

Environmental Impact Evaluation Science, Technology, Engineering and Math (STEM) Residence Hall

University of Connecticut | Storrs, CT

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Acronyms and Abbreviations

AQCR	Air Quality Control Region
BMPs	best management practices
CAAA	U.S. Clean Air Act, as amended
CEPA	Connecticut Environmental Policy Act
CEQ	Council on Environmental Quality
CERC	Connecticut Economic Resource Center, Inc.
CGS	Connecticut General Statutes
CL&P	Connecticut Light & Power
CNG	Connecticut Natural Gas
CO	Carbon Monoxide
CT NDDDB	Connecticut Natural Diversity Database
CTDEEP	Connecticut Department of Energy and Environmental Protection
CUP	Central Utility Plant
CWC	Connecticut Water Company
dB/dBa	Decibel/A-weighted decibel
DNL/LDN/Ldn	Day Night Average Sound Level
ECD	Generic Environmental Classification Document
EH&S	UConn Department of Environmental Health & Safety
EIE	Environmental Impact Evaluation



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Acronyms and Abbreviations

EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
gpd	gallons per day
gpm	gallons per minute
GSF	gross square foot
HRSG	Heat Recovery Steam Generator
HSG	Hydrologic Soil Group
IWWA	Inland Wetlands and Watercourses Act
LEED	Leadership in Energy & Environmental Design
LEQ/Leq	Equivalent Noise Level
LGM	Locational Guide Map
LID	Low Impact Development
mgd	million gallons per day
MSL	mean sea level
NAAQS	National Ambient Air Quality Standards
NCSS	National Cooperative Soil Survey
NextGen	Next Generation Connecticut initiative
NO ₂	Nitrogen Dioxide
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
O ₃	Ozone
OPM	Office of Policy and Management
OSHA	Occupational Safety and Health Administration
OSTA	Office of the State Traffic Commission
PAH	polycyclic aromatic hydrocarbon
Pb	Lead
PoC&D	Plan of Conservation and Development
PM ₁₀	particulate matter ten microns or smaller in diameter

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Acronyms and Abbreviations

PM _{2.5}	particulate matter 2.5 microns or smaller
PMC	Pollutant Mobility Criteria
RCSA	Regulations of Connecticut State Agencies
RDEC	Residential Direct Exposure Criteria
RWF	Reclaimed Water Facility
SHPO	State Historic Preservation Office
SF	square feet
SIP	State Implementation Plan
SO ₂	sulfur dioxide
SO _x	sulfur oxides
STEM	Science, Technology, Engineering, and Math
TMDL	Total Maximum Daily Loads
UConn	University of Connecticut
USACE	U.S. Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geologic Survey
VOCs	Volatile Organic Compounds
WPCF	Water Pollution Control Facility
WSS	Web Soil Survey

Executive Summary

The University of Connecticut (University or UConn) proposes to construct a new 650- to 800-bed, 200,000 to 250,000 gross square foot (GSF) residence hall adjacent to Hilltop Residence Halls on Alumni Drive (Figure ES-1, ES-2, ES-3, ES-4) to provide a living and learning community for first-year Science, Technology, Engineering, and Math (STEM) students. The proposed STEM Residence Hall is needed to provide residential life space for a growing UConn undergraduate population and to support the *Next Generation Connecticut* initiative to expand UConn's STEM programs to provide qualified individuals for Connecticut's industries.

The University, as the sponsoring agency for this project, has prepared an Environmental Impact Evaluation (EIE) pursuant to the Connecticut Environmental Policy Act (CEPA) to further evaluate the potential environmental impacts of construction of a new residence hall at this location.

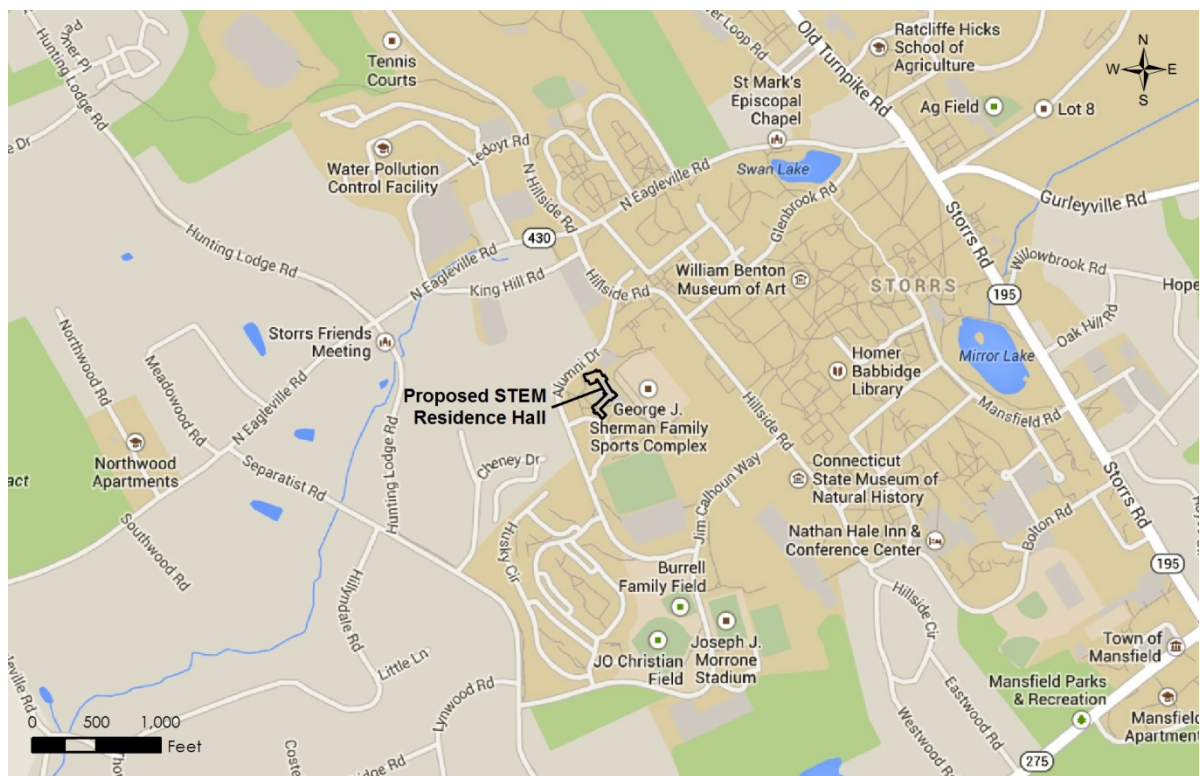


Figure ES-1. Location of Proposed STEM Residence Hall

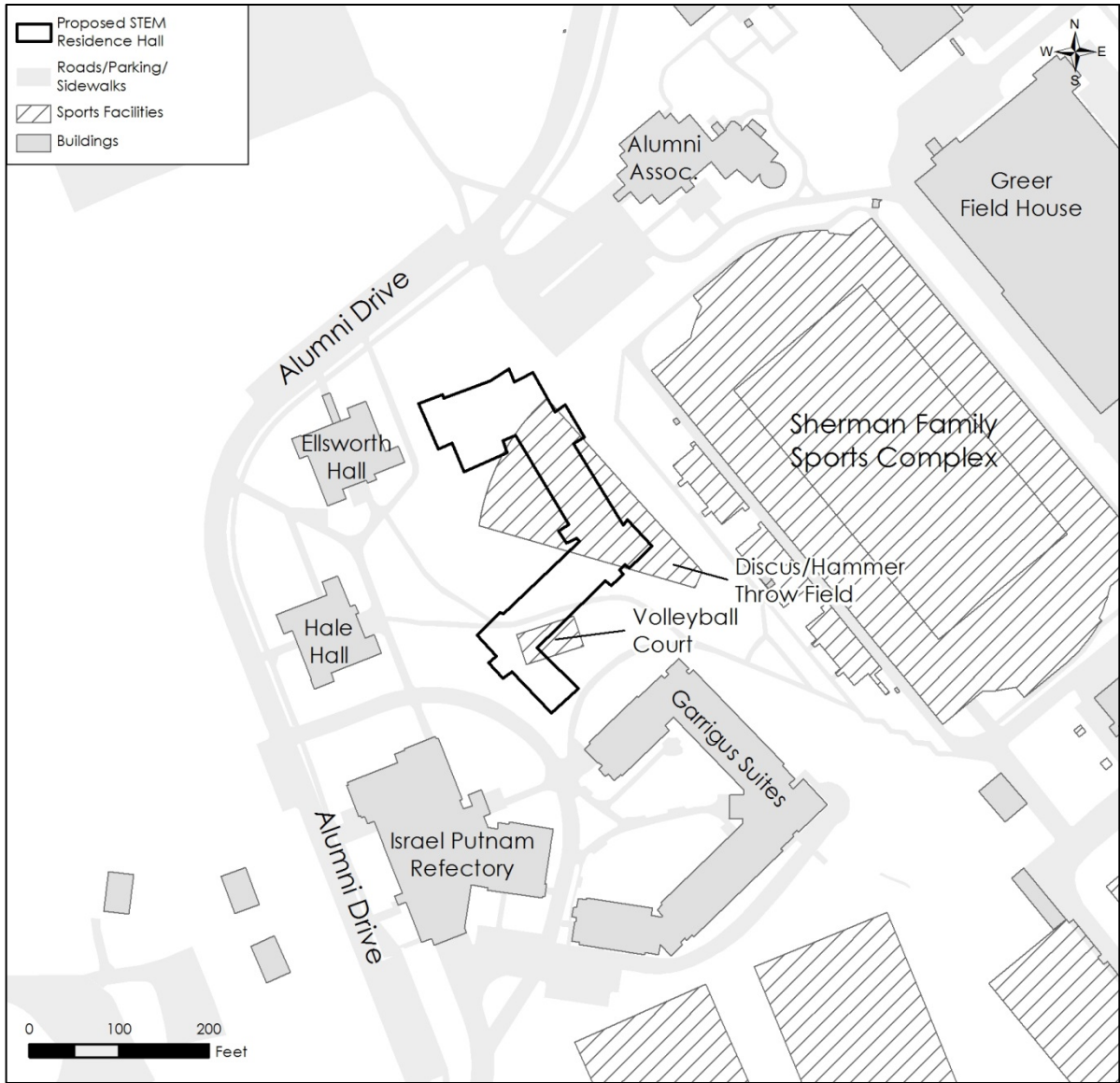


Figure ES-2. Footprint of Proposed STEM Residence Hall



Figure ES-3. Proposed STEM Residence Hall Architectural Rendering Facing East

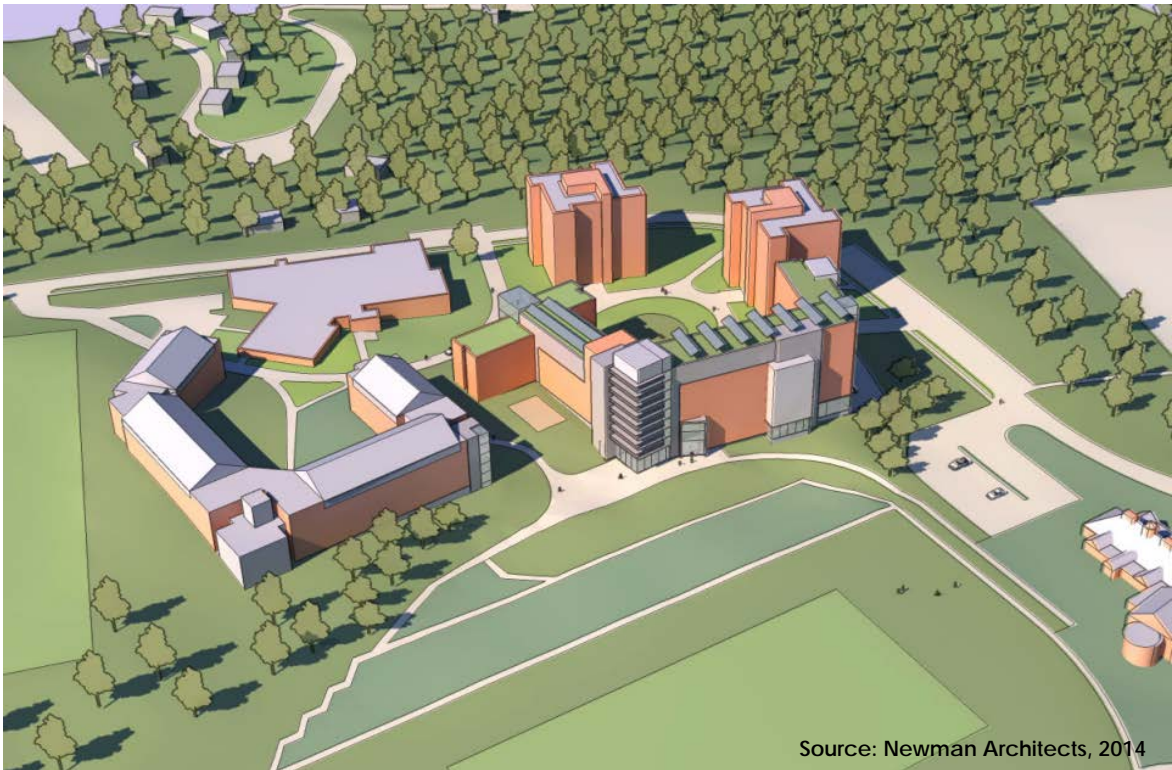


Figure ES-4. Proposed STEM Residence Hall Architectural Rendering Facing West

The proposed STEM Residence Hall will provide features to support Residential Life programming for first-year undergraduate STEM Scholars students, including living spaces for a Resident Director and Assistant Resident Director, common areas, seminar and collaborative learning spaces, and study rooms. Building common areas, including a lobby, lounge, and laundry areas, as well as building support and mechanical/electrical/plumbing space, are included in the design.

The proposed STEM Residence Hall is anticipated to tie into central utilities for electricity and to use natural gas-fired emergency generators. The building will be locally heated and cooled, at least initially. The building construction will incorporate best practices of sustainability with a minimum goal of Leadership in Energy & Environmental Design (LEED) Silver, and will address the guidelines and requirements of the Connecticut High Performance Building Standards. Reclaimed water will be incorporated into the building design for appropriate non-potable uses such as cooling and toilet flushing.

Construction of the STEM Residence Hall on the proposed location on Alumni Drive would not require any building or roadway relocation, but a seasonal sand volleyball court would be removed and the existing hammer throw and discus field would be relocated. The University has identified Practice Field #2, which is located adjacent to the Softball Stadium, as a relocation area.

The purpose of the Proposed Action is to address two needs identified by the University. The first is a general need for more on-campus residential life space to accommodate the growing student population and the demand for housing on the Storrs Campus. The second is a specific need to provide housing for first-year students enrolled in the STEM Scholars program, which is a part of the *Next Generation Connecticut* initiative.

The University considered reasonable alternatives, including the No Action alternative. Alternative on-campus locations for the proposed residence hall are shown on *Figure ES-5* and include a site on Alumni Drive adjacent to the existing Hilltop Residence Halls, an alternative site south of McMahon Hall and an alternative site northwest of the South Campus Residence Halls. The alternative site locations were chosen based on available space on the main campus, the 2006 Master Plan Update recommendations, and the feasibility of construction to meet the schedule of the *Next Generation Connecticut* initiative, which requires available housing for STEM Scholars by August 2016.

Based on the alternatives considered, the construction of a new a STEM Residence Hall next to the Hilltop Residence Halls (Hale and Ellsworth) on Alumni Drive was selected by the University as the Preferred Alternative. The site was selected as the preferred alternative because of its ability to meet the project purpose and need by providing an area capable of meeting the programming needs for the STEM Residence Hall, placing the residence hall in relatively close proximity to the STEM-related academic buildings. Construction at this location would not require the demolition or relocation of existing buildings or roadways. The existing dining hall in the adjacent Putnam Refectory will require renovation, as opposed to new dining hall construction, to accommodate the dining needs of the additional students.

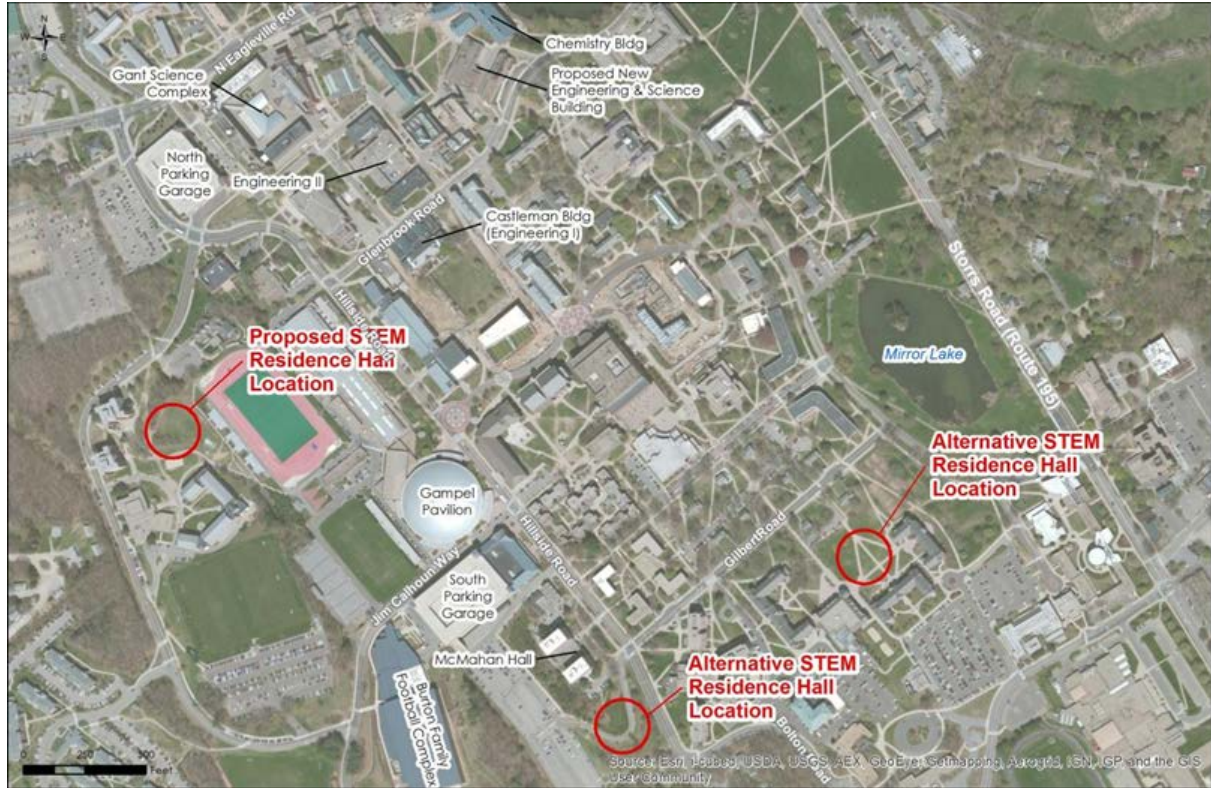


Figure ES-5. Alternative Locations Considered

Direct effects resulting from the Proposed Action include loss of approximately 935 sf of low quality wetland habitat, minor increases in energy and utility usage, and the relocation of the discus and hammer throw field currently on the project site. Although the construction and operation of the STEM Residence Hall will result in little change to traffic operations and parking, potential secondary effects include possible future demand for additional parking capacity and associated traffic effects as the first-year STEM students move from the residence hall and become eligible to request on-campus parking permits. However, these effects, as well as cumulative effects to utilities from future construction/operation of *Next Generation Connecticut* projects, are uncertain and will be assessed in the larger context of the forthcoming UConn Master Plan update and associated EIE. Potential construction-related impacts include temporary impacts to vehicle and pedestrian traffic, air quality, noise, hazardous materials and solid waste, and stormwater. Anticipated impacts and proposed mitigation measures to avoid, minimize, or offset potential adverse impacts are summarized in *Table ES-1*.

Table ES-1. Summary of Impacts and Proposed Mitigation

Resource Category	Impacts	Proposed Mitigation
Traffic, Parking, and Circulation	<ul style="list-style-type: none"> No disruption of existing roads/parking Minimal new vehicle trips Potential for secondary effects associated with demand for additional parking and vehicles on-campus due to additional students 	<ul style="list-style-type: none"> Potential for adverse effects will be assessed in the OSTA process and upcoming Master Plan and Master Plan EIE which will provide a comprehensive assessment of traffic, parking, and circulation in the context of campus growth
Air Quality	<ul style="list-style-type: none"> New stationary sources – boiler, emergency generator, chiller Potential emissions below de minimis levels established by USEPA 	<ul style="list-style-type: none"> Stationary sources to be included in UConn air quality permit
Noise	<ul style="list-style-type: none"> Consistent with residential setting 	<ul style="list-style-type: none"> None
Water Resources	<ul style="list-style-type: none"> Will be consistent with Eagleville Brook TMDL and Watershed Plan No floodplains 	<ul style="list-style-type: none"> The stormwater management system for the new residential hall will be consistent with the guidelines contained in the CTDEEP <i>Connecticut Stormwater Quality Manual</i> (as amended). LID measures such as disconnected impervious areas and bioretention A green roof area is proposed for a portion of the STEM Residence Hall building to further reduce effective impervious cover and stormwater runoff from the project site, as well as to enhance stormwater quality. New underground detention systems are proposed to manage peak rates of runoff from the project site, including the STEM Residence Hall and the areas currently served by the existing underground detention system associated with Garrigus Suites
Wetlands, Watercourses, and Natural Communities	<ul style="list-style-type: none"> No threatened/endangered species ±935 SF of low functional value wetland to be directly impacted 	<ul style="list-style-type: none"> Adherence to the conditions of the <i>CTDEEP General Permit for Water Resource Construction Activities</i> and U.S. Army Corps of Engineers Connecticut General Permit
Cultural Resources	<ul style="list-style-type: none"> Outside National Register Historic District SHPO determined no impact to historic or archaeological resources 	<ul style="list-style-type: none"> None
Visual and Aesthetic Character	<ul style="list-style-type: none"> Consistent with current visual setting 	<ul style="list-style-type: none"> None
Geology, Topography, and Soils	<ul style="list-style-type: none"> No unique features or farmland soils 	<ul style="list-style-type: none"> None

Table ES-1. Summary of Impacts and Proposed Mitigation

Resource Category	Impacts	Proposed Mitigation
Utilities and Services	<ul style="list-style-type: none"> • Adequate capacity exists for Electrical, Natural Gas, Sanitary Sewer, Telecommunications, and Stormwater/Drainage in the vicinity of the site along Alumni Drive. • The University will meet its overall peak water demands, including for the STEM Residence Hall, by augmenting its supply with the additional supply to be provided pursuant to an executed agreement to interconnect with the Connecticut Water Company (CWC). Should the proposed STEM Residence Hall be completed prior to the additional water supply being available from CWC, sufficient water supply exists within the University system to meet annual average daily demand and peak month's (typically, September) average daily demand for the STEM Residence Hall. However, additional supply would be required in order to meet the peak day demand, including maintaining a system-wide 15% margin of safety. • The proposed building and associated site improvements would replace existing turf areas, thus increasing impervious surfaces on the site. These site alterations would reduce canopy interception, evapotranspiration, and infiltration; generate increased runoff rates and volumes (i.e., increased runoff coefficient); and introduce new potential sources of stormwater pollutants. 	<ul style="list-style-type: none"> • The building construction will incorporate best practices of sustainability with a minimum goal of Leadership in Energy & Environmental Design (LEED) Silver. The project design will also address the guidelines and requirements of the Connecticut High Performance Building Standards, as well as strategies and recommendations promoted by the UConn <i>Climate Action Plan</i> and other ongoing energy efficiency and sustainability initiatives at the Storrs campus. • Reclaimed water will be used for toilet/urinal flushing and cooling. Water savings from reclaimed water use for toilet flushing is estimated at up to approximately 5,000 gpd during the academic year. • Should the STEM Residence Hall be completed prior to completion of the CWC interconnection, potential mitigation would consist of a) connecting the STEM Residence Hall (as well as the NESB and IPB) to the reclaimed water utility to reduce potable demand, b) continue to promote water conservation throughout the system and c) take steps to ensure that margin of safety could be demonstrated by having Fenton Well D approved for intermittent use during the time that peak demand was expected. • The stormwater management system for the new residential hall will be consistent with the guidelines contained in the CTDEEP <i>Connecticut Stormwater Quality Manual</i> (as amended). • LID measures such as disconnected impervious areas and bioretention • A green roof area is proposed for a portion of the STEM Residence Hall building to further reduce effective impervious cover and stormwater runoff from the project site, as well as to enhance stormwater quality. • New underground detention systems are proposed to manage peak rates of runoff from the project site, including the STEM Residence Hall and the areas currently served by the existing underground detention system associated with Garrigus Suites.
Public Health and Safety	<ul style="list-style-type: none"> • Public Health & Safety services in place for residential students 	<ul style="list-style-type: none"> • None

Table ES-1. Summary of Impacts and Proposed Mitigation

Resource Category	Impacts	Proposed Mitigation
Solid Waste and Hazardous Substances	<ul style="list-style-type: none"> • Typical residential waste stream 	<ul style="list-style-type: none"> • None
Socioeconomics	<ul style="list-style-type: none"> • Anticipated socioeconomic benefit 	<ul style="list-style-type: none"> • None
Land Use Planning	<ul style="list-style-type: none"> • Consistent with campus, local, regional, and state plans 	<ul style="list-style-type: none"> • None
Construction Period		
Traffic, Parking, and Circulation	<ul style="list-style-type: none"> • Minor, temporary disruptions to traffic in the immediate area of construction 	<ul style="list-style-type: none"> • Use of construction-phase traffic management measures to maintain efficient traffic operations during the construction period including construction phasing to minimize disruptions to traffic, signage, and detours.
Air Quality	<ul style="list-style-type: none"> • Construction activities may result in short-term impacts to ambient air quality due to direct emissions from construction equipment and fugitive dust emissions 	<ul style="list-style-type: none"> • Contractors will be required to comply with air pollution control requirements in UConn <i>Environmental, Health, and Safety Policies, Regulations, and Rules for Construction, Service, and Maintenance Contractors</i>, including reference to such requirements in contract documents. • Ensure proper operation and maintenance of construction equipment. • Limit idling of construction vehicles and equipment to three minutes. • Implement traffic management measures during construction. • Implement appropriate controls to prevent the generation and mobilization of dust.
Noise	<ul style="list-style-type: none"> • Heavy construction equipment associated with site development may result in temporary increases in noise levels in the immediate area of construction 	<ul style="list-style-type: none"> • Contractors will be required to comply with noise control requirements in UConn <i>Environmental, Health, and Safety Policies, Regulations, and Rules for Construction, Service, and Maintenance Contractors</i>, including reference to such requirements in contract documents. • Ensure proper operation and maintenance of construction equipment. • Construction contractors should make every reasonable effort to limit construction noise impacts.
Stormwater and Water Quality	<ul style="list-style-type: none"> • Exposure of soil increases potential for erosion and sedimentation 	<ul style="list-style-type: none"> • Use of appropriate erosion and sediment controls during construction, consistent with the 2002 <i>Connecticut Guidelines for Soil Erosion and Sediment Control</i> (as amended) and the August 21, 2013 <i>General Permit for Stormwater and Dewatering Wastewaters from Construction Activities</i>.
Hazardous Materials and Solid Waste	<ul style="list-style-type: none"> • Temporary on-site storage and use of fuels and other materials 	<ul style="list-style-type: none"> • Contractors will be required to comply with requirements for construction-related

Table ES-1. Summary of Impacts and Proposed Mitigation

Resource Category	Impacts	Proposed Mitigation
Hazardous Materials and Solid Waste (continued)	<p>associated with construction vehicles and equipment</p> <ul style="list-style-type: none"> • Generation of solid waste including construction and demolition debris 	<p>hazardous materials and solid waste in UConn <i>Environmental, Health, and Safety Policies, Regulations, and Rules for Construction, Service, and Maintenance Contractors</i>, including reference to such requirements in contract documents.</p> <ul style="list-style-type: none"> • Hazardous or regulated materials or subsurface contamination encountered during construction will be characterized and disposed of in accordance with applicable state and federal regulations. • Construction-related solid waste will be handled and disposed of in a manner that meets current regulations and University standards. Construction and demolition debris will be managed in accordance with applicable state and federal regulations and the University's contractor policies.

1 Introduction

The University of Connecticut (University or UConn) proposes to construct a new 650- to 800-bed, 200,000 - 250,000 gross square foot (GSF) residence hall adjacent to Hilltop Residence Halls on Alumni Drive to provide a living and learning community for first-year Science, Technology, Engineering, and Math (STEM) students. The proposed STEM Residence Hall is needed to provide residential life space for a growing UConn undergraduate population and to support the *Next Generation Connecticut* initiative to expand UConn's STEM programs to provide qualified individuals for Connecticut's industries.

This Environmental Impact Evaluation (EIE) evaluates the potential environmental impacts of construction of a new STEM Residence Hall, hereafter referred to as the Proposed Action, as well as other alternatives considered, including the No Action alternative. The format and content of this EIE are based on the requirements of the Connecticut Environmental Policy Act (CEPA) (Connecticut General Statutes [CGS] Sections 22a-1 through 22a-1h, inclusive, and, where applicable, CEPA regulations Sections 22a-1a-1 through 22a-1a-12, inclusive, of the Regulations of Connecticut State Agencies [RCSA]). The Proposed Action would utilize state funds and involve construction that may significantly affect the environment in an adverse manner, triggering the CEPA process¹. The University is the sponsoring agency of this project.

The central purpose of the CEPA process is for sponsoring agencies to determine whether or not a proposed action will have a "significant effect," which means substantial adverse impact on the environment (RCSA 22a-1a-1, Definitions). An EIE must consider direct and indirect effects as well as cumulative impacts. An EIE includes a description of the Proposed Action; the purpose and need for the action; an evaluation of the direct and indirect effects and cumulative impacts of the proposed action; identification of unavoidable adverse environmental effects; evaluation of alternatives; and a description of proposed mitigation measures, if necessary.

¹ The Generic Environmental Classification Document (ECD) contains a list of State project types and thresholds that trigger the Connecticut Environmental Policy Act (CEPA) process. Construction of, addition to, or major alteration involving a change in use of a State leased, licensed, or owned facility involving 100,000 SF or greater of floor space if the facility is located in a Regional Center or Neighborhood Conservation Area is one of the thresholds that the Generic ECD identifies as a typical action whose degree of impact is indeterminate, but could have significant environmental impacts. "Regional Center" and "Neighborhood Conservation Areas" are terms that had been used in the State's Plan of Conservation and Development (PoC&D) for 2005-2010 and respective Locational Guide Map (LGM), but were not included in the more recent PoC&D and LGM for 2013-2018.

The Generic ECD has not yet been updated to reflect this change in the PoC&D and LGM. It is the University's understanding that the LGM is not intended to be utilized, by itself, as a basis for a state agency to approve or deny funding when rendering applicable funding decisions. However, in the absence of ECD thresholds updated to be consistent with the more recent PoC&D, one way in which the Proposed Action has been evaluated for consistency with CEPA was by using the thresholds in the current ECD and the mapping of the previous LGM. According to the 2005-2010 LGM, the Site of the Proposed Action lies within an area entirely mapped as Neighborhood Conservation. The proposed building size, 200,000 - 250,000 GSF, exceeds the 100,000 SF Neighborhood Conservation Area threshold indicative that degree of impact is indeterminate, but could have significant environmental impacts. As such, the University has proceeded with the applicable processes specified under CEPA.

1.1 Purpose and Need

The purpose of the Proposed Action is to address two needs identified by the University. The first is a general need for more on-campus residential life space to accommodate the growing student population and the demand for housing on the Storrs Campus. The second is a specific need to provide housing for first-year students enrolled in the STEM Scholars program, which is a part of the *Next Generation Connecticut* initiative.

The proposed STEM Residence Hall is needed for the growing UConn student population on the Storrs Campus. In 2013, nearly 30,000 students applied for admission to UConn's Storrs campus, an increase of 10% over the previous year and an over 50% increase compared to applications in 2001 (Reitz, 2014). Consequently, there has been an increasing trend in undergraduate enrollment over the past decade (Figure 1-1). This trend is anticipated to continue into the future and will likely accelerate with the implementation of the *Next Generation Connecticut* initiative, described below. The University recognized the need for additional residence halls in the 2006 University Master Plan and identified several potential locations for the development of residential halls on campus.

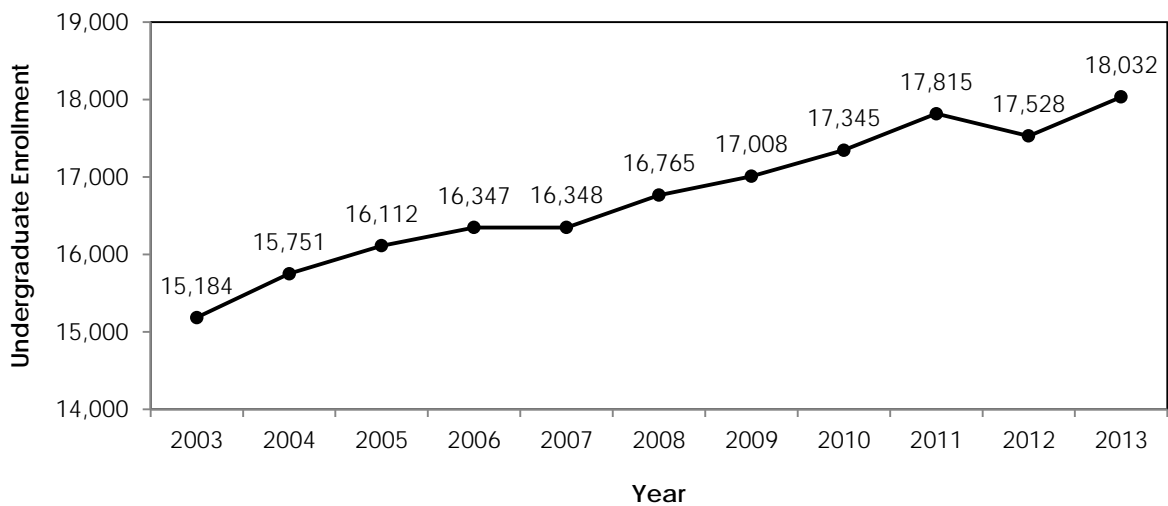


Figure 1-1. UConn Storrs Campus Undergraduate Enrollment (2003 – 2013)

In addition to supporting a general trend in increased enrollment campus-wide, the proposed STEM Residence Hall will also support the *Next Generation Connecticut* initiative. *Next Generation Connecticut* is a proposal to significantly expand educational opportunities, research, and innovation in the STEM disciplines at UConn over the next decade. The initiative would expand UConn's STEM programs to provide qualified individuals for Connecticut's industries by providing approximately \$1.5 billion in funding over the next 10 years for the construction, renovations, infrastructure and equipment to develop preeminence in the University of Connecticut's research and innovation programs, hire and support outstanding faculty, train and educate graduates to meet the future workforce needs of Connecticut, and initiate collaborative partnerships that lead to scientific and technological breakthroughs.

The goals of this 10-year plan include hiring 200 new STEM faculty; enrolling approximately 5,000 undergraduate students at the Storrs campus; building STEM facilities to house material science, physics, biology, engineering, cognitive science, genomics, and related disciplines; and upgrading aging infrastructure to accommodate these new faculty and students. The expansion also includes the creation of a STEM Scholars program, which includes a residential housing component that the Proposed Action will help meet.

1.2 Proposed Action

UConn proposes to construct a STEM Residence Hall next to the Hilltop Residence Halls (Hale and Ellsworth) on Alumni Drive (Figure 1-2). The proposed STEM Residence Hall consists of 650 - 800 beds in an 8 or 9-story building totaling 200,000 - 250,000 gross square feet (GSF) for first-year students. The STEM Residence Hall would provide housing for first-year students and is part of the capital project initiatives in support of *Next Generation Connecticut*, an initiative intended to significantly expand educational opportunities, research, and innovation in the STEM disciplines at UConn over the next decade.

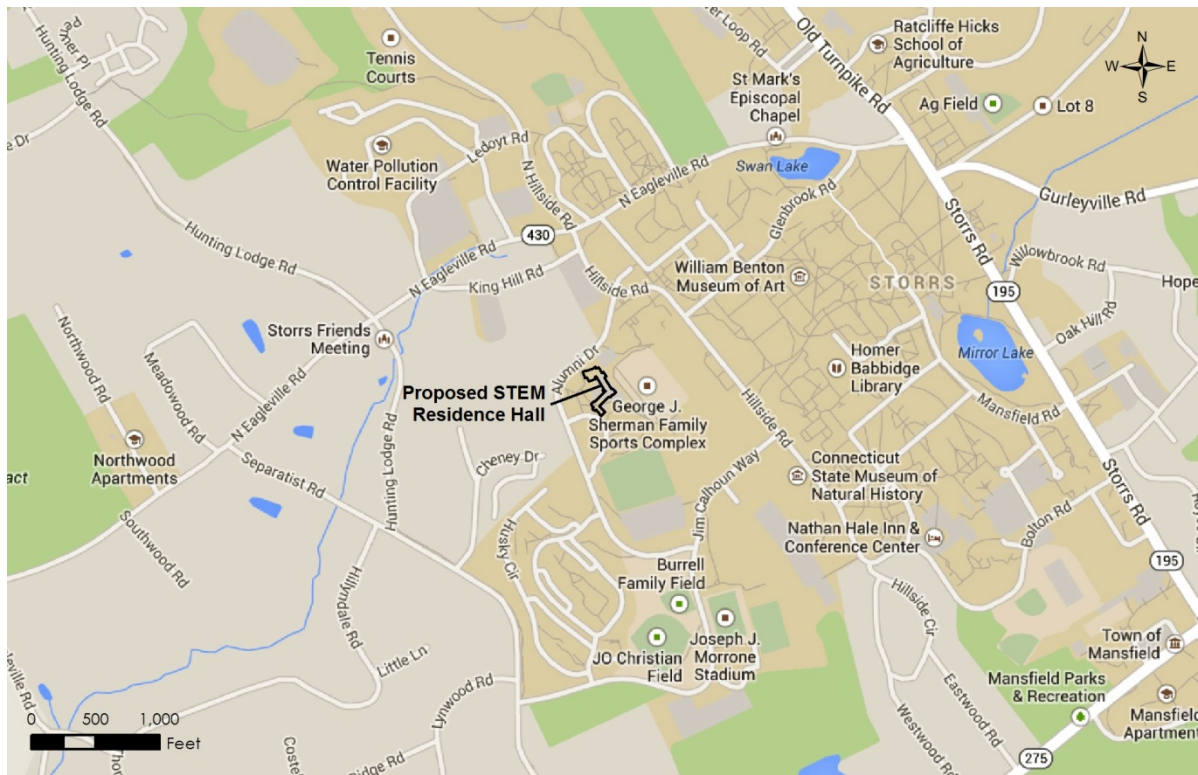


Figure 1-2. Location of Proposed STEM Residence Hall

The proposed STEM Residence Hall will provide features to support Residential Life programming for first-year undergraduate students, including living spaces for a Resident Director and Assistant Resident Director, common areas, seminar and collaborative learning spaces, and study rooms. Building common areas, including a lobby, lounge, and laundry areas, as well as building support and mechanical/electrical/plumbing space, are included in the design.

The proposed STEM Residence Hall is anticipated to tie into central utilities for electricity and to use natural gas-fired emergency generators. The building will be locally heated and cooled, at least initially. The building construction will incorporate best practices of sustainability with a minimum goal of Leadership in Energy & Environmental Design (LEED) Silver, and will address the guidelines and requirements of the Connecticut High Performance Building Standards. Reclaimed water will be incorporated into the building design for appropriate non-potable uses such as cooling and toilet flushing.

Construction of the STEM Residence Hall on the proposed location on Alumni Drive would not require any building or roadway relocation, but a seasonal sand volleyball court would be removed and the existing hammer throw and discus field would be relocated (*Figure 1-3*). The University has identified Practice Field #2 which is located adjacent to the Softball Stadium as a relocation area.

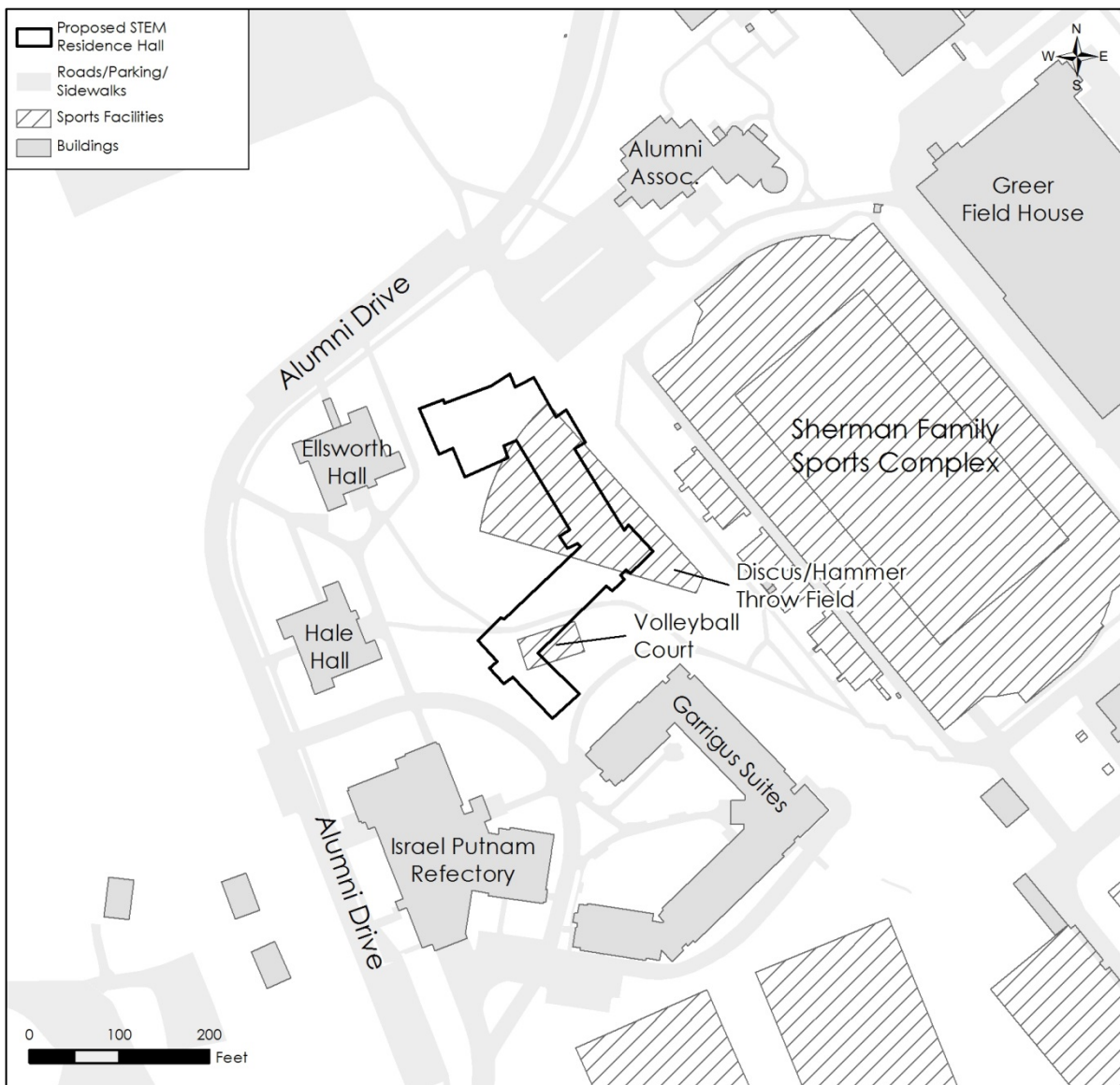


Figure 1-3. Footprint of Proposed STEM Residence Hall

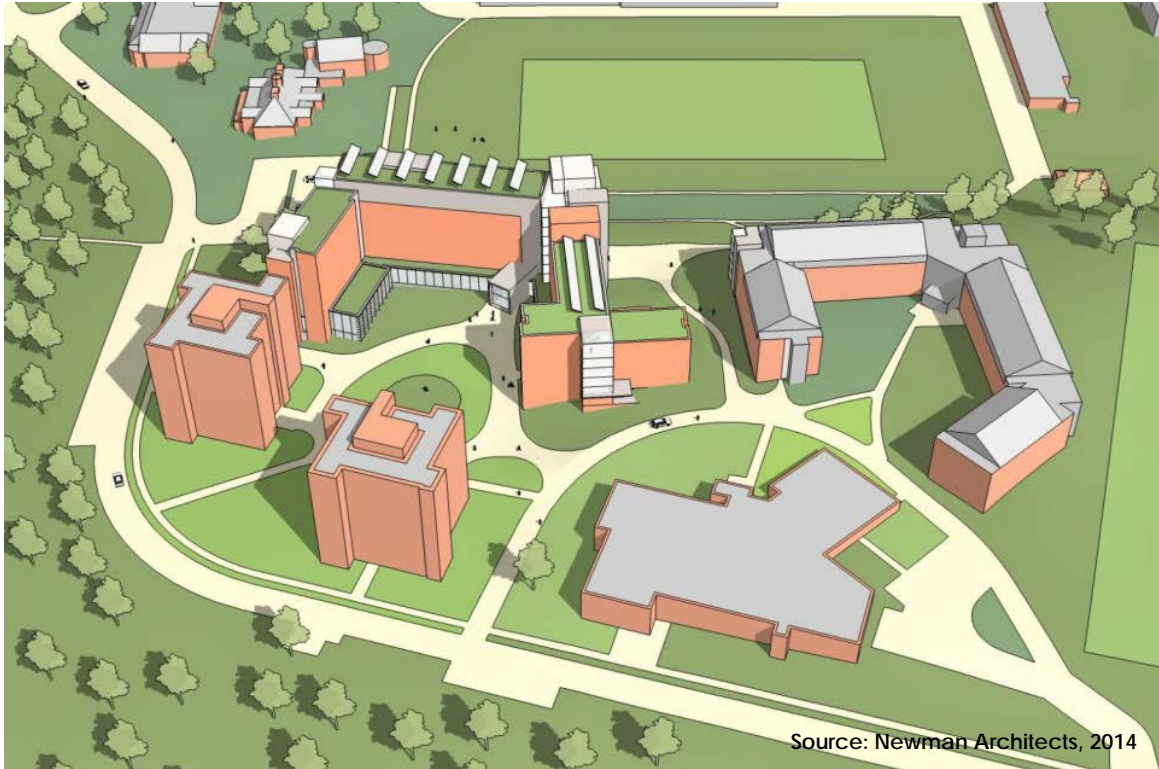


Figure 1-4. Proposed STEM Residence Hall Architectural Rendering Facing East

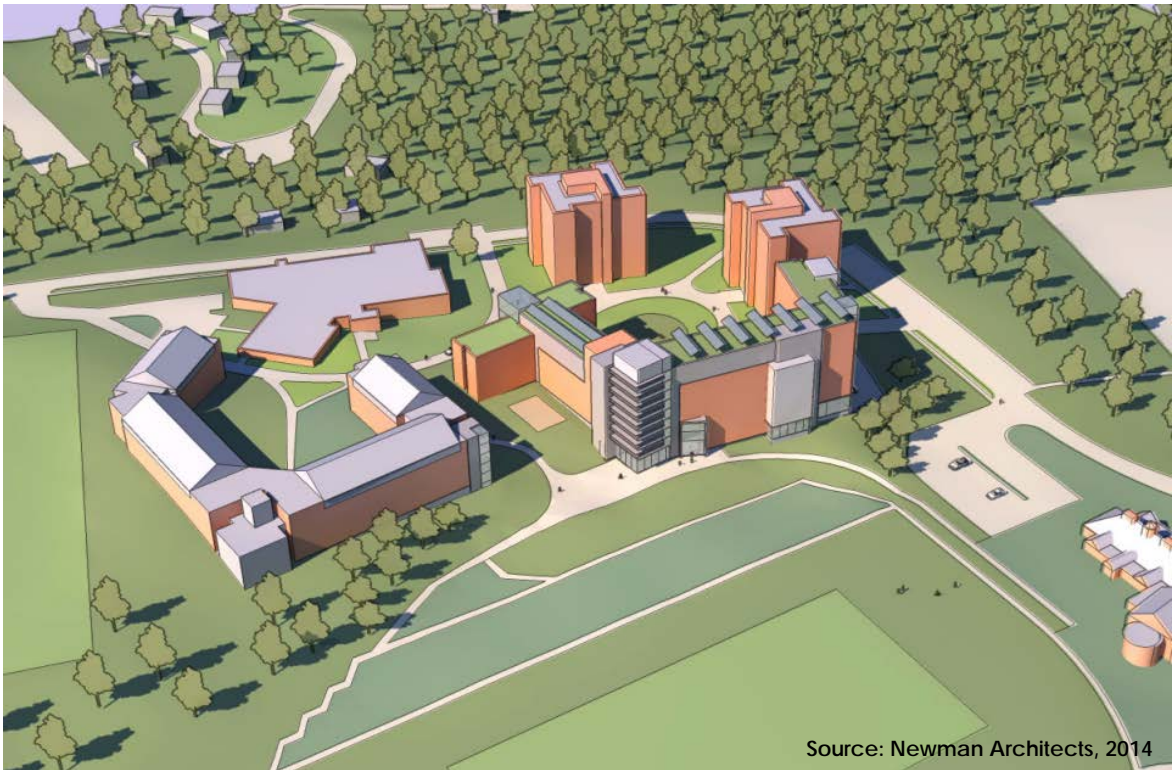


Figure 1-5. Proposed STEM Residence Hall Architectural Rendering Facing West

1.3 Public Participate and Agency Coordination

Public input and participation and coordination with local, regional, state, and federal agencies are major elements of the CEPA process. CEPA requires an early public scoping process to identify issues of concern related to the proposed action through coordination with interested persons and affected agencies. Scoping begins with the publication of a scoping notice in the *Environmental Monitor*, a semi-monthly online publication of the Council on Environmental Quality (CEQ) (<http://www.ct.gov/ceq>). The scoping includes a 30-day public comment period during which governmental agencies, as well as other organizations and the public, can submit comments on the proposed project and request a public scoping meeting. During the preparation of an EIE, the sponsoring agency must consider the issues raised and comments received during scoping.

A scoping notice for the subject project appeared in the January 21, 2014 edition of the *Environmental Monitor* (*Appendix A*), beginning the 30-day scoping period. The scoping period had been extended beyond the initial 30 days and ended on March 22, 2014. During the scoping period, a public scoping meeting was held on the UConn campus on March 17, 2014. Public oral comments were received during the public meeting from Meg Reich of the Willimantic River Alliance. During the scoping period, written comments were received from the Connecticut Department of Energy and Environmental Protection, the Town of Mansfield, and the Connecticut Department of Public Health. A summary of comments made at the public scoping meeting and copies of written comment letters received during the scoping period are provided in *Appendix A*.

Formal notice of the availability of this EIE has been published in the *Willimantic Chronicle* and in the *Environmental Monitor*. An electronic copy of this document is also available on the UConn Office of Environmental Policy website. The document was sent to the following agencies and entities for review and comment:

- Council on Environmental Quality
- Connecticut Department of Energy and Environmental Protection
- Connecticut Department of Public Health
- Connecticut Department of Transportation
- Connecticut Commission on Culture and Tourism
- Connecticut Office of Policy and Management
- Town of Mansfield (with public copy available with Town Clerk)

2 Alternatives Considered

The Connecticut Environmental Policy Act (CEPA) requires state agencies undertaking an action that may result in potential significant effects on the environment to consider reasonable alternatives, particularly alternatives that might enhance environmental quality or avoid potential adverse environmental effects. Such alternatives include taking no action or substituting an action of a significantly different nature that would provide similar benefits with different environmental impacts, as well as the use of other sites controlled by or reasonably available to the sponsoring agency that would meet the stated purpose of the action.

This section compares the No Action alternative, the Proposed Action, and reasonable alternatives in light of their ability to meet the project purpose and need. This section describes potential environmental considerations associated with each alternative and the basis for selection of the preferred alternative, which is the Proposed Action in this EIE. A summary of the comparison of the Proposed Action and the Alternative On-Campus Sites identified in *Sections 1.2 and 2.2* is provided as *Table 2-1*. The No Action alternative (i.e., the baseline for analysis of impacts under CEPA) and Proposed Action are further evaluated in *Section 3, Existing Environment and Analysis of Impacts*.

2.1 No Action Alternative

Under the No Action alternative, a residence hall would not be constructed. The amount of rooms and residential life space would remain as it currently is on the Storrs Campus. There would be no available housing specifically dedicated to supporting first-year students in the STEM Scholars program. The No Action alternative would not meet either of the needs described in *Section 1.1, Purpose and Need*. It would not address the general need for additional on-campus residential life space identified in the 2006 *University Master Plan Update*, nor would it support and advance the *Next Generation Connecticut* initiative. Further, if the residence hall was not constructed and enrollment was still increased in support of the *Next Generation Connecticut* initiative, then it could be assumed that without additional on-campus housing there would be an increase in the number of commuter students. If a significant amount of these students do not live in the immediate vicinity of campus (e.g., not within walking distance), then the impact to traffic and parking is more immediate than that of the Preferred Alternative (see *Section 3.2*). The No Action alternative does not support the project purpose and need and was eliminated from further consideration as a feasible alternative.

2.2 Alternative On-Campus Locations

The alternative on-campus locations for the proposed residence hall are shown on *Figure 2-1* and include an alternative site south of McMahon Hall and an alternative site northwest of the South Campus Residence Halls. These two alternative site locations were chosen based on available space on the main campus, the 2006 Master Plan Update recommendations for the location of residential housing, and the feasibility of construction to meet the schedule of the *Next Generation Connecticut* initiative, which requires available housing for STEM Scholars by August 2016.

Alternative sites on the nearby Depot Campus were dismissed since the campus is approximately 2 miles from the main Storrs campus and does not contain necessary services for residential students, such as

dining services. The disconnection from the main campus is also undesirable for first-year students, where integration to campus life is an important part of their experience. The students would not be within walking distance to campus classrooms, amenities, and other services and programs; therefore, an alternative site on Depot Campus is not feasible at this time.

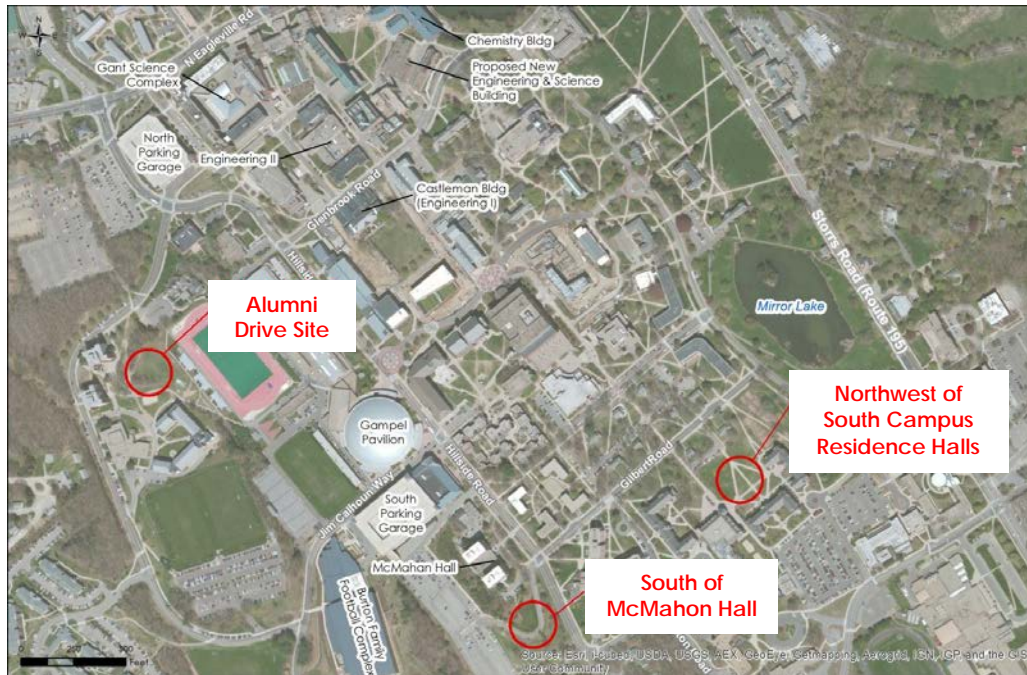


Figure 2-1. Alternative On-Campus Locations

2.2.1 South of McMahon Hall Site

The area just south of the existing McMahon Residence Hall was identified as an area for additional residential housing in the 2006 UConn Master Plan. The site is located on a moderate slope that would require the removal of the roadway connecting Hillside Road to Y-Lot, which provides commuter student parking (*Figure 2-2*). The site is located in the southwestern portion of campus, away from the academic core and the existing STEM buildings. In addition, the nearest dining facility (McMahon Dining Hall) does not have capacity needed to accommodate additional meals per day, nor is there space within the facility to accommodate an expansion. Placement of a residence hall on this site would require the construction of additional dining space to accommodate the increased residential space in this area.

The site is located within the Fenton River watershed, which is a public watershed for the Windham Water Works. Most utilities are available at the site, but chilled water and local cooling would be required, at least initially. In addition, significant improvements to the steam distribution system would be required to serve the building. An emergency generator would be required for backup power, but could potentially be shared with McMahon Hall, replacing the existing McMahon Hall emergency generator. Sanitary sewage would flow by gravity to the water pollution control facility (WPCF), eliminating the need for pumping. Stormwater drainage is available in the area, but would need to be evaluated to determine the potential impact of new development in this location on the detention capacity of Mirror Lake.



Figure 2-2. South of McMahon Hall

2.2.2 Northwest of South Campus Residence Halls Site

The area northwest of the South Campus Residence Halls complex, along Gilbert Road was also considered as a proposed residence hall location (*Figure 2-3*). While the site is open and flat, construction at this location would likely require removal of the two cottages along Gilbert Road, which are located within the University of Connecticut National Register Historic District. In addition, the small parking lot on Maple Lane would be removed. The nearest dining facility (McMahon Dining Hall) does not have capacity needed to accommodate additional meals per day, nor is there space within the facility to accommodate an expansion. The placement of a residence hall on this site would require the construction of additional dining space to accommodate the increased residential space in this area. The site is also located in the southern portion of campus, away from the academic core and the existing STEM buildings.

A residence hall on this site could be heated and cooled centrally since steam and chilled water are available, but an emergency generator would be required for backup power. Sanitary sewer, along with other utilities, is available in the project area, but pumping would be required for flows to reach the WPCF. The site is located in the Fenton River watershed, a public water supply watershed for the Willimantic Water Works. The site is partially located within a Natural Diversity Database Area identifying potential threatened/endangered species habitat. Stormwater drainage is available, but would need to be evaluated to determine the potential impact of new development in this location on the detention capacity of Mirror Lake.

2.2.3 Alumni Drive Site

The Alumni Drive site is located in the area northeast of Hale and Ellsworth Halls north of the Garrigus Residence Hall (*Figure 2-4*). The site overlaps with the existing location of a hammer throw/discus field and slopes to the east to the Sherman Family Sports Complex. The site is presented in the 2006 Master Plan Update as a “Future Residence Hall” location (See *Section 3.14.3*). The Master Plan Update states that if additional on-campus residences are necessary, the location of the Alumni Drive site provides a housing opportunity adjacent to existing dining facilities (Putnam Refectory) that can accommodate additional students by renovating the existing dining hall space. The location of this site is within an already established residential neighborhood. The site is also located in relatively close proximity to existing STEM-related academic buildings (*Figure 2-5*) and would not require relocation of existing roadway or parking areas.

The site is located in the Eagleville Brook watershed, which is subject to a Total Maximum Daily Load (TMDL) for water quality impairments due to impervious cover. It is not located with any drinking water supply watersheds. Central steam and chilled water is not currently available at the site, and local heating and cooling would be required, at least initially. An emergency generator would also be required on-site to provide emergency power. Other utilities are available in the project area.



Figure 2-3. Northwest of South Campus Residence Hall



Figure 2-4. Alumni Drive



Figure 2-5. Location of STEM Buildings on Campus

2.3 Preferred Alternative

Based on the alternatives considered in *Section 2.2*, the construction of a new STEM Residence Hall next to the Hilltop Residence Halls (Hale and Ellsworth) on Alumni Drive was selected by the University as the Preferred Alternative and will be carried forward as the Proposed Action in this EIE.

The site was selected as the preferred alternative because of its ability to meet the project purpose and need by providing an area capable of meeting the programming needs for the STEM Residence Hall, placing the residence hall in relatively close proximity to the STEM-related academic buildings.

Construction at this location would not require the demolition or relocation of existing buildings or roadways. The existing Putnam Refectory dining hall would require renovation, as opposed to construction of new dining hall facilities, to accommodate the dining needs of the additional students.

Table 2-1 provides a summary comparison of the alternative sites considered in terms of major resources categories addressed in this EIE.

2.3.1 Alternative Configurations on the Proposed Site

The footprint shown in the figures in this EIE represents the anticipated configuration at the time of preparation of the document. Because the STEM Residence Hall will be constructed as a design-build project, some variation in the configuration from what is shown in the EIE is possible. However, given the envelope of the Preferred Alternative site and the programming needs established for the STEM Residence Hall, there is relatively little significant variation in the alternative configurations available at the Preferred Alternative site. Consequently, the assessment of impacts would be similar regardless of configuration on the site.

Table 2-1. Comparison of Alternatives

Environmental Sector	Impact Evaluation/Comments		
	Alumni Drive Site	South of McMahon Hall Site	Northwest of South Campus Residence Halls Site
Air Quality	<i>Stationary sources for heating, cooling, hot water, and emergency power to be included in UConn campus-wide air quality permit.</i>	<i>Stationary sources for cooling and emergency power and any additional demand on the CUP's central heating capacity to be included in UConn campus-wide air quality permit.</i>	<i>Stationary source for emergency power and any additional demand on the CUP's central heating capacity to be included in UConn campus-wide air quality permit.</i>
Noise	<i>Consistent with residential setting</i>	<i>Consistent with residential setting</i>	<i>Consistent with residential setting</i>
Water Resources	<i>Will be consistent with Eagleville Brook TMDL and Watershed Plan. No floodplains.</i>	No floodplains	No floodplains
Natural Communities	<i>No threatened/endangered species</i>	<i>No threatened/endangered species</i>	Partially located within a Natural Diversity Database Area identifying potential threatened/endangered species habitat
Wetlands	Small (±935 SF) isolated wetland area will be filled	<i>Mapping and preliminary site visit indicates no wetlands</i>	<i>Mapping and preliminary site visit indicates no wetlands</i>
Cultural Resources	<i>Outside National Register Historic District, Previously disturbed area, SHPO determined no adverse impact</i>	<i>Outside National Register Historic District, Previously disturbed area,</i>	Within National Register Historic District
Geology & Soils	<i>No unique features or farmland soils</i>	<i>No unique features or farmland soils</i>	<i>No unique features or farmland soils</i>
Traffic, Parking, Circulation	<i>No disruption of existing roads/parking Minimal new vehicle trips Potential for future parking demand</i>	<i>No disruption of existing roads/parking Minimal new vehicle trips Potential for future parking demand</i>	<i>No disruption of existing roads/parking Minimal new vehicle trips Potential for future parking demand</i>
Visual/Aesthetic	<i>Consistent with current visual setting</i>	<i>Consistent with current visual setting</i>	<i>Consistent with current visual setting</i>
Utilities and Services	<i>Utilities present in project area</i>	<i>Utilities present in project area</i>	<i>Utilities present in project area</i>
Public Health & Safety	<i>Public Health & Safety services in place for residential students</i>	<i>Public Health & Safety services in place for residential students</i>	<i>Public Health & Safety services in place for residential students</i>
Solid Waste/Hazardous Materials	<i>Typical residential waste stream</i>	<i>Typical residential waste stream</i>	<i>Typical residential waste stream</i>
Socioeconomic	Anticipated socioeconomic benefit	Anticipated socioeconomic benefit	Anticipated socioeconomic benefit
Land Use Planning	Consistent with campus, local, regional, and state plans Dining capacity available in adjacent Putnam Refectory, requiring renovation to accommodate additional students.	Consistent with campus, local, regional, and state plans Dining capacity not readily available in area.	Consistent with campus, local, regional, and state plans Dining capacity not readily available in area.

Legend: Potential advantages or benefits shown in **bold blue**. Potential neutral aspects shown in *italic black*. Potential disadvantages or adverse effects shown in **bold red**.

3 Existing Environment and Analysis of Impacts

3.1 Environmental Resources of No Significance in the Project Area

Some environmental resources do not occur in the project area and consequently would not be affected by the Proposed Action. These resources, described below, are not included in the description of existing conditions or analysis of impacts in this EIE:

- **Coastal Resources** – The project area is not within the Connecticut Coastal Management Zone. Therefore, the project will not affect coastal resources.
- **Consistency with Connecticut Coastal Management Act** – The project area is located outside of the coastal boundary, as defined in C.G.S. Section 22a-94(b), and consequently is not subject to the provisions of the Connecticut Coastal Management Act, Sections 22a-90 through 22a-112.

3.2 Traffic, Parking, and Circulation

3.2.1 Existing Conditions

The Hilltop Residence Halls are located off Alumni Drive, a north-south roadway on the westerly side of campus. Alumni Drive intersects with Hillside Road to the north and Stadium Road (Jim Calhoun Way) to the south. Hillside Road intersects the Minor Arterial Route 430 (North Eagleville Road) and provides the most direct access to Route 195. Alternative access is available to the south via Separatist Road and State Route 275 (South Eagleville Road) as well as State Route 195 (Storrs Road) to the east via internal campus roadways.

Alumni Drive has one travel lane in each direction. A continuous sidewalk is provided on the east side of the roadway. Intersections and crosswalks along Alumni Drive are unsignalized. On-street parking is restricted along Alumni Drive; however, direct access perpendicular parking is permitted in limited areas.

The Hilltop Residence Halls include 3 multi-story resident student dormitories (Oliver Ellsworth Hall, Nathan Hale Hall, Harry L. Garrigus Suites) and one student dining hall (Israel Putnam Refectory). Direct vehicular access to the residence halls is limited. Resident students primarily use campus walkways to access the residence halls, dining, and other areas of the campus. UConn Transportation Services also provides regular transit service (Red and Blue lines) with a bus stop located adjacent to the Hilltop Residence Halls on the west side of Alumni Drive. The transit operations provide service to and from the center of the main campus as well as remote campus locations.

The parking supply is limited in the immediate vicinity of the Hilltop Residence Halls. Only a small number of parking spaces accessing Alumni Drive are located near the residences. Limited, remote on-campus parking is available by permit issued through UConn's Parking Services. Parking permits are

only available to student residents with greater than 54 credit hours, and therefore, are not available to first-year students.

3.2.2 Impact Evaluation

No Action Alternative

Under the No Action alternative, traffic and pedestrian movement and parking would remain the same in the vicinity of the Hilltop Residence Halls. If the residence hall was not constructed and enrollment was still increased in support of the *Next Generation Connecticut* initiative, then it could be assumed that without additional on-campus housing there would be an increase in the number of commuter students. If a significant amount of these students do not live in the immediate vicinity of campus (e.g., not within walking distance), then the impact to traffic and parking is more immediate than that of the Preferred Alternative. Changes to traffic operations, parking, and pedestrian movements are anticipated to occur regardless of the Proposed Action, as a result of other on-going and planned projects on the Storrs campus. The effects on traffic and transportation associated with those changes have been addressed in prior evaluations (e.g., the extension of North Hillside Road) or will be analyzed under CEPA based on the potential of future projects to have a significant effect on the environment and/or by the Office of the State Traffic Commission based on the potential of future projects to impact the state highway system. It is reasonable to assume that even under the No Action alternative, increased enrollment on the Storrs campus in the absence of either additional on-campus housing, such as that provided by the preferred alternative, or the development of pedestrian-oriented housing near campus, would result in effects to traffic operations and parking as students seek off-campus housing options.

Proposed Action

Trip generation for universities, and in particular dormitories, are highly dependent on campus facilities and availability of transit service. The proposed residence hall is expected to generate a small number of trips based on the setting, available parking, and availability of transit service. Aside from move-in and move-out times, the small number of new vehicle trips associated with the proposed residence hall would primarily be university employees. Trips to the campus and proposed residence hall will be distributed on the area roadways noted above.

Employees will park in one of the employee designated parking areas located on campus. The first-year student residents that will occupy the STEM Residence Hall would not qualify for a parking permit under the requirements of the University's current parking policy. Therefore, an immediate significant direct impact to parking is not expected. After students initially living in the STEM Residence Hall move to other housing and earn the necessary credits to apply for a parking pass under UConn policy (i.e., after their first year as students), it is possible that an increased demand for parking may occur if spaces are available. UConn does not issue permits in excess of available parking capacity and has the ability to control the number of spaces available. It is conservatively estimated that once eligible, two-thirds of the maximum number of students associated with the additional housing provided by an 800-bed STEM Residence Hall, or approximately 533 students, may seek parking on campus. Many factors would determine the nature of the demand and the potential for secondary impacts to traffic operations and parking.

It is anticipated that student residents will utilize the existing UConn Transportation Services' Red and Blue line to access other areas of the campus. The increased demand may require more frequent transit

service to and from the existing Hilltop Residence Halls bus stop, especially during peak demand periods.

Pedestrians traveling to and from the main campus center will use either the campus walkways east of the Hilltop Residence Halls area or use the existing sidewalk along Alumni Drive. Bicycles have access to the campus using Alumni Drive and Hillside Road to other campus roadways. Neither of these modes is expected to significantly impact adjacent roadway operations. Alumni Drive and Hillside Road have sufficient pavement width to accommodate shared bicycle and vehicle travel lanes. The majority of pedestrian trips will be to and from the main campus center and will not need to cross Alumni Drive. Pedestrian crossing volume and Alumni Drive traffic volumes, and pedestrian and vehicle conflicts, are not expected to increase significantly. Therefore, the existing unsignalized crosswalk operation is expected to be sufficient under the proposed condition. The exception is the existing HRH bus stop located across Alumni Drive from the residences. A quantitative analysis of the increased transit service and the increased volume of pedestrians crossing Alumni Drive in this location would be needed to accurately assess potential impacts to operations and safety and may be warranted if an increased demand for transit at this location is noted once the STEM Residence Hall is occupied.

The University of Connecticut currently has an Office of the State Traffic Commission (OSTA) Major Generator Certificate. The proposed building is a maximum of 250,000 gross square feet and will qualify as an expansion under Section 14-312-1 of the OSTA regulations. Due to the expansion, an Administrative Decision Review will be required by OSTA for the proposed building. Given the low number of new vehicle trips directly associated with the proposed development, there will be no need for mitigation or traffic safety measures on nearby state roadways as a direct result of this project. Therefore, a new Major Traffic Generator Certificate for the campus will not be required.

The proposed residence hall will result in no significant direct effect to traffic operations and will not warrant roadway mitigation. An evaluation of the increased transit demand may be necessary to determine whether more frequent transit service to and from the existing Hilltop Residence Halls bus stop, especially during peak demand periods, is required. In addition, should there be a substantial increase in transit service and the increased volume of pedestrians crossing Alumni Drive in the vicinity of the existing Hilltop Residence Halls bus stop, it may be necessary to assess any potential impacts to pedestrian safety and identify measures for continued pedestrian safety.

Although the proposed STEM Residence Hall would address an existing and anticipated demand for housing capacity, rather than generating new enrollments, to the extent that the Proposed Action facilitates the campus' capacity for additional undergraduate enrollment, secondary effects associated with traffic operations are possible. The possibility of additional vehicles on campus as students initially living in the STEM Residence Hall become eligible for on-campus parking has the potential to affect traffic operations on campus.

Given the nature of vehicle use for residential students, the travel patterns of on-campus residents may or may not coincide with the peak traffic patterns associated with faculty/staff and commuter students. Therefore, changes in traffic volume and movements on-campus would not necessarily result in impacts to traffic operations. OSTA approval of this project, as well as concurrent and future projects on the Storrs campus, will evaluate the potential for impact to traffic operations. Should impacts be identified, a variety of mitigation measures are available including:

- Broadly promoting campus-wide ride-share/carpooling programs (e.g., not just limited to STEM residents) to dampen demand.
- Increasing public transportation options, locally through the on-campus bus and shuttle services and regionally through partnerships with other transit authorities
- Pricing residential parking permits to discourage demand
- Ensuring that adhering to lawful parking on and off-campus can be properly enforced.

In addition, before the STEM Residence Hall is scheduled to become operational, the University will have also completed an updated Master Plan and a corresponding CEPA Environmental Impact Evaluation that will evaluate the broader changes to the campus environment, including parking, traffic operations, and pedestrian and transit considerations. Through that process, potential direct, indirect, and cumulative effects and any subsequently recommended mitigation will be identified, including any future need for major roadway improvements and new structured/surface parking.

3.3 Air Quality

Under the authority of the U.S. Clean Air Act, as amended (CAAA), the U.S. Environmental Protection Agency (EPA) established National Ambient Air Quality Standards (NAAQS) for concentrations of six air pollutants: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone, particulate matter ten microns or smaller in diameter (PM₁₀, includes particulate matter 2.5 microns or smaller, PM_{2.5}), sulfur dioxide (SO₂), and lead (Pb). Primary standards are established to protect public health; secondary standards are established to protect plants and animals and to prevent economic damage.

Connecticut adopted the national standards, listed in *Table 3-1*, and subsequently developed a State Implementation Plan (SIP) to attain and maintain these standards. CTDEEP has pollutant monitoring stations across Connecticut that are used to determine compliance with the EPA primary and secondary air quality standards and to evaluate the effectiveness of pollution control and abatement strategies.

This section addresses existing air quality and potential environmental consequences associated with the Proposed Action and No Action alternative, including both regional (i.e., mesoscale) and local (or microscale) potential air quality impacts associated with mobile and stationary sources of air pollutants. Mobile sources of air pollutants consist of vehicles and construction equipment. Stationary sources include boilers, generators and other fuel-burning equipment. A discussion of existing conditions and potential air quality impacts are presented in the following section.

Table 3-1. National Ambient Air Quality Standards

Pollutant	Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide (CO)	Primary	8-hour	9 ppm	Not to be exceeded more than once per year
		1-hour	35 ppm	
Lead (Pb)	Primary and secondary	Rolling 3 month average	0.15 µg/m ³ (1)	Not to be exceeded
Nitrogen Dioxide (NO ₂)	Primary	1-hour	100 ppb	98th percentile, averaged over 3 years
	Primary and secondary	Annual	53 ppb (2)	Annual Mean

Table 3-1. National Ambient Air Quality Standards

Pollutant		Primary/ Secondary	Averaging Time	Level	Form
Ozone (O ₃)		Primary and secondary	8-hour	0.075 ppm (3)	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
Particle Pollution	PM _{2.5}	Primary	Annual	12 µg/m ³	annual mean, averaged over 3 years
		Secondary	Annual	15 µg/m ³	annual mean, averaged over 3 years
		Primary and secondary	24-hour	35 µg/m ³	98th percentile, averaged over 3 years
	PM ₁₀	Primary and secondary	24-hour	150 µg/m ³	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO ₂)		Primary	1-hour	75 ppb (4)	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		Secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

Source: EPA National Ambient Air Quality Standards (NAAQS) as of December 14, 2012, <http://www.epa.gov/air/criteria.html>.

Notes:

(1) Final rule signed October 15, 2008. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

(2) The official level of the annual NO₂ standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard.

(3) Final rule signed March 12, 2008. The 1997 ozone standard (0.08 ppm, annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years) and related implementation rules remain in place. In 1997, EPA revoked the 1-hour ozone standard (0.12 ppm, not to be exceeded more than once per year) in all areas, although some areas have continued obligations under that standard (“anti-backsliding”). The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is less than or equal to 1.

(4) Final rule signed June 2, 2010. The 1971 annual and 24-hour SO₂ standards were revoked in that same rulemaking. However, these standards remain in effect until one year after an area is designated for the 2010 standard, except in areas designated nonattainment for the 1971 standards, where the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standard are approved.

3.3.1 Existing Conditions

The State of Connecticut is divided into designation areas by pollutant for air quality planning purposes. Each district is assigned an attainment or non-attainment status with respect to the NAAQS. The UConn campus is located within the Eastern Connecticut Intrastate Air Quality Control Region (AQCR 041) and the Greater Connecticut Area designation areas, depending on the pollutant designation.

The project site is located in non-attainment areas for ozone and is located in unclassified or attainment air quality designation areas for the other criteria pollutants: CO, NO₂, Pb, SO₂, PM_{2.5}, and PM₁₀ (Table 3-2). The Eastern Connecticut Intrastate Air Quality Control Region designation area is a maintenance area for CO, meaning that it was previously in nonattainment but currently meets the NAAQS.

Table 3-2. Air Quality Designation Area and Classification for Criteria Pollutants

Pollutant	Designation Area	Designation/Classification
Carbon Monoxide (CO)	Eastern Connecticut Intrastate Air Quality Control Region	Attainment
Lead (Pb)	Entire State	Unclassifiable/Attainment
Nitrogen Dioxide (NO ₂)	State of Connecticut	Unclassifiable/Attainment
Ozone (O ₃)(8-Hour Standard)	Greater Connecticut	Nonattainment; Marginal
PM _{2.5} (24-hour NAAQS and Annual NAAQS)	Tolland County	Unclassifiable/Attainment
PM ₁₀	Rest of State (Outside City of New Haven)	Unclassifiable
Sulfur Dioxide (SO ₂)	Eastern Connecticut Intrastate Air Quality Control Region	Better than National Standards

Source: Title 40 Code of Federal Regulations (CFR) Part 81, *Designation of Areas for Air Quality Planning Purposes*.

The ambient ozone concentrations at a given location are less dependent on the amount of local emissions than on meteorological conditions, especially wind direction, temperature, and the amount of sunlight. The most recent *Annual Report on Air Quality in New England* was released for data collected in 2012. The ozone standard is that the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm. Therefore, if the fourth-highest concentration exceeds the standard concentration in 2012, it does not indicate whether the station exceeds the NAAQS. The ozone monitoring station closest to the UConn campus in Tolland County is at the Shenipsit State Forest in Stafford, Connecticut. The 3-year average between 2010 and 2012 of the monitoring station's fourth-highest 8-hour concentration was 0.077 ppm (*Table 3-3*), which exceeds the standard of 0.075 ppm (EPA, 2013; EPA, 2012; EPA, 2011a).

Table 3-3. Pollutant Data for Ozone

Location	Averaging Time	NAAQS	Fourth-Highest Daily Maximum (ppm)			3-year Average (ppm)
			2010	2011	2012	
Shenipsit State Forest, Stafford	3-year average of the fourth-highest daily maximum 8-hour average ozone concentration	< 0.075 ppm	0.079	0.068	0.083	0.077

During 2012, weather conditions during the summer were generally warmer than normal, with 25 days above 90°F at Bradley International Airport near Hartford, CT, leading to more high ozone days. Based on 2010 to 2012 data, five of the seven monitored counties in Connecticut, Washington County in Rhode Island, and Dukes County in Massachusetts were measuring air quality which did not meet the 8-hour ozone standard of 0.075 ppm (EPA, 2013). Generally, the concentrations of ozone in Connecticut have been decreasing since the early 1980s due in part to increased emission control standards on mobile sources of air emissions.

Stationary Sources

Under the Clean Air Act Amendments of 1990, major sources of air pollution are required to obtain a Title V operating permit, which is administered in Connecticut by the CTDEEP Bureau of Air Management. The University campus at Storrs is considered a major source because it has the potential to emit pollutants in excess of thresholds established for regulated air pollutants. Fuel burning equipment is the major stationary source of air emissions on the campus. There are currently no direct stationary sources of air pollutants (e.g., fuel burning sources such as emergency generators) on the proposed footprint of the project. The Hilltop Residence Halls and Garrigus Suites adjacent to the project site are served by the campus Central Utility Plant for electricity, are supplied with natural gas from CNG, and have their own generating facilities for heat and hot water inside the buildings (See *Section 3.10, Utilities and Services*).

Mobile Sources

Mobile sources of air pollutants on the UConn Campus include vehicles and service equipment. The air quality effects of mobile sources are considered on a regional, or mesoscale, level in the context of the SIP. The CAAA requires that each state submit a SIP for attainment of the NAAQS to the EPA. The 1977 and 1990 CAAA require comprehensive plan revisions for areas where one or more of the standards have yet to be attained. Since the entire state was designated as a nonattainment area for 8-hour ozone, a SIP has been submitted to EPA documenting the necessary measures to achieve attainment status for ozone. In the SIP and SIP revision, Connecticut has demonstrated that it has met all requirements mandated by the CAAA for moderate 8-hour ozone nonattainment areas.

At the local, or microscale level, concern with mobile sources of air pollution focus on increased emissions from greater vehicle volumes or increases in vehicle congestion, especially at intersections, where delays can lead to vehicle queuing and idling. As discussed in *Section 3.2, Traffic, Parking, and Circulation*, there are no signalized intersections, congested intersections, or roadways which have high traffic volumes near the project area. Therefore, there are no concerns with mobile sources of air pollution near the project area.

3.3.2 Impact Evaluation

Stationary Sources

Under the No Action alternative, there would continue to be no direct stationary sources of air pollution at the project site.

Under the Proposed Action, the STEM Residence Hall would be served by electricity provided by central campus utilities and/or CL&P and natural gas provided by CNG. A natural gas-fired emergency generator would provide power in the event of a power outage. The proposed STEM Residence Hall is anticipated to be locally heated and cooled, at least initially, and therefore would include new stationary sources of air emissions associated with equipment to produce heat and hot water, fueled by natural gas. The cooling towers, while not fuel-burning equipment, are considered a stationary source due to their potential to emit particulate matter.²

² Because wet cooling towers provide direct contact between the cooling water and the air passing through the tower, some of the liquid water may be entrained in the air stream and be carried out of the tower as "drift"

If the projected emissions from the Proposed Action are less than the *de minimis* levels and the emissions are not regionally significant, the action can be presumed to conform to the State Implementation Plan (SIP), and a conformity determination is not required. 40 CFR 93 § 153 defines *de minimis* levels, that is, the minimum threshold for which a conformity determination must be performed, for various criteria pollutants in various areas. Those thresholds are shown in *Table 3-4*, and the thresholds relevant to the project area are highlighted. CO and ozone-forming precursor emissions, including Volatile Organic Compounds (VOCs) and NO_x (NO and NO₂), must be evaluated under the *de minimis* levels since the project area is within a CO maintenance area and an ozone non-attainment district inside of a transport region.

Table 3-4. *de minimis* Levels for Conformity Determination

Pollutant	Area Type	Tons/Year
Ozone (VOC or NO _x)	Serious nonattainment	50
	Severe nonattainment	25
	Extreme nonattainment	10
	Other areas outside an ozone transport region	100
Ozone (NO _x)	Marginal and moderate nonattainment inside an ozone transport region	100
	Maintenance	100
Ozone (VOC)	Marginal and moderate nonattainment inside an ozone transport region	50
	Maintenance within an ozone transport region	50
	Maintenance outside an ozone transport region	100
Carbon monoxide, SO ₂ and NO ₂	All nonattainment & maintenance	100
PM ₁₀	Serious nonattainment	70
	Moderate nonattainment and maintenance	100
Lead (Pb)	All nonattainment & maintenance	25

Annual stationary source emissions for the proposed heating, cooling, hot water, and backup generator systems for the STEM Residence Hall were estimated using emissions rates for each type of equipment proposed for the building based on the EPA Compilation of Air Pollutant Emission Factors and assuming that the units were operating 24 hours per day, every day of the year. Stationary source emission calculations are included in *Appendix C* and are summarized in *Table 3-5*. The emissions shown in *Table 3-5* represent a conservative estimate of emissions, since they assume continuous operation of the units. Actual hours of operation are anticipated to be less, resulting in actual emissions lower than those estimated in *Table 3-5*. In addition, the distribution of emissions over the year will vary and will be less in the summer months when ozone conditions are of most concern.

droplets. Therefore, the USEPA has determined that the particulate matter constituent of the drift droplets may be classified as an emission.

Since the estimated increase in ozone-forming precursor emissions and carbon monoxide, SO_x (sulfur oxides) and NO_x emissions due to the Proposed Action are well below the *de minimis* levels and it is unlikely that the pollutant concentrations would exceed a NAAQS (Table 3-5), no impact to air quality is anticipated to result from the STEM Residence Hall. The University will manage all stationary sources associated with the STEM Residence Hall to comply with all applicable regulations and permit conditions, including the University's existing Title V permit from the CTDEEP Bureau of Air Management.

The CTDEEP requires the owner/operator of a new emergency engine with potential emissions of any individual air pollutant of at least 15 tons per year to obtain an individual permit for the emergency engine. The emissions are conservatively calculated as the emergency unit running 24 hours a day for the entire year. Based on initial design for the STEM residence hall, the emergency generator would produce 10.36 tons per year of NO_x, and would therefore not require a permit. If in the final design of the STEM Residence Hall it is determined that an emergency generator with potential emissions of at least 15 tons per year will be installed, it will be operated pursuant to one of CTDEEP's "permits-by-rule" operation requirements under RCSA 22a-174-3a through 22a-174-3c.

Table 3-5. Estimated Stationary Source Emissions

Stationary Source	CO (tons/year)	VOC (tons/year)	NO _x (tons/year)	SO _x (tons/year)	PM (tons/year)
Boilers (2 condensing gas units @ 5,000 MBH each; input each, one standby)	0.37	0.02	1.23	<0.01	0.03
Water heaters (10 gas condensing, instantaneous units @ 200 MBH input each, 1 is redundant)	0.07	<0.01	0.25	<0.01	0.01
Standby generator, gas, 800 KW	--	--	10.36	--	--
Cooling Tower (2 units @ 15 hp/unit)	--	--	--	--	3.00
Project Total	0.44	0.02	11.84	<0.01	3.04
Applicable <i>de minimis</i> Levels	100	50	100	100	N/A

Mobile Sources

Under the No Action alternative, there would be no anticipated direct effects to the mobile sources of air pollution at the project site. However, changes in mobile source emissions associated with other on-going or future projects at the University are likely to result in changes to traffic operations and subsequent mobile source emissions.

The Proposed Action would result in only minor increases in traffic associated with the operation of the proposed STEM Residence Hall, including staff and maintenance activities. Student residents of the hall will be restricted to first-year students which cannot obtain vehicle passes, and therefore, would not contribute to traffic on campus.

As discussed in Section 3.2, *Traffic, Parking, and Circulation*, the Proposed Action may result in an increased parking demand, and additional vehicle trips, as first-year residence of the STEM Residence Hall move

to other locations during their undergraduate career and gain sufficient credits to be eligible for on-campus parking permits. Given the nature of vehicle use for residential students, the travel patterns of on-campus residents may or may not coincide with the peak traffic patterns associated with faculty/staff and commuter students. Therefore, changes in traffic volume and movements on-campus would not necessarily result in impacts to traffic operations. Before the STEM Residence Hall is scheduled to become operational, the University will have also completed an updated Master Plan and a corresponding CEPA Environmental Impact Evaluation that will evaluate the broader changes to the campus environment, including traffic operations, and identify any mobile source air quality effects.

Due to the existing capacity in the traffic network near the project site and elsewhere on campus, and the minor anticipated increase in traffic, the Proposed Action is not expected to increase traffic delays at nearby intersections or vehicle emissions above acceptable levels.

No direct adverse traffic-related air quality impacts are anticipated as a result of the No Action or Proposed Action alternatives. Temporary, construction-related air quality impacts and associated mitigation are discussed in *Section 3.16, Construction Impacts*.

3.4 Noise

3.4.1 Existing Conditions

CTDEEP has established Noise Zone Standards for the evaluation of noise generated by adjacent noise zones (RCSA 22a-69-1 through 22a-69-7.4). The standards establish three noise zones based on land use, placing limits within each class on the allowable amount of noise to be emitted by a source in an adjacent noise zone. *Table 3-6* describes the various classes, with Class A being the most noise-sensitive of the three types and Class C being the least sensitive.

Table 3-6. Connecticut Noise Zones and Standards

Class	Description of Noise Zone	Emitter to Designated Receptor (dBA)			
		C	B	A/Day	A/Night
A	Single and multiple family homes, hotels, prisons, hospitals, religious facilities, cultural activities, forest preserves, and land intended for residential or special uses requiring such protection.	62	55	55	45
B	Retail trade, personal, business and legal services, educational institutions, government services, amusements, agricultural activities, and lands intended for such commercial or institutional uses.	62	62	55	45
C	Manufacturing activities, transportation facilities, warehousing, military bases, mining, and other lands intended for such uses.	70	66	61	51

The UConn campus is classified as a Class B Noise Zone. According to RCSA Section 22a-69-3.5, a Class B emitter shall not emit noise exceeding Leq^3 levels of 55 dBA⁴ (daytime) or 45 dBA (nighttime) to an adjacent Class A Noise Zone, or 62 dBA at any time to an adjacent Class B or C Noise Zone. Nighttime is defined as between 10 p.m. to 7 a.m. Noise created by on-site recreational or sporting activity which is sanctioned by the state or local government is exempt from the Noise Zone Standards.

The existing noise environment of the site is dominated by traffic along Alumni Drive, potential noise from track and field events, field hockey, and recreational training held at the Sherman Family Sports Complex, which includes an outdoor track and playing field, and residential noise associated with Garrigus Suites and the Hilltop Residence buildings; and to a lesser extent by Gampel Pavilion to the southeast, the recreational practice fields to the south, and traffic on more distant surrounding roads including Hillside Road to the east, North Hillside Road to the north, and Route 195 to the east.

3.4.2 Impact Evaluation

No Action Alternative

Under the No Action alternative, no measurable change will occur to the existing noise environment at or near the site.

Proposed Action

The Proposed Action is consistent with the existing residential land uses in the vicinity of the site and is not expected to exceed the Class B emitter levels based on the residential nature of the proposed site activities. No direct or indirect noise-related impacts are anticipated to result from the Proposed Action.

The existing noise environment is suitable for the proposed residential use. The buildings surrounding the site include Garrigus Suites and the Hilltop Residence Halls. The Sherman Family Sports Complex is located adjacent to the site, down a steep slope to the east. The sports complex includes an eight-lane, 400-meter all-weather track surface, seating for 2,000 fans, full-field lighting, a press box, and an electronic scoreboard. The facility holds track and field events, field hockey, and recreational training. Evening (typically starting at 6 pm) field hockey games are played during the field hockey season (August through November). Several track and field meets are held at the complex each year, typically during the daytime hours. Events conducted during the day will have a lower impact on the noise environment since ambient noise levels are higher during the day. Typically, people are much more disturbed by noise at night than at any other time since background noise is often much less at night and also people tend to be doing very noise sensitive things at night, such as trying to sleep. Noise created by on-site recreational or sporting activity which is sanctioned by the state or local government is exempt from the Noise Zone Standards. Nevertheless, field hockey games held in the evening will typically conclude by 10 pm, which is considered the beginning of the nighttime hours.

³ The Leq , or Equivalent Level, is the steady-state noise level for a given time period that has the same acoustic energy as the fluctuating noise levels observed during that time period. The Leq can be evaluated over different time periods including one hour (expressed as a one-hour Leq or $Leq(h)$) or 24 hours (expressed as a 24-hour Leq or $Leq(24)$).

⁴ The unit typically used to describe sound levels perceptible to humans is the A-weighted decibel (dBA). The A-weighting attempts to approximate the human ear's sensitivity to sounds of varying frequencies and pitch. The decibel is a logarithmic unit of measure. For instance, a 10-decibel change in noise level is perceived as a doubling or halving of loudness. A 3-dB change would be barely perceivable for most people.

Noise impacts from the Proposed Action would be most noticeable during construction; however, construction noise is exempt from the Connecticut noise regulations per RCSA 22a-69-1. Construction-related noise is addressed in *Section 3.15, Construction Impacts*.

3.5 Water Resources

3.5.1 Existing Conditions

Surface Water

The project site is located in the Eagleville Brook watershed, a subregional basin within the larger Willimantic River watershed. The topography on the project site slopes generally to the north and west, toward Eagleville Brook as shown in *Figure 3-1*. The project site is situated approximately 0.3 miles north of Eagleville Brook, which begins near North Eagleville Road on the main campus, flows southwest (underground in some reaches), and eventually joins King's Brook before reaching Eagleville Pond, an impoundment of the Willimantic River.

Inland waters in Connecticut are assigned a Water Quality Classification based on Connecticut's *Water Quality Standards* (CTDEEP, 2011). According to the Water Quality Classifications, the segment of Eagleville Brook downgradient of the project site has a water quality classification of Class A. Designated uses include potential drinking water supplies, habitat for fish and other aquatic life and wildlife, recreation, and industrial and agricultural water supply.

The segment of Eagleville Brook downgradient of the project site (Eagleville Brook-02) is included in the *2012 State of Connecticut Integrated Water Quality Report* (CTDEEP, 2012) and listed as not supporting aquatic life or recreational activities (*Figure 3-2*). The report notes the possible causes of the impairment for bacteria as permitted and non-permitted stormwater, insufficient septic systems, agricultural activity, nuisance wildlife/pets, and landfills.

Eagleville Brook was also included on the CTDEEP *2004 List of Connecticut Waterbodies Not Meeting Water Quality Standards* due to not meeting the aquatic life criteria contained in Connecticut's *Water Quality Standards*. As a result, a Total Maximum Daily Load (TMDL) analysis was approved for Eagleville Brook on February 8, 2007. The analysis identified the most probable cause of the aquatic life impairment in Eagleville Brook as a complex array of pollutants transported by stormwater. Since the impairment cannot be attributed to a specific pollutant, impervious cover was used as a surrogate measure for pollutants transported by stormwater. For the segment of Eagleville Brook on the UConn campus, the TMDL identified a goal of 59% reduction in impervious cover (compared to 2007 conditions), accomplished by improved stormwater management within the watershed (CTDEEP, 2007b). This TMDL goal does not preclude new development, but instead means that new development should implement stormwater management controls to maintain current site hydrology, resulting in effectively no net increase in impervious cover in the watershed. The adaptive management strategy identified includes reducing impervious cover where practical, disconnecting impervious cover from the surface waterbody, minimizing additional disturbance to maintain existing natural buffering capacity and installing engineered BMPs to reduce the impact of impervious cover on receiving water hydrology and water quality.

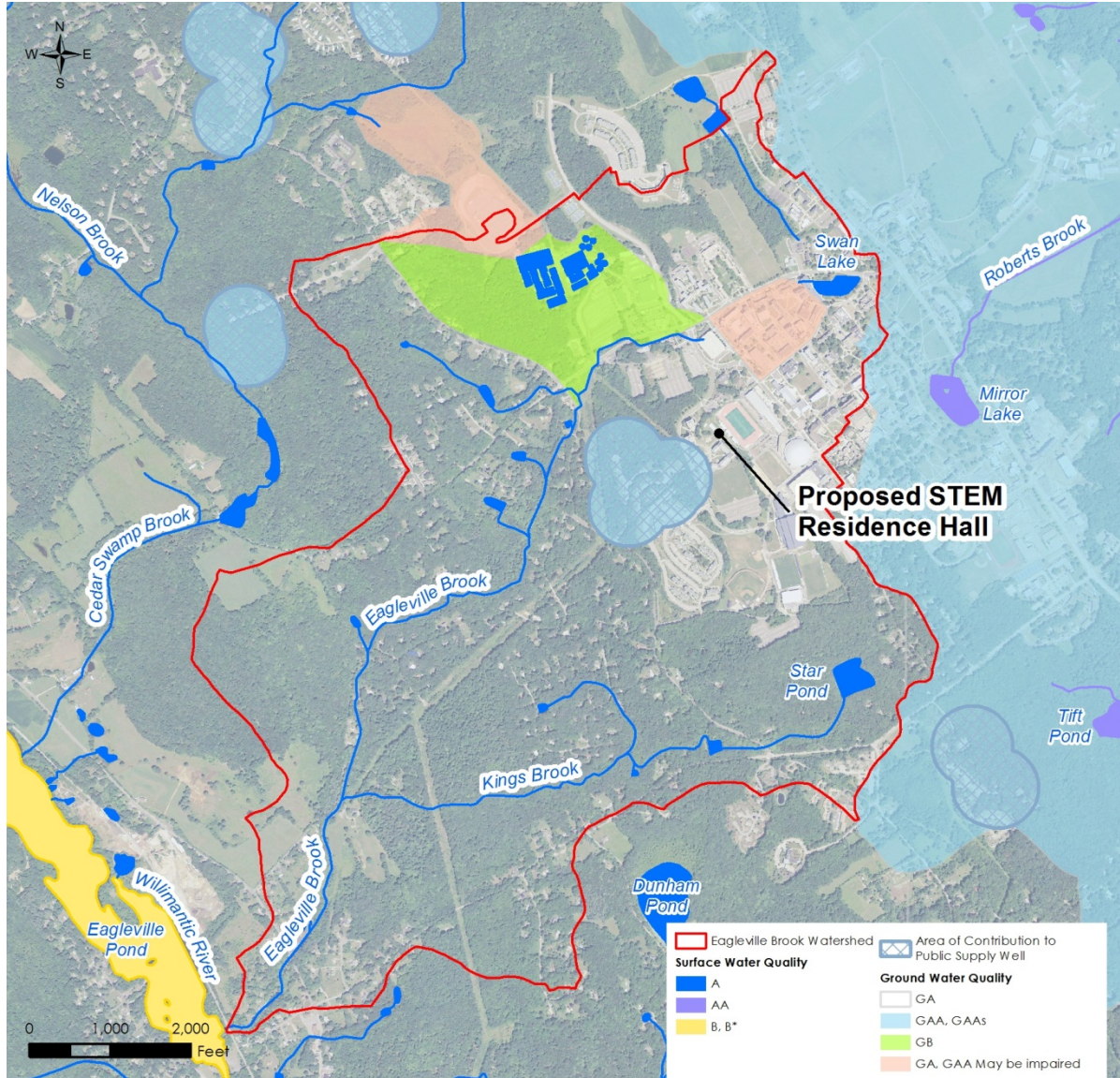


Figure 3-1. Water Quality Classifications

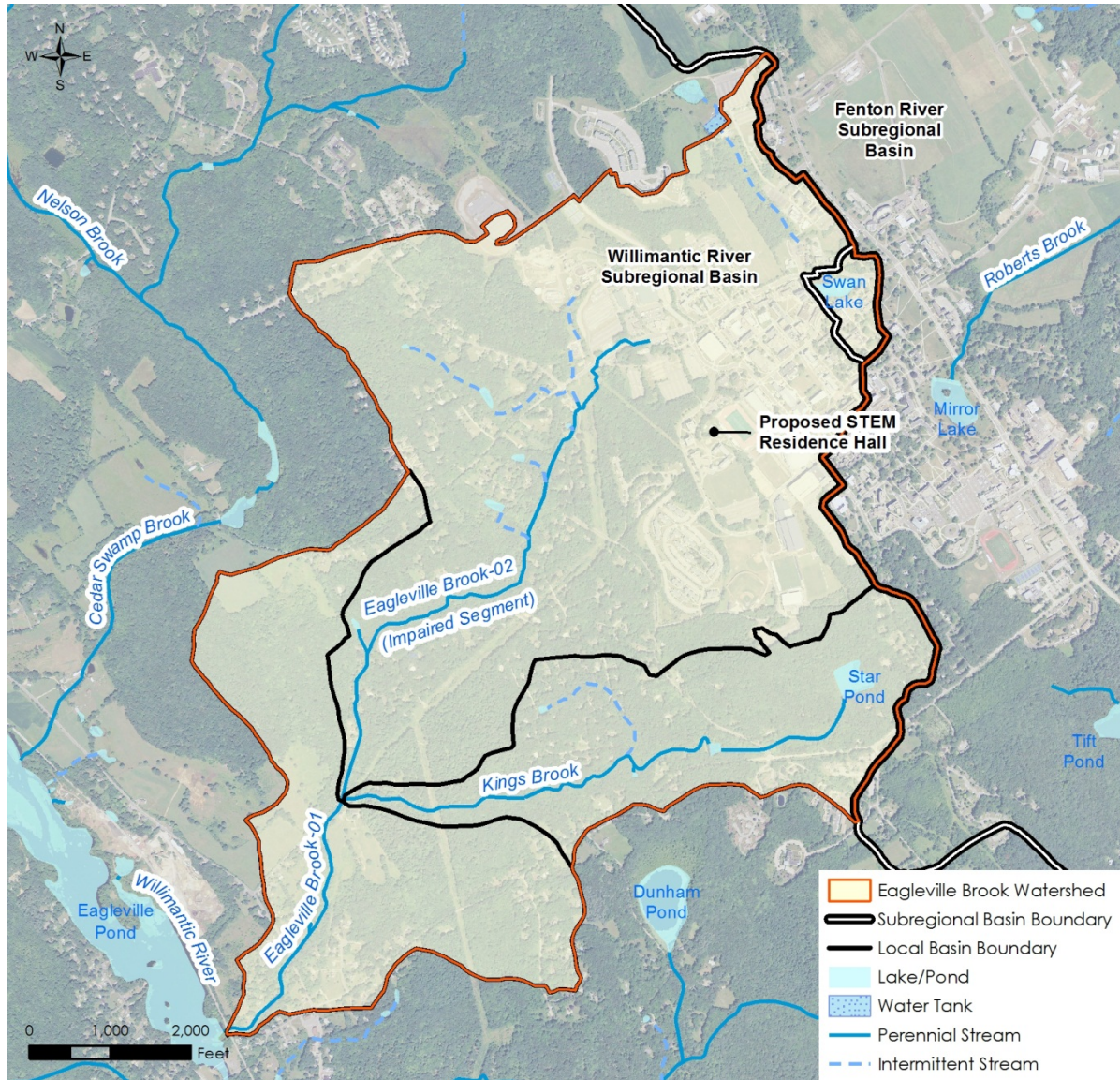


Figure 3-2. Water Resources

A watershed-based management plan was developed for Eagleville Brook in June 2011, *Eagleville Brook Watershed Management Plan* (Dietz & Arnold, 2011), by the Center for Land Use Education and Research, University of Connecticut Cooperative Extension. The watershed management plan provides a framework and recommendations for implementing the Eagleville Brook TMDL. No site-specific stormwater retrofit concepts were identified for the project site. However, the plan recommended a variety of Low Impact Development (LID) stormwater retrofits at other developed sites within the Eagleville Brook watershed such as bioretention, rain gardens, grass swales, sand filters, and gravel wetlands.

Groundwater

The quality of groundwater beneath the project site is classified by CTDEEP as GA (*Figure 3-1*). Class GA groundwater is groundwater 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. Class GA groundwater is presumed suitable for drinking or other domestic uses without treatment (CTDEEP, 2011). There is an area of contribution to the public water supply for the Orchard Acres Apartments, classified as GAA (*Figure 3-1*), which serves approximately 176 individuals located on Cheney Drive to the west of the project site.

Floodplains

Floodplains, which are areas that would be impacted by floodwaters of some depth, are delineated by the Federal Emergency Management Agency (FEMA). According to the FEMA Flood Insurance Rate Map (FIRM) for the Town of Mansfield, Tolland County, Connecticut (Community Panel No. 090128 0005 C) (effective January 2, 1981), the project site is not located within a mapped flood hazard area.

3.5.2 Impact Evaluation

No Action Alternative

Under the No Action alternative, there would be no change to the existing water resources at or near the project site. Therefore, no adverse impacts to water resources are anticipated.

Proposed Action

The Proposed Action would result in the development of approximately 3.5 acres of existing lawn and recreational fields for the construction of the proposed STEM Residence Hall, which would result in new impervious surfaces associated with the building and walkways and potentially additional stormwater runoff to the Eagleville Brook watershed. Impervious surfaces serve as accumulation areas for stormwater pollutants, eliminate vegetation that would otherwise intercept precipitation and attenuate pollutants, and increase the quantity and rate of stormwater runoff by preventing infiltration.

The construction of the proposed STEM Residence Hall would also impact the existing underground stormwater detention system that was installed with the adjacent Garrigus Suites residence hall, requiring analysis and management of stormwater runoff from both the STEM Residence Hall project site and the area surrounding Garrigus Suites.

As described in the stormwater/drainage discussion presented in *Section 3.10, Utilities and Services*, stormwater management measures for the site will consist of a combination of Low Impact Development (LID) techniques and pollution prevention measures, as well as conventional stormwater management strategies, to address the impervious cover goals in the Eagleville Brook TMDL and *Eagleville Brook Watershed Management Plan* (Dietz & Arnold, 2011). The stormwater management system for the project site will also be consistent with the guidelines contained in the CTDEEP *Connecticut Stormwater Quality Manual* (as amended).

The stormwater management design for the project site will incorporate, to the extent feasible, the following elements to avoid or mitigate potential stormwater-related impacts to water resources:

- The site design will incorporate LID approaches such as disconnected impervious areas and bioretention. Bioretention areas are proposed at the southeast corner of Nathan Hale Hall, the south side of Ellsworth Hall (both sides of the entrance), and various locations surrounding the new STEM Residence Hall. The bioretention areas will enhance the water quality of the

stormwater runoff through plant uptake and filtration through the bioretention planting soils. The bioretention system design includes an underdrain system to ensure adequate drainage of the bioretention areas given the limited infiltration capacity of the native soils.⁵

- A green roof area is proposed for a portion of the STEM Residence Hall building to further reduce effective impervious cover and stormwater runoff from the project site, as well as to enhance stormwater quality.
- New underground detention systems are proposed to manage peak rates of runoff from the project site, including the STEM Residence Hall and the areas currently served by the existing underground detention system associated with Garrigus Suites. Runoff will be pretreated using hydrodynamic separators prior to discharging to the underground detention systems. The underground detention systems are anticipated to include perforated piping surrounded by stone to provide infiltration where soil and groundwater conditions will allow. As noted above, the systems will be conservatively sized to account for lower infiltration capacity of the native soils based on initial soil investigations. Additional site-specific testing is recommended to verify the suitability of the soils and subsurface conditions to support stormwater infiltration.
- The existing stormwater detention system that was installed with the adjacent Garrigus Suites residence hall will be removed for the construction of the STEM Residence Hall. The new stormwater management systems will be designed to provide suitable detention such that proposed peak runoff rates do not exceed the pre-1993 development peak flow rates. The pre-1993 development peak flow rates have been used in the University's previous campus-wide stormwater study and a recently updated watershed evaluation of Eagleville Brook.⁶
- The drainage system will include deep sump catch basins.
- Non-structural source controls and pollution prevention measures (parking lot sweeping, catch basin cleaning, drainage system and stormwater treatment system operation and maintenance, etc.) will be implemented after construction of the proposed project.

Given the proposed stormwater design features described above, the Proposed Action is not anticipated to result in adverse direct or indirect impacts to water resources. The proposed STEM Residence Hall is located outside of the area of contribution to the public water supply wells for the Orchard Acres Apartments, as mapped by CTDEEP (*Figure 3-1*) west of the project site. Therefore, no impact to public or private groundwater supplies is anticipated. The Proposed Action will not affect flood hazard potential since the project site is located outside of mapped flood hazard areas and the stormwater management systems for the project site will be designed to avoid potential adverse increases in peak flow rates at downstream locations.

⁵ Initial soil investigations performed by the design team indicate that actual field infiltration rates may be lower than predicted based on the NRCS mapped Hydrologic Soil Group classification for the project site (Type B soils) and lower than the recommending minimum of 0.3 inches per hour.

⁶ The design team is evaluating the potential downstream effects of adding detention capacity for the project site, which could delay peak discharge rates and coincide with peak discharge rates from neighboring sub-watersheds thus creating an increase in overall peak flow rates at downstream locations. The stormwater management systems for the project site will be designed to avoid potential adverse increases in peak flow rates at downstream locations.

3.6 Wetlands, Watercourses and Natural Communities

Wetlands and Watercourses

Inland wetlands and watercourses are regulated in the State of Connecticut by CGS, Chapter 440, Sections 22a-36 to 22a-45 (Inland Wetlands and Watercourses Act (IWWA)). Wetlands are defined as soil types designated as poorly drained, very poorly drained, alluvial, and floodplain by the National Cooperative Soils Survey. Watercourses are defined as rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private. Intermittent watercourses are identified by the presence of a defined permanent channel and bank and the occurrence of two or more of the following characteristics: (A) evidence of scour or deposits of recent alluvium or detritus, (B) the presence of standing or flowing water for a duration longer than a particular storm incident, and (C) the presence of hydrophytic vegetation.

Wetland and watercourse resources located on property owned by the University of Connecticut are regulated by the CTDEEP through the State Inland Wetlands and Watercourses Permit program. A wetland scientist and registered professional soil scientist with Fuss & O'Neill, Inc. performed a wetland investigation and delineation at the site of the proposed STEM Residence Hall on April 5, 2014. The field investigation focused on the proposed development area and adjacent areas within 100-feet. Web Soil Survey (WSS) soil mapping, provided by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) and compiled by the National Cooperative Soil Survey (NCSS), was reviewed as part of the wetland investigation along with National Wetlands Inventory (NWI) wetland mapping provided by the U.S. Fish and Wildlife Service.

Natural Communities

An Environmental Scientist with Fuss & O'Neill, Inc. investigated the proposed site of the STEM Residence Hall on April 5, 2014 to document existing vegetation and wildlife. The 2014 field investigation focused on the proposed development footprint and areas within 100 feet of the proposed development (referred to as the "Study Area" in this section). Natural resources information obtained from Connecticut Environmental Conditions Online (CTDEEP & CLEAR, 2013) was utilized as part of the investigation.

3.6.1 Existing Conditions

Wetlands and Watercourses

The soils located at the proposed project area are classified as Udorthents-Urban land complex (306) on the NRCS Web Soil Survey map of the area. This miscellaneous soil classification is assigned to areas that have been cut or filled to an extent of 2 feet or greater and are developed with buildings, pavement and landscaping. The nearest wetland resources areas, as depicted on the NWI and WSS digital soil mapping, are located approximately 1,000-feet west of the Site.

A small (\pm 935 SF), isolated, wooded wetland was identified and delineated within the proposed development area during the April, 2014 inspection (*Figure 3-3*). The wetland is located in a narrow area at the southwest perimeter of the discus/hammer throw field. The wetland has been altered by fill encroachment associated with the surrounding developments. Shallow ponded water, less than 2-inches

in depth, was observed in the wetland at the time of the inspection. The wetland is likely a relic of a larger wetland system that existed before the existing land alterations. Stone/gravel and 0-6 inches of sand fill is located within the wetland. Fill to a depth of 8-inches and greater was noted around the perimeter of the wetland. Dominant vegetation within and adjacent to the wooded wetland includes: red maple (*Acer rubrum*), eastern cottonwood (*Populus deltoids*) gray birch (*Betula populifolia*), ironwood (*Carpinus caroliniana*), muliflora rose (*Rosa multiflora*), brambles (*rubus spp.*), and Japanese knotweed (*Japanese knotweed*).

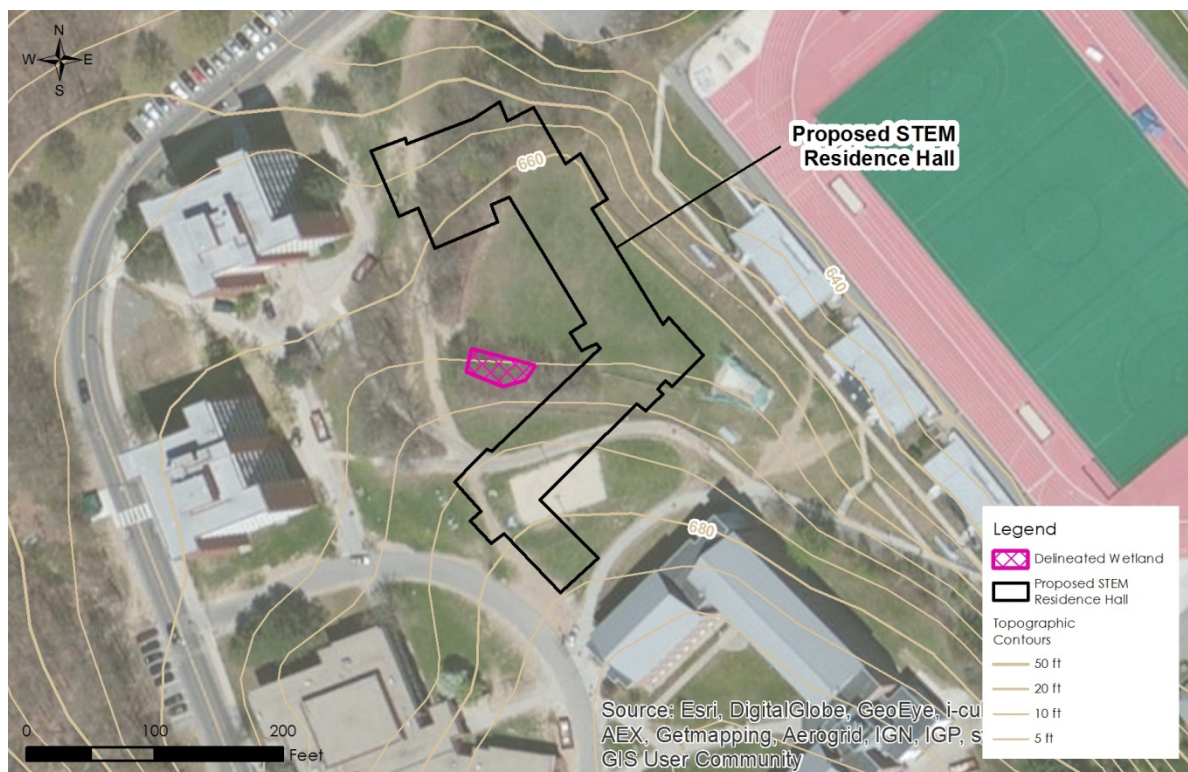


Figure 3-3. Wetlands

Natural Communities

The proposed project area is located west of the Sherman Family Sports Complex. It includes a discus/hammer throw field, wooded areas, a sand volleyball court, mown lawn and sidewalks. It has been altered by filling and grading activities associated with development of the campus. Topography within the Study Area trends to the north and northeast.

The area is largely a maintained urban habitat with small upland and wetland wooded areas. Dominant vegetation within and adjacent to the narrow wooded wetland includes: red maple (*Acer rubrum*), eastern cottonwood (*Populus deltoids*) gray birch (*Betula populifolia*), ironwood (*Carpinus caroliniana*), muliflora rose (*Rosa multiflora*), brambles (*rubus spp.*), and Japanese knotweed (*Japanese knotweed*). Dominant vegetation within the wooded uplands includes: hemlock (*Tsuga Canadensis*), juniper (*Juniperus spp.*), gray birch, hickory (*Carya spp.*), red oak (*Quercus rubra*), maple-leaved viburnum (*Viburnum acerifolium*), and rattlesnake-plantain (*Goodyera pubescens*). A narrow upland scrub-shrub area is located directly south of the Sherman Family Sports Complex bleachers and is dominated by invasive European buckthorn (*Rhamnus cathartica*).

Direct wildlife observations within the Study Area included grey squirrel (*Sciurus carolinensis*), northern cardinal (*Cardinalis cardinalis*), downy woodpecker (*Picoides pubescens*) and common song birds. Other wildlife species may utilize the area but no other direct observations or trace evidence of wildlife usage was observed during the April 5, 2014 inspection. Current NDDDB mapping, dated December 2013, indicates that no areas of concern exist within the proposed project area. The nearest CT NDDDB identified area of concern is located approximately 1,000 feet northwest of the Study Area.

3.6.2 Impact Evaluation

No Action Alternative

Since no ground disturbance would take place under the No Action alternative, no direct or indirect impacts to existing wetland resources or natural communities in the project area would occur.

Proposed Action

Wetlands and Watercourses

Construction of the proposed STEM Residence Hall would require filling the \pm 935 SF wetland adjacent to the current discus/hammer throw field. The wetland has been altered by historic fill impacts and is likely a relic of a larger wetland system. The functions and values of the wetland were evaluated through the use of *The Highway Methodology Workbook Supplement, Wetland Functions and Values: A Description Approach* issued by the U.S. Army Corps of Engineers, New England District. The results of the evaluation found that the wetland does not provide principal wetland functions or values. The ability of the wetland to provide suitable wetland functions and values is limited due to its small size, disturbed condition, isolation from other wetland resources, and surrounding developed land use.

Since the area of wetland proposed to be filled is less than 5,000 SF, a Category 1 Notification is required under the U.S. Army Corps of Engineers Connecticut General Permit. In addition, the CTDEEP *General Permit for Water Resource Construction Activities* applies, as listed in *Table 6-1*.

Natural Communities

Development of the proposed project would result in the loss of approximately 935 SF of disturbed wooded wetland and nearby small wooded uplands. Loss of these relatively small, fragmented upland and wetland areas is not anticipated to have a significant adverse impact to existing wildlife. The proposed project site is located within a developed area of the campus, and wildlife species identified within the area are common in developed areas.

3.7 Cultural Resources

3.7.1 Existing Conditions

There are no known historical or archaeological sites located at or in the vicinity of the project area according to the National Register of Historic Places (NRHP). The Farwell Barn and the “University of Connecticut Historic District, Connecticut Agricultural School” are the only two sites on the UConn campus listed on the NRHP (*Figure 3-4*). The site is a previously disturbed area, and therefore would have low archaeological sensitivity.

3.7.2 Impact Evaluation

In accordance with CEPA, a cultural resource review was conducted through the Connecticut State Historic Preservation Office (SHPO) to confirm the absence of any significant historic, architectural or archaeological resources in the project area. In a response dated March 5, 2014, the SHPO determined on that no historic properties would be affected by the Proposed Action and no further review is required. The SHPO correspondence is included in *Appendix B*.



Figure 3-4. Cultural Resources

3.8 Visual and Aesthetic Character

3.8.1 Existing Conditions

The site of the proposed STEM Residence Hall is located east of Alumni Drive, on the west side of the Storrs campus. The visual character of this section of the campus is defined by academic buildings, residence buildings, athletic fields, paved roads, mown lawns, landscaping and sidewalks. The proposed development is located between an athletic field and several nearby residence buildings. The existing site consists of mown lawn, compact dirt paths, paved/concrete sidewalks and a narrow wooded area adjacent to the nearby buildings. *Figures 3-5 through 3-7* illustrate the existing visual appearance of the site and immediate surrounding area.



Figure 3-5. Site of Proposed STEM Residential Hall, Facing Hale and Ellsworth Halls to the West



Figure 3-6. Site of Proposed STEM Residential Hall, Facing Hale and Ellsworth Halls to the Northwest



Figure 3-7. Photograph Taken from the Site of Proposed STEM Residential Hall Facing the Existing Hammer Throw and Discus Field

In the summer of 2013, UConn retrofitted the Sherman Sports Complex with new energy-saving stadium lights that also reduce the amount of light emitted. The retrofitted lights are “Dark Sky” compliant, consisting of light fixtures that meet the standard set of protocols developed by the International Dark Sky Association. In addition, the new system uses online controls to minimize excess light use, effectively reducing glare and light pollution by 50% compared to the former light system (Miller, 2013).

3.8.2 Impact Evaluation

No Action Alternative

No change to the existing visual environmental would result under the No Action alternative.

Proposed Action

The Proposed Action would not result in a significant change to the overall visual and aesthetic character of this area of the campus. *Figures 3-8 through 3-11* are renderings of the anticipated configuration, massing, and general appearance of the STEM Residence Hall. The proposed STEM Residence Hall site location is situated among similar buildings of the same approximate size and use. The placement of the STEM Residence Hall in the proposed location shown would emphasize the courtyard/quadrangle setting of the residential complex and provide more of a visual separation from the Sherman Athletic Complex. Although a final design of the residence hall has not been prepared, it is anticipated to have a visual appearance similar to that of surrounding residence hall buildings in terms of height, massing, and exterior finishes. No direct or indirect impacts to visual resources are anticipated as a result of the Proposed Action.

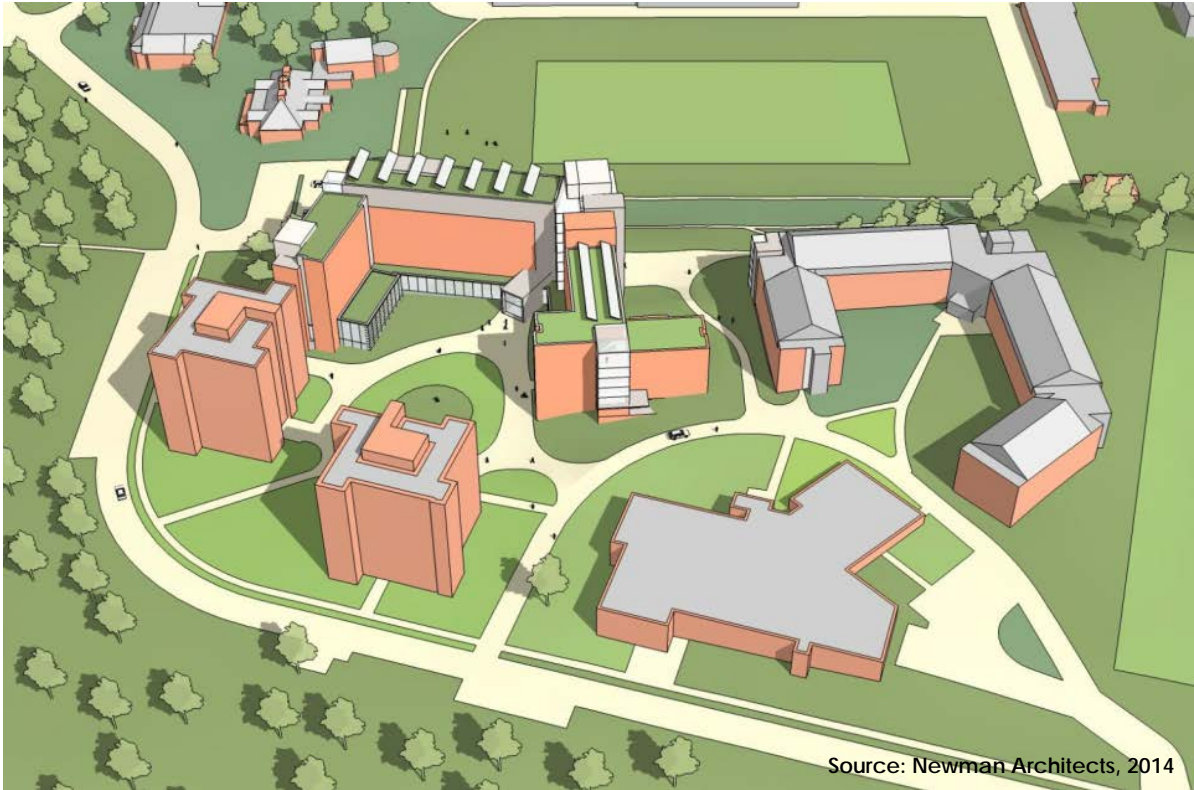


Figure 3-8. Proposed STEM Residence Hall Architectural Rendering Facing East

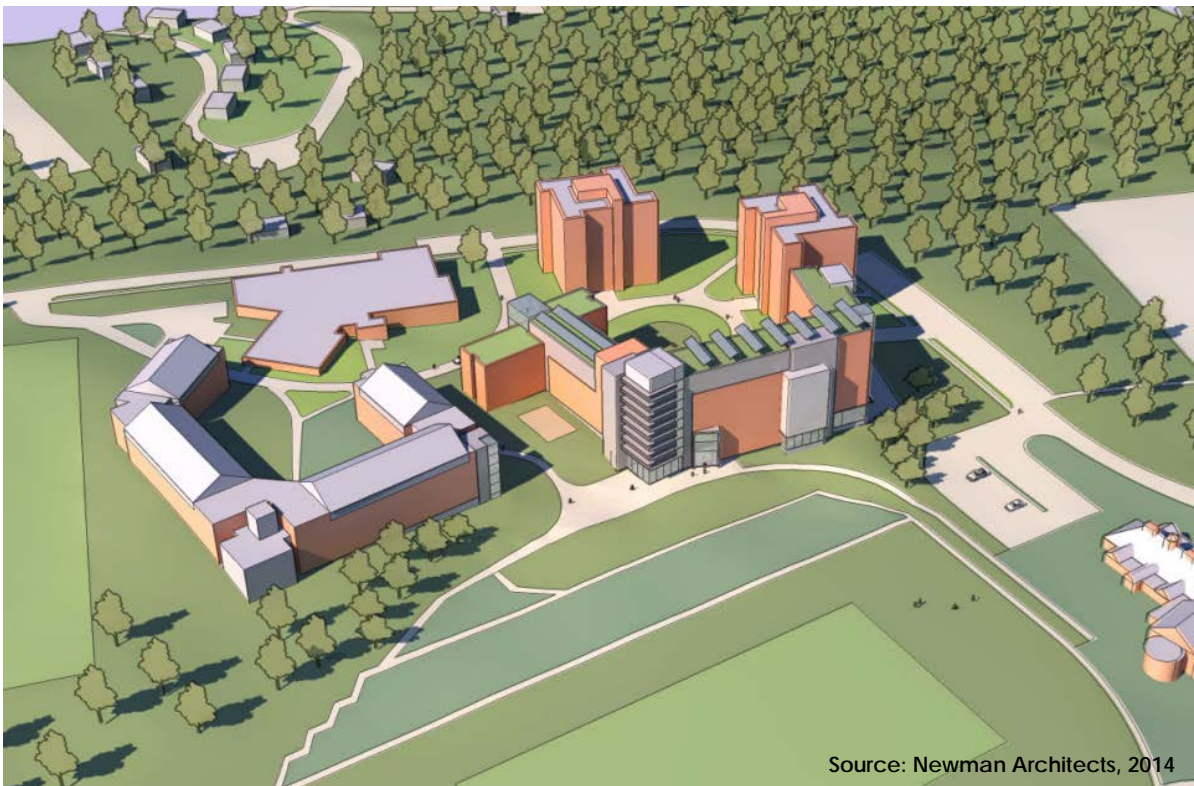


Figure 3-9. Proposed STEM Residence Hall Architectural Rendering Facing West



Figure 3-10. Proposed STEM Residence Hall Architectural Rendering – View From the South



Figure 3-11. Proposed STEM Residence Hall Architectural Rendering – Courtyard View

3.9 Geology, Topography, and Soils

3.9.1 Existing Conditions

The general topography in the vicinity of the site slopes down to the west toward Eagleville Brook. The site, including the area of the proposed building and associated site work is located on an area of mixed gentle and steep slopes. The existing elevations across the proposed building site range from approximately 686 feet above mean sea level (MSL) on the northern edge of the proposed building to 652 feet above MSL at the southern edge of the proposed building. The northern section of the building is proposed on an approximately 11% slope and the southern portion of the building is proposed on an approximately 10% slope, with the center portion of the building to be located on a relatively flat area where the existing discus/hammer throw field is located. A steep slope of approximately 21% exists to the east of the proposed building location down to the sports complex, dropping from approximately 660 feet to 640 feet above MSL in approximately 95 feet.

Soils in the area are designated by the Natural Resources Conservation Service (NRCS) as primarily Udorthents-Urban Land Complex (*Figure 3-12*). These soils have been influenced by site development, including filling and grading, and are mostly covered by paved areas, buildings, and/or other structures making the soil properties varied and unknown. The estimated saturated hydraulic conductivity can range from 0.0 to 1.98 inches per hour. The Hydrologic Soil Group (HSG) classification is “Group B.” Group B soils generally have a moderate infiltration rate when thoroughly wetted and consists chiefly or moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures. No Prime Farmland Soils or Soils of Statewide Importance are present on the site.

A limited soils investigation was conducted by Haley & Aldrich in January 2014, consisting of seven test borings. Generalized descriptions of soils encountered in the test borings included fill and glacial till (Haley and Aldrich, 2014):

- Fill – Loose to medium dense, brown mixtures of silt, sand, and gravel, with varying amounts of roots, brick, asphalt, and concrete fragments. Fill was encountered in all of the borings in thicknesses ranging from about 2 to 10 feet.
- Glacial Till – Dense to very dense, brown, olive-brown, and gray silty sand with varying amounts of gravel, cobbles, and boulders. Glacial Till, which represents the first suitable bearing material, was encountered in each boring and was not penetrated. The top of glacial till was encountered between 2 to 9 feet below ground surface.

Borehole permeability testing was performed at two boring locations. Permeability was measured at 8.1×10^{-6} cm/sec in one boring location and 6.5×10^{-7} cm/sec in the other. The groundwater level at one of the boring locations was recorded at a depth of 14 ft below ground surface. Although, given the shallow depth to low permeability soils, groundwater levels could perch above water levels observed in the well following periods of heavy precipitation or rapid snowmelt or during seasonally high groundwater times in the year (Haley & Aldrich, 2014).

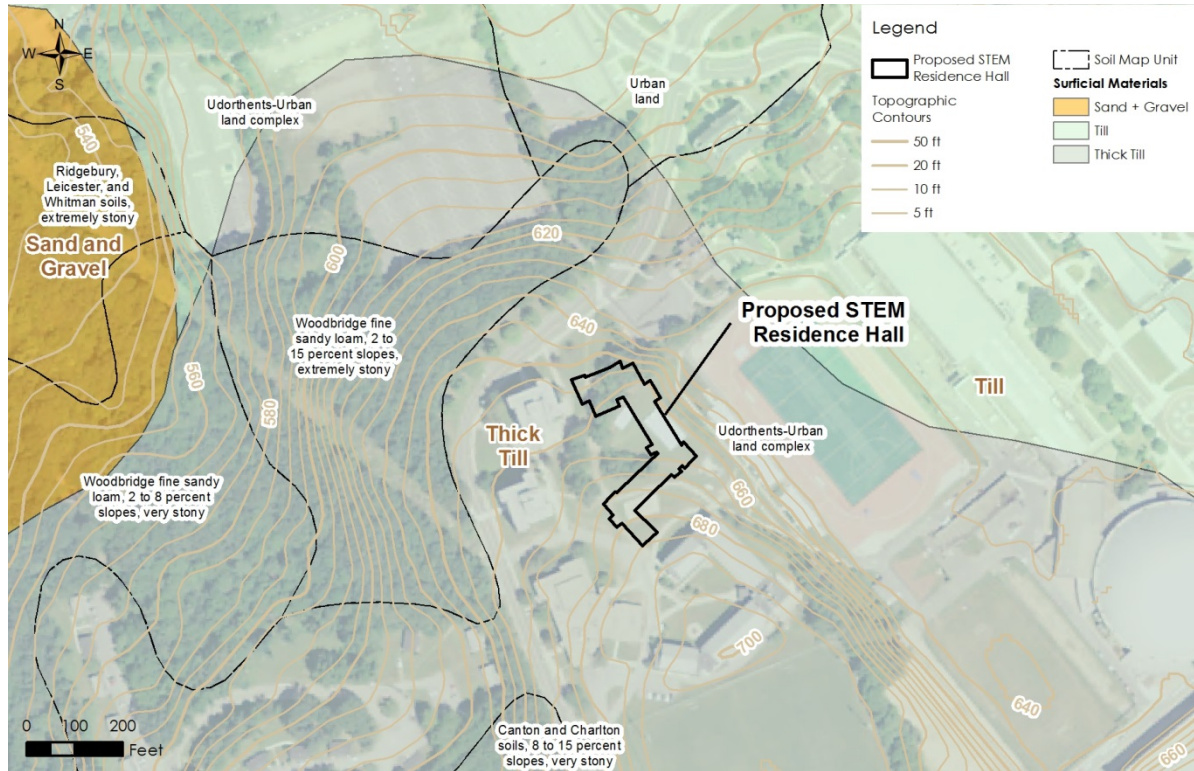


Figure 3-12. Topography, Soils, and Geology

Beneath the soil layer, surficial materials on the site are glacial ice-laid deposits, which were derived directly from the ice and consist of non-sorted, generally non-stratified mixtures of grain-sizes ranging from clay to large boulders. The deposits at the project site are mapped as thick till, which are areas where till is greater than 10 to 15 feet thick. The matrix of most tills is predominantly sand and silt and boulders can be sparse to abundant. Some tills contain lenses of sorted sand and gravel and occasionally masses of laminated fine-grained sediment. The lack of sorting and stratification typical of ice-laid deposits often makes them poorly drained, difficult to dig in or plow, mediocre sources of groundwater and unsuited for septic systems (CTECO, 2010).

3.9.2 Impact Evaluation

The No Action alternative would have no adverse impacts on topography, soils or geologic features as existing conditions would remain unchanged.

Grading and site work will be necessary to construct the proposed STEM Residence Hall. A portion of the site where the existing discus and hammer throw field is located is flat; however, the southern and northern ends of the proposed building are on moderate to steep slopes and grading will be required. Construction will likely involve removing existing topsoil in the areas of new construction, removal of other unsuitable soils, the possible placement of engineered fill or removal of cut material associated with necessary site grading. Retaining walls may be used to minimize grading.

Based on the soil monitoring conducted at the site, polluted topsoil should not be reused on-site. Given the typical heterogeneous quality of historic fills, excess excavated fill soils and polluted topsoil should

be transported to Connecticut landfills for reuse as cover or other non-landfill sites approved by CTDEEP to accept polluted soils. Although not anticipated to be required, the need for a CTDEEP General Permit for Contaminated Soil and/or Sediment Management will need to be assessed once final soil pre-characterization is completed during design. Excavated fill and natural soils can be reused on-site. Excess natural soils can be taken off-site as “clean” fill without restriction. The University and/or its contractors must follow applicable state and federal regulations regarding the proper handling of potentially impacted media.

There are no significant geologic features in the proposed project area, so no impact to such resources will result from project construction. Since the existing soils are Udorthents-Urban Land Complex (i.e. fill material) and have already been influenced by site development, any site grading, or removal or placement of fill material on site will not adversely impact the already disturbed soils. Therefore, no direct or indirect impacts to topography, soils, or geology are anticipated as a result of the construction of the proposed STEM Residence Hall.

3.10 Utilities and Services

3.10.1 Existing Conditions

Electrical and Emergency Power, Natural Gas, Steam, and Chilled Water

The Central Utility Plant (CUP), located at 189 Auditorium Road, provides the campus with electricity, steam for heating and hot water in campus buildings, and chilled water for cooling needs. The CUP is comprised of three separate buildings: a co-generation (“co-gen”) plant, a boiler plant, and a chiller plant. The University generates electricity from the co-gen plant’s three 7.5-megawatt turbines, the exhaust from which provides thermal energy that powers three heat recovery steam generators (HRSG). The three HRSGs produce high pressure (600 – 650 psi) steam, which is used to power a 5-MW electric generator, and low pressure (125 psi) steam, which is used to heat campus buildings during cold months and to power three chillers that supply chilled water to campus during warmer months. The boiler plant generates steam to supplement the HRSGs for campus heat. The CUP’s chilled water plant produces chilled water (~50° F) for distribution in a closed-loop system to approximately 30 buildings in the central portion of campus. The chilled water is primarily used for building air conditioning, but also has applications in once-through process cooling for some research equipment. The central chiller plant currently has a cooling capacity of 10,000 tons. Buildings that are not serviced by this central chiller plant are served by the University’s south chiller plant, have individual chillers, or use window or rooftop air conditioning units. The CUP’s turbines, boilers, and chillers are fueled by natural gas that is provided by Connecticut Natural Gas (CNG), with fuel oil as a back-up fuel source for the turbines and boilers. The campus is connected to the electrical transmission system of Connecticut Light and Power (CL&P), which provides auxiliary electricity supply for the campus.

Campus buildings west of Hillside Road are not connected to the CUP for steam for heating, hot water, or chilled water for cooling, with the exception of Gampel Pavilion, Greer Field House, UConn Co-op, and Burton Family Football Complex/Shenkman Training Center being connected to steam and UConn Co-op, and Burton Family Football Complex/Shenkman Training Center being connected to chilled water. The buildings in the vicinity of the proposed project site along Alumni Road are serviced for

electricity through the CUP and natural gas through CNG (Figure 3-13). Heating, cooling, and hot water are supplied within each building using either natural gas- or number 2 fuel oil- powered equipment.

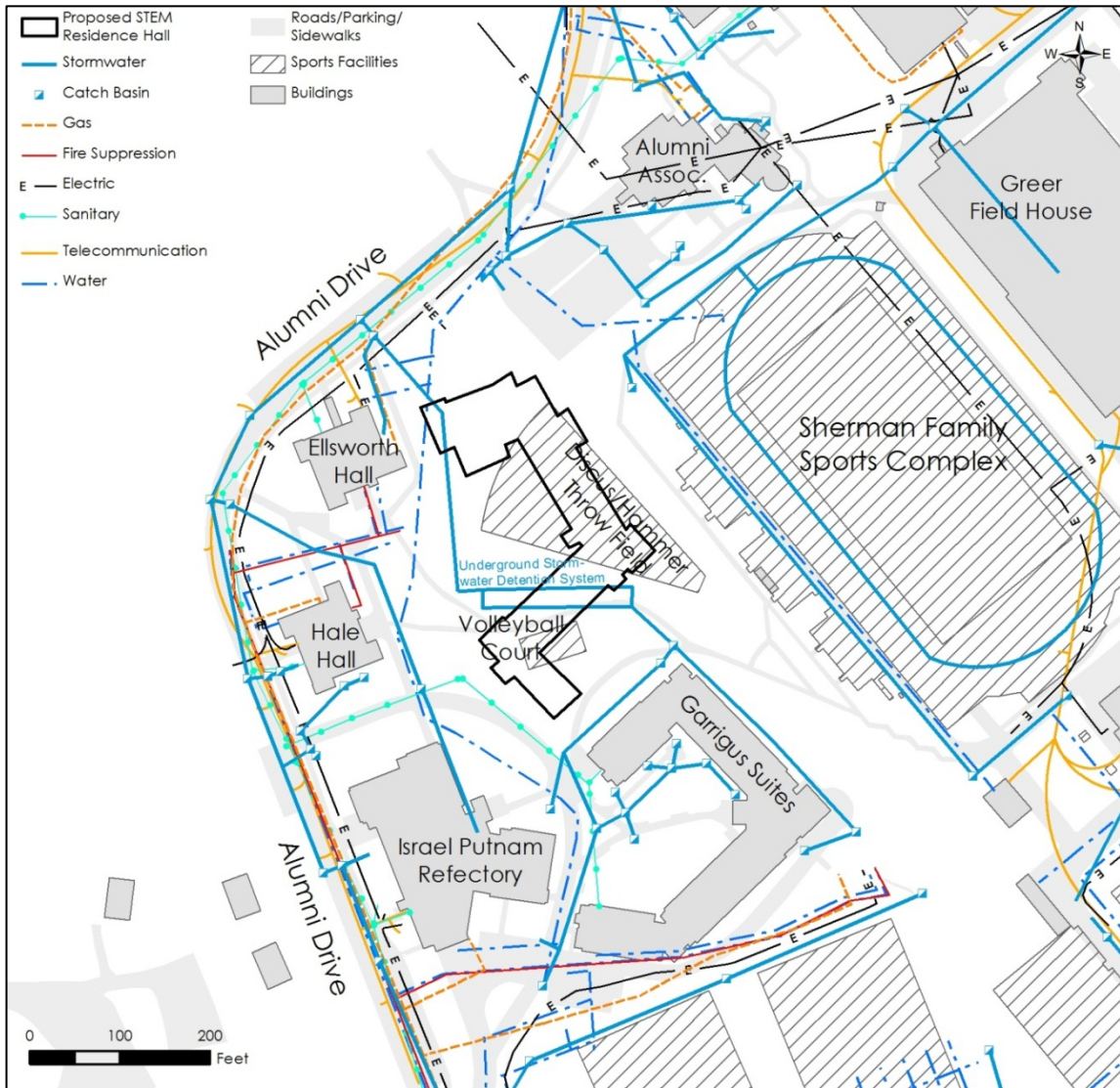


Figure 3-13. Site Utilities

Energy Use and Conservation

UConn has several ongoing energy efficiency and sustainability initiatives at the Storrs campus:

- **Campus Sustainable Design Guidelines (JJR and SmithGroup, 2004)** - The Guidelines include specific measures for reduction of energy consumption on new construction projects on campus including:
 - Planning sustainable sites
 - Safeguarding water
 - Conserving materials and resources
 - Improving energy efficiency

- Enhancing indoor environmental quality
- **Sustainable Design & Construction Policy**⁷ - Adopted in 2007, the policy requires new building construction or renovation projects entering the pre-design planning phase to meet the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Silver rating as a minimum performance standard for any building construction or renovation project, and whenever the estimated total project cost exceeds \$5 million, excluding the cost of equipment other than building systems. The project design will also address the guidelines and requirements of the Connecticut High Performance Building Standards.
- **UConn Climate Action Plan**⁸ - The University is striving towards a carbon neutral campus by the year 2050. The *UConn Climate Action Plan* focuses on strategies for reducing greenhouse gas emissions from the University. Progress is being tracked through an annual greenhouse gas inventory.
- **Renewable Energy Strategic Plan**⁹ - The *Preliminary Feasibility Study and Strategic Deployment Plan for Renewable & Sustainable Energy Projects* identifies and assesses target locations for the development of 12 demonstration-scale renewable and sustainable energy projects for the following technologies: solar thermal, solar photovoltaic, wind, fuel cells, geothermal, and biofuels.
- **“Relamping” Campaign**¹⁰ - UConn expects a dramatic drop in its electricity demand due to an extensive lighting system upgrade campaign targeting 67 buildings on campus. These upgrades will increase energy efficiency, decrease overall energy use, and reduce greenhouse gas emissions.

The U.S. Green Building Council's LEED Rating systems are groups of requirements for projects that want to achieve LEED certification. Projects earn points for satisfying green building requirement. LEED Silver rating is awarded for between 50 and 59 points. The main credit categories include sustainable sites credits, water efficiency credits, energy & atmosphere credits, materials & resources credits, and indoor environmental quality credits.

Sanitary Sewer

UConn owns, operates, and maintains its own sanitary sewer system and Water Pollution Control Facility (WPCF) located off of LeDoyt Road. The sewer service area includes the Main Campus, the Depot Campus, and some non-University owned properties surrounding campus (residential properties, apartment complexes, commercial properties, Town of Mansfield owned properties).

The WPCF capacity is currently 3.0 million gallons per day (mgd) with a peak flow capacity of 7.2 mgd. Although the WPCF is permitted to discharge an average of 3.0 mgd, the average daily discharge is currently between 0.81 mgd and 1.32 mgd (Milone and MacBroom, 2013). While peak flows have been

⁷ <http://www.ecohusky.uconn.edu/SDCpolicy.htm>

⁸ <http://www.ecohusky.uconn.edu/pcc/climateactionplan.html>

⁹ <http://www.ecohusky.uconn.edu/docs/energy/Final%20Renewable%20Deployment%20PlanMCR.pdf>

¹⁰ <http://ecohusky.uconn.edu/energy/relamping.html>

up to 90% of WPCF peaking capacity in the past, these occurred during wet weather and were directly attributable to inflow and infiltration problems in the aging collection system. UConn has made several improvements in recent years to reduce inflow and infiltration issues into its wastewater collection system in an effort to reduce peak flows. The benefits of these improvements are anticipated to continue reducing inflow and infiltration, thus reserving capacity for sanitary wastewater treatment.

The University has a separate water treatment facility to provide tertiary treatment to effluent from the WPCF. This “Reclaimed Water Facility” (RWF) produces high-quality reclaimed water for use in non-potable applications such as heating and cooling.

The buildings on Alumni Drive in the vicinity of the project area are served by a 10-inch sanitary sewer line that connects to a sewer line that is located at Hillside Road.

Water (Domestic and Fire Protection)

UConn manages water supplies from the Fenton River and Willimantic River wellfields, which serve the Storrs campus as well as portions of the Town of Mansfield. The supply and distribution system also includes a water treatment facility at each wellfield, three booster pumping stations, six water storage tanks, and 36 miles of water transmission and distribution mains (Milone & MacBroom, 2011a). The University’s most recent Water Supply Plan (Milone & MacBroom, Inc., 2011a) indicated that average daily demand was 1.29 million gallons per day (MGD) in 2010, the peak day demand was 2.23 MGD in March 2010, and that the use of water conservation efforts and capital improvement programs had allowed for a decrease in use as compared to the 1980s and early 1990s, despite increased development within the system. More recent water production data provided by the University indicated that average production rates in 2013 were 1.09 MGD and that 2012 and 2013 average production rates were lower than rates in previous years (UConn, 2014).

The need for reducing withdrawals from the Fenton River wells during periods of low in-stream flow was concluded in the *Long Term Impact Analysis of the University of Connecticut’s Fenton River Water Supply Wells on the Habitat of the Fenton River* (“Fenton River Study”) (Warner et al., 2006). Following the Fenton River Study, a similar study was performed for the hydrogeologic capability of the Willimantic River Wellfield to supply its registered withdrawal, *An Analysis of the Impact of the University of Connecticut Water Supply Wells on the Fisheries Habitat of the Willimantic River* (“Willimantic River Study”) (Milone & MacBroom, 2010). The two studies concluded that the existing wellfields had likely reached their limits for public water supply. UConn’s 2011 *Water Supply Plan* also recognized that the Fenton River supply would likely be limited during some summer and fall months to much lower withdrawals than the diversion registration allowed for, and that additional supply sources would be needed in the future (Milone & MacBroom, 2012).

The 2011 Water Supply Plan identified four committed future service areas with total committed future demands of 106,555 GPD, 340,100 GPD, and 357,000 GPD in planning years 2015, 2030, and 2060, respectively. The Water Supply Plan also discusses the future operation of a Reclaimed Water Facility (RWF) on campus, which was since constructed and brought online in 2013 as one water reuse strategy to reduce demand by reclaiming treated wastewater to provide non-potable water for reuse on campus. The RWF was brought online in May 2013 and has provided an average of approximately 270,500 gpd of non-potable reclaimed water for use on campus since it began operating in May 2013.

In order to enable growth of the University and the surrounding area consistent with University and Town planning objectives, UConn and the Town of Mansfield conducted an evaluation of alternatives that would meet future combined water supply needs. The evaluation was documented in the CEPA *Environmental Impact Evaluation (EIE), Potential Sources of Water Supply* (Milone & MacBroom, 2012). The preferred alternatives identified in the EIE were interconnection with the Connecticut Water Company, Metropolitan District Commission, and/or the Windham Water Works. In August 2013, the UConn Board of Trustees endorsed the Connecticut Water Company as the University’s preferred alternative to supplement the long-term water needs of the campus and those portions of the Storrs community served by the University water system. Connection with the Windham Water Works was identified as a backup source.

The increase in demand due to the *Next Generation Connecticut* was not included in the *Environmental Impact Evaluation (EIE), Potential Sources of Water Supply* (2012) since the initiative was announced by the Governor during the EIE review. In the EIE Record of Decision (Milone & MacBroom, 2013) concluded that given the projected adjusted demand in *Table 3-7*, substantive changes to the CEPA analysis and EIE have not occurred from inclusion of *Next Generation Connecticut* in the overall development of future water demands. Adjusted Demand includes estimated existing demands plus “committed” demands, plus Tech Park, Off-Campus, *Next Generation Connecticut* (including residential, STEM, and other academic demands) and a water demand deduction applied for recycling reclaimed wastewater at the CUP.

Average day demands are projected to exceed available supply by 2030 when the projected margin of safety is included. Peak day demands are projected to require an additional 0.464 million gallons per day (mgd) in 2015 and increase to a required 2.20 mgd by 2060.

Table 3-7. Future Water Demand and Required Additional Supply

Year	Adjusted Demand plus Margin of Safety	Existing Supply	Required Additional Supply
Projected Average Day Demand (gpd)			
2015	1,798,753	1,830,000	0
2030	2,706,933	1,830,000	876,933
2045	3,091,516	1,830,000	1,261,516
2060	3,215,285	1,830,000	1,385,285
Projected Peak Day Demand (gpd)			
2015	2,434,116	1,970,000	464,116
2030	3,508,744	1,970,000	1,538,744
2045	4,020,239	1,970,000	2,050,239
2060	4,170,983	1,970,000	2,200,983

Source: *Record of Decision, Potential Sources of Water Supply* (Milone & MacBroom, 2013).

Based on the findings and preferred alternative selection from the water supply EIE/CEPA process, CWC is in the process of preparing a Diversion Permit for CT DEEP with the University as a co-applicant. This diversion permit is seeking approval for CWC to provide the additional water to the University to augment existing supply. CWC will also need to file a Sale of Excess Water application

with DPH. The CWC interconnection is anticipated to come online by the end of the 2016 calendar year, just slightly after the planned occupancy of the STEM Residence Hall in July/August 2016..

The buildings on Alumni Drive in the vicinity of the project area are served by an 8-inch water line. No demand for water presently exists at the project site since the site is currently undeveloped. Fire protection lines are available in the vicinity of the project site and are currently servicing Hale Hall, Ellsworth Hall and Garrigus Suites nearby.

Stormwater/Drainage

The project site is located in the Willimantic River subregional basin and the Eagleville Brook watershed. The project area in the vicinity of the proposed project is developed and therefore has structural storm drainage systems. The storm drainage system along Alumni Road, including the project area, consists of a traditional collection system of catch basins, manholes, and underground infiltration basin, and a drainage pipe network that eventually discharges to Eagleville Brook. Stormwater runoff from the eastern portion of the project site flows via overland flow to downgradient catch basins around the sports complex and also enters the drainage system through a perforated collector pipe beneath the discus/hammer throw field. Stormwater runoff from the western and southern areas of the site is conveyed to catch basins around the existing building and impervious areas and conveyed to the drainage system along Alumni Drive. A subsurface infiltration system exists to the north of the existing volleyball court which is approximately 175 feet long by 20 feet wide which collects drainage from around the Garrigus Suites and south of the project site. The drainage systems eventually discharge stormwater to Eagleville Brook in the vicinity of the intersection of Hillside Road with North Eagleville Road.

As discussed in *Section 3.5*, Eagleville Brook is listed as an impaired waterbody by CTDEEP. Total Maximum Daily Loads (TMDLs) for impervious cover and bacteria have been developed for Eagleville Brook, requiring improved stormwater management for existing and proposed development within the watershed.

Telecommunications

Telecommunications services, including internet and telephone, are available in the vicinity of the site.

3.10.2 Impact Evaluation

Electrical and Emergency Power, Natural Gas, Steam, and Chilled Water

Electrical service and natural gas will be extended from the existing service on Alumni Road to supply energy to the proposed building and existing capacity exists to accommodate the building operation. It is currently anticipated that a heat and hot water will be provided locally by gas-fired equipment. A natural gas-fired emergency generator will be present on the site. Use of reclaimed water for cooling tower make up water is planned.

Energy Use and Conservation

The Proposed Action will result in an increase in energy demand to serve the proposed STEM Residence Hall. However, the Proposed Action will adhere to the *Campus Sustainable Design Guidelines* (JJR and SmithGroup, 2004) and the Sustainable Design & Construction Policy to minimize the energy consumption for both the construction and operation of the building. Since the estimated total project

cost exceeds \$5 million, the new building construction project is required to meet the LEED Silver rating as a minimum performance standard. The project design will also address the guidelines and requirements of the Connecticut High Performance Building Standards, as well as strategies and recommendations promoted by the *UConn Climate Action Plan* and other ongoing energy efficiency and sustainability initiatives at the Storrs campus.

Sanitary Sewer

The total estimated wastewater discharge from the proposed STEM Residence Hall is approximately 28,800 gpd (0.029 mgd) on an average day during the semester, with a peak day of approximately 37,600 gpd (0.038 mgd) and a projected peak flow of approximately 131 gallons per minute (gpm). This is based on flows at the metered residence halls at UConn in 2013 (Coite, 2014). Typical flows reported for the UConn WPCF are between 0.81 mgd and 1.32 mgd (Milone & MacBroom, 2013), and the facility is permitted for up to 3.0 mgd. Therefore, the WPCF has sufficient capacity for the anticipated minor increase in sanitary wastewater flows from the proposed residence hall.

Water (Domestic and Fire Protection)

Domestic water will be extended from an existing 8-inch main along Alumni Drive. Fire protection water will be provided to the building, extending the existing fire protection line from Alumni Road. The domestic water service will provide water for toilets, sinks, and showers, with internal building distribution to each fixture. Hot water will be produced in the building using natural gas-fired units. The fire suppression system will be connected to an automatic wet sprinkler system on each floor.

The estimated water demand is approximately 28,800 gpd on an average day during the semester, with a peak day of approximately 37,600 gpd and a projected peak flow of approximately 131 gallons per minute (gpm) based on flows at the metered residence halls at UConn in 2013. The projected water demand from the proposed STEM Residence Hall was included in the water projections evaluated in the *Potential Sources of Water Supply EIE* (2012) and the EIE Record of Decision (2013). Therefore, the University will meet its overall peak water demands, including for the STEM Residence Hall, by augmenting its supply with the additional supply to be provided pursuant to an executed agreement to interconnect with the Connecticut Water Company (CWC). Contractual agreements between the University and CWC and between the Town of Mansfield and CWC anticipate that the interconnection will be completed in the second half of 2016. Should the proposed STEM Residence Hall be completed prior to the additional water supply being available from CWC, the University's Water Supply EIE and ROD indicates there is sufficient water supply within the existing University system to meet annual *average* daily demand for the STEM Residence Hall. Further, there is sufficient water supply to meet the peak month's (typically, September) average daily demand.

However, the University's Water Supply EIE and ROD also indicate additional supply would be required in order to meet the *peak* day demand, including maintaining a system-wide 15% margin of safety, expected by the year 2015. It should be noted that the 2015 peak day deficit cited in the Water Supply EIE and ROD (464,116 GPD) is almost entirely attributable to maintaining peak day margin of safety and assumed that the Fenton Wellfield is unavailable due to low streamflow considerations incorporated into the University's wellfield management plan. Nevertheless, although the water demand for the Proposed Action is small, it could marginally exacerbate the existing deficiency in the system relative to peak day demand until the CWC interconnection is available, as would the demands of the

currently proposed New Engineering and Science Building (NESB), anticipated to open in 2017, and the Innovation Partnership Building (IPB), anticipated to open by the end of 2016.

Should the proposed STEM Residence Hall, and/or the NESB, and/or the IPB be completed prior to the additional water supply being available from the CWC interconnection, the University water supply will adequately meet actual water demands on a peak day by drawing modestly on its 6.5 million gallons of usable storage. However, without the CWC interconnection, the peak day demand's margin of safety cannot be demonstrated. Mitigation would consist of a) connecting the STEM Residence Hall (as well as the NESB and IPB) to the reclaimed water utility to reduce potable demand, b) continue to promote water conservation throughout the system and c) take steps to ensure that margin of safety could be demonstrated by having Fenton Well D approved for intermittent use during the time that peak demand was expected.

Water conservation and limiting unaccounted for water have been at the forefront of water supply management at the University for almost a decade. Unlike the vast majority of public water supply systems, UConn has direct operational influence on the demand of the majority of end-uses of its water as well as methods of regulating and enforcing conservation. Voluntary and mandatory conservation measures are implemented when instream flows in the Fenton River and Willimantic River call for such conservation. The University now operates a water reclamation facility that supplies up to 400,000 gpd to its Central Utility Plant, formerly the campus' largest domestic user. Before the reclaimed water facility began operation, from 2005 to 2012 UConn had reduced its potable water production from 1.49 MGD to 1.26 MGD (-15%) while servicing a population that had increased by 2,020 (+8%) and campus facilities that had increased by approximately 385,000 square feet. Additional ways to supplant potable with reclaimed water for other uses are being investigated and designed into new projects. For example, the Innovation Partnership Building and the STEM Residence Hall will use reclaimed water for their cooling towers' make up water, and the STEM Residence Hall will also use reclaimed water for toilet flushing, as will the NESB. Water savings from reclaimed water use for toilet flushing in the STEM Residence Hall is estimated at up to approximately 5,000 gpd during the academic year¹¹.

Should the STEM Residence Hall be completed prior to completion of the CWC interconnection, the University would seek appropriate approvals to allow the intermittent use of Fenton Well D during low stream flow conditions as proposed in its approved Water Supply Plan (Milone & MacBroom, 2011a) to demonstrate that the system has adequate peak day capacity including margin of safety. Pump tests indicate that Well D, being the furthest of the four wells from the Fenton River, has the least effect on streamflow. To ensure that operating Well D on a limited basis does not negatively impact streamflow, the University would monitor streamflow within Well D's zone of influence while Well D was active. To potentially use Well D in this manner would need final regulatory approvals.

¹¹ Assumes 800 people x 5 flushes/day/person x 1.28 gallons/flush = 5,120 gallons/day

This assumes: (a) all per person flushes occur in the STEM Residence Hall, not in other on-campus locations, (b) the toilets are high-efficiency (1.28 gpf), and (c) there are 800 people in the residence hall. The 5 flushes per day per person is an average value reported by the American Water Works Association.

Stormwater/Drainage

Under the No Action alternative, stormwater from the project site would continue to discharge to the existing campus stormwater drainage system and ultimately to Eagleville Brook.

The Proposed Action would increase the impervious surfaces on the project site, potentially reducing infiltration, increasing runoff rates and volumes, and introducing new potential sources of stormwater pollutants. As described in *Section 3.5, Water Resources*, stormwater management measures for the site will consist of a combination of Low Impact Development (LID) techniques and pollution prevention measures, as well as conventional stormwater management strategies, to address the impervious cover goals in the Eagleville Brook TMDL and *Eagleville Brook Watershed Management Plan* (Dietz & Arnold, 2011).

The stormwater management system for the project site will be consistent with the guidelines contained in the CTDEEP *Connecticut Stormwater Quality Manual* (as amended). The proposed project will also meet flood and stormwater management standards specified in section 25-68d of the Connecticut General Statutes (CGS) and section 25-68h-1 through 25-68h-3 of the Regulations of Connecticut State Agencies through the CTDEEP Flood Management Certification process.

The stormwater management design for the project site will incorporate, to the extent feasible, the following elements to avoid or mitigate potential stormwater-related impacts to water resources:

- The site design will incorporate LID approaches such as disconnected impervious areas and bioretention. Bioretention areas are proposed at the southeast corner of Nathan Hale Hall, the south side of Ellsworth Hall (both sides of the entrance), and various locations surrounding the new STEM Residence Hall. The bioretention areas will enhance the water quality of the stormwater runoff through plant uptake and filtration through the bioretention planting soils. The bioretention system design includes an underdrain system to ensure adequate drainage of the bioretention areas given the limited infiltration capacity of the native soils.¹²
- A green roof area is proposed for a portion of the STEM Residence Hall building to further reduce effective impervious cover and stormwater runoff from the project site, as well as to enhance stormwater quality.
- New underground detention systems are proposed to manage peak rates of runoff from the project site, including the STEM Residence Hall and the areas currently served by the existing underground detention system associated with Garrigus Suites. Runoff will be pretreated using hydrodynamic separators prior to discharging to the underground detention systems. The underground detention systems are anticipated to include perforated piping surrounded by stone to provide infiltration where soil and groundwater conditions will allow. As noted above, the systems will be conservatively sized to account for lower infiltration capacity of the native soils based on initial soil investigations. Additional site-specific testing is recommended to verify the suitability of the soils and subsurface conditions to support stormwater infiltration.
- The existing stormwater detention system that was installed with the adjacent Garrigus Suites residence hall will be removed for the construction of the STEM Residence Hall. The new

¹² Initial soil investigations performed by the design team indicate that actual field infiltration rates may be lower than predicted based on the NRCS mapped Hydrologic Soil Group classification for the project site (Type B soils) and lower than the recommending minimum of 0.3 inches per hour.

stormwater management systems will be designed to provide suitable detention (if modeling indicates detention is warranted) such that proposed peak runoff rates do not exceed the pre-1993 development peak flow rates. The pre-1993 development peak flow rates have been used in the University's previous campus-wide stormwater study and a recently updated watershed evaluation of Eagleville Brook.¹³

- The drainage system will include deep sump catch basins.
- Non-structural source controls and pollution prevention measures (parking lot sweeping, catch basin cleaning, drainage system and stormwater treatment system operation and maintenance, etc.) will be implemented after construction of the proposed project.

Given the proposed stormwater design features described above, the Proposed Action is not anticipated to result in adverse direct or indirect stormwater or drainage system impacts. The Proposed Action will not affect flood hazard potential since the project site is located outside of mapped flood hazard areas and the stormwater management systems for the project site will be designed to avoid potential adverse increases in peak flow rates at downstream locations.

Telecommunications

Telecommunication services are available to the project site. Therefore, no impacts are anticipated as a result of the No Action alternative or Proposed Action.

3.11 Public Health and Safety

3.11.1 Existing Conditions

The UConn Division of Public Safety maintains campus fire, police, and ambulance services for the protection of life and property at the Storrs campus. UConn Public Safety personnel also respond to some local town emergencies, and members of the UConn Police Department are appointed special constables within the Town of Mansfield. The police and fire departments are co-located on campus at 126 North Eagleville Road. The campus has a state-of-the-art Emergency 911 center and a system of emergency phones is located throughout the campus.

The UConn Police Department is an organized police department with the same authority and responsibilities as any municipal police department within the State of Connecticut. The UConn Police Department currently has 51 police officers at the main campus in Storrs. They are on duty 24 hours a day throughout the year and patrol the campus on foot, and in both marked and unmarked police vehicles. UConn police officers are responsible for enforcing all of the laws of the State of Connecticut, both criminal and motor vehicle.

The UConn Police Department also operates the University Alert Notification System which provides a number of ways in which the University may contact the community in the event of an emergency. The components of the University Alert Notification System include website alerts, email, voice mail,

¹³ The design team is evaluating the potential downstream effects of adding detention capacity for the project site, which could delay peak discharge rates and coincide with peak discharge rates from neighboring sub-watersheds thus creating an increase in overall peak flow rates at downstream locations. The stormwater management systems for the project site will be designed to avoid potential adverse increases in peak flow rates at downstream locations.

outdoor sirens and Code Blue phone kiosks. There are four existing Code Blue Phone Kiosks around Garrigus Suites and two near the Hilltop Residence Halls.

The Annual Security and Fire Safety Report for 2012 for the Storrs campus published by the UConn Division of Public and Environmental Safety shows that the majority of campus crimes involve burglary and liquor and drug violations (UConn, 2012).

The UConn Fire Department is a fully operational department providing 24/7 response from the Public Safety Building on North Eagleville Road. The fleet includes two engines, a tower ladder, four basic life support ambulances, a pair of hazardous materials response vehicles, a decontamination trailer and numerous support vehicles. The Fire Department responds to all emergencies and performs routine duties. These duties include, but are not limited to, fire code inspections in academic and residential buildings and approving open-flame permits at new construction sites. All of the firefighters are Hazardous Material trained to technician level.

The Mansfield Fire Department provides first responder services for incidents within Mansfield and outside of the University campus and also provides backup for the UConn Fire Department. The Mansfield Fire Department is a full-service fire and rescue department, consisting of both career and volunteer members divided among three stations. The department responds to as many as 2000 emergency calls per year including fires, medical incidents, service calls, and hazardous conditions incidents, including hazardous materials incidents (Mansfield Fire Department, 2013).

Medical services that are available to UConn students, faculty, and staff include:

- **UConn Student Health Services** – Student Health Services is located on-campus and provides numerous basic health services for UConn students, including clinic, advice nurse, community response, mental health, laboratory, radiology, orthopedic, allergy, nutrition, pharmacy, and physical activity counseling services.
- **UConn Health at Storrs Center** – Located near campus in convenient, state-of-the-art facilities in Storrs Center, UConn Health offers academic medical services at including urgent care, cardiology, family medicine, general and plastic surgery, internal medicine/primary care, occupational medicine, orthopaedics and sports medicine, x-ray and blood draw services.
- **Windham Community Memorial Hospital** – UConn is located approximately 9 miles from this facility, which offers emergency services, inpatient and outpatient care, and other services.
- **Natchaug Hospital** – This facility provides adult and adolescent psychiatric and substance abuse treatment services.
- **Rockville General Hospital** – UConn is located approximately 15 miles from this facility.
- **Manchester Memorial Hospital** – UConn is located approximately 18 miles from this facility, which offers emergency services, inpatient and outpatient care, and other services.

3.11.2 Impact Evaluation

No Action Alternative

The No Action alternative would have no adverse impacts on public health and safety since existing conditions would remain unchanged.

Proposed Action

The STEM Residence Hall will incorporate standard residential safety measures including keycard access, fire suppression, Code Blue kiosks for public safety.

Existing public health and safety services on campus are a function of the overall campus requirements and will respond to changes in the overall needs. These services can be expanded, if needed, as the campus community grows.

3.12 Solid Waste and Hazardous Substances

Evaluation of solid waste and hazardous substances includes potential impacts associated with waste generation resulting from the Proposed Action, as well as potential exposure of residential populations to hazardous and toxic substances.

3.12.1 Existing Conditions

Solid Waste and Recycling

The project site is currently undeveloped and therefore has no solid waste generation. Solid waste generated on the Storrs campus is collected by the University's waste contractor, Willimantic Waste Paper Co. (WilliWaste), and transported to an approved off-site waste disposal facility. In 2011, the Storrs campus generated approximately 4,253 tons of solid waste, excluding recycled or composted materials.¹⁴ This amounts to a conservative estimate of approximately 1.84 pounds of solid waste per day per student living on campus. This generation rate estimate is conservatively high because it does not include the contribution from day students and facility and staff. Even this conservative rate is much lower than the average American generation rate of 4.40 pounds per person per day (EPA, 2011b).

The University has a single-stream recycling program. Plastics #1 through #7, metal cans and foil, glass bottles and jars, milk and juice cartons, aerosol cans, newspapers and magazines, envelopes and office paper, cereal and food boxes, paper bags and books, and cardboard can all be recycled in the single stream recycling receptacles located throughout campus. The University's Department of Dining Services has recently begun food composting to reduce food waste in several of their dining halls.

Hazardous Materials Disposal

The EPA and the CTDEEP have identified certain waste streams to be potential hazardous to the environment if disposed through normal trash collecting methods and placed in a sanitary landfill. This

¹⁴ Waste Management and Reduction: Part I – UConn's Program, June 11, 2012 by UConn OEP
<http://uconnoep.wordpress.com/2012/06/11/waste-management-and-reduction-part-i-uconns-program/>

class of waste is identified as Universal Waste and includes mercury-containing lamps, automotive and non-automotive batteries, mercury thermostats, and used electronic equipment. Universal wastes are disposed of through various departments on campus including the Facilities Department, the Motor Pool, the Environmental Health and Safety Department, and the Central Warehouse.

Site Contamination

A review of available information on the project site and nearby properties (site history and federal, state, and local environmental databases) indicates that no identified environmental conditions such as spills or releases of hazardous materials have been identified at or in the immediate vicinity of the project site or within a half mile of the site in the upgradient direction (EDR, 2014).

Four soil samples (one topsoil, two “fill,” and one natural) were collected from test borings at the project site in January, 2014 (Haley & Aldrich, 2014). Results of the chemical testing indicate that the topsoil contains certain polycyclic aromatic hydrocarbon (PAH) compounds above laboratory detection limits, but below the Residential Direct Exposure Criteria (RDEC) and the Pollutant Mobility Criteria (PMC), and is therefore considered “polluted,” indicating that such material should not be reused on-site. The fill and natural soil samples contain background levels of metals with no other compounds reported above laboratory detection limits. The results indicate the tested fill and natural soils can be considered “clean fill/clean soil.”

3.12.2 Impact Evaluation

Solid Waste and Recycling

The proposed residential building is estimated to generate up to 267 tons of solid waste per year, assuming 1.84 pounds of solid waste per day is generated per student on average. That represents up to a 6.3% increase in solid waste generated on campus.

Hazardous Materials Disposal

Universal wastes generated during the operational phase of the residential building will be handled in accordance with the University’s current waste stream and collection systems. Information on universal wastes will be provided to the staff and residents of the hall to assist in the correct sorting and eventual disposal of universal waste.

Site Contamination

No identified environmental conditions such as spills or releases of hazardous materials have been identified at or in the immediate vicinity of the project site or within a half mile upgradient of the site. However, the site contains fill material that was placed during the construction of nearby buildings or site features. The University and/or its contractors must follow applicable state and federal regulations regarding the proper management of potentially impacted soil and fill material during construction as discussed in *Section 3.15*.

3.13 Socioeconomics

3.13.1 Existing Conditions

Economy, Employment, and Income

UConn employs over 9,872 full-time and part-time faculty and staff at the Storrs and regional campuses (UConn, 2013). Specifically, Residential Life at the University of Connecticut, Storrs employs over 400 professional and student staff¹⁵. Locally, the University is one of the top 5 major employers in the Town of Mansfield (CERC, 2013). According to November 2013 statistics from the Connecticut Department of Labor, unemployment in Mansfield was 6.1%, lower than the 6.8% unemployment rate for the same time period in the Hartford Labor Market Area (in which Mansfield is located) and the 6.9% unemployment rate for the state as a whole. Median household income in Mansfield in 2011 was reported by the Connecticut Economic Resource Center, Inc. (CERC) as \$70,208. This is lower than the Tolland County median household income of \$80,333, but slightly above the state-wide median household income of \$69,249 (CERC, 2013).

As discussed in *Section 2*, the *Next Generation Connecticut* (“NextGen”) program involves a 10-year capital improvements plan for the University to support academic programming in the STEM areas. The proposed STEM Residence Hall is a proposed capital improvement of the NextGen program. The program is jointly funded through Public Act 13-233, An Act Concerning Next Generation Connecticut, and the University’s state appropriation funds. UConn plans to contribute \$235 million in reallocated UCONN 2000/21st Century UConn funds for the building program and \$149 million in operating funds to support the academic program components.

Environmental Justice

According to the CTDEEP Environmental Justice Program, “Environmental Justice” means that all people should be treated fairly under environmental laws regardless of race, ethnicity, culture or economic status. CTDEEP’s Environmental Justice Policy and the supporting regulations, Section 22a-20a of the CGS, ensure that Environmental Justice Communities are provided enhanced notice and opportunities for public participation in certain permitting processes. The Environmental Justice Policy states that no segment of the population should, because of its racial or economic makeup, bear a disproportionate share of the risks and consequences of environmental pollution or be denied equal access to environmental benefits.

Environmental Justice Communities are defined under the Environmental Justice Policy as:

- United States census block groups, as determined in accordance with the most recent United States census, for which 30% or more of the population consists of low income persons who are not institutionalized and have an income below two hundred percent of the federal poverty level, or
- Distressed municipalities.

¹⁵ University of Connecticut, “Working in Residential Life at UConn”
<<http://www.reslife.uconn.edu/employment.html>> (January 18, 2014).

The Town of Mansfield is not identified on the 2013 Distressed Municipalities List maintained by CTDEEP. The most recent poverty data (2010 American Community Survey) available for the Storrs campus indicates that the project site is located within a Census Tract (09013881200) with 65.8% of persons below poverty. The most recent poverty data from a U.S. Census block group is from the 2000 census shows block group which contains the project area (090138812001) to have 28.6% below poverty. This is likely reflective of the large student population in Mansfield associated with the University who would be expected to have a much lower annual income compared to the non-student population. In the calculation of Environmental Justice populations, institutionalized people, i.e., people in military group quarters, people in college dormitories, and unrelated individuals under 15 years old, are generally not included in the determination of Environmental Justice populations because of the special conditions of their residence. As such, the project area is not considered to be located in an Environmental Justice Community.

3.13.2 Impact Evaluation

Economy, Employment, and Income

Construction of the approximately \$75 to 85 million project will result in employment for construction workers in the region and the purchase of construction materials from local and regional suppliers within the State of Connecticut. An increase in the number of faculty and staff employment in the Division of Student Affairs, including Residential Life and Dining Services, is anticipated to accommodate the increase in the number of students living on campus.

NextGen, of which the proposed STEM Residence Hall is a part of, will create both construction jobs and sustainable long-term employment. This proposal will also leverage and maximize the State's related investments in Bioscience CT, Jackson Labs, UCONN 2000/21st Century UConn, and the UConn Tech Park. By 2024, *Next Generation Connecticut* will yield¹⁶:

- \$146 million per year in new research awards
- \$285 million per year in new business activity in Connecticut resulting from research at UConn
- 2,190 new or 4,050 total permanent jobs
- 30,000 total construction jobs through 2024

Environmental Justice

No impacts to Environmental Justice Communities are anticipated as a result of either the No Action or Proposed Action alternatives.

3.14 Land Use Planning

This section describes the existing land uses in the project area and the local, regional, and state land use plans and policies that apply to the project area. Consistency of the Proposed Action with these land use plans and policies is also evaluated.

¹⁶ University of Connecticut, Next Generation Connecticut website. "Return on Investment" <<http://uconn.edu/nextgenct/return-on-investment.php>> (January 18, 2014).

3.14.1 Land Use and Zoning in the Project Area

The proposed STEM Residence Hall is located in a residential area of campus off of Alumni Drive, adjacent to athletic facilities, which are to the west.

Although UConn is not subject to specific local zoning requirements, the University strives to be consistent with local zoning goals and objectives whenever possible. The majority of the Storrs main campus, including the proposed site of the STEM Residence Hall, is zoned “Institutional,” which permits buildings and facilities owned and/or operated by the State of Connecticut or federal government (Town of Mansfield, 2011). The “Institutional” zone permits buildings and facilities owned and/or operated by the State of Connecticut. The proposed STEM Residence Hall is consistent with permitted uses in this zone. Although the proposed building does exceed the height standards in the Town of Mansfield zoning bylaws, it is similar to the height of other buildings in the Hilltop Residence Halls area.

The No Action alternative does not involve a change in land use or zoning and will therefore have no impact on these resources.

3.14.2 Local and Regional Land Use Planning

Mansfield Plan of Conservation and Development (2006)

The *Mansfield Plan of Conservation and Development* (Mansfield PoC&D) documents the community’s land use characteristics and establishes a consistent and coordinated land use philosophy and regulatory framework for managing the Town’s future physical, economic and social environment. The Mansfield PoC&D specifies policy goals, objectives and land use recommendations designed to protect and promote the overall health, welfare and safety of existing and future residents. The overall policy goals include:

- To strengthen and encourage an orderly and energy-efficient pattern of development with sustainable balance of housing, business, industry, agriculture, government and open space and a supportive infrastructure of utilities, roadways, walkways and bikeways and public transportation services.
- To conserve and preserve Mansfield’s natural, historic, agricultural and scenic resources with emphasis on protecting surface and groundwater quality, important greenways, agricultural and interior forest areas, undeveloped hilltops and ridges, scenic roadways and historic village areas.
- To strengthen and encourage a mix of housing opportunities for all income levels.
- To strengthen and encourage a sense of neighborhood and community throughout Mansfield.

Mansfield Town officials have participated actively in the University of Connecticut’s Master Plan Committee and other University committees associated with land use and community interaction. The town and the University have an active Town/University Relations Committee that has helped strengthen communications and cooperation on many land use and quality of life issues. Since the Proposed Action was included in the *University of Connecticut Storrs Campus Master Plan Update, 2006*, as

discussed in *Section 3.14.4*, and the town has continued to work collaboratively with the University of Connecticut to address land use and occupancy issues of mutual interest, the goals of the Mansfield PoC&D are met for the Proposed Action.

The No Action alternative would have no impact on existing conditions and would have no impact on the goals described in the Mansfield PoC&D.

Windham Region Land Use Plan (2010)

The Town of Mansfield is located within the planning region of the Windham Region Council of Governments (WINCOG). The *Windham Region Land Use Plan 2010* (Windham Regional Plan) identifies nine general regional goals:

1. Development, especially intensive development, should be concentrated in areas where there is public water and sewer, public transportation service and facilities, sidewalks, schools, and other community infrastructure.
2. Safe, comfortable, high-quality housing should be available to all residents of the region at a cost they can afford.
3. Public transportation should be promoted and expanded
4. Energy-efficient development should be encouraged within the region
5. Economic growth should be focused in areas with existing public infrastructure.
6. The heritage of the Region should be preserved.
7. Development in the Windham Region should not degrade water quality.
8. Wildlife habitats should be preserved because they are critical to the health of our natural environment and are the foundation of ecological communities.
9. Municipal land use controls should foster and create strong, cohesive community centers and discourage expansion into valuable farmland and woodland.

Much of the UConn Storrs campus, including the project area, is identified as a Regional Center in the Windham Regional Plan. According to the plan, Regional Centers are the highest priority for all forms of redevelopment and development including commercial, urban-density residential, and industrial. The Proposed Action is consistent with the general and site-specific planning goals of the Windham Regional Plan.

The No Action alternative would have no impact on existing conditions and would have no impact on the goals described in the Windham Regional Plan.

3.14.3 Campus Land Use Planning

The *University of Connecticut Storrs Campus Master Plan Update, 2006* (Master Plan Update) was developed as a result of significant changes to the physical campus setting since the 1998 University of Connecticut Campus Master Plan. The focus of the Master Plan Update was on the Central Campus, South Campus, West Campus, Research, East Campus, and North Campus neighborhoods.

The proposed STEM Residence Hall is presented in the Master Plan Update as a “Future Residence Hall” called out in *Figure 3-14* as building number 4 in pink (two potential locations). The plan states that if additional on-campus residences are necessary, these two locations provide opportunities that are

adjacent to existing dining facilities as well as within already established residential neighborhoods. Therefore, the Proposed Action is in alignment with planning objectives at UConn.

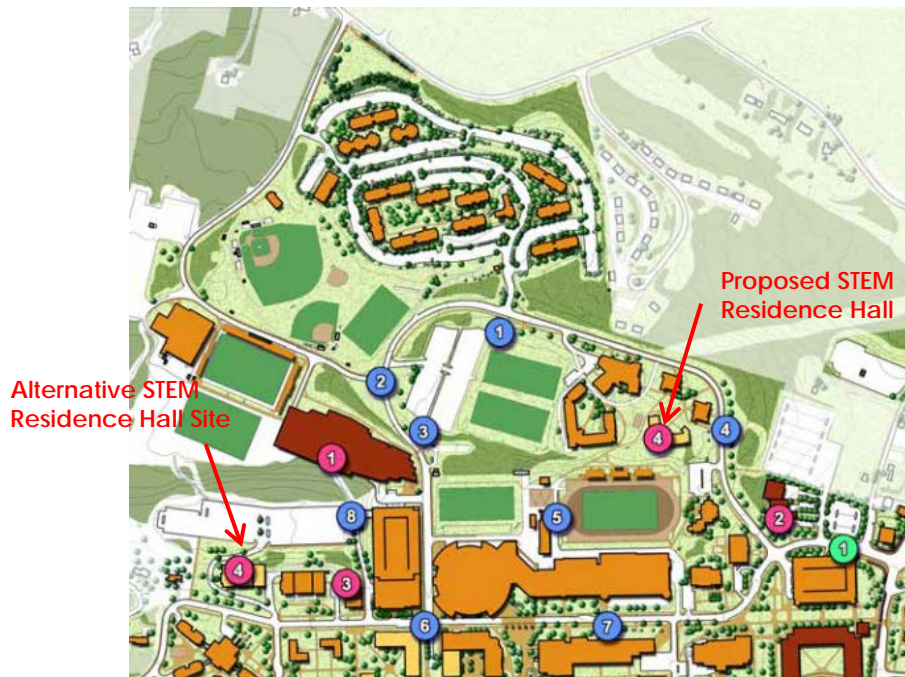


Figure 3-14. West Campus Proposed Neighborhood Plan (Storrs Campus Master Plan Update, January 2006)

3.14.4 State Conservation and Development Plan

The state-wide land use conservation and development plan, *Conservation and Development Policies: The Plan for Connecticut, 2013-2018* (PoC&D Plan), provides the policy and planning framework for administrative and programmatic actions and capital and operational investment decisions for state government (OPM, 2013). It outlines broad-based growth management principles designed to encourage sustainable development that balance human needs with conservation of environmental and socioeconomic resources. The State C&D Plan reflects a desire to avoid land use trends that encourage sprawl and the subsequent disproportionate consumption of land and resources that results. The Plan uses growth management principles to encourage the revitalization of areas with existing infrastructure and capacity to support growth and the development of currently undeveloped areas that is consistent with long-term sustainability of the state’s resources.

The Locational Guide Map (LGM) spatially interprets the growth management principles contained in the Plan, with respect to each area’s potential to fulfill and to balance the conservation and development priorities of the state. The LGM is used with the State C&D Plan to provide a basis for state agencies to evaluate funding decisions for projects that are considered “growth-related” as defined in section Connecticut General Statutes (CGS) 16a-35c. The major categories of the LGM are:

- **Priority Funding Areas** – areas classified by areas that include Urban Area or Urban Cluster (based on the 2010 Census), boundaries that intersect a ½ mile buffer surrounding existing or planned mass-transit stations, existing or planned sewer service and/or water service, and local bus service.
- **Balanced Priority Funding Areas** – areas that meet the criteria of both Priority Funding Areas and Conservation Areas.
- **Village Priority Funding Areas** – traditional village centers located in the state’s more rural municipalities, intended to recognize the unique characteristics and needs of these areas.
- **Conservation Areas** – include core forest areas, existing or potential drinking water supply watersheds, Aquifer Protection Areas, wetland soils, agricultural soils, Hurricane Inundation Zones or 100 year Flood Zones, Critical Habitats, and locally important conservation areas.
- **Undesignated Areas** – typically rural in nature and lack the criteria necessary for being delineated as either Priority Funding Areas or Conservation Areas.

According to the administrative requirements associated with CGS Section 16a-35d, no state agency, department or institution shall provide funding for a growth-related project unless such project is located in a Priority Funding Area. The State C&D Plan’s LGM identifies the project location as within a Priority Funding Area since the site is located within an Urban Area and within an area of existing water and sewer services. Therefore, the project location is not in conflict with the State C&D Plan.

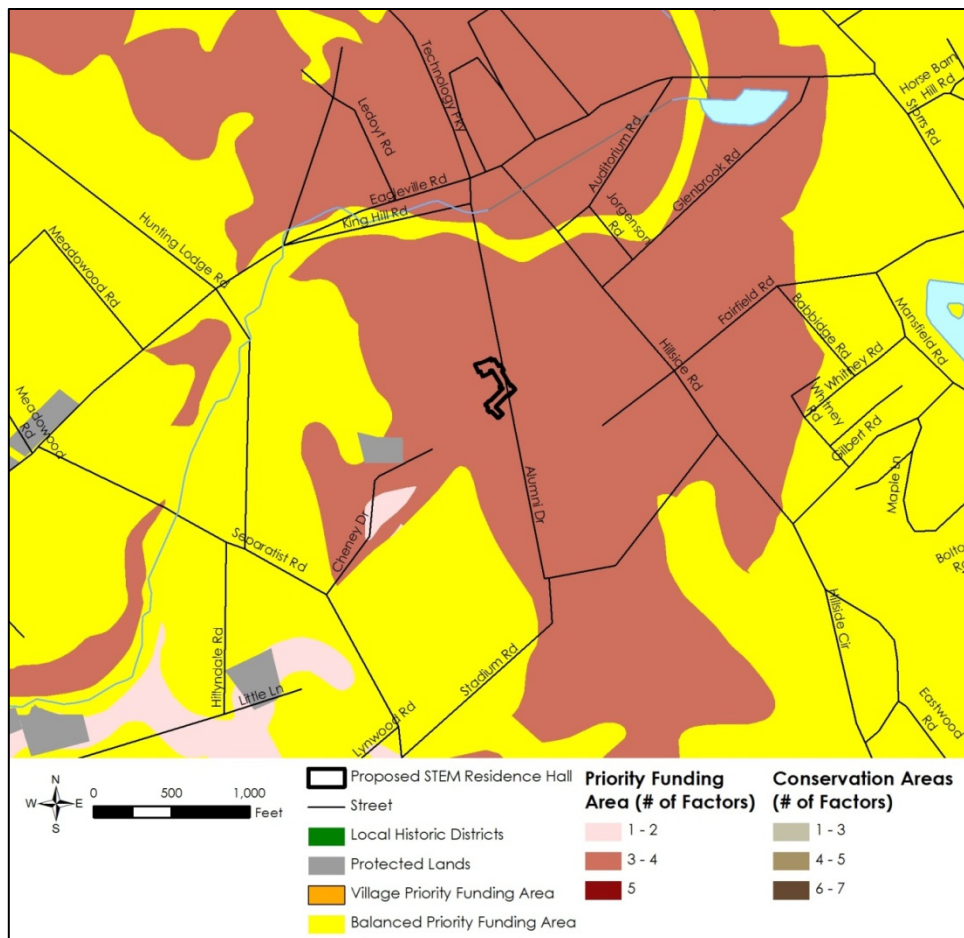


Figure 3-15. Locational Guide Map

3.15 Construction Impacts

The Proposed Action could result in temporary impacts associated with the construction of a new STEM Residence Hall next to the Hilltop Residence Halls (Hale and Ellsworth) on Alumni Drive. Potential construction-period impacts are related to traffic, hazardous materials, solid waste, air quality, noise, and stormwater. Measures will be implemented during construction to avoid or minimize potential impacts. Such measures will be incorporated as requirements in the construction specifications or as best management practices (BMPs). In addition, contractors will be required to follow the measures outlined in the UConn Environmental, Health, and Safety Policies, Regulations, and Rules for Construction, Service, and Maintenance Contractors manual (UConn, 2012).

Traffic

Construction of the proposed residential building may result in traffic disruption along Alumni Drive and potentially in the vicinity of the intersection of Alumni Drive with Hillside Road due to lane closures and/or construction vehicles accessing the site. These impacts would be short-term, lasting only during construction. Significant project-related traffic disruptions are not anticipated. However, potential traffic-related construction impacts would be mitigated by implementing appropriate traffic management measures, which would maintain efficient traffic operations during the construction period. These measures may include construction phasing to minimize disruptions to traffic, signage, detours, and police officers to direct traffic and assist with pedestrian street crossings as needed.

Air Quality

Potential construction-related air quality impacts are associated with the use of diesel-powered construction vehicles. Emissions from diesel equipment include carbon monoxide, hydrocarbons, nitrogen oxides, and particulate matter (PM₁₀ and PM_{2.5}). Emissions from construction equipment are anticipated to be significantly less than the total emissions from other industrial and transportation sources in the region, and therefore, are expected to be insignificant with respect to compliance with the NAAQS. However, potentially localized air quality impacts could occur as a result of diesel exhausts from construction equipment in the vicinity of the project site.

Potential air quality impacts from diesel exhausts would be avoided or limited by proper operation and maintenance of construction equipment, and prohibition of excessive idling of engines. Section 22a-174-18(b)(3)(C) of the Regulations of Connecticut State Agencies limits the idling of mobile sources to three minutes. Contractors will be responsible for maintaining construction equipment and compliance with the air pollution control measures in the University's Environmental, Health, and Safety Policies, Regulations, and Rules for Construction, Service, and Maintenance Contractors manual.

Fugitive dust emissions can occur during ground excavation, material handling and storage, movement of equipment, and transport of material to and from the project site. The potential for fugitive dust emissions is the greatest during periods of intense construction activity and during windy and/or dry weather conditions. Potential air quality impacts from fugitive dust would be addressed through a variety of mitigation measures incorporated into contract specifications for the project, including:

- Reducing exposed erodible earth area to the extent possible through appropriate construction phasing.

- Stabilizing exposed earth with grass, pavement, or other cover as early as possible.
- Application of stabilizing agent (i.e., calcium chloride, water) to the work areas and haul roads.
- Covering, shielding, or stabilizing stockpiled material as necessary.
- Use of covered haul trucks.
- Limiting dust-producing construction activities during high wind conditions.
- Rinsing of construction equipment with water or any other equivalent method to minimize drag-out of sediment by construction equipment onto the adjacent roads.
- Street sweeping of roads within construction areas.

Noise

Construction activities are a potential source of short-term noise impacts. It is difficult to reliably predict the sound levels that may occur at a particular receptor or group of receptors as a result of construction activity. Heavy construction equipment is the principal source of noise during construction activity, and the pattern of heavy equipment use is constantly changing during construction. For the most part, construction activity would occur during daytime hours when higher sound levels are generally more tolerable at nearby receptors.

Construction noise is exempt from Connecticut's Noise Regulations contained in section 22a-69-1 through 22a-69-7.4 of the RCSA. However, there are three existing residential buildings adjacent to the project area. Contractors at the University are required to comply with the Occupational Safety and Health Administration's (OSHA's) Noise Standard, 29 CFR 1910.95 and CT DEEP's regulations on the Control of Noise, 22a-69-1 through 7 to minimize potential noise impacts to nearby receptors.

Contractors would be asked to cease work activities when noise levels to UConn employees or students are expected to meet or exceed OSHA's Action Level of 85 dBA (8-hour TWA). Activities would be allowed to resume when engineering or work practice controls reduce the level of noise below OSHA requirements. Should this not be feasible, work must be scheduled for a time when UConn employees, students and town residents are not impacted. Additional project-specific noise reduction measures or restrictions may also be required to minimize disruption to teaching and learning activities.

Stormwater

Construction activity is a potential source of stormwater and water quality impacts from erosion and sedimentation. The construction phase of the project would be subject to the CTDEEP General Permit for the Discharge of Stormwater and Dewatering Wastewater Associated with Construction Activity since the area of site disturbance exceeds 1 acre. Construction activities shall also comply with the Connecticut Guidelines for Erosion and Sedimentation Control, as amended. Erosion and sedimentation control measures will be implemented for the construction of the new STEM residential building. The proposed controls may include protection of existing storm drains, temporary vegetative cover, perimeter sediment barriers such as silt fence, straw bales, and coir logs, temporary sediment basins, and anti-tracking pads at construction entrances.

Solid and Regulated Waste

Land clearing debris from the site preparation and construction waste other than clean fill (natural soil, rock, brick, ceramics, concrete and asphalt paving fragments) will be recycled, reused, and/or disposed of at a permitted landfill or other solid waste facility in accordance with applicable regulatory requirements and the University policy regarding waste recycling by contractors. The University's

Environmental, Health, and Safety Policies, Regulations, and Rules for Construction, Service, and Maintenance Contractors manual outlines the University's policy for contractor recycling, including materials that must be recycled, collection and disposal of solid waste, and proper treatment or disposal of hazardous and regulated waste.

Based on the soil monitoring conducted at the site, polluted topsoil should not be reused on-site. Given the typical heterogeneous quality of historic fills, excess excavated fill soils and polluted topsoil should be transported to Connecticut landfills for reuse as cover or other non-landfill sites approved by CT DEEP to accept polluted soils. Although not anticipated to be required, the need for a CTDEEP General Permit for Contaminated Soil and/or Sediment Management will need to be assessed once final soil pre-characterization is completed during design. Excavated fill and natural soils can be reused on-site. Excess natural soils can be taken off-site as "clean" fill without restriction. The University and/or its contractors must follow applicable state and federal regulations regarding the proper management of potentially impacted media.

4 Summary of Impacts

Based upon the findings presented in *Section 3, Existing Environment and Analysis of Impacts*, this section summarizes unavoidable adverse impacts associated with the proposed project, irreversible and irretrievable commitments of resources, and mitigation measures to reduce or minimize potential impacts associated with the Proposed Action.

4.1 Unavoidable Adverse Impacts

The preceding sections of this EIE have analyzed the potential for “significant effects” (i.e., substantial adverse impacts on the environment) associated with the Proposed Action. Anticipated potential impacts associated with the Proposed Action are summarized in *Table 4-1*. Design elements and best management practices will be incorporated into the Proposed Action, as described in *Sections 1 and 3*, to avoid, minimize, or mitigate potential adverse impacts.

The only unavoidable adverse impacts anticipated with the Proposed Action are those associated with the loss of an approximately 935 SF isolated inland wetland area and those related to the construction phase of the project. Construction-related impacts to traffic, air quality, noise, hazardous materials, solid waste, and stormwater are unavoidable but are temporary in nature and will be mitigated through the use of best management practices during construction (see *Section 3.16 and Section 4.4*).

The wetland area to be disturbed, which is described in *Section 3.6*, is adjacent to the current discus/hammer throw field and has been previously altered by historic fill and disturbance. It does not provide principal wetland functions or values due to its small size, disturbed condition, isolation from other wetland resources and surrounding developed land use. Alteration of the wetland area will be permitted under the CTDEEP *General Permit for Water Resource Construction Activities* and subject to the conditions of the U.S. Army Corps of Engineers Connecticut General Permit. Appropriate mitigation will be identified through the permitting process.

4.2 Irreversible and Irretrievable Commitments of Resources

Irreversible and irretrievable commitments of resources associated with the Proposed Action consist of resources that remain committed to a project through its lifespan (i.e., irreversible commitment) or those that are consumed or permanently impacted during project construction and operation as a result of the Proposed Action (i.e., irretrievable commitment).

Irreversible and irretrievable resources that would be committed to the Proposed Action include energy (electric and natural gas), construction materials, land, human labor, and finances:

- **Energy** – Energy will be consumed for project construction, and operation of the proposed facility will require more overall energy use on campus.

- **Construction Materials** – A variety of construction materials will be utilized to construct the proposed building and site features. Some materials used in the construction of the STEM Residence Hall may be reused or recycled.
- **Land** – Use of the proposed site for construction of the STEM Residence Hall will preclude the possibility of other uses in the foreseeable future. Note that the land is already developed as a discus and hammer throw field and within an area of residential land use.
- **Human Labor** – The dedication of human labor to the construction and operational phases of the project represents an irretrievable expenditure of time and production that cannot be used for other purposes.
- **Financial** – The required expenditures represent funds that, once committed, are no longer available for other purposes and once spent, cannot be regained.

4.3 Indirect and Cumulative Impacts

CEPA requires that the sponsoring agency consider the indirect or secondary impacts and cumulative impacts of its actions. Secondary or indirect impacts are effects of an action that are removed in time or distance from the action itself. Cumulative impacts are those that result from the incremental impact of a proposed action when added to other past, present or reasonably foreseeable future actions of the agency (i.e., UConn).

4.3.1 Indirect Impacts

There are two possible types of secondary or indirect effects – encroachment-alteration and induced growth (or growth influencing).

Indirect or secondary effects associated with encroachment-alteration can result in long-term degradation to a resource. With the exception of the small isolated wetland area that will be directly impacted by the Proposed Action, the project site is not located in an area of sensitive natural resources (e.g., watercourses, floodplains, threatened or endangered species), nor is the project anticipated to significantly affect the existing transportation or utility infrastructure in the area. Therefore, no adverse indirect effects associated with encroachment-alteration are anticipated as a result of the Proposed Action.

Foreseeable indirect impacts associated with induced growth are limited to potential increases in parking demand, and subsequent traffic operations. As discussed in *Section 3.1, Traffic, Parking, and Circulation*, although the proposed STEM Residence Hall would address an existing and anticipated demand for housing capacity, rather than generating new enrollments, to the extent that the Proposed Action facilitates the campus' capacity for additional undergraduate enrollment, secondary effects associated with traffic operations are possible. The possibility of additional vehicles on campus as students initially living in the STEM Residence Hall become eligible for on-campus parking has the potential to affect traffic operations on campus. Many factors would determine the nature of the demand and the potential for secondary impacts to traffic operations and parking. Given the nature of vehicle use for residential students, the travel patterns of on-campus residents may or may not coincide with the peak traffic patterns associated with faculty/staff and commuter students. Therefore, changes in traffic volume and movements on-campus would not necessarily result in secondary impacts to traffic operations. Should

impacts be identified later in time, a variety of mitigation measures are available, as described in *Section 3.1*.

4.3.2 Cumulative Impacts

Potential cumulative impacts can occur to those resources for which direct or indirect impacts from the Proposed Action are anticipated. Based on the analysis in *Section 3* of this EIE, the Proposed Action is likely to result in minor changes to traffic operations and utility usage, but the impact analysis in *Section 3* does not indicate significant adverse effects to those resources under the Proposed Action. Typically, cumulative impacts would not be anticipated in the absence of significant adverse effects. However, in light of the past, present, and reasonably foreseeable University actions, a discussion of cumulative impacts is provided. In particular, cumulative impacts to traffic operations and water supply are considered, since incremental increases in demand, while not significant when considered alone, have the potential for cumulative impact when considered in conjunction with past, present and reasonably foreseeable University actions. While past University actions essentially provide the baseline for existing conditions analysis, present actions include the planned STEM Residence Hall, the New Engineering and Science Building (NESB), and the Innovation Partnership Building (IPB). Reasonable foreseeable actions include the actions associated with the *Next Generation Connecticut* initiative.

The cumulative effects on water supply have already been assessed through the University's Water Supply EIE and ROD. The EIE included estimates of projected average daily demand for the planning period, and the ROD provided updated values to reflect the *Next Generation Connecticut* initiative that was announced during the course of the EIE review. In the short term, average daily demands for water supply can be expected to increase as a result of three projects currently in design or construction. The average daily water demand for the IPB and NESB are expected to be 28,000 gpd and 1,600 gpd, respectively. The anticipated total average daily demand associated with these two projects and the STEM Residence Hall is 58,400 gpd. Those cumulative impacts were discussed in *Section 3.10.2* of this EIE. Mitigation for potential impacts to water supply depends on a combination of water conservation, use of reclaimed water (which is used in the CUP and proposed for use in the STEM Residence Hall, NESB, and IPB), development of a connection to Connecticut Water Company, with Windham Water Works as a backup supply, and alteration to regulatory approvals for pumping of the Fenton River Well D.

Although the STEM Residence Hall is anticipated to result in no impact to traffic as a result of its construction or housing of first-year students who do not qualify to have on-campus parking permits, it is conservatively estimated that once eligible, two-thirds of the maximum number of students associated with the additional housing provided by an 800-bed STEM Residence Hall, or approximately 533 students, may seek parking on campus. Many factors would determine the nature of the demand and the potential for secondary and cumulative impacts to traffic operations and parking. As a result, the nature of the magnitude of cumulative impacts, especially in light of the full build-out of the *Next Generation Connecticut* program, cannot be reliably or reasonably quantified.

It is also important to note that before the STEM Residence Hall is scheduled to become operational, the University will have also completed an updated Master Plan and a corresponding CEPA EIE that will evaluate the broader changes to the campus environment. Through that process, potential direct, indirect, and cumulative effects and any subsequently recommended mitigation will be identified.

4.4 Summary of Impacts and Mitigation Measures

Mitigation measures have been identified to reduce or offset potential adverse impacts associated with the proposed project. These are summarized in *Table 4-1* by resource category as described in *Section 3* of this EIE. For resource categories for which no mitigation is proposed, the impact evaluation has determined that either the impacts are insignificant, requiring no mitigation, or that there will be no adverse impacts resulting from the proposed project.

Table 4-1. Summary of Impacts and Proposed Mitigation

Resource Category	Impacts	Proposed Mitigation
Traffic, Parking, and Circulation	<ul style="list-style-type: none"> No disruption of existing roads/parking Minimal new vehicle trips Potential for secondary effects associated with demand for additional parking and vehicles on-campus due to additional students 	<ul style="list-style-type: none"> Potential for adverse effects will be assessed in the OSTA process and upcoming Master Plan and Master Plan EIE which will provide a comprehensive assessment of traffic, parking, and circulation in the context of campus growth
Air Quality	<ul style="list-style-type: none"> New stationary sources – boiler, emergency generator, chiller Potential emissions below de minimis levels established by USEPA 	<ul style="list-style-type: none"> Stationary sources to be included in UConn air quality permit
Noise	<ul style="list-style-type: none"> Consistent with residential setting 	<ul style="list-style-type: none"> None
Water Resources	<ul style="list-style-type: none"> Will be consistent with Eagleville Brook TMDL and Watershed Plan No floodplains 	<ul style="list-style-type: none"> The stormwater management system for the new residential hall will be consistent with the guidelines contained in the CTDEEP <i>Connecticut Stormwater Quality Manual</i> (as amended). LID measures such as disconnected impervious areas and bioretention A green roof area is proposed for a portion of the STEM Residence Hall building to further reduce effective impervious cover and stormwater runoff from the project site, as well as to enhance stormwater quality. New underground detention systems are proposed to manage peak rates of runoff from the project site, including the STEM Residence Hall and the areas currently served by the existing underground detention system associated with Garrigus Suites
Wetlands, Watercourses, and Natural Communities	<ul style="list-style-type: none"> No threatened/endangered species ±935 SF of low functional value wetland to be directly impacted 	<ul style="list-style-type: none"> Adherence to the conditions of the <i>CTDEEP General Permit for Water Resource Construction Activities</i> and U.S. Army Corps of Engineers Connecticut General Permit

Table 4-1. Summary of Impacts and Proposed Mitigation

Resource Category	Impacts	Proposed Mitigation
Cultural Resources	<ul style="list-style-type: none"> • Outside National Register Historic District • SHPO determined no impact to historic or archaeological resources 	<ul style="list-style-type: none"> • None
Visual and Aesthetic Character	<ul style="list-style-type: none"> • Consistent with current visual setting 	<ul style="list-style-type: none"> • None
Geology, Topography, and Soils	<ul style="list-style-type: none"> • No unique features or farmland soils 	<ul style="list-style-type: none"> • None
Utilities and Services	<ul style="list-style-type: none"> • Adequate capacity exists for Electrical, Natural Gas, Sanitary Sewer, Telecommunications, and Stormwater/Drainage in the vicinity of the site along Alumni Drive. • The University will meet its overall peak water demands, including for the STEM Residence Hall, by augmenting its supply with the additional supply to be provided pursuant to an executed agreement to interconnect with the Connecticut Water Company (CWC). Should the proposed STEM Residence Hall be completed prior to the additional water supply being available from CWC, sufficient water supply exists within the University system to meet annual average daily demand and peak month's (typically, September) average daily demand for the STEM Residence Hall. However, additional supply would be required in order to meet the peak day demand, including maintaining a system-wide 15% margin of safety. • The proposed building and associated site improvements would replace existing turf areas, thus increasing impervious surfaces on the site. These site alterations would reduce canopy interception, evapotranspiration, and infiltration; generate increased runoff rates and volumes (i.e., increased runoff coefficient); and introduce new potential sources of stormwater pollutants. 	<ul style="list-style-type: none"> • The building construction will incorporate best practices of sustainability with a minimum goal of Leadership in Energy & Environmental Design (LEED) Silver. The project design will also address the guidelines and requirements of the Connecticut High Performance Building Standards, as well as strategies and recommendations promoted by the UConn <i>Climate Action Plan</i> and other ongoing energy efficiency and sustainability initiatives at the Storrs campus. • Reclaimed water will be used for toilet/urinal flushing and cooling. Water savings from reclaimed water use for toilet flushing is estimated at up to approximately 5,000 gpd during the academic year. • Should the STEM Residence Hall be completed prior to completion of the CWC interconnection, potential mitigation would consist of a) connecting the STEM Residence Hall (as well as the NESB and IPB) to the reclaimed water utility to reduce potable demand, b) continue to promote water conservation throughout the system and c) take steps to ensure that margin of safety could be demonstrated by having Fenton Well D approved for intermittent use during the time that peak demand was expected. • The stormwater management system for the new residential hall will be consistent with the guidelines contained in the CTDEEP <i>Connecticut Stormwater Quality Manual</i> (as amended). • LID measures such as disconnected impervious areas and bioretention • A green roof area is proposed for a portion of the STEM Residence Hall building to further reduce effective impervious cover and stormwater runoff from the project site, as well as to enhance stormwater quality.

Table 4-1. Summary of Impacts and Proposed Mitigation

Resource Category	Impacts	Proposed Mitigation
Utilities and Services (continued)		<ul style="list-style-type: none"> New underground detention systems are proposed to manage peak rates of runoff from the project site, including the STEM Residence Hall and the areas currently served by the existing underground detention system associated with Garrigus Suites
Public Health and Safety	<ul style="list-style-type: none"> Public Health & Safety services in place for residential students 	<ul style="list-style-type: none"> None
Solid Waste and Hazardous Substances	<ul style="list-style-type: none"> Typical residential waste stream 	<ul style="list-style-type: none"> None
Socioeconomics	<ul style="list-style-type: none"> Anticipated socioeconomic benefit 	<ul style="list-style-type: none"> None
Land Use Planning	<ul style="list-style-type: none"> Consistent with campus, local, regional, and state plans 	<ul style="list-style-type: none"> None
Construction Period		
Traffic, Parking, and Circulation	<ul style="list-style-type: none"> Minor, temporary disruptions to traffic in the immediate area of construction 	<ul style="list-style-type: none"> Use of construction-phase traffic management measures to maintain efficient traffic operations during the construction period including construction phasing to minimize disruptions to traffic, signage, and detours.
Air Quality	<ul style="list-style-type: none"> Construction activities may result in short-term impacts to ambient air quality due to direct emissions from construction equipment and fugitive dust emissions 	<ul style="list-style-type: none"> Contractors will be required to comply with air pollution control requirements in UConn <i>Environmental, Health, and Safety Policies, Regulations, and Rules for Construction, Service, and Maintenance Contractors</i>, including reference to such requirements in contract documents. Ensure proper operation and maintenance of construction equipment. Limit idling of construction vehicles and equipment to three minutes. Implement traffic management measures during construction. Implement appropriate controls to prevent the generation and mobilization of dust.
Noise	<ul style="list-style-type: none"> Heavy construction equipment associated with site development may result in temporary increases in noise levels in the immediate area of construction 	<ul style="list-style-type: none"> Contractors will be required to comply with noise control requirements in UConn <i>Environmental, Health, and Safety Policies, Regulations, and Rules for Construction, Service, and Maintenance Contractors</i>, including reference to such requirements in contract documents. Ensure proper operation and maintenance of construction equipment. Construction contractors should make every reasonable effort to limit construction noise impacts.

Table 4-1. Summary of Impacts and Proposed Mitigation

Resource Category	Impacts	Proposed Mitigation
Stormwater and Water Quality	<ul style="list-style-type: none"> • Exposure of soil increases potential for erosion and sedimentation 	<ul style="list-style-type: none"> • Use of appropriate erosion and sediment controls during construction, consistent with the <i>2002 Connecticut Guidelines for Soil Erosion and Sediment Control</i> (as amended) and the August 21, 2013 <i>General Permit for Stormwater and Dewatering Wastewaters from Construction Activities</i>.
Hazardous Materials and Solid Waste	<ul style="list-style-type: none"> • Temporary on-site storage and use of fuels and other materials associated with construction vehicles and equipment • Generation of solid waste including construction and demolition debris 	<ul style="list-style-type: none"> • Contractors will be required to comply with requirements for construction-related hazardous materials and solid waste in UConn <i>Environmental, Health, and Safety Policies, Regulations, and Rules for Construction, Service, and Maintenance Contractors</i>, including reference to such requirements in contract documents. • Hazardous or regulated materials or subsurface contamination encountered during construction will be characterized and disposed of in accordance with applicable state and federal regulations. • Construction-related solid waste will be handled and disposed of in a manner that meets current regulations and University standards. Construction and demolition debris will be managed in accordance with applicable state and federal regulations and the University's contractor policies.

5 Costs and Benefits

Short-term and long-term economic, social, and environmental costs and benefits are summarized in this section for the Proposed Action. Costs and benefits associated with a project may be both quantifiable (tangible) and non-quantifiable (intangible).

Costs

Based on preliminary design, the total cost of the project (engineering design, permitting, construction, etc.) is estimated at \$75 to 85 million, including site preparation, utility extension, building construction and outfitting, final site landscaping, and removal/relocation of the hammer throw and discus field. It should be noted that these costs are a reasonable estimate of costs to develop the project as described in this EIE and may change slightly as the project design is completed. Operational costs are unknown at this time, but will likely be comparable in magnitude to the three existing residential halls located adjacent to the project site.

Benefits

Construction of the proposed project will result in employment for construction workers in the region and the purchase of construction materials from local and regional suppliers within the State of Connecticut. The project will also result in a minor increase in the number of faculty and staff employed in the Division of Student Affairs, including Residential Life and Dining Services, to accommodate the increase in the number of students living on campus.

The proposed project will address a general need for more on-campus residential life space to accommodate the growing student population and the demand for housing on the Storrs Campus and the specific need to provide housing for first-year students enrolled in the STEM Scholars program, which is a part of the *Next Generation Connecticut* initiative. This project supports the *Next Generation Connecticut* initiative is anticipated to have multiple economic benefits including:

- \$146 million per year in new research awards
- \$285 million per year in new business activity in Connecticut resulting from research at UConn
- 2,190 new or 4,050 total permanent jobs
- 30,000 total construction jobs through 2024.

6 Potential Certificates, Permits, and Approvals

Table 6-1 lists the certificates, permits, and approvals that are anticipated to be required for the Proposed Action. Additional certificates, permits, and approvals may be identified following the CEPA process, pending the final design of the project.

Table 6-1. List of Required Certificates, Permits and Approvals

Certificate/Permit/Approval	Category	Agency	Comments
Connecticut General Permit	Wetlands	U.S. Army Corps of Engineers	Category 1 Notification required since the wetland impacts are less than 5,000 sf
General Permit for Water Resource Construction Activities	Wetlands/Construction	CTDEEP Bureau of Water Protection and Land Reuse's Inland Water Resources Division	Required for activities authorized under Category 1 or 2 of the U.S. Army Corps of Engineers General Permit State of Connecticut.
Title V Operating Permit	Air Quality	CTDEEP Bureau of Air Management	New stationary sources would be added to the existing Title V permit
Flood Management Certification	Flood Management	CTDEEP Bureau of Water Protection and Land Reuse's Inland Water Resources Division	Individual Permit
Administrative Decision Review	Traffic	Office of the State Traffic Commission (OSTA)	The project will qualify as an expansion under Section 14-312-1 of the OSTA regulations. A new Major Traffic Generator Certificate for the campus will not be required.
General Permit for Miscellaneous Discharges of Sewer Compatible (MISC) Wastewater	Wastewater	CTDEEP Bureau of Materials Management and Compliance Assurance	Required for non-contact cooling water discharges
General Permit for Discharge of Stormwater and Dewatering Wastewater Associated with Construction Activities	Stormwater	CTDEEP Bureau of Materials Management and Compliance Assurance	Registration required since total site disturbance exceeds 1 acre

7 References

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Appendix A

Scoping Documents





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March 18, 2014

Scoping Notices

1. Proposed Industrial / Business Park, East Haven
2. STEM Residence Hall at the University of Connecticut, Mansfield
3. New Engineering and Science Building at the University of Connecticut, Mansfield
4. Valley Service Road Extension, North Haven
5. **NEW!** Hill to Downtown MDP, New Haven
6. **NEW!** Greater Waterbury Bus Storage and Maintenance Facility, Watertown

Post-Scoping Notices: Environmental Impact Evaluation (EIE) Not Required

1. New Haven Rail Yard Maintenance of Way Building and Parking Lot, New Haven

Environmental Impact Evaluations

No Environmental Impact Evaluations were submitted for publication in this edition

State Land Transfers

No State Land Transfer Notice has been submitted for publication in this edition.

The next edition of the Environmental Monitor will be published on **April 8, 2014**.

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Scoping Notices

"Scoping" is for projects in the earliest stages of planning. At the scoping stage, detailed information on a project's design, alternatives, and environmental impacts does not yet exist. Sponsoring agencies are asking for comments from other agencies and from the public as to the scope of alternatives and environmental impacts that should be considered for further study. Send your comments to the contact person listed for the project by the date indicated.

The following Scoping Notices have been submitted for review and comment.

1. Notice of Scoping for Proposed East Haven Industrial/Business Park

Municipality where proposed project might be located: East Haven

Address of Possible Project Location: 420 Bradley Street, East Haven, CT

Project Description: The Town of East Haven is seeking state financial assistance for the development of an

industrial park at 420 Bradley Street, East Haven, CT. The proposed activities include development of five building lots on an approximately 50 acre parcel with approximately 20 acres of usable area. Lot 1 of the conceptual plan includes a 200,000 square foot warehouse/office facility, approximately 100 parking spaces and a 12 bay loading dock. The project area is approximately 1 mile from I-95 and approximately 3 miles from I-91.

Project Maps: Click here to view a [location map](#) of the project area. Click here to view a [conceptual site plan](#) of the project area.

Written comments from the public are welcomed and will be accepted until the close of business on: **March 20, 2014**.

Any person can ask the sponsoring agency to hold a Public Scoping Meeting by sending such a request to the address below. If a meeting is requested by 25 or more individuals, or by an association that represents 25 or more members, the sponsoring agency shall schedule a Public Scoping Meeting. Such requests must be made by **February 28, 2014**.

Written comments and/or requests for a Public Scoping Meeting should be sent to:

Name: Mark Hood
Agency: Department of Economic and Community Development
Address: 505 Hudson Street, Hartford, CT 06106
Fax: 860-270-8157
E-Mail: mark.hood@ct.gov

If you have questions about the public meeting, or other questions about the scoping for this project, contact:

Name: Mark Hood
Agency: Department of Economic and Community Development
Address: 505 Hudson Street, Hartford, CT 06106
Phone: 860-270-8089
Fax: 860-270-8157
E-Mail: mark.hood@ct.gov

2. Notice of Scoping for STEM Residence Hall

Municipality where proposed project might be located: Mansfield

Address of Possible Project Location: Alumni Drive on the University of Connecticut Storrs Campus, Mansfield, Connecticut

Project Description: UConn proposes to construct a Science Technology Engineering and Math (STEM) Residence Hall next to the Hilltop Residence Halls (Hale and Ellsworth) on Alumni Drive. The proposed residence hall consists of up to 850 beds in an 8 or 9-story building or buildings totaling up to 265,000 gross square feet. The STEM Residence Hall would provide housing for first-year students and is part of the capital project initiatives in support of Next Generation Connecticut, a program intended to significantly expand educational opportunities, research, and innovation in the STEM disciplines at UConn over the next decade.

Construction of the STEM Residence Hall on the proposed location on Alumni Drive will require demolition and relocation of athletic facilities related to discus and javelin throw fields. The site is located within the Eagleville Brook watershed and planning for the residence hall will incorporate consideration of the TMDL and watershed management plan for Eagleville Brook. The new residence hall is anticipated to tie into central utilities for electricity and to use liquefied petroleum gas-fired emergency generators. At least initially, the STEM Residence Hall will be locally heated and cooled. The building construction will incorporate best practices of sustainability with a minimum goal of Leadership in Energy & Environmental Design (LEED) Silver.

Project Map: [Click here to view a map of the project area](#).

Written comments: from the public are welcomed and will be accepted until the end of: ***NEW DATE* March 22, 2014**

There will be a Public Scoping Meeting for this project at:

Date: ***NEW DATE* March 17, 2014**

Time: 7:00 PM

Place: Room 146, UConn Bishop Center; One Bishop Circle; Storrs, CT 06269

Written comments should be sent to:

Name: Jason Coite

Agency: UConn - Office of Environmental Policy

Address: 31 LeDoyt Road, U-3055; Storrs, CT 06269

Fax: 860-486-5477

E-Mail: jason.coite@uconn.edu

If you have questions about the Public Scoping Meeting, or other questions about the scoping for this project, please contact Mr. Coite as directed above.

3. Notice of Scoping for New Engineering and Science Building at the University of Connecticut

Municipality where project is proposed: Mansfield

Address of Possible Project Location: Glenbrook Rd. at University of Connecticut, Storrs Campus

Project Description: The University of Connecticut is seeking to build a New Engineering & Science Building off Glenbrook Road at the Storrs Campus. This five-story, 108,000 GSF building is proposed to be located between the Chemistry Building and the Psychology/Biology Building, partially within the footprint of the old Central Warehouse, which will be demolished. The new building will be a 5-story, 108,000 gross square foot (GSF) structure with a full basement and penthouse. The New Engineering & Science Building will serve the university staff and students, offering new laboratories and offices, classrooms, and meeting rooms. The site is located within the Eagleville Brook watershed and consideration will be given to the TMDL and watershed management plan for Eagleville Brook. The New Engineering & Science Building is anticipated to tie into central utilities for all electrical, heating, and cooling needs. New construction associated with this project will incorporate best practices of sustainability with a minimum goal of LEED Silver.

Project Map: [Click here to view a map of the project area.](#)

Written comments: from the public are welcomed and will be accepted until the end of: ***NEW DATE* March 22, 2014**

There will be a Public Scoping Meeting for this project at:

Date: ***NEW DATE* March 17, 2014**

Time: 7:30 PM, or immediately upon the close of the STEM Residence Hall scoping meeting, whichever is later.

Place: Room 146, UConn Bishop Center; One Bishop Circle; Storrs, CT 06269

Written comments should be sent to:

Name: Jason Coite

Agency: UConn - Office of Environmental Policy

Address: 31 LeDoyt Road, U-3055; Storrs, CT 06269

Fax: 860-486-5477

E-Mail: jason.coite@uconn.edu

If you have questions about the Public Scoping Meeting, or other questions about the scoping for this project, please contact Mr. Coite as directed above.

4. Notice of Scoping for Valley Service Road Extension

Municipality where proposed project might be located: North Haven, Connecticut

Address of Possible Project Location: Valley Service Road

Project Description: Valley Service Road, a town owned and maintained roadway, begins at Connecticut Route 22 (Bishop Street) and extends northerly approximately 9,500 feet to a cul-de-sac. It is a 32 foot wide, paved, two-way road carrying one lane of traffic in each direction. The southerly 3,100 feet of Valley Service Road is a public road. It provides access to an On-Ramp to Interstate 91 Southbound, various businesses, and the undeveloped land on each side. The remaining roadway is presently not intended to be open to the public. This project involves the extension of Valley Service Road from the general location of its existing terminus, a cul-de-sac, approximately 950 feet to the existing perimeter road around the former Pratt and Whitney site, now called the 415 Washington Avenue Partners LLC site. The section of this perimeter road from the proposed intersection of Valley Service Road, east to Washington Street will become a public road upon completion of the Valley Service Road extension. The purpose of this proposed project is to improve traffic circulation in the project area by making Valley Service Road a through road open to the public.

Project Maps: Click [here](#) to view maps of the project area

Click [here](#) to view proposed project plans

Written comments from the public are welcomed and will be accepted until the close of business on: Friday **April 4, 2014**

Any person can ask the sponsoring agency to hold a Public Scoping Meeting by sending such a request to the address below. If a meeting is requested by 25 or more individuals, or by an association that represents 25 or more members, the sponsoring agency shall schedule a Public Scoping Meeting. Such requests must be made by Friday **March 14, 2014**.

Written comments and/or requests for a Public Scoping Meeting should be sent to:

Name: Mr. Mark W. Alexander, Transportation Assistant Planning Director
Agency: Connecticut Department of Transportation
Bureau of Policy and Planning
Address: 2800 Berlin Turnpike
Newington, CT 06131
Fax: 860-594-3028
E-Mail: dot.environmentalplanning@ct.gov

If you have questions about the scoping for this project, contact:

Name: Mr. William Grant, Transportation Supervising Engineer
Agency: Connecticut Department of Transportation
Bureau of Engineering and Construction
Address: 2800 Berlin Turnpike
Newington, CT 06131
Phone: 860-594-3229
E-Mail: William.E.Grant@ct.gov

5. Notice of Scoping for the Hill to Downtown MDP

Municipality where proposed project might be located: City of New Haven

Addresses of Possible Project Locations: The proposed Hill to Downtown Municipal Development Plan (MDP) project area is located approximately 0.6 miles west of New Haven Harbor and is bounded by College Street on the west, South Frontage Road on the north, and South Orange Street on the east. The southeastern boundary of the project area is formed by a line that is north of and generally parallel to Columbus Avenue between South Orange Street and Church Street. The proposed project boundary continues north along Church Street South to Amistad Street at which point the boundary turns west to the intersection of Amistad and Gold streets. Gold Street forms the southwestern boundary of the project area.

Project Description: The Connecticut Department of Economic and Community Development (DECD) was awarded a \$2 million Community Challenge Planning Grant from the U.S. Department of Housing and Urban Development (U.S. HUD). Portion of the funds will be utilized to prepare the Hill to Downtown MDP in the City of New Haven.

The proposed project would create infrastructure (roads, pedestrian and bikeways, and upgraded/new utilities) that would support private development of a mixed-use neighborhood by transforming many of the existing underutilized parcels and surface parking lots into vibrant community spaces, medical and research uses, retail and entertainment, and housing units. A new street grid would improve connectivity and mobility throughout the proposed project area and improve connectivity to surrounding neighborhoods. Improved streets and sidewalks would incorporate Complete Streets principles (such as sidewalks, bike lanes, accessible public transportation, and frequent and safe street crossing opportunities) to help create an urban environment that bolsters walking, cycling and increased transit use. Key improvements to the street grid in the proposed project area include the realignment of Lafayette Street to connect College Street and South Orange Street, and construction of New Temple Street that will ultimately provide a new connection to downtown. The proposed realignment and redesign of Lafayette Street would involve the removal of one of the Church Street South Apartment buildings. The MDP includes a detailed description of how this property would be acquired and how residents of this apartment building would be assisted in relocation.

A central part of the development of the new street grid and new land uses in the MDP project area includes upgrades to the existing utility systems including storm sewer, sanitary sewer, water, natural gas, electricity, and telecommunications. These systems would be relocated, upgraded, or abandoned in several key areas to accommodate new, reconstructed, and deconstructed streets.

The Hill-to-Downtown MDP is the outgrowth of the Hill-to-Downtown Community Plan that was prepared using the U.S. HUD Community Challenge Planning Grant. The community plan is the result of a 12-month collaborative effort between community stakeholders and the City to understand the challenges and opportunities facing this key city district located between Downtown New Haven, Union Station, the historic Hill neighborhood, and the medical district (which is comprised of the campuses of Yale School of Medicine and Yale-New Haven Hospital). The Hill-to-Downtown Community Plan is an extension of the City's Downtown Crossing initiative which is healing the scars of urban renewal-era land clearance and replacing the divisive Route 34/Oak Street Connector with vibrant, transit-oriented development.

Project Maps: Click here to view a [Location Map](#) of the project area. Click here to view the [Project Boundary](#).

Written comments from the public are welcomed and will be accepted until the close of business

on: Thursday, [April 17, 2014](#)

Any person can ask the sponsoring agency to hold a Public Scoping Meeting by sending such a request to the address below. If a meeting is requested by 25 or more individuals, or by an association that represents 25 or more members, the sponsoring agency shall schedule a Public Scoping Meeting. Such requests must be made by Friday, [March 28, 2014](#).

Written comments and/or requests for a Public Scoping Meeting should be sent to:

Name: Binu Chandy
Agency: Department of Economic and Community Development
Address: 505 Hudson Street, Hartford, CT
Fax: 860.706.5740
E-Mail: binu.chandy@ct.gov

If you have questions about the public meeting, or other questions about the scoping for this project, contact:

Name: Binu Chandy
Agency: Department of Economic and Community Development
Address: 505 Hudson Street, Hartford, CT
Phone: 860.270.8154
Fax: 860.706.5740
E-Mail: binu.chandy@ct.gov

6. Notice of Scoping for the Greater Waterbury Bus Storage and Maintenance Facility Project

Municipality where proposed project might be located: Watertown, CT

Address of Possible Project Location: Route 262 (Frost Bridge Road) between Route 8 and the Naugatuck River

Project Description: The proposed Greater Waterbury Bus Storage and Maintenance project will consist of a new, approximately 276,000 SF building, plus associated sitework. The project will be located on a parcel of property of roughly 20 acres in the Town of Watertown, adjacent to Frost Bridge Road (SR 262) and the Naugatuck River. This will replace the current bus storage and maintenance facility, located in leased space in a former foundry in the Waterville area of Waterbury, CT. The purpose of the project is to provide a facility which will contain the support functions and services necessary for operation of a daily transit service, while meeting the current and future needs of the transit staff and travelling public. The layout and size of the existing facility is not adequate, and the condition of the building is poor. The new facility will accommodate the storage and maintenance of a mixed fleet of 98 vehicles, including 40' and 35' buses, plus smaller, 28' paratransit body-on-chassis (BOC) vehicles. The facility will be owned by the State of Connecticut and operated as part of the CTTransit statewide bus system. The new facility will provide interior parking for the entire fleet, a service lane with an automatic bus wash, indoor fueling, farebox retrieval, a vehicle maintenance area with lifts and component repair areas, an administrative office area, and employee welfare facilities for the drivers and maintainers.

Project Map: Click [here](#) to view a map of the project area.

Click [here](#) to view a site plan.

Written comments from the public are welcomed and will be accepted until the close of business on: Friday [April 18, 2014](#)

Any person can ask the sponsoring agency to hold a Public Scoping Meeting by sending such a request to the address below. If a meeting is requested by 25 or more individuals, or by an association that represents 25 or more members, the sponsoring agency shall schedule a Public Scoping Meeting. Such requests must be made by Friday [March 28, 2014](#)

Written comments and/or requests for a Public Scoping Meeting should be sent to:

Name: Mr. Mark W. Alexander, Transportation Assistant Planning Director
Agency: Connecticut Department of Transportation
Address: 2800 Berlin Turnpike
Newington, CT 06131
Fax: 860-594-3028

E-Mail: dot.environmentalplanning@ct.gov

If you have questions about the scoping for this project, contact:

Name: Mr. John D. Hanifin, Project Manager
Agency: Connecticut Department of Transportation
Address: 2800 Berlin Turnpike
Newington, CT 06131
Phone: 860-594-2899
E-Mail: John.Hanifin@ct.gov

This project was previously reviewed under CEPA and a Finding of No Significant Impact (FONSI) was issued in 1999. A hardcopy of the FONSI can be viewed in person at the Connecticut Department of Transportation Office of Environmental Planning.

Post-Scoping Notices: Environmental Impact Evaluation Not Required

This category is required by the October 2010 revision of the [Generic Environmental Classification Document](#) for State Agencies. A notice is published here if the sponsoring agency, after publication of a scoping notice and consideration of comments received, has determined that an Environmental Impact Evaluation (EIE) does not need to be prepared for the proposed project.

The following Post-Scoping Notice has been submitted for publication in this edition.

1. Post-Scoping Notice for New Haven Rail Yard Maintenance of Way Building and Parking Lot

Municipality where project will be located: New Haven

CEPA Determination: On January 7, 2014 the Connecticut Department of Transportation (CTDOT) published a [Notice of Scoping](#) to solicit public comments for this project in the *Environmental Monitor*. The CTDOT has received comments from the [Department of Energy and Environmental Protection](#) and from the [Department of Public Health](#). The CTDOT has taken those comments into consideration and has concluded that the project does not require the preparation of Environmental Impact Evaluation under CEPA.

The agency's conclusion is documented in a an [Environmental Assessment Checklist](#) and a [Memo of Findings and Determination](#).

If you have questions about the project, you can contact the agency at:

Name: Mr. Mark W. Alexander, Transportation Assistant Planning Director
Agency: Bureau of Policy and Planning
Connecticut Department of Transportation
Address: 2800 Berlin Turnpike
Newington,, CT 06131
Phone:
Fax: 860-594-3028
E-Mail: dot.environmentalplanning@ct.gov

What happens next: The CTDOT expects the project to go forward. This is expected to be the final notice of the project to be published in the *Environmental Monitor*.

EIE Notices

After Scoping, an agency that wishes to undertake an action that could significantly affect the environment must produce, for public review and comment, a detailed written evaluation of the expected environmental impacts. This is called an [Environmental Impact Evaluation](#) (EIE).

No Environmental Impact Evaluation has been submitted for publication in this edition.

State Land Transfer Notices

Connecticut General Statutes [Section 4b-47](#) requires public notice of most proposed sales and transfers of state-owned lands. The public has an opportunity to comment on any such proposed transfer. Each notice includes an address where comments should be sent. [Read more about the five-step process](#).

No State Land Transfer Notice has been submitted for publication in this edition.

The Adobe Reader is necessary to view and print Adobe Acrobat documents, including some of the maps and illustrations that are linked to this publication. If you have an outdated version of Adobe Reader, it might cause pictures to display incompletely. To download up-to-date versions of the free software, click on the Get Acrobat button, below. This link will also provide information and instructions for downloading and installing the reader.



[Download the free Acrobat Reader!](#)

Access.Adobe is a tool that allows blind and visually impaired users to read any documents in Adobe PDF format. For more information, read the [product overview at Adobe.com](#).

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FUSS&O'NEILL

Public Scoping Meeting

University of Connecticut
STEM Residence Hall

Presented by:

Jason Coite, Environmental Compliance Manager, UConn
Diane Mas, Fuss & O'Neill, Inc.

March 17, 2014

Tonight's Agenda

- Welcome
- Meeting Purpose
- CEPA Process
- Project Overview & Alternatives
- Environmental Resources
- Project Schedule
- Public Comments



FUSS&O'NEILL

Purpose of Scoping Meeting

- Provide information on the Proposed Action

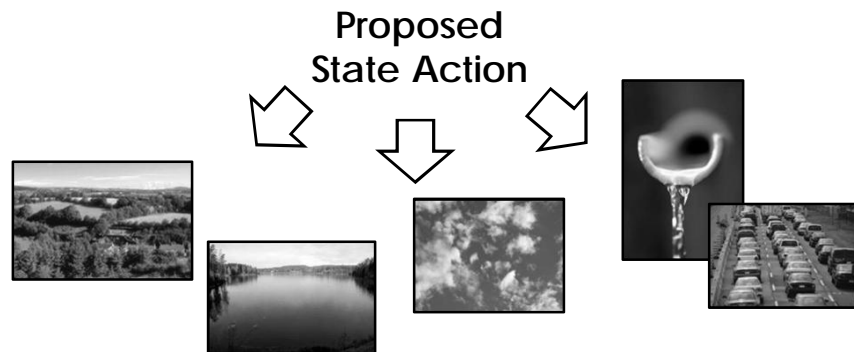
Construct a new 650-800 bed, 200,000-250,000 GSF residence hall adjacent to Hilltop Residence Halls on Alumni Drive to provide first-year student housing in a living and learning community for **S**cience, **T**echnology, **E**ngineering, and **M**ath (STEM) students

- Describe the Connecticut Environmental Policy Act (CEPA) process
- Provide a forum for public input
- Solicit verbal and written comments to be addressed in the CEPA process



What is CEPA?

- Connecticut Environmental Policy Act (CEPA)
- Identify and evaluate the impacts of proposed state actions which may significantly affect the environment
- Allow for public input



CEPA Resource Considerations

Physical

- Air Quality
- Noise
- Traffic, Parking & Circulation
- Utilities & Services
- Stormwater Drainage
- Solid & Hazardous Waste
- Aesthetics
- Cultural Resources
- Construction Impacts

Natural

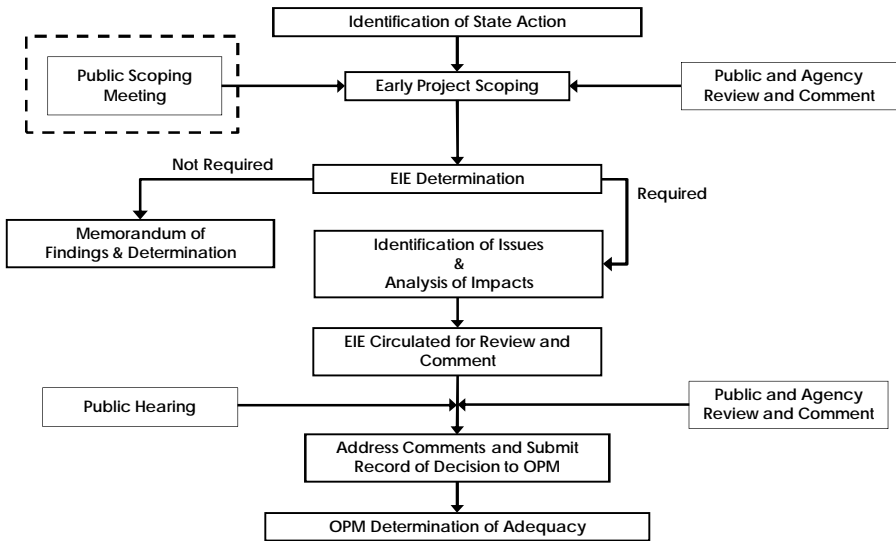
- Geology, Topography & Soils
- Surface Water
- Groundwater
- Floodplains
- Wetlands
- Fisheries
- Plants & Wildlife/
State Listed Species

Socioeconomic

- Land Use & Zoning
- State, Local & Campus Land Use Planning
- Open Space & Farmland
- Public Health & Safety
- Economy, Employment & Income
- Environmental Justice

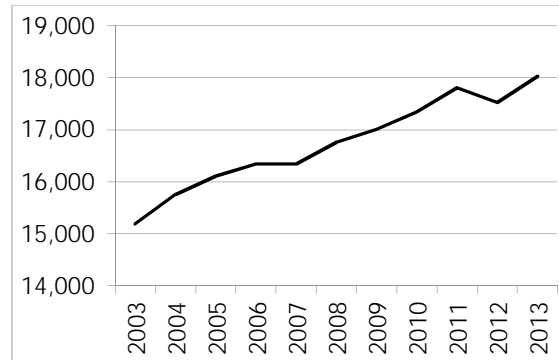


CEPA Process



Purpose & Need for a STEM Residence Hall

- Increased undergraduate applications
 - More than 29,500 students applied for 2014 admission
 - 10% increase over 2013; >50% increase since 2001
- Increased undergraduate enrollment at Storrs



FUSS & O'NEILL

Purpose & Need for a STEM Residence Hall

- Increase on-campus housing for UConn students
- Support for *Next Generation Connecticut*
- Focus is to expand UConn's STEM programs to provide qualified individuals for Connecticut's industries
- ~\$1.5 billion over 10 years
- Expansion includes:
 - Hiring 200 new STEM faculty
 - Increase STEM UG enrollment by 3,290 (42%)
 - Building STEM research facilities to house material science, physics, biology, engineering, cognitive science, genomics, and related disciplines
 - Construct new STEM teaching labs
 - Create a STEM Honors program (housing component)

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Proposed Action

- Science Technology Engineering and Math (STEM) Residence Hall
- Up to 800 beds in an 8 or 9-story building or buildings totaling up to approximately 250,000 GSF
- Housing for first-year students



STEM Residence Hall Programming

- Student Residential Space
 - Single and Double, ~ up to 800 beds
- Staff Living Space
 - Resident Director and Assistant Resident Director
- Floor Common & Support Areas
 - Lounge, Study Rooms, etc.
- Building Commons
 - Lobby, Lounge, Laundry, Seminar, Collaborative Learning Space
- Building Support & MEP
 - Mechanical, Electrical, Emergency Generator, Fire Pump, Custodial, Telecom

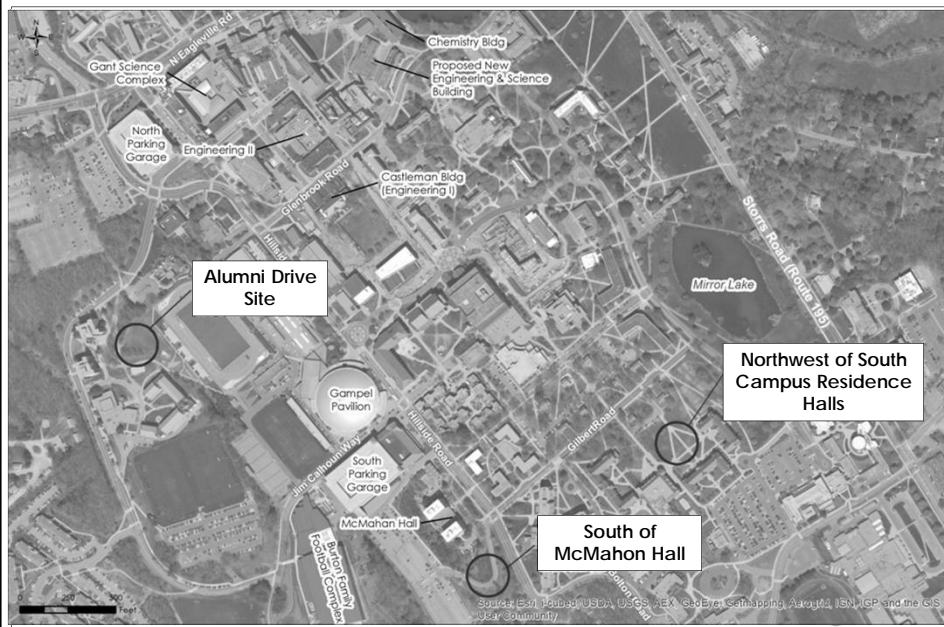


Alternatives

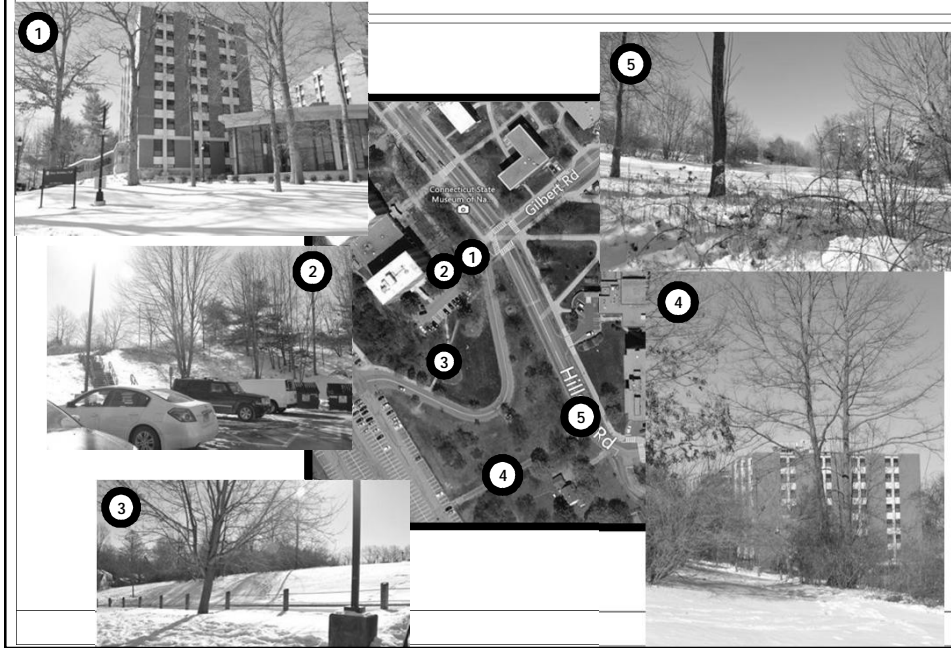
- No Action
- South of McMahon Hall
- Northwest of South Campus Residence Halls
- Alumni Drive Site



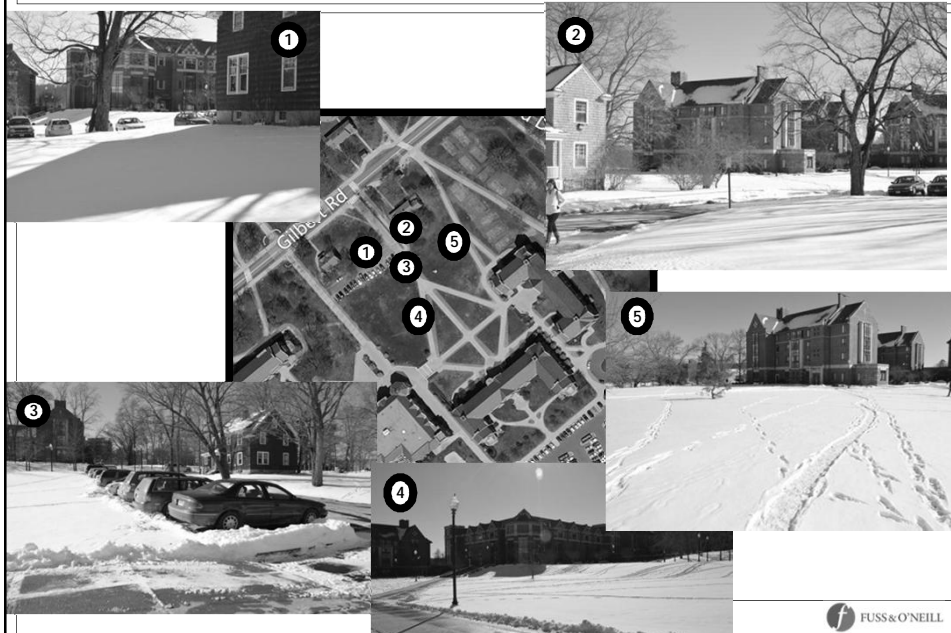
Alternative STEM Residence Hall Sites



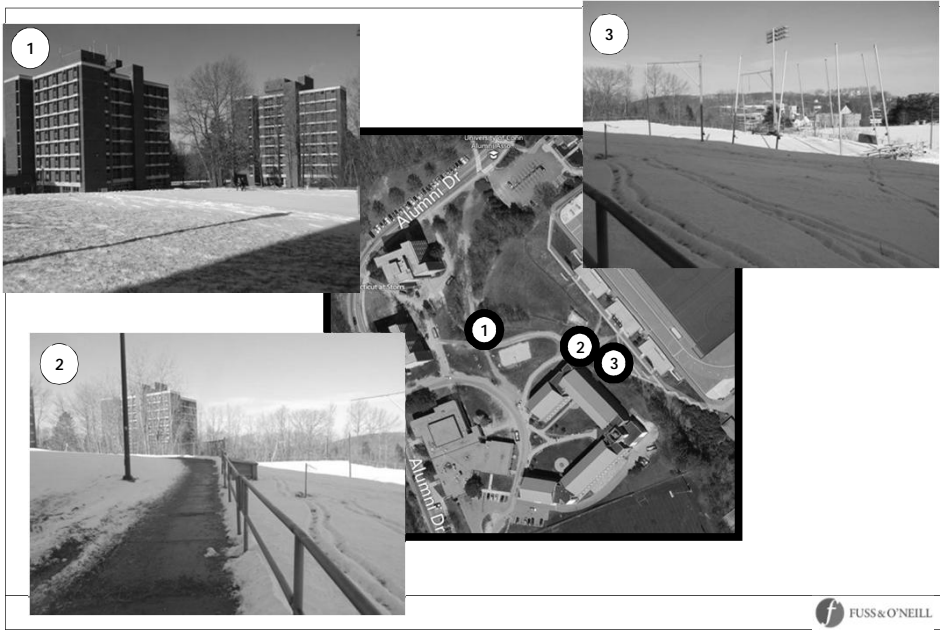
South of McMahon Hall



Northwest of South Campus Residence Halls

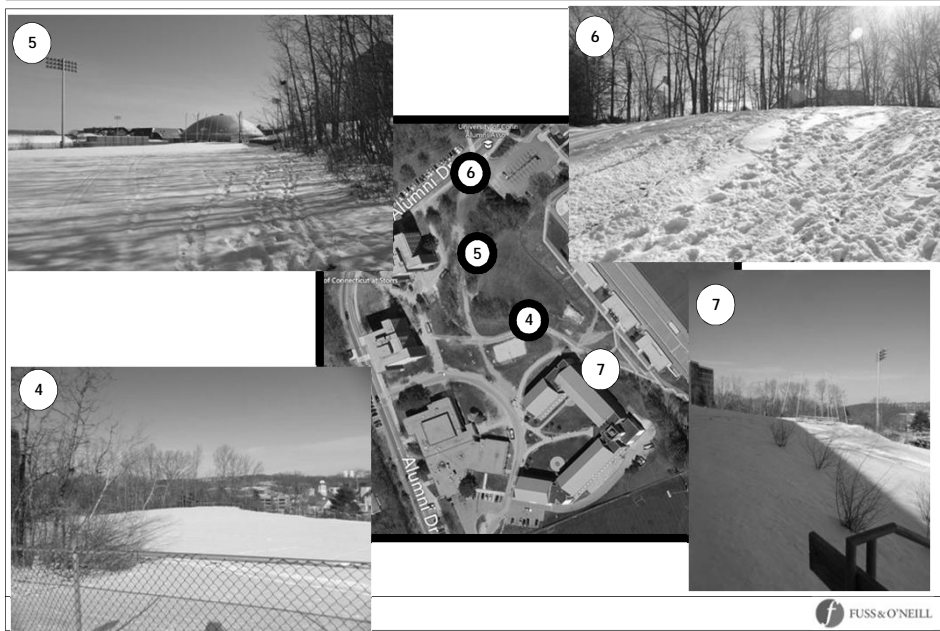


Alumni Drive Site



FUSS & O'NEILL

Alumni Drive Site



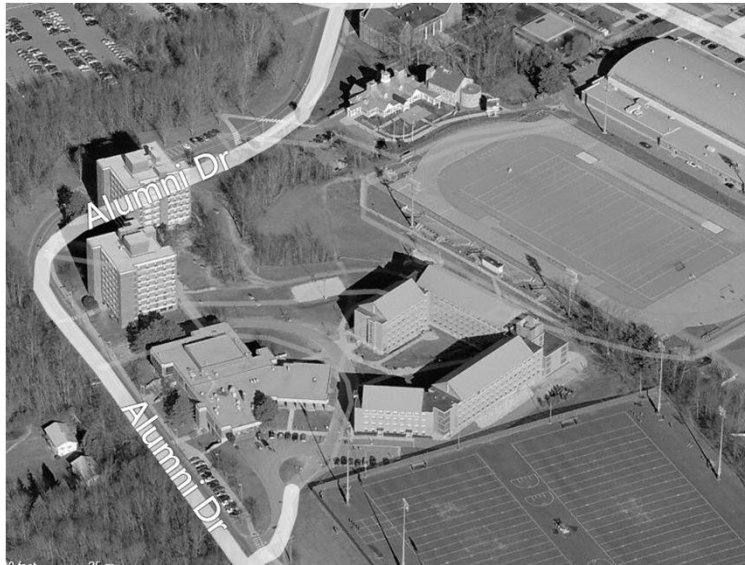
FUSS & O'NEILL

Alumni Drive Site

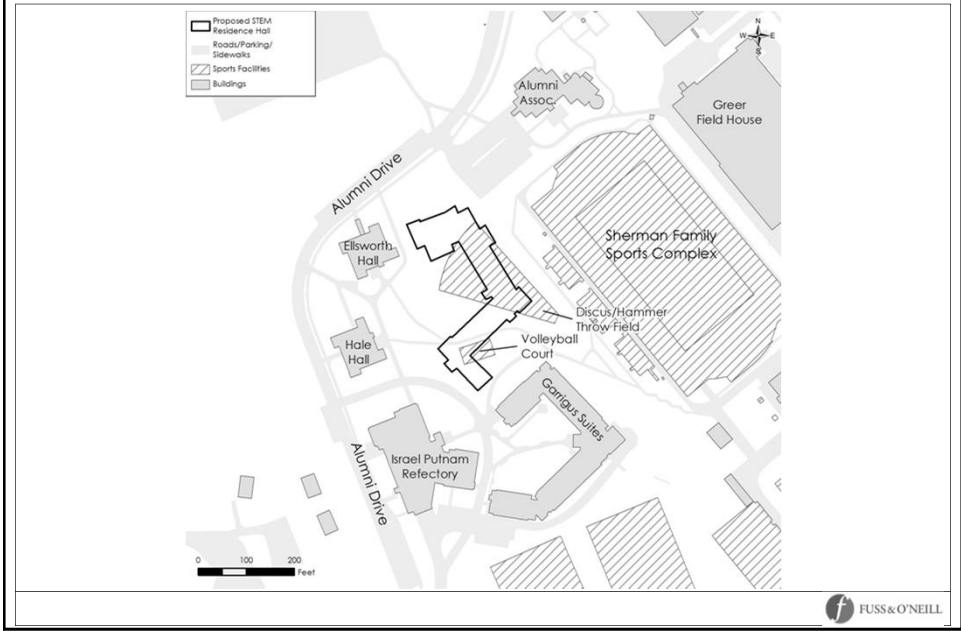
- Preferred Alternative
- Identified as a Future Residence Hall location in 2006 Campus Master Plan
- Residential area, compatible land use
- Proximity to academic STEM buildings
- No conflicts with existing roadways or buildings



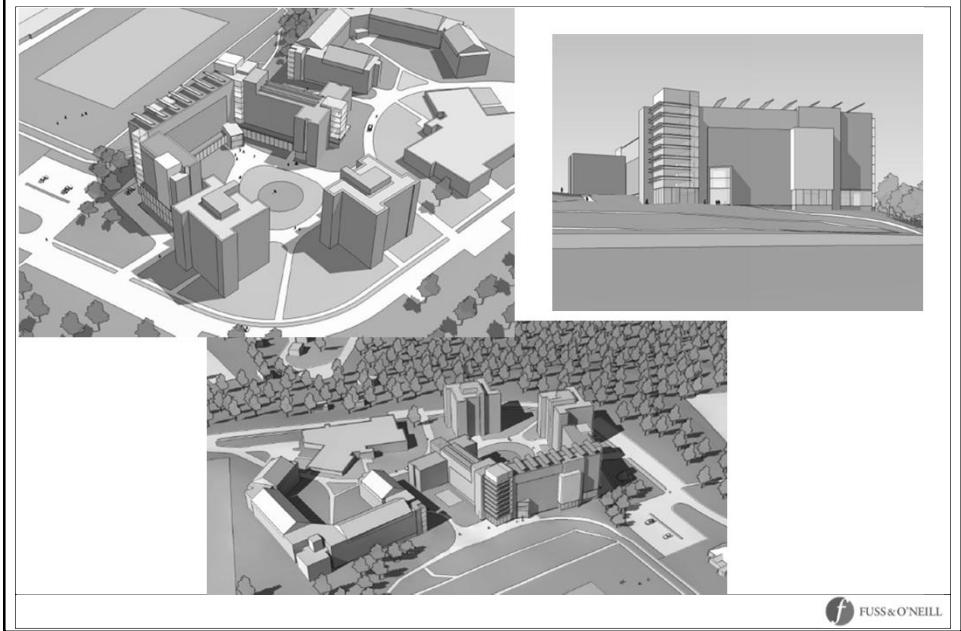
Alumni Drive Site



Alumni Drive Site



Alumni Drive Site – Conceptual Design



Preferred Alternative

- Anticipated to tie into central utilities for electricity
- LPG-fired emergency generators
- Locally heated and cooled (at least initially)
- Demolition and relocation of athletic facilities related to hammer throw/discus field
- Incorporate best practices of sustainability with a minimum goal of Leadership in Energy & Environmental Design (LEED) Silver
- Feasibility of reclaimed water use (cooling, toilet flushing) to be assessed during design

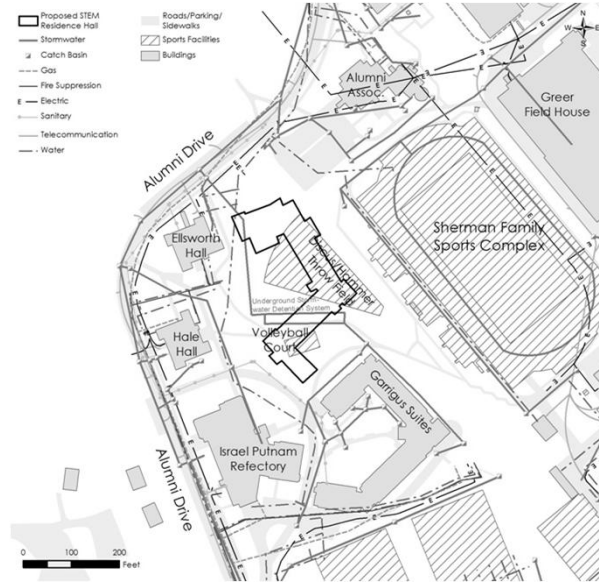


Alumni Drive Site – Resources

- Resources Not Present
 - Outside of National Register Historic District
 - No Threatened or Endangered Species mapped
 - No floodplains
- Minimal new parking demand and traffic generation associated with support staff
- Possible small (~2,000 SF) wetland area
- No pedestrian conflicts
- Consistent with state, regional, and campus master planning
- Consistent with existing visual & land use setting

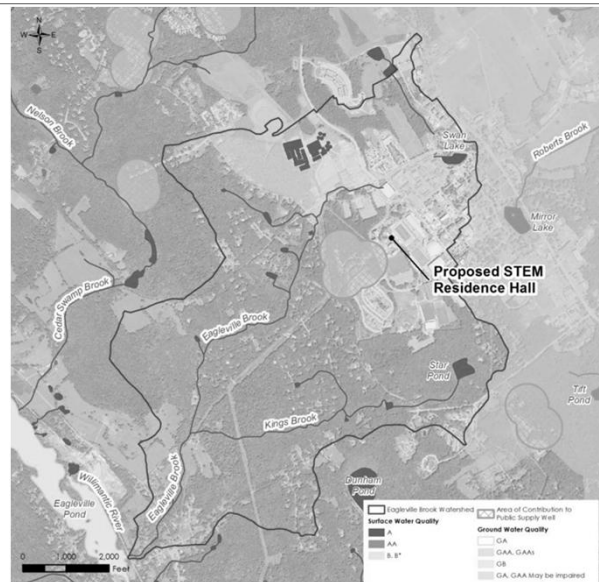


Alumni Drive Site – Utilities



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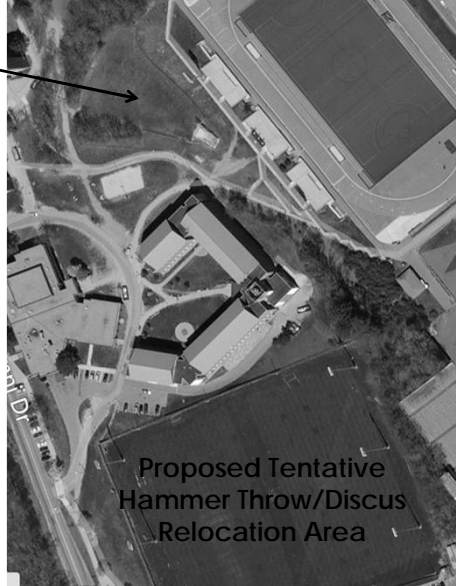
Alumni Drive Site – Water Resources



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Alumni Drive Site – Relocation

Existing Hammer
Throw/Discus
Field



FUSS & O'NEILL

Preliminary Impact Screening

Environmental Sector	Negative Impact?	Comments
Air Quality	Not Anticipated	<ul style="list-style-type: none"> • Stationary sources to be included in UConn air quality permit
Noise	No	<ul style="list-style-type: none"> • Consistent with residential setting
Water Resources	Not Anticipated	<ul style="list-style-type: none"> • Will be consistent with Eagleville Brook TMDL and Watershed Plan • No floodplains
Wetlands & Natural Communities	Not Anticipated	<ul style="list-style-type: none"> • No threatened/endangered species • Possible small wetland are to be investigated; if present, size and location suggest low ecological value
Cultural Resources	Not Anticipated	<ul style="list-style-type: none"> • Outside National Register Historic District • Disturbed area • Correspondence with SHPO to confirm
Geology & Soils	No	<ul style="list-style-type: none"> • No unique features or farmland soils

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Preliminary Impact Screening

Environmental Sector	Negative Impact?	Comments
Traffic, Parking, Circulation	No	<ul style="list-style-type: none"> • No disruption of existing roads/parking • Minimal new vehicle trips
Visual/Aesthetic	No	<ul style="list-style-type: none"> • Consistent with current visual setting
Utilities and Services	No	<ul style="list-style-type: none"> • Utilities present in project area
Public Health & Safety	No	<ul style="list-style-type: none"> • Public Health & Safety services in place for residential students
Solid Waste & Hazardous Materials	No	<ul style="list-style-type: none"> • Typical residential waste stream
Socioeconomic	No	<ul style="list-style-type: none"> • Anticipated socioeconomic benefit
Land Use Planning	No	<ul style="list-style-type: none"> • Consistent with campus, local, regional, and state plans



CEPA Project Schedule

Milestone	Date
Start of 30-Day CEPA Public Scoping Period	January 21, 2014
CEPA Public Scoping Meeting	March 17, 2014
End of 30-Day CEPA Scoping Period (extended)	March 22, 2014
CEPA Process	March – Fall, 2014
Start of Construction	Fall 2014
Occupancy	July/August 2016



Public Comments

Written comments about the project or CEPA process should be submitted to:

Jason Coite, Environmental Compliance Manager
University of Connecticut
Office of Environmental Policy
31 LeDoyt Road
U-Box 3055
Storrs, CT 06269-3055
860-486-9305
jason.coite@uconn.edu

Comments accepted until close of business March 22, 2014



Public Comments

- Verbal comments accepted tonight
- Please use sign-in sheet
- Written and verbal comments to be considered in CEPA process

Comments?



UNIVERSITY OF CONNECTICUT

One Bishop Circle

Storrs, Connecticut

* * * * *

Public Scoping Meeting * March 17, 2014

STEM Residence Hall *

* * * * *

Presented By: Diane Mas, from Fuss & O'Neill

- and -

Jason Coite, Environmental Compliance

Manager, UConn

1 Verbatim transcript of a
2 hearing before the State of Connecticut, University of
3 Connecticut, held March 17, 2014, at One Bishop Circle,
4 Storrs, Connecticut at 7:00 o'clock p.m., at which
5 time the parties were represented as hereinbefore set
6 forth

7 MR. COITE: Good evening, everyone.

8 For the record, it is March 17, 2014, and
9 we are starting our first Scoping Meeting on the STEM
10 Residence Hall at 7:01 p.m.

11 Thank you for coming. My name is Jason
12 Coite. I am an Environmental Compliance Manager for the
13 UConn office of Environmental Policy.

14 First, by way of a little background,
15 last year the Connecticut Legislature passed a bill into
16 an Act essentially extending UConn 2000, the Capitol
17 Projects Program, by allocating 1.5 billion dollars over
18 the next 10 years. This is essentially the next phase
19 of UConn 2000, and it's known as Next Generation
20 Connecticut.

21 What we have here tonight are the Scoping
22 Meetings for the first two projects funded in whole or
23 in part by the Next Gen Program.

24 The Next Gen Program will be guided by an

1 updated master plan for the campus. This process is
2 already under way. It has a goal of publishing a
3 finished plan by the end of the year.

4 We are committed to doing an
5 environmental impact evaluation for that master plan so
6 that we can publicly vet the anticipated accumulative
7 impacts of the Next Gen Program. We don't expect to
8 start that CEPA process until later this year.

9 The two projects we're presenting tonight
10 had a need to be advanced before the master plan was
11 started, not even finished. As such we've initiated
12 their own separate CEPA processes.

13 These two projects were announced in the
14 January 17th CEQ Environmental Monitor, and after having
15 to reschedule this meeting a couple of times, we are now
16 ready to have the official scoping meeting for those
17 projects. They are the STEM Residence Hall and the New
18 Science and Engineering building.

19 My plan tonight is that we'll have our
20 first consultant from Fuss & O'Neill come up and they
21 will present the relative scoping information for the
22 STEM Residence Hall. I will then open the floor to
23 comments on the STEM Residence Hall.

24 I do have a transcription service here

1 tonight so all comments will be recorded for the record.

2 Upon collecting all the comments we will
3 close the Residence Hall portion of tonight's meeting,
4 and then officially open the new science portion of
5 tonight's meeting, and it will follow the same sort of
6 plan. It will have a brief presentation from our
7 consultants from GZA. We will open the floor to
8 comments on that project. Close that portion of the
9 meeting, and that will conclude tonight's activities.

10 It is our intent to have the
11 presentations you see tonight up on the OEPs website we
12 have dedicated for EIEs. We will have that up -- it's
13 our intent to have that up by the end of business
14 tomorrow.

15 And just as a reminder, when we do open
16 the floor to comments, the primary purpose is to collect
17 your thoughts and questions on the proposals. And those
18 questions and comments will help guide us on the
19 considerations as we move forward. If there are
20 questions that we can easily answer tonight we will
21 certainly try our best to do so, but I cannot guarantee
22 that we will have an answer for you tonight, and I just
23 want to thank you in advance for your patience.

24 With that, I will hand this off to Diane

1 Moss from Fuss & O'Neill. And she has several slides
2 she would like to work through tonight, and then, like I
3 said, we'll open the floor to comments.

4 Thank you.

5 MS. MAS: Thanks, Jason.

6 So, just to briefly review the agenda for
7 this evening. We will cover the purpose of the meeting,
8 give a brief review review of the CEPA Process, give an
9 overview of the STEM Residence Hall Project and
10 alternatives that were investigated. We will discuss
11 the environmental resources associated with the project
12 site, go over the project schedule, and then open the
13 floor for public comment.

14 So, the purpose of tonight's meeting, as
15 Jason introduced, is to provide the public and state
16 agencies information about an action proposed to be
17 taken by the University of Connecticut, and that action
18 is the construction of a new 650 to 800 bed, 200 to
19 250,000 gross square foot residence hall adjacent to the
20 existing Hill Top Residence Halls on Alumni Drive to
21 provide first year student housing in a living and
22 learning community for Science, Technology, Engineering
23 and Math, or STEM, students.

24 We're here tonight to fulfill the

1 University's requirement to comply with the Connecticut
2 Environmental Policy Act, or CEPA. And in the next
3 slide I'll explain more about the CEPA process.

4 In addition to providing information
5 about the proposed STEM Residence Hall, this meeting
6 also serves, as Jason mentioned, to provide a forum for
7 public input and the opportunity to solicit verbal and
8 written comments that the University will consider
9 through the CEPA process.

10 So to review, what is CEPA? The purpose
11 of the Connecticut Environmental Policy Act is to
12 identify and evaluate the impacts of proposed state
13 actions which may significantly effect the environment.
14 And it's also a forum to allow for public input on
15 state actions to be considered.

16 The environment considered in the CEPA
17 process is fairly broad. It consists of both the
18 natural and the built environment. And as the slide
19 shows, there's roughly 20 or so different resource areas
20 that are covered in the context of the CEPA process.
21 And they fall into these three major categories. The
22 physical environment, the natural environment and
23 socioeconomic issues.

24 The idea is to identify both beneficial

1 and adverse impacts; direct, indirect and cumulative
2 impacts and identify measures to avoid, minimize and
3 mitigate adverse impacts, if they exist.

4 So, this slide provides a flow chart, or
5 overview, of the CEPA process for a project. The CEPA
6 process is outlined in both the Connecticut General
7 Statutes and in implementing regulations. And this flow
8 chart shows the major steps in the process. Each state
9 agency and UConn is subject to something called an
10 environmental classification document, or ECD, which is
11 used to determine whether an agency action requires an
12 evaluation under CEPA.

13 The ECD identifies actions which always
14 require the completion of an Environmental Impact
15 Evaluation. There's a sorta certain narrow class of
16 actions. Actions which do not warrant review under
17 CEPA, except in extraordinary circumstances, and actions
18 which may or may not require an EIE, depending on the
19 potential for significant environmental impact, and the
20 majority of actions taken by state agencies and the
21 university fall into that third category.

22 Once an agency identifies what the state
23 action is and that it's subject CEPA we then begin the
24 scoping process, which is where we are tonight in our

1 public scoping meeting.

2 And scoping begins with the publishing of
3 a Scoping Notice in the Council & Environmental
4 Qualities Environmental Monitor. The Scoping Notice for
5 the STEM Residence Hall Project was published in the
6 January 21st edition of the Monitor. And the purpose of
7 this process is really to get public and agency review
8 and comment on a project to identify any major issues of
9 concern for a project and to help determine if the EIE
10 is required and what the areas of focus would be for
11 that EIE.

12 The scoping period lasts for a minimum of
13 30 days. In this case there's been an extension of
14 that, so we've had a longer scoping period.

15 At the conclusion of the scoping period
16 the CEPA process allows a state agency to consider if an
17 EIE is required or not required. If it's determined
18 that an EIE is not required, what happens then is that
19 the agency prepares, or in this case the University
20 prepares a written memorandum that documents its
21 findings and subsequent determination of the proposed
22 action environmental significance, using criteria that's
23 set forth in the regulations of Connecticut State
24 Agencies. This memorandum is posted in the

1 Environmental Monitor, and the CEPA process would
2 conclude at that point for this project.

3 If, on the other hand, an agency or the
4 University decides that an EIE is required, then the EIE
5 preparation begins following the scoping process. The
6 document addresses the topics shown on the previous
7 slide; the natural, built, socioeconomical environment.
8 And then it's eventually released for public comment;
9 circulated for review and comment.

10 Typically there is a public hearing. And
11 again, agency and public review and comment is solicited
12 during that 45 day comment period.

13 Comments on the EIE are then addressed in
14 something called the Record of Decision, which is
15 prepared by the University, and the Record of Decision
16 is then submitted to the Office of Policy and Management
17 for determination of adequacy with the CEPA process.

18 So, now that we've given an overview of
19 what CEPA is, why we're here tonight, what the flow
20 chart of sorta the process is, we'll start discussing
21 the actual project.

22 So, the need for the proposed STEM
23 Residence Hall is to provide residential life space for
24 a growing UConn undergraduate population.

1 This past year, nearly 30,000 students
2 applied for admission. That's an increase of 10 percent
3 over the previous year, and an over 50 percent increase
4 compared to 2001. And as the graph shows, there's an
5 increased trend in enrollment over the past decade.

6 So, in addition to providing additional
7 on-campus housing for UConn students, the proposed STEM
8 Residence Hall will also support the Next Generation
9 Connecticut initiative that Jason mentioned. The focus
10 of that initiative is to expand UConn's STEM program to
11 provide qualified, educated individuals for
12 Connecticut's industries. It's an approximately 1.5
13 billion dollar program over 10 years, and that expansion
14 includes the hiring of new STEM faculty, an increase in
15 STEM undergraduate enrollment by roughly 42 percent over
16 existing levels. Building new STEM research facilities,
17 constructing new STEM teaching labs, and creating a STEM
18 honors program. That program includes a residential
19 housing component, and this project specifically helps
20 to address that need for housing.

21 So, the proposed action by the University
22 is the construction of the STEM Residence Hall, with up
23 to 800 beds in an eight or nine story building, or
24 buildings, totaling approximately 250,000 gross square

1 feet, not exceeding that. And, again, it will be
2 housing for first year students.

3 Programming for the residence hall has
4 identified the following elements that will be included
5 in the final design:

6 Student residential space, both single
7 and double occupancy.

8 Staff living space for a resident
9 director and assistant resident director.

10 Floor common and support areas. Things
11 like lounges, study rooms.

12 Building common areas, like lobby,
13 laundry areas. In addition, seminar and collaborative
14 learning space in this building.

15 And finally, building support functions.
16 Things like mechanical and electrical, custodial,
17 telecommunications.

18 CEPA requires that the University
19 consider alternatives to the proposed action. One of
20 them being the no action alternative. And under the no
21 action alternative there would be no residence hall
22 constructed. Clearly that does not support the purpose
23 and need associated with the Next Generation Connecticut
24 Program.

1 Other alternative locations were
2 considered, and we'll review those now.

3 So, this map shows alternative residence
4 hall locations that were considered in the process.
5 First we have the site just south of McMahon Hall,
6 approximately here.

7 We have another area northwest of the South
8 Campus residence halls.

9 And finally the Alumni Drive site here to
10 the west of the athletic complex.

11 So, I'll give you a minute to look at
12 this slide and kinda orient yourself.

13 This is the south of McMahon hall.
14 Here's McMahon Hall. Here's Hillside Road. Here's the
15 roadway that connects to the Y Lot, which is a student
16 commuter lot. And in each of these slides coming up
17 where there are numbered photographs, the numbered
18 circles on the map indicate the position of the viewer
19 looking at the view indicated in the corresponding
20 photo.

21 So, a few things to point out about this
22 site. This general location was identified in the 2006
23 UConn Master Plan as an area for additional residential
24 housing. We see that the proposed location is located

1 on a moderate slope, and also would require the
2 relocation or removal of this roadway from Hillside Road
3 to the parking lot in order for construction to take
4 place.

5 Our next alternative location is
6 northwest of the south campus residence hall. So, this
7 area right in here along Gilbert Road. While this site
8 is open and flat, construction at this location would
9 likely require the removal of two cottages that are
10 located along Gilbert Road. You can see one of them
11 here in that photo. Both of these are located within
12 the University of Connecticut National Register Historic
13 District. In addition, this small lot on Maple Lane
14 would be removed.

15 And we have the Alumni Drive site here,
16 which is located in the area northeast of Hale and
17 Ellsworth Halls, shown here, and north of the Garrigus
18 Residence Hall, which is here.

19 The Sherman Family Sports Complex is to
20 the east of the site. And there is this sort of wedge
21 shape, pie shape, piece of grass here, which is actually
22 the existing hammer throw and discus field, which would
23 require relocation.

24 To give you a few more perspectives on

1 the site so, the existing field, the hammer throw
2 and discus field, is a relatively flat area, and then
3 the site slopes down from there to the Sherman Complex
4 and down to Alumni Drive.

5 So, the Alumni Drive site was identified
6 by the University as the preferred alternative for the
7 STEM Residence Hall construction for several reasons.

8 First it was a location that was
9 identified as a future residence hall location in the
10 2006 Campus Master Plan. It's already a residential
11 area, so there is compatible land use. It has good
12 proximity to the academic STEM buildings and that
13 general area of campus and it also does not present any
14 conflicts with existing roadway or buildings. So, there
15 would not be a need to relocate roadways or buildings in
16 order to accommodate construction.

17 This is an aerial view of the site to
18 give you some perspective of the scale of the existing
19 buildings. These are, I believe, eight or nine story,
20 of residential dorms. And, again, this is the location
21 that we're looking at for the proposed footprint, which
22 here is an approximate footprint for the STEM
23 Resident Hall. You can see Ellsworth and Hale Halls
24 here, the Sherman Family Sports Complex and the existing

1 discus hammer throw field that would need to be
2 relocated, as well as a volleyball court that would need
3 to be removed or relocated.

4 These are a few conceptual drawings,
5 again, to give a sense of the scale and how the building
6 fits within the existing residential complex there.
7 This view is from Sherman Field looking sorta up the
8 slope at the building, and you can sorta get a sense of
9 how a quad would be formed as a result of the
10 construction here.

11 It's anticipated that the building would
12 tie into central utilities for electricity. There would
13 be an LPG fire and emergency generator or generators.
14 It would be locally heated and cooled, at least
15 initially. It would require demolition and relocation
16 of the hammer throw/discus field.

17 The building, the design and construction
18 would incorporate best practices of sustainability.
19 With a minimum goal of LEED, which is leadership and
20 energy and environmental design, silver status.

21 And also the feasibility of reclaimed
22 water use for things like cooling and toilet flushing
23 will be assessed during the design process.

24 In terms of resources at the site or in

1 the project area, resources that are not present include
2 the following.

3 It is outside of the National Register
4 Historic District located on campus. There are no
5 threatened or endangered species mapped in the project
6 location, and there are no flood plains present there.

7 There would be minimal new parking
8 demands and traffic generation. That would only be
9 associated with supported staff for the buildings since
10 this would house first year students that are not
11 allowed to bring vehicles on campus.

12 There is a possible small wetland area
13 less than 2,000 square feet that is going to be looked
14 at and either confirmed or delineated when ground
15 conditions permit. We're getting close. The snow seems
16 to be off, so we're hoping in the next few weeks we can
17 make a determination on that area located next to the
18 hammer throw field.

19 There are no pedestrian conflicts. There
20 would -- it would require reconfiguration of the
21 pedestrian pathways in that quad area around the
22 residencies, but no real conflicts for pedestrians.

23 It's consistent with state, regional and
24 campus master planning. And it's also consistent with

1 the existing visual and land use setting in that area of
2 campus.

3 Utilities are available in the area.
4 Here's a mapping showing the present utilities, which
5 serve the other residence halls and the region, and then
6 the footprint of the proposed site.

7 It is anticipated, as I mentioned, that
8 the residence hall would initially be heated and cooled
9 locally. It may eventually tie into campus wide
10 utilities for heating and cooling. An emergency
11 generator would be located on site. And also the
12 feasibility of using reclaimed water will be assessed
13 during that design process.

14 In terms of water resources near the
15 project site, the site is located in the Eagleville
16 Brook watershed. The watershed itself is outlined here
17 in red. And you can see the UConn campus here, and then
18 the approximate location of the proposed STEM Residence
19 Hall shown here.

20 The Eagleville Brook watershed is the
21 subject of both a TMDL, or Total Maximum Daily Load,
22 developed by Connecticut Department of Energy and
23 Environmental Protection in 2007 and also a watershed
24 management plan, as well as being included in the

1 statewide bacteria TMDL.

2 The 2007 Eagleville Brook TMDL recommends
3 a 59 percent reduction in impervious cover in the
4 portion of the watershed that's on the UConn campus.

5 The 2011 Eagleville Brook Watershed
6 Management Plan recommends the use of low impact
7 development retrofits to the stormwater system on
8 campus.

9 The design and planning for the residence
10 hall will incorporate consideration of both the TMDL and
11 the Watershed Management Plan for Eagleville Brook.

12 The building will incorporate best
13 practices of sustainability and follow campus
14 sustainability guidelines. Of course with that minimum
15 goal of LEED Silver criteria in mind.

16 MS. REICH: Can I ask a question about
17 the map?

18 MR. COITE: We can go back to the map
19 during the comment phase.

20 MS. REICH: Okay. Can you just say what
21 that groundwater area is next to it.

22 MS. MAS: Are you referring to the green
23 area?

24 MS. REICH: Light blue.

1 MS. MAS: I believe actually that is --

2 MS. REICH: Public drinking water supply.

3 Is that Orchard Acres Apartment Complex?

4 MS. MAS: I'd have to confirm that.

5 MR. COITE: It's likely to be Orchard
6 Acres drinking water supply wells, but we'll have to
7 confirm that at a later point.

8 MS. MAS: As I mentioned earlier,
9 construction on the preferred alternative location
10 wouldn't require any building or roadway relocation,
11 but the sand volleyball court would be removed and the
12 existing hammer throw/discus field would be relocated.

13 At the moment, the University has
14 identified the multipurpose field south of the Garrigus
15 Suites as a proposed tentative relocation area.

16 So, to summarize where we're at in terms
17 of our preliminary impact screening at this point.
18 Looking at some of the major environmental sectors
19 associated with the project area in terms of air
20 quality, no negative impact is anticipated. There
21 would be stationary sources, flutants. So, things like
22 the emergency generator, any stationary fuel burning
23 equipment would be associated with the project. Those
24 would be included in the UConn air quality permit, the

1 Title 5 permit. There is existing capacity within that
2 permit.

3 No negative impacts to the noise
4 environment is anticipated. This is a project that's
5 consistent with the existing residential setting in that
6 area.

7 Water resources are not anticipated to be
8 impacted. The project will be consistent with the
9 Eagleville Brook TMDL and the Watershed Plan, no flood
10 plains are located in the project site.

11 Wetlands and natural communities are not
12 anticipated to be significantly negatively impacted.
13 There are no threatened or endangered species mapped in
14 the project location.

15 There is a small wetland area to be
16 investigated. If it is present, the size and location
17 suggests low ecological value, but that needs to be
18 confirmed with field work, which should happen,
19 hopefully in the next few weeks if we get some warmer
20 temperatures and a thaw.

21 Cultural resources are not anticipated to
22 be impacted. The project location is outside the
23 National Register Historic District. It's a disturbed
24 area, which typically indicates low ecological

1 sensitivity. However, the University has initiated
2 correspondence with the State Historic Preservation
3 Office, or the SHPO, to confirm that there would be no
4 adverse effect.

5 There are no unique features, geologic
6 features or farmland soils on the site. So, no impact
7 to geology or soils is anticipated.

8 As we mentioned earlier, there would no
9 disruption of existing roadways or parking. Minimal new
10 vehicle trips associated with the project because these
11 would be first year students. So, no impacts to
12 traffic, parking or circulation are anticipated.

13 The construction is consistent with the
14 current visual setting, so no visual or aesthetic
15 impacts are anticipated.

16 Utilities are present in the project area
17 and have capacity to support the project, so no negative
18 impact is anticipated there.

19 Public health and safety services are in
20 place for residential students. So, no negative impact
21 impact to public health and safety are expected.

22 Solid waste and hazardous materials are
23 not anticipated to be negatively impacted. This
24 building would generate a typical residential waste

1 stream.

2 Socioeconomic impacts are actually
3 expected to be beneficial because this project supports
4 the Next Generation Connecticut Initiative.

5 And, finally, the project is consistent
6 with campus, local, regional and state plans. So, land
7 use planning will not be negatively impacted.

8 In terms of the project schedule. The 30
9 day CEPA public scoping period began on January 21st.
10 We're having our scoping meeting tonight on March 17th.

11 The end of the originally 30 day, now
12 extended, CEPA Scoping period will be March 22, 2014.

13 The CEPA process will conclude sometime
14 between now and the fall of 2014 when the start of
15 construction is anticipated. With occupancy of the
16 residence hall anticipated in late summer 2016.

17 So, we will provide time for verbal
18 comments.

19 I would just like to mention that written
20 comments about the project or the CEPA process can be
21 submitted to Jason at any of the contact methods here;
22 address, telephone and email.

23 Also, there are comment forms over on the
24 side table, and you're welcome to fill out a form, take

1 it with you or fill out a form and leave it this
2 evening.

3 Comments will be accepted until the close
4 of business on March 22nd.

5 And we will have oral comments accepted
6 tonight. I would like to encourage people if you
7 haven't signed in, to sign in so we have attendance.
8 And, also, I think we always find it helpful if you
9 state your name if you do have a comment, just so we
10 have it for the record.

11 And I just want to emphasize that the
12 comments, both written and verbal ones considered
13 tonight, will be considered by the University during the
14 CEPA process.

15 So, with that we can turn it over
16 for comments.

17 MR. COITE: Thank you, Diane.

18 I will moderate any comments.

19 Just a couple of clarifications. I think
20 earlier in the meeting I stated that the CEQ Monitor
21 Notice was January 17th. Diane was correct. It was
22 January 21st. So I just want to get that correction on
23 record.

24 Diane also listed my contact information,

1 including my phone number. While my phone number is
2 correct, I don't receive comments on EIEs by phone. I
3 like to keep them either by written or when we have a
4 transcription service available. And that's to ensure
5 accuracy of the comments.

6 With that, I'll open the floor to
7 comments, and feel free to raise your hand.

8 If you wouldn't mind, state your name,
9 and if you have an affiliation, and if you list your
10 address that helps us as well.

11 MS. REICH: My name is Meg Reich. I live
12 in Mansfield Center here. I went to school here from 71
13 to 75. I'm the President of the Willimantic River
14 Alliance.

15 This project is within the watershed of
16 Eagleville Brook, which flows into the Willimantic
17 River, so I'm here to comment on this project for its
18 impacts on the Willimantic River.

19 I know the University has carried out a
20 lot of impervious cover improvements, improvements to
21 minimize the runoff from rooftops and bioretention
22 projects in order to minimize the impact on the
23 Eagleville Brook, which has been very detrimentally
24 impacted from the urban development of the University

1 simply from the runoff of all the sand and salt erosion
2 sedimentation that occurs in any urban area. However, I
3 didn't see any such project proposed here.

4 I see the landscape plan in the back of
5 the room and I notice that when I compared the site map
6 for this project from the CEU site, and that's back
7 here, to the project on the TMDL website. They're top
8 10 projects at the top, number one project is to defuse
9 and disconnect the rooftop drainage from the chemistry
10 building and to channel it into a bioretention
11 improvement. Presumably a rain garden or something in
12 back of the chemistry building, which is in the area
13 shown -- it's on the landscape plan and all the other
14 plans that this building is going to be built on. The
15 old concrete warehouse is going to be removed and the
16 building will be built there, but the site as a whole is
17 taking up a good deal of the space where that TMDL
18 bioretention project was going to be built so that it
19 can't be built. And -- oh, I'm talking about the
20 engineering building. Sorry. That's the next hearing.

21 But this all connects

22 Today I was at a conference here at
23 UConn. It was the Natural Resources Conference -- 2014
24 Connecticut Conference on Natural Resources at UConn,

1 Storrs, and there were two -- perhaps three different
2 presentations on TMDL Projects at UConn, and they showed
3 and listed a number of the projects that the University
4 has done. None of which are the top ten projects that
5 were recommended and I'm sorta disappointed to see that
6 there are no -- at this point in the project, at least,
7 there are no proposals or plans to minimize runoff from
8 that site.

9 One of the projects, not only, that
10 should be included would be a green roof or the runoff
11 from the roof should be captured and channeled into --
12 not into the pipe drainage system but into some sort of
13 bioretention. A swale or rain garden or something.
14 However, at this point in time, when you are completing
15 the quadrangle up in the Hilltop area there's not a lot
16 of land left to create the bioretention area and allow
17 any landscaping and play space, outdoor recreations
18 space for students. So, it's going to be difficult to
19 do.

20 And when you go to the edge of the site,
21 it slopes off quite steeply. And as your Chief Master
22 Planner and Architect, Laura Cruickshank, said at a
23 meeting earlier this week, the goat paths that emanate
24 from the conflicts already transverse a lot of steep

1 slopes. And that was the case back in the early 70's
2 when I was in school here. Students want to walk across
3 the shortest path and they create eroded pathways of
4 desire. And that needs to be really minimized, because
5 that's the major source of erosion and sedimentation on
6 residential building site like this. So you have to
7 provide some paved sidewalks, perhaps with some sort of
8 pervious pavement, and stairways and/or fence and
9 landscape the site so that pedestrian movements are
10 channeled on to those deliberate walkways. Otherwise
11 they'll run off and set erosion and sedimentation from
12 the goat paths, pathways of desire. Illegal walking
13 across the lawn is going to be considerable, so

14 While the Willimantic River Alliance does
15 not oppose the increase of the size of the university or
16 the need for new buildings, and we're glad to see that
17 the first of the new residence buildings is being built
18 in conjunction with the plans that have already
19 previously been approved -- the other building sites are
20 perfectly okay, but we want to see them wait until they
21 get approved the master planning process for the campus.

22 We want to see you put into effect low
23 impact development, green infrastructure, whatever
24 terminology you want to use to minimize the erosion and

1 sedimentation from this site.

2 And we're also concerned about the
3 relocation of the volleyball -- sand volleyball court
4 and the discus and hammer throw fields. While those
5 would be actually good things to have some place else in
6 the watershed, it's going to be hard to find sites to
7 put them. And I think they're going to interfere with
8 the multipurpose fields that are south of the site.

9 The users, the current users of the field
10 are not going to appreciate the discus throw there.

11 Having gone to school with somebody who
12 went to the Olympics from this school in discus and
13 hammer throw, I think I know what I'm talking about
14 having thrown a few hammers myself.

15 But I think another green roof on this
16 building and the -- dealing with the steep access to the
17 approach of this site is something that you'll have to
18 deal with in the site plans.

19 MR. COITE: Thank you, Ms. Reich.

20 Are there any other comments for the
21 record.

22 (No response.)

23 Going once Going twice

24 That will conclude our scoping

1 presentation on the STEM Residence Hall.

2 And let the record show that we're
3 closing the scoping meeting at approximately 7:36.

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STATE OF CONNECTICUT

DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION

OFFICE OF ENVIRONMENTAL REVIEW

79 ELM STREET, HARTFORD, CT 06106-5127

To: Jason Coite - Environmental Compliance Analyst
UConn - Office of Environmental Policy, 31 LeDoyt Road, U-3055, Storrs, CT

From: David J. Fox - Senior Environmental Analyst **Telephone:** 860-424-4111

Date: March 21, 2014 **E-Mail:** david.fox@ct.gov

Subject: STEM Residence Hall

The Department of Energy & Environmental Protection has received the Notice of Scoping for the proposed construction of a Science, Technology, Engineering and Math residence hall on Alumni Drive on the Storrs campus. The following commentary is submitted for your consideration.

Given the water quality impairment in Eagleville Brook that led to adoption of a Total Maximum Daily Load (TMDL) for the watercourse, the potential impact from stormwater runoff is a concern for any project that introduces additional impervious surface within the Eagleville Brook watershed. The Notice of Scoping does indicate that consideration will be given to the TMDL and the *Eagleville Brook Watershed Management Plan*. The Department urges that Low Impact Development techniques be utilized to reduce and disconnect the impervious cover to be added to the now largely pervious site.

Due to the introduction of a significant amount of impervious surface, the proposed project must be certified by the University as being in compliance with flood and stormwater management standards specified in section 25-68d of the Connecticut General Statutes (CGS) and section 25-68h-1 through 25-68h-3 of the Regulations of Connecticut State Agencies (RCSA) and receive approval from the Department. The stormwater collection for the project should be designed so that there will be no increased runoff for the 2-, 10- and 100-year storm events.

The ability to reliably provide water supply to meet the increased demand this project, in conjunction with the new Engineering & Science Building and the Innovative Partnership Building, should be confirmed. The Record of Decision for the *Potential Sources of Water Supply Environmental Impact Evaluation* projected average day demand for 2015 to include 24,125 gallons per day (gpd) for NextGenCT (presumably including this project) and no demand for the Tech Park. Although it was concluded that no additional supply would be required to meet average day demand, projected peak day demand for 2015 would require additional supply.

In evaluating the adequacy of water supply, the timing of construction of the various projects and the completion of the proposed interconnection with the Connecticut Water Company should be considered. The capability to supply all three projects from existing sources may need to be evaluated, depending on the schedule to complete the projects.

For large construction projects, the Department typically encourages the use of newer off-road construction equipment that meets the latest EPA or California Air Resources Board (CARB) standards. If that newer equipment cannot be used, equipment with the best available controls on diesel emissions including retrofitting with diesel oxidation catalysts or particulate filters in addition to the use of ultra-low sulfur fuel would be the second choice that can be effective in reducing exhaust emissions. The use of newer equipment that meets EPA standards would obviate the need for retrofits.

The Department also encourages the use of newer on-road vehicles that meet either the latest EPA or California Air Resources Board (CARB) standards for construction projects. These on-road vehicles include dump trucks, fuel delivery trucks and other vehicles typically found at construction sites. On-road vehicles older than the 2007-model year typically should be retrofitted with diesel oxidation catalysts or diesel particulate filters for projects. Again, the use of newer vehicles that meet EPA standards would eliminate the need for retrofits.

Additionally, Section 22a-174-18(b)(3)(C) of the Regulations of Connecticut State Agencies (RCSA) limits the idling of mobile sources to 3 minutes. This regulation applies to most vehicles such as trucks and other diesel engine-powered vehicles commonly used on construction sites. Adhering to the regulation will reduce unnecessary idling at truck staging zones, delivery or truck dumping areas and further reduce on-road and construction equipment emissions. Use of posted signs indicating the three-minute idling limit is recommended. It should be noted that only DEEP can enforce Section 22a-174-18(b)(3)(C) of the RCSA. Therefore, it is recommended that the project sponsor include language similar to the anti-idling regulations in the contract specifications for construction in order to allow them to enforce idling restrictions at the project site without the involvement of the Department.

The Natural Diversity Data Base, maintained by DEEP, contains no records of extant populations of Federally listed endangered or threatened species or species listed by the State, pursuant to section 26-306 of the Connecticut General Statutes, as endangered, threatened or special concern in the project area. This information is not the result of comprehensive or site-specific field investigations. Also, be advised that this is a preliminary review. A more detailed review may be conducted as part of any subsequent environmental permit applications submitted to DEEP for the proposed site. Consultation with the Natural Diversity Data Base should not be substituted for on-site surveys required for environmental assessments. The extent of investigation by competent biologist(s) of the flora and fauna found at the site would depend on the nature of the existing habitat(s).

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

cc: Robert Hannon, DEEP/OPPD
Chris Bellucci, DEEP/WPSD
Jeff Caiola, DEEP/IWRD
Ellen Pierce, DEEP/APSD
Eric Thomas, DEEP/WPSD

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

cc: Rich

Jewel Mullen, M.D., M.P.H., M.P.A.
Commissioner



Dannel P. Malloy
Governor
Nancy Wyman
Lt. Governor



March 21, 2014

Jason Coite
UCONN—Office of Environmental Policy
31 LeDoyt Road, U-3055
Storrs, CT 06269

Re: Notice of Scoping for Science Technology Engineering and Math (STEM) Residence Hall

Dear Mr. Coite:

The Department of Public Health (DPH) Drinking Water Section (DWS) has reviewed the above Notice for the proposed University of Connecticut (UCONN) STEM Residence Hall next to the Hilltop Residence Halls (Hale and Ellsworth) on Alumni Drive and attended the Public Scoping meeting held on March 17, 2014. The proposed residence hall consists of up to 850 beds in an eight or nine-story building or buildings totaling up to 265,000 gross square feet. The STEM Residence Hall would provide housing for first-year students and is part of the capital project initiatives in support of Next Generation Connecticut (NextGenCT), a program intended to significantly expand educational opportunities, research, and innovation in the STEM disciplines at UCONN over the next decade.

Based upon the information provided at the Public Scoping meeting, UCONN is currently developing a Master Plan for NextGenCT that will be publicly vetted through the Connecticut Environmental Policy Act process of Scoping and Environmental Impact Evaluation development. However, UCONN anticipates the need for this building prior to completion of the Master Plan; therefore it is being noticed separately from the Master Plan. It was indicated at the Scoping meeting that the cumulative impacts of this building will be addressed in the Master Planning process for NextGenCT.

The DWS offers the following comments for your consideration. These comments supersede the comments dated February 20, 2014:

- The STEM Residence Hall will not be located within a public water supply source water area; therefore the DWS has no source protection related comments to offer.



Phone: (860) 509-7333 • Fax: (860) 509-7359 • VP: (860) 899-1611
410 Capitol Avenue, MS#51WAT, P.O. Box 340308
Hartford, Connecticut 06134-0308
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Mr. Coite
March 21, 2014
Page 2

- The DWS believes that this development should strive to conserve as much potable water as feasible. During the review process for UCONN's supply augmentation evaluation, the DWS requested that details for implementation of current, ongoing, and future water conservation practices be provided. The ROD outlines numerous opportunities for strategic long term water conservation in response to the DWS request. These opportunities should be evaluated for feasibility of implementation for the STEM Residence Hall.

If you have any questions regarding these comments, you may contact me at (860)509-7333.

Sincerely,



Lori Mathieu
Public Health Section Chief
Drinking Water Section

Cc: Robert Miller, Eastern Highlands Health District
David Radka, Connecticut Water Company



Elizabeth C. Paterson, Mayor

AUDREY P. BECK BUILDING
FOUR SOUTH EAGLEVILLE ROAD
MANSFIELD, CT 06268-2599
(860) 429-3330
Fax: (860) 429-6863

March 19, 2014

Mr. Jason Coite
UConn Office of Environmental Policy
31 LeDoyt Road, U-3055
Storrs, Connecticut 06269

Subject: Proposed STEM Residence Hall

Dear Mr. Coite:


The Mansfield Town Council and Planning and Zoning Commission (PZC) offer the following comments and recommendations with regard to the proposed STEM residence hall off Alumni Drive:

- *Master Plan and Impact Study.* A campus master plan and Next Generation Connecticut impact study should be completed prior to construction of any buildings related to the NextGen initiative other than the proposed residence hall and the engineering/science building. This study should include a comprehensive, multi-modal transportation plan for the build-out of the campus that considers impacts to the local transportation network, including off-campus improvements for vehicular, pedestrian, bike and transit circulation.
- *Traffic Analysis.* A traffic study that evaluates the potential impacts of the proposed buildings on the local road network, in addition to the state road network, should be done to confirm the conclusion that no significant impacts on the local road network are anticipated. This analysis should identify any necessary mitigation measures and be made available to the Town for review and comment prior to submission to OSTA.
- *Stormwater/Eagleville Brook.* The University should identify specific measures to employ for each project to reduce impacts on the Eagleville Brook watershed.

If you have any questions regarding these comments, please contact Linda Painter, Director of Planning and Development.

Sincerely,


Elizabeth C. Paterson
Mayor


JoAnn Goodwin
Chair, Mansfield PZC

Cc: Town Council
Planning and Zoning Commission

Appendix B

Agency Correspondence





State Historic Preservation Office

One Constitution Plaza | Hartford, CT 06103 | 860 256 2800 | Cultureandtourism.org

PROJECT REVIEW COVER FORM

1. This information relates to a previously submitted project.

You do not need to complete the rest of the form if you have been previously issued a SHPO Project Number. Please attach information to this form and submit

SHPO Project Number _____
(Not all previously submitted projects will have project numbers)

Project Address Alumni Drive, Mansfield
(Street Address and City or Town)

2. This is a new Project.

If you have checked this box, it is necessary to complete ALL entries on this form.

Project Name University of Connecticut - Science, Technology, Engineering and Math (STEM) Residence Hall

Project Location Alumni Drive, University of Connecticut Campus
Include street number, street name, and or Route Number. If no street address exists give closest intersection.

City or Town Mansfield
In addition to the village or hamlet name (if appropriate), the municipality must be included here.

County Tolland
If the undertaking includes multiple addresses, please attach a list to this form.

Date of Construction (for existing structures) _____

PROJECT DESCRIPTION SUMMARY (include full description in attachment):

The University of Connecticut (University or UConn) proposes to construct a new 650 to 800-bed, 200,000 to 250,000 gross square foot (GSF) residence hall adjacent to Hilltop Residence Halls on Alumni Drive to provide first-year student housing for Science, Technology, Engineering, and Math (STEM) students.

TYPE OF REVIEW REQUESTED

a. Does this undertaking involve funding or permit approval from a State or Federal Agency?

Yes No

Agency Name/Contact	Type of Permit/Approval
<u>University of Connecticut</u>	<u>State Funding</u>
_____	_____
_____	_____

State	Federal
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

b. Have you consulted the SHPO and UCONN Dodd Center files to determine the presence or absence of previously identified cultural resources within or adjacent to the project area?

Yes	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>

If yes:

Was the project site wholly or partially located within an identified archeologically sensitive area? Yes No

Does the project site involve or is it substantially contiguous to a property listed or recommended for listing in the CT State or National Registers of Historic Places? Yes No

Does the project involve the rehabilitation, renovation, relocation, demolition or addition to any building or structure that is 50 years old or older? Yes No



State Historic Preservation Office

One Constitution Plaza • Hartford, CT 06103 • 860-256-2800 • CultureandTourism.org

PROJECT REVIEW COVER FORM

The Historic Preservation Review Process in Connecticut Cultural Resource Review under the National Historic Preservation Act – Section 106 <http://www.achp.gov/106summary.html> involves providing technical guidance and professional advice on the potential impact of publicly funded, assisted, licensed or permitted projects on the state's historic, architectural and archaeological resources. This responsibility of the State Historic Preservation Office (SHPO) is discharged in two steps: (1) identification of significant historic, architectural and archaeological resources; and (2) advisory assistance to promote compatibility between new development and preservation of the state's cultural heritage.

Project review is conducted in two stages. First, the SHPO assesses affected properties to determine whether or not they are listed or eligible for listing in the Connecticut State or National Registers of Historic Places. If so, it is deemed "historic" and worthy of protection and the second stage of review is undertaken. The project is reviewed to evaluate its impact on the properties significant materials and character. Where adverse effects are identified, alternatives are explored to avoid, or reduce project impacts; where this is unsuccessful, mitigation measures are developed and formal agreement documents are prepared stipulating these measures. For more information and guidance, please see our website at: <http://www.cultureandtourism.org/cct/cwp/view.asp?a=3933&q=293820>

ALL PROJECTS SUBMITTED FOR REVIEW MUST INCLUDE THE FOLLOWING MATERIALS*:

- PROJECT DESCRIPTION** Please attach a full description of the work that will be undertaken as a result of this project. Portions of environmental statements or project applications may be included. The project boundary of the project should be clearly defined**
- PROJECT MAP** This should include the precise location of the project – preferably a clear color image showing the nearest streets or roadways as well as all portions of the project. Tax maps, Sanborn maps and USGS quadrangle maps are all acceptable, but Bing and Google Earth are also accepted if the information provided is clear and well labeled. The project boundary should be clearly defined on the map and affected legal parcels should be identified.
- PHOTOGRAPHS** Clear, current images of the property should be submitted. Black and white photocopies will not be accepted. Include images of the areas where the proposed work will take place. May require: exterior elevations, detailed photos of elements to be repaired/replaced (windows, doors, porches, etc.) All photos should be clearly labeled.

For Existing Structures	Yes	N/A	Comments
Property Card	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
For New Construction	Yes	N/A	Comments
Project plans or limits of construction (if available)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If project is located in a Historic District include renderings or elevation drawings of the proposed structure	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Project is not located within a Historic District
Soils Maps http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Historic Maps http://magic.lib.uconn.edu/	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
For non-building-related projects (dams, culverts, bridge repair, etc)	Yes	N/S	Comments
Property Card	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Soils Map (see above)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Historic Maps (see above)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
STAFF REVIEW AREA	Above	Date	Below
Indicate date of Review and Initials of Reviewer			

PROJECT CONTACT

Name Kristine M. Baker, P.E. Title Project Engineer
 Firm/Agency Fuss & O'Neill, Inc.
 Address 78 Interstate Drive
 City West Springfield State MA Zip 01089
 Phone 413-452-0445 ext 4436 Cell N/A Fax 413-846-0497
 Email kbaker@fando.com

*Note that the SHPO's ability to complete a timely project review depends largely on the quality of the materials submitted.

** Please be sure to include the project name and location on *each page* of your submission.



State Historic Preservation Office

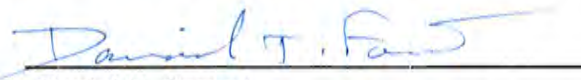
One Constitution Plaza - Hartford, CT 06103 - 860-256-2800 - Cultureandtourism.org

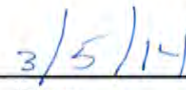
PROJECT REVIEW COVER FORM

SHPO USE ONLY

Based on our review of the information provided to the State Historic Preservation Office, it is our opinion that:

- No historic properties will be affected by this project. No further review is requested.
- This project will cause no adverse effects to the following historic properties. No further review is requested:
- This project will cause no adverse effects to the following historic properties, conditional upon the stipulations included in the attached letter:
- Additional information is required to complete our review of this project. Please see the attached letter with our requests and recommendations.
- This project will adversely affect historic properties as it is currently designed or proposed. Please see the attached letter for further details and guidance.


Daniel T. Forrest
Deputy State Historic Preservation Officer


Date



State Historic Preservation Office

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PROJECT REVIEW COVER FORM

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TYPE OF REVIEW REQUESTED

a. Does this undertaking involve funding or permit approval from a State or Federal Agency?

[X] Yes [] No

Table with columns for Agency Name/Contact, Type of Permit/Approval, State, and Federal. Includes entries for University of Connecticut and State Funding.

b. Have you consulted the SHPO and UCONN Dodd Center files to determine the presence or absence of previously identified cultural resources within or adjacent to the project area? [] Yes [X] No

If yes: Was the project site wholly or partially located within an identified archeologically sensitive area? [] Yes [] No

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Table with 4 columns: Item, Yes, N/A, Comments. Rows include: For Existing Structures (Property Card), For New Construction (Project plans or limits of construction), For non-building-related projects (dams, culverts, bridge repair, etc.), and STAFF REVIEW AREA (Indicate date of Review and Initials of Reviewer).

PROJECT CONTACT

Name Kristine M. Baker, P.E. Title Project Engineer
Firm/Agency Fuss & O'Neill, Inc.
Address 78 Interstate Drive
City West Springfield State MA Zip 01089
Phone 413-452-0445 ext 4436 Cell N/A Fax 413-846-0497
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Daniel T. Forrest
Deputy State Historic Preservation Officer

Date

State Historic Preservation Office
Project Review Form

University of Connecticut
Science, Technology, Engineering and Math (STEM) Residence Hall
Alumni Drive, Mansfield, Connecticut

Project Description

The University of Connecticut (University or UConn) proposes to construct a Science, Technology, Engineering, and Math (STEM) Residence Hall next to the Hilltop Residence Halls (Hale and Ellsworth) on Alumni Drive (*Figure 1*). The proposed STEM Residence Hall consists of 650-800 beds in an 8 or 9-story building totaling 200,000-250,000 gross square feet (GSF) for first-year students. The STEM Residence Hall would provide housing for first-year students and is part of the capital project initiatives in support of *Next Generation Connecticut*, an initiative intended to significantly expand educational opportunities, research, and innovation in the STEM disciplines at UConn over the next decade.

The proposed STEM Residence Hall will provide features to support Residential Life programming for first-year undergraduate students, including Resident Director and Assistant Resident Director rooms, common areas, seminar and collaborative learning spaces, and study rooms. Support spaces will include a lobby, lounge, custodial services, and building mechanical rooms.

The proposed STEM Residence Hall is anticipated to tie into central utilities for electricity and to use liquefied petroleum gas (LPG)-fired emergency generators. The building will be locally heated and cooled. The building construction will incorporate best practices of sustainability with a minimum goal of Leadership in Energy & Environmental Design (LEED) Silver.

Construction of the STEM Residence Hall on the proposed location on Alumni Drive would not require any building or roadway relocation, but a seasonal sand volleyball court would be removed and the existing hammer throw/discus field would be relocated (*Figure 2*). The University has identified the multi-purpose field just south of the Garrigus Suites as a potential relocation area.

State Historic Preservation Office
Project Review Form

University of Connecticut
Science, Technology, Engineering and Math (STEM) Residence Hall
Alumni Drive, Mansfield, Connecticut

Project Maps



Figure 1. Location of Proposed STEM Residence Hall

State Historic Preservation Office
Project Review Form

University of Connecticut
Science, Technology, Engineering and Math (STEM) Residence Hall
Alumni Drive, Mansfield, Connecticut

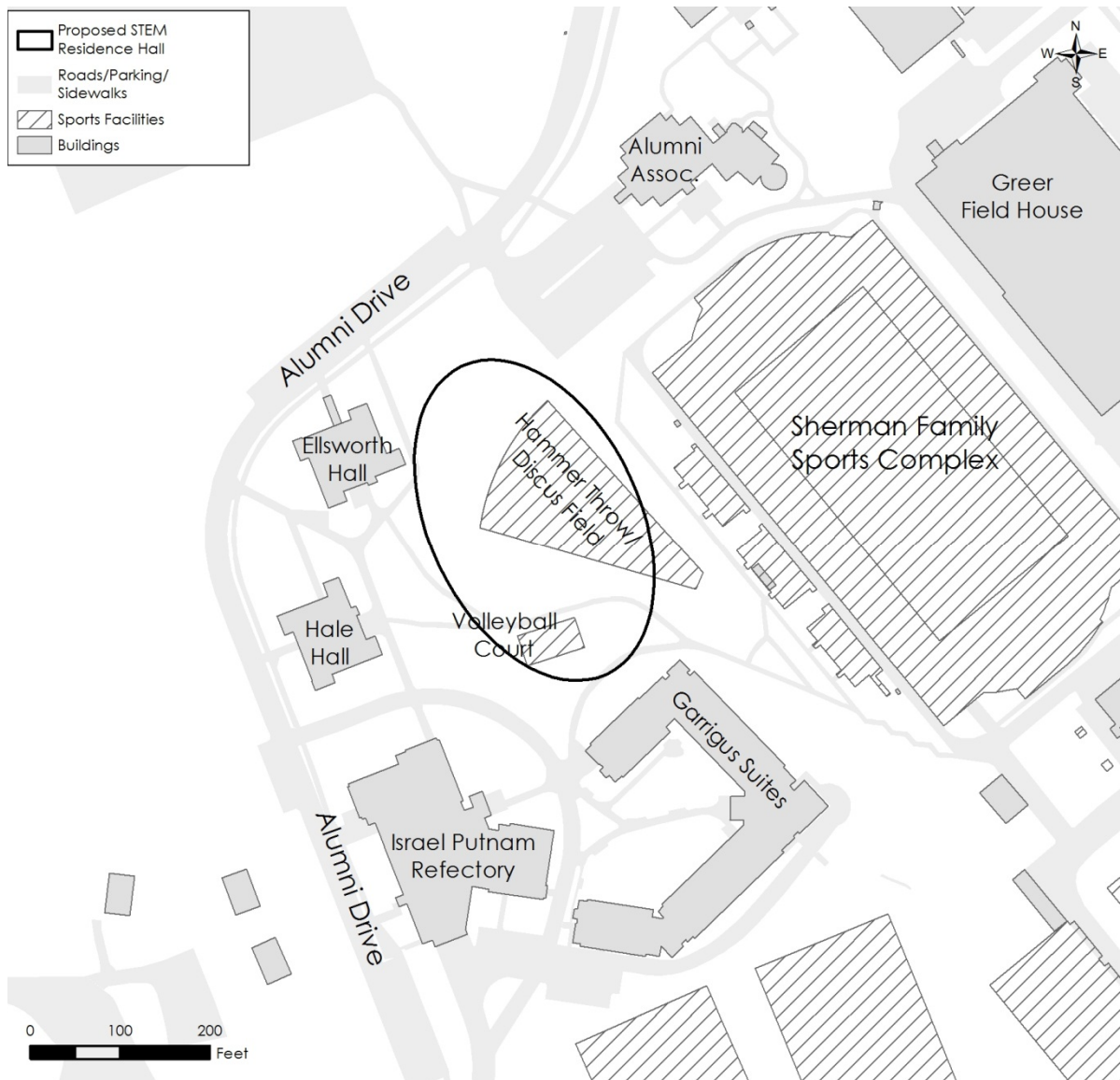


Figure 2. Approximate Footprint Area of Proposed STEM Residence Hall

State Historic Preservation Office
Project Review Form

University of Connecticut
Science, Technology, Engineering and Math (STEM) Residence Hall
Alumni Drive, Mansfield, Connecticut

Project Site Photographs

Photograph #1 – Taken from the project site, facing Hale and Ellsworth Halls to the west.



State Historic Preservation Office
Project Review Form

University of Connecticut
Science, Technology, Engineering and Math (STEM) Residence Hall
Alumni Drive, Mansfield, Connecticut

Photograph #2 – Taken just south of the project site facing Hale and Ellsworth Halls to the northwest.



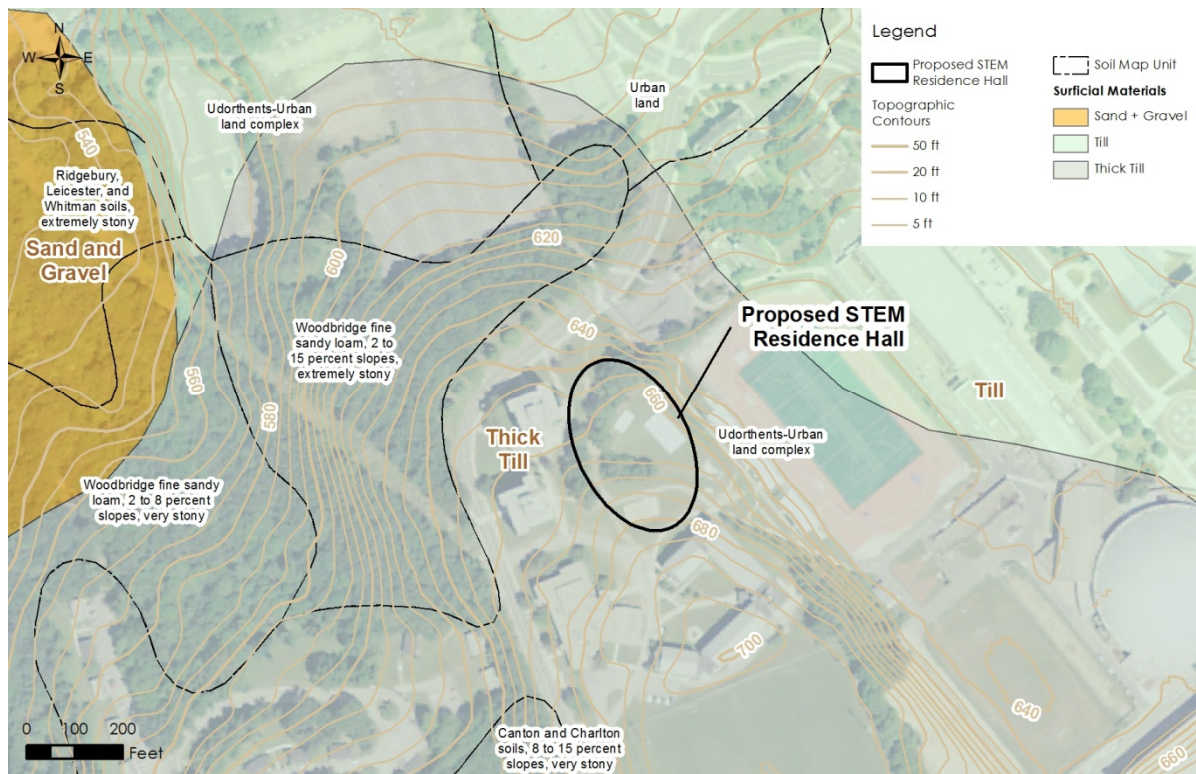
Photograph #3 – Taken on the project site, facing the hammer throw/discus field.



State Historic Preservation Office
Project Review Form

University of Connecticut
Science, Technology, Engineering and Math (STEM) Residence Hall
Alumni Drive, Mansfield, Connecticut

Soils Map



Appendix C

Stationary Source Emission Calculations



**Environmental Impact Evaluation
 Science, Technology, Engineering and Math (STEM) Residence Hall
 University of Connecticut
 Stationary Source Emission Calculations**

**Boilers, two condensing gas units, 5000 MBH input each, one run, one standby.
 Cleaver Brooks ClearFire**

Parameters:

	5	MMBtu/hr/unit
	2	units
	10,000	scf/hr
	8760	hrs/yr
	8.8	MMcf/yr

Emission Rates:

Value	lb of Pollutant / MMcf	
7.6	PM10	
7.6	PM2.5	
100	NOx	
0.6	SOx	
5.5	VOC	
84	CO	

Total Emissions:

Value	tons of pollutant / year	
0.03	PM10	
0.03	PM2.5	
0.44	NOx	
0.00	SOx	
0.02	VOC	
0.37	CO	

**Environmental Impact Evaluation
 Science, Technology, Engineering and Math (STEM) Residence Hall
 University of Connecticut
 Stationary Source Emission Calculations**

Water heaters, 10 Hubbell, gas condensing, instantaneous units, 200 MBH input each, 1 is redundant

Parameters:

0.2	MMBtu/hr/unit
10	units
2,000	scf/hr
8760	hrs/yr
1.8	MMcf/yr

Emission Rates:

Value	lb of Pollutant / MMcf
7.6	PM10
7.6	PM2.5
100	NOx
0.6	SOx
5.5	VOC
84	CO

Total Emissions:

Value	tons of pollutant / year
0.01	PM10
0.01	PM2.5
0.09	NOx
0.00	SOx
0.00	VOC
0.07	CO

Standby generator, gas, 800 KW

Parameters:

800	KW
8760	hrs/yr

Emission Rate:

1	grams per brake horsepower-hour (<i>g / bhp - hr</i>) [From manufacturer cut sheet]
---	---

Emissions per Year:

10.36	tons Nitrogen oxides (NOx) / yr
-------	---------------------------------

Environmental Impact Evaluation
Science, Technology, Engineering and Math (STEM) Residence Hall
University of Connecticut
Stationary Source Emission Calculations

Open Cooling Tower, Baltimore Air Coil Series, 3000

Parameters:

S3E-1222-07R	Model
1	units
1800	Design Flow Rate (GPM)
2920	hrs/yr (from Design)
315.4	Million Gallons / yr

Emission Rates:

19	Lb PM10, filterable / Million Gallons cooling water throughput (SCC 3-85-001-01)
----	--

Emissions per Year:

3.00	tons PM10 / yr
------	----------------

Emission factors from U.S. Environmental Protection Agency "AP-42: Compilation of Air Pollutant Emission Factors" 5th edition, Volume I, Section 1.4, July 1998 available at <http://www.epa.gov/otaq/ap42.htm> via <http://cfpub.epa.gov/webfire/>.

Conversion Factors Used:

1000 scf = 1 MMBTU

1 hp = 0.746 kW

1 g = 1.10231e-6 tons

1 horsepower = 2545 BTU/hr



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