call for the water and sewer to be provided by the University, the telecommunications to be provided by both the University and SNET, power by CL&P, and natural gas by CNG.

UCEPI will commit to explore with the University a tie-in to its energy system, particularly if it moves in the direction of a new co-generation power plant facility.
Validity of Development and Growth Projections

The UCEPI position is that the project projections are valid and that the state should have a strong interest in seeing it come to fruition.

The data and our most recent studies back up this claim. UCEPI supports the conclusions of the studies and of the Cost-Benefit analysis prepared by F.R. Harris.

Sincerely,

Michael Helfgott
September 15, 1994

Mr. Marc Foster
Frederic R. Harris, Inc.
333 Ludlow Street
Stamford, CT 06902

Dear Mr. Foster:

The following are the UCEPI responses to the comments of the Environmental Impact Evaluation for the Research and Technology Park on the North Campus of the University of Connecticut at Storrs made by the Department of Environmental Protection (DEP).

Institutional Structure for the Park

The institutional structure that the Department requests is a role that UCEPI is willing to and in fact must accept.

Our reading of the land lease from the University to UCEPI obligates us and only us to accept all of the responsibilities normally born by the land owner. The only exception to this would be if we in turn assigned that responsibility to the holder of a land sub-lease.

The contact person for questions pertaining to any of these management issues would be the Executive Vice-President of the University of Connecticut Educational Properties, Inc. who can be reached at 487-1925.

Concept Master Plan Development

The land lease requires that the Concept Master Plan be reviewed by the Trustees of the University of Connecticut. This is not under the purview of the Department of Economic Development (DED) and therefore not subject to its review.

UCEPI acknowledges that support given to this project by DED and the expertise it has in house. DED has informally reviewed various aspects of this project thus far, its Commissioner sits on the UCEPI board, and we expect to benefit in the future from its continued review of our work.

UCEPI would be more than willing to discuss a process by which DEP could determine whether or not its comments and suggestions have been incorporated into the park plans.
Public Water Supply Watershed

UCEPI is willing to consider requiring special design of loading and storage facilities and to prohibit underground storage tanks at site 5. We would also be willing to discuss with the DEP certain mitigative measures that would be required for certain industries.

Sincerely,

[Signature]

Michael Helfgott
Executive Vice-President
August 19, 1994

Mr. Richard Meehan
Meehan Associates
387 North Main Street
Manchester, CT 06040

Dear Mr. Meehan:

Re: Master Plan
UCEPI (Connecticut Technology Park)
Mansfield, CT
Project No. BI-2B-824

I have reviewed your letter and Mr. Mark Postor's request for additional analysis for the following five intersections in Mansfield:

a. Route 195 @ Baxter Road
b. Route 44 @ Baxter Road
c. Route 44 @ Birch Road
d. Route 44 @ Huntington Lodge Road
e. Huntington Lodge Road @ Birch Road

These intersections were not analyzed because we do not anticipate that any significant amount of the site generated traffic will use Baxter, Birch or Huntington Lodge Roads. In fact, with the completion of Connecticut Technology Park Drive some of the people presently using these roads (especially Birch and Huntington Lodge Roads) may divert their travel to the new road thereby reducing the traffic on these local roads.

If you have any questions or need additional information, please contact me.

Very truly yours,

PURCELL ASSOCIATES

Stephanie R. Ulman, P.E.
Engineer
(92-273)
July 22, 1994

Mr. Dennis L. Miller  
Frederick R. Harris, Inc.  
333 Ludlow Street  
Stamford, Connecticut 06902


Dear Mr. Miller:

Thank you for giving Connecticut Natural Gas Corporation (CNG) the opportunity to assist in the master planning for the Research and Technology Park, and future development of the Mansfield Training Center area.

CNG facilities are more than adequate to meet the future energy needs of the above mentioned projects. In addition, CNG has various marketing programs that would be available to all the new developments proposed. Listed below are some of these programs:

1. Air Conditioning Rebates up to $250,000 per job;
2. Conservation Grants for energy efficiency;
3. Zero cost financing up to $500,000; and
4. Seasonal Rate

I have enclosed information on the marketing programs. I hope this information will assist you in your planning. If you have any questions, please do not hesitate to call me at 727-3474.

Your Partner in Energy,

[Signature]

Peter G. Petrossi  
Energy Management Consultant  
Key Accounts Group

Enclosures

PGP:aml
17 JUN 1994

Ms. Sandy Schulte, Assistant Dean
University of Connecticut
Graduate School - Box U-6
Storrs, CT 06269

Dear Ms. Schulte:

SUBJECT: NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) COMPLIANCE REVIEW - UNIVERSITY OF CONNECTICUT, ADVANCED TECHNOLOGIES INSTITUTE BUILDING, DEPARTMENT OF ENERGY (DOE) GRANT NO. DE-FG02-CH10501

The NEPA clearance referred to in Section 8 of Appendix C of the subject grant is hereby given for the proposed Advanced Technologies Institute Building at the University of Connecticut. This issuance lifts the restriction that the clause of Section 8, Appendix C put on the initiation of irreversible action and allows work to now commence on the site.

Please contact Patrice Brewington of the Programs and Facilities Management Division on 708/252-6623, if you have any questions.

Sincerely,

[signature]

Gail A. Higashi, Branch Chief
Contracts Division
Contracting Officer

cc: J. Everhart, ER-65, H2/GTN
M. Flannigan, ESHD
A. Samuel, OCC

Post-it Fax Note

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[Stamp: Received Research Foundation]
April 28, 1994

Mark Foster, P.E.
Project Manager
Frederic R. Harris, Inc.
333 Ludlow St.
Stamford, CT 06902

RE: State Projects BI-D-164-1 &
BI-2B-871-1

Dear Mark,

In review of your letter and careful consideration of these projects, I have outlined a schedule of considerations in providing the department's mission and objectives in protection of Life and Property.

The University, in securing additional space and operations at the old Mansfield Training School (MTS) area, will impact our operation within five years. At that time we would need to re-open the old fire station and staff that operation. Within ten years of that date additional staff will be required for support of those facilities and programs.

The Research Park would not have an impact until the year 2001 when Phase II is started. We would at that time expect additional responses and responsibilities. In as such, we would need additional staffing for both emergency and non-emergency functions. In completion of Phase II we would again need additional staffing.
The Housing and Commercial Development at MTS area: If this area is still owned by the State and our responsibility is providing fire protection and EMS, we would assume this responsibility in this development. We would require at the beginning, a fire attack rescue pumper. This unit would provide us with a quick response, in sustaining fire attack, and provide Emergency Medical treatment until other units arrived. Between Phase I & II the year 2005 we would also require additional personnel in both emergency and non-emergency activities. By the year 2020 we would require additional personnel and replacement vehicles.

Attached is our proposed schedule with Uconn/MTS, Research Park, and Housing/Commercial Development requirements.

If you have any further questions you may direct them either to the Public Safety Director Robert Hudd or myself.

Sincerely,

Richard Palmer
Deputy Chief

Attachment

RP/hn
Attachment

Proposed schedule for staffing and equipment in providing Fire suppression, Emergency Medical, and other related activities.

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Rescue

Replacement
September 29, 1993

Mr. George T. Kraus, P.E.
Director of Engineering
and Construction Management
Uconn Physical Plant
P.O. Box U-38
Storrs, CT 06268

RE: SCEL-91-49
Uconn Well Field
Willimantic River, Mansfield

Dear Mr. Kraus:

This office has performed a limited review focusing on the potential flood hazard aspects of your stream channel encroachment line (SCEL) application to construct a water supply well on the Willimantic River flood plain in Mansfield. We have concluded that the project will not increase flood hazards in the Willimantic River flood plain. Our review of the other environmental impacts of this project, however, has not been completed as your application is insufficient with respect to its documentation of environmental effects.

As you know, a state water diversion permit is also required for this project. Since the diversion statutes also require environmental documentation, we would like to process the SCEL and water diversion applications jointly. The same environmental documentation could be applied to both applications. Current diversion application forms and instructions are enclosed for your use.

With respect to the SCEL application, please provide 1) two (2) copies of the completed application form, 2) two (2) copies of the site plan, dated, and signed and sealed by a professional engineer and 3) an erosion and sedimentation control plan which includes the sequence of construction. If you have any questions please call Steven Derby of my staff at 566-7280.

Phone:
165 Capitol Avenue • Hartford, Connecticut 06106
An Equal Opportunity Employer
Sincerely,

Thomas M. Morrissey
Director

cc: K. Quinby, DPW
    A. Bisacky, PARE
    B. Gilmore, DEP
    M. Foster, F.R. HARRIS

TMM:SD:sky

enclosure: Diversion Application and Instructions
APPENDIX D
Correspondences
between UConn and
DPHAS Water
Supplies Section
Ms. Mary Ann Ettinger  
University of Connecticut  
Facilities Management Department  
624 Gilbert Road Extension, U-38  
Storrs, Connecticut 06269-1038

RE: Demand Projections - University of Connecticut’s Water Supply Plan

Dear Ms. Ettinger:

I am writing to confirm our recent conversation and to acknowledge receipt of the George Kraus letter of September 14, 1994 to the Water Supplies Section (WSS) concerning updated demand data of the University of Connecticut (University). Pursuant to the letter and our conversation, the University intends to submit an addendum to the University’s Water Supply Plan, based upon the information provided within the September 14, 1994 letter.

Based upon the WSS review and evaluation of this updated demand data (see the enclosed spreadsheet dated September 7, 1994), the WSS believes that the University water supply system could meet the demands of one proposed building (i.e., UCEPI building) to be located at the Technology and Research Park site. The WSS believes that prior to the addition of any other additional demands, the University must obtain additional supply. If the University believes that there is sufficient existing supply to serve additional demands beyond that of the UCEPI building, then a detailed evaluation and discussion of the demand projections must be included within the addendum to the University’s Water Supply Plan. This evaluation must show that a sufficient margin of safety exists to properly allow for: sudden increases in consumption due to drought events, the time required to bring new sources of supply on line and projected increases or growth in the service area.

Pursuant to Water Supply Plan regulations, this office will require ten (10) copies of the addendum, with one copy sent to the Windham Regional Planning Agency. Please contact me directly at 240-9262 if you have any questions concerning this matter.

Sincerely,

Lori J. Mathieu  
Planning Analyst  
Water Supplies Section

cc: Ardell Wilson, DPHAS  
    Gerald Iwan, DPHAS-WSS  
    George Kraus, UCONN  
    Larry Schilling, UCONN  
    Bruce Carlson, OPM  
    Andrew DeRocco, OHE

Richard Pietrowski, DPW  
Thomas Morrissey, DEP  
Jerri Supple, DPW  
Fred Banach, DEP  
Sid Albertsen, OPM

8075E/1-2 Phone: TDD: 203-566-1279  
150 Washington Street — Hartford, CT 06106  
An Equal Opportunity Employer
September 14, 1994

Mr. Gerald Iwan
Water Supplies Section
Department of Public Health and Addiction Services
150 Washington Street
Hartford, CT 06106

Dear Mr. Iwan:

Subject: University Water Supply Updated Supply Statistics
Reference: September 7, 1994, meeting at OPM.

We are formally submitting this new data to you for your information; in addition, we intend to submit an addendum to the University's Water Supply Plan.

In July, 1994, we submitted a revision of the University's Water Supply Plan to DPHAS. Since that time, we have been reviewing data relating to the short term demand for water at the University and have found that the decline in demand from 1988-89 to 1993–94 is continuing. The statistics in the Water Supply Plan are valid over the long term; however, the short term demand is continuing a downward trend and the factors that caused the decline are expected to continue into the foreseeable future. The University will continue to seek new sources of supply in order to meet projected long term demand for water; currently, an engineering firm is about to begin the diversion permit application process.

Our Water Supply Plan documents a 20% decrease of 320,000 gallons per day, from our historical peak in 1989, to 1,347,370 gallons per day in 1993. This same trend continued into 1994 with an average daily demand of 1,347,370.

An even more telling trend is peak daily demand. Our water supply data (jointly developed with DPHAS) shows a peak available supply of 2,125,900
gallons per day. This number was exceeded 64 times between 1988 and 1989. However, it was exceeded only three times during 1993 and not once, to date, during 1994. It should be noted that one of the three times in 1993 was due to a major water line break and that the deficit was only 146,000 gallons for the worst day in 1993. This deficit was easily managed by the water reserves in our storage tank of 5.4 million gallons.

MAXIMUM DAILY DEMAND

<table>
<thead>
<tr>
<th>YEAR</th>
<th># OF TIMES EXCEEDED</th>
<th># OF RECORDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1988</td>
<td>24</td>
<td>6.5%</td>
</tr>
<tr>
<td>1989</td>
<td>40</td>
<td>11.0%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>64</td>
<td>8.8%</td>
</tr>
<tr>
<td>1993</td>
<td>3</td>
<td>0.8%</td>
</tr>
<tr>
<td>1994</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>3</td>
<td>0.6%</td>
</tr>
</tbody>
</table>

Use of current data increases the Margin of Safety in all 4 categories. The table below revises the Margins of Safety based on the use for the last 545 days of record.

MARGINS OF SAFETY USING 1993-94 DATA

<table>
<thead>
<tr>
<th>CATEGORIES</th>
<th>AVAILABLE WATER</th>
<th>DEMAND</th>
<th>SURPLUS/DEFICIT</th>
<th>FACTOR OF SAFETY</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>1,805,500</td>
<td>1,388,455</td>
<td>467,045</td>
<td>1.34</td>
</tr>
<tr>
<td>II</td>
<td>1,607,500</td>
<td>1,388,455</td>
<td>269,045</td>
<td>1.20</td>
</tr>
<tr>
<td>III</td>
<td>1,805,500</td>
<td>1,535,200</td>
<td>270,300</td>
<td>1.18</td>
</tr>
<tr>
<td>IV</td>
<td>2,125,900</td>
<td>2,271,100</td>
<td>(145,200)</td>
<td>.94</td>
</tr>
</tbody>
</table>

The following table compares the Margin of Safety in the Water Supply Plan, using 5 years of data, with one computed with current data.

COMPARISON OF MARGINS OF SAFETY

<table>
<thead>
<tr>
<th>CATEGORIES</th>
<th>WATER SUPPLY PLAN</th>
<th>RECENT DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>1.14</td>
<td>1.34</td>
</tr>
<tr>
<td>II</td>
<td>1.01</td>
<td>1.20</td>
</tr>
<tr>
<td>III</td>
<td>.97</td>
<td>1.18</td>
</tr>
<tr>
<td>IV</td>
<td>.85</td>
<td>.94</td>
</tr>
</tbody>
</table>
Reduction in demand is due to several factors:

1. Lower residential population
   - The number of residential students is down by more than 2000, which is a reduction of approximately 170,000 gallons per day.
   - Enrollment in 1994 is at a record low and is expected to increase very little by 1998.
   - Residential housing is being reconfigured and is expected to stabilize at around 8,000, versus the over 10,000 in 1988.

2. Closing of Mansfield Training School (MTS)
   - Reduction in demand is approximately 30,000 gallons per day.
   - University use of the MTS site will provide additional space for current faculty, staff and students.
   - Northeast Corrections residential population is expected to remain stable at 350 persons.

3. Conservation Efforts
   - Continued installation of meters; monitoring of usage.
   - Installation of water saving fixtures, appliances and air conditioning units.

4. Leak Detection and Repair Program
   - Periodic (every 3 years) leak detection studies:
     1991: 84,000 gallons per day
     1993: 32,000 gallons per day
   - All leaks have been repaired.
   - The 1996 study will include the former MTS site.

5. Construction
   - Recent construction has provided additional space for existing, not increased, faculty and staff.
   - Buildings currently in design are also projected to provide space for existing faculty and staff.
   - New construction provides more water efficient buildings.
We project no radical change in the above factors in the foreseeable future. We believe that this information documents that there is a near term reduction which will allow for additional developments at the University.

Sincerely,

George Kraus
Director of Design
Planning and Construction Management

cc: Larry Schilling, UConn
Bruce Carlson, OPM
James Okrongly, DPHAS
Lori Mathieu, DPHAS
Thomas Morrisey, DEP
Terri Supple, DPW
Michael Helfgott, UCEPI
Mark Foster, Harris Inc.
Scott Brohinsky, UConn
APPENDIX E
Agreement Re:
Intersectional
Improvements of
Route 44/195 in
Mansfield
AGREEMENT RE: INTERSECTIONAL IMPROVEMENTS OF ROUTE 44/195 IN MANSFIELD (DOT PROJECT NO. 77-172)

WHEREAS; the Connecticut Department of Transportation (ConnDOT) has undertaken certain improvements to the intersection of state highway Route 44 and Route 195, in the town of Mansfield, Connecticut hereinafter referred to as "Project No. 77-172" or "Project"; and,

WHEREAS; Mansfield Common Ground and the following individuals: Marion Brown; Norman Conn; Charles Henry; Julie Henry; Ayla Kardestuncer; Mary Krivanec; Robert Langley; Mary Langley; Edward Manchester; Leo Schneiderman; Harriet Schneiderman; Dawn Smith; and Virginia Vidich have raised concerns about the impacts from the project; and,

WHEREAS; on January 16, 1991, ConnDOT and representatives of Mansfield Common Ground and the other named individuals met to discuss concerns about the project, and,

WHEREAS; on February 1, 1991, ConnDOT attempted to establish a meeting to identify project modifications to address concerns raised at the January 16, 1991 meeting; and,

WHEREAS; on February 5, 1991, before any such place, Mansfield Common Ground and the other named individuals filed an action in the United States District Court for the District of Connecticut entitled "Mansfield Common Ground; Marion Brown; Norman Conn; Charles Henry; Julie Henry; Ayla Kardestuncer; Mary Krivanec; Edward Manchester; Leo Schneiderman; Harriet Schneiderman; Dawn Smith; Virginia Vidich; vs. Samuel K. Skinner, Secretary of the United States Department of Transportation in his official capacity; John C. Bestgen, Regional Administrator of the Federal Highway Administration in his official capacity; James J. Barakos, Division Administrator of the Federal Highway Administration in his official capacity; and J. William Burns, Commissioner of the Connecticut Department of Transportation; in his official capacity; Civil Act No. 2:91CV99119 (TEC)"; and,

WHEREAS; at a meeting on February 26, 1991 ConnDOT indicated that certain modifications described below could be made to the project; and,

WHEREAS; Mansfield Common Ground and the other named individuals have reviewed the proposed modifications and find that they are acceptable to address the concerns about the impacts from the project;
Now therefore; it is agreed between the parties that:

1. ConnDOT will modify Project No. 77-172 so as to reduce the length of the taper of the two through traffic lanes on southbound Route 195, south of the intersection with Route 44, by 130 feet; and will eliminate the right turn lane on eastbound Route 44, west of Route 195, with some minor alterations to allow for proper lane alignment with the continuation of Route 44 easterly, all as shown on plans identified as Sheets 8-A, 9-A, and 27-A as attached as Exhibit A hereto, and incorporated herein by reference.

2. ConnDOT agrees to take steps as shown on Exhibit B attached hereto, to save and protect both the Norwegian Spruce located at approximately station 40+50, and an approximately 40" Maple tree located at approximately station 39+50; and to minimize the number of Pine trees necessary to be removed which efforts may include trimming some of the larger Pine trees, those Pines which will be removed are those located inside the limits of the construction work as shown on Exhibit A hereto; all these trees are located on the west side of southbound state highway Route 195, south of the intersection with state Route 44.


4. Mansfield Common Ground and the other named individuals agree not to institute any further legal action against ConnDOT or the Federal Government, concerning Project No. 77-172, if the project is constructed in accordance with Attachment A hereto.

5. The parties agree that a committee of persons, as designated and authorized by Mansfield Common Ground, and representatives, as designated and authorized by ConnDOT, shall meet at the site of Project No. 77-172 at a time as agreed upon between said parties for the purpose of conducting a "walk through" review of the project prior to the beginning of construction.

6. The parties agree that should Mansfield Common Ground and the other named individuals or ConnDOT have concerns or problems about the project during construction, Ayla Kardestuncker of 1641 Storrs Road, Storrs, Connecticut, telephone number 429-6921 is designated by Mansfield Common Ground and the other individuals as the authorized representative and contact person while Norman Angel, District Engineer District II, 823-3204, acts as the authorized contact person on behalf of ConnDOT.
7. The parties agree to make timely efforts to resolve any problems which may arise in a manner consistent with the terms and spirit of this Agreement.

8. The parties agree that by entering into this Agreement they waive no rights, privileges or immunities to which they are entitled under the laws of the United States and/or the State of Connecticut.

9. This Agreement has no affect as to claims made or litigation pending between any of the named individuals and ConnDOT, which flow from the taking of easements or other matters under the laws of Eminent Domain.

10. This Agreement is limited to Project No. 77-172.

Mansfield Common Ground, Marion Brown, Norman Conn, Charles Henry, Julie Henry, Ayla Kardestuncer, Mary Krivanec, Robert Langley, Mary Langley, Edward Manchester, Leo Schneiderman, Harriet Schneiderman, Dawn Smith and Virginia Vidich

By:

W. Bradford Goodwin, Esq.

Emil Frankel
Commissioner of Transportation

By:

James J. Rice
Deputy Commissioner
Bureau of Highways
Department of Transportation
State of Connecticut
EXHIBIT "B"
of the proposed agreement for the
Intersectional Improvements on
Route U.S. 44 & Conn. Route 195
in the Town of Mansfield

ELEVATION VIEW

77-172
APPENDIX F
University of Connecticut
Documents in Support of the Research Park
May 30, 1991

The Honorable Christopher J. Dodd
444 Russell Senate Office Building
Washington, D.C. 20510

The Honorable Joseph I. Lieberman
502 Hart Senate Office Building
Washington, D.C. 20510

Dear Senators Dodd and Lieberman:

I write today to thank you for the support you have given to our request for federal funds for an Advanced Technologies Institutes Building. This facility will serve as the anchor building for the University of Connecticut's affiliated research park located in Storrs, Connecticut.

In addition to thanking the two of you for your efforts, I want to provide you with additional information on our Park and the program to be contained therein that should buttress your work on our behalf. Finally, I want to report to you that based on a very productive meeting that members of your offices arranged with the staff of the Senate Appropriations Subcommittee on Energy and Water Development, our request for federal funds has been modified in the following manner: for the next fiscal year, we are seeking $400,000 for planning and design activities that will result in our having design documents and models of the Advanced Technologies Institutes Building; for fiscal year 1992-93, we will be seeking the federal dollars needed to help construct the building.

Connecticut Technology Park

Connecticut Technology Park is the research park affiliated with and sponsored by the University of Connecticut. It is set on 390 acres of University land adjacent to the main campus at Storrs. The Park, which will bring together key researchers from the University and from business, will be a breeding ground for emerging technologies, businesses, and jobs of tomorrow.

Connecticut has long appreciated and supported the vital relationship between a healthy economy and a healthy system of higher education. The Park's clearly articulated economic development and higher education goals derive from this understanding and are supported by the State's leaders from government, higher education, business and labor.

The land set aside for the Park is devoted to four complementary purposes: modern facilities for high technology research and production; a conference center and hotel; a residential community; and significant acreage dedicated to open space and recreation.

An Equal Opportunity Employer
The Park is in the early stages of its development. The 1990 legislature provided funds sufficient to complete the overall plan of the Park and to build its road and utilities network. This work is currently in process.

The Park's growth will be governed by high architectural, aesthetic and environmental controls.

The Advanced Technologies Institutes Building and its Program

The already-mentioned state support of land and infrastructure dollars has been followed this year by a significant gubernatorial initiative that clearly harnesses itself to the Park's momentum. In what has otherwise been a very bleak year, fiscally, for the State of Connecticut and its state agencies, Governor Weicker has proposed the creation and support of Advanced Technology Centers that are to be housed in the state's two university research parks. The Governor is clearly stating that Connecticut's economic future rests in large measure on the successes that come from its institutions of higher learning.

Specifically, the Governor has proposed funding these Centers for five years with the proviso that the private sector commit to assuming the costs after the initial five years.

The major recipient of these dollars will be the University of Connecticut's Precision Manufacturing Institute, a new initiative at the University that encompasses the existing Center for Grinding Research and Development. The Institute will be the first of the Advanced Technologies Institutes Building's tenants.

The Precision Manufacturing Center (PMC) now conducts research on precision processes used to finish metal and ceramic components, including manufacturing gears, fuel injectors, machine tool and robot parts, drills and screw threads.

Eight American manufacturers have formed a consortium and each will contribute $150,000 over three years to support the Grinding Center because they recognized the University's expertise, and the fact that America's output of basic manufacturing machines declined 11 percent in 1990 compared to 1989. Over the past five and one-half years, Connecticut manufacturing employment has declined by 20 percent or approximately 83,000 jobs.

The new Precision Manufacturing Institute would take this technology into the 21st century and would be the only center of its kind in the Northeast. In addition to the dollars the Governor has included in his budget for the Institute's establishment, an additional $250,000 has been received from the United Technologies Corporation to assist in this area.
Precision Manufacturing is the process which will enable United States firms to supply complex, high quality components with a higher degree of accuracy, lower variability and a tighter tolerance than currently produced. This type of manufacturing can be accomplished with a new blend of high technology materials, processes and methodology. New techniques such as laser machining, diamond wheel grinding, ion beam milling, single point diamond machining, computer aided design and manufacturing, and rigorous inspection devices must be perfected if our companies are to be internationally competitive.

A growing number of today's high technology products require manufacturing processes and machinery which operate in the microprecision regime. Several other countries, particularly Japan and Germany, are already delivering products to these specifications. Achieving this level of sophistication will allow new product development as well as improved product integrity and producibility by allowing higher performance designs, lower part processing costs, and greater interchangeability of parts. The Precision Manufacturing Institute will act as a catalyst for the research, development, education and technology transfer throughout Connecticut and the United States.

The building's second major tenant will be the Environmental Research Institute (ERI), the mission of which is to conduct research, develop educational opportunities, and provide services for the benefit of both the private and public sectors on all aspects of the control of hazardous materials and wastes. Researchers at ERI are involved in nearly every significant environmental concern in Connecticut.

What binds these two activities together and makes them ideal tenants for the Park's anchor building is their very pivotal roles in advancing both the economic development and higher education agendas of the State. Each of them bring together some of the best of the University's talents to work collaboratively with their private sector counterparts in ways that are extremely beneficial to the public and private sectors. So useful, I might add, that each of the activities are well on their way to being fully sustained by private, and not public dollars.

The federal funds, which will match dollars pledged by the State of Connecticut, will enable the concept of our university affiliated research park to become a reality. In turn, it will be a major stimulus for the development of the University and for the State's economy.
Request for Federal Support

Recently, members of your respective staffs met with the staff director of the Senate Appropriations Subcommittee on Energy and Water Development. Based on the outcome of that meeting, we are requesting that you support an effort to provide us with $400,000 this year to support design activities with the understanding that this would be followed by an effort the following year to provide the dollars necessary to fund 50 percent of the construction and related costs of the Advanced Technologies Institutes Building.

I base this request on the following steps that were recommended to be taken in order to best secure federal assistance for construction:

1. First, we have been advised that it is usual that requests for construction costs be preceded by significant building design efforts, which are not yet underway.

2. It is usual that federal funds be used to match other funds already received. The state has pledged to provide us with those funds next year.

3. It is expected that the dollars received would be expended during the year they are received. We may not be able to do so without significant planning assistance first.

4. The sense was conveyed to us that there are a number of other requests that have been extant longer than ours, and we need to "set in line."

At the suggestion of the subcommittee's staff, we are requesting, therefore, the $400,000 that would advance the planning and design efforts through what is referred to as the design development phase. You should understand that this moves us considerably towards the goal of having a complete set of those documents and specifications that will ultimately be needed to construct the building.

The money will allow the following to take place:

1. The optimum site in the Park for the building will be selected.

2. Landscape architecture and a significant amount of site and building related engineering activity will take place.
3. A detailed site plan will be produced.

4. Infrastructure plans will be produced.

5. Drawings and specifications of the project will be produced including building elevations and perspective sketches.

6. A model of the building on its site will be produced.

7. Budgets and schedules for the subsequent design phase will be assembled.

8. Initial meetings with and preliminary approvals from local planning agencies will be sought.

9. Copies of finished presentation graphics including plans, elevations and perspective sketches will be printed.

This would allow us to restate the request for federal construction funds next year having successfully addressed the concerns raised by the subcommittee staff.

As I indicated in the beginning, your support already given to our efforts is immensely appreciated. I look forward to that day when we can, together, cut the ribbon and walk into the first-class anchor building for our Park.

Sincerely,

Harry J. Hartley
The Honorable Tom Bevill  
Chairman  
House Energy and Water Subcommittee  
Committee on Appropriations  
2362 Rayburn House Office Building  
Washington, D.C. 20515  

Dear Chairman Bevill:

I want to thank you for your interest in helping the University of Connecticut obtain resources to build an "energy conscious" advanced technology building in the Connecticut Technology Park. I also want to provide you with more details on the park itself, the institutes the building will house, and the overall benefit of this project to the University and to Connecticut. This proposal has been submitted to your subcommittee by Representatives Barbara Kennelly and Sam Gejdenson.

The park is set on 390 acres of University-owned land adjacent to the main campus of the University. The building will utilize today's appropriate technology in its siting, construction and operation to be as energy efficient as possible. Since this would be the anchor building for the technology park, we feel it should be state-of-the-art, and a model for future buildings in the park. The primary tenants of the building would be the Environmental Research Institute and the Precision Manufacturing Institute, two of the top research centers at the University. At present, both institutes are temporarily housed in a wing of an old school building, that is part of Mansfield Training School, two miles from the University. This facility is not capable of the expansions and remodeling needed for these institutes to fully carry out research that can best benefit the state and region.

Research conducted at these two institutes is aimed at improving environmental and manufacturing conditions in Connecticut and the region. Both are top priorities on the state's higher education and economic development agendas. The mission of the Environmental Research Institute (ERI) is to conduct research, develop educational opportunities, and provide service for the benefit of both the private and public sectors on all aspects of the control of hazardous materials and wastes. Researchers at ERI are involved in nearly every significant environmental concern in Connecticut. For example:

An Equal Opportunity Employer
o ERI works closely with the Connecticut Department of Environmental Protection (DEP) on monitoring Long Island Sound and the rivers and estuaries that feed it. Results generated by ERI are pivotal for determining when and why up to a billion dollars will be needed to upgrade wastewater treatment facilities in Connecticut.

o ERI researchers are developing groundwater simulation models, based upon field results, to help DEP develop ways to protect drinking water supplies from contamination. Connecticut has hundreds of priority hazardous waste sites, industrial facilities with extensive soil and groundwater contamination and many Superfund sites. Researchers at ERI have developed systems to optimize cleanup in the shortest possible time at the lowest cost. Some of the testing and research methods developed in this area have been used nationally and internationally to help in the clean-up of waste sites.

o ERI researchers have developed unique ways to reduce radon contamination in private wells. They are presently studying disinfection by-products of ozonation and the destruction of viruses in drinking water.

o Some of the first toxic ambient air quality measurements in Connecticut have been conducted in ERI laboratories using methods developed by their researchers. Expansion in this area would allow ERI to further its research in the area of ozone formation and how to reduce ozone concentrations in urban areas that are not in compliance with federal standards. Such work should help provide policy makers with the tools to examine the environmental benefits of a Light Rail Mass Transit System and other air pollution control measures.

The Center for Precision Manufacturing is a new initiative at the University, and encompasses the existing Center for Grinding Research and Development. The Grinding Center conducts research on precision processes used to finish metal and ceramic components, including manufacturing gears, fuel injectors, machine tool and robot parts, drills and screw threads. Eight American manufacturers have formed a consortium to support the Grinding Center, because they recognized the University's expertise, and the fact that America's output of basic manufacturing machines declined 11 percent in 1990 compared to 1989. Over the past five and one-half years, Connecticut manufacturing employment has declined by 20 percent or approximately 83,000 jobs.

The new Center for Precision Manufacturing would take this technology into the 21st century and would be the only center of its kind in the Northeast. The Governor has included in his budget six million dollars for the establishment of two advanced technology centers, one of which would be a Center for Precision Manufacturing. In addition, United Technologies, Inc. has already awarded $250,000 to the University to assist in this area.
Precision Manufacturing is the process which will enable United States firms to supply complex, high quality components with a higher degree of accuracy, lower variability and a tighter tolerance than currently produced. This type of manufacturing can be accomplished with a new blend of high technology materials, processes and methodology. New techniques such as laser machining, diamond wheel grinding, ion beam milling, single point diamond machining, computer aided design and manufacturing, and rigorous inspection devices must be perfected if our companies are to be internationally competitive.

A growing number of today's high technology products require manufacturing processes and machinery which operate in the microprecision regime. Several other countries, particularly Japan and Germany, already are delivering products to these specifications. Achieving this level of sophistication will allow new product development as well as improved product integrity and producibility by allowing higher performance designs, lower part processing costs, and greater interchangeability of parts.

The Center for Precision Manufacturing will act as a catalyst for the research, development, education and technology transfer throughout Connecticut and the United States.

This new building is integral to the expansion of research that can best benefit the University and the State. This building would represent the beginning of a public/private partnership in the technological park that could provide jobs, technology and training, and help revitalize the industrial base in economically depressed Connecticut. In the not too distant future, it is conceivable that the technology created and perfected in the park could benefit the nation as a whole. An investment in this area of research is essential and timely for both the economy and the environment.

We would appreciate any assistance from the Subcommittee of Energy and Water, and want to thank you and your staff for considering this proposal. If you need more information, please do not hesitate to contact me.

Sincerely,

Harry J. Hartley

cc: Barbara Kennelly
Sam Gejdenson
DRAFT

STATEMENT OF POLICY FOR

UNIVERSITY-INDUSTRY INTERACTION

The University of Connecticut

March, 1994
FOREWORD

INTRODUCTION

PATENTS AND COMMERCIALIZATION OF INTELLECTUAL PROPERTY
  AIM OF PATENT POLICY
  PATENT OWNERSHIP
    Under Connecticut Law
    Under Private Industry Sponsored Research
    Under Federal Agreements
  DISCLOSURE OF INVENTIONS
  ASSIGNMENT OF PATENT RIGHTS
  PATENT MANAGEMENT
  INCOME FROM INVENTIONS

PUBLICATION
  FREEDOM TO PUBLISH
  STUDENTS' THESIS
  PATENT PROTECTION AND DELAY IN PUBLICATION
  PROPRIETARY INFORMATION

CLASSIFIED (SECRET) RESEARCH

COPYRIGHT AND SOFTWARE
  COPYRIGHT
  SOFTWARE

GRADUATE STUDENTS AND OTHER SPECIAL GROUPS

CONFLICT SITUATIONS
  CONFLICT CATEGORIES
  CONFLICT MANAGEMENT
  CONFLICT GUIDELINES
  STATE CODE OF ETHICS

CONNECTICUT TECHNOLOGY PARK

UNIVERSITY-INDUSTRY INTERACTION COMMITTEE
To do this, the University is refining its disclosure instrument and developing a screening process for such information.

STATE CODE OF ETHICS

The State Code of Ethics (C.G.S., Sec. 1-79 through 1-90) for public officials applies to all employees of the State of Connecticut, including faculty and staff of the University of Connecticut. The Code of Ethics prohibits any activity that is in substantial conflict with the proper discharge of duties or employment in the public interest. This means that no employee may engage in any activity that may result in direct monetary gain to the employee as the result of the employee’s official activity.

In addition, a state employee or business with which the employee is associated may not enter into a contract with the state for more than $100 without an open, public bidding process. A business with which the employee is associated is, in part, defined as one in which the employee or a member of the employee’s family is the owner of 5% or more of stock.

CONNECTICUT TECHNOLOGY PARK

The University has been involved in the development of the Connecticut Technology Park adjacent to the Storrs campus, since 1981, when it announced plans for a research park. In the following year, Governor O'Neill proclaimed the formation of a non-profit, non-stock development corporation, University of Connecticut Educational Properties, Inc. (UCEPI). In 1985, legislation was passed authorizing the UConn Board of Trustees to lease a 390 acre parcel of land, under the University’s jurisdiction, to UCEPI for 99 years and a $1 rental fee.

Since that time, the State has appropriated money to build part of a road to enable access to the Park and UCEPI has terminated its relationship with a private developer. As of 1990, UCEPI assumed the role of developer. Subsequently, state and federal funds have been allocated for the design and construction of the Park’s first building to be constructed in 1995.

The purpose of the proposed Park is to bring together key researchers from the University and Connecticut businesses and to serve as a breeding ground for the emerging technologies and industries of the future. The University has been closely involved in the development of the Park and views it as an opportunity for potential symbiotic benefits. Both entities expect to work together toward a focus for the Park which would best compliment the University research strengths.

The University anticipates that its collaborative relationships with Connecticut businesses and industry will expand as a result of the development of the Park. Companies resident in the Park will enjoy special advantages because of the proximity of the Park to the
Storrs main campus. These advantages include easy access to faculty consulting, student workers, library facilities, special lectures and seminars, laboratory training workshops, formal course programs, specialized instrumentation facilities in the various Research Centers on campus, as well as access to a modern and powerful mainframe computer system. Fees, whenever required, for such services will be the same for Park tenants as for any non-University other user.

UNIVERSITY-INDUSTRY INTERACTION COMMITTEE

To promote an on-going, productive university-industry interaction, the Provost has appointed the University-Industry Interaction Committee as a standing committee. The Committee will advise the Provost on policy issues and the Director of the Research Foundation/Dean of the Graduate School on implementing the policies described in this document.
APPENDIX G
15 August 1994
File No. 90794-400

Atlas Construction Company
111 Lenox Avenue
Stamford, Connecticut 06906

Attention: Mr. Walter Kuczek

Subject: Hydrogeologic Impact Evaluation
UCEPI - Advanced Technologies Institutes Building
University of Connecticut
Storrs, Connecticut

Gentlemen:

INTRODUCTION

This letter summarizes our opinion relative to potential impacts of construction of the proposed Advanced Technologies Institutes Building (ATIB) on groundwater flow conditions at and in the vicinity of the former University of Connecticut (UConn) sanitary landfill and former chemical pits.

Haley & Aldrich reviewed readily-available information concerning the regional hydrogeologic setting, extent of leachate contamination, and design and construction of the proposed detention basin. The information reviewed included documents on file at state and local town offices, including information presented at the recent public hearings, as well as documents and plans pertinent to ATIB site development (e.g., submittals to the local planning and zoning authority, such as the Draft Environmental Impact Evaluation). In addition, readily-available information on file at the DEP Water Compliance Unit was reviewed. Specific documents and published information reviewed for this evaluation are listed in the attached References. [Note: numbers in parentheses refer to the attached References.]

BACKGROUND

At a recent Inland-Wetlands and Planning and Zoning Hearing of 18 July 1994, a written statement (dated 7 July 1994) submitted by Peter Newcomer argued that construction of the proposed ATIB will have an effect on the migration of documented groundwater contamination associated with waste disposal activities at the former UConn sanitary landfill and former chemical waste pits (1). In addition, similar comments were submitted at a recent Environmental Impact Evaluation Public Hearing (3). Specifically, it was suggested that construction of a detention basin on the ATIB site could "drive [the leachate plume] further, faster, and possibly over barriers behind which [the leachate plume] may have been stalled heretofore" (1). A copy of this written statement, dated 7 July 1994, is included as Exhibit A to this letter; additional written statements as well as pertinent correspondence related to this issue are also provided as Exhibits B and C, respectively.
The former landfill, by virtue of its nature and physical location, has been generating leachate which is migrating into the adjacent surface water and groundwater flow regimes. In addition, the former chemical pits have also contributed to underlying groundwater contamination; however, the former chemical pits are no longer contributing to degradation of water quality as they have been adequately remediated per Connecticut Department of Environmental Protection (DEP) (4).

The proposed ATIB site is comprised of approximately 13 acres and is currently undeveloped, consisting primarily of woodlands. Proposed development plans of the site include approximately 50,000 sq. ft. of building area, with the remainder of the site devoted primarily to paved parking. A detention basin will be constructed to control stormwater runoff from the developed area.

Based on the available information, hydrogeologic factors likely controlling the extent and migration of the leachate plume were evaluated and a preliminary water balance analysis was performed. The water balance analysis was conducted to assess how the detention basin may alter the existing groundwater flow regime, and to evaluate whether the detention basin could increase the groundwater flow rate in the area of the landfill. An increase in groundwater flow rate in the vicinity of the landfill could accelerate the movement of the landfill leachate plume and thereby expand the lateral or vertical extent of the leachate plume over time.

REGIONAL HYDROGEOLOGIC SETTING

The landfill area (approximately 15 acres) is located within the valley, generally oriented north-south, between topographic uplands to the east and west (2). Within the valley, the landfill area straddles a minor topographic drainage divide (oriented northeast-southwest) (2,5). The ATIB site is located in the eastern uplands, approximately 1,000 to 1,600 ft. northeast of the landfill, on the western flank of a topographic high (8). This topographic high, oriented southeast-northwest, acts as a drainage basin divide (4,11).

Regional topography reflects underlying geology. Valley lowlands are underlain by relatively permeable stratified drift deposits, which in turn are underlain by less permeable glacial till over bedrock (2,5). Uplands are underlain by dense glacial till over bedrock (9). Three major types of aquifers are present in the area: stratified drift, glacial till, and bedrock. The stratified drift aquifer is limited to within the valley lowlands and directly underlies the landfill (4).

Surface water flow directions follow topography (2,10). Ephemeral streams flow down off upland flanks towards the valley; surface water within the valley flows parallel to the trend of the axis of the valley. In the vicinity of the landfill, surface water flows toward an ephemeral stream to the south-southwest (ultimately draining to Eagleville Brook) and into a wetland to the north (ultimately draining to Cedar Swamp Brook). In the vicinity of the ATIB site, surface water flows to the west-southwest from the uplands, ultimately draining to the wetlands (2). Some surface water in this vicinity flows via an ephemeral stream which appears to discharge into a sand and gravel borrow pit, located approximately 400 ft. from the ATIB site, likely recharging the stratified drift aquifer.
Based on data presented in several documents reviewed and fundamental concepts in hydrogeology, groundwater flow generally parallels topography and reflects typical overall flow directions from groundwater recharge areas (e.g., surrounding uplands) to groundwater discharge areas (e.g., surface water bodies) (2,5,9). In the surrounding uplands to the east and west, groundwater flow in the glacial till and shallow bedrock aquifers flows towards the valley from these upland areas. In the vicinity of the landfill, groundwater in the unconsolidated deposits (stratified drift and glacial till) diverges to the north (to the wetlands) and to the south (to the ephemeral stream and Eagleville Brook), due to the approximately east-west trending groundwater divide located beneath the landfill (2,5). Groundwater flow patterns in the shallow bedrock aquifer underlying the valley are expected to be similar. Groundwater flow in the deep bedrock aquifer may not be hydraulically connected to the shallow groundwater flow regime and may be receiving water from a more distant indirect recharge area (5). Groundwater flow in the deep bedrock aquifer is likely to the west along interconnected fractures and is likely controlled by more regional gradients (2,5).

Annual precipitation over the region has been reported to be about 45 in./yr. Recharge to groundwater over the region has been reported to be about 11 in./yr. (12). The amount of precipitation recharging groundwater is less in the uplands because of steeper slopes and lower permeability materials with lower infiltration rates.

During precipitation events, mounding of the water table below the landfill develops (2,5), inducing local groundwater to flow radially away from the landfill. During this time, the landfill, which is not capped, acts as a direct groundwater recharge area to the underlying unconsolidated aquifers. The borrow pit, located approximately 600 ft. north of the landfill, also likely acts as a groundwater recharge area to the underlying unconsolidated aquifers. The direct recharge in these areas is likely significant given the high permeability of the stratified drift and the area over which direct infiltration can occur. Uplands, mantled by glacial till, to the east and west likely act as indirect recharge areas to the glacial till and bedrock aquifers underlying the landfill.

The lateral extent of the leachate plume in the shallow groundwater flow regime has been reported to trend roughly northwest-southeast, generally coincident with the axis of the valley. The lateral extent of the leachate plume in the east and west directions is limited to the confines of the stratified drift aquifer within the valley, owing to occurrence of bedrock outcrops and rising topography in these directions (2).

According to monitoring conducted in the vicinity of the landfill, contamination appears to be greater in the surface water/shallow groundwater flow regime than in the bedrock aquifer (5). However, water quality degradation within the bedrock aquifer has been documented and has reportedly impacted several deep domestic water supply wells, located west of the landfill along Hunting Lodge Road (2).

Based on information reviewed regarding the hydrogeologic setting of the area and the geometry of the leachate plume, it is Haley & Aldrich’s opinion that the extent of groundwater contamination is primarily controlled by hydrogeologic factors affecting local, shallow groundwater flow regimes within the vicinity of the landfill: existence of a groundwater divide and water table mounding beneath the
landfill, locations of recharge and discharge areas, and the geometry of the highly permeable stratified drift aquifer.

WATER BALANCE ANALYSIS

Proposed development will alter the water balance in the upland area by reducing the amount of natural recharge to the groundwater flow regime, due to construction of rooftops and pavements, and due to controlling surface water runoff over the site through the construction of the detention basin. During precipitation events, surface water runoff will be detained in the detention basin. Because the detention basin is unlined and the water level in the detention basin will be ponded above groundwater elevations in underlying glacial till and shallow bedrock aquifers, seepage will be induced to some degree from the detention basin to the underlying aquifers. The water balance analysis was conducted to compare natural recharge (under pre-development conditions) to potential seepage from the detention basin (under post-development conditions).

Pre-Development Conditions

The amount of recharge over the site under natural conditions was calculated by conservatively assuming an average annual recharge rate of 10 in./yr. and multiplying by the area of proposed ATIB site development (13.11 acres). Therefore, the amount of groundwater recharge, for any given year, that can be expected to be contributed by the ATIB site area to the underlying upland aquifers is approximately 476,000 cubic feet (cu. ft.).

Post-Development Conditions

The potential maximum seepage rate from the detention basin (Q) was estimated using Darcy’s Law. Darcy’s Law is a fundamental equation for estimating the rate of groundwater flow as the product of hydraulic conductivity (K) (permeability), hydraulic gradient (i; defined as the difference between ponded water elevation in the detention basin and groundwater elevation in the underlying glacial till, divided by the thickness of the glacial till through which downward seepage will occur), and the area of the detention basin through which flow will occur (A). Maximum seepage from the detention basin will occur when the detention basin is fully-ponded, which corresponds to a maximum ponded water elevation (El. 626 ft.). The following equation and values were used to calculate a maximum seepage rate (Q) of about 21,900 cu.ft./day:

\[ Q = K \times i \times A \]

\[ K = 0.5 \text{ ft./day} \] (based on range of published values typical of glacial till material within the area (2,12));

\[ i = 5 \text{ ft./ft.} \] (based on maximum ponded water level elevation and estimated groundwater table elevation in glacial till underlying the detention basin from site-specific groundwater elevation data (9));
A = 8,740 sq.ft. (based on geometry of the detention basin, conservatively including sidewalls, for fully-ponded condition (6)).

In any given year, the maximum amount of recharge expected from the detention basin under these conservative, worst case conditions, will be the product of the potential maximum seepage rate and the time the water level is ponded at its maximum ponded water level elevation.

Under post-development conditions, the following conservative assumptions were made to calculate the longest period of time the detention basin would be expected to be entirely filled with water (corresponding to the maximum ponded water level elevation). The entire proposed site ATIB area (13.11 acres) was assumed to be 100 percent impervious; therefore, all precipitation falling on the entire site is assumed to runoff as surface water into the detention basin. Given annual precipitation of 45 in./yr., approximately 2,140,000 cu. ft. of stormwater runoff will be controlled by the detention basin in any given year. For this worst-case condition, the longest period of time the detention basin would be expected to be full, in any given year, can be calculated by dividing the volume of runoff in any given year (2,142,000 cu. ft.) by the detention basin outlet structure's design outflow rate for the maximum-ponded condition (5.7 cubic feet per second (cfs)). In addition, it was conservatively assumed that the ponded water level elevation in the detention basin remains at its maximum for the entire duration. Based on these conservative assumptions, it would take a period of approximately 4.4 days for the detention basin outlet structure to dissipate the volume of surface water runoff expected for post-development conditions in any given year.

As a result, the maximum potential amount of groundwater recharge under post-development conditions contributed by seepage from the detention basin is approximately 95,000 cu. ft. This estimated post-development recharge amount is approximately 20 percent of the estimated pre-development recharge. Since post-development recharge is considerably less than pre-development recharge amount, it is not likely that development of the ATIB will cause a net increase in groundwater recharge.

In addition, the water table mounding beneath the detention basin is not expected to influence hydraulic gradients in the vicinity of the landfill. The extent of mounding beneath the detention basin is expected to be limited to the upland portion of the glacial till and, possibly, shallow bedrock aquifers, given the reduced post-development recharge by the detention basin, the relatively small area of the detention basin, the low permeability of the glacial till, and the distance from the landfill (1,000 ft.). The reduced amount of recharge transmitted through a relatively small area (8,740 sq. ft. or 0.2 acres) and into relatively low permeability deposits. As such, the mounding below the detention basin would be expected to be steep, yet quite localized, increasing hydraulic gradients only within a limited area in the immediate vicinity of the detention basin. This mounding effect is considered to be insignificant when compared to the amount of direct recharge in the landfill area and consequent mounding of the water table beneath the landfill area, which is approximately 15 acres. The mounding of the water table beneath the landfill would tend to be broader, given the higher permeabilities of stratified drift, and would likely influence hydraulic gradients in the vicinity of the landfill to a larger degree. As such, the extent of mounding beneath the detention basin is not expected to significantly alter hydraulic gradients and groundwater flow directions in the vicinity of the landfill.
In addition, the reduction of groundwater recharge over the ATIB site development area is not considered to have a significant effect on the overall indirect recharge from the uplands to the stratified drift aquifer and the deep bedrock aquifer. The indirect upland recharge area surrounding the valley lowlands (including Cedar Swamp) has been estimated by Haley & Aldrich to be approximately 2,290 acres, based on the extent of the stratified drift aquifer, and valley lowlands shown on topographic maps (7,10,11). The proposed ATIB site area (13 acres) is less than 1 percent of the estimated total upland indirect recharge area. Therefore, the detention basin is not expected to significantly affect more regional gradients controlling groundwater flow in the deep bedrock aquifer.

Finally, the detention basin is designed to reduce the post-development peak flow levels of surface water runoff during precipitation events to pre-development levels of runoff (6). Detention basin outflow is directed to the ephemeral stream, which discharges southwest to the borrow pit. By nature of the detention basin design, surface water discharge to the borrow pit recharge area will be approximately the same as for current, pre-development conditions. Therefore, the detention basin would not likely cause an increase in the overall rate of recharge to the stratified drift aquifer in the vicinity of the borrow pit. Consequently, the outflow from the detention basin would not be expected to alter hydraulic gradients in this area.

CONCLUSIONS

Based on our review of available information and a preliminary water balance analysis, it is our opinion that

1. ATIB site development and construction of the detention basin will not significantly increase the rate of groundwater flow in the stratified drift aquifer and will not, therefore, likely increase the migration rate of the leachate plume underlying the UConn landfill.

2. The impact of the detention basin on the groundwater flow regime in the uplands is expected to be minimal and is not be expected to alter current hydrogeologic controls dictating the extent of groundwater contamination underlying the sanitary landfill within the valley. Therefore, the construction of the detention basin is not expected to drive the leachate plume faster and/or in a different direction than that dictated by current hydrogeologic controls.
If you have any questions or comments regarding this letter, please do not hesitate to contact us.

Sincerely yours,

Haley & Aldrich, Inc.

Arthur J. Zahradnik, Jr.
Assistant Hydrogeologist

Lawrence P. Smith
Senior Vice President

Thomas R. Schultz, Ph.D.
Senior Hydrogeologist

Enclosures:

- References
- Exhibit A: Written Statement submitted by Peter Newcomer at an Inland-Wetland Public Hearing of 18 July 1994
- Exhibit C: Copies of Correspondence relating to water quality and extension of water service by UConn to 240 Hunting Lodge Road
REFERENCES


APPENDIX H
APPENDIX I
Water Quality Analysis of the Willimantic River
WATER QUALITY ANALYSIS OF

WILLIMANTIC RIVER (1991)

A Water Quality Model and Waste Load Allocation

Pursuant to Section 303 (d) of PL 95-217

Prepared by the

Planning and Standards Division

of the

State of Connecticut

Department of Environmental Protection

Water Management Bureau
Willimantic River

Wasteload Allocation and Effluent Limits

INTRODUCTION

Project Need

The Willimantic River, in northeastern Connecticut, is formed by the confluence of Middle Brook and Furnace Brook in Stafford Springs. The river joins with the Natchaug River in Willimantic to form the Shetucket River. The watershed drains approximately 226 square miles, including the Hop River, and is roughly 25 miles long. The adjacent lands are primarily rural with some residential and commercial areas, which are predominately on the lower portion which passes through downtown Willimantic. The present permitted wastewater discharges to the river are the 3 POTW's, Stafford Springs, Mansfield Training School (MTS), and the University of Connecticut (UConn). The MTS POTW flow currently averages 0.2 MGD with a permitted flow of 0.3 MGD. Stafford Springs is currently discharging an average of 1.34 MGD with a permitted flow of 2.0 MGD. UConn has a permitted flow of 2.0 MGD, and has requested a new permit of 2.7 MGD for future growth.

The natural flow of the river available for waste assimilation is limited. Based on USGS studies, the 7 day low flow with a 10 year recurrence (7Q10 flow) of the river is 5.83 cfs at Stafford Springs. At the base of Eagleville Lake, the 7Q10 flow is 14.56 cfs, primarily due to natural infiltration. During summer low flow conditions, the Stafford Springs sewage effluent will comprise 33% of the streamflow. The UConn effluent will comprise 25% of the low flow below Eagleville Lake. Based on river flow and outfall location, the Mansfield Training School effluent is sufficiently diluted (approximately 30:1 dilution).

DEP water quality studies of the river in 1977 and 1990 show the potential for violations of Class B "fishable-swimmable" water quality criteria. Based on new EPA toxicity criteria for ammonia, instream toxicity could occur below the UConn and Stafford Springs outfalls during 7Q10 conditions. Dissolved oxygen violations could also simultaneously occur below the UConn outfall. The current DEP classification for this river is Bc, indicating cold water fishery.
The river is stocked with trout and is also used for water recreation, including canoeing. Compliance with Connecticut's Water Quality Standards dictates the establishment of a wasteload allocation for the river by the DEP.

Purpose and Scope

The Connecticut Department of Environmental Protection Water Management Bureau must establish wasteload allocations (WLA's) under Section 303(d) and (e) of the Clean Water Act for all streams identified as being water quality limited. A WLA requires a water quality analysis to establish maximum daily pollutant discharge rates to a stream segment for a municipality or group of municipalities. The cumulative pollutant discharge rate from one or more municipalities or industries constitutes the Total Maximum Daily Load (TMDL) which a stream segment may receive without causing water quality violations.

Although no past violations of Class B standards were found during water quality studies, DO violations would probably occur during a 70% flow event. Using current permitted discharge concentrations, a 70% flow prediction shows DO violations below both Stafford Springs and Eagleville Lake, constituting a water quality limited stream.

The most feasible approach to the establishment of wasteload allocations is to develop a mathematical model which reproduces the water quality dynamics of a particular river system. This model can be used to simulate numerous discharge loadings and configurations and their resultant impact on water quality. The purpose of this report is to summarize the development of the Willimantic River model and justify its use for determining WLA's. Since the dynamics of Eagleville Lake are not clearly understood, the Willimantic River shall be divided into 2 separate models. The Upper River shall be defined as that portion of the river from Stafford Springs to the Eagleville Lake Dam. The Lower River shall be defined as that portion of the river from Eagleville Dam to the Shetucket confluence in Willimantic.

The intent of this analysis is to establish the levels of organic waste treatment necessary to meet the Class B water quality goals in the Willimantic River. Water quality goals are identified in Connecticut's "Water Quality Standards" where maximum pollutant levels, minimum allowable dissolved oxygen concentrations and aquatic life toxicity restrictions are stipulated. Stream conditions under which organic waste treatment needs are evaluated correspond to summer low flow conditions.
Wasteload Allocation

Low Flow Determination

To develop POTW effluent limits, a set of worst case conditions are used, typically 25°C instream, POTW at design flow and instream flow at 7Q10 levels. Included in the 7Q10 flow determination is allowance for currently registered diversions and anticipated future flow requests. According to the CT DEP Diversion Program, the wellfields for the UConn/MTS water supply system are the sole significant diversion. Review of the water supply plan submitted for this system shows an anticipated future demand of 2.2 MGD (7,440 cfs) through the year 2030. Also, 10% of the 7Q10 was reserved to accommodate future diversion proposals.

Based on recorded flows at USGS flow gauges, monthly 7Q10 values are obtained using a statistical package. Printouts with the desired monthly flows were obtained by DEP from the USGS. Each dilution flow is obtained by pro-rating the flows from the Willimantic River gauge in Coventry. Pro-rated flows are obtained by subtracting the 3 upstream POTW flows and multiplying the natural flow by the ratio of the drainage areas. As a check, the monthly 7Q10 flows from the Shetucket River gauge in Willimantic were pro-rated. The 2 flows were within a reasonable range. This base flow is then adjusted to include the design flow of upstream POTW's and exclude registered diversion flows.

BOD, Ammonia, and Suspended Solids

As part of a wasteload allocation, seasonal effluent limits are determined. Using the monthly 7Q10 flows and EPA ammonia criteria, an initial ammonia limit is determined. Using this ammonia limit, seasonal carbonaceous BOD limits are established by running the model with decreasing BOD limits until the required instream DO is met. The lower limit for BOD is 10 mg/l. When this occurs, the ammonia limit is then adjusted as needed to meet instream DO requirements. Suspended solids limits are then determined to prevent undesirable settling or aesthetics.

Based on streamflow and outfall locations, post aeration will not be required of the 3 POTW's. When post aeration is simulated in the model, the beneficial effects dissipate within the first mile, before the critical DO sag point.

Based on field observations of good aesthetic quality, effluent limits of 20 mg/l for total suspended solids will be maintained for UConn and MTS. Stafford Springs will not receive a change from the current 30 mg/l limit. These limits should insure "good aesthetic quality" as required by Class B water quality standards.
SUMMARY AND CONCLUSIONS

1) The University of Connecticut has applied to expand their wastewater treatment plant from a flow of 2.0 MGD to 2.7 MGD.

2) DEP has developed a calibrated and verified water quality model to evaluate acceptable waste loadings to the Willimantic River. Three sewage treatment plants at Stafford Springs (2.0 MGD), Mansfield Training School (0.3 MGD), and UConn (2.0 MGD) presently discharge to the river.

3) EPA has promulgated new toxicity criteria for ammonia and chlorine which will require more stringent effluent limits for Stafford Springs, Mansfield Training School, and UConn. In order to meet the minimum water quality standards for dissolved oxygen downstream, effluent limits for the UConn facility must be reduced to 10 mg/l for BOD and 2 mg/l for ammonia during the summer months. The proposed effluent limits for each facility are listed in Tables 2-4 on the following pages.

4) Under the Waste Load Allocation scenario set up to establish permit limits, water flow was set aside for future drinking water supply usage by UConn via withdrawal from the Merrow wellfield adjacent to the river. Another 10% of the streamflow was left unallocated as a reserve for future diversions or wastewater discharges.

5) The Willimantic River is a high quality water body which meets or exceeds Class B water quality standards and qualifies for protection under the Department's anti-degradation policy. Expansion of the UConn sewage treatment plant with the proposed effluent limits will comply with the anti-degradation policy as increased treatment at tertiary treatment levels will offset wastewater flow increases. In order to meet proposed effluent limits, seasonal ammonia removal (nitrification), dechlorination or alternate disinfection, and effluent polishing by sand filtration will be necessary.

6) Phosphorous removal will not be a requirement at this time; however, this may be a future basin wide requirement to alleviate eutrophication in the lower Shetucket and Thames Rivers. A decision on nutrient removal will be postponed pending the completion of additional water quality studies.
APPENDIX J
Cost-Benefit Analysis
Computations
# UCEPI Research Park Cost/Benefit Analysis

## Description

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<tr>
<th>Description</th>
<th>Dollar Value</th>
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## Assumptions:

- Life of Research Park, **n**: 15 yrs
- Inflation Rate: 3.00%
- Interest Rate: 6.00%
- Cost of Money, **i**: 3.00%

## Cost/Benefit Calculation:

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## Net Benefit (Present Value)

**$21,233,889**

## Notes:

- Life of Research Park, **n**, begins at Year 2010
- Income Tax of Employees at 4.5%
- Benefits assumed to be generated from Sales Tax on 20% of Employee Income at 6%
## ANNUAL TAX REVENUES

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**CONFERENCE CENTER GUESTS**
- ESTIMATED AT 150/WEek
- SPENDING $100.00 EACH

**NOTE:** ASSUMED THAT 20% OF INCOME WOULD BE TAXABLE UNDER SALES TAX

\[ $46,800 \]
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**NOTE:** TOTAL ANNUAL COST ADJUSTED TO 54% OF TOTAL TO REFLECT PERCENTAGE OF NEWLY-GENERATED EMPLOYMENT.
## RESEARCH PARK CONSTRUCTION COSTS

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### NOTES:

**CONSTRUCTION COST**
- CONFERENCE CENTER: $225 /SFT
- HOTEL: $50,000 /RM
- RESEARCH & DEVELOPMENT: $225 /SFT
- LIGHT INDUSTRIAL: $225 /SFT

**LABOR COST @**
- 50% OF CONSTRUCTION COST

CONSTRUCTION COST SPREAD OUT OVER A 3 YEAR PERIOD
APPENDIX K
Revised Traffic Volumes
August 22, 1994

Mr. Richard Meehan  
Meehan Associates  
387 North Main Street  
Manchester, CT 06040

Dear Mr. Meehan:

Re: Master Plan  
UCEPI (Connecticut Technology Park)  
Mansfield, CT  
Project No. BI-2B-824

As we discussed, a discrepancy has been identified in the traffic volumes originally used in the traffic study for the intersection of North Eagleville Road @ Hunting Lodge Road. Apparently the traffic volumes for the east-west and north-south movements were reversed in the original data. This was discovered during the Town of Mansfield’s review of the Advanced Technologies Institutes Building. This has no impact on the capacity analyses for this intersection since it is a 4-way STOP control and the LOS for such an intersection is based on the total volume for the intersection. The following sheets from the Appendix to the Traffic Impact Study have been revised and are attached:

- AM and PM volume summary sheets for N. Eagleville Rd. @ Hunting Lodge Rd.
- Traffic Flow Diagram - Existing Traffic Volumes
- Traffic Flow Diagram - 1997 Base Volumes
- Traffic Flow Diagram - 1997 Combined Volumes
- Traffic Flow Diagram - 2001 Base Volumes
- Traffic Flow Diagram - 2001 Combined Volumes
- Traffic Flow Diagram - 2010 Base Volumes
- Traffic Flow Diagram - 2010 Combined Volumes

I apologize for any inconvenience this may cause. If you have any questions or need additional information, please contact me.

Very truly yours,

PURCELL ASSOCIATES

Stephen R. Ulman, P.E.  
Engineer  
(92-273)
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<tr>
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Revised: August 1994   Project BI-2B-824
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### HOURLY SUMMATIONS

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<th>WESTBOUND</th>
<th>SOUTHBOUND</th>
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<tbody>
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<td>T</td>
<td>R</td>
<td>TOTAL</td>
<td>L</td>
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### PEAK HOUR SUMMARY

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<th>WESTBOUND</th>
<th>SOUTHBOUND</th>
<th>TOTAL</th>
</tr>
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<tbody>
<tr>
<td></td>
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<td>T</td>
<td>R</td>
<td>TOTAL</td>
<td>L</td>
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<tr>
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<td>4</td>
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Revised: August 1994       Project BI-2B-824
Legend

X = AM Peak
(X) = PM Peak

Connecticut Technology Park
Mansfield, Connecticut

2010 Combined Volumes