Environmental Assessment Review
University of Connecticut
Athletics District Improvements

Storrs, Connecticut
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UCONN

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1.0 ENVIRONMENTAL ASSESSMENT

1.1 Introduction

This Environmental Assessment Review (EAR) is intended to provide baseline information to assist in determining what effects, if any, the proposed Athletics District Improvements (i.e., the project/action) at the University of Connecticut (UConn) main campus in Storrs may have on the environment. The assessment has been conducted to determine obligations under the Connecticut Environmental Policy Act (CEPA).

1.2 Proposed Action/Activity Description

UConn proposes to construct improvements to the Athletic District in order to renovate and improve aging facilities consistent with National Collegiate Athletic Association (NCAA) Division I requirements. The 2015 Campus Master Plan identified a need for special use facilities and new athletic venues at the University of Connecticut. New stadium projects for soccer, baseball, softball, and throwing were identified as Master Plan priorities to be completed by 2020. The proposed improvements will provide special use facilities towards meeting the prioritized needs. Proposed improvements include:

- In-situ construction of a new synthetic competition soccer pitch and new seating;
- Construction of a new softball field synthetic surface and seating in or near its existing location;
- Relocation and construction of new synthetic baseball field and seating;
- Construction of a +/- 50,000 square foot Performance Center including locker rooms, concessions, weight training, sports medicine, restrooms, and administrative offices for soccer, baseball, and softball;
- Construction of a sound barrier for the chillers at the Freitas Ice Forum;
- Minor improvements to the throwing area; and
- Relocation of practice soccer field and maintenance facility to present location of the baseball field.

New construction associated with this project will incorporate best practices of sustainability with a minimum goal of Leadership in Energy and Environmental Design (LEED) Gold Certified.

1.3 Project Purpose and Need

The University of Connecticut boasts an outstanding athletics tradition dating back over a century. The 2015 Campus Master Plan identified several athletics facilities in need of upgrades across the Storrs Campus, particularly in the Athletics District located along Jim Calhoun Way. Upgrades are needed to address deferred maintenance, offer new amenities, and provide desirable space to attract top athletic talent to the University. The 2015 Campus Master Plan further encouraged additional passages and connections through the Athletics District, consideration of sustainable irrigation and other water saving measures, and laying out new facilities with careful consideration of sunlight and wind.

In particular, many home games in the district have been needed to be postponed or relocated due to poor (wet) field conditions of the natural turf in the early spring; the lack of lighting at the baseball and softball fields prevents scheduling of night games; and the suboptimal orientation of the baseball field results in sun glare affecting first base during afternoon games. In addition, there are few amenities available to spectators, and restrooms are currently provided by portable toilets. The improved Athletics District will upgrade playing surfaces and facilities to NCAA Division I Standards, provide attendant facilities adjacent to the playing surfaces, and relocate and consolidate appropriate Athletics personnel into the district, thereby making room for other Athletics personnel in the previous spaces. These needs have been further refined over the past two years, resulting in the proposed action. Anticipated project outcomes include:

- Synthetic playing surfaces with under-field drainage will result in fewer postponed or relocated spring games, and reduce irrigation needs, and full-cutoff lighting will allow for night games to be played for baseball and softball;
- The relocated baseball field will be properly oriented along a northeast-southwest axis to reduce sun glare concerns;
- New Performance Center will house locker rooms, athletic department offices, restrooms, concessions, training, and sports medicine facilities, allowing for consolidation of the baseball, softball, and soccer programs and providing necessary and proximal amenities;
- The new fields and Performance Center are expected to increase interest from prospective student athletes for these programs;
- The new seating, restrooms, and concessions are expected to improve the spectator experience;
- The rehabilitated pedestrian connection to Y-Lot will improve access to the Athletics District; and
- The consolidated layout of the Performance Center, baseball field, and soccer field will allow for defined entries to those sporting events, thereby improving event ticketing and overall security.

Construction of the Athletics District Improvements is compatible with the long-range vision for the West Campus District.

1.4 Site Information

The Athletics District is currently developed with a variety of Athletics structures and facilities. Figure 1 presents an existing conditions map of the district. The district is flanked by Y-Lot, I-Lot, Hilltop Apartments, and D-Lot, with access primarily along Jim Calhoun Way. Current athletics areas in the district include:

Insert Figure 1

- J.O. Christian Field (baseball, built in 1968);
- J. J. Morrone Stadium (soccer, built in 1969);
- Burrill Family Field (softball, built in 1987);
- Batting/pitching facility (built in 1997);
- Mark E. Freitas Ice Forum (ice hockey, rink originally constructed in 1960s, surrounding structure constructed in 1998);
- Shenkman Training Center (multi-sport practice venue, built in 2006);
- A practice field for soccer; and
- A throwing area for track and field.

In particular, the stadia for baseball, soccer, and softball are 30 to 50 years old and considered to be aging and/or near the end of their useful lives. The topography of the site is flat with pedestrian access currently available along Alumni Drive and Jim Calhoun Way. The district is supported by all required utilities, including water and sewer service, and is located along UConn's shuttle bus route.

1.5 State Conservation and Development Policies Plan

The Athletics District is located within a Priority Funding Area as designated in Connecticut's State Conservation and Development (C&D) Policies Plan. Priority Funding Areas are classified by Census blocks that include:

- Designation as an Urban Area or Urban Cluster in the 2010 Census
- Boundaries that intersect a ½-mile buffer surrounding existing or planned mass-transit stations
- Existing or planned sewer service from an adopted Wastewater Facility Plan
- Existing or planned water service from an adopted Public Drinking Water Supply Plan
- Local bus service provided 7 days a week

In particular, the proposed project is consistent with the following Growth Management Principle:

- Growth Management Principle #1 – Redevelop and Revitalize Regional Centers and Areas with Existing or Currently Planned Physical Infrastructure

The Athletics District has access to wastewater treatment (sewer), potable water supplies (water mains), broadband access, energy transmission lines, and other related facilities. Upgrades to the utility corridor along Jim Calhoun Way are anticipated as part of this project, consistent with this Growth Management Principle. Furthermore, the proposed use (athletics) is consistent with the current use of the district.

1.6 Potentially Impacted Resources

The vast majority of the Athletics District is currently occupied with existing structures and natural turf fields. Adjacent areas include small patches of grassed areas, some ornamental barrier trees, and remnants of pre-development forest. Limited wetlands are located adjacent to the site, although the site drains generally southwest into Eagleville Brook. Surficial geology is primarily comprised of till. The groundwater beneath the site is classified GA and is outside of any aquifer protection area.

Table 1-1 presents a summary of resources proximal to the proposed Athletics District improvements, along with an indication of the potential for impact. The potential for impact assumes that standard best management practices are employed during demolition and construction, such as sedimentation and erosion controls.

TABLE 1-1
Potentially Impacted Resources near the Proposed Athletics District Improvements

Resource	Potential Impacts		Comments
	Yes	No	
Aesthetic Resources		X	Improvements will result in aesthetically pleasing facilities that are congruous with surrounding structures and land uses.
Air Quality		X	The proposed use will not generate significant air emissions.
Cultural Resources / Archeologically Sensitive Areas		X	The district does not support sensitive cultural resources. Recreational resources in the Athletics District will be improved for spectators and collegiate athletes.
Coastal Resources		X	The district is not in close proximity to coastal resources.
Community Facilities or Services		X	Improvements will not result in an increased need for community facilities or services.
Designated Open Spaces		X	The district is currently developed and is not designated as future open space.
Economy, Employment, and Income		X	Improvements are expected to provide an overall slight benefit to local economy through concessions (long-term) and construction of improvements (short-term).
Environmental Justice		X	Improvements will not displace any populations or housing.
Fish Habitats		X	District is not in close proximity to a stream or waterbody. Intermittent streams are located outside of the district to the south and west of I-Lot. Construction will not occur in these areas. Stormwater treatment is proposed for runoff leaving the district.
Floodplains / Floodways		X	District is not within a Federal Emergency Management Agency (FEMA) designated floodplain or FEMA designated floodway.
Geology, Topography, and Soils;		X	Changes to geology are not proposed. Changes to topography are not proposed except where necessary for baseball stadia and pedestrian connection to Y-Lot. Proper sedimentation and erosion control measures will be taken to prevent downstream impacts during construction, and the site will be stabilized following construction to prevent future sedimentation or erosion impacts.
Groundwater Resources		X	No aquifer protection areas or wells near the district.
Historic Sites and Districts		X	This district is not part of any site historic designated district.
Land Use & Zoning		X	The proposed Athletics District Improvements are compatible with surrounding land uses. Local Zoning does not apply.
Noise and Light	X		New full-cutoff lighting is proposed for baseball, soccer, and softball stadia, replacing existing soccer stadia lighting. An evaluation of lighting will be conducted as part of the project

TABLE 1-1
Potentially Impacted Resources near the Proposed Athletics District Improvements

Resource	Potential Impacts		Comments
	Yes	No	
			design. Baseball field will be closer to Westwood Road than at present.
Open Space and Farmland		X	The district does not support agricultural or open space uses.
Plants & Wildlife / Natural Diversity Data Base (NDDB) Endangered, Threatened, and Special Concern Species		X	The district is fully developed with minimal habitat value. Approximately one acre of forest cover will be removed to support relocated baseball field and pedestrian connection to Y-Lot. An NDDB request form was submitted on December 19, 2017 to account for a new shaded area not present during the scoping period. The response from the NDDB dated January 8, 2018 indicates that the NDDB does not anticipate negative impacts to State-listed species resulting from the proposed activity at the site. Although the result of this review does not preclude the possibility that listed species may be encountered on the site, such encounters are considered unlikely.
Public Health & Safety		X	No hazards to human health and safety exist in the district above and beyond the normal inherent risk of injury from participating in or attending college-level sporting events. Ticketing and seating control will be improved for baseball and soccer, improving security.
Solid & Hazardous Waste		X	Improvements are not expected to generate significant amounts of solid or hazardous waste.
State, Local, and Campus Master Planning		X	Improvements consistent with State (Priority Funding Area) and Local (Institutional) planning, and Campus Master Plan (Athletics District).
Stormwater Drainage / Water Quality	X		New field drainage will be installed to support synthetic turf, and stormwater management controls will be necessary to support the fields and the Performance Center as well as to protect downstream water quality.
Transportation / Traffic, Parking, Circulation		X	The district is located on the UConn shuttle bus route. A significant increase in seating is not proposed. The proposed improvements will not impact traffic or transportation or result in significantly increased traffic.
Public Utilities and Services		X	The district is currently served by all major utilities. The use of synthetic turf is anticipated to reduce irrigation water demand in the Athletics District and will not impact water supplies. The proposed Performance Center will incorporate best practices of sustainability with a minimum goal of being LEED Gold certified and compliant with Connecticut's High Performance Building Regulations.
Surface Water / Waterbodies		X	No waterbodies in close proximity to the site
Wetlands		X	Two nearby wetlands: One on north side of I-Lot more than 150 feet away from any proposed improvements. Closest wetland is stormwater management basin immediately east of Shenkman Training Center which is approximately 80 feet

TABLE 1-1
Potentially Impacted Resources near the Proposed Athletics District Improvements

Resource	Potential Impacts		Comments
	Yes	No	
			from nearest proposed improvements. Best management practices will be employed to prevent sedimentation and erosion into these wetlands from nearby construction areas.

The project lies in a shaded natural diversity database (NDDB) area as of December 2017, although it was not in an NDDB area when scoping occurred. An NDDB request form was submitted on December 19, 2017, and a response was received from the NDDB on January 8, 2018 (Appendix E) as noted in Table 1-1.

1.7 Determination of Environmental Significance

As noted in Table 1-1, potential impacts related to this project have been identified related to noise, light, water quality, and drainage. These potential impacts were originally identified in the Scoping Meeting Presentation which is appended to this document (Appendix B) and received comments during the scoping process (Appendix D). The project team is already considering measures to ensure that any potential impacts in these areas will not be significant. These concerns are addressed in the response to comments in Section 2 of this document.

1.8 Potential Environmental Permits, Certifications, or Approvals

No federal permits are anticipated to be required for the construction or operation of the proposed Athletics District Improvements. A *General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities* is required for construction activities with a total disturbance of one or more acres of land. Such permits are administered by the Connecticut Department of Energy & Environmental Protection (CT DEEP). Additionally, a *Flood Management Certification*, also administered by CT DEEP, is anticipated to be required.

2.0 SCOPING AND RESPONSE TO PUBLIC COMMENTS

2.1 Scoping Process

A notice of project scoping and scoping meeting was published in the *Connecticut Environmental Monitor* on September 19, 2017. The notice also appeared in the October 3, 2017 edition of the *Monitor*, and was also posted on the University of Connecticut Office of Environmental Policy website. Appendix A contains documentation of notification. The scoping period closed on October 20, 2017.

A public scoping meeting was held on October 10, 2017. A copy of the presentation is included herein as Appendix B. No members of the public attended. Minutes of the meeting are included herein as Appendix C.

Written comments on the scoping notice were received from the following:

1. Connecticut Department of Energy and Environmental Protection
2. Connecticut Department of Public Health
3. Town of Mansfield

Copies of all written comments are included in Appendix D. Responses to comments are addressed individually below.

2.2 Response to the Connecticut Department of Energy & Environmental Protection

CT DEEP provided written comments dated October 18, 2017 from Linda Brunza, Environmental Analyst. A summary of key points and responses follows.

1. Pest Management – CT DEEP noted that if the fields are natural turf, weed and insect control on the new fields must be done in accordance with the Integrated Pest Management (IPM) Standard. The primary goal of IPM is to reduce the amounts of pesticides applied by using alternative methods of pest control which includes prioritizing use of the least toxic pesticide available and may include structural maintenance, sanitation, and mechanical or biological control.

   Response: The soccer practice field will continue to be natural turf and management will continue to be in accordance with the IPM Standard. In 2017, UConn applied pesticides on the following schedule in the Athletics District for the following reasons:

   - December: Snow mold preventative to baseball and softball fields;
   - May: Pre-emergent weed control, preventative fungicide, and grub control on all fields; and weed control in common areas along fence lines;
   - July: Curative fungicide for brown patching/leaf spot to baseball, softball, and soccer stadia fields; and
   - August: Weed control in common areas along fence lines; curative fungicide for brown patching/leaf spot to Morrone Field and softball field

The type of grass species used for the practice soccer field will determine the IPM protocols. The UConn Turf and Ornamental Pest Control Management Plan dated November 2010[1] will be revised if necessary per CGS 22a-66l-1 if a new management scheme is necessary.

2. Water Conservation – DEEP Staff recommended that all feasible water conservation practices are incorporated into the project, including the use of reclamation water wherever possible.

Response: UConn intends to incorporate best practices of sustainability with a minimum goal of LEED Gold certification, which will include low-impact development (LID) principles and practices. Low flow showers, toilets, and sinks will be utilized within the Performance Center, and will represent an overall minimal water usage.

While reclaimed water is not proposed in the district, the use of synthetic fields for baseball, soccer, and softball stadia will significantly reduce the overall irrigation water demand for the district from current conditions by virtue of the fact that these surfaces will require minimal watering. Daily irrigation estimates were generated during the Reclaimed Water Project for the fields in the Athletic District. Table 2-1 presents these estimates for each field, along with an estimate of current water usage. Estimates for the existing synthetic turf field (the Sherman Field Hockey Field) inside the track behind the field house are also included for comparison.

TABLE 2-1
Estimated Current Irrigation Water Demands

Location	Estimated Irrigation Demand (gpd)[1]	Area Irrigated (acres)	Typical Days of Irrigation[2]	Total Irrigation per Year (gpy)	Irrigation Rate per Acre per Day of Use (gpad)
J. J. Morrone Soccer Field	15,018	2.26	130	1,952,340	6,657
J.O. Christian Baseball Field	26,202	2.52	130	3,406,260	10,392
Burill Softball Field	6,549	0.62	130	851,370	10,531
Soccer Practice Field	35,746	2.22	130	4,646,980	16,077
Total Athletics District	**83,515**	**7.62**	**130**	**10,856,950**	**Average: 10,960**
Sherman Field Hockey Field (Synthetic Turf Field, not in Athletics District)	15,000	1.65	100	1,500,000	9,118

Notes: 1. From usage estimates during Reclaimed Water Facility Project.
2. Based on actual irrigation usage by UConn Athletics.
Gpd = gallons per day; gpy = gallons per year; gpad = gallons per acre per day

The Athletics District currently irrigates approximately 7.62 acres of sports fields over approximately 130 days each year. Irrigation water from the UConn public water system is used to maintain the natural turf fields. The Sherman Field Hockey Field also receives irrigation water in order to cool the field before practices and games, and to enhance the speed of the playing surface and reduce the risk of injuries. Such irrigation is a standard practice across NCAA, Olympic and professional field hockey because the field is a knitted nylon surface without infill material.

[1] https://ecohusky.uconn.edu/wp-content/uploads/sites/2041/2017/01/UConn-IPM.pdf

Estimated future irrigation demands in the Athletics District are presented in Table 2-2. This estimate is based on the projected field surface for the soccer stadium, baseball field, and softball field being replaced by synthetic turf with infill material. This is a different type of synthetic field than the Sherman Field Hockey Field with a different construction, and does not have a standard practice for watering such that irrigation water is not expected to be necessary. Note that a modest amount of "irrigation" water will be necessary for dust control for the infield clay at the baseball and softball stadia, and the soccer practice field will continue to require irrigation. Such irrigation will only occur when necessary for games, clinics, and fall workouts, which are estimated to occur a maximum of 50 days per year.

TABLE 2-2
Estimated Future Irrigation Water Demands

Location	Estimated Irrigation Demand (gpd)[1]	Area Irrigated (acres)[2]	Typical Days of Irrigation[3]	Total Irrigation per Year (gpy)	Irrigation Rate per Acre per Day of Use (gpad)
J. J. Morrone Soccer Stadium	0	0.00	0	0	0
New Baseball Field	1,040	0.26	50	52,000	4,000
Burill Softball Field	1,040	0.26	50	52,000	4,000
Soccer Practice Field	35,746	2.22	50	1,787,300	16,077
Total Athletics District	**37,826**	**2.74**	**0 or 50**	**1,891,300**	**Average: 13,805**

Notes: 1. Based on existing gpad for existing soccer practice field, or 4,000 gpad for dust control.
2. Irrigated area for baseball and softball includes infield clay area.
3. Assuming 50 days of irrigation needed per year for games, summer clinics, and fall workouts
Gpd = gallons per day; gpy = gallons per year; gpad = gallons per acre per day

Based on the data in Table 2-2 in comparison to Table 2-1, the estimated irrigation demands for the proposed project are anticipated to save approximately 8,965,650 gallons of irrigation water per year. Therefore, the irrigation demand in the district will be significantly lower in the future.

Also of note is that UConn is presently pursuing an irrigation permit that would allow use of reclaimed water from the Reclaimed Water Facility for irrigation. At this point, there are no plans to extend reclaimed water piping into the Athletics District for irrigation, but if such use is permitted then UConn will reevaluate this potential option in the future.

3. Stormwater Discharge During Construction – CT DEEP identified the need for a *General Permit for the Discharge of Stormwater and Dewatering Wastewaters* for the proposed project, and noted that stormwater treatment systems must be designed to comply with the post-construction stormwater performance management requirements of the permit, including retention of water, water quality, runoff reduction, and LID practices.

Response: Stormwater management controls will be included in the project design, and the required permit will be sought from CT DEEP. The interim requirement from CT DEEP based on the Eagleville Brook TMDL is for proposed project designs to demonstrate no net increase in runoff from the 100-year storm event. The University's Campus Master Drainage Plan is expected to be completed in draft form by the end of 2017 and may result in a different requirement; nonetheless

the project design will be consistent with the final recommendations of the Campus Master Drainage Plan.

2.3 Response to the Connecticut Department of Public Health

Connecticut Department of Public Health (CT DPH) provided written comments in a letter dated October 20, 2017. DPH noted that the proposed improvements are not located in a public drinking water supply source water area and therefore did not provide any source water protection comments. However, CT DPH recommended that the Athletic District Improvements be consistent with the University's 2015 Campus Master Plan Sustainability Framework Plan relative to water use. Specifically, CT DPH mentioned the key goals and strategies for water use for consideration:

1. Comment: Water conservation is a key part of the University's sustainability program and usage minimization, reclamation, and reuse will need to continue.

   Response: See response to DEEP comment #2 above. In addition, please note that an increase in water usage is not anticipated as part of this project, as significant increases in enrollment, stadia attendance, or the number of student athletes is not anticipated. Water usage in other buildings will, in part, transfer to the new Performance Center, where state-of-the-art water flow controls will provide usage minimization in addition to the reduced exterior irrigation usage.

2. Comment: The University targets a potable water use reduction of 40% in the next 10 years. This typically requires aerators, ultra-low flow fixtures, and process water reductions.

   Response: See response to DPH comment #1 above. The new Performance Center will need to incorporate fixtures of these types as part of its goal of LEED Gold certification.

3. Comment: Greywater or stormwater reuse systems will mitigate potable water use. Rainwater can serve as a harvestable and useful resource.

   Response: See response to DEEP comment #2 above. The construction of a pond to collect rainwater for outdoor irrigation (such as for the practice soccer field) was not considered under the conceptual design but will be evaluated in the next phase of design.

4. Comment: Reducing irrigation needs by planting drought-tolerant species decreases the peak demand loads.

   Response: Off-field irrigation is not proposed in the district other than for ornamental trees and shrubs (landscaping) adjacent to buildings. The practice soccer field will have natural turf, although the choice of grass species has not yet been determined. Planting of drought-tolerant species may not be possible depending the alternatives available for selection which will be (1) appropriate for soccer use and (2) able to survive winter conditions. See also the response to DEEP comment #2 above for estimated water savings relative to irrigation.

2.4 Response to the Town of Mansfield

The Town of Mansfield provided written comments in an October 24, 2017 letter. A summary of key points and responses follows.

1. Comment: Sustainability – The Town of Mansfield supports UConn's goal of attaining LEED Gold certification, and encouraged the use of multiple strategies from the Sustainability Framework Plan in these improvements.

   Response: - The University intends to utilize strategies from the Sustainability Framework Plan in these improvements as appropriate for the specific project elements.

2. Comment: Off-Campus Traffic and Parking Impacts – The Town of Mansfield recommended a full evaluation of the impacts of the proposed improvements on off-campus traffic and parking and strategies to mitigate those impacts. Of particular concern was the intersection of Separatist Road and South Eagleville Road (Route 275) as well as on-campus traffic and parking plans for game days to reduce impacts on off-campus roadways.

   Response: The number of games played in the Athletics District varies each year based on scheduling constraints, but typically at least half of all games played by the soccer teams are home games. The baseball and softball teams have typically had less home games due to unplayable field conditions. For example, the 2017 schedule for these teams included:

   - Men's soccer had 20 games scheduled in the regular season in 2017, with 13 of the games played at home.
   - Women's soccer also had 20 games scheduled in the regular season in 2017, with 11 of the games played at home.
   - Baseball had 56 games scheduled during the regular season in 2017, with 19 of the games played at home.
   - Softball also had 56 games scheduled in the regular season in 2017, with 15 of the games played at home.

   One of the goals for this project is to increase the playability of the baseball and softball surfaces in order to support the goal of having approximately 50 percent of all games be home games.

   The average attendance for men's soccer games is typically about half full (approximately 2,500 fans). The average attendance for women's soccer games is typically about 700 fans. The maximum possible attendance presently at J. O. Christian field for baseball is approximately 2,000 fans, with the majority of games not at capacity. Burrill Family Field for softball presently has bleachers capable of supporting several hundred fans. Therefore, men's soccer games are the most highly attended events requiring analysis for traffic and parking.

   UConn Parking Services utilizes a variety of event plans to manage on-campus parking. Currently, the most highly attended events in the district are men's playoff soccer games at Morrone Stadium, where full attendance of approximately 5,000 fans may attend, which is approximately half of the number of seats in Gampel Pavilion for basketball games (10,107). Note that the amount of seating available at any of the three stadia is not expected to significantly change when the existing seating is replaced.

The current event plan used for managing soccer games with anticipated high attendance includes encouraging parking at the South Garage and I-Lot in event materials. I-Lot holds approximately 480 parking spaces, and South Garage holds approximately 1,500 parking spaces; space in D-Lot is also often available. Jim Calhoun Way is closed to traffic between Alumni Drive and I-Lot, and closed at Husky Circle once I-Lot is full. Police officers are stationed to enforce the road closure at both ends. Any additional traffic coming from Separatist Road is diverted through Hilltop Apartment Complex along Husky Circle to Alumni Drive. Pedestrians are directed to the game entrance point between the Ice Forum and Morrone Stadium. Similar procedures are used for baseball and softball games, although these are typically not as highly attended.

UConn intends to update this parking plan to account for the new Performance Center and enhancements to gate security. However, the overall parking plan is not expected to change. Furthermore, while the amount of games played at home may increase, the amount of attendance expected for such events is not anticipated to increase. Therefore, no change to the existing level of service for surrounding traffic (an analysis based on the worst-case scenario) is expected during events.

Any changes to parking and traffic would be in relation to increasing the overall number of events in the district. Recall that the vast majority of additional events will be additional regular season home games for baseball and softball which are not typically highly attended, nor as highly attended on average as men's soccer games. Therefore, the additional regular season home games are not expected to have a significant traffic impact on nearby streets.

3. Comment: Stormwater – The Town of Mansfield supports the implementation of LID and green infrastructure practices as part of the project to improve stormwater quality and reduce impacts to the Eagleville Brook watershed. Of particular concern is the proposed use of artificial turf and the impact the use of such material may have on both the volume and quality of stormwater runoff, and the potential impacts of such runoff on the watershed. This concern is amplified given that the use of artificial turf, depending on the type of materials used, introduces the potential for the release of additional chemicals into stormwater runoff.

Response: The University's intends to incorporate best practices of sustainability with a minimum goal of LEED Gold certification, which will include LID principles and practices into the design. See also the response to Comment #3 in Section 2.1 above.

This project will be designed in accordance with the final Campus Master Drainage plan expected to be published at the end of December 2017. The project will maintain pre-development hydrology conditions from the project area with no increase in flow rates leaving the site. As the synthetic turf fields, new hardscapes, and the new building will increase impervious surfaces, detention areas will be designed and installed as appropriate to ensure no net increase in flow rates leaving the project area. A Flood Management Certification will be required from Connecticut DEEP for this project.

An infill material for the synthetic turf has not yet been proposed. A mixture of crumb rubber and silica sand are used in typical synthetic turf systems. Alternative infill materials will be explored during design, including cork, EPDM (ethelyne propylene diene monomer) rubber, Nike Grind (made from recycled shoes), Ecofill®, and others, but may offer differences in playability and costs,

as well as differences in potential environmental impact. See also the response to Comment #6 below.

Please note that numerous studies[2], including many peer-reviewed studies and state agency studies, have investigated potential stormwater impacts associated with artificial turf materials. In particular and of most relevance to UConn, the DEEP[3] conducted an analysis in July 2010 that sought to quantify a variety of compounds in drainage from artificial turf fields during rain events. Samples for total metals, hardness, pH, volatile organic compounds, semi-volatile organic compounds, pesticides, polychlorinated biphenyls, and acute aquatic toxicity were collected. The majority of the results detected insignificant levels of metals and other compounds in the stormwater runoff, with the exception of zinc.

The results of the DEEP analysis suggested that zinc could potentially be present in stormwater draining from styrene butadiene rubber (SBR) infill at levels above default water quality criteria, but not at levels above groundwater protection criteria. Therefore, such runoff is not considered to have a significant downstream impact on water quality, but such runoff could have a potential impact on water quality if best management practices for stormwater were not utilized. The DEEP suggested using stormwater treatment measures, such as stormwater treatment wetlands, wet ponds, infiltration structures, compost filters, sand filters and bio-filtration structures to potentially reduce the concentrations of zinc in the stormwater runoff to levels below the acute aquatic toxicity criteria. Should SBR infill be selected for use in the Athletics District, UConn will apply best management practices in accordance with the Connecticut Stormwater Quality Manual as per the DEEP recommendation.

4. Comment: Erosion and Sedimentation Control – The Town of Mansfield requested additional details regarding how the proposed expansion of the baseball field and the pedestrian connection to Y-Lot will be designed and managed to reduce erosion and sedimentation.

   Response: The University will use best management practices for sedimentation and erosion control and include these in the design specifications. Proper sedimentation and erosion control measures will be taken to prevent downstream impacts during construction, and the site will be stabilized following construction to prevent future sedimentation or erosion impacts. Note that this project, as with all State actions that disturb one acre or more, is required to obtain a General Permit for *Stormwater and Dewatering Wastewaters from Construction Activities* from Connecticut DEEP which requires erosion and sedimentation controls and the inspection of such controls.

5. Comment: Lighting – The Town of Mansfield acknowledged the use of full-cutoff lighting as a good starting point but recommended a full evaluation of proposed lighting to the existing lighting. The Town of Mansfield recommended reducing or eliminating up-lighting to the maximum extent possible, and using lamps that reduce blue light impacts and sky glow by requiring the use of Low Pressure Sodium or warm white LED and compact fluorescent fixtures of 3000 Kelvin or less.

   Response: The University has instructed the design team to conduct a lighting study as part of the proposed effort to result in the selection of lighting alternatives with a minimal impact on the surrounding neighborhood. The Town's suggestions have been provided to the design team for

[2] http://www.syntheticturfcouncil.org/?page=Research#cri
[3] http://www.ct.gov/deep/cwp/view.asp?a=2690&Q=463624&depNav_GID=1511

inclusion in the lighting study. Replacement of the existing lighting at Morrone Stadium (which does not meet any of the recommended guidelines) is also proposed.

Scope components for the lighting study include the use of a digital photometry calculation software to test and validate site lighting levels for conformance with regulatory standards, and to mitigate the potential for the proposed site lighting to cause light pollution and light trespass. The trespass calculations will be performed with the sports lighting turned off and all other site lighting turned on; and separately with just the sports lighting turned on. The goal will be compliance with illuminance levels for Lighting Zone 3 (LZ3), including LZ3=0.80 foot-candle (fc) (8.0 lux) at the LEED project boundary, and dropping to 0.01 fc (0.1 lux) within 15 feet past the LEED project boundary.

6. Comment: Health and Safety – The Town of Mansfield recommended that potential health and safety impacts to student athletes over the proposed change to artificial turf be fully evaluated, particularly in light of the prohibition of the use of artificial turf by the Fédération Internationale de Football Association (FIFA) for men's events.

Response: It is the University's understanding that FIFA never actually banned the use of artificial turf, although FIFA's rules stipulated that matches in the final tournament of FIFA competitions needed to be played on natural turf[4]. FIFA has long acknowledged that artificial turf was necessary for lower-level competition in some climates, and continues to require that championship events be played on grass[5]. A recent notable exception was the 2015 Women's World Cup in Canada, where artificial turf was utilized as there are very few natural grass stadia in the country. FIFA further acknowledged that the use of artificial turf could occur in a Men's World Cup in the future[6].

Older artificial turf fields from the 1960s through 1980s were generally comprised of hard mats of nylon grass. Newer artificial turf fields have been developed to better simulate natural grass by using infill material to make the fields softer and by adding plastic grass to the surface. FIFA developed a scoring system ("two-star") for artificial turf fields that have undergone a series of test to examine quality and performance, and launched its Preferred Producer initiative in 2009 to improve the quality of artificial turf. UConn does not intend to generate a playing surface that meets FIFA competition standards, but recognizes that recent advancements in artificial turf technology have resulted in a variety of surfaces to consider which have advantages and disadvantages relative to the intended use (e.g. certain field surfaces are more advantageous for soccer than softball).

Ultimately, the use of artificial turf is very popular due to reduced maintenance and irrigation costs, the ability to withstand intensive use, and no need for pesticides. The University acknowledges that there is mixed information regarding the risk of injury and impacts to human health from playing on artificial turf, including potential increased speed of play, potential additional risk of abrasions, potential effects of elevated temperatures, and potential increase in cumulative injuries and turf toe. Some studies have shown the potential for higher levels of injury, both acute and cumulative[7]. Despite these studies and claims, it is noteworthy that Connecticut DPH announced that playing on

[4] https://football-technology.fifa.com/en/news/news-releases/new-kind-of-artificial-turf-as-an-option-in-unfavourable-climatic-conditions/
[5] https://en.wikipedia.org/wiki/Artificial_turf
[6] https://www.theguardian.com/football/2014/oct/29/fifa-artificial-pitch-world-cup
[7] https://en.wikipedia.org/wiki/Artificial_turf

synthetic turf fields or fields with crumb rubber infill does not result in an elevated health risk, based on its own study and evaluations conducted by the Environmental Protection Agency.[8] Many other studies have also concluded that there is no increased risk of injury between playing on synthetic turf versus natural turf[9].

In addition, the state has been concerned about potential health impacts from air-off-gassing from infill material in synthetic turf. For example, DPH and DEEP, et. al., conducted air quality monitoring to determine the potential for health risks related to off-gassing from synthetic turf at the Shenkman complex in 2008. The results did not indicate that the surface was unsafe for use.

Based on the State of Connecticut efforts and other studies, the University does not anticipate an increased risk to human health and safety from use of artificial turf in general. However, UConn will evaluate the advantages and disadvantages of a variety of artificial surfaces and infill materials for each intended use (baseball, softball, and soccer), including potential benefits to player safety, in its analysis.

Finally, artificial turf is prevalent and cannot be completely avoided: the indoor multi-sport practice surface in the Shenkman Training Center utilizes artificial turf, and student athletes will be exposed to artificial turf fields during competitions at other colleges and universities. For example, Boston College and Yale University are currently in the process of installing a synthetic turf baseball fields, and Central Connecticut State University and the University of Rhode Island already utilize synthetic turf surfaces.

[8] http://www.ct.gov/dph/cwp/view.asp?a=3140&q=464068&dphNav_GID=1828
[9] http://www.syntheticturfcouncil.org/?page=Research#cri

3.0 SPONSORING AGENCY DECISION

Based on the environmental assessment of the proposed Athletics District Improvements and a review of comments received during the scoping process, the University of Connecticut concludes that the proposed action will have no significant impact on the environment and that preparation of an EIE under CEPA is not warranted.

APPENDIX A

DOCUMENTATION OF NOTIFICATION

APPENDIX B

COPY OF SCOPING MEETING *POWERPOINT* PRESENTATION

APPENDIX C

SCOPING MEETING MINUTES

APPENDIX D

COPIES OF WRITTEN COMMENTS RECEIVED

APPENDIX E

NDDB APPLICATION AND RESPONSE